



ExtremeCloud™ Orchestrator v4.1.0 Command Reference

Comprehensive CLI Commands and Syntax

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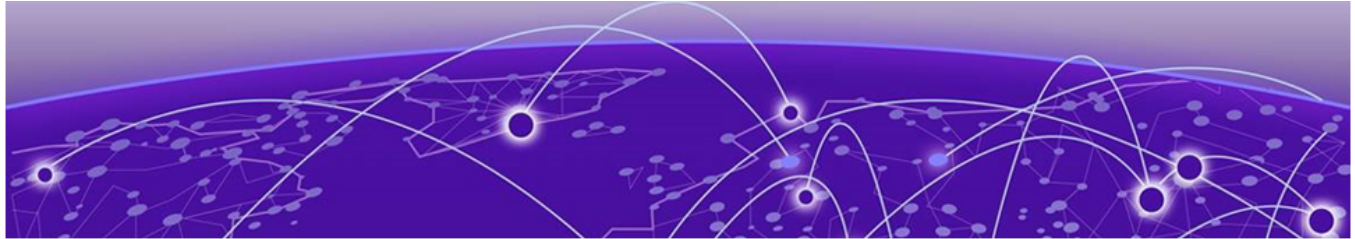


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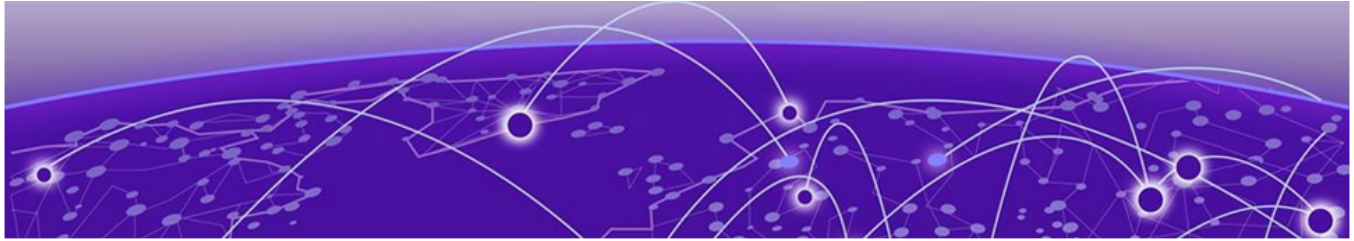
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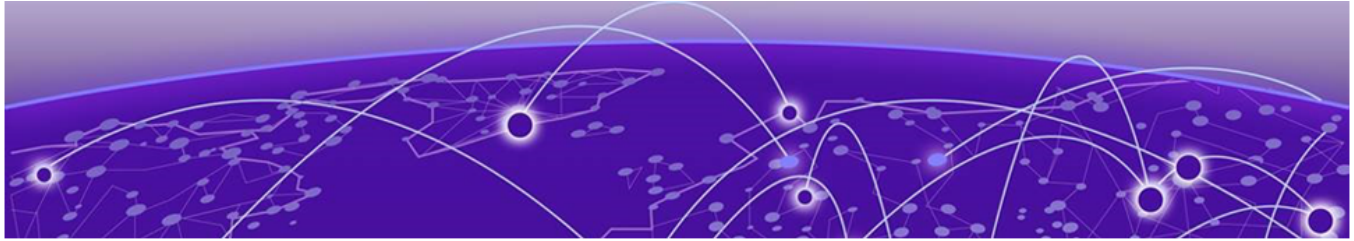
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Abstract

ExtremeCloud™ Orchestrator v4.1.0 Command Reference provides detailed command usage for the XCO CLI, including new and modified commands, updated command outputs, and extensive instructions on using the XCO CLI. Commands are organized by functional categories such as authentication, certificate, fabric, inventory, interface, SNMP, policy, route maps, RBAC, system, tenant, BGP peer management, mirror sessions, and virtualization integration (SCVMM and vCenter). Each command entry includes syntax, parameters, usage guidelines, and practical examples to assist administrators in configuring, automating, and troubleshooting their network environments using XCO.



Preface

Read the following topics to learn about:

- The meanings of text formats used in this document.
- Where you can find additional information and help.
- How to reach us with questions and comments.

Text Conventions

Unless otherwise noted, information in this document applies to all supported environments for the products in question. Exceptions, like command keywords associated with a specific software version, are identified in the text.

When a feature, function, or operation pertains to a specific hardware product, the product name is used. When features, functions, and operations are the same across an entire product family, such as Extreme Networks switches, the product is referred to as *the switch*.

Table 1: Notes and warnings

Icon	Notice type	Alerts you to...
	Tip	Helpful tips and notices for using the product
	Note	Useful information or instructions
	Important	Important features or instructions
	Caution	Risk of personal injury, system damage, or loss of data
	Warning	Risk of severe personal injury

Table 2: Text

Convention	Description
screen displays	This typeface indicates command syntax, or represents information as it is displayed on the screen.
The words <i>enter</i> and <i>type</i>	When you see the word <i>enter</i> in this guide, you must type something, and then press the Return or Enter key. Do not press the Return or Enter key when an instruction simply says <i>type</i> .
Key names	Key names are written in boldface, for example Ctrl or Esc . If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del
<i>Words in italicized type</i>	Italics emphasize a point or denote new terms at the place where they are defined in the text. Italics are also used when referring to publication titles.
NEW!	New information. In a PDF, this is searchable text.

Table 3: Command syntax

Convention	Description
bold text	Bold text indicates command names, keywords, and command options.
<i>italic text</i>	Italic text indicates variable content.
[]	Syntax components displayed within square brackets are optional. Default responses to system prompts are enclosed in square brackets.
{ x y z }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
x y	A vertical bar separates mutually exclusive elements.
< >	Nonprinting characters, such as passwords, are enclosed in angle brackets.
...	Repeat the previous element, for example, <i>member[member...]</i> .
\	In command examples, the backslash indicates a “soft” line break. When a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

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

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- A description of the failure
- A description of any actions 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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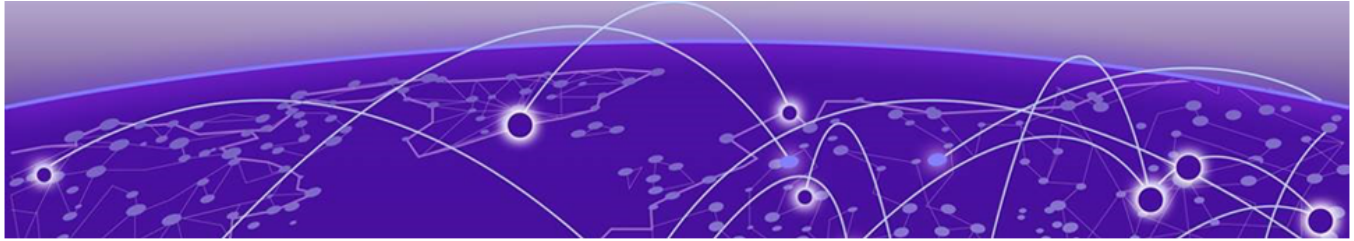
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- Improvements that would help you find relevant information.
- Broken links or usability issues.

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Provide as much detail as possible including the publication title, topic heading, and page number (if applicable), along with your comments and suggestions for improvement.



What's New in this Document

As of version 4.0.2, the ExtremeCloud Orchestrator (XCO) no longer includes support for the Visibility Skill. This deprecation follows the official End-of-Sale (EOS) announcement issued on February, 2025.

New Commands

- [efa certificate cmpv2 apply](#) on page 49
- [efa certificate cmpv2 clean](#) on page 51
- [efa certificate cmpv2 renew](#) on page 52
- [efa certificate cmpv2 status](#) on page 53
- [efa deploy](#) on page 61
- [efa fabric debug service-settings show](#) on page 78
- [efa fabric debug service-settings update](#) on page 79

Modified Commands

- [efa fabric setting](#) on page 92
- [efa health show](#) on page 112
- [efa inventory device firmware-download activate](#) on page 129
- [efa inventory device firmware-download commit](#) on page 130
- [efa inventory device firmware-download execute](#) on page 131
- [efa inventory device firmware-download history](#) on page 136
- [efa inventory device firmware-download operational-history](#) on page 138
- [efa inventory device firmware-download prepare add](#) on page 140
- [efa inventory device firmware-download show](#) on page 153
- [efa inventory device list](#) on page 200
- [efa inventory device secure settings update](#) on page 217

[efa inventory device setting update](#) on page 221

[efa inventory device snmp community create](#) on page 228

[efa inventory device snmp host create](#) on page 234

[efa inventory device snmp user create](#) on page 239

[efa policy prefix-list update](#) on page 336

[efa policy qos map create](#) on page 342

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[efa policy qos map list](#) on page 349

[efa policy qos profile bind](#) on page 355

[efa policy qos service-policy-map create](#) on page 358

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[efa policy route-map create](#) on page 364

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[efa policy route-map-match create](#) on page 371

[efa policy route-map-match delete](#) on page 374

[efa system logging set](#) on page 421

[efa tenant epg create](#) on page 454

[efa tenant epg update](#) on page 470

[efa tenant service bgp peer create](#) on page 487

[efa tenant service bgp peer update](#) on page 509

[efa tenant service bgp peer-group create](#) on page 519

[efa tenant service bgp peer-group show](#) on page 529

[efa tenant service mirror session create](#) on page 544

Updated Command Output or Example

[efa certificate expiry show](#) on page 58

[efa fabric health show](#) on page 89

[efa health debug clear](#) on page 108

[efa health detail show](#) on page 109

[efa health inventory show](#) on page 110

[efa inventory device health status](#) on page 160

[efa inventory device secure settings show](#) on page 216

[efa inventory device threshold-monitor list](#) on page 252

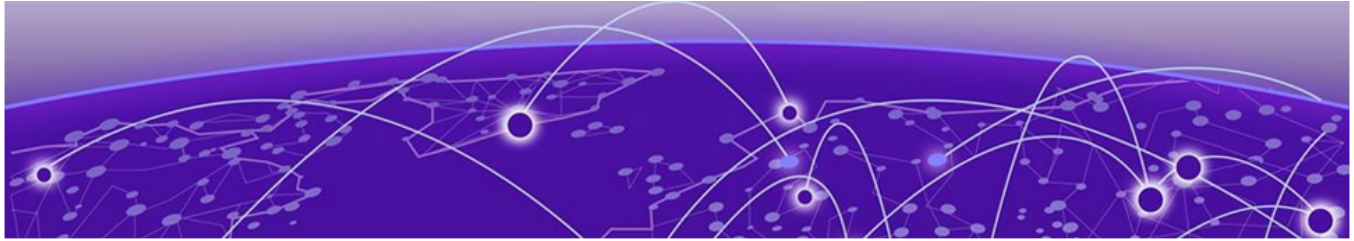
[efa system alarm inventory show](#) on page 402

[efa system alarm show](#) on page 407

[efa system alarm summary](#) on page 412

[efa policy qos service-policy-map list](#) on page 361

[efa version](#) on page 585



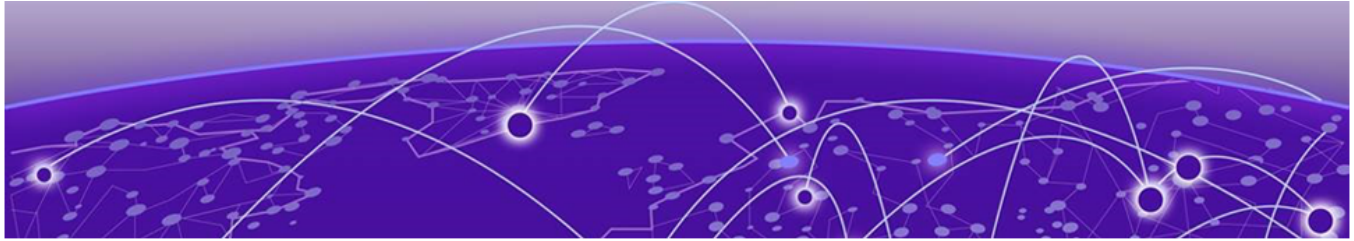
XCO OS ONE Integration and Platform Expansion

XCO 4.1.0 adds support for XCO OS ONE devices and is now compatible with Extreme 8730 and 8720 platforms.

Extreme OS ONE Overview

Extreme OS ONE is a cloud-native, microservices-based network operating system designed for IP fabrics and data center environments.

For more information about XCO OS ONE Integration, see *ExtremeCloud™ Orchestrator v4.1.0 CLI Administration Guide*.



Using the XCO Application CLI

[User Accounts](#) on page 19

[Default Account Credentials](#) on page 20

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[Completing CLI Commands](#) on page 20

[CLI Keyboard Shortcuts](#) on page 21

[Unsupported Input Characters](#) on page 22



Note

From release 3.2.0 onwards, Extreme Fabric Automation (EFA) is referred to as ExtremeCloud Orchestrator (XCO). The terms EFA and XCO refer to the same product and are used interchangeably:

The command line provides a powerful means for configuring, managing, and monitoring packet traffic through the XCO device.

The following topics describe accessing and using the XCO command-line interface (CLI), including syntax, command completion, shortcuts, and other helpful subjects.

User Accounts

A user account specifies a user's level of access to the device CLI.

XCO uses role-based access control (RBAC) as the authorization mechanism. A *role* is a container for rules that specify which commands can be run and with which permissions. When you create a user account, you specify a role for that account. In general, *user* (as opposed to *user-level*) refers to any account to which an admin or user role can be assigned.

For more information about user accounts and roles, see the *ExtremeCloud Orchestrator Security Configuration Guide*.

Default Account Credentials

As a best practice, log on as the administrator and change the default passwords immediately after the XCO is installed.



Note

The third-party virtual machine (TPVM) on SLX-OS devices has one user, with the following case-sensitive credentials:

- user account: `extreme`
- password: `password`

Log in to XCO

Use of the XCO command line requires a valid, logged-in user.

Procedure

1. Verify the status of the XCO deployment using one of the following methods.
 - Run the SLX-OS `show efa status` command.
 - Run the XCO `efactl status` script (or the `efa status` command, as an alternative).
2. Log in to XCO.

```
$ efa login --username <username>  
Password: <password>
```

The `<username>` variable is optional. If you do not provide a user name, log-in defaults to the current (Unix) user.

With a successful log-in, the command prompt shows the logged-in user in green text. If the log-in is not successful, the command prompt is displayed in red text.

3. To log out of XCO, run the `efa logout` command.

Completing CLI Commands

To complete the spelling of commands or keywords automatically, begin typing the command or keyword and then press **Tab**. For example, at the CLI command prompt, type `efa a` and press **Tab**:

```
efa a
```

The CLI displays the following command.

```
efa auth
```

If there is more than one command or keyword associated with the characters typed, the CLI displays all choices. For example, at the CLI command prompt, type `efa auth` and press **Tab**.

```
apikey  
client  
execution  
ldapconfig  
rolemapping  
settings
```

Boolean and string flag value syntax

Some XCO CLI flags accept Boolean values (`true` or `false`). The supported syntax depends on the flag data type.

- **String-typed flags** accept Boolean-like values using either `=` or a space.
- **Boolean-typed flags** accept values only using the `=` syntax.

String-typed flag

```
efa tenant vrf create --tenant=Tnt-10 --name dummy --layer3-extension-enable=true
efa tenant vrf create --tenant=Tnt-10 --name dummy --layer3-extension-enable true
```

Boolean-typed flag

```
--some-boolean-flag=true
```

The following syntax is not supported for Boolean-typed flags:

```
--some-boolean-flag true
```

CLI Keyboard Shortcuts

The following table lists CLI keyboard shortcuts.

Keystroke	Description
Ctrl+A	Moves the cursor to the beginning of the command line.
Ctrl+B (or the left arrow key)	Moves the cursor back one character.
Ctrl+C	Escapes and terminates command prompts and ongoing tasks (such as lengthy displays), and displays a fresh command prompt.
Ctrl+E	Moves the cursor to the end of the command line.
Ctrl+F (or the right arrow key)	Moves the cursor forward one character.
Ctrl+N (or the down arrow key)	Displays commands in the history buffer with the most recent command displayed last.
Ctrl+P (or the up arrow key)	Displays commands in the history buffer with the most recent command displayed first.
Ctrl+U	Deletes all characters from the cursor to the beginning of the command line.
Ctrl+W	Deletes the last word you typed.
Ctrl+Z	Returns to privileged EXEC mode. Using Ctrl+Z in privileged EXEC mode runs partial commands.

Keystroke	Description
Esc B	Moves the cursor back one word.
Esc F	Moves the cursor forward one word.

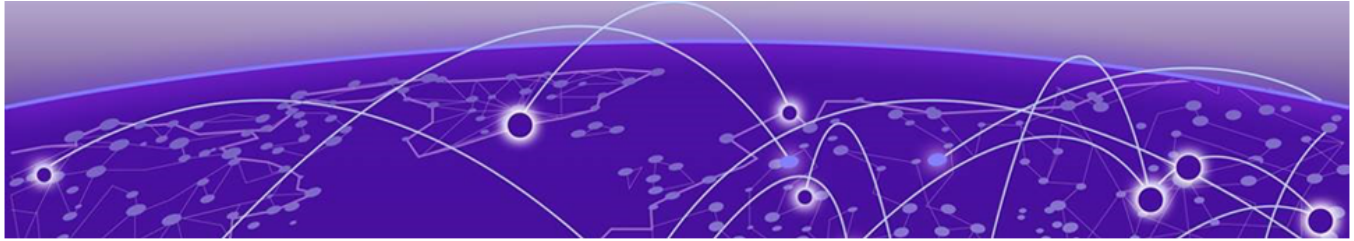
Unsupported Input Characters

If unsupported input characters are used for user-defined objects, an error message is displayed.

Characters dependent on combinations of the **AltGr** key and another key are not supported.

**Note**

The **AltGr** key is the **Alt** key to the right of the space bar.



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This document describes commands available in the ExtremeCloud Orchestrator CLI.

efa auth authentication preference

Configure authentication preference.

Syntax

```
efa auth authentication preference add [--authType {TACACS | LDAP | LOCAL
| HOST} --identifier string --preference {1 | 2 | 3 | 4 | 5} ]

efa auth authentication preference update [--authType {TACACS | LDAP |
LOCAL | HOST} --identifier string --preference {1 | 2 | 3 | 4 | 5} ]

efa auth authentication preference delete [--authType {TACACS | LDAP |
LOCAL | HOST} --identifier string --preference {1 | 2 | 3 | 4 | 5} ]

efa auth authentication preference show
```

Parameters

--authType {TACACS | LDAP | LOCAL | HOST}

Specifies the authentication type.

--identifier *string*

Specifies the authentication configuration. For TACACS+ it is the host name, and for LDAP it is the name of the configuration. For authType of LOCAL or HOST it is the same as authType.

--preference {1 | 2 | 3 | 4 | 5}

Specifies the authentication order. Values 1- 5 must be unique, and specify the order used to authenticate the user.

Examples

This example adds the specified authentication preference.

```
efa auth authentication preference add --authType=LOCAL --identifier=LOCAL --preference=3

Successfully updated the auth preference.

+-----+-----+-----+
| Auth Type | Identifier | Preference |
+-----+-----+-----+
| LOCAL    | LOCAL    | 3          |
+-----+-----+-----+
```

This example lists the authentication preferences.

```
efa auth authentication preference show

+-----+-----+-----+
| Auth Type | Identifier | Preference |
```

```

+-----+-----+-----+
| HOST   | HOST   | 1       |
+-----+-----+-----+
| LOCAL  | LOCAL  | 3       |
+-----+-----+-----+

```

This example updates an authentication preference.

```
efa auth authentication preference update --authType=LOCAL --identifier=LOCAL --
preference=2
```

Successfully updated the auth preference.

```

+-----+-----+-----+
| Auth Type | Identifier | Preference |
+-----+-----+-----+
| LOCAL     | LOCAL     | 2          |
+-----+-----+-----+

```

This example deletes an authentication preference.

```
efa auth authentication preference delete --authType=LOCAL --identifier=LOCAL
```

This example adds the specified authentication preference.

```
efa auth authentication preference add --authType=TACACS --identifier=10.37.135.12 --
preference=2
```

Successfully added the auth preference.

```

+-----+-----+-----+
| Auth Type | Identifier | Preference |
+-----+-----+-----+
| TACACS    | 10.37.135.12 | 2          |
+-----+-----+-----+

```

This example adds the specified authentication preference.

```
efa auth authentication preference add --authType=LDAP --identifier=kvm12.com --
preference=3
```

Successfully added the auth preference.

```

+-----+-----+-----+
| Auth Type | Identifier | Preference |
+-----+-----+-----+
| LDAP      | kvm12.com  | 3          |
+-----+-----+-----+

```

This example shows an authentication preference.

```
efa auth authentication preference show
+-----+-----+-----+
| Auth Type | Identifier | Preference |
+-----+-----+-----+
| HOST      | HOST      | 1          |
+-----+-----+-----+
| TACACS    | 10.37.135.12 | 2          |
+-----+-----+-----+

```



```
| LDAP      | kvm12.com  | 3          |
+-----+-----+-----+
```

efa auth execution

Deletes or displays the authorization execution logs.

Syntax

```
efa auth execution delete --days int32
```

Deletes execution entries that are older than the specified number of days (default 30).

```
efa auth execution show [ --id string | --limit int32 | --status string ]
```

Shows a list of executions.

Parameters

--id string

Filters the executions based on execution id. The `limit` and `status` flags are ignored when the `id` flag is specified.

--limit int32

Limits the number of executions to be listed. The value 0 lists all the executions. Default is 10.

--status string

Filters the executions based on the status (failed/succeeded/all). Default is all.

Examples

This example deletes entries older than 15 days.

```
efa auth execution delete 15
```

efa auth ldapconfig

Adds, updates, or deletes an external LDAP server, or shows the current LDAP configuration.

Syntax

```
efa auth ldapconfig add [ --name ldap-name | --primary value | --host
  hostname | --port port-num | --tls | --insecure-tls --cacert cert-
  loc | --timeout value | --bind-user-name dn | --bind-user-password
  pword | --user-search-base dn | --user-object-class obj-class | --
  user-login-attribute att-value | --user-role-attribute att-value | --
  user-role-attribute-key att-value | --user-member-attribute att-value
  | --group-search-base dn | --group-object-class obj-class | --group-
  attribute att-value | --group-member-user-attribute att-value | --
  group-member-mapping-attribute att-value ]

efa auth ldapconfig update [ --name ldap-name | --primary value | --host
  hostname | --port port-num | --tls | --insecure-tls --cacert cert-
  loc | --timeout value | --bind-user-name dn | --bind-user-password
  pword | --user-search-base dn | --user-object-class obj-class | --
  user-login-attribute att-value | --user-role-attribute att-value | --
  user-role-attribute-key att-value | --user-member-attribute att-value
  | --group-search-base dn | --group-object-class obj-class | --group-
  attribute att-value | --group-member-user-attribute att-value | --
  group-member-mapping-attribute att-value]

efa auth ldapconfig delete [--name ldap-name ]

efa auth ldapconfig show [--name ldap-name ]
```

Parameters

--bind-user-name *dn*

Specifies the Distinguished Name (DN) of the user that you want to use to bind, search, and retrieve LDAP entries.

--bind-user-password *pword*

Specifies the password of the bind user.

--cacert *cert-loc*

Specifies the location of the Certificate Authority certificate.

--group-search-base *dn*

Specifies the DN of the node in the directory tree from which searches for group objects begins.

--group-object-class *obj-class*

Specifies the name of the object class to use for group searches. The default is groupOfNames.

--group-attribute *att-value*

Specifies the attribute that defines the search filter on a group. The default is cn.

- group-member-user-attribute** *att-value*
Specifies the name of the user attribute whose format matches the group members. The default is `entrydn`.
- group-member-mapping-attribute** *att-value*
Specifies the name of the group attribute that contains the members of a group. The default is `member`.
- host** *hostname*
Specifies the host name, IPv4, or IPv6 address of the LDAP server.
- name** *ldap-name*
Specifies the name of the LDAP connection.
- primary** *value*
Specifies 1 when multiple LDAP connections are available.
- port** *port-num* **tls** | **insecure-tls**
Specifies the port at which the LDAP server listens for connections.
- Specify **--tls** to use LDAP over SSL and TLS. Specify **--insecure-tls** to use LDAP without certification verification.
- timeout** *value*
Specifies the number of seconds that must elapse before the LDAP server is considered unreachable. The default is 5 seconds.
- user-search-base** *dn*
Specifies the DN of the node in the directory tree from which searches for user objects will start.
- user-object-class** *obj-class*
Specifies the name of the object class to use for user objects. The default is `inetOrgPerson`.
- user-login-attribute** *att-value*
Specifies the attribute that matches the user name part of credentials that users enter while logging in. The default is `uid`.
- user-role-attribute** *att-value*
Specifies the attribute from which the user role is read.
- user-role-attribute-key** *att-value*
Specifies the attribute that reads the role value from the role attribute.
- user-member-attribute** *att-value*
Specifies the attribute that reads the member of the group that the user is part of.

Usage Guidelines

You configure an LDAP server for user validation and to fetch user groups.

When a user is assigned XCO roles in LDAP, ensure that you define the **user-role-attribute** parameter.

You can use key-value pairs to define one attribute value that assigns multiple roles to a user. Use the **user-role-attribute-key** parameter for such a scenario.

When you use LDAP groups to assign roles to users, ensure that you define the **user-member-attribute** parameter.

When LDAP groups are not in the same search base as the users in the groups, ensure that you define the following parameters.

- **group-search-base**
- **group-object-class**
- **group-attribute**
- **group-member-user-attribute**
- **group-member-mapping-attribute**

To configure LDAP for a deployment of XCO on a TPVM, see the "TPVM Management" section of the *Extreme SLX-OS Management Configuration Guide*.

Examples

This example configures the bind user name, the bind password, and the DN of the node from which searches start.

```
# efa auth ldapconfig add --name ldapconfig -- host 10.x.x.x
--bind-user-name cn=admin,dc=extrnet,dc=com --bind-user-password password
--user-search-base ou=people,dc=extrnet,dc=com
```

This example configures the **--user-role-attribute** parameter for a user that is assigned XCO roles in LDAP.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-role-attribute role
```

This example assigns multiple roles to a user with one key-value pair.

The role attribute for the user entry in LDAP has the value of `datacenterowner:SystemAdmin,datacenterowner:FabricAdmin`.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-role-attribute role
--user-role-attribute-key datacenterowner
```

This example configures the **--user-member-attribute** for a user entry in LDAP that has an attribute of `memberOf`.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com --bind-user-password xxx
--user-search-base ou=people,dc=y,dc=com --user-member-attribute memberOf
```

This example configures the attributes required when LDAP groups are not in the same search base as the users in the groups.

```
# ldapconfig add --name ldap1 --host 10.x.x.x --bind-user-name cn=x,dc=y,dc=com
--bind-user-password xxx --user-search-base ou=people,dc=x,dc=com
--group-search-base ou=groups,dc=x,dc=in --group-member-user-attribute dn
--group-member-mapping-attribute memberUid --group-object-class posixGroup
```

This example maps an LDAP group to an XCO role.

```
# efa auth rolemapping add --name group1 --type GROUP --role SystemAdmin
```

This example configures LDAP Active Directory.

```
# efa auth ldapconfig add --name ldap1 --host 10.x.x.x
--bind-user-name cn=x,dc=y,dc=com
--bind-user-password xxx --user-search-base ou=people,dc=y,dc=com
--user-object-class user
--user-login-attribute sAMAccountName --user-member-attribute memberOf
```

efa auth ldapconfig reset

Reset LDAP configuration.

Syntax



Note

--name and at least one other LDAP attribute to reset are required.

```
efa auth ldapconfig reset [ --name ldap-name | --cacert string | --bind-
  user-name string | --bind-user-password string | --user-search-base
  string | --user-object-class string | --user-login-attribute string
  | --user-role-attribute string | --user-role-attribute-key string | --
  user-member-attribute string | --group-search-base string | --group-
  object-class string | --group-attribute string | --group-member-user-
  attribute string | --group-member-mapping-attribute string ]
```

Parameters

- bind-user-name** *string*
Specifies the bind-user-name to reset.
- bind-user-password** *string*
Specifies the bind-user-password to reset.
- cacert** *string*
Specifies the cacert to reset.
- group-attribute** *string*
Specifies the group-attribute to reset.
- group-member-mapping-attribute** *string*
Specifies the group-member-mapping-attribute to reset.
- group-member-user-attribute** *string*
Specifies the group-member-user-attribute to reset.
- group-object-class** *string*
Specifies the group-object-name to reset.
- group-search-base** *string*
Specifies the group-search-base to reset.
- name** *string*
Specifies the name of the LDAP configuration to reset.
- user-login-attribute** *string*
Specifies the user-login-attribute to reset.
- user-member-attribute** *string*
Specifies the user-member-attribute to reset.
- user-object-class** *string*

Specifies the user-object-class to reset.

--user-role-attribute *string*

Specifies the user-role-attribute to reset.

--user-role-attribute-key *string*

Specifies the user-role-attribute-key to reset.

--user-search-base *string*

Specifies the user-search-base to reset.

Examples

```
efa auth ldapconfig reset --name kvml2.com --group-attribute --group-member-mapping-attribute
Reset LDAP configuration is successful

efa auth ldapconfig reset --name kvml2.com --user-member-attribute
Reset LDAP configuration is successful
```


efa auth rolemapping

Assigns XCO roles to a user or an LDAP group.

Syntax

```
efa auth rolemapping add [--name user-name | --role efa-role | --type  
    user-type | --auth-type string | --auth-identifier string ]  
  
efa auth rolemapping show [ --auth-type string | --auth-identifier  
    string ]  
  
efa auth rolemapping remove --id id
```

Parameters

--auth-identifier *string*

Mandatory for LDAP and TACACS role mapping. It represents the target configuration to which the roles are being added to. For LOCAL and HOST auth types it is empty.

--auth-type *string*

Possible values are HOST, LOCAL, LDAP or TACACS. Default cli value is HOST.

--id *id*

ID of the role mapping.

--name *user-name*

Specifies the user name for HOST and LOCAL configuration. For LDAP it can be a group or user name. For TACACS it represents the group name.

--role *efa-role*

Specifies the name of the role that you want to assign. It can be one of the following: FabricAdmin, SecurityAdmin, NetworkOperator, SystemDebugger, SystemAdmin, <Tenant>Admin. The Tenant Administrator is assigned dynamically when the tenant is created. The role name has the following format: <Tenant-name>Admin.

--type *user-type*

Specifies the type of rolemapping. Enter either *user* or *group*. For LDAP it has value "group" by default. For local and host role mapping it has value "user" if not input. For TACACS the type value is "group".

Examples

These examples assign the role of SystemAdmin.

```
# efa auth rolemapping add --name=user2 --role SystemAdmin --auth-type HOST  
  
# efa auth rolemapping add --name=admin --role SystemAdmin  
--auth-type TACACS --auth-identifier 10.x.x.x  
  
# efa auth rolemapping add --name=viewer --role SystemAdmin --type group  
--auth-type LDAP --auth-identifier ldapconfig
```

This example assigns a role to a TACACS group.

```
# efa auth rolemapping add --name=admin --role SystemAdmin
--auth-type TACACS --auth-identifier 10.x.x.x
```

Successfully added the role mapping.

```
+-----+-----+
| attribute | value      |
+-----+-----+
| id        | 44         |
+-----+-----+
| name      | admin      |
+-----+-----+
| role      | SystemAdmin |
+-----+-----+
| type      | GROUP      |
+-----+-----+
| auth type | TACACS     |
+-----+-----+
| auth identifier | 10.x.x.x      |
+-----+-----+
```

```
# efa auth rolemapping add --name "cn=viewer,dc=extr,dc=com" --role NetworkOperator
--type group --auth-type LDAP --auth-identifier ldapconfig
```

Successfully added the role mapping.

```
+-----+-----+
| attribute | value      |
+-----+-----+
| id        | 45         |
+-----+-----+
| name      | cn=viewer,dc=extr,dc=com |
+-----+-----+
| role      | NetworkOperator |
+-----+-----+
| type      | GROUP      |
+-----+-----+
```

```
| auth type | LDAP |
+-----+-----+
| auth identifier | ldapconfig |
+-----+-----+
# efa auth rolemapping show --auth-type LDAP --auth-identifier ldapconfig
# efa auth rolemapping show --auth-type TACACS --auth-identifier 10.x.x.x
```

This example displays all role assignments.

```
# efa auth rolemapping show
+---+-----+-----+-----+-----+-----+
| ID | Name      | Role           | Type | Auth Type | Auth Identifier |
+---+-----+-----+-----+-----+-----+
| 1  | user      | SystemAdmin    | USER | HOST      |                |
+---+-----+-----+-----+-----+-----+
| 43 | user2     | SystemAdmin    | USER | HOST      |                |
+---+-----+-----+-----+-----+-----+
| 44 | admin     | SystemAdmin    | GROUP | TACACS     | 10.x.x.x        |
+---+-----+-----+-----+-----+-----+
| 45 | cn=viewer,dc=extr,dc=com | NetworkOperator | GROUP | LDAP      | ldapconfig      |
+---+-----+-----+-----+-----+-----+
# efa auth rolemapping show --auth-type LDAP --auth-identifier ldapconfig
# efa auth rolemapping show --auth-type TACACS --auth-identifier 10.x.x.x
```

This example deletes the role for the user with ID 43.

```
# efa auth rolemapping remove --id 43
Deleted role mapping successfully
```

efa auth settings token

Configures and displays the expiration settings for authentication tokens.

Syntax

```
efa auth settings token update [ --type { cli | access | refresh } |
    --hours num | --minutes num ]
efa auth settings token show
```

Parameters

--hours *num*

Specifies the number of hours that should elapse before a token expires.

--minutes *num*

Specifies the number of minutes that should elapse before a token expires.

--type { **cli** | **access** | **refresh** }

Specifies the type of token you want to update.

Examples

This example sets the CLI token to expire after two hours.

```
$ efa auth settings token update --type CLI --hours 2

Successfully updated the token expiry time.
+-----+-----+-----+
| Type | Hours | Minutes |
+-----+-----+-----+
| CLI  | 2     | 0       |
+-----+-----+-----+
--- Time Elapsed: 193.455466ms ---
```

This example displays the current expiration settings.

```
$ efa auth settings token show

+-----+-----+-----+
| Type   | Hours | Minutes |
+-----+-----+-----+
| ACCESS | 1     | 0       |
+-----+-----+-----+
| REFRESH | 8     | 0       |
+-----+-----+-----+
| CLI    | 2     | 0       |
+-----+-----+-----+
```

efa auth tacacsconfig

Configure authentication on TACACS server.

Syntax

```
efa auth tacacsconfig add [ --host hostname | --port port-num | --secret  
                           sharedsecret | --protocol { CHAP | PAP } ]
```

Parameters

--host *hostname*

Specifies the host name, IPv4, or IPv6 IP address of the TACACS server.

--port *port -num*

Specifies the port that the TACACS server is running on.

--protocol { CHAP | PAP }

Specifies the protocol used by the TACACS server.

--secret *sharedsecret*

Specifies the secret key used to connect to the TACACS server.

Examples

This example configures TACACS connection details.

```
efa auth tacacsconfig add --host 10.24.15.200 --port 49 --secret sharedsecret --protocol  
CHAP
```

efa auth user

Configure users with CLI.

Syntax

```
efa auth user add [ --userName string --emailID string --roles string
  --isBlock { true | false} --password string --organization string --
  mobileNumber string]
```



Note

--userName, --emailID, --roles and --password are mandatory parameters.

```
efa auth user show [ --userName string ]
```

```
efa auth user show-active [ --authType {TACACS | LDAP | LOCAL | HOST } ]
```

```
efa auth user delete [ --userName string ]
```

```
efa auth user update [ --userName string | --roles string | --
  mobileNumber string | organization string ]
```

```
efa auth user block-unblock [ --userName string --isBlock { true |
  false} ]
```

```
efa auth user reset-password [ --userName string --emailID string --
  password string ]
```

```
efa auth user change-password [ --userName string --oldPassword string--
  newPassword string ]
```

Parameters

--authType { TACACS | LDAP | LOCAL | HOST }

Specifies the authentication type of the active users to list.

--emailID *string*

Specifies the email address of the user to configure.

--isBlock { *true* | *false*}

Specifies the isBlock status of the user.

--mobileNumber *string*

Specifies the mobile number of the user.

--newPassword *string*

Specifies the new password for the user.

--oldPassword *string*

Specifies the old password for the user.

--organization *string*

Specifies the organization the user belong to.

--password *string*

Specifies the password for the user.

--roles *string*

Specifies the comma separated list of roles to assign to the user.

--userName *string*

Specifies the user name to configure.

Examples

This example adds a new user, specifying user name, user email address, password, roles, organization and mobile number..

```
$ efa auth user add --userName testabc --emailID testabc@gmail.com --password password
--roles SystemAdmin --organization Org --mobileNumber 9122424356
```

This example blocks a specified user.

```
$ efa auth user block-unblock --userName=testUser --isBlock=true
```

This example unblocks a specified user.

```
$ efa auth user block-unblock --userName=testUser --isBlock=false
```

This example resets a password for a specified user.

```
$ efa auth user reset-password --userName testabc
--emailID testabc@gmail.com --password password123
```

Successfully updated the user configuration.

```
--- Time Elapsed: 2.69181206s ---
```

This example changes a password.

```
$ efa auth user change-password --oldPassword=test1234 --newPassword test456
```

The password was changed successfully.

```
--- Time Elapsed: 2.469497707s ---
```

This example deletes a specified user.

```
$ efa auth user delete --userName testabc
```

Deleted User configuration successfully.

```
--- Time Elapsed: 405.54142ms ---
```

This example lists active users with authentication type of HOST.

```
$ efa auth user show-active --authType=HOST
```

```
+-----+-----+-----+
| Username | Auth Type | Active Since |
+-----+-----+-----+
| anoop    | HOST      | 2022-03-07 10:01:52.094972524 +0530 IST |
```

```
+-----+-----+-----+
```


efa certificate cmpv2 apply

Apply CMPv2 certificate configuration using an external Certificate Authority (CA).

Syntax

```
efa certificate cmpv2 apply --url string --cacert file-path --username  
string [ --password string | --auto-renew ]
```

Parameters

--url *string*

Specifies the CMPv2 endpoint URL of the external Certificate Authority (EJBCA CMP alias). This parameter is required.

--cacert *file-path*

Specifies the trusted CA certificate chain used to validate CMP server responses. This parameter is required.

--username *string*

Specifies the username for CMP authentication. This parameter is required.

--password *string*

Specifies the CMP server password. If not provided, the system prompts for the password at runtime.

--auto-renew

Enables automatic certificate renewal before expiry. This option is enabled by default.

Usage Guidelines

- This command is a disruptive operation and may cause temporary service unavailability during execution.
- The typical execution duration ranges from approximately 1.5 to 2.5 minutes depending on system load and external CA responsiveness.
- The external Certificate Authority (CA) must be preconfigured with CMP enabled, a valid CMP alias, and appropriate end-entity profiles before running this command.
- Only a single CMPv2 CA configuration is supported per system.
- CMPv2 certificate management is mutually exclusive with self-signed and third-party certificate configurations.
- Automatic renewal occurs before certificate expiry. If a certificate has already expired, manual reapplication of CMPv2 configuration is required.
- If CMPv2 enrollment or renewal fails, the system continues using the existing valid certificate to maintain service continuity.

Examples

Apply CMPv2 configuration with password prompt.

```
(efa)user@host:~$ efa certificate cmpv2 apply \  
--url https://10.37.12.53:8443/ejbca/publicweb/cmp/cmp-alias \  
--cacert MySubCA2-chain.pem \  
--username admin  
Enter CMPv2 password:  
CMPv2 certificate apply successful.
```

Apply CMPv2 configuration with inline password and auto-renew enabled.

```
(efa)user@host:~$ efa certificate cmpv2 apply \  
--url https://10.37.11.38:8443/ejbca/publicweb/cmp/cmp-alias \  
--cacert ManagementCA.crt \  
--username admin \  
--password password123 \  
--auto-renew  
CMPv2 certificate apply successful.
```

efa certificate cmpv2 clean

Cleans the CMPv2 certificate configuration from the system.

Syntax

```
efa certificate cmpv2 clean
```

Usage Guidelines

Use this command to remove the configured CMPv2 certificate management state.

This command affects certificate management configuration and should be used only when CMPv2 certificate management is no longer required or must be reconfigured.

Examples

This example cleans the CMPv2 certificate configuration.

```
efa certificate cmpv2 clean
CMPv2 certificate clean successful.
```

efa certificate cmpv2 renew

Renews certificates using the configured CMPv2 Certificate Authority.

Syntax

```
efa certificate cmpv2 renew [ --password string ]
```

Parameters

--password *string*

Specifies the CMPv2 server password. If not provided, the system prompts for the password at runtime.

Usage Guidelines

Use this command to manually renew certificates when CMPv2 certificate management is already configured.

If certificate renewal fails, the system continues using the existing valid certificate to maintain service continuity.

Examples

This example renews certificates using CMPv2 and prompts for the password.

```
efa certificate cmpv2 renew
Enter CMPv2 password:
CMPv2 certificate renew successful.
```

This example renews certificates using CMPv2 with an inline password.

```
efa certificate cmpv2 renew --password password123
CMPv2 certificate renew successful.
```

efa certificate cmpv2 status

Displays the CMPv2 certificate configuration and operational status.

Syntax

```
efa certificate cmpv2 status
```

Usage Guidelines

Use this command to verify whether CMPv2 certificate management is configured and to check the current CMPv2 certificate status.

Examples

This example displays the CMPv2 certificate status.

```
efa certificate cmpv2 status
```

This example displays the CMPv2 certificate status when no CMPv2 certificate configuration exists.

```
(efa:user)user@xco-78-160:~$ efa certificate cmpv2 status
+-----+-----+-----+-----+-----+-----+
| Name | URL | Username | Status | Auto Renew | Updated At |
+-----+-----+-----+-----+-----+-----+
CMPv2 Certificate status detail
--- Time Elapsed: 118.476746ms ---
```

efa certificate device expiry show

List device certificates expiry.

Syntax

```
efa certificate device expiry show [ --ip device-ips | --fabric string |
--fabric-all ]
```

Parameters

--fabric *string*

Specifies the name of the fabric.

--fabric-all

Specifies all devices of all fabrics.

--ip *device-ips*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

Certificate expiry show output for an OS ONE device displaying GRPC, SyslogCA, and JWT certificate types with expiry dates and sync status, in contrast to SLX-OS devices which use HTTPS, SyslogCA, and OAuth2 certificate types.

```
(efa:extreme)extreme@node-1:~$ efa certificate device expiry show --ip 10.64.224.16
+-----+-----+-----+-----+
+-----+
|      IP      | Type  |      Expiry      | EFA/Device
Sync Status | Status |
+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | GRPC  | 2029-04-13 14:55:19 +0000 GMT
|      In Sync      | Success |
+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | SyslogCA | 2046-03-11 10:56:46 +0000 UTC
|      In Sync      | Success |
+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | JWT    | 2036-03-13 11:02:56 +0000 UTC
|      In Sync      | Success |
+-----+-----+-----+-----+
+-----+
Device Certificate Expiry Show
--- Time Elapsed: 11.627941332s ---
(efa:extreme)extreme@node-1:~$
```

efa certificate device install

Installs HTTPS and OAuth2 certificates on SLX-OS devices.

Syntax

```
efa certificate device install [ --ip ip-addr | --fabric fabric-name | --  
cert-type { https | token | grpc } | --grpc-certificate | --grpc-key--  
https-certificate | --https-key | --force ]
```

Command Default

By default, certificates are not installed.

Parameters

--cert-type { https | token | grpc }

Specifies the type of certificate you are installing.

--fabric *fabric-name*

Specifies the name of the fabric.

--force

Update the certificate even if it is already present.

-grpc-certificate *string*

Specifies the file name of the certificate.

-grpc-key *string*

Specifies the file name of the certificate key.

--https-certificate

Specifies the file name of the certificate.

--https-key

Specifies the file name of the certificate key.

--ip *ip-addr*

Specifies a comma-separated list of the IP addresses of the SLX-OS devices on which you want to install the certificate. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

During the registration of an SLX-OS device in XCO, the following configuration changes are made on the device:

- The public certificate for verifying an XCO token is copied to the device as an OAuth2 certificate.
- XCO generates the HTTPS certificate for the SLX-OS device. The certificate is copied to the device, HTTP mode is turned off on the device, and HTTPS is enabled on the device.
- OAuth2 is enabled as the primary mode of authentication. Fallback is set to "local login."

You can use the **efa inventory device list** command to verify the status of the certificates on the device. If the **Cert/Key Saved** column contains "N," then certificates are not installed. You can then use the **efa certificates device install** command to install the certificates.

Examples

This example installs the HTTPS certificate on the specified device.

```
(efa:extreme)extreme@node-1:~$ efa certificate device install --ip 10.64.204.83 --cert-type https
WARNING: This will restart the HTTP service on the SLX devices and GRPC server on the OS ONE devices. The services will not be able to connect till the operation is complete. Do you want to proceed [y/n]?
y
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.64.204.83 | Success |
+-----+-----+
--- Time Elapsed: 44.081908413s ---
(efa:extreme)extreme@node-1:~$
```

This example installs the HTTPS certificate on the devices in fabric fabric1. It will update the certificates even if already present.

```
efa certificates device install --fabric fabric1 --certType https --force
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.139.44.148 | Success |
+-----+-----+
| 10.139.44.147 | Success |
+-----+-----+
```

This example install the grpc certificate on the specified device.

```
(efa:extreme)extreme@node-1:~$ efa certificate device install --ip 10.64.224.16 --cert-type grpc
WARNING: This will restart the HTTP service on the SLX devices and GRPC server on the OS ONE devices. The services will not be able to connect till the operation is complete. Do you want to proceed [y/n]?
y
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.64.224.16 | Success |
+-----+-----+
--- Time Elapsed: 52.814566988s ---
(efa:extreme)extreme@node-1:~$
```

Certificate install output for an OS ONE device showing the warning that the GRPC server will restart during the operation, and successful certificate installation status.

```
(efa:extreme)extreme@node-1:~$ efa certificate device install --ip 10.64.224.16
WARNING: This will restart the HTTP service on the SLX devices and GRPC server on the OS ONE devices. The services will not be able to connect till the operation is complete. Do you want to proceed [y/n]?
y
+-----+-----+
| IP Address | Status |
```



```
+-----+-----+
| 10.64.224.16 | Success |
+-----+-----+
--- Time Elapsed: 1m25.92027024s ---
(efa:extreme)extreme@node-1:~$
```

efa certificate expiry show

Display certificate expiry list.

Syntax

efa certificate expiry show

Examples

```
(efa:user)user@xco-78-160:~/efa$ efa certificate expiry show
+-----+-----+-----+-----+
|           Name           | Status | Managing Module |           Expiry           |
+-----+-----+-----+-----+
|   App Server Certificate   | Valid  | XCO Self Signed | 2029-08-04T13:26:27Z |
+-----+-----+-----+-----+
| Default Intermediate CA    | Valid  | XCO Self Signed | 2036-08-02T13:26:25Z |
+-----+-----+-----+-----+
|   Default Root CA         | Valid  | XCO Self Signed | 2046-07-31T13:26:23Z |
+-----+-----+-----+-----+
|   JWT Certificate         | Valid  | XCO Self Signed | 2036-08-02T13:30:05Z |
+-----+-----+-----+-----+
|   K3s Server Certificate   | Valid  | XCO Self Signed | 2027-08-05T12:26:37Z |
+-----+-----+-----+-----+
|           K3s CA          | Valid  | XCO Self Signed | 2036-08-02T12:26:37Z |
+-----+-----+-----+-----+
| RELP Syslog client certificate | Valid  | XCO Self Signed | 2029-08-04T13:26:28Z |
+-----+-----+-----+-----+
Certificate Expiry List detail show
--- Time Elapsed: 259.832915ms ---
(efa:user)user@xco-78-160:~/efa$
```

efa certificate server

Installs a third-party certificate that was acquired through a trusted certificate authority.

Syntax

```
efa certificate server [ --certificate cert-filename --key key-filename  
                        --cacert cert-filename ]
```

Parameters

--cacert *cert-filename*

Specifies the file name of the third-party certificate.

--certificate *cert-filename*

Specifies the file name of the certificate.

--key *key-filename*

Specifies the file name of the certificate key.

Examples

This example installs a certificate titled `my_server_162.pem` with key-filename of `my_server_162.key` and cert-filename of `ca-chain.pem`.

```
$ efa certificate server --certificate=my_server_162.pem  
--key=my_server_162.key --cacert=ca-chain.pem
```

```
Please wait as the certificates are being installed...
```

```
Certificates were installed!
```

```
--- Time Elapsed: 30.946303683s ---
```

efa certificate server renew

Renew self-signed certificate on XCO.

Syntax

```
efa certificate server renew [ --cert-type string ] This is not  
applicable if third-party certificates are installed on the system.
```

Parameters

--cert-type *string*

Specifies the type of certificate you are renewing. Valid values are (server | token | root-ca | intermediate-ca | k3s-ca | k3s-server) (default "server").

Examples

This example renews a certificate of type token.

```
(efa:extreme)extreme@tpvm:/apps$ efa certificate server renew --cert-type=token  
  
Certificate renewal is successful.  
  
--- Time Elapsed: 27.233017418s ---
```

efa deploy

Deploy, upgrade, or roll back ExtremeCloud Orchestrator (XCO) installations from SLX/OS ONE network devices or directly on servers.

Critical: Execution Environments

The **efa deploy** command has TWO distinct execution contexts. Commands are NOT interchangeable and using the wrong command in the wrong environment will FAIL.

Table 4: Execution Contexts Comparison

Context	Location	Command	Purpose
SLX/OS ONE Device CLI	SLX or OS ONE network device	efa deploy ...	Deploy XCO on remote TPVM from SLX/OS ONE
Server Console	Linux server	source deployment.sh ...	Deploy XCO directly on server



Warning

Using the wrong command in the wrong environment will result in deployment failure.

SLX/OS ONE Device Execution Environment

```
(efa:extreme)extreme@node-1:~$ efa deploy ...
```

Platform: SLX devices or OS ONE devices

Purpose: Deploy, upgrade, or roll back XCO on remote TPVM instances from the SLX/OS ONE device

Getting Help on SLX/OS ONE

```
(efa:extreme)extreme@node-1:~$ efa deploy -h
```

This displays:

- All available keywords and parameters for SLX/OS ONE deployments
- Syntax and usage examples
- Supported deployment topologies
- Parameter descriptions

Syntax

Syntax (SLX/OS ONE)

```
efa deploy [ non-interactive | nographics ] [ with-rollback ] [ single-  
node | multi-node ] [ package package-path ] [ peer-device-*  
parameters ]
```

Keywords (SLX/OS ONE)

These keywords are supported on SLX/OS ONE devices and control deployment behavior.

non-interactive

Runs deployment without prompting. All parameters must be provided on command line.

nographics

Text-mode deployment without graphical progress display.

with-rollback

Automatically rolls back deployment on failure.

single-node

Deploys single-node XCO topology.

multi-node

Deploys multi-node XCO topology with clustering.

Supported Parameters (SLX/OS ONE)

These parameters are supported on SLX/OS ONE devices using keyword syntax.

package package-path

Path to XCO package file (e.g., /efaboot/efa-4.1.0.tar.gz).

vip4 ipv4-address

Virtual IPv4 address for cluster. SLX/OS ONE multi-node only. Example: 192.168.1.100.

vip6 ipv6-address

Virtual IPv6 address for cluster. SLX/OS ONE multi-node only.

peer-device-ip ip-address

IP address of peer device in multi-node deployment (preferred, modern syntax – keyword parameter).

peer-device-user username

Username for peer device authentication (keyword parameter).

peer-device-password password

Password for peer device (plain text in command – keyword parameter).

peer-device-passfile file-path

Path to file containing peer device password (keyword parameter).

peer-device-passprompt

Prompts for peer device password interactively (recommended for security – keyword parameter).

Virtual IP Syntax Differences

Virtual IPs are supported on both server and SLX/OS ONE deployments, but use different parameter syntax:

Table 5: Virtual IP Parameter Syntax

Platform	Parameter	Example
Server	<code>--virtual-ipv4 ipv4-address</code>	<code>--virtual-ipv4 192.168.1.100</code>
Server	<code>--virtual-ipv6 ipv6-address</code>	<code>--virtual-ipv6 2001:db8::1</code>
SLX/OS ONE	<code>vip4 ipv4-address</code>	<code>vip4 192.168.1.100</code>
SLX/OS ONE	<code>vip6 ipv6-address</code>	<code>vip6 2001:db8::1</code>

Critical: Do not use server syntax (`--virtual-ipv4`, `--virtual-ipv6`) on SLX/OS ONE devices. Use keyword syntax (`vip4`, `vip6`) instead.

Unsupported Parameters (SLX/OS ONE)

The following server-style parameters are NOT supported on SLX/OS ONE devices:

- `--deploy-ipmode` – IP mode selection
- `--virtual-ipv4`, `--virtual-ipv6` – Use `vip4`, `vip6` keyword syntax instead
- `--peer-node-ip` – Use `peer-device-ip` keyword instead
- `--replacement-ip` – Not applicable to SLX/OS ONE
- `--ping-target` – Not applicable to SLX/OS ONE
- `--sub-intfname` – Not applicable to SLX/OS ONE
- `--sub-vlanid` – Not applicable to SLX/OS ONE
- `--cidr` – Not applicable to SLX/OS ONE
- `--cidrv6` – Not applicable to SLX/OS ONE
- `--full-upgrade` – Not applicable to SLX/OS ONE

SLX/OS ONE Uses Keywords, Not Flags

SLX/OS ONE uses KEYWORDS instead of the server flag syntax. Do not use server-style parameters:

Server Syntax (NOT on SLX/OS ONE)	SLX/OS ONE Equivalent (Use This)
<code>--deploy-type single-node multi-node</code>	<code>single-node</code> or <code>multi-node</code> (keyword)
<code>-i</code> or <code>--interactive yes no</code>	<code>non-interactive</code> (keyword)

Server Syntax (NOT on SLX/OS ONE)	SLX/OS ONE Equivalent (Use This)
<code>-g</code> or <code>--graphics yes no</code>	<code>nographics</code> (keyword)
<code>--deploy-ipmode</code>	Not applicable (not supported on SLX/OS ONE)
<code>--virtual-ipv4</code> , <code>--virtual-ipv6</code>	<code>vip4</code> , <code>vip6</code> (different syntax)
<code>--sub-intfname</code> , <code>--sub-vlanid</code> , <code>--cidr</code>	Not applicable (not supported on SLX/OS ONE)

**Caution**

Using server-style parameters on SLX/OS ONE will result in command failure. Virtual IPs are supported on both platforms but use DIFFERENT syntax: `--virtual-ipv4/--virtual-ipv6` on server vs. `vip4/vip6` keyword syntax on SLX/OS ONE.

Single-Node Deployment (Recommended)

```
(efa:extreme)extreme@node-1:~$ efa deploy non-interactive with-rollback \
single-node package /efaboot/efa-4.1.0.tar.gz
```

Deploys XCO single-node with automatic rollback on failure, no user prompts.

Multi-Node with Virtual IPs (Modern Syntax)

```
(efa:extreme)extreme@node-1:~$ efa deploy non-interactive with-rollback \
multi-node vip4 192.168.1.100 peer-device-ip 192.168.1.5 peer-device-user admin \
peer-device-passprompt package /efaboot/efa-4.1.0.tar.gz
```

Multi-node deployment with virtual IP, peer IP, and interactive password prompt (preferred syntax).

Undeploy (SLX/OS ONE)

```
(efa:extreme)extreme@node-1:~$ no efa deploy <>
```

This command removes XCO deployment from the remote TPVM.

Package Paths (SLX/OS ONE)

XCO packages are typically located in `/efaboot/` on the SLX/OS ONE device.

- `/efaboot/efa-4.1.0.tar.gz` - XCO 4.1.0
- `/efaboot/efa-4.0.2.tar.gz` - XCO 4.0.2

Server Execution Environment

```
user@server:~/efa$ source deployment.sh ...
```

Platform: Linux servers

Purpose: Deploy, upgrade, or roll back XCO directly on the server

Getting Help on Server

```
user@server:~/efa$ source deployment.sh --help
```

This displays:

- All available options for server deployments
- Syntax and usage examples
- Parameter descriptions

Syntax

Syntax (Server)

```
source deployment.sh [ -G | --no-graphics ] [ -I | --non-interactive ]
  [ -v | --verbose ] [ -o | --operation deploy|undeploy ] [ --deploy-
type single-node|multi-node ] [ --deploy-ipmode ipv4|ipv6|dual ] [ --
virtual-ipv4 ipv4-address ] [ --virtual-ipv6 ipv6-address ] [ --peer-
node-ip ip-address ] [ --replacement-ip ip-address ] [ --ping-target
ip-address[,ip-address] ] [ --sub-intfname interface-name ] [ --sub-
vlanid vlan-id ] [ --cidr ipv4/mask ] [ --cidrv6 ipv6/mask ] [ --full-
upgrade ] [ --help ]
```

Parameters (Server)

All parameters are optional. Boolean flags require no value.

Graphics Options

-G | *--no-graphics*

Boolean flag to disable graphical mode. Default: graphics enabled.

-g | *--graphics* *yes|no*

Sets graphics mode with value: yes (enable, default) or no (disable). Alternative syntax to *-G*.

Interactive Mode Options

-I | *--non-interactive*

Boolean flag for non-interactive mode. No user prompts; all parameters on command line. Graphics disabled automatically.

-i | *--interactive* *yes|no*

Sets interactive mode with value: yes (interactive, default) or no (non-interactive). Alternative syntax to *-I*.

Operation Mode

-o | *--operation* *deploy|undeploy*

Sets deployment operation: `deploy` (default) for fresh install/upgrade/redploy, or `undeploy` to remove XCO. Critical parameter.

Logging Options

`-v | --verbose`

Enables verbose logging (boolean flag). More detailed output in log file during procedure.

Deployment Type

`--deploy-type single-node|multi-node`

Deployment topology. `single-node` (default) for standalone, `multi-node` for clustered. Not applicable for undeploy.

IP Mode Configuration

`--deploy-ipmode ipv4|ipv6|dual`

IP version mode. `ipv4` (default), `ipv6`, or `dual` for dual-stack. Not applicable for undeploy or upgrade.

Cluster IP Configuration (Multi-Node, Server Only)

Note: These are server-specific flag parameters. SLX/OS ONE uses `vip4` and `vip6` keyword syntax instead (see SLX/OS ONE Supported Parameters).

`--virtual-ipv4 ipv4-address`

Virtual IPv4 address for cluster. Server multi-node only (SLX/OS ONE uses `vip4` keyword instead). Example: 192.168.1.100.

`--virtual-ipv6 ipv6-address`

Virtual IPv6 address for cluster. Server multi-node only (SLX/OS ONE uses `vip6` keyword instead).

`--peer-node-ip ip-address`

Peer node IP address for server multi-node deployment (flag syntax). SLX/OS ONE uses `peer-device-ip` keyword parameter instead (different syntax).

`--replacement-ip ip-address`

Replacement IP for node replacement during multi-node upgrade. Multi-node upgrade only.

`--ping-target ip-address[,ip-address]`

Health check target IP addresses. Maximum of 2 IPs, comma-separated. Example: 10.0.0.1,10.0.0.2.

Subinterface Configuration (Server Only)

Note: These parameters are used only for server deployments. Not supported on SLX/OS ONE.

`--sub-intfname interface-name`

Subinterface name for management network. Example: sub200.

`--sub-vlanid vlan-id`

VLAN ID for management subinterface. Example: 200.

--cidr ipv4/mask

IPv4 CIDR notation for subinterface. Example: 10.20.246.99/20.

--cidrv6 ipv6/mask

IPv6 CIDR notation for subinterface (when deploy-ipmode is ipv6 or dual).

Upgrade Options

--full-upgrade

Enables full upgrade mode (boolean flag). Use during major version upgrades.

Help

--help

Display help information with all available options.

Single-Node Deployment (Modern Syntax – Recommended)

```
user@server:~/efa$ source deployment.sh -I --deploy-type single-node
```

Deploys single-node XCO with non-interactive mode (-I flag). Graphics disabled automatically in non-interactive mode.

Single-Node with Management Network (Modern Syntax)

```
user@server:~/efa$ source deployment.sh -I --deploy-type single-node \  
--sub-intfname sub200 --sub-vlanid 200 --cidr 10.20.246.99/20
```

Single-node with dedicated management network on VLAN 200.

Multi-Node with Virtual IP

```
user@server:~/efa$ source deployment.sh -I --deploy-type multi-node \  
--peer-node-ip 192.168.1.10 --virtual-ipv4 192.168.1.100
```

Multi-node cluster with peer node and virtual IP for failover.

Undeploy

```
user@server:~/efa$ source deployment.sh -o undeploy
```

Removes the XCO deployment from the server. Uses -o (operation) flag.

Full Upgrade Multi-Node

```
user@server:~/efa$ source deployment.sh -I -o deploy --deploy-type multi-node \  
--full-upgrade --peer-node-ip 192.168.1.10 \  
--virtual-ipv4 192.168.1.100
```

Upgrade multi-node cluster with full upgrade flag and peer configuration.

Deployment with Verbose Logging

```
user@server:~/efa$ source deployment.sh -I -v --deploy-type single-node
```

Single-node deployment with verbose logging (`-v` flag) for detailed troubleshooting.

Example Using Alternative Flag Syntax

```
user@server:~/efa$ source deployment.sh -i no -g no --deploy-type single-node
```

Alternative syntax showing `-i` and `-g` flags with values. Both this form and the `-I/-G` boolean form are currently supported.

Undeploy (Server)

```
user@server:~/efa$ source deployment.sh -o undeploy
```

This command removes the XCO deployment from the server.

Best Practices

1. Verify Execution Environment

Before running any deployment command, verify that you are using the correct execution environment (SLX/OS ONE device or Server). The deployment commands and supported parameters differ between environments, and using the wrong command in the wrong environment can result in deployment failure.

2. Use Non-Interactive for Automation

For automated or scripted deployments, always use non-interactive mode to prevent hangs waiting for user input.

3. Enable Rollback

Use *with-rollback* (SLX/OS ONE) to automatically revert failed deployments.

4. Use Standard Parameter Syntax

On SLX/OS ONE, use *peer-device-** parameters for peer device configuration.

5. Secure Password Handling

Use *peer-device-passprompt* or *peer-device-passfile* instead of plain-text passwords.

Common Errors and Resolution

Table 6: Deployment Error Reference

Error	Cause	Resolution
Command not found	Wrong environment or command	Verify prompt; use correct command for environment
Parameter not recognized	Using server param on SLX/OS ONE	Check table of supported parameters per platform
Package not found	Incorrect package path	Verify path; use absolute path e.g. /efaboot/efa-4.1.0.tar.gz
Peer connection failed	Peer IP unreachable or auth failed	Verify peer IP, username, password; check network
Deployment timeout	Network latency or slow hardware	Increase timeout; verify network performance

efa fabric clone

Clones source fabric.

Syntax

```
efa fabric clone [ --source source-fabric-name | --destination destination-fabric-name ]
```

Parameters

--destination

New name of the cloned fabric.

--source

Name of the fabric to be cloned.

Usage Guidelines

Cloning can expedite the deployment of fabrics across different sites or data centers. For fabrics in two different data centers to look exactly the same for disaster recovery purposes, create a clone for the source fabric.

This command clones all the fabric properties – type, stage, description, fabric settings – but not the devices on the fabric.

Examples

The following example clones BLR_FABRIC into PUN_FABRIC.

```
efa fabric clone --source BLR_FABRIC --destination PUN_FABRIC
```

efa fabric configure

Configures the underlay and overlay on all fabric devices.

Syntax

```
efa fabric configure [ --name fabric-name ] [ --force ]
```

Parameters

--force

Forces the configuration on the devices.

--name *fabric-name*

Specifies the name of the fabric.

Usage Guidelines

If the **--force** option is used, all the devices are removed and added back to the fabric. This action can result in **config remove** and **add on** all the devices.

If the addition of devices to a fabric is successful, the underlay and overlay is configured on all the devices of the fabric using the `efa fabric configure` command.

Examples

```
efa fabric configure --name fab2
Validate Fabric [Success]
Configure Fabric [Success]
Please verify the fabric physical/underlay topology using 'efa fabric topology show
{physical | underlay}' before attempting tenant configuration on the fabric.
--- Time Elapsed: 1m8.620487895s ---

efa fabric show --name fab2
Fabric Name: fab2, Fabric Description: , Fabric Type: non-clos, Fabric Status: configure-
success, Fabric Health: Black
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| IP ADDRESS | RACK | HOST NAME | ASN | ROLE |
| DEVICE STATE | APP STATE | CONFIG GEN REASON | PENDING CONFIGS | VTLB ID | LB ID |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 10.64.196.54 | r1 | SLX | 4200000000 | leaf |
provisioned | cfg in-sync | NA | NA | 2 | 1 |
| 10.64.196.53 | r1 | SLX | 4200000000 | leaf |
provisioned | cfg in-sync | NA | NA | 2 | 1 |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
```

efa fabric create

Creates a fabric.

Syntax

```
efa fabric create [ --name fabric-name | --type { clos | non-clos } | --  
stage { 3 | 5 } | --description description ]
```

Parameters

--description *description*

Describes the product.

--name *fabric-name*

Specifies the name of the fabric.

--stage { **3** | **5** }

Specifies the type of fabric to create. The default is a 3-stage fabric. Stage 0 is considered the default stage for Clos and is ignored for non-Clos.

--type { **clos** | **non-clos** }

Specifies the type of the fabric. The default is Clos.

Examples

This example creates a three-stage fabric.

```
efa fabric create --name clos-fabric --type clos --stage 3
```


efa fabric debug clear-config

Clears the underlay or overlay configuration from the device and recovers the device from erroneous conditions.

Syntax

```
efa fabric debug clear-config [ --device device ip | --reference-fabric fabric name ]
```

Parameters

--device

Device IP address.

--reference-fabric

Name of the fabric and the device it will eventually belong to.



Note

If a REST call to `v1/fabric/device/clear` or the **efa fabric debug clear-config** command is executed, followed by a REST call `POST /v1/fabric/devices` or the **efa fabric device add** command for the same device, a delay is required between these operations.

The delay must be: Number of devices cleared * 20 seconds.

Examples

```
$ efa fabric debug clear-config --device 10.24.48.10.24.48.131,10.24.51.135,10.24.51.131,10.25.225.58,10.24.80.139.131,10.24.51.135,10.24.51.131,10.25.225.58,10.24.80.139
```

efa fabric debug config-gen-reason

Obtains the configuration generation reason for a particular fabric device.

Syntax

```
efa fabric debug config-gen-reason [ --device device ip | --name fabric name ]
```

Parameters

--device

The device IP address.

--name

Name of the fabric to which the device belongs.

Examples

```
efa fabric debug config-gen-reason --device 10.24.80.139 --name BLR_FABRIC
```

efa fabric debug device drift

Reconciles or displays the device configuration drift between the device and intended fabric configuration.

Syntax

```
efa fabric debug device drift [ --name string ip | --ip string | --reconcile | --force ]
```

Parameters

--force

Force DRC on fabric device. Optional.

--ip *string*

Specifies the device IP.

--name *string*

Specifies the name of the fabric.

--reconcile

Reconciles the device configuration.

efa fabric debug service lock

Lists all lock statuses for fabric services.

Syntax

```
efa fabric debug service lock
```

efa fabric debug service smartdrc

Enables debug of smartdrc.

Syntax

```
efa fabric debug service smartdrc [ --enable | --help ]
```

Parameters

--enable { true | false }

Enables or disables debug for smartdrc. Use the following format:

--enable=true

--enable=false

--help

Help for smartdrc debug.

efa fabric debug service-settings show

Displays the current fabric service settings.

Syntax

```
efa fabric debug service-settings show
```

efa fabric debug service-settings update

Updates the configurable fabric service settings.

Syntax

```
efa fabric debug service-settings update [ --health-cron-interval  
    duration ]
```

Parameters

--health-cron-interval *duration*

Specifies the interval at which the fabric health cron job runs.

Valid values range from 30m to 24h.

Supported formats include 30m, 45m, 1h, and 1h30m.

efa fabric debug set

Set up debug level and debug for a module.

Syntax

```
efa fabric debug set [ --level { debug | info | debugdb | nodebugdb } ]
```

Parameters

--level { debug | info | debugdb | nodebugdb }

Required. Specifies the debug level.

Examples

```
$ efa fabric debug set --level debug
Level debug set successfully.
--- Time Elapsed: 104.471ms ---

$ efa fabric debug set --level info
Level info set successfully.

--- Time Elapsed: 104.471ms ---

$ efa fabric debug set --level debugdb
Level debugdb set successfully.
--- Time Elapsed: 91.1052ms ---

$ efa fabric debug set --level nodebugdb
Level nodebugdb set successfully.
--- Time Elapsed: 91.1052ms ---
```


efa fabric delete

Deletes the fabric from inventory.

Syntax

```
efa fabric delete [ --name fabric-name ] [--force ]
```

Parameters

--force

Forces the deletion of fabric even if the fabric has devices.

--name *fabric-name*

Name of the fabric to be deleted.

Usage Guidelines

Deletion of a fabric is not allowed if the fabric has one or more devices. You must delete all the devices from the fabric prior to deleting the fabric.

Forced deletion of a fabric removes the devices from the fabric but not from the inventory.

Examples

The following example deletes the fabric BLR_FABRIC.

```
efa fabric delete --name BLR_FABRIC
```

efa fabric device add

Adds a device to an existing fabric.

Syntax

```
efa fabric device add [ --name fabric-name | --ip device-ip | --role
    { leaf | spine | super-spine | border-leaf } | --leaf-type { single-
    homed | multi-homed } | --hostname hostname | --asn local-asn | --vtep-
    loopback id | --loopback port-num | --pod name | --username username |
    --password password | --rack name ]
```

Parameters

--asn *local-asn*

Specifies the local ASN.

--hostname *hostname*

Specifies the host name.

--ip *device-ip*

Specifies the pair of device IP addresses for rack, or a single IP address for non-rack.

--leaf-type { **single-homed** | **multi-homed** }

Specifies whether the leaf is single-homed or multi-homed.

--loopback *port-num*

Specifies the loopback port number.

--name *fabric-name*

Specifies the name of the fabric.

--password *password*

Specifies the password for the device.

--pod *name*

Specifies the name of the pod.

--rack *name*

Specifies the name of the rack.

--role { **leaf** | **spine** | **super-spine** | **border-leaf** }

Specifies the device role.

--username *username*

Specifies the user name for the device.

--vtep-loopback *id*

Specifies the VTEP loopback ID.

Usage Guidelines

A device must be registered with Inventory Service before being added to a fabric. The Fabric Service supports IP numbered configuration. Each interface on a link between leaf and spine is assigned an IP address. EBGp peering uses these IP addresses.

Device credentials must be provided as part of this command if the devices are not already registered with the inventory.

If you provide the user name and password, then the device is automatically registered with the inventory service.

If you do not provide the user name and password, then you must explicitly register the device with the inventory service.

Examples

This example adds a pair of devices to the specified fabric and the specified rack.

```
efa fabric device add --name extr-fabric --ip 10.24.80.134,10.24.80.135  
--rack room1-rack1 --username admin --password password
```

efa fabric device add-bulk

Adds multiple devices to a fabric.

Syntax

```
efa fabric device add-bulk [ --name fabric-name | --ip device-ip | --leaf  
  list | --border-leaf list | --three-stage-pod name | --five-stage-pod  
  name | --spine list | --super-spine list | --username username | --  
  password password | --rack name | --border-leaf-rack list | --border-  
  leaf-ip device-ip ]
```

Parameters

--border-leaf *list*

Specifies the comma-separated list of border leaf IP addresses or host names.

--border-leaf-ip *device-ip*

Specifies the pair of border leaf device IPs for the rack.

--border-leaf-rack *list*

Specifies the border leaf rack name.

--five-stage-pod *name*

Specifies the name of the super-spine pod.

--ip *device-ip*

Specifies the pair of device IP addresses for rack.

--leaf *list*

Specifies the comma-separated list of leaf IP addresses or host names.

--name *fabric-name*

Specifies the name of the fabric.

--password *password*

Specifies the password for the list of devices.

--rack *name*

Specifies the rack name.

--spine *list*

Specifies the comma-separated list of spine IP addresses or host names.

--super-spine *list*

Specifies the comma-separated list of super spine IP addresses or host names.

--three-stage-pod *name*

Specifies the name of the leaf or spine pod.

--username *username*

Specifies the user name for the list of devices.

Usage Guidelines

Ensure you perform the following operations before running this command:

- Run the **efa inventory device register --ip <list-of-device-ips>** command.
- Run the **efa inventory device interface list --ip <device-ip>** command. In the output of the command, verify that the states of the port links are as you expected (in the Admin Status and Oper Status fields). If not, manually check the physical cabling and fix any issues. Then continue with the **efa fabric device add-bulk** operation.

If you provide a user name and password, devices are automatically registered with the inventory service.

If you do not provide a user name and password, you must explicitly register the devices with the inventory service.

A single “three-stage-pod” and “five-stage-pod” can be provided each time you run the command.

If, during device registration, the device is found to be in maintenance mode, then an error is returned and registration fails. To take the device out of maintenance mode before reattempting device registration, you must perform a manual procedure.

Examples

This example adds two leaf IP addresses and two border leaf IP addresses to the specified fabric.

```
efa fabric device add-bulk --name BLR FABRIC --leaf 10.24.48.131,10.24.51.135
--border-leaf 10.24.51.131,10.25.225.58 --spine 10.24.80.139 --username admin --password
password
```

efa fabric device remove

Removes an existing device from a fabric.

Syntax

```
efa fabric device remove [ --name fabric-name | --ip device-ips ] [ --no-device-cleanup]
```

Parameters

--ip *device-ips*

Specifies a comma-separated list of device IP addresses to remove.

--name *fabric-name*

Specifies the name of the fabric.

--no-device-cleanup

Specifies that you do not want to clean up the configuration on the devices.

Usage Guidelines

If the `no-device-cleanup` option is used, the configuration pushed by the automation engine is not cleaned up from the fabric devices. Removal of a device from the fabric does not delete the device from inventory. You must explicitly delete the device from inventory.

Examples

This example removes five devices and does not clean up the configuration.

```
efa fabric device remove --ip 10.24.48.131,10.24.51.135,10.25.225.58,  
10.24.51.131,10.24.80.139 --name BLR_FABRIC --no-device-cleanup
```

efa fabric error show

Displays the name of the fabric, the error types, and the reasons for the errors.

Syntax

```
efa fabric error show [ --name fabric-name | --export string ]
```

Parameters

--export *string*

Exports error details to a CSV file.

--name *fabric-name*

Specifies the name of the fabric.

Usage Guidelines

Topology validation occurs during the addition of a device and during fabric configuration. Use this command to display any errors that occur during validation and, optionally, to export them to a CSV file.

Errors that occur during the add, validate, and configure phases are persisted in the database.

Examples

```
$ efa fabric error show
```

FABRIC NAME	IP ADDRESS	ROLE	ERROR TYPE	ERROR REASON
fab-non-clos	NA	NA	clos error	No Devices
fab-clos	10.20.246.12	Leaf	clos error	Leaf Device 10.20.246.12 not connected to Spine Device 10.20.246.19
fab-clos	10.20.246.12	Leaf	clos error	Leaf Device 10.20.246.12 not connected to Spine Device 10.20.246.20
fab-clos	10.20.246.19	Spine	clos error	Spine Device 10.20.246.19 not connected to Leaf Device 10.20.246.12
fab-clos	10.20.246.20	Spine	clos error	Spine Device 10.20.246.20 not connected to Leaf Device 10.20.246.12
fab-clos	10.20.246.19	Spine	clos error	Spine Device 10.20.246.19 connected to Spine Device 10.20.246.20
fab-clos	10.20.246.20	Spine	clos error	Spine Device 10.20.246.20 connected to Spine Device 10.20.246.19

```
efa fabric device error show --name BLR_FABRIC
```

efa fabric execution

Displays or deletes the execution history for the fabric service.

Syntax

```
efa fabric execution delete [ --days number-of-days ]  
efa fabric execution show [ --id execution-id | --limit number-of-  
  executions | --status { failed | succeeded | all } ]  
efa fabric execution show-event [ --device ip-address | --execution-id  
  UUID ]
```

Parameters

--days *number-of-days*

Deletes execution entries older than the specified number of days (default 30).

--device *ip-address*

Filters on the IP address.

--execution-id *UUID*

Filters on the execution UUID.

--id *execution-id*

Filters the executions based on the execution id. The **--limit** and **--status** options are ignored when the **--id** option is used.

--limit *number-of-executions*

Limits the number of executions to be listed. A value of 0 lists all the executions. The default is 10.

--status { **failed** | **succeeded** | **all** }

Filters the executions based on the status. The default is **all**.

Examples

```
efa fabric execution show
```


efa fabric health show

Display the health status of a fabric.

Syntax

```
efa fabric health show [ --name string | --detail ]
```

Parameters

--detail

Optional. When specified, displays the health status detail of the fabric.

--name *string*

Specifies the name of the fabric.

Examples

The following example displays the health status of the default fabric.

```
(efa:extreme)extreme@node-2:~$ efa fabric health show
=====
Fabric Name           : default
Fabric Type           : clos
Fabric Health         : Green
Fabric Status         : created
Fabric Level Physical Topology Health : Green
=====
=====
=====
Fabric Name           : fabric2
Fabric Type           : non-clos
Fabric Health         : Green
Fabric Status         : configure-success
Fabric Level Physical Topology Health : Green
Fabric Device Health
+-----+-----+-----+-----+-----+
| IP ADDRESS | ROLE | CONFIG STATE HEALTH | OPER STATE HEALTH | DEVICE HEALTH |
+-----+-----+-----+-----+-----+
| 10.64.224.16 | Leaf | Green                | Green              | Green          |
| 10.64.224.17 | Leaf | Green                | Green              | Green          |
+-----+-----+-----+-----+-----+
=====
=====
--- Time Elapsed: 57.539573ms ---
(efa:extreme)extreme@node-2:~$
```

The following example displays the health status detail of the default fabric.

```
(efa:extreme)extreme@node-2:~$ efa fabric health show --detail
=====
Fabric Name           : default
Fabric Type           : clos
Fabric Health         : Green
Fabric Status         : created
=====
```

```

Fabric Level Physical Topology Health    :   Green
-----

=====
=====
=====
=====
Fabric Name                             :   fabric2
Fabric Type                             :   non-clos
Fabric Health                           :   Green
Fabric Status                           :   configure-success
Fabric Level Physical Topology Health    :   Green
-----

Fabric Device Health

Device IP [Role]                        :   10.64.224.16 [Leaf]
Device Health                           :   Green
Configuration State Health               :   Green
  Dev State                             :   provisioned
  App State                              :   cfg in-sync
Operational State Health                 :   Green
  Cluster Health                         :   Green
  Physical Topology Device Health         :   Green
  Underlay Topology Device Health         :   Green
-----

Device IP [Role]                        :   10.64.224.17 [Leaf]
Device Health                           :   Green
Configuration State Health               :   Green
  Dev State                             :   provisioned
  App State                              :   cfg in-sync
Operational State Health                 :   Green
  Cluster Health                         :   Green
  Physical Topology Device Health         :   Green
  Underlay Topology Device Health         :   Green
-----

-----

=====
=====
--- Time Elapsed: 60.175733ms ---
(efa:extreme)extreme@node-2:~$

```

efa fabric migrate

Migrate 3-stage CLOS fabric to 5-stage CLOS fabric.

Syntax

```
efa fabric migrate [ --type string | --source-fabric string | --  
    destination-3-stage--leaf-spine-pod string | --destination-3-stage-  
    border-leaf-pod string | --super-spine-asn-block string | --super-  
    spine-peer-group string ]
```

Parameters

--destination-3-stage-border-leaf-pod *string*

Specifies the name of the 3-stage POD into which the border-leaf devices (of the 3-stage CLOS fabric) need to be moved during migration.

--destination-3-stage--leaf-spine-pod *string*

Specifies the name of the 3-stage POD into which the leaf and spine devices (of the 3-stage CLOS fabric) need to be moved during migration.

--source-fabric *string*

Specifies the name of the 3-stage CLOS fabric to migrate.

--super-spine-asn-block *string*

Specifies the ASN block to be used by the super-spine devices of the migrated 5-stage CLOS fabric.

--super-spine-peer-group *string*

Specifies the Peer Group to be used by the spine devices of the migrated 5-stage CLOS fabric.

--type *string*

Specifies the type of migration. Default "3-to-5-stage".

efa fabric setting

Displays or updates the IP fabric settings.

Syntax

```
efa fabric setting show [ --name fabric-name | --advanced ]
```

```
efa fabric setting update [--name fabric-name | --p2p-link-range fabric-  
name | --loopback-scheme { uniform|granular } | --loopback-ip-range  
ip-pool | --rack-l3-backup-ip-range ip-pool | --router-id-loopback-  
range string | --vtep-loopback-ip-range string | --loopback-port-  
number id | --vtep-loopback-port-number id | --spine-asn-block asn-  
pool | --super-spine-asn-block asn | --leaf-asn-block asn-pool | --  
border-leaf-asn-block asn-pool | --rack-asn-block asn-pool | --rack-  
border-leaf-asn-block asn-pool | --anycast-mac-address mac | --ipv6-  
anycast-mac-address mac | --mac-aging-timeout timeout | --mac-aging-  
conversation-timeout timeout | --mac-move-limit limit | --duplicate-  
mac-timer time | --duplicate-mac-timer-max-count max| --configure-  
overlay-gateway { yes | no }| --bfd-enable { yes | no }| --bfd-  
tx interval | --bfd-rx interval | --bfd-multiplier multiplier| --  
bgp-multihop tth | --max-paths paths| --allow-as-in path | --mtu  
size | --ip-mtu size | --leaf-peer-group group-name | --optimized-  
replication-enable { yes | no }| --spine-peer-group group-name |  
--super-spine-peer-group group-name | --rack-underlay-ebgp-peer-group  
group-name | --rack-overlay-ebgp-peer-group group-name | --rack-mct-  
scheme { static | dynamic } | --rack-mct-ports port-list | --rack-  
ld-mct-ports port-list | --mctlip-range pool | --lacp-timeout  
{ long | short }| --mct-port-channel id | --single-rack-deployment  
{ yes | no } | --control-vlan id | --control-ve id | --vni-auto-map  
{ yes | no }| --backup-routing-enable { yes | no }| --backup-routing-  
ipv4-range range | --backup-routing-ipv6-range range | --optimized-  
replication-enable { yes | no }| --mdtgroup-range range | --default-  
mdtgroup ipv4-address | --md5-password password | --md5-password-  
enable { yes | no }| --bgp-dynamic-peer-listen-limit peers | --  
overlay-gateway-broadcast-local-bias-enable { yes | no } --dampening-  
time string | --vni-domain-auto-offset string | --reserve-first-4k-  
vni-for-vlan string string| --min-mct-link-count integer | --min-  
p2p-link-count integer | --bfd-session-type bfd-session-type | --mpls-  
router-enable { Yes / No } | --mpls-router-id-loopback-ip-range string  
| --mpls-loopback-port-number string]
```

Parameters

--advanced

Displays advanced fabric parameters. Applicable to the show variant of the command.

--allow-as-in *count*

Disables AS_PATH loop check for routes learned from the specified AS. Valid values: 1–10.

--anycast-mac-address *mac*

IPv4 anycast MAC address in HHHH.HHHH.HHHH format.

--backup-routing-enable { **yes** | **no** }

Enables or disables backup routing.

--backup-routing-ipv4-range *range*

IPv4 backup routing range.

--backup-routing-ipv6-range *range*

IPv6 backup routing range.

--bfd-enable { **yes** | **no** }

Enables or disables BFD.

--bfd-multiplier *multiplier*

BFD detection time multiplier. Valid values: 3–50.

--bfd-rx *interval*

BFD desired minimum receive interval in milliseconds.

SLX device <NUMBER: 50–30000>

OS ONE device <NUMBER: 10–30000>

--bfd-session-type *bfd-session-type*

Specifies the BFD session implementation used on underlay fabric links. Supported values are *hardware* and *software*. The default value is *hardware*.



Note

This option is not supported on OS ONE devices.

--bfd-tx *interval*

BFD desired min transmit interval in milliseconds

SLX device <NUMBER: 50–30000>

OS ONE device <NUMBER: 10–30000>

--bgp-dynamic-peer-listen-limit *peers*

Maximum number of dynamic BGP peers across VRFs on the SLX-OS. Valid values: 1–2400. Default: 100.

--bgp-multihop *t1*

TTL for EBGP neighbors not on directly connected networks. Valid values: 1–255.

--border-leaf-asn-block *asn-pool*

ASN pool for border leaf nodes.

--configure-overlay-gateway { **yes** | **no** }

Enables or disables overlay gateway configuration.

--control-vlan *id*

VLAN ID to use as the MCT cluster control VLAN. Valid values: 2–4090.

--control-ve *id*
 VE ID to use as the MCT cluster control VE. Valid values: 2–4090.

--default-mdtgroup *ipv4-address*
 Default IPv4 multicast address. Must be within the MDT group range.

--duplicate-mac-timer *seconds*
 Duplicate MAC detection timer in seconds.

--duplicate-mac-timer-max-count *count*
 Maximum number of duplicate MAC moves allowed within the timer interval.

--ip-mtu *size*
 IPv4/IPv6 MTU size in bytes. Valid values: 1300–9194.

--ipv6-anycast-mac-address *mac*
 IPv6 anycast MAC address in HHHH.HHHH.HHHH format.

--lACP-timeout { **long** | **short** }
 LACP timeout for MCT member ports.

--leaf-asn-block *asn-pool*
 ASN pool for leaf nodes.

--leaf-peer-group *group-name*
 Leaf peer group name. Length: 1–63 characters.

--loopback-ip-range *ip-pool*
 IP address pool for loopback interfaces when loopback scheme is uniform.

--loopback-port-number *id*
 Loopback ID used as donor IP interface between leaf and spine. Valid values: 1–255.

--loopback-scheme {uniform | granular}
 Loopback scheme: uniform (common pool for RouterID and VTEP) or granular (separate pools).

--mac-aging-conversation-timeout *seconds*
 MAC conversational aging timeout in seconds. Valid values: 0 or 60–100000.

--mac-aging-timeout *seconds*
 MAC aging timeout in seconds. Valid values: 0 or 60–86400.

--mac-move-limit *limit*
 MAC move detect limit. Valid values: 5–500.

--max-paths *paths*
 Maximum number of equal-cost paths. Valid values: 1 – 128. Default is 8.

--mct-peer-keep-alive-enable { **yes** | **no** }
 Enables or disables MCT peer keepalive on Multi-Homed Leaf and Border Leaf devices.
 Default: yes.

--mct-port-channel *id*
 Port-channel interface ID used as MCT peer-interface. Valid values: 1–255.

--mctlip-range *ip-pool*

IP address pool used for MCT peering.

--md5-password *password*

BGP MD5 password for fabric links. 1–80 characters for plain text; 1–164 for encrypted. XCO encodes the BGP MD5 password before storing it in the XCO database.

--md5-password-enable { **yes** | **no** }

Enables or disables use of a BGP MD5 password on fabric links.

--mdtgroup-range *range*

IPv4 multicast address range in IP prefix format. Example: 239.0.0.0/8.

--min-mct-link-count *integer*

Specifies the minimum number of operational MCT links required between members of an MCT pair before the fabric health transitions to the `Warning` state. The default value is 0, which disables threshold-based warnings until a value is configured.

--min-p2p-link-count *integer*

Specifies the minimum number of operational point-to-point links required before the fabric health transitions to the `Warning` state. This threshold applies to Leaf-to-Spine and Spine-to-Super-Spine links. The default value is 0, which disables threshold-based warnings until a value is configured.

--mpls-router-enable { **Yes** / **No** }

Enable or Disable MPLS Router.

--mpls-router-id-loopback-ip-range *string*

IP Address Pool for MPLS Router ID Loopback interface if LoopBack Scheme is granular.

--mpls-loopback-port-number *string*

Loopback ID on the device to be used as MPLS Router ID <NUMBER: 1–255>.

--mtu *size*

For SLX-OS 21.1 and later: 1500–9216 bytes. For earlier SLX-OS: 1548–9216 bytes.

--name *fabric-name*

Name of the fabric.

--optimized-replication-enable { **yes** | **no** }

Enables or disables optimized replication.

--overlay-gateway-broadcast-local-bias-enable { **yes** | **no** }

Enables or disables overlay gateway broadcast local bias on Multi-Homed Leaf and Border Leaf devices.

--p2p-link-range *ip-pool*

IP pool used for P2P link configuration.

--rack-asn-block *asn-pool*

ASN pool for rack nodes. Valid values: 4200000000–4200065534.

--rack-border-leaf-asn-block *asn-pool*

ASN pool for rack border leaf nodes. Valid values: 4200065535–4200065635.

--rack-ld-mct-ports *port-list*
 Comma-separated list of low-density rack MCT ports, for example O/30,O/31.

--rack-l3-backup-ip-range *ip-pool*
 IP address pool for Layer 3 backup. (Deprecated.)

--rack-mct-ports *port-list*
 Comma-separated list of rack MCT ports, for example O/46,O/47.

--rack-mct-scheme *scheme-type*
 Rack MCT scheme type: static or dynamic.

--rack-overlay-ebgp-peer-group *group-name*
 Rack overlay EBGp peer group name. Length: 1–63 characters.

--rack-underlay-ebgp-peer-group *group-name*
 Rack underlay EBGp peer group name. Length: 1–63 characters.

--reserve-first-4k-vni-for-vlan **string** { **yes** | **no** }
 Reserve first 4K VNIs for Vlan networks

--router-id-loopback-ip-range *ip-pool*
 IP address pool for RouterID loopback interfaces when loopback scheme is granular.

--single-rack-deployment { **yes** | **no** }
 Enables or disables single-rack deployment. Default: no.

--spine-asn-block *asn-pool*
 ASN pool for spine nodes, or a single ASN.

--spine-peer-group *group-name*
 Spine peer group name. Length: 1–63 characters.

--super-spine-asn-block *asn*
 Single ASN for super spine nodes.

--super-spine-peer-group *group-name*
 Super spine peer group name. Length: 1–63 characters.

--vni-auto-map { **yes** | **no** }
 Enables or disables automatic mapping of VTEP VLAN/BD to VNI.

--vtep-loopback-ip-range *ip-pool*
 IP address pool for VTEP loopback interfaces when loopback scheme is granular.

--vtep-loopback-port-number *id*
 Loopback ID used as VTEP IP interface. Valid values: 1–255.

Examples

This example shows the output for a fabric with a uniform IP allocation scheme.

```
efa fabric setting show --name fs-1 | grep -i loopback
```

Loopback Scheme	uniform
Loopback IP Range	172.31.254.0/24
RouterID Loopback IP Range	172.31.128.0/24


```
| VTEP Loopback IP Range | 172.31.64.0/24 |
| Loopback Port Number | 1 |
| VTEP Loopback Port Number | 2 |
```

This example shows the output for a fabric with a granular IP allocation scheme.

```
efa fabric setting show --name fs-1 | grep -i loopback
```

```
| Loopback Scheme | granular |
| Loopback IP Range | 172.31.254.0/24 |
| RouterID Loopback IP Range | 172.31.128.0/24 |
| VTEP Loopback IP Range | 172.31.64.0/24 |
| Loopback Port Number | 1 |
| VTEP Loopback Port Number | 2 |
```

These examples update optimized replication, the MDT group, and the default MDT group.

```
# efa fabric setting --update --mdtgroup-range 239.0.0.0/8 --name clos_fabric
```

```
# efa fabric setting --update --default-mdtgroup 239.1.1.1 --name clos_fabric
```

In this example, MD5 authentication is created or updated:

```
efa fabric setting update --name fabric1 --md5-password-enable yes
Please supply a password for BGP MD5 authentication on fabric links:
efa fabric configure --name fabric1
```

This example displays the advanced mct parameters of the specified fabric.

```
efa fabric setting show --name fabric1 --advanced | grep -i mct
| MCT Link IP Range | 10.20.20.0/24 |
| MCT PortChannel | 64 |
| Rack MCT Scheme | Dynamic |
| Rack MCT Ports | |
| Rack Low Density MCT Ports | |
```

This example configures warning thresholds for point-to-point and MCT links.

```
efa fabric setting update \
--name fabric1 \
--min-p2p-link-count 2 \
--min-mct-link-count 2

Success
```

efa fabric show

Displays the details of the fabric.

Syntax

```
efa fabric show [--name fabric-name ]
```

Parameters

--detail

Show fabric details

--export *string*

Export fabric details to a csv file

--name *fabric-name*

Specifies the name of the fabric.

Usage Guidelines

Displays the details of all fabrics when the `name` option is not provided.

Displays the details of the specified fabric when the `name` option is provided.

Examples

This example displays details for the successful upgrade of a fabric called fs:

```
efa fabric show --name fs --detail
```

```
Fabric Name: fs, Fabric Description: , Fabric Stage: 3, Fabric Type: clos, Fabric Status:
configure-success, Fabric Health: Green
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| IP ADDRESS | POD | HOST NAME | ASN | ROLE | DEVICE STATE | APP STATE | CONFIG
GEN REASON | PENDING CONFIGS | VTLB ID | LB ID |
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 10.64.160.11 | | SLX-11 | 64512 | spine | provisioned | cfg in-sync |
NA | NA | NA | 1 |
| 10.64.160.30 | | SLX-30 | 65000 | leaf | provisioned | cfg in-sync |
NA | NA | 2 | 1 |
| 10.64.160.38 | | SLX-38 | 65000 | leaf | provisioned | cfg in-sync |
NA | NA | 2 | 1 |
```

```
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
FABRIC HEALTH:
```

```
Fabric Level Physical Topology Health : Green
```

```
Fabric Device Health
```

```
Device IP [Role] : 10.64.160.11 [Spine]
```

```

Device Health                               : Green
Configuration State Health                  : Green
    Dev State                               : provisioned
    App State                               : cfg in-sync
Operational State Health                   : Green
    Physical Topology Device Health         : Green
    Underlay Topology Device Health         : Green
-----

Device IP [Role]                           : 10.64.160.30 [Leaf]
Device Health                               : Green
Configuration State Health                  : Green
    Dev State                               : provisioned
    App State                               : cfg in-sync
Operational State Health                   : Green
    Cluster Health                          : Green
    Physical Topology Device Health         : Green
    Underlay Topology Device Health         : Green
-----

Device IP [Role]                           : 10.64.160.38 [Leaf]
Device Health                               : Green
Configuration State Health                  : Green
    Dev State                               : provisioned
    App State                               : cfg in-sync
Operational State Health                   : Green
    Cluster Health                          : Green
    Physical Topology Device Health         : Green
    Underlay Topology Device Health         : Green
-----
=====
=====

```

CONFIG GEN REASON:

This example displays details of a failed upgrade of a fabric called fs:

```
efa fabric show --name fs --detail
```

Fabric Name: fs, Fabric Description: , Fabric Stage: 3, Fabric Type: clos, Fabric Status: **upgrade-failed**, Fabric Health: **Red**

```

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| IP ADDRESS | POD | HOST NAME | ASN | ROLE | DEVICE STATE | APP STATE | CONFIG
GEN REASON | PENDING CONFIGS | VTLB ID | LB ID |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 10.64.160.11 | | SLX-11 | 64512 | spine | provisioned | cfg in-sync |
NA | NA | | NA | 1 |
| 10.64.160.30 | | SLX-30 | 65000 | leaf | provisioned | cfg in-sync |
NA | NA | | 2 | 1 |
| 10.64.160.38 | | SLX-38 | 65000 | leaf | provisioned | cfg in-sync |
NA | NA | | 2 | 1 |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+

```

DEVICE UPGRADE STATUS:

```

+-----+-----+
| IP ADDRESS | UPGRADE STATUS |
+-----+-----+
| 10.64.160.31 | LALD-UpgradeFailed |
| 10.64.160.30 | LALD-UpgradeFailed |
| 10.64.160.38 | LALD-UpgradeFailed |
+-----+-----+

```

FABRIC HEALTH:

Fabric Level Physical Topology Health : Green

Fabric Device Health

Device IP [Role] : 10.64.160.11 [Spine]
Device Health : Green

Configuration State Health : Green

Dev State : provisioned

App State : cfg in-sync

Operational State Health : Green

Physical Topology Device Health : Green

Underlay Topology Device Health : Green

Device IP [Role] : 10.64.160.30 [Leaf]

Device Health : Green

Configuration State Health : Green

Dev State : provisioned

App State : cfg in-sync

```

Operational State Health           : Green

Cluster Health                     : Green

Physical Topology Device Health    : Green

Underlay Topology Device Health    : Green

-----

Device IP [Role]                   : 10.64.160.38 [Leaf]

Device Health                       : Green

Configuration State Health         : Green

Dev State                          : provisioned

App State                          : cfg in-sync

Operational State Health           : Green

Cluster Health                     : Green

Physical Topology Device Health    : Green

Underlay Topology Device Health    : Green

-----
=====
=====
=====

```

CONFIG GEN REASON:

This example displays details of an upgrade recovery after a failed upgrade on a fabric called fs:

```
efa fabric show --name fs
```

```
Fabric Name: fs, Fabric Description: , Fabric Stage: 3, Fabric Type: clos, Fabric Status:
upgrade-success, Fabric Health: Black
```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| IP ADDRESS | POD | HOST NAME | ASN | ROLE |
| DEVICE STATE | APP STATE | CONFIG GEN REASON | PENDING CONFIGS | VTLB ID | LB ID |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 10.64.160.11 | | SLX-11 | 64512 | spine | | |
| provisioned | cfg in-sync | NA | NA | NA | 1 |
| 10.64.160.30 | | SLX-30 | 65000 | leaf |
| provisioned | cfg in-sync | NA | NA | NA | 2 | 1 |
| 10.64.160.38 | | SLX-38 | 65000 | leaf |
| provisioned | cfg in-sync | NA | NA | NA | 2 | 1 |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+

```

Recovered Output: if all devices are in-sync and all fabric tables are in none config

```
efa fabric show --name fs
```

```
Fabric Name: fs, Fabric Description: , Fabric Stage: 3, Fabric Type: clos, Fabric Status:
configure-success, Fabric Health: Green
```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| IP ADDRESS | POD | HOST NAME | ASN | ROLE |

```

DEVICE STATE	APP STATE	CONFIG GEN REASON	PENDING CONFIGS	VTLB ID	LB ID
10.64.160.11	SLX-11	64512	spine		
provisioned	cfg in-sync	NA	NA	NA	1
10.64.160.30	SLX-30	65000	leaf		
provisioned	cfg in-sync	NA	NA	2	1
10.64.160.38	SLX-38	65000	leaf		
provisioned	cfg in-sync	NA	NA	2	1

Recovered Output: after recovery still few of the devices in cfg-refreshed

```
efa fabric show --name fs
```

Fabric Name: fs, Fabric Description: , Fabric Stage: 3, Fabric Type: clos, Fabric Status: **upgrade-success**, Fabric Health: **Black**

IP ADDRESS	POD	HOST NAME	ASN	ROLE	
DEVICE STATE	APP STATE	CONFIG GEN REASON	PENDING CONFIGS	VTLB ID	LB ID
10.64.160.11	SLX-11	64512	spine	provisioned	
cfg refreshed	BGPU	BGPU	NA	1	
10.64.160.30	SLX-30	65000	leaf		
provisioned	cfg in-sync	NA	NA	2	1
10.64.160.38	SLX-38	65000	leaf		
provisioned	cfg in-sync	NA	NA	2	1

efa fabric show-config

Displays the configuration of the specified fabric.

Syntax

```
efa fabric show-config [ --name fabric-name | --device-role { leaf |  
                        spine | super-spine | border-leaf } | --ip ip-address ]
```

Parameters

--device-role { **leaf** | **spine** | **super-spine** | **border-leaf** }

Specifies the role of devices for which configuration is displayed.

--ip *ip-address*

Specifies the IP address of the devices for which configuration is displayed. Used with the **--device-role** option.

--name *fabric-name*

Specifies the name of the fabric.

Examples

```
efa fabric show-config --name BLR_FABRIC --device-role border-leaf  
--ip 10.25.225.58
```

efa fabric show summary

Displays a summary of the specified fabric.

Syntax

```
efa fabric show summary [--name fabric-name ]
```

Parameters

--name *fabric-name*

Specifies the name of the fabric.

Usage Guidelines

Displays the details of all fabrics when the `name` option is not provided.

Displays the details of the specified fabric when the `name` option is provided.

Examples

This example displays a summary for the BLR_FABRIC fabric.

```
efa fabric show summary --name BLR_FABRIC
```


efa fabric topology show overlay

Displays the overlay connectivity (VxLAN tunnels) of the devices in a fabric.

Syntax

```
efa fabric topology show overlay [--name name ]
```

Parameters

--name *name*

Specifies the name of the fabric.

Examples

This example displays the overlay topology information for the fabric.

```
# efa fabric topology show overlay --name clos_fabric
```

OVERLAY ECAP TYPE	TUNNEL TYPE	SOURCE LEAF IP	DESTINATION LEAF IP	SOURCE VTEP IP	DESTINATION VTEP IP	OVERLAY ADMIN STATE	OVERLAY OPER STATE
vxlan	unicast	10.24.80.158	10.24.80.159	172.31.254.7			
172.31.254.9	up		up				
vxlan	unicast	10.24.80.159	10.24.80.158	172.31.254.9			
172.31.254.7	up		up				
vxlan	multicast	10.24.80.158		172.31.254.7			
239.1.1.1	up		up				
vxlan	multicast	10.24.80.159		172.31.254.9			
239.1.1.1	up		up				

efa fabric topology show underlay

Displays the underlay connectivity (BGP peers) of the devices in a fabric for the default VRF.

Syntax

```
efa fabric topology show underlay [--name name ]
```

Parameters

--name *name*

Specifies the name of the fabric.

Examples

This example displays the underlay topology information for the fabric.

```
efa fabric topology show underlay --name nc
+-----+-----+-----+-----+
| SOURCE DEVICE IP | DESTINATION DEVICE IP | SOURCE DEVICE ROUTER ID | NEIGHBOR IP |
+-----+-----+-----+-----+
| 10.20.61.90      | 10.20.61.91          | 172.31.254.1            | 10.20.20.3   |
| 10.20.61.91      | 10.20.61.90          | 172.31.254.3            | 10.20.20.2   |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| SOURCE DEVICE ASN | DESTINATION DEVICE ASN | NEIGHBOR AFI STATE | NEIGHBOR SAFI | UNDERLAY STATE |
+-----+-----+-----+-----+
| 42000000000       | 42000000000          | ipv4                 | unicast        |                  |
| 42000000000       | 42000000000          | ipv4                 | unicast        |                  |
+-----+-----+-----+-----+
```

efa fabric topology show physical

Displays the physical connectivity (LLDP neighbors) of the devices in a fabric.

Syntax

```
efa fabric topology show physical [ --name name ]
```

Parameters

--name *name*

Specifies the name of the fabric.

Examples

This example displays a portion of the physical topology information for the fabric.

```
efa fabric topology show physical --name clos_fabric
```

SOURCE NODE IP	SOURCE NODE ROLE	DESTINATION NODE IP	DESTINATION NODE ROLE	SOURCE NODE INTERFACE
10.24.80.135	LEAF	10.25.225.163	LEAF	0/39
10.24.80.135	LEAF	10.25.225.163	LEAF	0/40
10.24.80.135	LEAF	10.24.80.134	LEAF	0/46
10.24.80.134	LEAF	10.24.80.135	LEAF	0/46

DESTINATION NODE INTERFACE	SOURCE DEVICE MULTI HOMED	DESTINATION DEVICE MULTI HOMED
0/39	TRUE	FALSE
0/40	TRUE	FALSE
0/46	TRUE	TRUE
0/46	TRUE	TRUE

efa health debug clear

Clear the health of the specified subtree and resource.

Syntax

```
efa health debug clear [ --resource string ]
```

Parameters

--resource *string*

Specifies the subtree of the resource to clear. If not specified, the health of the tree from Root node is cleared.

Usage Guidelines

Clears health state for a resource subtree (used for remediation/reset workflows).



Caution

Use only for controlled remediation scenarios. Clearing health does not fix underlying faults.

Examples

```
efa health debug clear --resource /App/Component/Asset/Device?device_ip=<ip of Device>
```

efa health detail show

Display the list of health detail.

Syntax

```
efa health detail show [ --resource string ]
```

Parameters

--resource *string*

Specifies the health resource path associated to the alert being sent. Example: --resource /App/System/Security/Certificate.

Examples

```
(efa:extreme)extreme@node-2:~$ efa health detail show --resource /App/System/Security/
Certificate
+-----+-----+-----+-----+-----+
+
+           Resource           | HQI Color | HQI Value | Contributor Reason | Status
+
+-----+-----+-----+-----+-----+
+
+ /App/System/Security/Certificate |   Green   |     0     |                    | Success
+
+-----+-----+-----+-----+-----+
+
Health detail show
--- Time Elapsed: 51.865956ms ---
(efa:extreme)extreme@node-2:~$
```

efa health inventory show

Lists all health objects and valid resource paths.

Syntax

```
efa health inventory show [ --resource string ]
```

Parameters

--resource *string*

Specifies the health resource path associated to the alert being sent. Example: --resource /App/System/Security/Certificate.

Examples

```
(efa:extreme)extreme@node-2:~$ efa health inventory show
+-----+-----+
|                                     Resource                                     |
+-----+-----+
| /App/Component/Asset/Device/Password?device_ip=&username=*                    |
+-----+-----+
| /App/Component/Asset/Device/PortFlap?device_ip=&port=*                        |
+-----+-----+
| /App/Component/Asset/Device?device_ip=*                                       |
+-----+-----+
| /App/Component/Fabric/Device/Configuration/AppState?device_ip=&fabric_name=*    |
+-----+-----+
| /App/Component/Fabric/Device/Configuration/DevState?device_ip=&fabric_name=*   |
+-----+-----+
| /App/Component/Fabric/Device/Operational/Mct?device_ip=&fabric_name=*          |
+-----+-----+
| /App/Component/Fabric/Device/Operational/Topology/Overlay?device_ip=&fabric_name=* |
+-----+-----+
| /App/Component/Fabric/Device/Operational/Topology/Physical?device_ip=&fabric_name=* |
+-----+-----+
| /App/Component/Fabric/Device/Operational/Topology/Underlay?device_ip=&fabric_name=* |
+-----+-----+
| /App/Component/Fabric/Device?device_ip=&fabric_name=*                         |
+-----+-----+
| /App/Component/Fabric/State?fabric_name=*                                     |
+-----+-----+
| /App/Component/Fabric/Topology/Physical?fabric_name=*                       |
+-----+-----+
| /App/Component/Fabric?fabric_name=*                                           |
+-----+-----+
| /App/System/HA/Nodes/Node                                                     |
+-----+-----+
| /App/System/HA/Nodes/Services                                                 |
+-----+-----+
| /App/System/Security/Authentication?server=*                                 |
+-----+-----+
| /App/System/Security/Authentication?username=*                             |
+-----+-----+
| /App/System/Security/Certificate?device_ip=&type=*                           |
+-----+-----+
| /App/System/Security/Certificate?type=*                                       |
+-----+-----+
```

```
| /App/System/Storage?mount_point=*&node_ip=* |
+-----+
--- Time Elapsed: 51.420355ms ---
(efa:extreme)extreme@node-2:~$
```

efa health show

Display the list of health resources.

Syntax

```
efa health show [ --resource string | --detail ]
```

Parameters

--detail

Detailed information for health resources.

--resource *string*

Specifies the health resource path associated to the alert being sent. Example: --resource /App/System/Security/Certificate.

Examples

```
(efa:extreme)extreme@node-2:~$ efa health show
+-----+-----+-----+-----+
| Resource | HQI Color | HQI Value | Status |
+-----+-----+-----+-----+
| /        | Green     | 0         | Success |
+-----+-----+-----+-----+
Health show
--- Time Elapsed: 53.063736ms ---
(efa:extreme)extreme@node-2:~$
```


efa inventory admin-state

Changes, displays, and deletes device state, state change history, or state change record.

Syntax

```
efa inventory admin-state up [ --ip ip-addr ]
efa inventory admin-state down [--ip ip-addr ]
efa inventory admin-state detail [--uuid uuid ]
efa inventory admin-state delete [ --key ip-addr ]
efa inventory admin-state history [--ip ip-addr ]
efa inventory admin-state show [--ip ip-addr ]
```

Parameters

--ip *ip-addr*

Specifies the IP address of the device.

--key *ip-addr*

Specifies the IP address of the device or config-backup UUID to be deleted.

--uuid *uuid*

Specifies the ID of the configuration backup.

Usage Guidelines

When a device changes to `admin down` state, the device goes into maintenance mode.

When a device changes to `admin up` state, the device is taken out of maintenance mode.

For more information, see "Administered Partial Success" in the .

Examples

This example changes the device state to `admin up` and generates a UUID to use in the **efa inventory admin-state detail** version of the command.

```
$ efa inventory admin-state up --ip 10.24.80.158
AdminStateUp [success]
Admin State Up execution UUID: 8d9fa0cf-dc76-42cc-ac7a-57902a47c1b2
```

This example changes the device state to `admin down` and generates a UUID to use in the **efa inventory admin-state detail** version of the command.

```
$ efa inventory admin-state down --ip 10.24.80.158
AdminStateDown [success]
Admin State Down execution UUID: 28eb0845-7a7a-4851-b453-b3020c6900f2
```

This example displays the history of the admin status for the specified device.

```
# efa inventory admin-state history --ip 10.24.80.158
```

```
-----+
UUID                               Device IP      Admin State  Status
-----+-----+-----+
8d9fa0cf-dc76-42cc-ac7a-57902a47c1b2  10.24.80.158  up           success
-----+-----+-----+
28eb0845-7a7a-4851-b453-b3020c6900f2  10.24.80.158  down         success
-----+-----+-----+
Device State Change Records
```

This example shows details of admin state changes for the specified UUID.

```
$ efa inventory admin-state detail --uuid
28eb0845-7a7a-4851-b453-b3020c6900f2
```

```
-----+
NAME                               VALUE
-----+-----+
UUID                               28eb0845-7a7a-4851-b453-b3020c6900f2
-----+-----+
Device IP                          10.24.80.158
-----+-----+
Admin State Action down
-----+-----+
Status                             success
-----+-----+
Maintenance Mode Enable Status     success
-----+-----+
Start Time                         2020-07-30 10:04:33.982447 +0000 UTC
-----+-----+
Last Modified                       2020-07-30 10:04:38.437425 +0000 UTC
-----+-----+
Duration                           4.454976211s
-----+-----+
```

This example shows details of the state of the specified device.

```
$ efa inventory admin-state show --ip 10.24.80.158
```

```
-----+
NAME                               VALUE
-----+-----+
Device IP                          10.24.80.158
-----+-----+
Admin State                         up
-----+-----+
Health Check Status                 Disable
-----+-----+
```

This example deletes the state change instance for the specified IP address.

```
$ efa inventory admin-state delete --key 10.24.80.159
```

```
-----+
USERKEY      STATUS      ERROR
-----+-----+
10.24.80.159  deleted
-----+-----+
```

efa inventory config-backup

Configures the backup for device configuration.

Syntax

```
efa inventory config-backup history[ --ip ip-address ]
efa inventory config-backup execute[ --ip ip-address ]
efa inventory config-backup delete[ --key ip-address ]
efa inventory config-backup detail[ --uuid cb-uuid | --show-config | --
    file-dump filename ]
```

Parameters

--file-dump *filename*
Saves configuration text to the specified file.

--ip *ip-address*
Specifies the IP address of the device.

--key *ip-address*
Specifies the IP address of the device or config-backup UUID to be deleted.

--show-config
Displays configuration text.

--uuid *cb-uuid*
Specifies the ID of the configuration backup.

Usage Guidelines

Use the **efa inventory config-backup history** command to display the history of configuration backups.

Use the **efa inventory config-backup execute** command to run the configuration backup for the specified device.

Use the **efa inventory config-backup delete** command to delete the configuration backup record.

Use the **efa inventory config-backup detail** command to display the details of the configuration backup and to, optionally, show the text of the configuration and save the text to a file.

Examples

The following examples show **efa inventory config-backup** commands.

```
# efa inventory config-backup execute --ip 10.24.14.133
# efa inventory config-backup history --ip 10.24.14.133
```

```
# efa inventory config-backup detail --uuid 1111-1111-1111 --show-config
# efa inventory config-backup detail --uuid 1111-1111-1111 --show-config
--file-dump fileABC
# efa inventory config-backup delete --key 10.24.14.133
# efa inventory config-backup delete --key 1111-1111-111
```

efa inventory config-replay

Displays, runs, and deletes the configuration replay for the specified device.

Syntax

```
efa inventory config-replay history [--ip ip-addr ]  
efa inventory config-replay execute [--ip ip-addr | --uuid cr-uuid | --  
    ssid ssid | --startup-config | --no-reboot ]  
efa inventory config-replay delete [--key ip-addr ]  
efa inventory config-replay detail [--uuid cr-uuid ]
```

Parameters

--ip *ip-addr*

Specifies the IP address of the device.

--key *ip-addr*

Specifies the IP address of the device or config-replay UUID to be deleted.

--no-reboot

Configures replay without rebooting the device.

Not Supported for OS ONE devices.

--ssid *ssid*

Specifies the SSID of the config-backup job.

--startup-config

Copies the backup file to the startup-config file.

Not Supported for OS ONE devices.

--uuid *cr-uuid*

Specifies the config replay ID or the UUID of config backup job.

Usage Guidelines

The device configuration backup and replay feature enables backup of the device configuration based on inventory device settings, commands, and REST APIs.

Use the **efa inventory config-replay history** command to display the configuration replay history for the specified device.

Use the **efa inventory config-replay execute** command to run the configuration backup for the specified device.

Use the **efa inventory config-replay delete** command to delete the configuration replay record for the specified device.

Use the **efa inventory config-replay detail** command to display detailed replay history for the specified device.

Examples

The following examples show **efa inventory config-replay** commands.

```
# efa inventory config-replay execute --ip 10.24.14.133
--uuid 1111-1111-111

# efa inventory config-replay history --ip 10.24.14.133
# efa inventory config-replay detail --uuid 1111-1111-1111
# efa inventory config-replay delete --key 10.24.14.133
# efa inventory config-replay delete --key 1111-1111-111
# efa inventory config-replay execute --ip 10.24.14.133 --uuid 1111-1111-111
--startup-config

# efa inventory config-replay execute --ip 10.24.14.133 --uuid 1111-1111-111
--no-reboot
```

efa inventory debug device-adapter-status

List status of all device adapters in inventory

Syntax

```
efa inventory debug device-adapter-status [ --ip device-ips | --fabric
string | --fabric-all ]
```

Parameters

--fabric *string*

Specifies the name of the fabric.

--fabric-all

All devices for all fabrics.

--ip *device-ips*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

Device adapter status output for an OS ONE device showing a single SSH adapter, in contrast to SLX-OS devices which use REST, SSH, and NetConf adapters

```
(efa:extreme)extreme@node-1:~$ efa inventory debug device-adapter-status --ip 10.64.224.16
+-----+-----+-----+-----+-----+
|      IP      | Adapter      | Protocol | State      | Error Status |
+-----+-----+-----+-----+-----+
| 10.64.224.16 | SwitchSSHAdapter | SSH      | Initialized | Success      |
+-----+-----+-----+-----+-----+
Device Adapter Status
--- Time Elapsed: 103.358178ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory debug devices-lock

Displays lock status of the devices.

Syntax

```
efa inventory debug devices-lock
```

Usage Guidelines

Diagnostic commands are developed and intended for specialized troubleshooting. Work closely with Extreme Networks technical support when running **debug** or **show system internal** commands and interpreting their results.

Examples

```
efa inventory debug devices-lock
+-----+-----+
|          IP Address          | Locked |
+-----+-----+
| 10.139.44.156                | false  |
+-----+-----+
| 10.139.44.155                | false  |
+-----+-----+
| Global DeviceWalkListLock    | false  |
+-----+-----+
| Global DeviceLockCollectionMapLock | false  |
+-----+-----+
| Global FabricEventLock       | false  |
+-----+-----+
| Global MapLock of Events     | false  |
+-----+-----+
| GoSwitch Repository         | false  |
+-----+-----+
| Service Lock                 | false  |
+-----+-----+
```


efa inventory debug devices-unlock

Unlocks devices forcefully if they were locked during the configuration backup process.

Syntax

```
efa inventory debug devices-unlock [ --ip ip-list | --fabric fabric-name
| --servicelock ]
```

Parameters

--fabric *fabric-name*

Fabric with which devices are associated.

--ip *ip-list*

List of IPs to unlock.

--servicelock

Specify to unlock all service locks.

Examples

```
efa-client inventory debug devices-unlock --ip 10.20.246.5,10.20.246.6
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.20.246.6 | Success |
+-----+-----+
| 10.20.246.5 | Success |
+-----+-----+
Force Unlock Devices
--- Time Elapsed: 100.5453ms ---
```

```
efa-client inventory debug devices-unlock --servicelock
+-----+-----+
| IP Address | Status |
+-----+-----+
| Service Lock | Success |
+-----+-----+
Force Unlock Devices
--- Time Elapsed: 39.3574572s ---
```

```
efa-client inventory debug devices-unlock --fabric fabric1
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.20.246.6 | Success |
+-----+-----+
| 10.20.246.5 | Success |
+-----+-----+
Force Unlock Devices
```

efa inventory debug unblock-from-fwdl

Unlocks devices forcefully if they were locked during a firmware download.

Syntax

```
efa inventory debug unblock-from-fwdl [--ip ip-list | --fabric fabric-name ]
```

Parameters

--fabric *fabric-name*

Fabric with which devices are associated.

--ip *ip-list*

List of IPs to unlock.

Usage Guidelines

During firmware download, a lock is activated to prevent other services from doing any operations. This debug command allows you to unlock the lock in case, for some reason, the system does not unlock on its own.

Examples

```
efa-client inventory debug unblock-from-fwdl --ip 10.20.246.1,10.20.246.2
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.20.246.2 | Success |
+-----+-----+
| 10.20.246.1 | Failed |
+-----+-----+
Force Removal of FWDL
Status
--- Time Elapsed: 42.0891034s ---
```

```
efa-client inventory debug unblock-from-fwdl --fabric non-clos
+-----+-----+
| IP Address | Status |
+-----+-----+
| 10.20.246.2 | Success |
+-----+-----+
| 10.20.246.1 | Success |
+-----+-----+
Force Removal of FWDL
```

efa inventory device clear route-all

Clears all routes on devices.

Syntax

```
efa inventory device clear route-all [ --ip device-ips | --fabric fabric-name | --ipv4-only | --ipv6-only ]  
efa inventory device clear route-all
```

Parameters

--ip *device-ips*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--ipv4-only

Optional flag to only clear IPv4 routes.

--ipv6-only

Optional flag to only clear IPv6 routes.

--fabric *fabric-name*

Specifies the name of the fabric.

Examples

The following example clears all routes on device with IP address 10.20.30.40.

```
efa inventory device clear route-all --ip 10.20.30.40
```

The following example clears only IPv4 routes on device with IP address 10.20.30.40.

```
efa inventory device clear route-all --ip 10.20.30.40 --ipv4-only
```

efa inventory device compare

Compares the device configuration with the configuration details that are saved in the application.

Syntax

```
efa inventory device compare [ --ip ]
```

Parameters

--ip

Specifies the IP address of the device to be compared.

efa inventory device delete

Deletes the device.

Syntax

```
efa inventory device delete [ --ip ip-addr | --fabric fabric-name ]
```

Parameters

--fabric *fabric-name*

Fabric name for which devices needs to deleted.

--ip *ip-addr*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

If an inventory device is deleted while Drift and Reconcile is in process for the same device and the device is currently in maintenance mode, then the device remains in maintenance mode after deletion. To take the device out of maintenance mode before device registration, you must perform a manual procedure.

efa inventory device discovery-time list

Displays the configured device discovery interval for devices or for a fabric.

Syntax

```
efa inventory device discovery-time list [ --ips ip-addr | --fabric fabric-name ]
```

Command Default

The default discovery interval is one hour. You can modify this interval by using the **efa inventory device discovery-time update** command.

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ips *ip-addr*

Specifies a comma-separated list of the IP addresses for which you want to see the configured interval. For example, 10.1.1.13,10.1.1.50,10.1.1.101.

Examples

This example displays the device discovery interval for each device in the fabric named myFabric.

```
efa inventory device discovery-time list --fabric myFabric
```

This example displays the device discovery interval for two device IP addresses.

```
efa inventory device discovery interval --ips 1.1.1.1,2.2.2.2
```

efa inventory device discovery-time update

Configures the interval for periodic discovery of devices.

Syntax

```
efa inventory device discovery-time update [ --ip ip-addr | --fabric  
      fabric-name ] [ --min minutes | --hour hours]
```

Command Default

The default discovery interval is one hour.

Parameters

--fabric *fabric-name*

Specifies the name of the fabric for which you are configuring the interval. All devices in this fabric will have the same interval.

--hour *hours*

Specifies the interval in hours.

--ip *ip-addr*

Specifies the IP address of the device for which you are configuring the interval.

--min *minutes*

Specifies the interval in minutes.

Usage Guidelines

Tenant and Fabric Services use periodic discovery to detect out-of-sync configurations on the devices.

These services act on the published events and update the database to reflect the status of the devices as in-sync and out-of-sync.

Examples

This example configures an interval of 20 minutes for a specific IP address.

```
efa inventory device discovery-time update --ip 1.1.1.1 --min 20
```

This example configures an interval of two hours for a fabric named `myFabric`.

```
efa inventory device discovery-time update --fabric myFabric --hour 2
```

efa inventory device execute-cli

Runs a specified command on one or more devices.

Syntax

```
efa inventory device execute-cli [ --ip ip-addr | --fabric fabric-devices
  | --role role-devices | --command command | --config { config-term |
  exec-mode }]
```

Parameters

--command *command*

Specifies a comma-separated or semicolon-separated list of commands to run on the devices.

--config { *config-term* | *exec-mode* }

Indicates whether commands are for config-term or exec-mode. The default value is exec-mode.

--fabric *fabric-devices*

Specifies all devices in the specified fabric.

--ip *ip-addr*

Specifies a comma-separated range of device IP addresses. For example: 10.1.1.13,10.1.1.50,10.1.1.101.

--role *role-devices*

Specifies devices in the fabric, based on their role.

Examples

```
(efa:extreme)extreme@ok1cltpvml:~$ efa inventory device execute-cli --ip 10.249.42.199 --
command "show clock"
Execute CLI[failed]
-----
-----
IP Address      Host Name Fabric      Command      Status  Reason Output
-----
-----
10.249.42.199  OK2C1T02  OK1C1T01-OK2C1T02 show clock Failed Device 10.249.42.199 Failed
to run the command as rest execution failed.
-----
-----
Execute CLI Details
PS: check http server status on the device.
- Time Elapsed: 2m2.092072921s -
```


efa inventory device firmware-download activate

This command will trigger the reloading of devices for a given fabric, devices or a prepared list group.

Syntax

```
efa inventory device firmware-download activate [ --fabric fabric-name |  
  --prepared-list-name prepared-list-name | --ip ip-addr | --commit ]
```

Parameters

--commit

Configure commit operation to be performed after firmware activate.

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

--prepared-list-name *prepared-list-name*

Prepared list name.

Usage Guidelines

- Activation of *.bin firmware images reboots the device.
- Activation of *.app firmware images does not reboot the device.
- Activation of *.incr firmware images does not reboot the device.
- Full-install activation performs the full-install workflow and reboots the device.

efa inventory device firmware-download commit

Commits new firmware where the firmware download was started with the `NoAutoCommit` flag.

Syntax

```
efa inventory device firmware-download commit [ --fabric fabric-name |
--ip ip-addr| --prepared-list-name prepared-list-name ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

--prepared-list-name *prepared-list-name*.

Prepared list name.

Usage Guidelines

Use this command after activating firmware images that require an explicit commit.

Full-install firmware images are committed automatically and do not require this command.

```
efa inventory device firmware-download commit --fabric fabric1
Firmware Download Commit for fabric fabric1 - [success]
+-----+-----+-----+
| DeviceIP      | Device FWDL Status          | Error |
+-----+-----+-----+
| 10.20.246.6   | Firmware Committed Successfully |      |
+-----+-----+-----+
--- Time Elapsed: 1m25.765540754s ---
```

efa inventory device firmware-download execute

Clears out the prepared list for successfully completed devices. Any failed devices remain in the prepared list to enable the run to be retried.

Syntax

```
efa inventory device firmware-download execute [ --fabric fabric-name
| --prepared-list-name prepared-list-name | [ --noMaintMode ] |
[ --noAutoCommit | [ --noActivate ] | --drc | --group-execution
{ continue-on-error | stop-on-error } | --help
```

Parameters

--drc

During firmware download workflow DRC is controlled by user input flag "drc". If the flag is set to "true" and maintenance mode is enabled, then DRC is triggered. By default "drc" flag is "false". The following table describes the different scenarios for DRC during firmware download:

noMaint	drc	enable_on_reboot	FWDL Reboot Behavior	Comments
False	False	True/ False	- Maintenance mode will be enabled before reboot - NO DRC - Maintenance mode will be disabled after reboot	Default Case FWDL is driving maint-mode so enable_on_reboot has no effect
False	True	True/ False	- Maintenance mode will be enabled before reboot - DRC will be triggered - Maintenance mode will be disabled on successful DRC	FWDL is driving maint-mode so enable_on_reboot has no effect

noMaint	drc	enable_on_reboot	FWDL Reboot Behavior	Comments
True	False	True	- enable_on_reboot mode will bring switch in maintenance mode - NO DRC - Maintenance mode will be disabled after reboot	
True	False	False	- No maintenance mode - NO DRC	
True	True	True	- enable_on_reboot mode will bring switch in maintenance mode - DRC will be triggered - Maintenance mode will be disabled on successful DRC	
True	True	False	Invalid use case; appropriate error will be raised	

--fabric *fabric-name*

Specifies the name of the fabric.

--group-execution [**continue-on-error** | **stop-on-error**]

Specifies the group run policy when a firmware download process fails on one or more devices defined in a group. When all devices defined in the group have completed the firmware download process and there is one or more device that has failed, the group run policy rules if the firmware download work flow continues to process the remaining groups or not.

There are two options:

- Under the `continue-on-error` group run policy (the default), in case of a device upgrade failure, the work flow continues to the next group, until all groups have been processed.
- Under the `stop-on-error` group run policy, in case of a device upgrade failure, the work flow does not continue to the next group.

--noActivate

Configure Activation in Firmware Download. Device will not reload after the downloading the firmware. To activate the firmware, you must run the `efa inventory device firmware-download activate` command on the device.

--noAutoCommit

Configures auto commit in the firmware download. By default, the firmware download process automatically commits the firmware following successful completion. If you add the `noAutoCommit` option, you must manually run a new **`efa inventory device firmware-download commit`** command to commit the downloaded firmware on the device.

--noMaintMode

Ignores Maintenance Mode operations during firmware download. The option defaults to `FALSE`, which means Maintenance Mode is turned off during firmware download. If you add the `noMaintMode` option, Maintenance Mode operations are not performed during the firmware download process.

--prepared-list-name *prepared-list-name*

Prepared list name.

Usage Guidelines

You can receive a general warning for traffic loss for single-homed servers if any leaf devices or non-Clos devices are prepared for firmware download.

Run only one instance of this command per fabric.

The execution behavior depends on the firmware image type.

- `*.bin` upgrades execute group-by-group when a fabric is specified.
- `*.app` upgrades execute in parallel by default.
- `*.incr` upgrades execute in parallel by default.
- Maintenance Mode and Dynamic Route Coordination (DRC) are enabled by default for reboot-based upgrades.

Examples

Firmware download execute output showing the command returning immediately with an execution UUID and instructions to monitor progress using the `show` command.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download execute --fabric fabric1
Firmware Download Execute - [In Progress]
```

Monitor firmware download execution progress using:

```
efa inventory device firmware-download show --fabric fabric1
efa inventory device firmware-download show --execution-id 118ba7c6-7fc9-4a34-b727-4723d6343246
```

Please do not execute other commands on these devices while firmware download is in progress

--- Time Elapsed: 52.007521ms ---

This example shows only a portion of all possible output.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download show --fabric
fabric1
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| Group | IP Address | Host
Name | Model | Chassis Name | ASN | Role | Current Firmware
| From Firmware | Target Firmware | Rollback Firmware | Current Base OS
Firmware | From Base OS Firmware | Target Base OS Firmware | Rollback Base OS Firmware
| Update State | Status | Detailed Status | Force |
Full Install | Last Update Time | User Input Flags | Group Execution Policy |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | Leaf-16
| 8730-32D | 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 |
OSOneSR-all-22.2.2.0-164 | / | OSOneBase-10.2.2.0-164
| OSOneBase-10.2.2.0-164 |
| In Progress | Maintenance Mode Disable Status Poll Started | false |
false | 2026-05-14 08:48:38 +0000 UTC | D,A,C,MM | continue-on-error |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | Leaf-17
| 8730-32D | 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 |
OSOneSR-all-22.2.2.0-164 | / | OSOneBase-10.2.2.0-164
| |
| In Progress | Device Queued for Firmware Execute | false |
false | 2026-05-14 08:48:01 +0000 UTC | D,A,C,MM | continue-on-error |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Firmware Download Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile

Group Execution Policy: continue-on-error
```

```
Firmware Download Show Overall Status [In Progress]
If Firmware download execution initiated
with '--noAutoCommit' flag, please commit/restore after completion using:
```

```
efa inventory device firmware-download commit --fabric fabric1
efa inventory device firmware-download restore --fabric fabric1
```

```
If Firmware download execution initiated
with '--noActivate' flag, please activate after completion using:
```

```
efa inventory device firmware-download activate --fabric fabric1
```

```
--- Time Elapsed: 54.505202ms ---
(efa:extreme)extreme@node-1:~$
```

```
efa inventory device firmware-download execute --fabric fabric1
--noMaintMode
Firmware Download Execute [success]
Monitor firmware download execution progress using:
efa inventory device firmware-download show --fabric fabric1
```

Please don't execute other commands on these devices until firmware download is in progress

```
--- Time Elapsed: 137.250437ms ---
```

Firmware Download Execute Firmware download execute output for a fabric showing the command returns immediately with an execution UUID and instructions to monitor progress using the firmware download show command.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download execute --fabric
fabric1
Firmware Download Execute - [In Progress]
Monitor firmware download execution progress using:

efa inventory device firmware-download show --fabric fabric1
efa inventory device firmware-download show --execution-id 118ba7c6-7fc9-4a34-
b727-4723d6343246
```

Please do not execute other commands on these devices while firmware download is in progress

```
--- Time Elapsed: 52.007521ms ---
(efa:extreme)extreme@node-1:~$
```

This example executes a prepared application image upgrade.

```
efa inventory device firmware-download execute \
--prepared-list-name appl \
--noActivate \
--noAutoCommit \
--noMaintMode
```

efa inventory device firmware-download history

Show firmware download status with user trigger history details in execution order

Syntax

```
efa inventory device firmware-download history [ --fabric string | --
  execution-uuid string | --prepared-list-name string | --type string |
  --ip string ]
```

Parameters

--execution-uuid *string*

Execution UUIDs obtained from the firmware download execute operation.
Provide a comma-separated list of UUIDs. Example: 66e795a6-a4a0-4c86-a23e-0c1212beb3fa,a801ac7e-bc20-41eb-860e-64b975e4afea.

--fabric *string*

Specifies the name of the fabric.

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--prepared-list-name *string*

Specifies the prepared list name.

--type *string*

Specifies the device type. Options are: [fabric]

Usage Guidelines

Firmware history includes Base OS, SR firmware, current version, and rollback version information for supported OS ONE devices.

Examples

Firmware download history output for a fabric showing a completed execution entry with UUID, duration, start/end times, and per-device update state, status, and detailed status columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download history --fabric
fabric1
```

```
Execution EntryNumber :3, UUID :118ba7c6-7fc9-4a34-b727-4723d6343246
Execution Start :2026-05-14 08:48:01 +0000 UTC, End :2026-05-14 09:03:52 +0000
UTC,Duration :15m50.651684249s
Previous Version :OSOneSR-all-22.2.2.0-164, Target Version :/
Force :false, FullInstall :false
Group Execution Policy :continue-on-error, Prepared-list-name :
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
```



```

| Group | IP Address | User Task ID | Host
Name | Role | Update State | Status | Start Time
| End Time | Update Time | User Input
Flags | FabricName | Detailed Status |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | 15
| Leaf-17 | Leaf | Failed | Firmware Download Failed | 2026-05-14 08:48:01 +0000
UTC | 2026-05-14 09:01:35 +0000 UTC | 2026-05-14 09:01:35 +0000 UTC | D,A,C,MM
| fabric1 | Failed to execute firmware download on the device due
|
|
|
|
| to connection issues. Please retry 'efa inventory device
|
|
|
|
| firmware-download execute' command.
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | 13
| Leaf-16 | Leaf | Failed | Firmware Download Failed | 2026-05-14 08:48:01 +0000
UTC | 2026-05-14 08:54:48 +0000 UTC | 2026-05-14 08:54:48 +0000 UTC | D,A,C,MM
| fabric1 | Failed to execute firmware download on the device due
|
|
|
|
| to connection issues. Please retry 'efa inventory device
|
|
|
|
| firmware-download execute' command.
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
Firmware Download User Action History Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile

--- Time Elapsed: 60.00687ms ---
(efa:extreme)extreme@node-1:~$

```

efa inventory device firmware-download operational-history

Show the firmware download operational status history details in execution order

Syntax

```
efa inventory device firmware-download operational-history [ --fabric
    string | --execution-uuid string | --prepared-list-name string | --
    type string | --ip string | --last-execution-history | --fdwl_task_id
    string ]
```

Parameters

--execution-uuid *string*

Execution UUIDs obtained from the firmware download execute operation. Provide a comma-separated list of UUIDs. Example: 66e795a6-a4a0-4c86-a23e-0c1212beb3fa,a801ac7e-bc20-41eb-860e-64b975e4afea.

--fabric *string*

Specifies the name of the fabric.

--fdwl_task_id *string*

ID of the firmware download execution task obtained from the firmware download history status for devices in the fabric. Provide a comma-separated list of IDs. For example: 100, 200, 2

--ip *string*

Specifies comma-separated range of device IP addresses. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

--last-execution-history

Retrieve the last execution history of firmware upgrades

--prepared-list-name *string*

Specifies the prepared list name.

--type *string*

Specifies the device type. Options are: [fabric]

Usage Guidelines

Operational history records firmware download, activation, commit, and rollback operations, including Base OS and SR firmware versions for supported OS ONE devices.

Examples

Firmware download operational history output for a fabric showing the granular per-device operation sequence — Maintenance Mode Enable, Firmware Download, and Maintenance Mode Disable — with individual start and end times for each operation.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download operational-history
--fabric fabric1
```

```

Execution EntryNumber :3, UUID :118ba7c6-7fc9-4a34-b727-4723d6343246
Execution Start :2026-05-14 08:48:01 +0000 UTC, End :2026-05-14 09:03:52 +0000
UTC,Duration :15m50.651684249s
Previous Version :OSOneSR-all-22.2.2.0-164, Target Version :/
Force :false, FullInstall :false
Group Execution Policy :continue-on-error, Prepared-list-name :
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| Group | IP Address | Oper Id | User Task Id | Host Name | Detail
Status | Starte Time | End Time |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | 29 | 13 | Leaf-16 | Maintenance
Mode Enable | 2026-05-14 08:48:07 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | 31 | 13 | Leaf-16 | Firmware Download
| 2026-05-14 08:48:07 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | 33 | 13 | Leaf-16 | Maintenance
Mode Disable | 2026-05-14 08:48:08 +0000 UTC | 2026-05-14 08:54:48 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | 35 | 15 | Leaf-17 | Maintenance
Mode Enable | 2026-05-14 08:54:54 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | 37 | 15 | Leaf-17 | Firmware
Download | 2026-05-14 08:54:54 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | 39 | 15 | Leaf-17 | Maintenance
Mode Disable | 2026-05-14 08:54:55 +0000 UTC | 2026-05-14 09:01:35 +0000 UTC |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Firmware Download Operational History Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile

--- Time Elapsed: 70.952922ms ---
(efa:extreme)extreme@node-1:~$

```

efa inventory device firmware-download prepare add

Prepares a device for a firmware download. Firmware host sanity validations are done at this time. If the validations are successful, the device is prepared.

Syntax

```
efa inventory device firmware-download prepare add [--fabric fabric name  
--ip device ip address | --prepared-list-name prepared-list-name | [--  
group group number ] --force --firmware-host firmware download host  
--firmware-directory path to target firmware build | --full-install ]
```

Command Default

Traffic loss expected for non-redundant devices (single non-MCT leaf, spine, or super spine).

Parameters

--fabric *fabric name*

Name of the fabric. Using the **--fabric** parameter automatically generates a group-based prepared list. The **--group** parameter is not permitted with the **--fabric** parameter.

--firmware-directory *path to target firmware build*

Path to the target firmware build.

--firmware-host *firmware download host*

Firmware download host IP address.

--force

Bypasses all validations and forcefully prepares the device. The **--force** parameter can be used to download the same existing firmware version on the device. Normally, this is not allowed. However, using the **--force** parameter implicitly performs a full installation to carry out the same firmware version download.

--full-install

Specifies that the firmware image is used for a full-install firmware upgrade on OS ONE devices.

Use this option when preparing a OS ONE full-install image. Full-install firmware images are committed automatically and do not require a separate firmware commit operation.

--group *group number*

Group number. Using the **--ip** and optionally **--group** parameters adds the specified devices in the prepared list group. Group 1 is implicitly used if not specified with the **--ip** parameter.

--ip *device ip address*

Specifies a comma-separated list of device IP addresses.

- Using the `--ip` and optionally `--group` parameters adds the specified devices in the prepared list group. Group 1 is implicitly used if not specified with the `--ip` parameter.
- Using the `--ip` and optionally `--force` parameters bypasses all validations and forcefully prepare the device in the default group 1 or in any group number if the `--group` parameter is specified. This can be used if the user does not care about traffic loss and wants to perform the firmware download simultaneously on all devices. The firmware restart-ability should allow for both XCO hosted node's SLX-OS firmware to be upgraded simultaneously.

`--prepared-list-name` *prepared-list-name*

Prepared list name.

Usage Guidelines



Note

- The firmware host must be registered.
- Device IPs belong to the same fabric (for Clos topologies).
- Do not allow devices to be prepared if a firmware download is in progress.
- Allow a device to be prepared after a firmware download has completed or in an unprepared state.
- Do not allow both MCT leaf pairs to be prepared together.
- Do not allow all spines in the same pod of the same fabric to be prepared together.
- Do not allow all super-spines in the fabric to be prepared together.
- XCO performs a sanity check using the `firmware-host` and `firmware-directory` that are specified in the command to ensure that the switch takes the firmware from that host and directory.

The firmware image type determines how the firmware upgrade is performed.

- `*.bin` images perform an operating system upgrade that requires activation and a reboot.
- `*.app` images upgrade application components without requiring a reboot.
- `*.incr` images perform an incremental update without requiring a reboot.
- Use `--full-install` when preparing a supported OS ONE full-install image.

For OS ONE devices, firmware upgrade behavior depends on the firmware image type.

- Activation of `*.bin` firmware images reboots the device.
- Activation of `*.app` firmware images does not reboot the device.
- Activation of `*.incr` firmware images does not reboot the device.
- Full-install firmware images perform the full-install workflow and reboot the device.

Examples

This example prepares half of the devices in Group 1. Group 1 is default when a `--group` parameter is not provided. Valid for SLX-OS only.

```
$ efa inventory device firmware-download prepare add --ip
10.20.245.1,10.20.245.3,10.20.245.5,10.20.245.9 --firmware-host 10.20.241.101 --firmware-
directory /build/slx/slxos20.2.3a
```

Group	IP Address	Host Name	Model	Chassis Name	ASN	Role	Current Firmware	Firmware	Host	Firmware Directory	Target Firmware	Last Update Time
1	10.20.245.1	L1	3012	Extreme 8720-32C	0	Leaf	20.2.3	10.20.241.101	/build/slx/slxos20.2.3a	20.2.3a	2021-03-19 20:14:30 +0000 UTC	
1	10.20.245.3	L3	3012	Extreme 8720-32C	0	Leaf	20.2.3	10.20.241.101	/build/slx/slxos20.2.3a	20.2.3a	2021-03-19 20:14:30 +0000 UTC	
1	10.20.245.5	L5	3012	Extreme 8720-32C	0	Leaf	20.2.3	10.20.241.101	/build/slx/slxos20.2.3a	20.2.3a	2021-03-19 20:14:30 +0000 UTC	
1	10.20.245.9	S1	3012	Extreme 8720-32C	0	Spine	20.2.3	10.20.241.101	/build/slx/slxos20.2.3a	20.2.3a	2021-03-19 20:14:30 +0000 UTC	

```
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]
```

This example prepares the remaining half of devices in Group 3. Valid for SLX-OS only.

```
$ efa inventory device firmware-download prepare add --ip
10.20.245.2,10.20.245.4,10.20.245.6,10.20.245.10 --group 3 --firmware-host 10.20.241.101
--firmware-directory /build/slx/slxos20.2.3a
```

Group	IP Address	Host Name	Model	Chassis Name	ASN	Role	Current Firmware	Firmware	Host	Firmware Directory	Target Firmware	Last Update Time
3	10.20.245.2	L2	3012	Extreme 8720-32C	0	Leaf	20.2.3	10.20.241.101	/build/slx/slxos20.2.3a	20.2.3a	2021-03-19 20:14:38 +0000 UTC	
3	10.20.245.4	L4										

```

3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.20.245.6 | L6
| 3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.20.245.10 | S2
| 3012 | Extreme 8720-32C | 0 | Spine | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]

```

This example lists all groups of devices that are prepared in the fabric.

```

$ efa inventory device firmware-download prepare list --fabric fab_3stg
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| Group | IP Address | Host Name
| Model | Chassis Name | ASN | Role | Current Firmware | Firmware
Host | Firmware Directory | Target Firmware | Last Update Time
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.245.1 | L1
3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:30 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.245.3 | L3
3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:30 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.245.5 | L5
3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:30 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.245.9 | S1
3012 | Extreme 8720-32C | 0 | Spine | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:30 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.20.245.2 | L2
3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
| 3 | 10.20.245.4 | L4
3012 | Extreme 8720-32C | 0 | Leaf | 20.2.3 | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a | 2021-03-19 20:14:38 +0000 UTC |

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 3      | 10.20.245.6 | L6
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 3      | 10.20.245.10 | S2
| 3012   | Extreme 8720-32C | 0   | Spine | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:14:38 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare List Details
Validate Firmware Download Prepare List [success]

```

This example prepares the fabric and lets XCO automatically generate the group-based prepared list for the fabric.

```

$ efa inventory device firmware-download prepare add --fabric fab_3stg --firmware-host
10.20.241.101 --firmware-directory /build/slx/slxos20.2.3a

```

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name
| Model | Chassis Name | ASN | Role | Current Firmware | Firmware
Host | Firmware Directory | Target Firmware | Last Update Time
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1      | 10.20.245.1 | L1
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:21 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1      | 10.20.245.3 | L3
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:21 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1      | 10.20.245.5 | L5
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:21 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.2 | L2
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:22 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.4 | L4
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:22 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.6 | L6
| 3012   | Extreme 8720-32C | 0   | Leaf | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:22 +0000 UTC |

```



```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 3      | 10.20.245.9 | S1
| 3012   | Extreme 8720-32C | 0   | Spine | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:23 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 4      | 10.20.245.10 | S2
| 3012   | Extreme 8720-32C | 0   | Spine | 20.2.3           | 10.20.241.101
| /build/slx/slxos20.2.3a | 20.2.3a           | 2021-03-19 20:36:24 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]

```

Firmware download prepare add output for a fabric showing OS ONE devices automatically grouped by XCO, with current firmware, base OS firmware, firmware host, and target firmware columns.

```

(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download prepare add --
fabric fabric1 --firmware-host 10.64.193.82 --firmware-directory /
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name
| Model | Chassis Name | ASN | Role | Current Firmware
| Current Base OS Firmware | Firmware Host | Firmware Directory | Target Firmware
| Target Base OS Firmware | Force | Full Install | Last Update Time |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1      | 10.64.224.16 | Leaf-16 |
8730-32D | 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164
| OSOneBase-10.2.2.0-164 | 10.64.193.82 | / | /
| | false | false | 2026-05-14 09:23:36 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.64.224.17 | Leaf-17 |
8730-32D | 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164
| OSOneBase-10.2.2.0-164 | 10.64.193.82 | / | /
| | false | false | 2026-05-14 09:23:36 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Add Details
Please ensure the firmware-host is configured properly
to allow for simultaneous connections from all the devices in a given fabric or a group.
Validate Firmware Download Prepare Add [success]
--- Time Elapsed: 340.725542ms ---
(efa:extreme)extreme@node-1:~$

```

This example prepares a OS ONE full-install firmware image.

```

efa inventory device firmware-download prepare add \
--fabric fs \

```

```
--firmware-host 10.32.89.26 \  
--firmware-directory /root/TOS/ExtremeOneSR-22.2.1.0-118.bin \  
--full-install
```

This example prepares a OS ONE full-install firmware image.

```
efa inventory device firmware-download prepare add \  
--fabric fs \  
--firmware-host 10.32.89.26 \  
--firmware-directory /root/TOS/ExtremeOneSR-22.2.1.0-118.bin \  
--full-install
```

efa inventory device firmware-download prepare list

Displays the current listing of prepared devices for a firmware download operation in the fabric.

Syntax

```
efa inventory device firmware-download prepare list [ --fabric fabric-name | --prepared-list-name prepared-list-name ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--prepared-list-name *prepared-list-name*

Prepared list name.

Usage Guidelines

The command displays all prepared devices per group. The group column is the first column displayed in the output. The output is sorted in ascending order by group, then by IP address.

Examples

This example prepares the fabric and lets XCO automatically generate the group-based prepared list for the fabric. This example shows only a portion of all possible output.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download prepare list --fabric fabric1
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| Group | IP Address | Host Name | Model |
Chassis Name | ASN | Role | Current Firmware | Firmware Host | Firmware
Directory | Target Firmware | Force | Full Install | Last Update Time |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | Leaf-16 | 8730-32D | 8730-32D
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-13 15:17:44 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | Leaf-17 | 8730-32D | 8730-32D
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-13 15:17:44 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
Firmware Download Prepare List Details
Validate Firmware Download Prepare List [success]
--- Time Elapsed: 48.811468ms ---
(efa:extreme)extreme@node-1:~$
```

Firmware Download Prepare List (Fabric-based) Firmware download prepare list output for a fabric showing OS ONE devices in the prepared list with current firmware, base OS firmware, firmware host, firmware directory, and target firmware columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download prepare list --
fabric fabric1
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Group | IP Address | Host Name | Model |
Chassis Name | ASN | Role | Current Firmware | Firmware Host | Firmware
Directory | Target Firmware | Force | Full Install | Last Update Time |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 1 | 10.64.224.16 | Leaf-16 | 8730-32D | 8730-32D
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-13 15:17:44 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 2 | 10.64.224.17 | Leaf-17 | 8730-32D | 8730-32D
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-13 15:17:44 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
Firmware Download Prepare List Details
Validate Firmware Download Prepare List [success]
--- Time Elapsed: 48.811468ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device firmware-download prepare remove

Removes the specified devices from the prepared list.

Syntax

```
efa inventory device firmware-download prepare remove [ --fabric fabric-name | --ip ip-address | --group group-number | --prepared-list-name prepared-list-name ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric. Using this parameter completely deletes the prepared list for the fabric, including all groups.

--group *group-number*

Specifies a group number. Using this parameter removes all devices prepared in the given group.

--ip *ip-address*

Specifies a comma-separated list of device IP addresses. Using this parameter deletes the prepared devices, even if they are prepared in separate groups.

--prepared-list-name *prepared-list-name*

Prepared list name.

Usage Guidelines

The *fabric*, *group*, and *ip* parameters cannot be used together.

Examples

Firmware Download Prepare Add (Fabric-based)

Prepare the fabric and let XCO automatically generate the group-based prepared list for the fabric. This example shows only a portion of all possible output.

```
$ efa inventory device firmware-download prepare add --fabric fab_3stg
--firmware-host 10.20.241.101 --firmware-directory /build/slx/slxos20.2.3a
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name |
Model | Chassis Name | ASN | Role | Current Firmware |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | 10.20.245.1 | L1 | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3 |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | 10.20.245.3 | L3 | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3 |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
```

```

| 1      | 10.20.245.5 | L5      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.2 | L2      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.4 | L4      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
Firmware Download Prepare Add Details
Validate Firmware Download Prepare Add [success]

```

Firmware Download Prepare Delete (IP-based)

Given the prepared list from the previous example, delete an MCT leaf pair prepared across groups. This example shows only a portion of all possible output.

```

$ efa inventory device firmware-download prepare remove
--ip 10.20.245.5,10.20.245.6
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name | Model
| Chassis Name | ASN | Role | Current Firmware |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1      | 10.20.245.5 | L5      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.6 | L6      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]

```

Firmware Download Prepare Delete (Group-based)

Continuing from the previous example, delete devices prepared in Group 2. This example shows only a portion of all possible output.

```

$ efa inventory device firmware-download prepare remove --group 2
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name | Model
| Chassis Name | ASN | Role | Current Firmware |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.2 | L2      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2      | 10.20.245.4 | L4      | 3012
| Extreme 8720-32C | 0 | Leaf | 20.2.3
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]

```

Firmware Download Prepare Delete (Fabric-based)

Continuing from the previous example, delete the remaining devices in the fabric. This example shows only a portion of all possible output.

```
$ efa inventory device firmware-download prepare remove --fabric fab_3stg
+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name | Model |
| Chassis Name | ASN | Role | Current Firmware |
+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | 10.20.245.1 | L1 | 3012 |
| Extreme 8720-32C | 0 | Leaf | 20.2.3 |
+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | 10.20.245.3 | L3 | 3012 |
| Extreme 8720-32C | 0 | Leaf | 20.2.3 |
+-----+-----+-----+-----+-----+-----+
+-----+
| 3 | 10.20.245.9 | S1 | 3012 |
| Extreme 8720-32C | 0 | Spine | 20.2.3 |
+-----+-----+-----+-----+-----+-----+
+-----+
| 4 | 10.20.245.10 | S2 | 3012 |
| Extreme 8720-32C | 0 | Spine | 20.2.3 |
+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]
```

Firmware Download Prepare Remove (Fabric-based) Firmware download prepare remove output for a fabric showing successful removal of all devices from the prepared list, with per-device firmware, host, directory, and force columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download prepare remove --
fabric fabric1
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Group | IP Address | Host Name | Model |
| Chassis Name | ASN | Role | Current Firmware | Firmware Host | Firmware
Directory | Target Firmware | Force | Full Install | Last Update Time |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 1 | 10.64.224.16 | Leaf-16 | 8730-32D | 8730-32D |
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-14 09:23:36 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 2 | 10.64.224.17 | Leaf-17 | 8730-32D | 8730-32D |
| 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | 10.64.193.82 | /
| / | false | false | 2026-05-14 09:23:36 +0000 UTC |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Firmware Download Prepare Remove Details
Validate Firmware Download Prepare Remove [success]
--- Time Elapsed: 62.122362ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device firmware-download restore

Restores the installed firmware, when the firmware download was started with the `NoAutoCommit` flag.

Syntax

```
efa inventory device firmware-download restore [ --fabric fabric-name | --ip ip-addr | --prepared-list-name prepared-list-name ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

--prepared-list-name *prepared-list-name*

Prepared list name.

The restore operation involves a reload of the device. Careful selection of which devices to restore together should be done to minimize traffic loss.

```
efa inventory device firmware-download restore --fabric fabric1
Firmware Download Restore for fabric fabric1 - [success]
+-----+-----+-----+
| DeviceIP      | Device FWDL Status                | Error |
+-----+-----+-----+
| 10.20.246.6   | Firmware Restored Successfully    |       |
+-----+-----+-----+
--- Time Elapsed: 1m25.765540754s ---
```


efa inventory device firmware-download show

Shows the progress and status of the running firmware download.

Syntax

```
efa inventory device firmware-download show [ --fabric fabric-name | --
ip device-ip-address | --prepared-list-name prepared-list-name | --
execution-id execution-id | --type { fabric }]
```

Parameters

--execution-id *execution-id*

Execution id provided when running the efa inventory device firmware-download activate command.

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *device-ip-address*

Specifies a comma-separated list of device IP addresses.

--prepared-list-name *prepared-list-name*

Prepared list name.

--type { **fabric** }

Specifies the device type.

Usage Guidelines

For OS ONE devices, the command displays both the Base OS firmware version and the Switching and Routing (SR) firmware version when available.

Examples

This example shows a firmware download with --type fabric

```
$ efa inventory device firmware-download show --type fabric
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| Group | IP Address | Host
Name | Model | Chassis Name | ASN | Role | Current Firmware |
Target Firmware | Update State | Status | Detailed Status | Force | Full
Install | Last Update Time | User Input Flags | Group Execution Policy |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.246.7 | SN1 | 4001
| BR-SLX9640 | 42000000000 | Leaf | 20.4.2slxos20.4.2c_230602_1733 | 20.4.2a
| Completed | Firmware Not Activated | | true | false
| 2023-06-13 07:50:49 +0530 IST | D,C | stop-on-error |
```

```

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1      | 10.20.246.8 | SN2      | 4001
| BR-SLX9640 | 4200000000 | Leaf | 20.4.2slxos20.4.2c_230602_1733 | 20.4.2a
| Completed | Firmware Not Committed | | true | false
| 2023-06-13 08:33:38 +0530 IST | A | | continue-on-error |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Firmware Download Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile
Group Execution Policy: per-device-policy
Firmware Download Show Overall Status [Device Update In Progress]
If Firmware download execution initiated
with '--noAutoCommit' flag, please commit/restore after completion using:
efa inventory device firmware-download commit --ip 10.20.246.7, 10.20.246.8
efa inventory device firmware-download restore --ip 10.20.246.7, 10.20.246.8
If Firmware download execution initiated
with '--noActivate' flag, please activate after completion using:
efa inventory device firmware-download activate --ip 10.20.246.7, 10.20.246.8
--- Time Elapsed: 53.3182ms ---

```

This example shows a firmware download for a specified fabric.

```

$ efa inventory device firmware-download show --fabric fab
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| Group | IP Address |
+-----+-----+-----+-----+-----+-----+
| Host Name | Model | Chassis Name | ASN | Role | Current Firmware |
| Target Firmw are | Update State | Status | Detailed
Status | Force | Full Install | Last Update Time | User Input Flags |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.246.15 | Avalanche-01
| 4000 | BR-SLX9540 | 0 | Leaf | 20.4.3b |
20.4.3b | Completed | Firmware Not Committed |
| false | false | 2023-05-20 14:46:27 +0530 IST | D,A,C,MM |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| 1 | 10.20.246.16 |
Avalanche-02 | 4000 | BR-SLX9540 | 0 | Leaf | 20.4.2slxos20.4.2c_230516_1439 |
20.4.3a | Completed | Firmware Not Committed |
| false | false | 2023-05-22 16:06:17 +0530 IST | D,A,MM |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Firmware Download Show Details
User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile

```

Firmware Download Show — In Progress Firmware download show output for a fabric showing devices in an active firmware download execution, with per-device update state, status, and user input flags columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download show --fabric
fabric1
```

Group	IP Address	Host	Name	Model	Chassis Name	ASN	Role	Current Firmware	From Firmware	Target Firmware	Rollback Firmware	Current Base OS	Firmware	From Base OS Firmware	Target Base OS Firmware	Rollback Base OS Firmware	Update State	Status	Detailed Status	Force	Full Install	Last Update Time	User Input Flags	Group Execution Policy
1	10.64.224.16	Leaf-16	8730-32D	8730-32D	4200000000	Leaf	OSOneSR-all-22.2.2.0-164	OSOneSR-all-22.2.2.0-164	/			OSOneBase-10.2.2.0-164	OSOneBase-10.2.2.0-164	/			In Progress	Maintenance Mode Disable Status Poll Started		false	false	2026-05-14 08:48:38 +0000 UTC	D,A,C,MM	continue-on-error
2	10.64.224.17	Leaf-17	8730-32D	8730-32D	4200000000	Leaf	OSOneSR-all-22.2.2.0-164	OSOneSR-all-22.2.2.0-164	/			OSOneBase-10.2.2.0-164	OSOneBase-10.2.2.0-164	/			In Progress	Device Queued for Firmware Execute		false	false	2026-05-14 08:48:01 +0000 UTC	D,A,C,MM	continue-on-error

Firmware Download Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile

Group Execution Policy: continue-on-error
Firmware Download Show Overall Status [In Progress]
If Firmware download execution initiated
with '--noAutoCommit' flag, please commit/restore after completion using:

```
efa inventory device firmware-download commit --fabric fabric1
efa inventory device firmware-download restore --fabric fabric1
```

If Firmware download execution initiated

with '--noActivate' flag, please activate after completion using:

```
efa inventory device firmware-download activate --fabric fabric1
```

```
--- Time Elapsed: 54.505202ms ---
```

```
(efa:extreme)extreme@node-1:~$
```

Firmware download show output for a fabric with a failed execution, showing both devices in 'Failed' Update State with connection error detail in the Detailed Status column.

```
(efa:extreme)extreme@node-1:~$ efa inventory device firmware-download show --fabric fabric1
```

```
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| Group | IP Address | Host Name | Model | Chassis
Name | ASN | Role | Current Firmware | From Firmware | Target
Firmware | Rollback Firmware | Current Base OS Firmware | From Base OS Firmware | Target
Base OS Firmware | Rollback Base OS Firmware | Update State | Status
| Detailed Status | Force |
Full Install | Last Update Time | User Input Flags | Group Execution Policy |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 1 | 10.64.224.16 | Leaf-16 | 8730-32D
| 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | OSOneSR-all-22.2.2.0-164
| / | | | OSOneBase-10.2.2.0-164 | OSOneBase-10.2.2.0-164
| | | | Failed | Firmware Download
Failed | Failed to execute firmware download on the device due | false |
false | 2026-05-14 08:54:48 +0000 UTC | D,A,C,MM | continue-on-error |
| | | |
| | | |
| | | |
| | | |
| to connection issues. Please retry 'efa inventory device
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| firmware-download execute' command.
| | | |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
| 2 | 10.64.224.17 | Leaf-17 | 8730-32D
| 8730-32D | 4200000000 | Leaf | OSOneSR-all-22.2.2.0-164 | OSOneSR-all-22.2.2.0-164
| / | | | OSOneBase-10.2.2.0-164 | OSOneBase-10.2.2.0-164
| | | | Failed | Firmware Download
Failed | Failed to execute firmware download on the device due | false |
false | 2026-05-14 09:01:35 +0000 UTC | D,A,C,MM | continue-on-error |
```



```

+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 1      | 10.64.224.16 | Leaf-16 | 8730-32D
| 8730-32D | 42000000000 | Leaf | OSOneSR-all-22.2.2.0-164 | OSOneSR-all-22.2.2.0-164
| /        |              |       | OSOneBase-10.2.2.0-164   | OSOneBase-10.2.2.0-164
|          |              |       |                          | Firmware Download
Failed | Failed to execute firmware download on the device due | false |
false | 2026-05-14 08:54:48 +0000 UTC | D,A,C,MM | continue-on-error |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
| to connection issues. Please retry 'efa inventory device |          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
| firmware-download execute' command. |          |
|          |              |       |                          |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 2      | 10.64.224.17 | Leaf-17 | 8730-32D
| 8730-32D | 42000000000 | Leaf | OSOneSR-all-22.2.2.0-164 | OSOneSR-all-22.2.2.0-164
| /        |              |       | OSOneBase-10.2.2.0-164   | OSOneBase-10.2.2.0-164
|          |              |       |                          | Firmware Download
Failed | Failed to execute firmware download on the device due | false |
false | 2026-05-14 09:01:35 +0000 UTC | D,A,C,MM | continue-on-error |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
| to connection issues. Please retry 'efa inventory device |          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
|          |              |       |                          |
| firmware-download execute' command. |          |
|          |              |       |                          |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
+-----+-----+-----+-----+
Firmware Download Show Details

User Input Flags
D - Firmware Download, A - Firmware Activate, C - Firmware Commit,

```

```
R - Firmware Restore, MM - Firmware Maintenance Mode, DRC - Firmware Drift and Reconcile  
Group Execution Policy: continue-on-error  
Firmware Download Show Overall Status [Failed]  
--- Time Elapsed: 53.291932ms ---  
(efa:extreme)extreme@node-1:~$
```

efa inventory device health status

Displays device health status.

Syntax

```
efa inventory device health status [ --ip ]
```

Parameters

--ip

Specifies IP address of the device.

Examples

Health status output for an OS ONE device showing health check enabled, heartbeat miss counter and threshold, health check interval, system maintenance mode, and drift and reconcile UUID.

```
(efa:extreme)extreme@node-2:~$ efa inventory device health status --ip 10.64.224.16
+-----+-----+
|          NAME          |  VALUE  |
+-----+-----+
| health check status    | enabled |
+-----+-----+
| heartbeat miss counter |    0    |
+-----+-----+
| heartbeat miss threshold |    3    |
+-----+-----+
| Health Check Interval  | 8m      |
+-----+-----+
| system maintenance mode | disabled |
+-----+-----+
| drift and reconcile UUID |         |
+-----+-----+
--- Time Elapsed: 7.09775235s ---
(efa:extreme)extreme@node-2:~$
```


efa inventory device interface list

Displays the list of interfaces and details for the specified IP address, including the application state that indicates whether the device configuration is synchronized with XCO or has drifted (refreshed or deleted).

Syntax

```
efa inventory device interface list [--ip ip-addr | --type interface-type
  { physical | loopback | ve | po | all } | --admin-state state { up
  | down | all } | --oper-state oper-state { up | down | all } | --rme
  list ]
```

Parameters

--admin-state { **up** | **down** | **all** }

Specifies the administrative state of interfaces of the device. The default is **all**.

--ip *ip-addr*

Specifies the IP address of the device for which you want to see a list of interfaces. For example: 10.1.1.13,10.1.1.50,10.1.1.101.

--oper-state { **up** | **down** | **all** }

Specifies the operational state (line protocol) of interfaces of the device. The default is **all**.

--rme *list*

Lists redundant management-enabled interface. The default is **all**.

--type { **physical** | **loopback** | **ve** | **po** | **all** }

Specifies the type of interfaces on the devices. The default is **physical**.

Examples

Interface list output for an OS ONE device showing breakout interfaces in `slot/port:lane` format and non-breakout interfaces in `slot/port` format, with mixed 100Gbps and 400Gbps line speeds and both `cfg-refreshed` and `cfg-in-sync` App States.

```
(efa:extreme)extreme@node-1:~$ efa inventory device interface list --ip 10.64.224.16
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| DeviceIP | Name | Interface Type | | |
| Admin Status | Oper Status | Description |
| Line Speed | MAC | Switchport Mode | IP Address | App State |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | 0/1:1 | ethernet | | | |
| up | down | XCO OSONE Interface |
| 100Gbps | 7c:a4:f7:c0:1c:25 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
```

```

|          | 0/1:2 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:26 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/1:3 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:27 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/1:4 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:28 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/2:1 | ethernet |
up         | down   | Ethernet 0/2:1
| 100Gbps  | 7c:a4:f7:c0:1c:3d | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/2:2 | ethernet |
up         | down   | Ethernet 0/2:2
| 100Gbps  | 7c:a4:f7:c0:1c:3e | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/2:3 | ethernet |
up         | down   | Ethernet 0/2:3
| 100Gbps  | 7c:a4:f7:c0:1c:3f | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/2:4 | ethernet |
up         | down   | Ethernet 0/2:4
| 100Gbps  | 7c:a4:f7:c0:1c:40 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/3:1 | ethernet |
up         | down   | Ethernet 0/3:1
| 100Gbps  | 7c:a4:f7:c0:1c:4c | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/3:2 | ethernet |
up         | down   | Ethernet 0/3:2
| 100Gbps  | 7c:a4:f7:c0:1c:4d | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/3:3 | ethernet |
up         | down   | Ethernet 0/3:3
| 100Gbps  | 7c:a4:f7:c0:1c:4e | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/3:4 | ethernet |
up         | down   | Ethernet 0/3:4
| 100Gbps  | 7c:a4:f7:c0:1c:4f | unknown |          | cfg-refreshed |
+

```

```

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/4:1 | ethernet |          |
up          | down   | Ethernet 0/4:1
| 100Gbps   | 7c:a4:f7:c0:1c:62 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/4:2 | ethernet |          |
up          | down   | Ethernet 0/4:2
| 100Gbps   | 7c:a4:f7:c0:1c:63 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/4:3 | ethernet |          |
up          | down   | Ethernet 0/4:3
| 100Gbps   | 7c:a4:f7:c0:1c:64 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/4:4 | ethernet |          |
up          | down   | Ethernet 0/4:4
| 100Gbps   | 7c:a4:f7:c0:1c:65 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/5:1 | ethernet |          |
up          | down   | Ethernet 0/5:1
| 100Gbps   | 7c:a4:f7:c0:1c:6e | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/5:2 | ethernet |          |
up          | down   | Ethernet 0/5:2
| 100Gbps   | 7c:a4:f7:c0:1c:6f | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/5:3 | ethernet |          |
up          | down   | Ethernet 0/5:3
| 100Gbps   | 7c:a4:f7:c0:1c:70 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/5:4 | ethernet |          |
up          | down   | Ethernet 0/5:4
| 100Gbps   | 7c:a4:f7:c0:1c:71 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/6:1 | ethernet |          |
up          | down   | Ethernet 0/6:1
| 100Gbps   | 7c:a4:f7:c0:1c:74 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/6:2 | ethernet |          |
up          | down   | Ethernet 0/6:2
| 100Gbps   | 7c:a4:f7:c0:1c:75 | unknown          |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/6:3 | ethernet |          |
up          | down   | Ethernet 0/6:3

```

```

| 100Gbps | 7c:a4:f7:c0:1c:76 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/6:4 | ethernet | |
up         | down   | Ethernet 0/6:4
| 100Gbps | 7c:a4:f7:c0:1c:77 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/7:1 | ethernet | |
up         | down   | Ethernet 0/7:1
| 100Gbps | 7c:a4:f7:c0:1c:78 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/7:2 | ethernet | |
up         | down   | Ethernet 0/7:2
| 100Gbps | 7c:a4:f7:c0:1c:79 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/7:3 | ethernet | |
up         | down   | Ethernet 0/7:3
| 100Gbps | 7c:a4:f7:c0:1c:7a | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/7:4 | ethernet | |
up         | down   | Ethernet 0/7:4
| 100Gbps | 7c:a4:f7:c0:1c:7b | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/8:1 | ethernet | |
up         | down   | Ethernet 0/8:1
| 100Gbps | 7c:a4:f7:c0:1c:7c | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/8:2 | ethernet | |
up         | down   | Ethernet 0/8:2
| 100Gbps | 7c:a4:f7:c0:1c:7d | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/8:3 | ethernet | |
up         | down   | Ethernet 0/8:3
| 100Gbps | 7c:a4:f7:c0:1c:7e | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/8:4 | ethernet | |
up         | down   | Ethernet 0/8:4
| 100Gbps | 7c:a4:f7:c0:1c:7f | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/9:1 | ethernet | |
up         | down   | Ethernet 0/9:1
| 100Gbps | 7c:a4:f7:c0:1c:80 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+

```

```

|          | 0/9:2 | ethernet |
up         | down   | Ethernet 0/9:2
| 100Gbps  | 7c:a4:f7:c0:1c:81 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/9:3 | ethernet |
up         | down   | Ethernet 0/9:3
| 100Gbps  | 7c:a4:f7:c0:1c:82 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/9:4 | ethernet |
up         | down   | Ethernet 0/9:4
| 100Gbps  | 7c:a4:f7:c0:1c:83 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/10:1 | ethernet |
up         | down   | Ethernet 0/10:1
| 100Gbps  | 7c:a4:f7:c0:1c:84 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/10:2 | ethernet |
up         | down   | Ethernet 0/10:2
| 100Gbps  | 7c:a4:f7:c0:1c:85 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/10:3 | ethernet |
up         | down   | Ethernet 0/10:3
| 100Gbps  | 7c:a4:f7:c0:1c:86 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/10:4 | ethernet |
up         | down   | Ethernet 0/10:4
| 100Gbps  | 7c:a4:f7:c0:1c:87 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/11:1 | ethernet |
up         | down   | Ethernet 0/11:1
| 100Gbps  | 7c:a4:f7:c0:1c:88 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/11:2 | ethernet |
up         | down   | Ethernet 0/11:2
| 100Gbps  | 7c:a4:f7:c0:1c:89 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/11:3 | ethernet |
up         | down   | Ethernet 0/11:3
| 100Gbps  | 7c:a4:f7:c0:1c:8a | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/11:4 | ethernet |
up         | down   | Ethernet 0/11:4
| 100Gbps  | 7c:a4:f7:c0:1c:8b | unknown |          | cfg-refreshed |
+

```

```

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/12:1 | ethernet |          |
up          | down   | Ethernet 0/12:1
| 100Gbps  | 7c:a4:f7:c0:1c:8c | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/12:2 | ethernet |          |
up          | down   | Ethernet 0/12:2
| 100Gbps  | 7c:a4:f7:c0:1c:8d | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/12:3 | ethernet |          |
up          | down   | Ethernet 0/12:3
| 100Gbps  | 7c:a4:f7:c0:1c:8e | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/12:4 | ethernet |          |
up          | down   | Ethernet 0/12:4
| 100Gbps  | 7c:a4:f7:c0:1c:8f | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/13:1 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:90 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/13:2 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:91 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/13:3 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:92 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/13:4 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:93 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/14:1 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:94 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/14:2 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:95 | unknown |          | cfg-refreshed |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/14:3 | ethernet |          |
up          | down   | XCO OSONE Interface

```

```

| 100Gbps | 7c:a4:f7:c0:1c:96 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/14:4 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:97 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/15:1 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:98 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/15:2 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:99 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/15:3 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9a | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/15:4 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9b | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/16:1 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9c | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/16:2 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9d | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/16:3 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9e | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/16:4 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:9f | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/17:1 | ethernet | |
up         | down   | XCO OSONE Interface
| 100Gbps | 7c:a4:f7:c0:1c:a0 | unknown | | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+

```

```

|          | 0/17:2 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a1 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/17:3 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a2 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/17:4 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a3 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/18:1 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a4 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/18:2 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a5 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/18:3 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a6 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/18:4 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a7 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/19:1 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a8 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/19:2 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:a9 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/19:3 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:aa | unknown |          | cfg-in-sync   |
+
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
|          | 0/19:4 | ethernet |
up         | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:ab | unknown |          | cfg-refreshed |
+

```



```

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/20:1 | ethernet |          |
up          | down   | Ethernet 0/20:1
| 100Gbps  | 7c:a4:f7:c0:1c:ac | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/20:2 | ethernet |          |
up          | down   | Ethernet 0/20:2
| 100Gbps  | 7c:a4:f7:c0:1c:ad | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/20:3 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:ae | unknown |          | cfg-in-sync   |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/20:4 | ethernet |          |
up          | down   | XCO OSONE Interface
| 100Gbps  | 7c:a4:f7:c0:1c:af | unknown |          | cfg-in-sync   |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/21:1 | ethernet |          |
up          | down   | Ethernet 0/21:1
| 100Gbps  | 7c:a4:f7:c0:1c:b0 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/21:2 | ethernet |          |
up          | down   | Ethernet 0/21:2
| 100Gbps  | 7c:a4:f7:c0:1c:b1 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/21:3 | ethernet |          |
up          | down   | Ethernet 0/21:3
| 100Gbps  | 7c:a4:f7:c0:1c:b2 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/21:4 | ethernet |          |
up          | down   | Ethernet 0/21:4
| 100Gbps  | 7c:a4:f7:c0:1c:b3 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/22   | ethernet |          |
up          | down   | Ethernet 0/22
| 400Gbps  | 7c:a4:f7:c0:1c:32 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/23   | ethernet |          |
up          | down   | Ethernet 0/23
| 400Gbps  | 7c:a4:f7:c0:1c:33 | unknown |          | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/24   | ethernet |          |
up          | down   | Ethernet 0/24

```

```

| 400Gbps | 7c:a4:f7:c0:1c:34 | unknown | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/25 | ethernet | |
up         | down | Ethernet 0/25
| 400Gbps | 7c:a4:f7:c0:1c:35 | unknown | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/26 | ethernet | |
up         | down | Ethernet 0/26
| 400Gbps | 7c:a4:f7:c0:1c:36 | unknown | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/27 | ethernet | |
up         | down | XCO OSONE Interface
| 400Gbps | 7c:a4:f7:c0:1c:37 | unknown | | cfg-in-sync |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/28 | ethernet | |
up         | down | XCO OSONE Interface
| 400Gbps | 7c:a4:f7:c0:1c:38 | unknown | | cfg-in-sync |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/29 | ethernet | |
up         | down | XCO OSONE Interface
| 400Gbps | 7c:a4:f7:c0:1c:39 | unknown | | cfg-in-sync |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/30 | ethernet | |
up         | up   | Ethernet 0/30
| 100Gbps | 7c:a4:f7:c0:1c:3a | unknown | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/31 | ethernet | |
up         | up   | Ethernet 0/31
| 100Gbps | 7c:a4:f7:c0:1c:3b | unknown | | cfg-refreshed |
+
+-----+-----+-----+-----+-----+-----+
|          | 0/32 | ethernet | |
up         | up   | Ethernet 0/32
| 100Gbps | 7c:a4:f7:c0:1c:3c | unknown | | cfg-refreshed |
+-----+-----+-----+-----+-----+
+-----+
Interface Details
--- Time Elapsed: 309.498464ms ---
(efa:extreme)extreme@node-1:~$

```

efa inventory device interface list-breakout

Lists breakout ports, including the application state that indicates if the configuration on the device is in sync or has drifted (refreshed or deleted) with respect to XCO.

Syntax

```
efa inventory device interface list-breakout [ --ip device-ip ]
```

Parameters

--ip *device-ip*

Comma-separated range of device IP addresses. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

Examples

Breakout interface list output for an OS ONE device showing all breakout ports in slot/port:lane format with cfg-in-sync App State.

```
(efa:extreme)extreme@node-1:~$ efa inventory device interface list-breakout --ip
10.64.224.16
+-----+-----+-----+
| IP Address | Name | AppState |
+-----+-----+-----+
| 10.64.224.16 | 0/10:1 | cfg-in-sync |
+-----+-----+-----+
| | 0/10:2 | cfg-in-sync |
+-----+-----+-----+
| | 0/10:3 | cfg-in-sync |
+-----+-----+-----+
| | 0/10:4 | cfg-in-sync |
+-----+-----+-----+
| | 0/11:1 | cfg-in-sync |
+-----+-----+-----+
| | 0/11:2 | cfg-in-sync |
+-----+-----+-----+
| | 0/11:3 | cfg-in-sync |
+-----+-----+-----+
| | 0/11:4 | cfg-in-sync |
+-----+-----+-----+
| | 0/12:1 | cfg-in-sync |
+-----+-----+-----+
| | 0/12:2 | cfg-in-sync |
+-----+-----+-----+
| | 0/12:3 | cfg-in-sync |
+-----+-----+-----+
| | 0/12:4 | cfg-in-sync |
+-----+-----+-----+
| | 0/13:1 | cfg-in-sync |
+-----+-----+-----+
| | 0/13:2 | cfg-in-sync |
+-----+-----+-----+
| | 0/13:3 | cfg-in-sync |
+-----+-----+-----+
| | 0/13:4 | cfg-in-sync |
+-----+-----+-----+
| | 0/14:1 | cfg-in-sync |
+-----+-----+-----+
```

```

|           | 0/14:2 | cfg-in-sync |
+-----+
|           | 0/14:3 | cfg-in-sync |
+-----+
|           | 0/14:4 | cfg-in-sync |
+-----+
|           | 0/15:1 | cfg-in-sync |
+-----+
|           | 0/15:2 | cfg-in-sync |
+-----+
|           | 0/15:3 | cfg-in-sync |
+-----+
|           | 0/15:4 | cfg-in-sync |
+-----+
|           | 0/16:1 | cfg-in-sync |
+-----+
|           | 0/16:2 | cfg-in-sync |
+-----+
|           | 0/16:3 | cfg-in-sync |
+-----+
|           | 0/16:4 | cfg-in-sync |
+-----+
|           | 0/17:1 | cfg-in-sync |
+-----+
|           | 0/17:2 | cfg-in-sync |
+-----+
|           | 0/17:3 | cfg-in-sync |
+-----+
|           | 0/17:4 | cfg-in-sync |
+-----+
|           | 0/18:1 | cfg-in-sync |
+-----+
|           | 0/18:2 | cfg-in-sync |
+-----+
|           | 0/18:3 | cfg-in-sync |
+-----+
|           | 0/18:4 | cfg-in-sync |
+-----+
|           | 0/19:1 | cfg-in-sync |
+-----+
|           | 0/19:2 | cfg-in-sync |
+-----+
|           | 0/19:3 | cfg-in-sync |
+-----+
|           | 0/19:4 | cfg-in-sync |
+-----+
|           | 0/1:1  | cfg-in-sync |
+-----+
|           | 0/1:2  | cfg-in-sync |
+-----+
|           | 0/1:3  | cfg-in-sync |
+-----+
|           | 0/1:4  | cfg-in-sync |
+-----+
|           | 0/20:1 | cfg-in-sync |
+-----+
|           | 0/20:2 | cfg-in-sync |
+-----+
|           | 0/20:3 | cfg-in-sync |
+-----+
|           | 0/20:4 | cfg-in-sync |
+-----+
|           | 0/21:1 | cfg-in-sync |
+-----+

```

```

|           | 0/21:2 | cfg-in-sync |
+-----+-----+
|           | 0/21:3 | cfg-in-sync |
+-----+-----+
|           | 0/21:4 | cfg-in-sync |
+-----+-----+
|           | 0/2:1  | cfg-in-sync |
+-----+-----+
|           | 0/2:2  | cfg-in-sync |
+-----+-----+
|           | 0/2:3  | cfg-in-sync |
+-----+-----+
|           | 0/2:4  | cfg-in-sync |
+-----+-----+
|           | 0/3:1  | cfg-in-sync |
+-----+-----+
|           | 0/3:2  | cfg-in-sync |
+-----+-----+
|           | 0/3:3  | cfg-in-sync |
+-----+-----+
|           | 0/3:4  | cfg-in-sync |
+-----+-----+
|           | 0/4:1  | cfg-in-sync |
+-----+-----+
|           | 0/4:2  | cfg-in-sync |
+-----+-----+
|           | 0/4:3  | cfg-in-sync |
+-----+-----+
|           | 0/4:4  | cfg-in-sync |
+-----+-----+
|           | 0/5:1  | cfg-in-sync |
+-----+-----+
|           | 0/5:2  | cfg-in-sync |
+-----+-----+
|           | 0/5:3  | cfg-in-sync |
+-----+-----+
|           | 0/5:4  | cfg-in-sync |
+-----+-----+
|           | 0/6:1  | cfg-in-sync |
+-----+-----+
|           | 0/6:2  | cfg-in-sync |
+-----+-----+
|           | 0/6:3  | cfg-in-sync |
+-----+-----+
|           | 0/6:4  | cfg-in-sync |
+-----+-----+
|           | 0/7:1  | cfg-in-sync |
+-----+-----+
|           | 0/7:2  | cfg-in-sync |
+-----+-----+
|           | 0/7:3  | cfg-in-sync |
+-----+-----+
|           | 0/7:4  | cfg-in-sync |
+-----+-----+
|           | 0/8:1  | cfg-in-sync |
+-----+-----+
|           | 0/8:2  | cfg-in-sync |
+-----+-----+
|           | 0/8:3  | cfg-in-sync |
+-----+-----+
|           | 0/8:4  | cfg-in-sync |
+-----+-----+
|           | 0/9:1  | cfg-in-sync |
+-----+-----+

```

```
|          | 0/9:2 | cfg-in-sync |
+-----+-----+
|          | 0/9:3 | cfg-in-sync |
+-----+-----+
|          | 0/9:4 | cfg-in-sync |
+-----+-----+
Interface Details
--- Time Elapsed: 48.605585ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device interface redundant-management

Configures redundant management Ethernet (RME) on the SLX-OS interface.

Syntax

```
efa inventory device interface redundant-management [--ip device-ip | --  
if-name | --enable { true | false }]
```

Parameters

--enable { true | false }

Enables redundant management.

--if-name

Specifies one interface name. A list of names is not supported.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

The configuration you set is persisted in the XCO database.

DRC and idempotency are supported.

The command is supported only on the 9740 SLX-OS platforms.

On SLX-OS 9740, BPS (bits per second) is set to 20000 Kbps (kilobits per second) when RME is enabled.

Examples

```
efa inventory device interface redundant-management --ip 10.20.246.10  
--if-name 0/17 --enable true
```

This example turns off RME:

```
efa inventory device interface redundant-management --ip 10.20.246.10  
--if-name 0/17 --enable false
```

efa inventory device interface set-admin-state

Brings an interface administratively up or down.

Syntax

```
efa inventory device interface set-admin-state [--ip device-ip | --if-  
type eth | --if-name if-list | --state { up | down } ]
```

Command Default

By default, all ports on the SLX-OS device are down.

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. Example:
0/50-52,0/45,0/5:4,0/5:1-2.

--if-type *eth*

Specifies that the interface type is Ethernet, which is the default setting.

--ip *device-ip*

Specifies a comma-separated list of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--state { *up* | *down* }

State. Can be up or down.

Usage Guidelines

The configuration you set is persisted.

DRC and idempotency are supported.

In SLX-OS, you can use the **show interface ethernet** command to see the status of the Ethernet interfaces on your device.

Examples

This example changes the Admin Status on one IP address.

```
efa inventory device interface set-admin-state --ip 10.25.225.167  
--if-name 0/20-22 --state down
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.25.225.167	9	0/21	ethernet	down	Success	
	89	0/20	ethernet	down	Success	
	1	0/22	ethernet	down	Success	


```
Interface Details
--- Time Elapsed: 19.5606145s ---
```

This example attempts to change the Admin Status on two IP addresses, however one IP address is invalid.

```
efa inventory device interface set-admin-state --ip 10.25.225.167,10.10.10.10
--if-name 0/20-22 --state down
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.10.10.10					Failed	Device does not exist with IP: 10.10.10.10
10.25.225.167	9	0/21	ethernet	down	Success	
	89	0/20	ethernet	down	Success	
	1	0/22	ethernet	down	Success	

```
Interface Details
--- Time Elapsed: 20.740265s ---
```

This example changes the Admin State on multiple valid IP addresses.

```
efa inventory device interface set-admin-state
--ip 10.25.225.167,10.24.48.131,10.24.51.135 --if-name 0/20-22 --state up
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.24.48.131	110	0/21	ethernet	up	Success	
	142	0/20	ethernet	up	Success	
	148	0/22	ethernet	up	Success	
10.24.51.135	16	0/21	ethernet	up	Success	
	48	0/22	ethernet	up	Success	
	86	0/20	ethernet	up	Success	
10.25.225.167	9	0/21	ethernet	up	Success	
	89	0/20	ethernet	up	Success	
	1	0/22	ethernet	up	Success	

```
Interface Details
--- Time Elapsed: 56.4964544s ---
```

This example changes the Admin Status for the specified fabric name.

```
efa inventory device interface set-admin-state --fabric nc_no_vni
--if-name 0/20-22 --state up
```

DeviceIP	ID	Name	Interface Type	Admin Status	Result	Reason
10.24.51.135	48	0/22	ethernet	up	Success	
	16	0/21	ethernet	up	Success	
	86	0/20	ethernet	up	Success	

```
+-----+-----+-----+-----+-----+-----+-----+
| 10.24.48.131 | 148 | 0/22 | ethernet | up | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 142 | 0/20 | ethernet | up | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| | 110 | 0/21 | ethernet | up | Success | |
+-----+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 37.9236481s ---
```

efa inventory device interface set-breakout

Breaks a port into multiple interfaces, such as breaking one 40G port into four 10G ports.

Syntax

```
efa inventory device interface set-breakout [--ip device-ip | --if-type
eth | --if-name if-list | --mode { 4x1g | 4x10g | 4x25g | 4x100g } ]
```

Parameters

--if-type eth

Specifies that the interface type is Ethernet, which is the default setting.

--if-name *if-list*

Specifies a comma-separated list of interface names. For example: 0/50-52,0/45.

--ip *device-ip*

Specifies a comma-separated list of device IP addresses. For example: 10.1.1.13,10.1.1.50,10.1.1.101.

--mode { 4x1g | 4x10g | 4x25g | 4x100g }

Configures breakout mode for the ports.

Usage Guidelines

In SLX-OS, you can use the **show running-config hardware** command to see whether breakout mode is configured for a device.

The new breakout interfaces you create are identified by the name of the original interface followed by a suffix.

The configuration you set is persisted.

DRC and idempotency are supported.

Examples

This example breaks three interfaces into four ports each.

```
efa inventory device interface set-breakout --ip 10.24.80.158
+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result |
+-----+-----+-----+-----+
| 10.24.80.158 | 73 | 0/2:2 | ethernet | Success |
+-----+-----+-----+-----+
| | 72 | 0/1:4 | ethernet | Success |
+-----+-----+-----+-----+
| | 74 | 0/3:2 | ethernet | Success |
+-----+-----+-----+-----+
| | 78 | 0/3:3 | ethernet | Success |
+-----+-----+-----+-----+
| | 75 | 0/3:4 | ethernet | Success |
+-----+-----+-----+-----+
```

```

|          | 70 | 0/1:1 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 71 | 0/1:3 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 80 | 0/2:1 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 79 | 0/1:2 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 76 | 0/2:3 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 69 | 0/3:1 | ethernet      | Success |
+-----+-----+-----+-----+
|          | 77 | 0/2:4 | ethernet      | Success |
+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 48.3801684s ---

```

This example attempts to break out ports on two devices, but one IP address is invalid.

```

efa inventory device interface set-breakout
--ip 10.24.80.158,10.10.10
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.10.10.10 |  |  |  | Failed | Device does not exist with IP: 10.10.10.10 |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 94 | 0/8:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 91 | 0/9:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 83 | 0/9:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 86 | 0/6:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 59.3971958s ---

```

This example breaks out ports on multiple devices.

```

efa inventory device interface set-breakout
--ip 10.24.80.158,10.24.80
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 0 | 0/9 | ethernet | Failed | Interface [0/9] from the range [0/9-12] does not exist or port is already breakout for device IP 10.24.80.158. Specify a valid interface. |
+-----+-----+-----+-----+-----+-----+
|  | 105 | 0/10:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 108 | 0/12:2 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 102 | 0/12:3 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 104 | 0/11:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 97 | 0/12:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+
|  | 106 | 0/10:4 | ethernet | Success |
+-----+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+-----+-----+-----+
|      | 98 | 0/11:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 100 | 0/11:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.159 | 120 | 0/10:1 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 114 | 0/9:4 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 118 | 0/10:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 115 | 0/12:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m16.6280022s ---

```

This example configures break out for the specified fabric name.

```

efa inventory device interface set-breakout --if-name 0/19-20
--mode 4x25g --fabric fabric1
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.158 | 188 | 0/20:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 184 | 0/20:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 190 | 0/20:4 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 191 | 0/19:1 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 187 | 0/19:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 189 | 0/19:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 185 | 0/19:4 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 186 | 0/20:1 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.159 | 196 | 0/19:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 194 | 0/19:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 197 | 0/19:4 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 199 | 0/20:1 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 193 | 0/20:2 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 195 | 0/20:3 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 192 | 0/20:4 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
|      | 198 | 0/19:1 | ethernet | Success |      |
+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m6.2210288s ---

```

efa inventory device interface set-description

Set the description for the interface on the device

Syntax

```
efa inventory device interface set-description [ --ip string | if-type string | if-name string | --description string ]
```

Parameters

--description *string*

String value to set the description on device interface. Maximum length 63.

if-name *string*

Comma separated range of Interface names addresses and should be unique. Example:
0/50-52,0/45,0/5:4,0/5:1-2

if-type *string*

Optional. Interface type default value is 'eth'. Current support is only for 'eth'.

--ip *string*

Comma separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50-53,10.1.1.101.

Examples

The following example sets the description on the specified device interface. Only a partial output from the list command is shown.

```
$ efa inventory device interface set-description -ip 10.64.164.47 -if-name 0/14 --description "interface eth 0/14"
```

DeviceIP	ID	Name	Interface Type	Description	Result	Reason
10.64.164.47	95	0/14	ethernet	interface eth 0/14	Success	

```
$ efa inventory device interface list --ip 10.64.164.47
```

DeviceIP	Name	Interface Type	Admin Status	Oper Status	
Description	Line Speed	MAC	Switchport Mode	IP Address	App State
10.64.164.47	0/1	ethernet	up	down	
unknown	00:04:96:b8:ce:0e	unknown			cfg-in-sync
	0/2	ethernet	up	down	
unknown	00:04:96:b8:ce:0f	unknown			cfg-in-sync
	0/3	ethernet	up	down	
unknown	00:04:96:b8:ce:10	unknown			cfg-in-sync

```

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/4 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:11 | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/5 | ethernet | up | up |          |
| 100Gbps  | 00:04:96:b8:ce:12 | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
.
.
.
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/13 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:1a | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/14 | ethernet | up | down |          |
interface eth 0/14 | unknown | 00:04:96:b8:ce:1b | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/15 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:1c | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/16 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:1d | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
.
.
.
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/30 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:2b | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/31 | ethernet | up | up |          |
clusterPeerIntfMember | 100Gbps | 00:04:96:b8:ce:2c | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/32 | ethernet | up | up |          |
clusterPeerIntfMember | 100Gbps | 00:04:96:b8:ce:2d | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
.
.
.
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
|          | 0/40 | ethernet | up | down |          |
| unknown  | 00:04:96:b8:ce:35 | unknown |    |    | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
Interface Details

```

efa inventory device interface set-fec

Configures forward error correction (FEC) on the SLX-OS interface.

Syntax

```
efa inventory device interface set-fec [--ip device-ip | --if-type eth |  
    --if-name if-list | --mode { fc-fec | rs-fec | auto | disabled }]
```

Parameters

--if-type eth

Specifies that the interface type is **eth** (Ethernet), which is the default setting.

--if-name if-list

Specifies a comma-separated list of interface names. For example:
0/50-52,0/45,0/5:4,0/5:1-2.

--ip device-ip

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--mode { fc-fec | rs-fec | auto | disabled }

Specifies the FEC mode for the ports.

Usage Guidelines

The configuration you set is persisted in the XCO database.

The default value of FEC configured by SLX-OS is auto, that is auto-negotiation.

DRC and idempotency are supported.

Examples

```
efa inventory device interface set-fec --ip 10.20.246.10  
--if-type ethernet --if-name  
0/20 -mode rs-fec
```


efa inventory device interface set-link-error-disable

Configures port dampening (link-error-disable) on the SLX-OS interface. Minimizes excessive interface flapping.

Syntax

```
efa inventory device interface set-link-error-disable [--ip device-ip |  
  --if-name if-list | --toggle-threshold value | --sampling-time value  
  | --wait-time value ]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. For example:
0/50-52,0/45,0/5:4,0/5:1-2.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--sampling-time *value*

Valid values in seconds, are 1 through 65565. The default is 1.

--toggle-threshold *value*

Valid values are 1 through 50.

--wait-time *value*

Valid values, in seconds, are 0 through 65565.

Usage Guidelines

The configuration you set is persisted in the XCO database.

DRC and idempotency are supported.

Examples

```
efa inventory device interface set-link-error-disable --ip 10.20.246.10  
--if-name 0/20 --toggle-threshold 10 --sampling-time 20  
--wait-time 10
```

efa inventory device interface set-mtu

Configures the MTU (maximum transmission unit) at the physical port level for Layer 2 and IPv4.

Syntax

```
efa inventory device interface set-mtu [--ip device-ip | --if-type eth |  
--if-name if-list | --mtu int mtu-value | --ip-mtu int ip-mtu-value |  
--ipv6-mtu int32 ipv6-mtu-value ]
```

Parameters

--if-type eth

Specifies that the interface type is Ethernet, which is the default setting.

--if-name if-list

Specifies a comma-separated list of interface names. For example: 0/50-52,0/45.

--ip device-ip

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--ip-mtu int ip-mtu-value

Specifies the global IP MTU value on a device. For SLX-OS IPv4, valid values range from 1300 through 9194.

--ipv6-mtu ipv6-mtu-value

Specifies the global IPv6 MTU on a device. For IPV6 MTU size in bytes
<Number:1280-9194>.

Not Supported for SLX-OS or OS ONE devices.

--mtu int mtu-value

Specifies the global Layer 2 MTU on a device. For SLX-OS 21.1 and later, valid values range from 1500 through 9216. For other SLX-OS versions, valid values range from 1548 through 9216.

Usage Guidelines

In SLX-OS, you can use the **show interface ethernet** command to see the MTU configuration for an interface.

The configuration you set is persisted.

DRC and idempotency are supported.

Examples

This example configures the MTU on one device.

```
efa inventory device interface set-mtu --ip 10.25.225.167
--if-name 0/20-22
--mtu 2000 --ip-mtu 2000 --ipv6-mtu 3000
```

DeviceIP	ID	Name	Interface	Type	MTU	IP MTU	IPv6 MTU	Result
10.25.225.167	1	0/22	ethernet		2000	2000	3000	Success
	9	0/21	ethernet		2000	2000	3000	Success
	89	0/20	ethernet		2000	2000	3000	Success

Interface MTU Details
--- Time Elapsed: 18.6886395s ---

This example attempts to configure the MTU for two IP addresses, however one IP address is invalid.

```
efa inventory device interface set-mtu --ip 10.25.225.167,10.10.10.10
--if-name 0/20-22 --mtu 2500 --ip-mtu 2500 --ipv6-mtu 2500
```

DeviceIP	ID	Name	Interface	Type	MTU	IP MTU	IPv6 MTU	Result
10.10.10.10						Failed	Device does not exist with IP: 10.10.10.10	
10.25.225.167	89	0/20	ethernet		2500	2500	2500	Success
	1	0/22	ethernet		2500	2500	2500	Success
	9	0/21	ethernet		2500	2500	2500	Success

Interface MTU Details
--- Time Elapsed: 18.6252821s ---

This example configures the MTU on multiple IP addresses.

```
efa inventory device interface set-mtu --ip 10.25.225.167,10.24.48.131,10.24.51.135
--if-name 0/20-22 --mtu 3600 --ip-mtu 3600 --ipv6-mtu 3600
```

DeviceIP	ID	Name	Interface	Type	MTU	IP MTU	IPv6 MTU	Result
10.25.225.167	9	0/21	ethernet		3600	3600	3600	Success
	89	0/20	ethernet		3600	3600	3600	Success
	1	0/22	ethernet		3600	3600	3600	Success
10.24.48.131	142	0/20	ethernet		3600	3600	3600	Success
	148	0/22	ethernet		3600	3600	3600	Success
	110	0/21	ethernet		3600	3600	3600	Success
10.24.51.135	16	0/21	ethernet		3600	3600	3600	Success
	48	0/22	ethernet		3600	3600	3600	Success
	86	0/20	ethernet		3600	3600	3600	Success

```
+-----+-----+-----+-----+-----+-----+-----+
Interface MTU Details
--- Time Elapsed: 59.5462548s ---
```

This example configures the MTU for the specified fabric name.

```
efa inventory device interface set-mtu --fabric nc_no_vni
--if-name 0/20-22,0/55-58 --mtu 3200 --ip-mtu 3200 --ipv6-mtu 3200
+-----+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | MTU | IP MTU | IPv6 MTU | Result |
+-----+-----+-----+-----+-----+-----+-----+
| 10.24.51.135 | 16 | 0/21 | ethernet | 3200 | 3200 | 3200 | Success |
+-----+-----+-----+-----+-----+-----+-----+
| | 48 | 0/22 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+
| | 86 | 0/20 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+
| 10.24.48.131 | 110 | 0/21 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+
| | 148 | 0/22 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+
| | 142 | 0/20 | ethernet | 3200 | 3200 | 3200 | Success |
|
+-----+-----+-----+-----+-----+-----+-----+
Interface MTU Details
--- Time Elapsed: 37.3021602s ---
```

efa inventory device interface unset-mtu

Unsets the device interface MTU.

Syntax

```
efa inventory device interface unset-mtu [ --ip device-ip | --if-type eth
| --if-name if-list | --mtu | --ip-mtu | --ipv6-mtu ]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of unique interface names. For example:
0/50-52,0/45,0/5:4,0/5:1-2.

--if-type *eth*

Optionally specifies the interface type. Default value is 'eth'. Currently only interface of 'eth' is supported.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--ip-mtu

Specifies that IP MTU is to be removed.

--ipv6-mtu

Specifies that IPv6 MTU is to be removed.

--mtu

Specifies that MTU is to be removed.

Examples

This example unsets both mtu and ip-mtu from an interface.

```
efa inventory device interface unset-mtu --ip 10.20.24.10 --if-name=0/6 --mtu -ip-mtu
```

DeviceIP	ID	Name	Interface Type	MTU
10.20.24.10	451	0/6	ethernet	true

```

+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| DeviceIP | ID | Name | Interface Type | MTU |
| IP MTU | IPv6 MTU | Result | Reason |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.24.10 | 451 | 0/6 | ethernet | true |
| true | false | Success | |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+
Interface MTU Details
```

```
--- Time Elapsed: 6.469215243s ---
```

efa inventory device interface set-speed

Configures the speed for receiving and transmitting data on a physical port.

Syntax

```
efa inventory device interface set-speed [--ip device-ip | --if-type eth
    | --if-name if-list | --speed { 100mbps | 1gbps | 10gbps | 25gbps |
    40gbps | 100gbps | 400gbps | 1GbpsAN | AUTO }]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. For example: 0/50-52,0/45.

--if-type **eth**

Specifies that the interface type is Ethernet, which is the default setting.

--ip *device-ip*

Specifies a comma-separated list of device IP addresses.

--speed { 100mbps | 1gbps | 10gbps | 25gbps | 40gbps | 100gbps | 400gbps | 1GbpsAN | AUTO }

Specifies the speed for the port.

Usage Guidelines

In SLX-OS, you can use the **show interface ethernet** command to see the speed of the Ethernet interfaces on your device.

The configuration you set is persisted.

DRC and idempotency are supported.

Examples

This example sets the port speed on one device.

```
efa inventory device interface set-speed --ip 10.25.225.167
--if-name 0/20-22 --speed 10gbps
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Port Speed | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.25.225.167 | 89 | 0/20 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+
| | 1 | 0/22 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+
| | 9 | 0/21 | ethernet | 10gbps | Success | |
+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 17.9586487s ---
```

This example attempts to set the port speed on two IP addresses, however one IP address is invalid.

```
efa inventory device interface set-speed --ip 10.25.225.167,10.10.10.10
--if-name 0/20-22 --speed 25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result	Reason
10.10.10.10					Failed	Device does not exist with IP: 10.10.10.10
10.25.225.167	89	0/20	ethernet	25gbps	Success	
	1	0/22	ethernet	25gbps	Success	
	9	0/21	ethernet	25gbps	Success	

Interface Details
--- Time Elapsed: 18.3503896s ---

This example sets the port speed on multiple valid IP addresses.

```
efa inventory device interface set-speed --ip 10.25.225.167,10.24.48.131,10.24.51.135
--if-name 0/20-22 --speed 25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result	Reason
10.25.225.167	9	0/21	ethernet	25gbps	Success	
	89	0/20	ethernet	25gbps	Success	
	1	0/22	ethernet	25gbps	Success	
10.24.51.135	16	0/21	ethernet	25gbps	Success	
	86	0/20	ethernet	25gbps	Success	
	48	0/22	ethernet	25gbps	Success	
10.24.48.131	142	0/20	ethernet	25gbps	Success	
	110	0/21	ethernet	25gbps	Success	
	148	0/22	ethernet	25gbps	Success	

Interface Details
--- Time Elapsed: 53.8631425s ---

This example sets the port speed for the specified fabric name.

```
efa inventory device interface set-speed --fabric nc_no_vni
--if-name 0/20-22 --speed 25gbps
```

DeviceIP	ID	Name	Interface Type	Port Speed	Result
10.24.51.135	86	0/20	ethernet	25gbps	Success
	48	0/22	ethernet	25gbps	Success
	16	0/21	ethernet	25gbps	Success
10.24.48.131	142	0/20	ethernet	25gbps	Success


```
|          | 110 | 0/21 | ethernet      | 25gbps      | Success |
+-----+-----+-----+-----+-----+
|          | 148 | 0/22 | ethernet      | 25gbps      | Success |
+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 36.9974805s ---
```

efa inventory device interface unset-breakout

Reverts the breakout of multiple ports back to the original configuration.

Syntax

```
efa inventory device interface unset-breakout [--ip device-ip | --if-type
eth | --if-name if-list ]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. Example: 0/50-52,0/45.

--if-type **eth**

Specifies that the interface type is Ethernet, which is the default setting.

--ip *device-ip*

Specifies a comma-separated list of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

In SLX-OS, you can use the **show running-config hardware** command to see whether breakout mode is configured for a device.

When you run this command, the breakout interfaces are deconfigured and deleted. The original Ethernet interface in the default configuration is created automatically.

The configuration you set is persisted.

DRC and idempotency are supported.

Examples

This example removes breakout mode on one device.

```
efa inventory device interface unset-breakout --ip 10.24.80.158
--if-name 0/1-3
+-----+-----+-----+-----+-----+
| DeviceIP | Interface ID | Interface Name | Interface Type | Result |
+-----+-----+-----+-----+-----+
| 10.24.80.158 | 171 | 0/2 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 175 | 0/3 | ethernet | Success |
+-----+-----+-----+-----+-----+
| | 182 | 0/1 | ethernet | Success |
+-----+-----+-----+-----+-----+
Interface Details
```

This example attempts to remove breakout mode on two devices, however one IP address is invalid.

```
efa inventory device interface unset-breakout --ip 10.24.80.158,10.10.10.10
--if-name 0/6-9
```

DeviceIP	Interface ID	Interface Name	Interface Type	Result	Reason
10.10.10.10				Failed	Device does not exist with IP: 10.10.10.10
10.24.80.158	229	0/6	ethernet	Success	
	227	0/7	ethernet	Success	
	228	0/8	ethernet	Success	
	230	0/9	ethernet	Success	

Interface Details
--- Time Elapsed: 1m6.5402944s ---

This example removes breakout mode on multiple devices.

```
efa inventory device interface unset-breakout
--ip 10.24.80.158,10.24.80.159 --if-name 0/9-12
```

DeviceIP	Interface ID	Interface Name	Interface Type	Result
10.24.80.158	248	0/10	ethernet	Success
	250	0/11	ethernet	Success
	249	0/12	ethernet	Success
	247	0/9	ethernet	Success
10.24.80.159	252	0/10	ethernet	Success
	254	0/11	ethernet	Success
	253	0/12	ethernet	Success
	251	0/9	ethernet	Success

Interface Details
--- Time Elapsed: 1m52.8562333s ---

This example removes breakout mode for the specified fabric name.

```
efa inventory device interface unset-breakout --if-name 0/19-20
--fabric fabric1
```

DeviceIP	Interface ID	Interface Name	Interface Type	Result
10.24.80.159	279	0/19	ethernet	Success
	280	0/20	ethernet	Success
10.24.80.158	281	0/19	ethernet	Success
	282	0/20	ethernet	Success

```
+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 1m19.226463s ---
```

efa inventory device interface unset-description

Unset the description for the interface on the device

Syntax

```
efa inventory device interface unset-description [ --ip string | if-type
string | if-name string ]
```

Parameters

if-name *string*

Comma separated range of Interface names addresses and should be unique. Example:

0/50-52,0/45,0/5:4,0/5:1-2

if-type *string*

Optional. Interface type default value is 'eth'. Current support is only for 'eth'.

--ip *string*

Comma separated range of device IP addresses. For example:

10.1.1.13,10.1.1.50-53,10.1.1.101.

Examples

```
(efa:extreme)extreme@SLX12TPVM95:~$ efa inventory device interface unset-description --
if-name "0/21:3" --ip 10.64.212.11
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.64.212.11 | 863 | 0/21:3 | ethernet | Success | |
+-----+-----+-----+-----+-----+-----+
Interface Description Details
--- Time Elapsed: 6.117291034s ---
```

efa inventory device interface unset-fec

Unsets port forward error correction (FEC) on the SLX-OS interface.

Syntax

```
efa inventory device interface unset-fec [--ip device-ip | --if-type eth
| --if-name if-list ]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. Example:
0/50-52,0/45,0/5:4,0/5:1-2.

--if-type **eth**

Specifies that the interface type is **eth** (Ethernet), which is the default setting.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

The configuration you set is persisted in the XCO database.

The default value of FEC configured by SLX-OS is auto, that is auto-negotiation.

DRC and idempotency are supported.

Examples

```
efa inventory device interface unset-fec --ip 1.1.1.1 --if-name 0/10
+-----+-----+-----+-----+-----+-----+
| DeviceIP | ID | Name | Interface Type | Result | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.1.1.1 | 3 | 0/10 | ethernet | Success | |
+-----+-----+-----+-----+-----+-----+
Interface Details
--- Time Elapsed: 5.263239407s ---
```

efa inventory device interface unset-link-error-disable

Unsets port dampening (link-error-disable) on the SLX-OS interface.

Syntax

```
efa inventory device interface unset-link-error-disable [--ip device-ip  
| --if-name if-list ]
```

Parameters

--if-name *if-list*

Specifies a comma-separated list of interface names. Example:
0/50-52,0/45,0/5:4,0/5:1-2.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

The configuration you set is persisted in the XCO database.

DRC and idempotency are supported.

Examples

```
efa inventory device interface unset-link-error-disable --ip 10.20.246.10 --if-type eth  
--if-name 0/20
```

efa inventory device list

Lists all devices known to the inventory.

Syntax

```
efa inventory device list [ --orphan | --fabric name | --role { leaf |
border-leaf | spine | super-spine } | --ips device-ips ]
```

Parameters

--fabric *name*

Specifies fabric name. If this modifier is used, the command shows only those devices in the specified fabric.

--ips *device-ips*

Specifies comma separated device IPs.

--orphan

Fetches all devices that are not associated to a fabric.

--role { leaf | border-leaf | spine | super-spine }

Specifies device role.



Note

For OS ONE devices, the firmware information includes both the Base OS version and the Switching and Routing (SR) firmware version.

Examples

These examples show a portion of all possible output.

```
$ efa inventory device list
+-----+-----+-----+-----+-----+
| IP Address | Host Name | Model | Chassis Name | Firmware |
+-----+-----+-----+-----+-----+
| 10.139.44.156 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
| 10.139.44.155 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
```

```
$ efa inventory device register --ip 10.139.44.154
--username=admin --password=password
```

```
+-----+-----+-----+-----+-----+
| ID | IP Address | Host Name | Model | Chassis Name | Firmware |
+-----+-----+-----+-----+-----+
| 5 | 10.139.44.154 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
```

```
$ efa inventory device list
+-----+-----+-----+-----+-----+
| IP Address | Host Name | Model | Chassis Name | Firmware |
+-----+-----+-----+-----+-----+
| 10.139.44.156 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
| 10.139.44.155 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
| 10.139.44.154 | SLX | 4000 | BR-SLX9540 | 20.2.2slxos20.2.2_200914_1800 |
+-----+-----+-----+-----+-----+
```


efa inventory device lldp list

Lists the LLDP (Link Layer Discovery Protocol) neighbors for a device.

Syntax

```
efa inventory device lldp list [--ip device-ip | --type { all | edge | fabric } ]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.13,10.1.150,10.1.101.

--type { **all** | **edge** | **fabric** }

Specifies the type of neighbors to show in the list. The default is **all**.

Examples

This example returns LLDP neighbors of type fabric. This example shows a portion of all possible output.

```
efa inventory device lldp list --ip 10.20.246.1 --type fabric
```

DeviceIP	Local Interface	Local Int MAC	Remote Interface	Remote Interface MAC
10.20.246.1	Ethernet 0/13	f46e.95a2.b813	Ethernet 0/13	f46e.95a0.c813
	Ethernet 0/14	f46e.95a2.b814	Ethernet 0/14	f46e.95a0.c815
	Ethernet 0/15	f46e.95a2.b815	Ethernet 0/15	f46e.95a0.c815
	Ethernet 0/31	f46e.95a2.b825	Ethernet 0/3	489b.d57f.f009
	Ethernet 0/32	f46e.95a2.b826	Ethernet 0/3	489b.d57f.6809

This example returns LLDP neighbors of type edge. This example shows a portion of all possible output.

```
efa inventory device lldp list --ip 10.20.246.1 --type edge
```

DeviceIP	Local Interface	Local Int MAC	Remote Interface	Remote Interface MAC
10.20.246.1	Ethernet 0/1	f46e.95a2.b807	Ethernet 0/1	609c.9f87.0a05
	Ethernet 0/2	f46e.95a2.b808	Ethernet 0/2	609c.9f87.0a06
	Ethernet 0/4	f46e.95a2.b80a	Ethernet 0/4	609c.9f87.0c08
	Ethernet 0/5	f46e.95a2.b80b	Ethernet 0/5	609c.9fcd.f309
	Ethernet 0/24	f46e.95a2.b81e	Ethernet 0/53	f46e.959f.1744

This example returns all LLDP neighbors. This example shows a portion of all possible output.

```
efa inventory device lldp list --ip 10.20.246.1 --type all
```

DeviceIP	Local Interface	Local Int MAC	Remote Interface	Remote Interface MAC
10.20.246.1	Ethernet 0/1	f46e.95a2.b807	Ethernet 0/1	609c.9f87.0a05
	Ethernet 0/2	f46e.95a2.b808	Ethernet 0/2	609c.9f87.0a06
	Ethernet 0/4	f46e.95a2.b80a	Ethernet 0/4	609c.9f87.0c08
	Ethernet 0/5	f46e.95a2.b80b	Ethernet 0/5	609c.9fcd.f309

```
+-----+-----+-----+-----+
| Ethernet 0/6 | f46e.95a2.b80c | Ethernet 0/6 | 609c.9fcd.f30a |
+-----+-----+-----+-----+
```

efa inventory device ntp disable-server

Lists NTP servers configured using XCO.

Syntax

```
efa inventory device ntp disable-server [ --ip device-ip | --enable { yes | no } | --list | --fabric name ]
```

Parameters

--enable { **yes** | **no** }

Turns the NTP server on or off.

--fabric *name*

Fabric name.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--list

Lists disable-server on devices.

Examples

To turn off an NTP server on a given device:

```
efa inventory device ntp disable-server --enable yes --ip 10.20.246.10
```

To turn on an NTP server on a given device:

```
efa inventory device ntp disable-server --enable no --ip 10.20.246.10
```

To turn off an NTP server at the fabric level:

```
efa inventory device ntp disable-server --enable yes --fabric clos_fabric
```

To turn on an NTP server at the fabric level:

```
efa inventory device ntp disable-server --enable no --fabric clos_fabric
```

efa inventory device ntp server create

Creates an NTP server.

Syntax

```
efa inventory device ntp server create [ --ip device-ip | --ntp-ip ntp-ip  
    | --auth-key key | --auth-key-name key-name | --encryption-type { md5  
    | sha1 } | --trusted-key | --fabric name ]
```

Parameters

--auth-key *key*

Specifies the authentication key ID. Values can be from 1 to 65535.

Not Supported on OS ONE devices.

--auth-key-name *key-name*

Specifies the name of the key.

Not Supported on OS ONE devices.

--encryption-type { **md5** | **sha1** }

Specifies the encryption type.

Not Supported on OS ONE devices.

--fabric *name*

Specifies the name of the fabric. Required if you do not specify **--ip**.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:

10.1.1.13,10.1.1.50,10.1.1.101. Required if you do not specify **--fabric**.

--ntp-ip *ntp-ip*

Specifies the IP address of the NTP server.

--trusted-key *key*

Specifies the trusted key.

Usage Guidelines

The command creates an NTP server. By default, XCO sets the key name to be encrypted 7. SLX-OS supports encryption levels of 0 (clear text) and 7 (encrypted).

Here, one **auth-key** ID can be used by different NTP servers in SLX-OS. To simplify, XCO enforces a unique key id per NTP server. Here, device IP addresses and fabric options are mutually exclusive.

Examples

```
efa inventory device ntp server create -ntp-ip 3.3.3.3  
--auth-key 1 --auth-key-name ntpsecret --encryption-type md5 -trusted-key  
--ip 10.20.246.10
```

```
efa inventory device ntp server create -ntp-ip 3.3.3.3 --auth-key 1  
--auth-key-name ntpsecret --encryption-type md5 -trusted-key --fabric clos_fabric
```

efa inventory device ntp server delete

Deletes an NTP server.

Syntax

```
efa inventory device ntp server delete [ --ip device-ip | --ntp-ip ntp-ip
    | --fabric name ]
```

Parameters

--fabric *name*

Specifies the name of the fabric.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
1.1.1-3.1.1.2.2.2.2.2.

--ntp-ip *ntp-ip*

Specifies the IP address of the NTP server.

Examples

```
(efa:extreme)extreme@node-1:~$ efa inventory device ntp server delete --ip 10.64.224.16
--ntp-ip 10.64.220.60
+-----+-----+-----+-----+-----+
| IP Address | Ntp IP | Fabric | Status | Reason |
+-----+-----+-----+-----+-----+
| 10.64.224.16 | 10.64.220.60 | fabric1 | Success | |
+-----+-----+-----+-----+-----+
Ntp server details
--- Time Elapsed: 7.279349352s ---
(efa:extreme)extreme@node-1:~$
```

```
(efa:extreme)extreme@node-1:~$ efa inventory device ntp server delete --fabric fabric1
--ntp-ip 10.38.99.47
+-----+-----+-----+-----+-----+
| IP Address | Ntp IP | Fabric | Status | Reason |
+-----+-----+-----+-----+-----+
| 10.64.224.17 | 10.38.99.47 | fabric1 | Success | |
+-----+-----+-----+-----+-----+
| 10.64.224.16 | 10.38.99.47 | fabric1 | Success | |
+-----+-----+-----+-----+-----+
Ntp server details
--- Time Elapsed: 7.363845445s ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device ntp server list

Lists NTP servers configured using XCO.

Syntax

```
efa inventory device ntp server list [ --ip device-ip | --fabric name ]
```

Parameters

--fabric *name*

Specifies the name of the fabric.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

NTP server list output for an OS ONE device showing configured NTP servers with authentication key, encryption type, trusted key, fabric, and App State columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device ntp server list --fabric fabric1
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| IP Address | Server IP | Auth Key | Auth Key Name | Encryption Type | Trusted
Key | Fabric | AppState |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | 10.38.99.47 | 0 | | | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | 10.64.220.60 | 0 | | | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | 10.38.99.47 | 0 | | | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | 10.64.220.60 | 0 | | | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
Ntp server details
--- Time Elapsed: 53.5616ms ---
(efa:extreme)extreme@node-1:~$
```

```
(efa:extreme)extreme@node-1:~$ efa inventory device ntp server list --ip 10.64.224.16
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| IP Address | Server IP | Auth Key | Auth Key Name | Encryption Type | Trusted
Key | Fabric | AppState |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | 10.38.99.47 | 0 | | | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
```

```
+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | 10.64.220.60 | 0          |          |          | false
| fabric1 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+
Ntp server details
--- Time Elapsed: 50.603293ms ---
(efa:extreme)extreme@node-1:~$
```


efa inventory device running-config persist

Saves the running-config to the startup-config on SLX-OS devices. Not supported on latest SLX-OS or OS ONE.

Syntax

```
efa inventory device running-config persist [ --ip ip-addr | --fabric fabric-name ]
```

Parameters

--fabric *fabric-name*

Specifies the fabric that contains the devices for which you want the configuration to persist.

--ip *ip-addr*

Specifies a comma-separated list of IP address and IP address ranges of the devices for which you want the configuration to persist.

Usage Guidelines

Device configurations configured by the Fabric Service and Tenant Service do not automatically persist on SLX-OS devices.

Use this command to specify the IP addresses or fabric for which configurations should persist.

Examples

This example configures persistence for two IP addresses.

```
# efa inventory device running-config persist --ip 10.20.50.212,10.20.50.213

Persist Devices Running-Config (success)
IP Address      Device Name      Fabric      Status
10.20.50.212    Leaf-1-3         stage5      Success
10.20.50.213    Leaf-1-3         stage5      Success

Persist Running-Config Details
--- Time Elapsed: 12.2902836s ---
```

This example configures persistence for the same devices, but by fabric instead of IP address.

```
# efa inventory device running-config persist --fabric stage5

Persist Devices Running-Config (success)
IP Address      Device Name      Fabric      Status
10.20.50.212    Leaf-1-3         stage5      Success
10.20.50.213    Leaf-1-3         stage5      Success

Persist Running-Config Details
--- Time Elapsed: 11.4899986s ---
```

efa inventory device register

Registers a device.

Syntax

```
efa inventory device register [ --ip ip-list | --username username  
    | --password password | --maintmode-enable-on-reboot | --location  
    string ]
```

Parameters



Note

IPv6 is not supported in Fabric suite.

--ip *ip-list*

Specifies a comma separated range of device IP addresses. Can be either IPv4 or IPv6 IP addresses. Example: 10.10.10.1,2000::1.

--location *string*

Location to connect to the device.

--maintmode-enable-on-reboot

Configures a device to reboot in maintenance mode.

--password *password*

Specifies password to connect to the device.

--username *username*

Specifies the user name to connect to the device.

Usage Guidelines

If, during device registration, the device is found to be in maintenance mode, then an error is returned and registration fails. To take the device out of maintenance mode before reattempting device registration, you must perform a manual procedure.

efa inventory device reload

Reloads a running SLX-OS device.

Syntax

```
efa inventory device reload [ --ip device-ips | --fabric fabric-name |  
-h, --help ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *device-ips*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

This operation causes the specified devices to reboot. When **--fabric** is specified, all devices in the fabric are reloaded. All existing sessions on the devices must be restarted.

Examples

This example reloads a device with IP address 10.20.30.40.

```
efa inventory device reload --ip 10.20.30.40
```

```
Warning: This operation will cause the device(s) to reboot and requires all existing  
telnet, secure telnets and SSH sessions to be restarted on the device(s).
```

```
Warning: EFA access may be lost temporary if EFA is running on reloading device.
```

```
Are you sure you want to reload device(s) 10.20.30.40 (Y/N):
```

efa inventory device secure settings

Enable or disable security settings

Syntax

```
efa inventory device secure settings [ enable | disable ]
```

Examples

```
efa inventory device secure settings disable  
secure settings disable[Success]  
--- Time Elapsed: 57.000421492s ---
```

efa inventory device secure settings apply

Apply security hardening configuration on device

Syntax

```
efa inventory device secure settings apply [ --ip device-ips | --fabric
fabric ]
```

Parameters

--fabric *fabric*

Specifies the fabric name.

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

```
efa inventory device secure settings apply --ip 1.1.1.1-3,2.2.2.2
+-----+-----+
+-----+-----+
| IP Address                                     |
| Status |                                     Warning |
+-----+-----+
+-----+-----+
| 1.1.1.1 |                                     |
Success |                                     |
+-----+-----+
+-----+-----+
| 1.1.1.2 |                                     |
Success |                                     |
+-----+-----+
+-----+-----+
| 1.1.1.3 |                                     |
Success |                                     |
+-----+-----+
+-----+-----+
| 2.2.2.2 |                                     |
Success |                                     |
+-----+-----+
+-----+-----+
Secure settings apply
--- Time Elapsed: 120.505169258s ---

efa inventory device secure settings apply -fabric fabric1
+-----+-----+
+-----+-----+
| IP Address                                     |
| Status |                                     Warning |
+-----+-----+
+-----+-----+
| 1.1.1.6 |                                     |
Success |                                     |
+-----+-----+
+-----+-----+
| 1.1.1.8 |                                     |
```

```
Success |  
+-----+-----+  
+-----+  
Secure settings apply  
--- Time Elapsed: 99.548236s ---
```

efa inventory device secure settings reset

Reset security setting to default value.

Syntax

```
efa inventory device secure settings reset [ --min-tls-version | --mac-  
algorithm | --key-exchange-algorithm | --telnet | --cipher | --max-  
password-age | --force-default-password-change ]
```

Parameters

--cipher

Reset Ciphers to default values.

--force-default-password-change

Enable force password change.

--key-exchange-algorithm

Reset Key-Exchange Algorithms list to default values.

--mac-algorithm

Reset MAC Algorithms list to default values.

--max-password-age

Reset password age to default value.

--min-tls-version

Reset minimum TLS version to the default value.

--telnet

Disable telnet.

Examples

```
efa inventory device secure settings reset --telnet --cipher --max-password-age  
secure settings reset[Success]  
--- Time Elapsed: 83.826371ms ---
```

efa inventory device secure settings show

Display current security setting on device.

Syntax

```
efa inventory device secure settings show [ --ip device-ips ]
```

Parameters

--ip *device-ips*

Specifies a device IP address. Example: 10.24.80.56

Examples



Note

The Min-service-tls-version field applies only to OS ONE devices.

```
(efa:user)user@xco-78-160:~$ efa inventory device secure settings show
+-----+-----+
|          Name          |          Value          |
+-----+-----+
| Min-tls-version        | 1.2                     |
+-----+-----+
| Min-service-tls-version |                          |
| [Applicable to OS-ONE] |                          |
+-----+-----+
| SSH Mac-algorithm      | hmac-sha2-512-etm@openssh.com |
|                        | hmac-sha2-256-etm@openssh.com |
|                        | umac-128-etm@openssh.com      |
|                        | hmac-sha2-256 hmac-sha2-512   |
+-----+-----+
| SSH Key-exchange-algorithm | curve25519-sha256      |
|                        | curve25519-sha256@libssh.org  |
|                        | diffie-hellman-group-exchange-sha256 |
|                        | diffie-hellman-group16-sha512  |
|                        | diffie-hellman-group18-sha512  |
|                        | diffie-hellman-group14-sha256  |
+-----+-----+
| SSH Cipher              | non-cbc                 |
+-----+-----+
| Telnet                  | Disabled                 |
+-----+-----+
| Max-password-age        | 90                       |
+-----+-----+
| Force-default-password-change | Disabled                 |
+-----+-----+
Common security settings
--- Time Elapsed: 114.808898ms ---
(efa:user)user@xco-78-160:~$
```


efa inventory device secure settings update

Update security settings on devices.

Syntax

```
efa inventory device secure settings update [ --min-tls-version min-tls-version | | --min-service-tls-version service-tls-version-list
--mac-algorithm mac-algorithm-list | --key-exchange-algorithm key-exchange-algorithm-list | --telnet disable | --cipher ciphers | --
max-password-age max-password-age | --force-default-password-change enable ]
```

Parameters

--cipher *ciphers*

Comma separated list of Ciphers.

--force-default-password-change *enable*

Force the user to change default passwords.



Note

For OS ONE, the **--force-default-password-change** attribute is always enabled. Even if you set it to disable, it still shows as Enable in **efa show-run-config** command output.

--key-exchange-algorithm *key-exchange-algorithm-list*

Comma separated list of Key-Exchange Algorithms.

--mac-algorithm *mac-algorithm-list*

Comma separated list of MAC Algorithms.

--max-password-age *max-password-age*

Maximum number of days before password expiry

--min-tls-version *min-tls-version*

Minimum TLS version to configure globally on the server. If a device does not support the specified version, a lower version is applied. For example, if TLS 1.3 is not supported, TLS 1.2 is applied. Supported values are 1.1, 1.2, and 1.3.



Note

For OS ONE, 1.1 is not supported for **--min-tls-version**.

--min-service-tls-version *service-tls-version-list*

Service-specific minimum TLS version or versions to configure.

Specify one or more service and TLS version pairs as a

comma-separated list in the format **SERVICEvVERSION**. For example,

LDAP_CLIENTv1.2,HTTPS_CLIENTv1.3. Supported values are **LDAP_CLIENTv1.2,**

LDAP_CLIENTv1.3,HTTPS_CLIENTv1.2,HTTPS_CLIENTv1.3,RADIUS_CLIENTv1.2,

RADIUS_CLIENTv1.3, SYSLOG_CLIENTv1.2, SYSLOG_CLIENTv1.3,
GRPC_SERVERv1.2, and GRPC_SERVERv1.3.



Note

For SLX-OS, **--min-service-tls-version** is not supported.

--telnet *disable*

Disable or Enable telnet on mgmt-vrf

Usage Guidelines

This command does not automatically apply changes to these settings. Run **efa inventory device secure settings apply** to manually apply them. The apply operation applies all configured security settings, including global TLS settings and service-specific TLS settings.

Examples

```
efa inventory device secure settings update --min-tls-version 1.2
secure settings update[Success]
--- Time Elapsed: 33.26355ms ---

efa inventory device secure settings update
--mac-algorithm hmac-sha2-512-etm@openssh.com,hmac-sha2-256-etm@openssh.com,hmac-
sha2-512,hmac-sha2-256
secure settings update[Success]
--- Time Elapsed: 18.82952ms ---

efa inventory device secure settings update
--key-exchange-algorithm curve25519-sha256,curve25519-sha256@libssh.org,diffie-hellman-
group14-sha256,
diffie-hellman-group16-sha512,diffie-hellman-group18-sha512,diffie-hellman-group-exchange-
sha256
secure settings update[Success]
--- Time Elapsed: 83.826371ms ---

efa inventory device secure settings update --telnet enable --cipher non-cbc --max-
password-age 365
secure settings update[Success]
--- Time Elapsed: 55.88571ms ---
```

This example updates the minimum TLS version in global security settings to 1.3.

```
(efa:extreme)extreme@tpvm-122:~$ efa inventory device secure settings update --min-tls-
version 1.3

secure settings update[Success]

--- Time Elapsed: 99.089795ms ---
```

This example configures a global minimum TLS version of 1.2 and service-specific minimum TLS versions for the LDAP client and HTTPS client.

```
(efa:user)user@xco-78-160:~$ efa inventory device secure settings update --min-tls-
version 1.2 --min-service-tls-version LDAP_CLIENTv1.3,HTTPS_CLIENTv1.3

secure settings update[Success]
--- Time Elapsed: 99.089795ms ---
```

efa inventory device setting show

Displays device settings.

Syntax

```
efa inventory device setting show [ --ip device-ip ]
```

Parameters

--ip *device-ip*

Specifies IP address of the device.

Examples

This example shows the current inventory settings for the specified device.

```
efa inventory device setting show --ip 10.20.24.10
```

NAME	VALUE	APP STATE
Maintenance Mode Enable On Reboot	No	
Maintenance Mode Enable	No	
Maintenance Convergence Time		
MCT Bring-up Delay		
Health Check Enabled	No	
Health Check Interval	6m	
Health Check Heartbeat Miss Threshold	2	
Periodic Backup Enabled	Yes	
Config Backup Interval	24h	
Config Backup Count	4	
Prefix Independent Convergence	No	cfg-in-sync
Static Prefix Independent Convergence	No	
Maximum Load Sharing Paths		
Maximum Ipv6 Prefix Length	64	
Urp		
Ip Dhcp Relay Disable Flooding	Yes	cfg-in-sync
Ip Option Disable	No	cfg-in-sync

Ip Option Disable Cpu	No	
+-----+-----+		
Ipv6 Option Disable	No	cfg-in-sync
+-----+-----+		
Crypto Certificate Expiry Info		
+-----+-----+		
Crypto Certificate Expiry		
Minor		
+-----+-----+		
Crypto Certificate Expiry		
Major		
+-----+-----+		
Crypto Certificate Expiry		
Critical		
+-----+-----+		
Peer Group Ipv6 Prefix Over	Yes	cfg-in-sync
Ipv4 Peer		
+-----+-----+		
Password Expiry Info	90	
+-----+-----+		
Password Expiry Minor	60	
+-----+-----+		
Password Expiry Major	30	
+-----+-----+		
Password Expiry Critical	2	
+-----+-----+		
Max-password-age	90	
+-----+-----+		

efa inventory device setting update

Configures device settings such as maintenance mode.

Syntax

```
efa inventory device setting update [ --ip device-ips | --fabric fabric-name | --maint-mode-enable-on-reboot { Yes | No } --maint-mode-enable { Yes | No } | --maint-mode-convergence-time time | --mct-bring-up-delay delay --health-check-enable { Yes | No } --health-check-interval minutes | --health-check-heartbeat-miss-threshold { 2 | 3 | 4 | 5 } --config-backup-periodic-enable { Yes | No } --config-backup-interval interval | --number-of-config-backups count | --prefix-independent-convergence { Yes | No } | --prefix-independent-convergence-static { Yes | No } | --maximum-load-sharing-paths { 8 | 16 | 32 | 64 | 128 } | --maximum-ipv6-prefix-length-64 string | --urpf string | --ip-dhcp-relay-disable-flooding { Yes | No } | --ip-option-disable { Yes | No } | --ip-option-disable-cpu { Yes | No } | --ipv6-option-disable { Yes | No } | --peer-group-ipv6-prefix-over-ipv4-peer { Yes | No } | --crypto-cert-expiry-info string | --crypto-cert-expiry-minor string | --crypto-cert-expiry-major string | --crypto-cert-expiry-critical string | --password-expiry-info string | --password-expiry-minor string | --password-expiry-major string | --password-expiry-critical string | --process-restart stringArray | -h, --help ]
```

Parameters

--config-backup-interval *interval*

Config Backup interval in minutes, valid values 3m-30h Example. 99m or 1h20m or 20m , default 24h

--config-backup-periodic-enable {Yes | No}

Enter Yes to enable periodic config backup and No to disable periodic config backup

--crypto-cert-expiry-critical *string*

Period in days to certificate expiry after which SNMP traps would be generated at the critical level, valid value range is between 1-90 and 0 to de-configure

--crypto-cert-expiry-info *string*

Period in days to certificate expiry after which SNMP traps would be generated at the info level, valid value range is between 1-90 and 0 to de-configure

--crypto-cert-expiry-major *string*

Period in days to certificate expiry after which SNMP traps would be generated at the major level, valid value range is between 1-90 and 0 to de-configure

--crypto-cert-expiry-minor *string*

Period in days to certificate expiry after which SNMP traps would be generated at the minor level, valid value range is between 1-90 and 0 to de-configure

--fabric *fabric-name*
Specify the name of the fabric

--health-check-enable {Yes | No}
Enter Yes to enable health check and No to disable health check

--health-check-heartbeat-miss-threshold *string*
Health check's heartbeat miss threshold value, valid value range in between 2-5, default 2

--health-check-interval *minutes*
Health check interval in seconds/minutes, valid values for Fabric device 6m-24h
Example. 30s or 99m or 1h20m or 20m, default 6m for Fabric device

--ip *device-ips*
Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--ip-dhcp-relay-disable-flooding {Yes | No}
Enter Yes to disable flooding for DHCP broadcast packets from CPU, valid values Yes/No, default "". This configuration is supported from the firmware version 20.5.3.
Not Supported for OS ONE devices.

--ip-option-disable {Yes | No}
Enter Yes to disable processing IP packets with IP options. Enter No to enable processing IP packets with ip options
Not Supported for OS ONE devices.

--ip-option-disable-cpu {Yes | No}
Enter Yes to disable processing IP packets with IP options destined to the CPU. Enter No to enable processing IP packets with IP options destined to the CPU
Not Supported for OS ONE devices.

--ipv6-option-disable {Yes | No}
Enter Yes to disable processing IPV6 packets with IP options. Enter No to enable processing IPV6 packets with IP options
Not Supported for OS ONE devices.

--maint-mode-convergence-time *time*
Maximum time in seconds that maintenance mode is allowed to complete operations, valid values 100-500 and 0 to de-configure.
Not Supported for OS ONE devices.

--maint-mode-enable {Yes | No}
Enter Yes to configure maintenance mode enable and No to de-configure
For OS ONE, this flag is no longer reload persistent because it is only exec command and not config command unlike SLX.

--maint-mode-enable-on-reboot {Yes | No}
Enter Yes to configure maintenance mode enable on reboot and No to de-configure

--maximum-ipv6-prefix-length-64 {Yes | No}

Enter Yes to configure the maximum route prefix length of 64, valid values Yes/No, default "". This configuration is applicable for Extreme 8720 and Extreme 8520 hardware.

Not Supported for OS ONE devices.

--maximum-load-sharing-paths *string*

Config route load-sharing maximum paths, valid values 8,16,32,64,128 and 0 to de-configure

--mct-bring-up-delay *delay*

Delay, in seconds, waited before MCT cluster bring-up, valid values – SLX-OS -> 10-600, OS ONE-> 0-1000, 0 to de-configure.

--number-of-config-backups *count*

Config Backup Count, valid values 2-20, default 4

--password-expiry-critical *string*

Number of days before expiry to generate critical level alert, valid value range is between 1-90 and 0 to de-configure

--password-expiry-info *string*

Number of days before expiry to generate info level alert, valid value range is between 1-90 and 0 to de-configure

--password-expiry-major *string*

Number of days before expiry to generate major level alert, valid value range is between 1-90 and 0 to de-configure

--password-expiry-minor *string*

Number of days before expiry to generate minor level alert, valid value range is between 1-90 and 0 to de-configure

--peer-group-ipv6-prefix-over-ipv4-peer {Yes | No}

Enter Yes to enable the peer group ipv6prefix over ipv4peer. Enter No to disable. This configuration is supported from the firmware version 20.5.2a.

IPv4 BGP sessions mapped to peer group with IPv6 address family enabled will be cleared

Not Supported for OS ONE devices.

--prefix-independent-convergence {Yes | No}

Enter Yes to enable BGP PIC and No to de-configure

Not Supported for OS ONE devices.

--prefix-independent-convergence-static {Yes | No}

Enter Yes to enable Static PIC and No to de-configure

--process-restart *stringArray*

Specify process restart state. Format: <process_name >,<Yes/No >. Can be used multiple times. Valid values for process_name are (MPLS, BGP, ISIS, OSPFV2, OSPFV3)

Example: --process-restart MPLS,Yes --process-restart BGP,No

Not Supported for OS ONE devices.

--urpf {Yes | No}

Enter Yes to configure the unicast reverse path forwarding, valid values Yes/No, default ""'. This configuration is applicable for Extreme 8720 and Extreme 8520 hardware.

Not Supported for OS ONE devices.

Examples

This example specifies a delay of 200 seconds before an MCT cluster bring up.

```
$ efa inventory device setting update --ip 10.20.24.10
--mct-bring-up-delay 200
```

This example specifies a maximum time of 100 seconds that maintenance mode is allowed to complete operations.

```
$ efa inventory device setting update --ip 10.20.24.10
--maint-mode-convergence-time 100
```

This example enables prefix independent convergence on the device.

```
efa inventory device setting update --ip 10.20.24.10 --prefix-independent-convergence
Yes
Warning: The best practice is to clear all routes after configuring PIC. You can also
reload the device.
Execute the CLI to clear : efa inventory device clear route-all --ip 10.20.24.1
```

This example enables prefix independent convergence static on the device.

```
efa inventory device setting update --ip 10.20.24.18 --prefix-independent-convergence-
static yes
+-----+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+-----+
| 10.20.24.18 | Static Prefix Independent | Success | Yes | |
| | Convergence Enabled | | | |
+-----+-----+-----+-----+-----+
Warning: The best practice is to clear all routes after configuring Static PIC. You can
also reload the device.
Execute the CLI to clear : efa inventory device clear route-all --ip 10.20.24.18
Execute the CLI to reload : efa inventory device reload --ip 10.20.24.18
```

This example configures the maximum route prefix length of 64.

```
efa inventory device setting update --ip 10.24.80.135 --maximum-ipv6-prefix-length-64
Warning: Configuration will not take effect until reloaded.
Execute the CLI to reload : efa inventory device reload --ip 10.24.80.135
```

This example specifies disabling ip option processing and disabling ipv6 option processing while allowing ip option processing destined to the cpu.

```
efa inventory device setting update --ip 10.10.10.1 --ip-option-disable yes
--ip-option-disable-cpu no --ipv6-option-disable yes
+-----+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+-----+
| 10.24.2.120 | ip-option-disable | Success | Yes | |
| | ip-option-disable-cpu | Success | No | |
| | ipv6-option-disable | Success | Yes | |
+-----+-----+-----+-----+-----+
```

This example enables the peer group ipv6prefix over ipv4peer.

```
efa inventory device setting update --ip 10.20.246.16 --peer-group-ipv6-prefix-over-ipv4-
peer yes
```



```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.246.16 | peer-group-ipv6-prefix-over-ipv4-peer | Success | Yes | |
+-----+-----+-----+-----+
```

```
efa inventory device setting update --ip 10.20.24.10,10.20.24.12 --crypto-cert-expiry-info 50
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.24.10 | Crypto Cert Expiry Info | Success | 50 | |
+-----+-----+-----+-----+
```

```
efa inventory device setting update --ip 10.20.24.10,10.20.24.12 --crypto-cert-expiry-minor 30
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.24.10 | Crypto Cert Expiry Minor | Success | 30 | |
+-----+-----+-----+-----+
```

```
efa inventory device setting update --ip 10.20.24.10,10.20.24.12 --crypto-cert-expiry-major 10
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.24.10 | Crypto Cert Expiry Major | Success | 10 | |
+-----+-----+-----+-----+
```

```
efa inventory device setting update --ip 10.20.24.10,10.20.24.12 --crypto-cert-expiry-critical 5
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.24.10 | Crypto Cert Expiry Critical | Success | 5 | |
+-----+-----+-----+-----+
```

This example enables flooding for the IP DHCP relay on the specified device.

```
efa inventory device setting update --ip 10.20.246.15 --ip-dhcp-relay-disable-flooding No
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.246.15 | Ip Dhcp Relay Disable Flooding | Success | No | |
+-----+-----+-----+-----+
```

This example enables flooding for the IP DHCP relay on the specified devices.

```
efa inventory device setting update --ip-dhcp-relay-disable-flooding No --ip 10.20.246.15,10.20.246.16
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.20.246.15 | Ip Dhcp Relay Disable Flooding | Success | No | |
+-----+-----+-----+-----+
| 10.20.246.16 | Ip Dhcp Relay Disable Flooding | Success | No | |
+-----+-----+-----+-----+
```

This example disables flooding for the IP DHCP relay on the specified fabric.

```
efa inventory device setting update --ip-dhcp-relay-disable-flooding Yes --fabric fs
```

```
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
```

```
| 10.20.246.15| Ip Dhcp Relay Disable Flooding | Success | Yes | | |
+-----+-----+-----+-----+
| 10.20.246.16| Ip Dhcp Relay Disable Flooding | Success | Yes | | |
+-----+-----+-----+-----+
```

This example sets the password expiry values for the specified parameters and values on the specified device.

```
# efa inventory device setting update --ip 10.64.192.72 --password-expiry-info 30
--password-expiry-minor 20 --password-expiry-major 10 --password-expiry-critical 200
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.64.192.72 | Password Expiry For | Success | 30 | |
| | Info Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 20 | |
| | | | |
| | Minor Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 10 | |
| | | | |
| | Major Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 2 | |
| | | | |
| | Critical Level | | | |
| | | | |
+-----+-----+-----+-----+
--- Time Elapsed: 53.849675ms ---
```

This example sets the password expiry values for the specified parameters and values on the specified fabric.

```
# efa inventory device setting update --fabric myclos --password-expiry-info 30
--password-expiry-minor 20 --password-expiry-major 10 --password-expiry-critical 200
+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+
| 10.64.192.72 | Password Expiry For | Success | 30 | |
| | Info Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 20 | |
| | | | |
| | Minor Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 10 | |
| | | | |
| | Major Level | | | |
| | | | |
+-----+-----+-----+-----+
| | Password Expiry for | Success | 2 | |
| | | | |
| | Critical Level | | | |
| | | | |
+-----+-----+-----+-----+
```

```
--- Time Elapsed: 53.849675ms ---
```

The following example configures a global minimum TLS version of TLS 1.2, while configuring the LDAP client and HTTPS client to require TLS 1.3. All other supported services inherit the global minimum TLS version.

```
efa inventory device secure settings update \
  --min-tls-version 1.2 \
  --min-service-tls-version LDAP_CLIENTv1.3,HTTPS_CLIENTv1.3
```

Device setting update output for an OS ONE device showing successful configuration of health check settings, with setting name, status, and applied value columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device setting update --ip 10.64.224.16
--health-check-enable Yes --health-check-interval 10m --health-check-heartbeat-miss-
threshold 3
+-----+-----+-----+-----+-----+
| IP ADDRESS | NAME | STATUS | VALUE | ERROR |
+-----+-----+-----+-----+-----+
| 10.64.224.16 | Health Check Enabled | Success | Yes | |
+-----+-----+-----+-----+-----+
| | Health Check Heartbeat Miss | Success | 3 | |
| | Threshold | | | |
+-----+-----+-----+-----+-----+
| | Health Check Interval | Success | 10m | |
+-----+-----+-----+-----+-----+
--- Time Elapsed: 130.209743ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device snmp community create

Creates an SNMP community and SNMP group.

Syntax

```
efa inventory device snmp community create [--ip device-ip | --name  
      community | --group group | --enable-read-access | --enable-write-  
      access | --enable-notify-access | --view view-name]
```

Parameters

--enable-notify-access

Enable notify access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--enable-read-access

Enable read access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--enable-write-access

Enable write access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--group *group*

Group name.

--ip *device-ip*

Comma separated range of device IP addresses. Example:

10.1.1.13,10.1.1.50,10.1.1.101

--name *community*

Community name.

--view *view-name*

Optionally specify a SNMP view name. Default view `efav3View` is used when not specified.

Not Supported for OS ONE devices.

Usage Guidelines

The command creates the SNMP community along with the SNMP group. This command is valid for SNMP v2c version only.

XCO internally creates the v2 group and manages the community-to-group mapping. The group is created on the first community that is associated with the group.

Examples

```
efa inventory device snmp community create --ip 10.139.44.153 --name community1 --group  
group1 --enable-read-access --view view1
```

efa inventory device snmp community delete

Deletes an SNMP community.

Syntax

```
efa inventory device snmp community delete [--ip device-ip | --name  
community]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *community*

Specifies an SNMP community name.

Usage Guidelines

The command deletes the SNMP community. This command is valid for SNMP v2c version only.

XCO internally manages the community to group mapping and deletes the group if this is the last community associated with the group.

The SNMP group is automatically deleted when the last SNMP community associated with the group is removed. If you want to edit SNMP group attributes, all the corresponding communities must be deleted and created with modified group settings.

Examples

```
efa inventory device snmp community delete --name tempv2community  
--ip 10.20.246.10
```

efa inventory device snmp community list

Lists SNMP communities.

Syntax

```
efa inventory device snmp community list [--ip device-ip]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

The command lists SNMP communities. This command is valid for SNMP v2c version only.

Examples

```
efa inventory device snmp community list --ip 10.20.246.1-2
```

IP Address	Community Name	Group
Read view	Write view	Notify view
AppState		
10.20.246.2	\$9\$jcpLTpu9FlqFFcWN7uhHig==	
	cfg-not-managed	
10.20.246.2	\$9\$smklvisSghOZEQvXJKBDeA==	cgrp1
efav3View	efav3View	cfg-in-sync
10.20.246.1	\$9\$Y4Cy6IcflH9B0KM932JUNw==	v2group
efav3View	efav3View	cfg-not-managed
10.20.246.1	\$9\$yS/jSs6dBJyG5o0yy+coKw==	
	cfg-not-managed	
10.20.246.1	\$9\$kr+plantb3TRIgkiBkV83Q==	v2group
efav3View	efav3View	cfg-not-managed
10.20.246.1	\$9\$mdDWwNPg2OmO4Fqnodl+Bw==	gtest1
efav3View	efav3View	cfg-not-managed
10.20.246.1	\$9\$smklvisSghOZEQvXJKBDeA==	cgrp1
efav3View	efav3View	cfg-in-sync

Snmp community details

efa inventory device snmp group list

Lists SNMP groups. Not Supported for OS ONE devices.

Syntax

```
efa inventory device snmp group list [--ip device-ip]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

This examples lists groups on a specific device.

```
efa inventory device snmp group list --ip 10.139.44.159
+-----+-----+-----+-----+-----+
+-----+-----+
| IP Address | Group Name | Version | Read view
| Write view | Notify view | Auth Level | AppState |
+-----+-----+-----+-----+-----+
+-----+-----+
| 10.139.44.159 | efav3Group | v3      |
| efav3View    | noauth    | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+
| 10.139.44.159 | test-grp-v2 | v2c     | test-view-1
| efav3View    |            | noauth  | cfg-in-sync  |
+-----+-----+-----+-----+-----+
+-----+-----+
Snmp group details
```


efa inventory device snmp group update

Update a SNMP group. Not Supported for OS ONE devices.

Syntax

```
efa inventory device snmp group update [ --ip device-ips | --name group-name | --version version | --read-view view-name | --write-view view-name | --notify-view view-name | --auth-level auth-level ]
```

Parameters

--auth-level *auth-level*

Sets group auth level. Valid values are noauth, auth and priv.

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. For example:

10.1.1.13,10.1.1.50,10.1.1.101.

--name *group-name*

Specifies an SNMP name.

--notify-view *view-name*

Sets group notify view name.

--read-view *view-name*

Sets group read view name.

--version *version*

Specifies an SNMP group version. Valid values are v2c and v3.

--write-view *view-name*

Sets group write view name.

Examples

This example updates a group.

```
efa inventory device snmp group update --name "test-grp-v2" --version v2c --read-view
"test-view-1" --ip 10.139.44.159
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| IP Address | Group Name | Version | Read view
| Write view | Notify view | Auth Level | Status | Reason |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.139.44.159 | test-grp-v2 | v2c | test-view-1
| | | | Success | |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
Snmp group details
```

efa inventory device snmp host create

Creates an SNMP v2c or v3 host.

Syntax

```
efa inventory device snmp host create [--ip device-ip | --host-ip { IPv4
| IPv6 | FQDN } | --community community | --user user | --version
{ v2c | v3 } | --notify-type { traps | informs } | --engine-id
remote_id | --udp-port port ]
```

Parameters

--community *community*

Specifies a community name. Applicable for v2c only.

--engine-id *remote_id*

Specifies the remote engine ID of manager.

Hex string format with a colon as a separator. The string size must be between 10–65.
Example: 02:03:04:05:06.

Not Supported for OS ONE devices.

--host-ip { IPv4 | IPv6 | FQDN }

Specifies a host IP address.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--notify-type { traps | informs }

Specifies the notification type. Informs are valid for v3 only.

Not Supported for OS ONE devices.

--udp-port *port*

Optional port number used to send notifications. Range: 0–65535 (SLX-OS), 1–65535 (OS ONE). Default value is 162.

--user *user*

Specifies an SNMP v3 user.

--version { v2c | v3 }

Specifies the SNMP version.

Usage Guidelines

The command creates an SNMP v2c or v3 host.

Engine-id and informs are applicable only for SNMP v3 hosts.

Examples

```
efa inventory device snmp host create --ip 10.139.44.153 --host-ip 1.1.1.1  
--user user1 --version v3 --notify-type traps --udp-port 163
```

```
efa inventory device snmp host list --ip 10.139.44.153
```

efa inventory device snmp host delete

Deletes an SNMP v2c or v3 host.

Syntax

```
efa inventory device snmp host delete [--ip device-ip | --host-ip { IPv4  
| FQDN } | --community community | --user username ]
```

Parameters

--community *community*

Specifies an SNMP community. Applicable for v2c only.

--host-ip { **IPv4** | **FQDN** }

Specifies an SNMP host address.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:

10.1.1.13,10.1.1.50,10.1.1.101.

--user *username*

Specifies an SNMP v3 user.

Examples

```
efa inventory device snmp host delete  
--host-ip 20.20.20.2 --community tempv2community --ip 10.20.246.10
```

```
efa inventory device snmp host delete  
--host-ip 30.30.30.2 --user v3user --ip 10.20.246.10
```

efa inventory device snmp host list

Lists SNMP v2c or v3 hosts.

Syntax

```
efa inventory device snmp host list [--ip device-ip]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

```
efa inventory device snmp host list --ip 10.20.246.2
```

```
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| IP Address | Host IP | User | Community |
Notify Type | EngineID | Source Interface | Vrf
| UDP port | Severity | AppState |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.255.241 | efav3User | | traps
| 00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf | 162
| None | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.241.10 | efav3User | |
traps | 00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf
| 162 | None | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.241.24 | efav3User | |
traps | 00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf
| 162 | None | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.241.7 | efav3User | |
traps | 00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf
| 162 | None | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.241.85 | efav3User | |
traps | 00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf
| 162 | None | cfg-not-managed |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 10.20.255.115 | efav3User | |
```

```
traps      | 00:00:00:00:00:00:00:00:00 | management chassis-ip | mgmt-vrf
| 162      | None      | cfg-not-managed |
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.2 | 3.3.3.3      | user7      |      |
informs     | 02:03:04:05:06 | management chassis-ip | mgmt-vrf
| 162      | None      | cfg-in-sync   |
+-----+-----+-----+-----+-----+-----+
+-----+
+-----+
```

efa inventory device snmp user create

Creates an SNMP user and SNMP group.

Syntax

```
efa inventory device snmp user create [--ip device-ip | --name community
| --group group | --enable-read-access | --enable-write-access |
--enable-notify-access | --auth-protocol { md5 | sha } | --auth-
pass authphrase | --priv-protocol { AES128 | DES } | --priv-pass
privphrase | --view view-name ]
```

Parameters

--auth-pass *passphrase*

Authentication password.

--auth-protocol { md5 | sha }

Authentication protocol. Valid values are md5, sha.

For OS ONE devices, no-auth is also supported.

--enable-notify-access

Enable notify access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--enable-read-access

Enable read access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--enable-write-access

Enable write access for SNMP view in SNMP group.

Not Supported for OS ONE devices.

--group *group*

Group name.

Not Supported for OS ONE devices.

--ip *device-ip*

Comma separated range of device IP addresses. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

--name *user-name*

User name. Length: 1-25 characters for SLX devices, 2-32 characters for OS ONE devices.

--priv-pass *privphrase*

Privacy password.

--priv-protocol { AES128 | DES }

Privacy protocol. Valid values are AES128, DES.

For OS ONE devices, valid values are aes, des.

--view *view-name*

Optionally specify a SNMP view name. Default view `efav3View` used when not specified.

Not Supported for OS ONE devices.

Usage Guidelines

The command creates an SNMP user along with an SNMP group. This command is valid for SNMP v3 version only.

SLX-OS stores the `auth-pass` and `priv-pass` in encrypted format. By default, XCO encrypts all passwords.

XCO internally creates the v3 group and manages the user to group mapping. The group is created with the first user associated with the group.

The SNMP group is automatically deleted when the last SNMP community associated with the group is removed. If you want to edit SNMP group attributes, all the corresponding users must be deleted and created with modified group settings.

Examples

This example creates user using a specified view.

```
efa inventory device snmp user create --ip 10.139.44.153 --name user1
--group group1 --view view1
```

efa inventory device snmp user delete

Deletes an SNMP user.

Syntax

```
efa inventory device snmp user delete [--ip device-ip | --name user]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *user*

Specifies an SNMP user name.

Usage Guidelines

The command deletes the SNMP user. This command is valid for SNMP v3 version only.

Examples

```
efa inventory device snmp user delete --name tempv3user --ip 10.20.246.10
```

efa inventory device snmp user list

Lists SNMP users.

Syntax

```
efa inventory device snmp user list [--ip device-ip]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

The command lists SNMP user information, including IP address, group, view permissions, and pass phrases. This command is valid for SNMP v3 version only.

Examples

This example lists snmp users.

```
efa inventory device snmp user list --ip 10.139.44.153
```

efa inventory device snmp use-vrf create

Create a SNMP use-vrf

Syntax

```
efa inventory device snmp use-vrf create [ --ip device-ips | --name VRF-name | --shutdown ]
```

Parameters

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *VRF-name*

VRF name.

--shutdown

Shutdown SNMP service in the VRF.

Examples

This example creates a use-vrf on specified devices.

```
efa inventory device snmp use-vrf create --name vrf1 --ip 10.139.44.159-160 --shutdown
```

IP Address	Use VRF	Shutdown	Status	Reason
10.139.44.159	vrf1	true	Success	
10.139.44.160	vrf1	true	Success	

Snmp use-vrf details

efa inventory device snmp use-vrf delete

Delete a SNMP use-vrf.

Syntax

```
efa inventory device snmp use-vrf delete [ --ip device-ips | --name VRF-name ]
```

Parameters

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *VRF-name*

VRF name.

Examples

This example deletes a use-vrf on specified devices.

```
efa inventory device snmp use-vrf delete --name vrf1 --ip 10.139.44.159-160
+-----+-----+-----+-----+
| IP Address | User Name | Status | Reason |
+-----+-----+-----+-----+
| 10.139.44.160 | vrf1      | Success |         |
+-----+-----+-----+-----+
| 10.139.44.159 | vrf1      | Success |         |
+-----+-----+-----+-----+
Snmp user details
```

efa inventory device snmp use-vrf list

List SNMP use-vrfs

Syntax

```
efa inventory device snmp use-vrf list [ --ip device-ips ]
```

Parameters

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

This example shows the current SNMP use-vrfs for the specified devices.

```
efa inventory device snmp use-vrf list --ip 10.139.44.159-160
+-----+-----+-----+-----+
| IP Address | Use VRF | Shutdown | AppState |
+-----+-----+-----+-----+
| 10.139.44.159 | default-vrf | false | cfg-not-managed |
+-----+-----+-----+-----+
| 10.139.44.159 | mgmt-vrf | false | cfg-not-managed |
+-----+-----+-----+-----+
| 10.139.44.159 | vrfl | true | cfg-in-sync |
+-----+-----+-----+-----+
| 10.139.44.160 | default-vrf | false | cfg-not-managed |
+-----+-----+-----+-----+
| 10.139.44.160 | mgmt-vrf | false | cfg-not-managed |
+-----+-----+-----+-----+
| 10.139.44.160 | vrfl | true | cfg-in-sync |
+-----+-----+-----+-----+
Snmp use-vrf details
```

efa inventory device snmp view

SNMP View commands. Not Supported for OS ONE devices.

Syntax

```
efa inventory device snmp view create [ --ip device-ips | --name view-name | --mib-tree mib-oid | --mib-tree-access access ]
```

```
efa inventory device snmp view delete [ --ip device-ips | --name view-name | --mib-tree mib-oid ]
```

```
efa inventory device snmp view list [ --ip device-ips ]
```

Parameters

--ip *string*

Specifies a comma-separated range of device IP addresses. For example: 10.1.1.13,10.1.1.50,10.1.1.101.

--name *view-name*

Specifies the name of the view.

--mib-tree *mib-oid*

Specifies the MIB subtree in the form of Object identifier. Example: 1.3.6.1

--mib-tree-access *access*

Specifies the mib-tree access. Valid values are: included, excluded.

Examples

This example creates a view on a specified device.

```
efa inventory device snmp view create --ip 10.139.44.153-154 --name view1
--mib-tree 1.3.6.1 --mib-tree-access included
```

```
+-----+-----+-----+-----+-----+-----+
| IP Address | Name | MIB-Tree | MIB-Tree-Access | Status | Reason |
+-----+-----+-----+-----+-----+-----+
| 10.139.44.153 | view1 | 1.3.6.1 | included | Success | |
+-----+-----+-----+-----+-----+-----+
| 10.139.44.154 | view1 | 1.3.6.1 | included | Success | |
+-----+-----+-----+-----+-----+-----+
Snmp view details
```

This example deletes a view on a specified device.

```
efa inventory device snmp view delete --ip 10.139.44.153-154 --name view1
--mib-tree 1.3.6.1
```

```
+-----+-----+-----+-----+-----+
| IP Address | Name | MIB-Tree | Status | Reason |
+-----+-----+-----+-----+-----+
| 10.139.44.153 | view1 | 1.3.6.1 | Success | |
+-----+-----+-----+-----+-----+
```

```
| 10.139.44.154 | view1 | 1.3.6.1 | Success | |
+-----+-----+-----+-----+
Snmp view details
```

This example shows the current SNMP view for the specified device

```
efa inventory device snmp view list --ip 10.139.44.153-154
```

```
+-----+-----+-----+-----+-----+
| IP Address | Name | MIB-Tree | MIB-Tree_Access | AppState |
+-----+-----+-----+-----+-----+
| 10.139.44.153 | view1 | 1.2.3.4 | included | |
+-----+-----+-----+-----+-----+
| | view2 | 1.2.3.4 | included | |
+-----+-----+-----+-----+-----+
| 10.139.44.154 | view3 | 1.2.3.5 | excluded | |
+-----+-----+-----+-----+-----+
Snmp view details
```

efa inventory device timezone debug-show

Displays the list of valid timezones supported on an SLX-OS device.

Syntax

```
efa inventory device timezone debug-show
```

Examples

Timezone debug-show truncated output displaying the list of supported timezone values that can be used when configuring device timezone settings.

```
(efa:extreme)extreme@node-1:~$ efa inventory device timezone debug-show
+-----+-----+
+-----+-----+
| Etc/GMT                      | Europe/Andorra          |
| Asia/Dubai                   | Asia/Kabul              |
+-----+-----+
+-----+-----+
| America/Antigua              | America/Anguilla        |
| Europe/Tirane                | Asia/Yerevan            |
+-----+-----+
+-----+-----+
| America/Curacao              | Africa/Luanda           |
| Antarctica/McMurdo           | Antarctica/South_Pole   |
+-----+-----+
+-----+-----+
.
.
.
.
| America/Montevideo           | Asia/Samarkand          |
| Asia/Tashkent                | Europe/Vatican          |
+-----+-----+
+-----+-----+
| America/St_Vincent           | America/Caracas         |
| America/Tortola              | America/St_Thomas       |
+-----+-----+
+-----+-----+
| Asia/Ho_Chi_Minh             | Pacific/Efate           |
| Pacific/Wallis               | Pacific/Apia            |
+-----+-----+
+-----+-----+
| Asia/Aden                    | Indian/Mayotte          |
| Africa/Johannesburg          | Africa/Lusaka           |
+-----+-----+
+-----+-----+
| Africa/Harare                | Europe/                  |
Greenwich                     | Asia/Srednekolymsk      |
+-----+-----+
+-----+-----+
Supported Timezones
--- Time Elapsed: 64.440895ms ---
(efa:extreme)extreme@node-1:~$
```


efa inventory device timezone list

Lists timezones configured on an SLX-OS device.

Syntax

```
efa inventory device timezone list [ --ip device-ip | --fabric fabric-name ]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--fabric *fabric-name*

Specifies the name of the fabric.

-h, --help

Help for list

Timezone list output for an OS ONE device showing the configured timezone, fabric, and App State columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory device timezone list --ip 10.64.224.16
+-----+-----+-----+-----+
| IP Address | Timezone | Fabric | AppState |
+-----+-----+-----+-----+
| 10.64.224.16 |          | fabric1 | cfg-in-sync |
+-----+-----+-----+-----+
Timezone details
--- Time Elapsed: 40.43675ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory device timezone set

Sets the timezone on an SLX-OS device.

Syntax

```
efa inventory device timezone set [ --ip device-ip | --fabric fabric-name  
    | --timezone region ]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--fabric *fabric-name*

Specifies the name of the fabric.

--timezone *region*

Specifies the timezone region or city. For example: America /Los_Angeles.

-h, --help

Help for set.

Examples

```
efa inventory device timezone set --timezone America/Los_Angeles  
--ip 10.20.246.10
```

```
efa inventory device timezone set --timezone Europe/Paris --fabric fabric1
```

efa inventory device timezone unset

Unsets the timezone on an SLX-OS device.

Syntax

```
efa inventory device timezone unset [ --ip device-ip | --fabric fabric-name ]
```

Parameters

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--fabric *fabric-name*

Specifies the name of the fabric.

-h, --help

Help for unset

Examples

```
efa inventory device timezone unset --ip 10.20.246.13
```

efa inventory device threshold-monitor list

Display the threshold monitor settings for a device.

Syntax

```
efa inventory device threshold-monitor list [ --ip device-ips | --fabric
fabric-name ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

This example shows the current inventory threshold-monitor settings for the specified device.

```
(efa:extreme)extreme@node-2:~$ efa inventory device threshold-monitor list --ip
10.64.224.16
+

Basic Monitoring Type Configuration
+-----+-----+-----+-----+-----+-----+
| IP Address | Type | Actions | High Limit | Low Limit | AppState |
+-----+-----+-----+-----+-----+-----+
| 10.64.224.16 | vxlan-tunnel | snmp | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | lif | none | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | mac-table | raslog | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | route | all | 90 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | ecmp | snmp | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | bfd-session | all | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | host | none | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| | nexthop | raslog | 100 | 70 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+

CPU/Memory Type Configuration
+-----+-----+-----+-----+-----+-----+
+-----+
| IP Address | Type | Actions | High Limit |
| Low Limit | Interval | Retry | AppState |
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | memory | none | 100 |
| 10 | 3600 | 100 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+
```

```
|          | cpu   | all   | 100   |  
10         | 3500  | 10    | cfg-in-sync |  
+-----+-----+-----+-----+  
+-----+  
Threshold Monitor details  
--- Time Elapsed: 48.560757ms ---  
(efa:extreme)extreme@node-2:~$
```

efa inventory device threshold-monitor set

Set threshold monitor settings.

Syntax

```
efa inventory device threshold-monitor set [ --ip device-ips | --fabric
fabric-name | --type { cpu | memory | bfd-session | lif | mac-table
| vxlan-tunnel | route | host | nexthop | ecmp | hardware-resources }
| --actions { all | none | raslog | snmp | loginfo } | --high-limit
percentage | --low-limit percentage | --interval seconds | --retry
retry-interval | --count max-events | -h, --help ]
```



Note

--count is valid only when --type of hardware-resources is specified.

Parameters

--actions *string*

Specifies the action to take upon exceeding the high-limit or low-limit. Valid actions are all, none, raslog, rasdebug, snmp, and loginfo. Loginfo is only valid for type cpu/memory. [all] Both RASLOG and SNMP trap will be generated. [none] No action will be taken. [raslog] RASLOG will be generated. [snmp] SNMP trap will be generated. [loginfo] Diagnostic data collection along with RASLOG. Default is all.

For OS ONE: loginfo and rasdebug are not supported.

For OS ONE: there is no default value.

--count *string*

Specifies the maximum number of event actions that can be taken in an interval. See interval. A valid value is in the range of 1–60 with Default 4. Valid only for type hardware-resources, which sets the common/shared value for all hardware resource types of bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop and ecmp.

--fabric *string*

Specifies the name of the fabric.

--high-limit *string*

Specifies the high limit threshold percentage. Valid values for type cpu are 0–95 with default 50. A valid value for type memory is in the range of 0–95 with Default 70. Valid values for types bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop and ecmp are in the range of 10–100 with default 90.

For OS ONE: there are no default values for types bfd-session, cpu, ecmp, host, lif, mac-table, memory, nexthop, route, and vxlan-tunnel.

For OS ONE: a high-limit value is mandatory; ranges – cpu/memory: 0–100.

--interval *string*

For type cpu/memory it specifies the polling interval, in seconds after which a sample will be taken. A valid value is in the range of 10–3600 seconds with Default 120 seconds.

For type hardware-resources, which sets the common/shared value for all hardware resource types of bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop and ecmp, it specifies the number of notifications within an interval. A valid value is in the range of 30 to 900 seconds with Default 30 seconds.

For OS ONE: there is no default value.

--ip *string*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--low-limit *string*

Specifies the low limit threshold percentage. Valid for types bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop and ecmp. Valid values are in the range of 10–99 with Default 70.

For OS ONE: there are no default values for types bfd-session, cpu, ecmp, host, lif, mac-table, memory, nexthop, route, and vxlan-tunnel.

For OS ONE: a low-limit value is mandatory; ranges — cpu/memory: 0–100; other types: 10–100.

--retry *string*

Specifies the number of polling interval retries that will be attempted (see interval) before desired action is taken. Only applicable for type cpu/memory. Valid values are in the range of 1–100 with Default 3. -h, --help help for set --- Time Elapsed: 585.085µs
--- (efa:user)user@xco-78-160:~\$.

For OS ONE: there is no default value.

--type *string*

Specifies the type of threshold being configured. Valid types are cpu, memory, hardware-resources, bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop and ecmp.

For OS ONE devices hardware-resources is not supported.

Examples

This example sets a cpu threshold-monitor to trigger an snmp event when the cpu threshold of 80% is exceeded. The threshold must be exceeded 3 times (retry) for the event to be triggered, which would take 3 minutes before the notification was sent.

```
efa inventory device threshold-monitor set --type cpu --ip 10.10.10.153-154
--actions snmp --high-limit 80 --retry 3
```

This example sets a mac-table threshold-monitor to trigger an snmp event when the high-limit threshold of 80% is exceeded or the low-limit threshold of 50% is exceeded. Events can be for the threshold exceeding 80% (high) or 50% (low) limits.

```
efa inventory device threshold-monitor set --type mac-table --fabric fabric1
--actions snmp --high-limit 80 --low-limit 50
```

This example sets the threshold-monitor hardware-resources interval and count to 60 and 3 respectively. These values apply to the types bfd-session, lif, mac-table, and vxlan-tunnel, route, host, nexthop and ecmp.

```
efa inventory device threshold-monitor set --type hardware-resources  
--ip 10.10.10.153-154 --interval 60 --count 3
```


efa inventory device threshold-monitor unset

Unset threshold monitor settings

Syntax

```
efa inventory device threshold-monitor unset [ --ip device-ips | --fabric  
      fabric-name | --type { cpu | memory | bfd-session | lif | mac-table |  
      vxlan-tunnel | route | host | nexthop | ecmp | hardware-resources ]
```

Parameters

--fabric *fabric-name*

Specifies the name of the fabric.

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--type *type*

Specifies the type of threshold being configured. Valid types are cpu, memory, bfd-session, lif, mac-table, vxlan-tunnel, route, host, nexthop, ecmp, and hardware-resources.

Examples

This example unsets all current inventory threshold-monitor settings for the specified devices.

```
efa inventory device threshold-monitor unset --ip 10.10.10.75-76
```

This example unsets a single inventory threshold-monitor setting for the specified device.

```
efa inventory device threshold-monitor unset --ip 10.10.10.75 --type cpu
```

efa inventory device tpvm list

Lists all the known tpvm nodes.

Syntax

```
efa inventory device tpvm list
```

Examples

This example shows the output from the command.

```
efa inventory device tpvm list
```

```
-----+-----  
+-----  
  
Device IP Address | TPVM IP Address | TPVM Hostname  
| SLX Firmware Version | TPVM Version |  
+-----+-----+-----+-----+  
+-----+  
| 10.24.80.56 | 10.24.80.180 | node180 | 20.4.2slxos20.4.2_220614_1000 | 4.5.0 |  
+-----+-----+-----+-----+  
+-----+  
| 10.24.80.58 | 10.24.80.181 | node181 | 20.4.1 | 4.5.0 |  
+-----+-----+-----+-----+  
+-----+
```

efa inventory device tpvm-upgrade execute

Asynchronously launches the TPVM upgrade process.

Syntax

```
efa inventory device tpvm-upgrade execute [--ip device-ip | --firmware-host firmware-host-ip-address | --tpvm-image tpvm-image-path-on-firmware-host | --trusted-peer-sudo-user sudo-user-id | --trusted-peer-password sudo-user-password | --auto-reboot ]
```

Parameters

--auto-reboot

If this option is given then automatically both standby and active TPVMs will be rebooted sequentially (if required). Default is false.

--firmware-host *firmware-host-ip-address*

Specifies the IP address of the firmware host. The host must be registered beforehand.

--ip *device-ip*

Specifies a comma-separated range of device IP addresses. For example: 10.1.1.13,10.1.1.50,10.1.1.101.

--tpvm-image *tpvm-image-path-on-firmware-host*

Specifies the path and file name of the TPVM deb file located on the *firmware-host*.

--trusted-peer-password *sudo-user-password*

Specifies the password of the trusted peer sudo user to be reconfigured after TPVM is upgraded.



Note

Supported for full upgrade of TPVM and not for incremental upgrade.

--trusted-peer-sudo-user *sudo-user-id*

Specifies the user ID of the trusted peer sudo user to be reconfigured after TPVM is upgraded. If you do not specify a user, the default sudo user is used: *extreme*.



Note

Supported for full upgrade of TPVM and not for incremental upgrade.

Examples

Upgrade one TPVM node:

```
efa inventory device tpvm-upgrade execute --ip 10.24.80.58
--firmware-host 10.31.2.101
--tpvm-image /buildsjc/sre_fusion/Nightly/raphael/slxos20.4.2/slxos20.4.2_220511_1000/
dist/SWBD2900/tpvm_inc_upg-4.5.0-4.amd64.deb
```

Upgrade two TPVM nodes:

```
efa inventory device tpvm-upgrade execute --ip 10.24.80.58,10.20.80.56
--firmware-host 10.31.2.101
--tpvm-image /buildsjc/sre_fusion/Nightly/raphael/slxos20.4.2/slxos20.4.2_220511_1000/
dist/SWBD2900/tpvm_inc_upg-4.5.0-4.amd64.deb
```

This example shows the tpvm upgrade configuration with auto-reboot option.

```
$ efa inventory device tpvm-upgrade execute --ip 1.1.1.1,1.1.1.2 --firmware-host 2.2.2.2
--tpvm-image /buildsjc/sre_fusion/Nightly/tpvm/ci_tpvm/tpvm_inc_upg-4.5.5-5.amd64.deb --
auto-reboot
```

```
TPVM Upgrade Execute [success]
Monitor TPVM upgrade execution progress using:
```

```
efa inventory device tpvm-upgrade show --ip 1.1.1.1,1.1.1.2
efa inventory device tpvm-upgrade show --execution-id
aac8b30e-6911-4bea-8f67-986bd40528a9
```

Please do not execute other commands on the device until process is completed

efa inventory device tpvm-upgrade show

Polls and monitors the progress of the TPVM upgrade workflow.

Syntax

```
efa inventory device tpvm-upgrade show [ --execution-id id | --ip ip-  
addresses ]
```

Parameters

--execution-id *id*

Specifies the ID provided from the **tpvm-upgrade execute** command.

--ip *ip-addresses*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Usage Guidelines

Specify either the **--execution-id** or the **--ip** option.

Examples

TPVM upgrade show with one TPVM IP address:

This example shows only a portion of the possible output.

```
$ efa inventory device tpvm-upgrade show --ip 10.24.80.58
+-----+-----+-----+-----+-----+-----+
| IP Address | Host Name | Model | Chassis Name | ASN          | Role  |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.58 | SLX      | 4001  | BR-SLX9640   | 42000000000 | Leaf  |
+-----+-----+-----+-----+-----+-----+
```

TPVM upgrade show with two TPVM IP addresses:

This example shows only a portion of the possible output.

```
$ efa inventory device tpvm-upgrade show --ip 10.24.80.58,10.24.80.56
+-----+-----+-----+-----+-----+-----+
| IP Address | Host Name | Model | Chassis Name | ASN          | Role  |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.58 | SLX      | 4001  | BR-SLX9640   | 42000000000 | Leaf  |
+-----+-----+-----+-----+-----+-----+
| 10.24.80.56 | SLX      | 4001  | BR-SLX9640   | 42000000000 | Leaf  |
+-----+-----+-----+-----+-----+-----+
```

TPVM upgrade show with execution id:

This example shows only a portion of the possible output.

```
$ efa inventory device tpvm-upgrade show --execution-id 670cb89e-d8d1-4213-  
ac97-20403458627f
```

IP Address	Host Name	Model	Chassis Name	ASN	Role
10.24.80.58	SLX	4001	BR-SLX9640	4200000000	Leaf
10.24.80.56	SLX	4001	BR-SLX9640	4200000000	Leaf

efa inventory device update

Updates the Asset service with the latest information from the switch.

Syntax

```
efa inventory device update [ --ip device-ip | --fabric fabric-name |  
  --username username | --password password ]
```

Parameters

--fabric *fabric-name*

Specifies the fabric of the devices that you want to synchronize.

--ip *device-ip*

Specifies the IP address of the device that you want to synchronize.

--password *password*

Specifies the password to connect to the device. If the password must be updated, use this option.

--username *username*

Specifies the user name to connect to the device. If the user name must be updated, use this option.

Examples

This example (which shows only a portion of all possible output) synchronizes IP address 10.24.80.158.

```
$ efa inventory device update --ip 10.24.80.158
```

ID	IP Address	Host Name	Model	Chassis Name	Firmware
2	10.24.80.158	SLX	3012	Extreme 8720-32C	20.1.2slxos20.1.2x

efa inventory drift-reconcile

Identifies drift in device configuration and performs reconciliation.

Syntax

```
efa inventory drift-reconcile history [ --ip string | --reverse ]
efa inventory drift-reconcile execute [ --ip string | --reconcile ]
efa inventory drift-reconcile delete [ --key { ip-address | dr-uuid } ]
efa inventory drift-reconcile detail [ --uuid dr-uuid ]
```

Parameters

--ip *string*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--key { **ip-address** | **dr-uuid** }

Specifies IP address of the device or the drift and reconcile UUID to be deleted.

--reverse

Sort display in reverse start time.

--reconcile

Identifies drift and reconcile with device.

--uuid *dr-uuid*

Specifies the UUID for the drift reconcile.

Usage Guidelines

Use the **efa inventory drift-reconcile history** command to display the history of drift and reconcile operations.

Use the **efa inventory drift-reconcile execute** command to perform a drift and reconcile operation.

Use the **efa inventory drift-reconcile delete** command to delete a drift and reconcile record for the specified IP address or UUID.

Use the **efa inventory drift-reconcile detail** command to display drift and reconcile details.

Examples

The following examples show **efa inventory drift-reconcile** commands.

```
# efa inventory drift-reconcile execute --ip 10.24.14.133 --reconcile
# efa inventory drift-reconcile execute --ip 10.24.14.133-134,10.24.14.140 --reconcile
# efa inventory drift-reconcile history --ip 10.24.14.133
```



```
# efa inventory drift-reconcile detail --uuid 1111-1111-1111
# efa inventory drift-reconcile delete --key 10.24.14.133
# efa inventory drift-reconcile delete --key 1111-1111-1111
```

efa inventory execution

Displays the list of inventory execution operations.

Syntax

```
efa inventory execution show [ --id id | --limit value | --status  
{ failed | succeeded | all } ]
```

Parameters

--id *id*

Filters the operations by ID. If **--id** is available, **--limit** and **--status** are ignored.

--limit *value*

Limits the number of operations to be listed. Value 0 lists all operations. The default is 10.

--status { failed | succeeded | all }

Filters the operations based on the status. The default is `all`.

efa inventory firmware-host delete

Removes a firmware host.

Syntax

```
efa inventory firmware-host delete [ --ip host-ip ]
```

Parameters

--ip *host-ip*

Specifies the IP address of the firmware host.

Examples

Firmware host delete output showing successful removal of a firmware host, with ID, IP address, protocol, and status columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory firmware-host delete --ip 10.64.12.102
+---+-----+-----+-----+-----+
| ID | IP Address | Protocol | Status | Reason |
+---+-----+-----+-----+-----+
| 5  | 10.64.12.102 | sftp    | Success |         |
+---+-----+-----+-----+-----+
Firmware Host Details
--- Time Elapsed: 49.419425ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory firmware-host list

Displays all registered firmware hosts.

Syntax

```
efa inventory firmware-host list [ --ip host-ips ]
```

Parameters

--ip *host-ips*

Specifies a comma-separated list of firmware host IP addresses.

Examples

Firmware host list output showing all registered firmware hosts with ID, IP address, protocol, username, and host type columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory firmware-host list
+---+-----+-----+-----+-----+
| ID | IP Address | Protocol | Username | Host Type |
+---+-----+-----+-----+-----+
| 1  | 10.64.12.101 | scp      | admin    | device    |
+---+-----+-----+-----+-----+
| 3  | 10.64.193.82 | scp      | admin    | device    |
+---+-----+-----+-----+-----+
Firmware Host Details
--- Time Elapsed: 38.123456ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory firmware-host register

Registers the firmware host that will be used to download firmware builds to the devices.

Syntax

```
efa inventory firmware-host register [--ip host-ip | --protocol
    { scp,ftp,sftp,http } | --username username | --password password ]
```

Parameters

--ip *host-ip*

Specifies the IP address of the firmware host.

--protocol { **scp**,**ftp**,**sftp**,**http** }

Specifies the comma-separated protocols used by the firmware host for downloading firmware.

--username *user name*

Specifies the user name to use to log in to the firmware download host.

--password *password*

Specifies the password for the user name.

Usage Guidelines

Simple connectivity test to the firmware-host by given IP. The complete firmware-host sanity check is performed later when a device is prepared and again when firmware-download is run.

Examples

Firmware host register output showing successful registration of a firmware host with ID, IP address, protocol, and status columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory firmware-host register --ip 10.64.12.102 --
protocol scp --username admin --password admin
+-----+-----+-----+-----+-----+
| ID | IP Address | Protocol | Status | Reason |
+-----+-----+-----+-----+-----+
| 5 | 10.64.12.102 | scp | Success | |
+-----+-----+-----+-----+-----+
Firmware Host Details
--- Time Elapsed: 57.003375ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory firmware-host update

Updates the login credentials or file transfer protocol to be used by a device when downloading firmware from the firmware host.

Syntax

```
efa inventory firmware-host update [ --ip host-ip | --protocol
{ scp,ftp,sftp,http } | --username username | --password password ]
```

Parameters

--ip *host-ip*

Specifies the IP address of the firmware host.

--protocol { **scp,ftp,sftp,http** }

Specifies the comma-separated protocols used by the firmware host for downloading firmware.

--username *user name*

Specifies the user name to use to log in to the firmware download host.

--password *password*

Specifies the password for the user name.

Examples

Firmware host update output showing successful update of a firmware host's protocol from scp to sftp, with ID, IP address, updated protocol, and status columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory firmware-host update --ip 10.64.12.102 --
protocol sftp --username admin --password admin
+-----+-----+-----+-----+-----+
| ID |   IP Address   | Protocol | Status | Reason |
+-----+-----+-----+-----+-----+
| 5  | 10.64.12.102 | sftp     | Success |        |
+-----+-----+-----+-----+-----+
Firmware Host Details
--- Time Elapsed: 47.385854ms ---
(efa:extreme)extreme@node-1:~$
```

efa inventory kvstore

Configures a key-value pair.

Syntax

```
efa inventory kvstore create [ --key name | --value value | --encrypt ]
efa inventory kvstore delete [ --key name ]
efa inventory kvstore list [ --decrypt | --key name | --prefix prefix ]
```

Parameters

--decrypt

Decrypts the secret fields.

--encrypt

Encrypts the secret fields.

--key *name*

Specifies a key-value pair name.

--prefix *prefix*

Retrieve list of a key-value pairs matching the prefix.

--value *value*

Specifies a value for the key.

Examples

KV store create output showing successful creation of a user-defined key-value pair with key name, value, and secret columns.

```
(efa:extreme)extreme@node-1:~$ efa inventory kvstore create --key testkey --value
testvalue
+-----+-----+-----+
| Key   | Value | Secret |
+-----+-----+-----+
| testkey | testvalue | false |
+-----+-----+-----+
Key Value Pair
--- Time Elapsed: 45.26111ms ---
(efa:extreme)extreme@node-1:~$
```

KV store list output showing system-generated entries for registered firmware hosts and devices, with encrypted passwords displayed as secret entries, alongside a user-created key-value pair.

```
(efa:extreme)extreme@node-1:~$ efa inventory kvstore list
+-----+-----+-----+
| Key                                     | Value           | Secret |
+-----+-----+-----+
| firmwarehost.10.64.12.101.password    | <encrypted>     | true   |
+-----+-----+-----+
| firmwarehost.10.64.12.101.user        | <username>      | false  |
+-----+-----+-----+
```

```

| firmwarehost.10.64.193.82.password | <encrypted>      | true  |
+-----+-----+-----+
| firmwarehost.10.64.193.82.user      | <username>        | false |
+-----+-----+-----+
| switch.10.64.224.16.password        | <encrypted>        | true  |
+-----+-----+-----+
| switch.10.64.224.16.user            | <username>         | false |
+-----+-----+-----+
| switch.10.64.224.17.password        | <encrypted>        | true  |
+-----+-----+-----+
| switch.10.64.224.17.user            | <username>         | false |
+-----+-----+-----+
| testkey                             | testvalue          | false |
+-----+-----+-----+
Keystore Details
--- Time Elapsed: 38.720982ms ---
(efa:extreme)extreme@node-1:~$

```

KV store delete output showing successful removal of a user-defined key-value pair.

```

(efa:extreme)extreme@node-1:~$ efa inventory kvstore delete --key testkey
--- Time Elapsed: 31.245ms ---
(efa:extreme)extreme@node-1:~$

```


efa inventory rma

Initiates Return Material Authorization (RMA).

Syntax

```
efa inventory rma history [ --ip ip-address ]  
efa inventory rma detail [ --uuid uuid ]  
efa inventory rma delete [ --key ip-address ]  
efa inventory rma execute [ --ip ip-address | --config-backup-id uuid ]
```

Parameters

--config-backup-id *uuid*
Specifies the UUID of the configuration to be replayed.

--ip *ip-address*
Specifies the IP address of the device.

--key *ip-address*
Specifies IP address of the device or RMA UUID to be deleted.

--uuid *uuid*
Specifies the UUID of the drift reconcile.

Usage Guidelines

Use the **efa inventory rma history** command to display the RMA history for the specified IP address.

Use the **efa inventory rma detail** command to display device replacement details.

Use the **efa inventory rma delete** command to delete an RMA record for the specified IP address.

Use the **efa inventory rma execute** command to perform an RMA operation.

Examples

The following example shows **efa inventory rma** commands.

```
# efa inventory rma execute --ip 10.24.14.133  
--config-backup-id 1111-1111-111  
# efa inventory rma history -ip 10.24.14.133  
# efa inventory rma detail -uuid 123e4567-e89b-12d3-a456-426614174000
```


efa login

Logs into the XCO application.

Syntax

```
efa login [ --username | --password ]
```

Parameters

--password

Specifies password of the user.

--username

Specifies name of the user to login.

efa logout

Logs out of the XCO application.

Syntax

```
efa logout
```

efa mgmt route create

Creates a virtual management route in a multi-node deployment for the Multiple Management IP Networks feature.

Syntax

```
efa mgmt route create [ --src mmip-vip | --to dest-cidr | --via next-hop-ip ]
```

Parameters

--src *mmip-vip*

Identifies the source IP address for the route. Example: 192.168.34.40 or 2000::1.

--to *dest-cidr*

Identifies the destination network for outbound traffic, as CIDR. Example: 10.20.0.0/16 or 3000::/64.

--via *next-hop-ip*

Identifies the next-hop or gateway IP address through which access to the destination network is provided. Example: 192.168.34.45 or 2000::2.

Examples

The following example creates an IPv4 virtual route.

```
$ efa mgmt route create --src 10.21.30.40 --to 192.168.100.0/24 --via 10.21.30.41  
Virtual Route created successfully
```

The following example creates an IPv6 virtual route.

```
efa mgmt route create --src=2000::1 --via=2000::2 --to=4000::/64
```

efa mgmt route delete

Deletes a virtual management route in a multi-node deployment for the Multiple Management IP Networks feature.

Syntax

```
efa mgmt route delete [ --src mmip-vip | --to dest-cidr | --via next-hop-ip ]
```

Parameters

--src *mmip-vip*

Identifies the source IP address for the route. Example: 192.168.34.40 or 2000::1.

--to *dest-cidr*

Identifies the destination network for outbound traffic, as CIDR. Example: 10.20.0.0/16 or 3000::/64.

--via *next-hop-ip*

Identifies the next-hop or gateway IP address through which access to the destination network is provided. Example: 192.168.34.45 or 2000::2.

Examples

The following example deletes a virtual IPv4 route.

```
$ efa mgmt route delete --src 10.21.30.40 --to 192.168.100.0/24 --via 10.21.30.41  
Virtual Route deleted successfully
```

The following example deletes an IPv6 virtual route.

```
efa mgmt route delete --src=2000::1 --via=2000::2 --to=4000::/64
```


efa mgmt route show

Displays a list of all virtual management routes in a multi-node deployment for the Multiple Management IP Networks feature.

Syntax

```
efa mgmt route show
```

```
efa mgmt route show ipv4
```

```
efa mgmt route show ipv6
```

Examples

This example lists both IPv4 and IPv6 routes.

```
$ efa mgmt route show
+-----+-----+-----+
| Route-Src | Route-To | Route-Via |
+-----+-----+-----+
| 2000::1   | ffee::/64 | 2000::2   |
+-----+-----+-----+
| 2000::1   | 4000::/64 | 2000::3   |
+-----+-----+-----+
| 10.10.10.1 | 1.1.1.0/24 | 10.10.10.2 |
+-----+-----+-----+
```

This example lists only IPv4 routes.

```
$ efa mgmt route show ipv4
+-----+-----+-----+
| Route-Src | Route-To | Route-Via |
+-----+-----+-----+
| 10.10.10.1 | 11.11.11.0/24 | 10.10.10.2 |
+-----+-----+-----+
| 10.10.10.1 | 12.12.12.0/24 | 10.10.10.2 |
+-----+-----+-----+
```

This example lists only IPv6 routes.

```
$ efa mgmt route show ipv6
+-----+-----+-----+
| Route-Src | Route-To | Route-Via |
+-----+-----+-----+
| 3000::1   | 4000::/64 | 3000::2   |
+-----+-----+-----+
| 3000::1   | 5000::/64 | 3000::2   |
+-----+-----+-----+
```

efa mgmt subinterface create

Creates a subinterface in a Multiple Management IP network deployment.

Syntax

```
efa mgmt subinterface create [ --name sub | --vlan-id vlan-id | --ip-  
address ip-addr | --ipv6-address ipv6-addr ]
```

Parameters

--ip-address *ip-addr*

Specifies the IP address of the subinterface, including the subnet mask. For example:
10.24.80.150/24.

--ipv6-address *ipv6-addr*

Specifies the IPv6 address of the subinterface, including the subnet mask. For example:
3000::1/64.

--name *sub*

Specifies the subinterface name.

--vlan-id *vlan-id*

Specifies the ID of the VLAN for the subinterface.

Examples

```
efa mgmt subinterface create --name=sub4 --vlan-id=400  
--ip-address=14.14.14.1/24 --ipv6-address=3000::1/64
```

efa mgmt subinterface delete

Deletes a specified subinterface in a Multiple Management IP network deployment.

Syntax

```
efa mgmt subinterface delete --name sub
```

Parameters

--name *sub*

Specifies the name of the subinterface that you want to delete.

Examples

The following example deletes the server1 subinterface.

```
$ efa mgmt subinterface delete --name server1  
Subinterface server1 deleted successfully
```

efa mgmt subinterface show

Displays the details of all subinterfaces in a Multiple Management IP network deployment or the details for a specified subinterface.

Syntax

```
efa mgmt subinterface show [ --name name ]
```

Parameters

--name *name*

Specifies the name of the subinterface for which you want to see details.

Examples

The following example shows the details for all configured subinterfaces.

```
+-----+-----+-----+-----+-----+
| Name | Parent Interface | Vlan | IP Subnet | IPv6 Subnet |
+-----+-----+-----+-----+-----+
| sub1 | ens160          | 100 | 10.10.10.1/24 |             |
+-----+-----+-----+-----+-----+
| sub2 | ens160          | 200 | 11.11.11.1/24 | 2000::1/64   |
+-----+-----+-----+-----+-----+
| sub3 | ens160          | 300 | 13.13.13.1/24 |             |
+-----+-----+-----+-----+-----+
| sub4 | ens160          | 400 | 14.14.14.1/24 | 3000::1/64   |
+-----+-----+-----+-----+-----+
```

The following example shows the details for the specified subinterface.

```
$ efa mgmt subinterface show --name sub2
+-----+-----+-----+-----+
| Name | Parent Interface | Vlan | IP Subnet |
+-----+-----+-----+-----+
| sub2 | eth0            | 20  | 20.20.20.2/24 |
+-----+-----+-----+-----+
```

efa mgmt subinterface staticip add

Set static IP addresses for a subinterface.

Syntax

For IPv4 Stack

```
efa mgmt subinterface staticip add [ --subinterface sub | --ip1 ipv4-address-1 | --ip2 ipv4-address-2 ]
```

For IPv6 Stack

```
efa mgmt subinterface staticip add [ --subinterface sub | --ip1 ipv6-address-1 | --ip2 ipv6-address-2 ]
```

For Dual Stack

```
efa mgmt subinterface staticip add [ --subinterface sub | --ip1 ipv4-address-1 | --ip2 ipv4-address-2 | --ip3 ipv6-address-1 | --ip4 ipv6-address-2 ]
```

Parameters

--ip1 *ipv4-address-1*

Required. First static IPv4 address. Example: 192.168.10.1/32.

--ip2 *ipv4-address-2*

Optional second static IPv4 address. Example: 192.168.10.2/32.

--ip3 *ipv6-address-1*

Optional first static IPv6 address. Example: 2000::1/64

--ip4 *ipv6-address-2*

Optional second static IPv6 address. Example: 2000::2/64

--subinterface *sub*

Name of the sub-interface for which you want to set static IP addresses.

Usage Guidelines

You can assign a maximum of one pair of static IP addresses. Only one subinterface at a time can have static IP addresses. To assign static IPv4/IPv6 address, subinterface must already have IPv4/IPv6 address configured.

Examples

```
efa mgmt subinterface staticip add -subinterface sub1  
--ip1 10.10.10.1/24 --ip2 10.10.10.2/24
```

```
efa mgmt subinterface staticip add -subinterface sub2  
--ip1 2000::1/64 --ip2 2000::2/64
```

```
efa mgmt subinterface staticip add -subinterface sub3  
--ip1 10.10.10.1/24 --ip2 10.10.10.2/24 -ip3 2000::1/64 --ip4 2000::2/64
```

efa mgmt subinterface staticip remove

Removes the IPs that are attached to the specified subinterface.

Syntax

```
efa mgmt subinterface staticip remove [ --subinterface sub ]
```

Parameters

--subinterface *sub*

Specifies the subinterface for which to remove IPs.

Examples

```
(efa:extreme)extreme@testuser:~$ efa mgmt subinterface staticip remove --subinterface sub-200
```

Static IP deleted from SubInterface sub-200 successfully

```
+-----+-----+
| Node | IP Address |
+-----+-----+
| testuser | 192.168.150.1/24 |
+-----+-----+
| testuser2 | 192.168.150.2/24 |
+-----+-----+
Delete SubInterface Static IP
Details
```

efa mgmt subinterface staticip show

Shows all the subinterfaces and the IPs that are attached to them.

Syntax

```
efa mgmt subinterface staticip show
```

Examples

```
(efa:extreme)extreme@testuser:~$ efa mgmt subinterface staticip show
+-----+-----+-----+-----+-----+
| SubInterface | Node1   | Node1 IP       | Node2   | Node2 IP       |
+-----+-----+-----+-----+-----+
| sub-200      | testuser | 192.168.150.1/24 | testuser2 | 192.168.150.2/24 |
+-----+-----+-----+-----+-----+
Static IP Details
```


efa notification subscribers add-https

Registers a new subscriber to the Notification service with an HTTPS webhook.

Syntax

```
efa notification subscribers add-https [ --url address | --username name
| --password password | --insecure | --cacert string | --filter
strings | --device-event strings | --host-event strings | --host-
auditd-key strings | --minimum-severity string | --conn-timeout int |
--host-auditd-record-type strings ]
```

Parameters

--cacert *string*

(Optional) Local path to the cacert pem file for SSL verification.

--conn-timeout *int*

(Optional) Timeout to open a connection to the server (default 10).

--device-event *strings*

(Optional) Comma separated filter values of allowed device event notifications. Possible values are "raslog", "audit-configuration", "audit-firmware" and "audit-security". If no sub-filters are provided it is equivalent to including all message types, e.g. --device-event raslog,audit-configuration,audit-firmware,audit-security.

--filter *strings*

(Optional) Comma separated filter values. Possible values are "DEVICE_EVENTS" - RAS/syslog events from devices, "HOST_EVENTS" - Events from HOST OS, "APP_ALARMS" - fault alarms from application, "APP_ALERTS" - fault alerts from application, "APP_EVENTS" - task events from application. If no filters are provided it means all types. Example: --filter DEVICE_EVENTS,HOST_EVENTS,APP_ALARMS,APP_ALERTS,APP_EVENTS.

--host-auditd-key *strings*

(Optional) A comma-separated list of configured auditd keys. If not provided, the audit key will be empty. E.g. --host-auditd-key logins.

--host-auditd-record-type *strings*

(Optional) A comma-separated list of auditd record types to configure. If not provided, it defaults to USER_LOGIN if --host-auditd-key is also empty; otherwise, the type will be empty. E.g. --host-auditd-record-type USER_LOGIN.

--host-event *strings*

(Optional) A comma-separated list of allowed host event types. Possible value: "auditd". If not provided, the filter will be empty. E.g. --host-event auditd.

--insecure

(Optional) Indicates that insecure SSL connection and transfers are used for sending notifications. By default, the SSL connection and transfers are secure.

--minimum-severity *string*

(Optional) Value of the minimum severity level value for all previously unfiltered DEVICE_EVENTS, APP_ALARMS, APP_ALERTS, and APP_EVENTS. Possible values are "critical", "error", "warning" and "info". If "info" or no sub-filter is provided then no filtering is done. Input of a higher level severity such as "critical", "error" or "warning" results in all messages of lower severity to be filtered out.

--password *password*

(Optional) Specifies the password for the user name.

--url *address*

(Required) Specifies the URL of the subscriber. Can be either IPv4 or IPv6 address.

--username *name*

(Required) Specifies the user name for access to the URL.

Examples

The following example registers a new HTTPS webhook subscriber to the Notification Service.

```
efa notification subscribers add-https --url https://path/to/my/service:port
--username myusername --password mypassword --insecure
Successfully registered subscriber.
```

attribute	value
id	1
handler	http
endpoint	https://path/to/my/service:port
config	{"cacert":"","insecure":true,"password":"mypassword", "username":"myusername"}

```
Notification Subscriber ID=1
--- Time Elapsed: 2.203878641s ---
```

The following example enables webhook subscriber with only APP_ALERTS.

```
#efa notification subscribers add-https --url https://127.0.0.1:5000 --username jarvis
--password vision --insecure --filter APP_ALERTS
Successfully registered subscriber.
```

attribute	value
id	18
handler	http
endpoint	https://127.0.0.1:5000

```
+-----+
+-----+
| config
| {"cacert":"","filters":["APP_ALERTS"],"insecure":true,"password":"vision","usern |
| |
| ame":"jarvis"}
+-----+
+-----+
Notification Subscriber ID=18
--- Time Elapsed: 2.148580068s ---
```

The following example enables webhook subscriber with only APP_ALARM and APP_ALERTS.

```
#efa notification subscribers add-https --url https://127.0.0.1:5000 --username jarvis
--password vision --insecure --filter APPALARMS,APP_ALERTS
Successfully registered subscriber.

+-----+
+-----+
| attribute |
value
+-----+
+-----+
| id |
18
+-----+
+-----+
| handler
| http
+-----+
+-----+
| endpoint
| https://127.0.0.1:5000
+-----+
+-----+
| config
| {"cacert":"","filters":["APPALARMS","APP_ALERTS"],"insecure":true,
| |
| "password":"vision","username":"jarvis"}
+-----+
+-----+
Notification Subscriber ID=18
--- Time Elapsed: 2.148580068s ---
```

The following example enables webhook subscriber with only DEVICE_EVENTS of type audit.

```
#efa notification subscribers add-https --url https://127.0.0.1:5000 --username jarvis
--password vision --insecure --filter DEVICE_EVENTS
--device-event audit-firmware,audit-security,audit-configuration
Successfully registered subscriber.

+-----+
+-----+
| attribute |
value
+-----+
+-----+
| id |
18
+-----+
+-----+
| handler
| http
+-----+
+-----+
| endpoint
```

```
| https://127.0.0.1:5000 |
+-----+
+-----+
| config |
| {"cacert":"","filters":["DEVICE_EVENTS"], |
|      |"device-event":["audit-firmware",audit- |
security","audit-configuration"], |
|      |"insecure":true,"minimum- |
severity":"","password":"vision", |
|      | |
| "username":"jarvis"} |
+-----+
+-----+
Notification Subscriber ID=18
--- Time Elapsed: 2.148580069s ---
```

The following example enables a Syslog subscriber with HOST_EVENTS for auditd events, DEVICE_EVENTS for device-events, and APP_EVENTS. It uses audit rule group keys "logins" and "time-change" for auditd event and audit-security, audit-configuration for device events

```
(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-https --url https://
127.0.0.1:5000 --username jarvis --password vision --insecure
--filter APP_ALERTS,DEVICE_EVENTS,HOST_EVENTS
--device-event audit-security,audit-configuration
--host-event auditd
--host-auditd-key logins,time_change --minimum-severity warning
+-----+
| attribute | value |
+-----+
| id        | 23    |
+-----+
| handler   | http  |
+-----+
| endpoint  | https://127.0.0.1:5000 |
+-----+
| config    | {      "cacert":""," |
|          | "conn-timeout":10, |
|          | "filters":["APP_ALERTS","DEVICE_EVENTS","HOST_EVENTS"], |
|          | "device-event":["audit-security","audit-configuration"], |
|          | "host-event":["auditd"], |
|          | "host-auditd-key ": ["logins","time_change"], |
|          | "insecure":true, "minimum-severity":"warning","rfc5424":false } |
+-----+
```

The following example enables a Webhook subscriber with HOST_EVENTS for auditd events, DEVICE_EVENTS for device-events, and APP_EVENTS. It uses audit rule group keys "logins" and "time-change", record type USER_LOGIN and USER_LOGOUT for auditd event and audit-security, audit-configuration for device events. Following cli ensures logging for host and device events across different categories over insecure channel.

```
(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-https --url https://
127.0.0.1:5000 --username jarvis --password vision --insecure

--filter APP_ALERTS,DEVICE_EVENTS,HOST_EVENTS
--device-event audit-security,audit-configuration
--host-event auditd
--host-auditd-key logins,time_change --minimum-severity warning
--host-auditd-record-type USER_LOGIN, USER_LOGOUT
+-----+
| attribute | value |
+-----+
| id        | 23    |
+-----+
```

```

| handler | http |
+-----+-----+
| endpoint | https://127.0.0.1:5000 |
+-----+-----+
| config | {   "cacert": "",
|       |     "conn-timeout":10,
|       |     "filters":["APP_ALERTS","DEVICE_EVENTS","HOST_EVENTS"],
|       |     "device-event":["audit-security","audit-configuration"],
|       |     "host-event":["auditd"],
|       |     "host-auditd-key ": ["logins","time_change"],
|       |     "host-auditd-record-type":[USER_LOGIN,LOGIN],
|       |     "insecure":true, "minimum-severity":"warning","rfc5424":false }
+-----+-----+

```

efa notification subscribers add-syslog-relp

Registers a syslog subscriber to receive notifications over Reliable Event Logging Protocol (RELp) from the XCO Notification service.

Syntax

```
efa notification subscribers add-syslog-relp [ --address host:port ] [ --insecure ] [ --cacert local-path ] [ --conn-timeout seconds | --filter strings | --device-event strings | --host-event strings | --host-auditd-key strings | --minimum-severity string | --rfc5424 | --host-auditd-record-type strings ]
```

Command Default

By default, subscribers do not receive syslog notifications over RELP.

Parameters

--address *host:port*

(Required) Specifies the address of the syslog server in *host:port* format. The default port is 514. Syslog server address can be IPv4 or IPv6.

--cacert *local-path*

(Optional) Specifies the local path to the cacert.pem file for SSL verification. Required only when the **--insecure** parameter is not specified.

--conn-timeout *seconds*

(Optional) Specifies the maximum amount of time allowed to open a connection to the syslog server before the request times out. The default is 10 seconds.

--device-event *strings*

(Optional) Comma separated filter values of allowed device event notifications. Possible values are "raslog", "audit-configuration", "audit-firmware" and "audit-security". If no sub-filters are provided it is equivalent to including all message types, e.g. **--device-event** raslog,audit-configuration,audit-firmware,audit-security.

--filter *strings*

(Optional) Comma separated filter values. Possible values are "DEVICE_EVENTS"

– RAS/auditlog events from devices, "HOST_EVENTS" – Events from HOST OS, "APP_ALARMS" – fault alarms from application, "APP_ALERTS" – fault alerts from application, "APP_EVENTS" – task events from application. If no filters are provided it means all types. E.g. **--filters** DEVICE_EVENTS,HOST_EVENTS,APP_ALARMS,APP_ALERTS,APP_EVENTS.

--host-auditd-key *strings*

(Optional) A comma-separated list of configured auditd keys. If not provided, the audit key will be empty. E.g. **--host-auditd-key** logins. If no key and record type are specified, XCO will default to sending only USER_LOGIN type audit logs to the external server.

--host-auditd-record-type *strings*

(Optional) A comma-separated list of auditd record types to configure. If not provided, it defaults to USER_LOGIN if --host-auditd-key is also empty; otherwise, the type will be empty. E.g. --host-auditd-record-type USER_LOGIN. If no key and record type are specified, XCO will default to sending only USER_LOGIN type audit logs to the external server.

--host-event *strings*

A comma-separated list of allowed host event types. Possible value: "auditd". If not provided, the filter will be empty. E.g. --host-event auditd.

--insecure

(Optional) Indicates that insecure SSL connection and transfers are used for sending notifications. By default, the SSL connection and transfers are secure.

--minimum-severity *string*

(Optional) Value of the minimum severity level value for all previously unfiltered DEVICE_EVENTS, APP_ALERTS, APP_EVENTS, and APP_ALARMS. Possible values are "critical", "error", "warning" and "info". If "info" or no sub-filter is provided then no filtering is done. Input of a higher level severity such as "critical", "error" or "warning" results in all messages of lower severity to be filtered out.

--rfc5424

(Optional) Enable RFC5424 message format for syslog subscribers. (Default: non-RFC5424 format)

Usage Guidelines

Any external server that is configured with RELP can be registered as a subscriber to XCO notifications. For more information, see "Notification Service" in the *ExtremeCloud Orchestrator Administration Guide*.

Examples

The following example registers 10.x.x.x:20514 as a subscriber for insecure notifications.

```
$ efa notification subscribers add-syslog-relp --address
10.x.x.x:20514 --insecure
Successfully registered subscriber.
```

attribute	value
id	1
handler	relp
endpoint	10.x.x.x:20514
config	{"cacert":"","conn-timeout":10,"insecure":true}

```
Notification Subscriber ID=1
--- Time Elapsed: 2.399195253s ---
```

The following example enables rsyslog subscriber with only APP_ALERTS and DEVICE_EVENTS.

```
#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601 --insecure
--filter APP_ALERTS,DEVICE_EVENTS
Successfully registered subscriber.
```

attribute	value
id	19
handler	relp
endpoint	127.0.0.1:1601
config	{"cacert":"","conn-timeout":10,"filters":["APP_ALERTS","DEVICE_EVENTS"],"insecure":true}

Notification Subscriber ID=19
 --- Time Elapsed: 2.172557257s ---

The following example enables all notification types on rsyslog subscriber.

```
#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601 --insecure
Successfully registered subscriber.
```

attribute	value
id	20
handler	relp
endpoint	127.0.0.1:1601
config	{"cacert":"","conn-timeout":10,"filters":[],"insecure":true}

Notification Subscriber ID=20
 --- Time Elapsed: 2.042797885s ---

The following example enables RFC-5424 format.

```
#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601 --insecure --
rfc5424
Successfully registered subscriber.
```

attribute	value
-----------	-------


```

| id      | 7
|
+-----+
| handler | relp
|
+-----+
| endpoint | 134.141.21.190:1601
|
+-----+
| config  | {"cacert":"","conn-timeout":10,"filters":[],"insecure":true,"rfc5424":true}
|
+-----+
Notification Subscriber ID=7

```

The following example enables rsyslog subscriber with only APP_ALARMS, APP_ALERTS, and DEVICE_EVENTS.

```

#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601 --insecure
--filter APP_ALARMS,APP_ALERTS,DEVICE_EVENTS
Successfully registered subscriber.

+-----+
+-----+
| attribute |
value                                             |
+-----+
+-----+
| id      |
19                                             |
+-----+
+-----+
| handler |
| relp    |
+-----+
+-----+
| endpoint |
| 127.0.0.1:1601
+-----+
+-----+
| config  |
| {"cacert":"","conn-timeout":10,"filters":["APP_ALARMS","APP_ALERTS",
|
| "DEVICE_EVENTS"], "insecure":true}
+-----+
+-----+
Notification Subscriber ID=19
--- Time Elapsed: 2.172557257s ---

```

The following example enables rsyslog subscriber with only notifications of warning or higher of APP_ALERTS and DEVICE_EVENTS, with DEVICE_EVENTS only including audit-security and audit-configuration.

```

#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601 --insecure
--filter APP_ALERTS,DEVICE_EVENTS --device-event audit-security,audit-configuration
--minimum-severity warning
Successfully registered subscriber.

+-----+
+-----+
| attribute |
value                                             |

```

```

+-----+
+-----+
| id      |
19                                             |
+-----+
+-----+
| handler |
| relp    |
+-----+
+-----+
| endpoint |
| 127.0.0.1:1601 |
+-----+
+-----+
| config  |
| {"cacert":"","conn-timeout":10,"filters":["APP_ALERTS","DEVICE_EVENTS"], |
|         | "device-event":["audit-security","audit-configuration"], |
|         | } "minimum-severity","warning","insecure":true} |
+-----+
+-----+
Notification Subscriber ID=19
--- Time Elapsed: 2.172557260s ---

```

The following example enables all notification types on rsyslog subscriber of severity error or higher.

```

#efa notification subscribers add-syslog-relp --address 127.0.0.1:1601
--insecure --minimum-severity error
Successfully registered subscriber.

+-----+
+-----+
| attribute |
value                                             |
+-----+
+-----+
| id      |
20                                             |
+-----+
+-----+
| handler |
| relp    |
+-----+
+-----+
| endpoint |
| 127.0.0.1:1601 |
+-----+
+-----+
| config  |
| {"cacert":"","conn-timeout":10,"filters":[],"minimum-severity","error", |
|         | "device-event":[],"insecure":true} |
+-----+
+-----+
Notification Subscriber ID=20
--- Time Elapsed: 2.042797881s ---

```

The following example demonstrates how to enable a Syslog subscriber with the HOST_EVENTS filter type. This configuration focuses on host events with Auditd, using the

audit rule group keys "logins" and "time-change", and operates over a secure channel with an external server CA certificate.

```
(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-syslog-relp
--address 127.0.0.1:1601 --cacert="ca-cert.pem" --filter HOST_EVENTS
--host-event auditd
--host-auditd-key logins,time_change --minimum-severity warning
Successfully registered subscriber.
```

```
+-----+-----+
| attribute | value |
+-----+-----+
| id        | 17    |
+-----+-----+
| handler   | relp  |
+-----+-----+
| endpoint  | 127.0.0.1:1601 |
+-----+-----+
| config    | {      "cacert":"certificate_content" |
|           |      "conn-timeout":10, |
|           |      "filters":["HOST_EVENTS"], |
|           |      "host-event":["auditd"], |
|           |      "host-auditd-key":["logins,time_change"], |
|           |      "insecure":true, |
|           |      "minimum-severity":"warning" |
|           |      "rfc5424":false |
|           | }      |
+-----+-----+
Notification Subscriber ID=17
--- Time Elapsed: 2.171041915s ---
```

The following example demonstrates how to enable a Syslog subscriber with the HOST_EVENTS filter type. This configuration focuses on host events with Auditd, using the audit rule group keys "logins" and "time-change", and operates over a secure channel with an external server CA certificate.

```
#(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-syslog-relp --address
127.0.0.1:1601 -insecure --filter APP_ALERTS,DEVICE_EVENTS,HOST_EVENTS
--device-event audit-security,audit-configuration
--host-event auditd --host-auditd-key logins,time_change
--minimum-severity warning
```

```
+-----+-----+
| attribute | value |
+-----+-----+
| id        | 17    |
+-----+-----+
| handler   | relp  |
+-----+-----+
| endpoint  | 127.0.0.1:1601 |
+-----+-----+
| config    | {      "cacert":"", |
|           |      "conn-timeout":10, |
|           |      "filters":["APP_ALERTS","DEVICE_EVENTS","HOST_EVENTS"], |
|           |      "device-event":["audit-security","audit-configuration"], |
|           |      "host-event":["auditd"], |
|           |      "host-auditd-key ":["logins","time_change"], |
|           |      "insecure":true, "minimum-severity":"warning", "rfc5424":false |
|           | }      |
+-----+-----+
```

The following example demonstrates how to enable a Syslog subscriber for the HOST_EVENT filter type. The following configuration applies specifically to Auditd and focuses on audit rule

group keys "logins" and "time-change" and record type USER_LOGIN and USER_LOGOUT while operating over an insecure channel.

```
(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-syslog-relp
--address 127.0.0.1:1601 --insecure --filter HOST_EVENTS
--host-event auditd --host-auditd-key logins,time_change --minimum-severity warning
--host-auditd-record-type USER_LOGIN, USER_LOGOUT
Successfully registered subscriber.
```

attribute	value
id	17
handler	relp
endpoint	127.0.0.1:1601
config	{ "cacert": "", "conn-timeout": 10, "filters": ["HOST_EVENTS"], "host-event": ["auditd"], "host-auditd-key": ["logins,time_change"], "host-auditd-record-type": ["USER_LOGIN, LOGIN"], "insecure": true, "minimum-severity": "warning", "rfc5424": false }

```
Notification Subscriber ID=17
--- Time Elapsed: 2.171041915s ---
```

The following example demonstrates how to enable a Syslog subscriber with the HOST_EVENTS filter type. This configuration focuses on host events with Auditd, using the audit rule group keys "logins" and "time-change", record type USER_LOGIN and USER_LOGOUT and operates over a secure channel with an external server CA certificate. The following cli ensures secure transmission of audit events to the Syslog server while adhering to organization-specific audit rule requirements.

```
(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-syslog-relp
--address 127.0.0.1:1601 --cacert="ca-cert.pem" --filter HOST_EVENTS
--host-event auditd
--host-auditd-key logins,time_change --minimum-severity warning
--host-auditd-record-type USER_LOGIN, USER_LOGOUT
Successfully registered subscriber.
```

attribute	value
id	17
handler	relp
endpoint	127.0.0.1:1601
config	{ "cacert": "certificate_content", "conn-timeout": 10, "filters": ["HOST_EVENTS"], "host-event": ["auditd"], "host-auditd-key": ["logins,time_change"], "host-auditd-record-type": ["USER_LOGIN, LOGIN"], "insecure": true, "minimum-severity": "warning", "rfc5424": false }

```
Notification Subscriber ID=17
--- Time Elapsed: 2.171041915s ---
```

The following example enables a Syslog subscriber with HOST_EVENTS for auditd events, DEVICE_EVENTS for device-events, and APP_EVENTS. It uses audit rule group keys "logins" and "time-change" and record type USER_LOGIN and USER_LOGOUT for auditd event and audit-security, audit-configuration for device events. The following cli ensures logging for host and device events across different categories over insecure channel.

```
#(efa:extreme)extreme@tpvm:~$ efa notification subscribers add-syslog-relp --address
127.0.0.1:1601 -insecure --filter APP_ALERTS,DEVICE_EVENTS,HOST_EVENTS
--device-event audit-security,audit-configuration
--host-event auditd --host-auditd-key logins,time_change
--host-auditd-record-type USER_LOGIN, USER_LOGOUT
--minimum-severity warning
+-----+-----+
| attribute | value |
+-----+-----+
| id        | 17    |
+-----+-----+
| handler   | relp  |
+-----+-----+
| endpoint  | 127.0.0.1:1601 |
+-----+-----+
| config    | {      "cacert":"","
|          |        "conn-timeout":10,
|          |        "filters":["APP_ALERTS","DEVICE_EVENTS","HOST_EVENTS"],
|          |        "device-event":["audit-security","audit-configuration"],
|          |        "host-event":["auditd"],
|          |        "host-auditd-key ":["logins","time_change"],
|          |
|          |        "host-auditd-record-type":[USER_LOGIN,LOGIN],
|          |        "insecure":true, "minimum-severity":"warning", "rfc5424":false
|          | }
+-----+-----+
```

efa notification subscribers delete

Deletes the specified subscriber from the Notification service.

Syntax

```
efa notification subscribers delete id
```

Parameters

id

Specifies the ID of the subscriber that you want to delete.

Examples

The following example deletes the specified subscriber from the Notification service.

```
efa notification subscribers delete 1
Successfully unregistered subscriber.
--- Time Elapsed: 186.568274ms ---
```

efa notification subscribers get

Retrieves subscription details about the Notification service for the specified subscriber.

Syntax

```
efa notification subscribers get id
```

Parameters

id

Specifies the ID of the subscriber that you want to review.

Examples

The following is sample output for the subscriber with the ID of '1'.

```
efa notification subscribers get 1

+-----+-----+
| attribute | value |
+-----+-----+
| id        | 1     |
+-----+-----+
| handler   | http  |
+-----+-----+
| endpoint  | https://path/to/my/service:port |
+-----+-----+
| config    | {"cacert":"","insecure":true,"password":"mypassword",
      "username":"myusername"} |
+-----+-----+
Notification Subscriber ID=1
--- Time Elapsed: 2.203878641s ---
```

efa notification subscribers list

Provides a list of subscribers to the Notification service.

Syntax

```
efa notification subscribers list
```

Examples

The following example lists the subscribers to the Notification service.

```
efa notification subscribers list
+-----+-----+-----+
| id | handler | endpoint |
+-----+-----+-----+
| 1 | http | https://path/to/my/service:port |
+-----+-----+-----+
Notification Subscribers Count=1
--- Time Elapsed: 121.443493ms ---
```


efa policy community-list create

Create a community-list.

Syntax

```
efa policy community-list create [ --name string | --type { standard |  
                                extended } | --rule stringArray ]
```

Parameters

--name *string*

Specifies the name of the community list.

--rule *stringArray*

Specifies the rule in format seq[seq-num], action[permit/deny], std-value[{ 1-4294967295) | (AA:NN, AA and NN is 2 bytes) | internet | local-as | no-export | no-advertise }]| ext-value[regular expression]

--type { **standard** | **extended** }

Specifies the type of community list. Valid options are standard, extended.

Examples

This example creates a community-list of type standard with std-value.

```
efa policy community-list create --name comm1 --type standard  
--rule "seq[5],action[permit],std-value[100;11:22;local-as;no-export]"
```

This example creates a community list of type extended with ext-value.

```
efa policy community-list create --name stdext1 --type extended  
--rule "seq[5],action[permit],ext-value[_2000_]"
```

efa policy community-list update

Update a community-list. Not supported for OS ONE devices.

Syntax

```
efa policy community-list update [ --name string | --type { standard | extended } | --rule stringArray | --operation string | --ip string ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the community list.

--operation *string*

Valid options are update-rule, add-device, remove-device.

--rule *stringArray*

Specifies the rule in format seq[seq-num], action[permit/deny], std-value[{ 1-4294967295) | (AA:NN, AA and NN is 2 bytes) | internet | local-as | no-export | no-advertise }]| ext-value[regular expression]

--type { **standard** | **extended** }

Specifies the type of community list. Valid options are standard, extended.

Examples

This example configures a community-list on the specified devices.

```
efa policy community-list update --name stdext1 --type extended
--operation add-device --ip 10.20.246.29-30
```

Community List Name	Seq num	Action	Std Value	Ext Value
stdext1	4	deny		_1000_
stdext1	5	permit		_2000_
stdext1	7	deny		_3000_

Community List details

IP Address	Result	Reason	Rollback reason
10.20.246.29	Success		
10.20.246.30	Success		

```
+-----+-----+-----+-----+
Device Results

efa policy community-list update --name std1 --type standard
--operation add-device --ip 10.20.63.140-141,10.20.246.29-30

+-----+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| std1                | 4       | deny  | local-as  |           |
+-----+-----+-----+-----+-----+
| std1                | 5       | deny  | no-export |           |
+-----+-----+-----+-----+-----+
| std1                | 7       | deny  | no-advertise |         |
+-----+-----+-----+-----+-----+

Community List details
+-----+-----+-----+-----+
| IP Address | Result | Reason
| Rollback reason |
+-----+-----+-----+-----+
| 10.20.63.140 | Rollback|
|              |         |
+-----+-----+-----+-----+
| 10.20.63.141 | Rollback|
|              |         |
+-----+-----+-----+-----+
| 10.20.246.29 | Failed | Reason: For seq 5: netconf rpc [error] '%Error:
An IP          |         | Community access-list with this name and instance number
|         |         | already exists'; Rollback community list rules from
this          |         | device.
|         |         |
+-----+-----+-----+-----+
| 10.20.246.30 | Failed | Reason: For seq 4: netconf rpc [error] '%Error:
An IP          |         | Community access-list with this name and instance number
|         |         | already exists'; Rollback community list rules from
this          |         | device.
|         |         |
+-----+-----+-----+-----+
Device Results
```

This example removes the community-list from the specified devices.

```
efa policy community-list update --name comm1 --type standard
--operation remove-device --ip 10.20.63.140-141

+-----+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| comm1              | 3       | permit | 65:12     |           |
+-----+-----+-----+-----+-----+

Community List details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
```

```

| 10.20.63.140 | Success |      |      |
+-----+-----+-----+-----+
| 10.20.63.141 | Success |      |      |
+-----+-----+-----+-----+
Device Results

```

This example updates a community-list by updating a rule.

```

efa policy community-list update --name commExt1 --type extended
--operation update-rule --rule "seq[1],action[permit],ext-value[_30000_]"

```

```

+-----+-----+-----+
| Community List Name | Seq num | Action |
+-----+-----+-----+
| commExt1           | 1       | permit |
+-----+-----+-----+

```

Community List details

```

+-----+-----+-----+
| IP Address | Result | Reason
| Rollback reason |
+-----+-----+-----+
+-----+
| 10.139.44.159 | Failed | Failed to create community list for commExt1 on the device
|               |       |
|               |       | 10.139.44.159. Reason: For seq 1: netconf rpc [error]
|               |       |
|               |       | '%Error: Same filter is already configured with sequence
|               |       | number 30.'
|               |       |
+-----+-----+-----+
+-----+
| 10.139.44.163 | Rollback |
|               |
+-----+-----+-----+
+-----+
Device Results

```

```

efa policy community-list update --name comm1 --type standard
--operation update-rule --rule "seq[5],action[permit],std-value[100;no-advertise]"

```

```

+-----+-----+-----+
| IP Address | Result | Reason
| Rollback reason |
+-----+-----+-----+
+-----+
| 10.139.44.159 | Failed | Failed to create community list for comm1 on the device
|               |       |
|               |       | 10.139.44.159. Reason: For seq 5: netconf rpc [error]
|               |       |
|               |       | '%Error: Same filter is already configured with sequence
|               |       | number 30.'
|               |       |
+-----+-----+-----+
+-----+
| 10.139.44.163 | Rollback |
|               |
+-----+-----+-----+
+-----+
Device Results

```

efa policy community-list delete

Delete community list.

Syntax

```
efa policy community-list delete [ --name string | --type { standard | extended } | --seq string | --oob ]
```

Parameters

--name *string*

Specifies the name of the community list.

--oob

Optional command to delete out of band entries and remove configuration from associated devices.

--seq *string*

Sequence numbers. For example 5,10,20 or all.

--type { **standard** | **extended** }

Specifies the type of community list. Valid options are standard, extended.

Examples

This example deletes the standard community-list rules on all devices for the name, type, and seq number provided.

```
efa policy community-list delete --name commExt1 --seq all --type standard
```

Community List Name	Seq num	Action
commExt1	1	permit
commExt1	2	permit
commExt1	3	permit

Community List details

IP Address	Result	Reason
10.139.44.159	Success	
10.139.44.163	Success	

```
+-----+  
Device Results
```

efa policy community-list list

List community-list details

Syntax

```
efa policy community-list list [ --ip string | --name | --type { standard
| extended } ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the community list.

--type { **standard** | **extended** }

Specifies the type of community list. Valid options are standard, extended.

Examples

This example lists community-list details.

```
efa policy community-list list --type standard --ip 10.20.246.29-30
```

Community list details:

```
Name: clist1
Seq: 5
Action: deny
StdValue: 50:125 internet local-as no-advertise
ExtValue:
```

```
Name: clist1
Seq: 15
Action: deny
StdValue: 50:125 local-as
ExtValue:
```

```
IP Addresses:
+-----+-----+-----+-----+
| Name | Seq | IP Address | App State |
+-----+-----+-----+-----+
| clist1 | 5 | 10.20.246.29 | cfg-in-sync |
+-----+-----+-----+-----+
| clist1 | 5 | 10.20.246.30 | cfg-in-sync |
+-----+-----+-----+-----+
| clist1 | 15 | 10.20.246.29 | cfg-in-sync |
+-----+-----+-----+-----+
| clist1 | 15 | 10.20.246.30 | cfg-in-sync |
+-----+-----+-----+-----+
```

efa policy debug drift-reconcile

Drift and reconcile on Policy Service

Syntax

```
efa policy debug drift-reconcile [ --ip ip-addr | --reconcile ]
```

Parameters



Note

Before running the **efa policy debug drift-reconcile** command, ensure that the **efa inventory drift-reconcile execute** command has fully completed.

--ip *ip-addr*

Specifies the IP address of the device for which policy drift is evaluated.

--reconcile

Identifies policy drift and reconciles the device configuration with the Policy Service. If omitted, the command performs drift identification only.

efa policy extcommunity-list

Extended community list commands. Not supported for OS ONE devices.

Syntax

```
efa policy extcommunity-list create [ --name string | --type { standard |
extended } | --rule stringArray ]

efa policy extcommunity-list update [ --name string | --type { standard |
extended } | --rule stringArray | --operation string | --ip string ]

efa policy extcommunity-list delete [ --name string | --type { standard |
extended } | --seq string ]

efa policy extcommunity-list list [ --ip string | --name string | --type
{ standard | extended } ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

The name of the extended community list.

--operation *string*

Valid options are update-rule, add-device, remove-device.

--rule *stringArray*

Rule in format seq[seq-num], action[permit/deny], rt[ASN:NN | IpAddress:NN, ASN and NN is 2 or 4 bytes], soo[ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes] OR seq[num], action[permit/deny], ext-value[regular expression].

--seq *string*

Sequence numbers. For example 5,10,20 or all.

--type { **standard** | **extended** }

The type of extended community list. Valid options are standard, extended.

Examples

This example creates an extcommunity-list of type standard.

```
efa policy extcommunity-list create --name excommlist-1 --type standard
--rule "seq[4],action[permit],soo[10.11.2.3:22]"

+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt |      Soo      | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommlist-1                | 4       | permit |   | 10.11.2.3:22 |          |
```

```

+-----+-----+-----+-----+
Extended community list details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
Device Results

```

This example adds a device to an extcommunity-list.

```

efa policy extcommunity-list update --name excommlist-1 --type standard
--operation add-device --ip 10.20.246.29,10.20.246.30
+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt |   Soo   | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommlist-1                | 4       | permit |    | 10.11.2.3:22 |          |
+-----+-----+-----+-----+-----+-----+
| excommlist-1                | 5       | deny   | 1:345 |           |          |
+-----+-----+-----+-----+-----+-----+
| excommlist-1                | 6       | permit | 1:45  | 10.11.2.3:22 |          |
+-----+-----+-----+-----+-----+-----+
Extended community list details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Success |        |                  |
+-----+-----+-----+-----+
| 10.20.246.30 | Success |        |                  |
+-----+-----+-----+-----+
Device Results

```

This example deletes a device from an extcommunity-list.

```

efa policy extcommunity-list update --name excommlist-2 --type extended
--operation remove-device --ip 10.20.246.29,10.20.246.30
+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt | Soo | Ext Value |
+-----+-----+-----+-----+-----+-----+

```

```

| excommlist-2          | 2      | permit |      |      | _15000_ |
+-----+-----+-----+-----+-----+
| excommlist-2          | 5      | deny   |      |      | _25000_ |
+-----+-----+-----+-----+-----+

Extended community list details
+-----+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+-----+
| 10.20.246.29 | Success |      |      |
+-----+-----+-----+-----+-----+
| 10.20.246.30 | Success |      |      |
+-----+-----+-----+-----+-----+

Device Results

```

These examples update rules on an extcommunity-list.

```

efa policy extcommunity-list update --name excommlist-1 --type standard
--operation update-rule --rule "seq[5],action[permit],rt[0:123],soo[0:12]"
+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt   | Soo   | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommlist-1                | 5       | permit | 0:123 | 0:12  |           |
+-----+-----+-----+-----+-----+-----+

Extended community list details
+-----+-----+-----+-----+-----+
+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.29 | Failed | Reason: For seq 5: netconf rpc [error] '"rt
0:123 soo 0:12" |           |
|           |           | is an invalid value.'
|           |           |
+-----+-----+-----+-----+-----+
+-----+
| 10.20.246.30 | Failed | Reason: For seq 5: netconf rpc [error] '"rt
0:123 soo 0:12" |           |
|           |           | is an invalid value.'

```

```
|
|
+-----+-----+-----+-----+-----+-----+
+-----+
Device Results
```

This example deletes the `extcommunity-list` rules on all devices for the name, type, and seq provided.

```
efa policy extcommunity-list delete --name excommlist-2 --type extended --seq all
+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt | Soo | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommlist-2                | 2       | permit |   |   | _15000_   |
+-----+-----+-----+-----+-----+-----+
| excommlist-2                | 5       | deny   |   |   | _25000_   |
+-----+-----+-----+-----+-----+-----+

Extended community list details

+-----+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+-----+
| 10.20.246.29 | Success |        |                  |
+-----+-----+-----+-----+-----+
| 10.20.246.30 | Success |        |                  |
+-----+-----+-----+-----+-----+

Device Results
```

This example lists `extcommunity-list` details.

```
efa policy extcommunity-list list
Extended community list details:
Name: excommlist-1
Seq: 5
Action: permit
Route Target: 1:100 2:200 3:145 4:123
Site of Origin: 1.2.3.4:12 5:400 10.11.12.13:22
ExtValue:

Name: excommlist-1
Seq: 6
Action: permit
Route Target: 1:45
Site of Origin: 10.11.2.3:22
ExtValue:

Name: excommlist-1
Seq: 9
```

```
Action: deny
Route Target: 1:345
Site of Origin: 6:12
ExtValue:
```

```
Name: excommmlist-2
Seq: 2
Action: permit
Route Target:
Site of Origin:
ExtValue: _15000_
```

efa policy extcommunity-list create

Create an extcommunity-list.

Syntax

```
efa policy extcommunity-list create [ --name string | --type { standard | extended } | --rule stringArray ]
```

Parameters

--name *string*

The name of the extended community list.

--rule *stringArray*

Rule in format seq[seq-num], action[permit/deny], rt[ASN:NN | IpAddress:NN, ASN and NN is 2 or 4 bytes], soo[ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes] OR seq[num], action[permit/deny], ext-value[regular expression].

--type { **standard** | **extended** }

The type of extended community list. Valid options are standard, extended.

Examples

This example creates an extcommunity-list of type standard.

```
efa policy extcommunity-list create --name excommlist-1 --type standard
--rule "seq[4],action[permit],soo[10.11.2.3:22]"
```

Extended community list name	Seq num	Action	Rt	Soo	Ext Value
excommlist-1	4	permit		10.11.2.3:22	

Extended community list details

IP Address	Result	Reason	Rollback reason
------------	--------	--------	-----------------

Device Results

This example adds an extcommunity-list to the specified devices.

```
efa policy extcommunity-list update --name excommlist-1 --type standard
--operation add-device --ip 10.20.246.29,10.20.246.30
```

Extended community list name	Seq num	Action	Rt	Soo	Ext Value
------------------------------	---------	--------	----	-----	-----------

```

+-----+-----+-----+-----+-----+
| excommlist-1          | 4      | permit |      | 10.11.2.3:22 |      |
+-----+-----+-----+-----+-----+
| excommlist-1          | 5      | deny   | 1:345 |      |      |
+-----+-----+-----+-----+-----+
| excommlist-1          | 6      | permit | 1:45  | 10.11.2.3:22 |      |
+-----+-----+-----+-----+-----+

Extended community list details

+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Success |      |      |
+-----+-----+-----+-----+
| 10.20.246.30 | Success |      |      |
+-----+-----+-----+-----+

Device Results

```

efa policy extcommunity-list update

Update extcommunity-list. Not supported for OS ONE devices.

Syntax

```
efa policy extcommunity-list update [ --name string | --type { standard | extended } | --rule stringArray | --operation string | --ip string ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

The name of the extended community list.

--operation *string*

Valid options are update-rule, add-device, remove-device.

--rule *stringArray*

Rule in format seq[seq-num], action[permit/deny], rt[ASN:NN | IpAddress:NN, ASN and NN is 2 or 4 bytes], soo[ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes] OR seq[num], action[permit/deny], ext-value[regular expression].

--type { **standard** | **extended** }

The type of extended community list. Valid options are standard, extended.

Examples

This example configures an extcommunity-list on the specified devices.

```
efa policy extcommunity-list update --name excommmlist-1 --type standard
--operation add-device --ip 10.20.246.29,10.20.246.30
```

Extended community list name	Seq num	Action	Rt	Soo	Ext Value
excommmlist-1	4	permit		10.11.2.3:22	
excommmlist-1	5	deny	1:345		
excommmlist-1	6	permit	1:45	10.11.2.3:22	

Extended community list details


```

| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Rollback | | |
+-----+-----+-----+-----+
| 10.20.246.30 | Rollback | | |
+-----+-----+-----+-----+

Device Results

```

This example removes the extcommunity-list from the specified devices.

```

efa policy extcommunity-list update --name excommmlist-2 --type extended
--operation remove-device --ip 10.20.246.29,10.20.246.30
+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt | Soo | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommmlist-2 | 2 | permit | | | | _15000_ |
+-----+-----+-----+-----+-----+-----+
| excommmlist-2 | 5 | deny | | | | _25000_ |
+-----+-----+-----+-----+-----+-----+

Extended community list details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Rollback | | |
+-----+-----+-----+-----+
| 10.20.246.30 | Rollback | | |
+-----+-----+-----+-----+

Device Results

```

This example update rules on an extcommunity-list.

```

efa policy extcommunity-list update --name excommmlist-2 --type extended --operation
update-rule --rule "seq[5],action[deny],ext-value[_25000_]"

```

```

+-----+-----+-----+-----+-----+-----+
| Extended community list name | Seq num | Action | Rt | Soo | Ext Value |
+-----+-----+-----+-----+-----+-----+
| excommmlist-2 | 5 | deny | | | | _25000_ |
+-----+-----+-----+-----+-----+-----+

Extended community list details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+

```

```
+-----+-----+-----+
| 10.20.246.29 | Success |      |
+-----+-----+-----+
| 10.20.246.30 | Success |      |
+-----+-----+-----+
Device Results
```

efa policy extcommunity-list delete

Delete extended community list.

Syntax

```
efa policy extcommunity-list delete [ --name string | --type { standard | extended } | --seq string | --oob ]
```

Parameters

--name *string*

The name of the extended community list.

--oob

Optional command to delete out of band entries and remove configuration from associated devices.

--seq *string*

Sequence numbers. For example 5,10,20 or all.

--type { **standard** | **extended** }

The type of extended community list. Valid options are standard, extended.

Examples

This example deletes the extcommunity-list rules on all devices for the name, type, and seq provided.

```
efa policy extcommunity-list delete --name excommlist-2 --type extended --seq all
```

Extended community list name	Seq num	Action	Rt	Soo	Ext Value
excommlist-2	2	permit			_15000_
excommlist-2	5	deny			_25000_

Extended community list details

IP Address	Result	Reason	Rollback reason
10.20.246.29	Success		

```
| 10.20.246.30 | Success |           |  
+-----+-----+-----+-----+  
Device Results
```

efa policy extcommunity-list list

List extcommunity-list details.

Syntax

```
efa policy extcommunity-list list [ --ip string | --name string | --type  
{ standard | extended } ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

The name of the extended community list.

--type { **standard** | **extended** }

The type of extended community list. Valid options are standard, extended.

Examples

This example lists extcommunity-list details.

```
efa policy extcommunity-list list  
Extended community list details:  
Name: excommlist-1  
Seq: 5  
Action: permit  
Route Target: 1:100 2:200 3:145 4:123  
Site of Origin: 1.2.3.4:12 5:400 10.11.12.13:22  
ExtValue:  
  
Name: excommlist-1  
Seq: 6  
Action: permit  
Route Target: 1:45  
Site of Origin: 10.11.2.3:22  
ExtValue:  
  
Name: excommlist-1  
Seq: 9  
Action: deny  
Route Target: 1:345  
Site of Origin: 6:12  
ExtValue:  
  
Name: excommlist-2  
Seq: 2  
Action: permit  
Route Target:  
Site of Origin:  
ExtValue: _15000_
```

This example lists the `extcommunity-list` details for the specified device and extended community list.

```
efa policy extcommunity-list list --ip 10.20.246.29 --name excommmlist-1
```

Extended community list details:

Name: excommmlist-1
Seq: 6
Action: permit
Route Target: 1:45
Site of Origin: 10.11.2.3:22
ExtValue:

Name: excommmlist-1
Seq: 9
Action: deny
Route Target: 1:345
Site of Origin: 6:12
ExtValue:

IP Addresses:

Name	Seq	IP Address	App State
excommmlist-1	6	10.20.246.29	cfg-in-sync
excommmlist-1	9	10.20.246.29	cfg-in-sync

efa policy large-community-list create

Create large community list in XCO.

Syntax

```
efa policy large-community-list create [ --type string | --name string |
--rule stringArray ]
```

Parameters

--name *string*

Specifies the name of large community list.

--rule *stringArray*

Rule in format for large community: seq[seq-num],action[permit/deny], value[value: <NN:NN:NN> NN is 4 bytes] (or) ext-value[regular expression].

Example: "seq[5],action[permit],std-value[10:20:30;50:60:70]" (or)
"seq[4],action[deny],ext-value[[^]65000:.*_]"

--type *string*

Specifies the type of large community list to create. Valid types are standard and extended.

Examples

```
efa policy large-community-list create --name lgcomm1 --type standard
--rule "seq[5],action[permit],std-value[10:10:10;20:20:20]"
```

```
+-----+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcomm1             | 5       | permit | 10:10:10 20:20:20 |          |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
Device Results
```

```
efa policy large-community-list create --name lgcommExt1 --type extended
--rule "seq[5],action[permit],ext-value[_645XX:.*:.*]"
```

```
+-----+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcommExt1         | 5       | permit |          | _645XX:.*:.* |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
```

```

+-----+-----+-----+-----+
Device Results

efa policy large-community-list create --name lgcomm1 --type standard
--rule "seq[15],action[permit],std-value[10:10:10;20:20:20]"

+-----+-----+-----+-----+-----+
| Large Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcomm1 | 15 | permit | 10:10:10 20:20:20 | |
+-----+-----+-----+-----+-----+
Large Community List details
+-----+-----+-----+-----+-----+
+-----+
| IP Address | Result | Reason
| Rollback reason |
+-----+-----+-----+-----+-----+
+-----+
| 10.139.44.159 | Failed | Policy lgcomm1 type large-community-list seq# 15 operation
| |
| | | failed on device 10.139.44.159 due to Reason: For seq
| | |
| | | 15: netconf rpc [error] '%Error: Same filter is already
| | | configured with sequence number 10.'
| | |
+-----+-----+-----+-----+-----+
+-----+
| 10.139.44.160 | Rollback |
| |
+-----+-----+-----+-----+-----+
+-----+
Device Results

```


efa policy large-community-list update

Update large community list on XCO. Not supported for OS ONE devices.

Syntax

```
efa policy large-community-list update [ --type string | --name string |
--ip string | --operation string ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Name of large community list.

--operation *string*

Valid options are add-device, remove-device.

--type *string*

Type of large community list. Valid types are standard and extended.

Examples

This example configures a Large Community List on the specified device.

```
efa policy large-community-list update --operation add-device --ip 10.139.44.159
--name lgcomm1 --type standard
```

```
+-----+-----+-----+-----+-----+
| Large Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcomm1                  | 5       | permit | 10:10:10 20:20:20 |          |
+-----+-----+-----+-----+-----+
| lgcomm1                  | 10      | permit | 30:30:30          |          |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+-----+
| 10.139.44.159 | Success |          |                  |
+-----+-----+-----+-----+-----+
Device Results
```

This example configures a Large Community List of type extended on the specified device.

```
efa policy large-community-list update --name lgcommExt1 --type extended
--operation add-device --ip 10.139.44.159
```

```
+-----+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value. |
+-----+-----+-----+-----+-----+
| lgcommExt1         | 5       | permit |          | 645XX:.*:.* |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+-----+
```

```

| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.159 | Success | | |
+-----+-----+-----+-----+
Device Results

```

```

efa policy large-community-list update --operation add-device --ip 10.139.44.159-160
--name lgcomm1 --type standard

```

```

+-----+-----+-----+-----+-----+
| Large Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcomm1 | 5 | permit | 10:10:10 20:20:20 | |
+-----+-----+-----+-----+-----+
| lgcomm1 | 10 | permit | 30:30:30 | |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+-----+
+-----+
| IP Address | Result | Reason
| Rollback reason |
+-----+-----+-----+-----+-----+
+-----+
| 10.139.44.159 | Success |
| |
+-----+-----+-----+-----+-----+
+-----+
| 10.139.44.160 | Failed | Policy lgcomm1 type large-community-list seq# 5 operation
| |
| | failed on device 10.139.44.160 due to Reason: For seq
10: | |
| | netconf rpc [error] '%Error: An IP Community access-list
| |
| | with this name and instance number already exists'
| |
+-----+-----+-----+-----+-----+
+-----+
Device Results

```

This example removes a Large Community List from the specified device.

```

efa policy large-community-list update --name lgcomm1 --type standard
--operation remove-device --ip 10.139.44.159

```

```

+-----+-----+-----+-----+-----+
| Large Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+-----+
| lgcomm1 | 5 | permit | 10:10:10 20:20:20 | |
+-----+-----+-----+-----+-----+
| lgcomm1 | 10 | permit | 30:30:30 | |
+-----+-----+-----+-----+-----+
Community List details
+-----+-----+-----+-----+-----+
+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+-----+
| 10.139.44.159 | Success | | |
+-----+-----+-----+-----+-----+
Device Results

```

efa policy large-community-list delete

Delete large community list from devices and XCO.

Syntax

```
efa policy large-community-list delete [ --type string | --name string |
--seq string | --oob ]
```

Parameters

--name *string*

Name of large community list.

--oob

Optional command to delete out of band entries and remove configuration from associated devices.

--seq *string*

Sequence numbers. For example 5,10,20 or all.

--type *string*

Type of large community list. Valid types are standard and extended.

Examples

This example removes the large community rules from all devices of the type and seq specified.

```
efa policy large-community-list delete --name lgcomm1 --seq all --type standard
```

```
+-----+-----+-----+-----+
| Community List Name | Seq num | Action | Std Value | Ext Value |
+-----+-----+-----+-----+
| lgcomm1             | 5       | deny  | 10:10:10 20:20:20 |          |
+-----+-----+-----+-----+
| lgcomm1             | 10      | permit | 30:30:30   |          |
+-----+-----+-----+-----+
```

Community List details

```
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.159 | Success |        |                  |
+-----+-----+-----+-----+
```

Device Results

efa policy large-community-list list

Lists the large community list for a list of devices.

Syntax

```
efa policy large-community-list list [ --ip string --type string | --name  
                                     string | ]
```

Parameters

--ip *string*

Specifies comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of large community list.

--type *string*

Specifies the type of large community list. Valid types are standard and extended.
Optional. If not specified both standard and extended list will be listed.

Examples

```
efa policy large-community-list list
```

```
large community list details:
```

```
Name: lgcomm1  
Seq: 5  
Action: deny  
StdValue: 10:10:10 20:20:20  
ExtValue:
```

```
Name: lgcomm1  
Seq: 10  
Action: permit  
StdValue: 30:30  
ExtValue:
```

```
efa policy large-community-list list --type standard --ip 10.139.44.159
```

```
Large community list details:
```

```
Name: lgcomm1  
Seq: 5  
Action: deny  
StdValue: 10:10:10 20:20:20  
ExtValue:
```

```
Name: lgcomm1  
Seq: 10  
Action: permit  
StdValue: 30:30:30  
ExtValue:
```

IP Addresses:

```
+-----+-----+-----+-----+
| Name   | Seq | IP Address | App State |
+-----+-----+-----+-----+
| lgcomm1 | 5   | 10.139.44.159 | cfg-in-sync |
+-----+-----+-----+-----+
| lgcomm1 | 10  | 10.139.44.159 | cfg-in-sync |
+-----+-----+-----+-----+
```

efa policy prefix-list create

Creates a prefix list.

Syntax

```
efa policy prefix-list create [ --name prefix-list-name | --type { ipv4 | ipv6 } | --rule rule ]
```

Parameters

--name *list name*

Specifies the name of the prefix list.

--rule *rule*

Specifies a prefix-list rule. The rule consists of a prefix and optional sequence number, action, and mask-length qualifiers. Format: `prefix[<prefix>], seq[<sequence>], action[permit | deny], ge[<value>], le[<value>]`.

For OS ONE devices, the `seq` and `action` fields are ignored. The prefix is implemented as a prefix-set entry.

--type { **ipv4** | **ipv6** }

Specifies the prefix-list type.

Optional for OS ONE devices. If omitted, the prefix-list type is determined from the configured prefixes.

Usage Guidelines

Execute **efa policy prefix-list update --operation add-device** to push the configuration on to the device.

For OS ONE devices, prefix-lists are implemented as prefix-sets. Sequence number (`seq`) and permit or deny action (`action`) are ignored.

Both IPv4 and IPv6 prefixes can be configured in the same prefix-list on OS ONE devices.

Route filtering behavior is determined by the associated route policy, not by the prefix-list entry.

Examples

This example creates an OS ONE prefix-list.

```
efa policy prefix-list create \  
  --name prefix1 \  
  --rule "prefix[10.10.10.0/24],ge[25],le[30]"  
  
Prefix List Create [Success]
```

This example creates an IPv4 prefix list.

```
$ efa policy prefix-list create --name prefix_v4
--type ipv4 --rule seq[5],action[permit],prefix[10.0.0.0/8],ge[16]
```

This example creates an IPv4 prefix list with two rules.

```
efa policy prefix-list create --type ipv4
--name test1 --rule seq[5],action[permit],prefix[10.0.0.0/8],ge[16],le[24]
--rule seq[10],action[deny],prefix[20.0.0.0/8],ge[14],le[24]
Name: test1
+-----+-----+-----+-----+-----+-----+
| Type | Seq num | Action | Prefix | Ge | Le | Status |
+-----+-----+-----+-----+-----+-----+
| ipv4 | 5       | permit | 10.0.0.0/8 | 16 | 24 | Success |
+-----+-----+-----+-----+-----+-----+
| ipv4 | 10      | deny  | 20.0.0.0/8 | 14 | 24 | Success |
+-----+-----+-----+-----+-----+-----+
Prefix-list details
--- Time Elapsed: 597.965605ms ---
```

This example creates an IPv6 prefix list.

```
efa policy prefix-list create --type ipv6 --name prefix_1_in
--rule "seq[11], action[permit], prefix[2001:db8::/48]"
```

```
Name: prefix_1_in
+-----+-----+-----+-----+-----+-----+
| Type | Seq num | Action | Prefix | Ge | Le | Status |
+-----+-----+-----+-----+-----+-----+
| ipv6 | 11      | permit | 2001:db8::/48 |   |   | Success |
+-----+-----+-----+-----+-----+-----+
Prefix-list details
```

This example creates an OS ONE prefix-list containing both IPv4 and IPv6 prefixes.

```
efa policy prefix-list create \
  --name prefix2 \
  --rule "prefix[10.10.10.0/24]"

efa policy prefix-list update \
  --name prefix2 \
  --operation add-rule \
  --rule "prefix[2001:db8::/32],ge[48]"
```

```
Prefix List Update [Success]
```

efa policy prefix-list update

Updates a prefix list and synchronizes the changes to the managed devices.

Syntax

```
efa policy prefix-list update [ --type string | --name list-name | --  
operation { add-rule | remove-rule | add-device | remove-device } |  
--rule stringArray | --ip string ]
```

Parameters

--ip *string*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *list name*

Specifies the name of the prefix list.

--operation { **add-rule** | **remove-rule** | **add-device** | **remove-device** }

Specifies the operation to perform.

--rule *stringArray*

Specifies the prefix-list rule in
the format: `prefix[<prefix>], seq[<sequence>], action[permit|
deny], ge[<value>], le[<value>]`.

For OS ONE devices, the `seq` and `action` fields are ignored. The prefix is implemented
as a prefix-set entry.

--type *string*

Specifies the prefix-list type. Valid values are [`ipv4` | `ipv6`].

Optional for OS ONE devices. If omitted, the prefix-list type is determined automatically.

Usage Guidelines

- The `add-device` and `remove-device` operations add or remove the specified prefix list on the specified devices.
- The `add-rule` and `remove-rule` operations add or remove rules from an existing prefix list.
- For OS ONE devices, the **--type** parameter is optional when using the `add-device` and `remove-device` operations.
- For OS ONE devices, prefix-lists are implemented as prefix-sets.
- For OS ONE devices, the `seq` and `action` values specified in **--rule** are ignored.
- For OS ONE devices, IPv4 and IPv6 prefixes can coexist in the same prefix-list.

Examples

This example configures a prefix list on the specified devices.

```
efa policy prefix-list update \
  --name prefix_1_in \
  --operation add-device \
  --ip 10.20.246.29-30
```

This example removes the prefix list from the specified devices.

```
efa policy prefix-list update \
  --name prefix_1_in \
  --operation remove-device \
  --ip 10.20.246.29-30
```

This example adds a rule to an existing prefix list on an OS ONE device.

```
efa policy prefix-list update \
  --name prefix1 \
  --operation add-rule \
  --rule "prefix[10.10.10.0/24],ge[25],le[30]"
```

This example removes a rule from an existing prefix list on an OS ONE device.

```
efa policy prefix-list update \
  --name prefix1 \
  --operation remove-rule \
  --rule "prefix[10.10.10.0/24]"
```

This example configures an IPv6 prefix list on the specified devices.

```
efa policy prefix-list update --type ipv6 --name prefix_1_in
--operation add-device --ip 10.20.246.29-30
```

Name	Type	Seq num	Action	Prefix	Ge	Le
prefix_1_in	ipv6	11	permit	2001:db8::/48		

Prefix-list details

IP Address	Result	Reason
10.20.246.29	Success	
10.20.246.30	Success	

Device Results

This example adds a rule to an existing IPv6 prefix list.

```
efa policy prefix-list update --type ipv6 --name prefix_1_in
--rule "seq[11],action[permit],prefix[2001:db8::/48],ge[64],le[128]"
--operation add-rule
```

Name	Type	Seq num	Action	Prefix	Ge	Le
prefix_1_in	ipv6	13	permit	2001:db8::/32	48	128
prefix_1_in	ipv6	14	permit	2003:db8::/32	64	128
prefix_1_in	ipv6	15	deny	2003:db8::/63	64	128
prefix_1_in	ipv6	11	permit	2001:db8::/48	64	128

Prefix-list details

```
+-----+-----+-----+
| IP Address | Result | Reason |
+-----+-----+-----+
| 10.20.246.29 | Success |      |
+-----+-----+-----+
| 10.20.246.30 | Success |      |
+-----+-----+-----+
Device Results
```

This example adds an IPv6 prefix to an existing prefix list that already contains IPv4 prefixes.

```
efa policy prefix-list update \
--name prefix1 \
--operation add-rule \
--rule "prefix[2001:db8::/32],ge[48]"
```

efa policy prefix-list delete

Deletes prefix list on all devices and from XCO.

Syntax

```
efa policy prefix-list delete [ --type string | --name string | --oob ]
```

Parameters

--type *string*

Specifies the type of prefix list. Valid type is [ipv4|ipv6].

--name *string*

Specifies the name of the prefix list.

--oob

Optional command to delete out of band entries and remove configuratom from associated devices.

Examples

This example deletes an IPv4 prefix list named `prefix_v4`.

```
$ efa policy prefix-list delete --type ipv4 --name prefix_v4
```

This example deletes an IPv6 prefix list named `plist2`.

```
efa policy prefix-list delete --name plist2 --type ipv6
```

```
+-----+-----+-----+
| Name | Type | Status |
+-----+-----+-----+
| plist2 | ipv6 | Success |
+-----+-----+-----+
Prefix-list details
+-----+-----+-----+
| IP Address | Result | Reason |
+-----+-----+-----+
| 10.20.246.29 | Success | |
+-----+-----+-----+
| 10.20.246.30 | Success | |
+-----+-----+-----+
```

efa policy prefix-list list

Lists the prefix list on the specified devices.

Syntax

```
efa policy prefix-list list [ --type string | --ip string ]
```

Parameters

--type *string*

Specifies the type of prefix list. Valid type is [ipv4|ipv6].

--ip *string*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

Examples

This example displays the IPv4 prefix list on two devices.

```
$ efa policy prefix-list list --type ipv4 --ip 10.20.246.10-11
Prefix-list details:

Name: prefix_v4_1
+-----+-----+-----+-----+-----+-----+-----+-----+
| Type | Seq num | Action | Prefix | Ge | Le | DeviceIP | AppState |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ipv4 | 10      | permit | 10.0.0.0/8 | 16 |   | 10.20.246.10 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ipv4 | 10      | permit | 10.0.0.0/8 | 16 |   | 10.20.246.11 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

This example lists the IPv6 prefix lists on the specified devices.

```
efa policy prefix-list list --type ipv6 --ip 10.20.246.29-30

Prefix-list details:

Name: prefix_1_in
+-----+-----+-----+-----+-----+-----+-----+-----+
| Type | Seq num | Action | Prefix | Ge | Le | DeviceIP | AppState |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ipv6 | 11      | permit | 2001:db8::/48 |   |   | 10.20.246.29 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
| ipv6 | 11      | permit | 2001:db8::/48 |   |   | 10.20.246.30 | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
```

This example lists all prefix lists of type IPv6.

```
efa policy prefix-list list --type ipv6

Prefix-list details:
Name: prefix_1_in
+-----+-----+-----+-----+-----+-----+
| Type | Seq num | Action | Prefix | Ge | Le |
+-----+-----+-----+-----+-----+-----+
```

```
| ipv6 | 11 | permit | 2001:db8::/48 | | |
+-----+-----+-----+-----+-----+-----+
```

This example shows the cli commands operating for OS ONE devices

```
efa policy qos map create --name Tcmap --type pcp-tc-map --rule pcp[0],tc[7]
+-----+-----+-----+-----+-----+-----+
| QoS Map Name | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| Tcmap        | pcp-tc-map | 0    | 0    | 7    | 0    |
+-----+-----+-----+-----+-----+
QoS Map details
Success
efa policy qos map create --name Tcmap --type dscp-tc-map --rule dscp[14-15],tc[7]
+-----+-----+-----+-----+-----+-----+
| QoS Map Name | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| Tcmap        | dscp-tc-map | 15    | 0    | 7    | 0    |
+-----+-----+-----+-----+-----+
| Tcmap        | dscp-tc-map | 14    | 0    | 7    | 0    |
+-----+-----+-----+-----+-----+
QoS Map details
Success
efa policy qos map create --name Remap --type tc-pcp-map --rule
pcp[5],tc[2] --rule pcp[2],tc[3]
+-----+-----+-----+-----+-----+-----+
| QoS Map Name | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| Remap        | tc-pcp-map | 0    | 5    | 2    | 0    |
+-----+-----+-----+-----+-----+
| Remap        | tc-pcp-map | 0    | 2    | 3    | 0    |
+-----+-----+-----+-----+-----+
QoS Map details
efa policy qos map create --name Remap --type tc-dscp-map --rule dscp[63],tc[0] --rule
dscp[0],tc[1]
+-----+-----+-----+-----+-----+-----+
| QoS Map Name | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| Remap        | tc-dscp-map | 63    | 0    | 0    | 0    |
+-----+-----+-----+-----+-----+
| Remap        | tc-dscp-map | 0    | 0    | 1    | 0    |
+-----+-----+-----+-----+-----+
QoS Map details
Success
```

efa policy qos map create

Creates a QoS mapping table.

Syntax

```
efa policy qos map create [ --name string | --type string | --rule
                             stringArray ]
```

Parameters

--name *string*

Specifies the name of the QoS map. On OS ONE devices the dscp-tc-map and pcp-tc-map (traffic class maps) must have the same name. Similarly, the tc-dscp-map and tc-pcp-map (remark maps) must also share the same name.

--type *string*

Specifies the type of QoS map. Valid types are pcp-tc-map, dscp-tc-map, tc-pcp-map, and tc-dscp-map.

--rule *stringArray*

Specifies one or more QoS mapping rules.

The rule format depends on the QoS map type:

- pcp-tc-map: pcp[from-value(s) or range],tc[to-value],dp[drop-precedence]
- dscp-tc-map: dscp[from-value(s) or range],tc[to-value],dp[drop-precedence]
- tc-pcp-map: pcp[to-value],tc[from-value(s) or range],dp[drop-precedence]
- tc-dscp-map: tc[from-value(s) or range],dscp[to-value],dp[drop-precedence]

The valid values for dp are 0, 1, and 2.

Usage Guidelines

The dp field specifies the drop precedence associated with the QoS mapping. If omitted, the default drop precedence is 0.

Examples

This example creates a QoS Map named tenant1PcpToTCMap, which will classify packets with PCP values 0-7 in different Traffic Classes. Values can be provided as a range.

```
efa policy qos map create --name tenant1PcpToTCMap --type pcp-tc-map
--rule "pcp[0],tc[7],dp[1]" --rule "pcp[1],tc[6]" --rule "pcp[2-5],tc[5],dp[2]"

+-----+-----+-----+-----+-----+
|  QoS Map Name   | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 3   | 5   | 2   |
```

```

+-----+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 4    | 5    | 2    |
+-----+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 5    | 5    | 2    |
+-----+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 0    | 7    | 1    |
+-----+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 1    | 6    | 0    |
+-----+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 2    | 5    | 2    |
+-----+-----+-----+-----+-----+-----+
QoS Map details
Success
--- Time Elapsed: 270.05958ms ---

```

This example creates a QoS Map named `tenant1DscpToTCMap`, which will classify packets with various DSCP values into different Traffic Classes. Values can be provided as a range. Values that are not specified will be classified into default classes.

```

efa policy qos map create --name tenant1DscpToTCMap --type dscp-tc-map
--rule "dscp[14-25],tc[7],dp[2]" --rule "dscp[8],tc[1]" --rule "dscp[10],tc[1],dp[1]"
+-----+-----+-----+-----+-----+-----+
|   QoS Map Name   | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 24   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 19   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 21   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 14   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 15   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 10   | 0   | 1   | 1   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 23   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 25   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 16   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 17   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 20   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 22   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 18   | 0   | 7   | 2   |
+-----+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 8    | 0   | 1   | 0   |
+-----+-----+-----+-----+-----+-----+
QoS Map details
Success
--- Time Elapsed: 387.47453ms ---

```

This example creates a QoS remark map from traffic class to DSCP.

```

efa policy qos map create --name tenant1TCToDSCPMap --type tc-dscp-map --rule
"tc[5],dscp[40],dp[1]"

```

This example creates a QoS remark map from traffic class to PCP.

```
efa policy qos map create --name tenant1TCtoPCPMap --type tc-pcp-map --rule  
"tc[5],pcp[4],dp[2]"
```


efa policy qos map update

Update a QoS map.

Syntax

```
efa policy qos map update [ --name string | --type string | --rule stringArray ]
```

Parameters

--name *string*

Specifies the name of the QoS map.

--type *string*

Specifies the type of QoS map. Valid options are `pcp-tc-map`, `dscp-tc-map`, `tc-pcp-map`, and `tc-dscp-map`.

--rule *stringArray*

Specifies one or more QoS mapping rules.

The rule format depends on the QoS map type:

- `pcp-tc-map`: `pcp[from-value(s) or range],tc[to-value],dp[drop-precedence]`
- `dscp-tc-map`: `dscp[from-value(s) or range],tc[to-value],dp[drop-precedence]`
- `tc-pcp-map`: `pcp[to-value],tc[from-value(s) or range],dp[drop-precedence]`
- `tc-dscp-map`: `tc[from-value(s) or range],dscp[to-value],dp[drop-precedence]`

Updates apply only to the mapped-to values. For example, for `pcp-tc-map` and `dscp-tc-map`, the `tc` and `dp` values are updated.

The valid values for `dp` are 0, 1, and 2.

Usage Guidelines

The `dp` field specifies the drop precedence associated with the QoS mapping. If omitted, the default drop precedence is 0.

Only existing mappings can be updated. Mappings that are not specified in the command remain unchanged.

Examples

This example updates the mapping for QoS Map named `tenant1PcpToTCMap` for the PCP values specified in the command.

The original configuration prior to the update is:

```
efa policy qos map create --name tenant1PcpToTCMap --type pcp-tc-map --rule
"pcp[0],tc[7],dp[1]"
--rule "pcp[1],tc[6]" --rule "pcp[2-5],tc[4],dp[2]"
```

To update map pcp 0 and pcp 1 to different traffic classes, run the following command:

```
efa policy qos map update --name tenant1PcpToTCMap --type pcp-tc-map
--rule "pcp[0],tc[6],dp[1]" --rule "pcp[1],tc[7]"
+-----+-----+-----+-----+-----+
|   QoS Map Name   | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 0   | 6   | 1   |
+-----+-----+-----+-----+-----+
| tenant1PcpToTCMap | pcp-tc-map | 0    | 1   | 7   | 0   |
+-----+-----+-----+-----+-----+
QoS Map details
Success
--- Time Elapsed: 153.400707ms ---
```

This example updates the mapping for QoS Map named tenant1DscpToTCMap for the DSCP values specified in this command. Mappings that are not specified remain unchanged. Only existing mappings can be updated.

The original configuration prior to the update is:

```
efa policy qos map create --name tenant1DscpToTCMap --type dscp-tc-map
--rule "dscp[14-25],tc[7],dp[2]" --rule "dscp[8],tc[1]" --rule "dscp[10],tc[1],dp[1]"
```

To update DSCP mappings, run the following command:

```
efa policy qos map update --name tenant1DscpToTCMap --type dscp-tc-map
--rule "dscp[14-16],tc[1]" --rule "dscp[22-25],tc[5],dp[1]"
+-----+-----+-----+-----+-----+
|   QoS Map Name   | Map Type | Dscp | Pcp | Tc | Dp |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 24   | 0   | 5   | 1   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 25   | 0   | 5   | 1   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 22   | 0   | 5   | 1   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 16   | 0   | 1   | 0   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 14   | 0   | 1   | 0   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 15   | 0   | 1   | 0   |
+-----+-----+-----+-----+-----+
| tenant1DscpToTCMap | dscp-tc-map | 23   | 0   | 5   | 1   |
+-----+-----+-----+-----+-----+
QoS Map details
Success
--- Time Elapsed: 409.157029ms ---
```

This example updates a traffic-class-to-DSCP remark map.

```
efa policy qos map update --name tenant1TCToDSCPMap --type tc-dscp-map --rule
"tc[5],dscp[40],dp[1]"
```

This example updates a traffic-class-to-PCP remark map.

```
efa policy qos map update --name tenant1TCToPCPMap --type tc-pcp-map --rule  
"tc[5],pcp[4],dp[2]"
```

efa policy qos map delete

Delete QoS map

Syntax

```
efa policy qos map delete [ --name string | --type string | --rule  
                             stringArray | --oob ]
```

Parameters

--name *string*

Specifies the name of the QoS map.

--type *string*

Specifies the type of QoS map. Valid options are pcp-tc-map, dscp-tc-map, tc-pcp-map, and tc-dscp-map.

--rule *stringArray*

Specifies rule to be deleted. Rule in format "dscp|pcp|tc|[from value(s) or range],dp[DP value]" Example "pcp[0;2-4;6]" for pcp-tc-map, "tc[1-3;5],dp[1]" for tc-pcp-map.

--oob

Optional command to delete out of band entries and remove configuratom from associated devices.

Examples

This example deletes the QoS Map tenant1PcpToTCMap from XCO database.

```
efa policy qos map delete --name tenant1PcpToTCMap --type pcp-to-tc
```

This example deletes the user defined DSCP to TC mapping for DSCP values 0-7 in the QoS Map tenant1DscpToTCMap. This causes the traffic with DSCP values 0-7 to be classified based on system defaults.

```
efa policy qos map delete --name tenant1DscpToTCMap --type dscp-to-tc -rule "dscp[0-7]"
```

efa policy qos map list

List QoS maps

Syntax

```
efa policy qos map list [ --ip device-ips | --name string | --type string ]
```

Parameters

--ip *device-ips*

Specifies a comma-separated range of device IP addresses. For example:

10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the QoS map.

--type *string*

Specifies the type of QoS map. Valid options are pcp-tc-map, dscp-tc-map, tc-pcp-map, and tc-dscp-map.

Usage Guidelines

The `Dp` column displays the drop precedence value associated with the QoS map entry. Valid values are 0, 1, and 2.

This example lists the configuration details of the specified name and type.

```
efa policy qos map list --name tenant1DscpToTCMap10 --type dscp-tc-map
```

```
QoS Map details:
Name: tenant1DscpToTCMap10
+-----+-----+-----+
| DSCP | TC | DP |
+-----+-----+-----+
| 0 | 3 | 1 |
+-----+-----+-----+
| 1 | 3 | 1 |
+-----+-----+-----+
| 2 | 3 | 1 |
+-----+-----+-----+
| 3 | 3 | 1 |
+-----+-----+-----+
| 4 | 3 | 1 |
+-----+-----+-----+
| 5 | 3 | 1 |
+-----+-----+-----+
| 6 | 3 | 1 |
+-----+-----+-----+
| 7 | 3 | 1 |
+-----+-----+-----+
| 8 | 1 | 0 |
+-----+-----+-----+
| 10 | 1 | 1 |
+-----+-----+-----+
```

This example lists the configuration details of the QoS Map tenant1DscpToTCMap, along with the app state on the specified devices.

```
efa policy qos map list --name tenant1DscpToTCMap10 --type dscp-tc-map --ip 10.20.245.1-2
```

QoS Map details:

Name: tenant1DscpToTCMap10

DSCP	TC	DP
0	3	1
1	3	1
2	3	1
3	3	1
4	3	1
5	3	1
6	3	1
7	3	1
8	1	0
10	1	1

Device Bindings:

Name	DSCP	IP Address	App State
tenant1DscpToTCMap10	0	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	1	10.20.245.1	cfg-refreshed
tenant1DscpToTCMap10	2	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	3	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	4	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	5	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	6	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	7	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap10	8	10.20.245.1	cfg-refreshed
tenant1DscpToTCMap10	10	10.20.245.1	cfg-in-sync

This example lists configuration details of all the QoS Maps of type dscp-to-tc, along with the app state on the specified device.

```
efa policy qos map list --type dscp-tc-map --ip 10.20.245.1
```

QoS Map details:

Name: tenant1DscpToTCMap15

DSCP	TC	DP
10	3	1
15	3	1

Name: oobDscpToTCMap1

DSCP	TC	DP
20	5	1
25	5	1

Device Bindings:

Name	DSCP	IP Address	App State
tenant1DscpToTCMap15	10	10.20.245.1	cfg-in-sync
tenant1DscpToTCMap15	15	10.20.245.1	cfg-refreshed
oobDscpToTCMap1	20	10.20.245.1	cfg-not-managed
oobDscpToTCMap1	25	10.20.245.1	cfg-not-managed

This example lists a QoS map with drop precedence values.

```
efa policy qos map list --name tcMap
```

QoS Map Name	Map Type	Dscp	Pcp	Tc	Dp
tcMap	dscp-tc-map	4	0	3	1

QoS Map details

efa policy qos profile create

Create QoS profile

Syntax

```
efa policy qos profile create [ --name string | --trust string | --pcp-  
tc string | --dscp-tc string | --tc-pcp string | --tc-dscp string |  
--service-policy string ]
```

Parameters

--name *string*

Specifies the name of the QoS profile.

--trust *string*

{ **auto** | **dscp** }. Selecting auto trusts PCP for switched traffic and DSCP for routed traffic. Default is auto.

--pcp-tc *string*

Specifies the PCP to TC QoS map name.

--dscp-tc *string*

Specifies the DSCP to TC QoS map name.

--tc-pcp *string*

Specifies the TC to PCP QoS map name.

--tc-dscp *string*

Specifies the TC to DSCP QoS map name.

--service-policy *string*>

Specifies the Service Policy Map Name along with direction in format "name[servicePolicy1],dir[in|out]"

Examples

This example creates a QoS profile named "fabricProfile1", which defines dscp trust, DSCP to TC maps, and service policy map "servicePolicy1".

```
efa policy qos profile create --name fabricProfile1 --trust[dscp] --dscp-tc[map2] --tc-  
dscp[map3]  
--service-policy "name[servicePolicy1],dir[out]"
```

This example shows the cli command operating on an OS ONE devices

```
efa policy qos profile create --name pfl --pcp-tc Tcmap --dscp-tc Tcmap --tc-pcp Remap  
--tc-dscp Remap --trust dscp
```


efa policy qos profile update

Update or add value to QoS profile

Syntax

```
efa policy qos profile update [ --name string | --trust string | --pcp-  
    tc string | --dscp-tc string | --tc-pcp string | --tc-dscp string |  
    --service-policy string ]
```

Parameters

--name *string*

Specifies the name of the QoS profile.

--trust *string*

{ **auto** | **dscp** }. Selecting auto trusts PCP for switched traffic and DSCP for routed traffic. Default is auto.

--pcp-tc *string*

Specifies the PCP to TC QoS map name.

--dscp-tc *string*

Specifies the DSCP to TC QoS map name.

--tc-pcp *string*

Specifies the TC to PCP QoS map name.

--tc-dscp *string*

Specifies the TC to DSCP QoS map name.

--service-policy *string*>

Specifies the Service Policy Map Name along with direction in format "name[servicePolicy1],dir[in|out]"

Examples

This example updates a QoS profile named "qosProfile1", enabling system default for qos dscp trust, and applying service policy map "servicePolicy2".

```
efa policy qos profile update --name fabricProfile1 --trust[auto]  
--service-policy "name[servicePolicy2],dir[out]"
```

efa policy qos profile delete

Delete or set to default value for QoS profile

Syntax

```
efa policy qos profile delete [ --name string | --trust string | --pcp-  
tc string | --dscp-tc string | --tc-pcp string | --tc-dscp string |  
--service-policy string ]
```

Parameters

--name *string*

Specifies the name of the QoS profile.

--trust *string*

{ **auto** | **dscp** }. Selecting auto trusts PCP for switched traffic and DSCP for routed traffic. Default is auto.

--pcp-tc *string*

Specifies the PCP to TC QoS map name.

--dscp-tc *string*

Specifies the DSCP to TC QoS map name.

--tc-pcp *string*

Specifies the TC to PCP QoS map name.

--tc-dscp *string*

Specifies the TC to DSCP QoS map name.

--service-policy *string*>

Specifies the Service Policy Map Name along with direction in format "name[servicePolicy1],dir[in|out]"

Examples

This example removes the PCP to TC map and service policy map associated with QoS profile.

```
eefa policy qos profile delete --name qosProfile1 --pcp-tc pcp2tcMap  
--service-policy servicePolicyMap
```

This example deletes the entire specified profile.

```
efa policy qos profile delete --name qosProfile1
```

efa policy qos profile bind

Apply QoS profile settings

Syntax

```
efa policy qos profile bind [ --name string | --fabric fabricName |  
    --tenant tenantName | --port stringArray | --po po-list | --device  
    stringArray]
```

Parameters

--device *stringArray*

List of device ip of a fabric to bind. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

--fabric *fabricName*

Specifies the name of the fabric to bind.

--name *string*

Specifies the name of the QoS profile.

--port *stringArray*

Optional. Used to bind fabric-internal ports or a list of physical ports of a tenant to bind. Example: "fabric-internal" or "SW1_IP[0/1,0/2,0/5:1-2], SW2_IP[0/3,0/6,0/9-20]".

--po *po-list*

Optional. Used to specify the list of port-channels of a tenant to bind. Example: po3,po5,po9,po12.

--tenant *tenantName*

Specifies the name of the tenant to bind.

Examples

This example applies the configuration of QoS profile "fabricProfile1" to all devices and interfaces in fabric "fabric1".

```
efa policy qos profile bind --name fabricProfile1 --fabric fabric1
```

This example applies the configuration of QoS profile "fabricProfile2" to all internal ports in fabric "fabric1", but excludes applying the configuration on any edge interfaces. These ports were previously bound with "fabricProfile1" in the above example.

```
efa policy qos profile bind --name fabricProfile2 --fabric fabric1 --port "fabric-  
internal"
```

This example applies the configuration of a QoS profile named "tenantProfile1" to all devices or interfaces in "tenant1".

```
efa policy qos profile bind --name tenantProfile1 --tenant tenant1
```

This example applies the configuration of a QoS profile named "tenantProfile2" to 2 interfaces and 3 port-channels within "tenant1".

```
efa policy qos profile bind --name tenantProfile2 --tenant tenant1 --port  
"1.1.1.1[0/1,0/2]" --po po3,po4,po22
```

efa policy qos profile unbind

Remove QoS profile settings

Syntax

```
efa policy qos profile unbind [ --name string | --fabric fabricName |  
--tenant tenantName | --port stringArray | --po po-list ]
```

Parameters

--name *string*

Specifies the name of the QoS profile.

--fabric *string*

Specifies the name of the fabric to unbind.

--tenant *tenantName*

Specifies the name of the tenant to bind.

--port *stringArray*

Optional. Used to bind fabric-internal ports or a list of physical ports of a tenant to bind. Example: "fabric-internal" or "SW1_IP[0/1,0/2,0/5:1-2], SW2_IP[0/3,0/6,0/9-20]".

--po *po-list*

Optional. Used to specify the list of port-channels of a tenant to bind. Example: po3,po5,po9,po12.

Examples

This example removes the configuration of a specified QoS profile from all devices and interfaces on a specified fabric.

```
efa policy qos profile unbind --name fabricProfile1 --fabric fabric1
```

This example removes the configuration of a QoS profile named "tenantProfile2" from all devices or interfaces on "tenant1" on which the configuration has been applied.

```
efa policy qos profile unbind --name tenantProfile1 --tenant tenant1
```

This example removes the configuration of a QoS profile named "tenantProfile2" from device IP 1.1.1.1 ethernet 0/1 (ethernet 0/1 is a member of tenant1)

```
efa policy qos profile unbind --name tenantProfile2 --tenant tenant1 --port  
"1.1.1.1[0/1]" --po po3,po4
```

efa policy qos profile list

List QoS profiles

Syntax

```
efa policy qos profile list [ --ip device-ips | --name string | --  
interface interface-name ]
```

Parameters

--ip *Device-ips*

Specifies a comma-separated range of device IP addresses. Example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the QoS profile.

--interface *interface-name*

Specifies the name of the interface. Valid options are pcp-tc-map, dscp-tc-map, tc-pcp-map, tc-dscp-map. Example "Ethernet 0/3,0/10-16,0/18:2-4" or "Port-channel 1-3,64"

Examples

This example lists configuration details of the QoS Profile fabricProfile1 given a range of devices. The output now includes service policy map name.

```
efa policy qos profile list --name fabricProfile1 --ip 10.20.245.1-3
```

QoS Profile details:

Name: qosProfile10

Trust: auto

Dscp->TC: Map2

TC->Dscp: Map3

Service Policy Map: servicePolicy1, out

Device Bindings:

Name	IP Address	App State
fabricProfile1	10.20.245.1	cfg-in-sync
	10.20.245.2	cfg-in-sync
	10.20.245.3	cfg-in-sync

efa policy qos service-policy-map create

Create service policy map

Syntax

```
efa policy qos service-policy-map create [ --name string | --rule
stringArray ]
```

Parameters

--name *string*

Specifies the name of the QoS service policy map.

--rule *stringArray*

Specifies the QoS service policy rule. The rule must use the following format: `strict-priority[n],dwrr[weight-list],class-map[default]`. To configure maximum bandwidth for strict-priority queues, include `max-bw[percentage-list]`. For example: `strict-priority[3],dwrr[25;25;25;25;0],class-map[default],max-bw[33;35;0]`. The `max-bw` values specify the maximum bandwidth percentage for the strict-priority traffic classes. The number of `max-bw` values must equal the number of strict-priority queues. Use 0 for a strict-priority traffic class where no maximum bandwidth is configured. The sum of all `max-bw` percentages must be less than or equal to 100. Values map from the lowest strict-priority traffic class to the highest strict-priority traffic class.

Table 7: Valid values for strict-priority

Value	Definition
0	No strict priority queue; all are DWRR
1	Traffic Class 7 strict priority queue; rest are DWRR.
2	Traffic Class 6 through 7 strict priority queues; rest are DWRR.
3	Traffic Class 5 through 7 strict priority queues; rest are DWRR.
4	Traffic Class 4 through 7 strict priority queues; rest are DWRR.
5	Traffic Class 3 through 7 strict priority queues; rest are DWRR.
6	Traffic Class 2 through 7 strict priority queues; rest are DWRR.
7	Traffic Class 1 through 7 strict priority queues; rest are DWRR.

default is the only value supported for *class-map*.

The sum of DWRR weights must equal 100.

Usage Guidelines

**Note**

The `max-bw` option is supported for SLX devices only.

When `max-bw` is configured, XCO creates speed-specific service policy maps for supported port speeds and binds the appropriate service policy map based on interface speed.

Examples

This example creates a QoS service policy map named `servicePolicy1`, specifying strict priority for traffic classes 5–7 and specifies DWRR weights for traffic classes 0–4.

```
efa policy qos service-policy-map create --name servicePolicy1  
--rule "strict-priority[3],dwrr[25;25;25;25;0],class-map[default]"
```

This example creates a QoS service policy map with three strict-priority queues and maximum bandwidth values for those queues.

```
efa policy qos service-policy-map create --name h1 --rule "strict-  
priority[3],dwrr[25;25;25;25;0],class-map[default],max-bw[33;35;0]"
```

efa policy qos service-policy-map delete

Delete QoS service policy map

Syntax

```
efa policy qos service-policy-map delete [ --name string | --oob ]
```

Parameters

--name *string*

Specifies the name of the QoS service policy map to delete.

--oob

Optional command to delete out of band entries and remove configuration from associated devices.

Examples

This example deletes a QoS service policy map named servicePolicy1.

```
efa policy qos service-policy-map delete --name servicePolicy1
```


efa policy qos service-policy-map list

Show QoS service policy map configurations.

Syntax

```
efa policy qos service-policy-map list [ --name string | --ip ip-addr ]
```

Parameters

--name *string*

Specifies the name of the QoS service policy map.

--ip *ip-addr*

Specifies the IP address of the device.

Examples

This example lists the configuration details of the QoS service policy map named servicePolicy1.

```
efa policy qos service-policy-map list --name servicePolicy1
```

QoS Service Policy Map details:

Name: servicePolicy1

Strict Priority	DWRR weights	Class	Max bandwidth
2	50,25,25,0,0,0	default	33,35

This example lists the configuration details of the QoS service policy map named servicePolicy1, along with the application state on the specified devices.

```
efa policy qos service-policy-map list --name servicePolicy1 --ip 10.20.245.1-2
```

QoS Service Policy Map details:

Name: servicePolicy1

Strict Priority	DWRR weights	Class	Max bandwidth
2	50,25,25,0,0,0	default	33,35

Device Bindings:

IP Address	App State
10.20.245.1	cfg-in-sync
10.20.245.2	cfg-in-sync

efa policy qos service-policy-map update

Update QoS service policy map

Syntax

```
efa policy qos service-policy-map update [ --name string | --rule
stringArray ]
```

Parameters

--name *string*

Specifies the name of the QoS service policy map.

--rule *stringArray*

Specifies the QoS service policy rule. The rule must use the following format: `strict-priority[n],dwrr[weight-list],class-map[default]`. To configure maximum bandwidth for strict-priority queues, include `max-bw[percentage-list]`. For example: `strict-priority[3],dwrr[25;25;25;25;0],class-map[default],max-bw[40;50;0]`. The `max-bw` values specify the maximum bandwidth percentage for the strict-priority traffic classes. The number of `max-bw` values must equal the number of strict-priority queues. Use 0 for a strict-priority traffic class where no maximum bandwidth is configured. The sum of all `max-bw` percentages must be less than or equal to 100. Values map from the lowest strict-priority traffic class to the highest strict-priority traffic class.

Table 8: Valid values for strict-priority

Value	Definition
0	No strict priority queue; all are DWRR
1	Traffic Class 7 strict priority queue; rest are DWRR.
2	Traffic Class 6 through 7 strict priority queues; rest are DWRR.
3	Traffic Class 5 through 7 strict priority queues; rest are DWRR.
4	Traffic Class 4 through 7 strict priority queues; rest are DWRR.
5	Traffic Class 3 through 7 strict priority queues; rest are DWRR.
6	Traffic Class 2 through 7 strict priority queues; rest are DWRR.
7	Traffic Class 1 through 7 strict priority queues; rest are DWRR.

default is the only value supported for *class-map*.

The sum of DWRR weights must equal 100.

Update of a policy map's content could be restricted if the map is referenced by an actively bound QoS profile.

Usage Guidelines



Note

The `max-bw` option is supported for SLX devices only.

When `max-bw` is configured, XCO creates speed-specific service policy maps for supported port speeds and binds the appropriate service policy map based on interface speed.

To remove the maximum bandwidth configuration, update the service policy rule without specifying the `max-bw` option.

Examples

This example updates a QoS service policy map named `servicePolicy1`, for strict priority value of 2 and new weights as follows.

```
efa policy qos service-policy-map update --name servicePolicy1
--rule "strict-priority[2],dwrr[50;25;25;0;0;0],class-map[default]"
```

This example updates a QoS service policy map by changing the maximum bandwidth values for the strict-priority queues.

```
efa policy qos service-policy-map update --name h1 --rule "strict-
priority[3],dwrr[25;25;25;25;0],class-map[default],max-bw[40;50;0]"
```

This example removes the maximum bandwidth configuration from a QoS service policy map while retaining the existing strict-priority and DWRR scheduling configuration.

```
efa policy qos service-policy-map update --name h1 --rule "strict-
priority[3],dwrr[25;25;25;25;0],class-map[default]"
```

efa policy route-map create

Creates a route map with one or more rules.

Syntax

```
efa policy route-map create [ --name string | --rule stringArray]
```

Parameters

--name *string*

Specifies the name of the route map.

--rule *stringArray*

Specifies the route-map rule in the format `seq[<sequence-number>],action[permit|deny]`.

Both `seq` and `action` are supported on OS ONE devices.

Usage Guidelines

Execute **efa policy route-map update --operation add-device** to push the configuration initially on to the device. Any subsequent changes to existing configurations are automatically applied to devices where the route-map is present.

OS ONE route maps are implemented as routing policies.

Each route-map rule creates a routing policy statement whose sequence number and policy result correspond to the specified `seq` and `action`.

Examples

This example creates a route map.

```
efa policy route-map create \  
  --name rmap_1 \  
  --rule "seq[5],action[permit]"
```

efa policy route-map update

Adds or deletes the route map configuration on a list of devices. Can be used to update the action for a given route map rule.

Syntax

```
efa policy route-map update [ --name string | --rule string | --operation  
    { add-device | remove-device | update-action } | --ip string]
```

Parameters

--ip *string*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the route map that you want to update.

--operation { add-device | remove-device | update-action }

Specifies the type of operation that you want to perform.

--rule *string*

Specifies the rule in the following format: seq[seq-num],action[permit/deny].

Usage Guidelines

A route map can be associated with multiple rules.

For an add-device operation, specify **only** the device IP address and route map name. The operation adds all the rules of the route map on the specified devices.

For a remove-device operation, specify **only** the device IP address and route map name. The operation deletes all the rules of the route map on the specified devices.



Note

The remove-device operation fails if the route map is bound to a BGP neighbor.

For an update-action operation, specify the route map name and the rule. You can modify the action to permit or deny for a specific rule. You can provide only one rule at a time.

The add-device and remove-device operations add or remove the specified route map from the specified devices.

The update-action operation changes the permit or deny action for an existing route-map rule.

For OS ONE devices, route maps are synchronized as routing policies.

Examples

This example configures a route map rule on devices 10.20.246.10 and 10.20.246.11. Assume there are two route map rules for a map named rmap_1 that already exists in XCO:

- rmap_1 seq 5 action permit
- rmap_1 seq 10 action permit

```
efa policy route-map update --name rmap_1 --operation add-device  
--ip 10.20.246.10-11
```

This example removes a route map from the specified devices.

```
efa policy route-map update --name rmap_1 --operation remove-device  
--ip 10.20.246.10-11
```

This example changes the action from permit to deny for the specified rule.

```
efa policy route-map update --name rmap_1  
--rule seq[5],action[deny] --operation update-action
```

This example updates the action of an existing route-map rule.

```
efa policy route-map update \  
  --name rmap_1 \  
  --operation update-action \  
  --rule "seq[5],action[deny]"
```

efa policy route-map delete

Deletes a route map rule, based on the specified sequence number.

Syntax

```
efa policy route-map delete [ --name string | --seq sequence-numbers |  
--oob ]
```

Parameters

--name *string*

Specifies the name of the route map.

--oob

Optional command to delete out of band entries and remove configuration from associated devices.

--seq *sequence-numbers*

Specifies a comma-separated list of the sequence numbers of the rules you want to delete, or specifies all to delete all rules.

Usage Guidelines

The command removes the route map rule from the XCO database and from the associated devices.

You can delete a specific rule of a route map by specifying the route map name and the sequence number of the rule.

You can delete all rules for the specified route map by entering `--seq all`.

The result of this command depends on whether the route map is bound with a BGP neighbor.

- You cannot delete the last route map rule when the route map is bound to a BGP peer.
- If the route map has no bindings, the command deletes the configuration on all devices associated with the route map.

Specify one or more sequence numbers to delete selected rules from a route map.

Specify `all` to delete every rule in the route map.

For OS ONE devices, deleting the final rule also removes the corresponding routing policy.

Examples

This example deletes two rules with sequence numbers 5 and 10 from a route map (`rmap_1`) that has three rules:

- `rmap_1 seq 5 action permit`
- `rmap_1 seq 10 action permit`

- rmap_1 seq 20 action permit

```
efa policy route-map delete --name rmap_1 --seq 5,10
```

This example deletes all rules for the route map.

```
efa policy route-map delete --name rmap_1 --seq all
```


efa policy route-map list

Displays the route maps for the specified devices.

Syntax

```
efa policy route-map list [ --ip string | --name string | --detail ]
```

Parameters

--detail

Displays detailed information of OOB entries.

--ip *string*

Specifies a comma-separated range of device IP addresses. For example:
10.1.1.13,10.1.1.50,10.1.1.101.

--name *string*

Specifies the name of the route map.

Usage Guidelines

In the command output, the App State column reflects the state of configuration on the specified device. When there is drift in a rule, the App State is shown as `cfg-refreshed`.

Use the `--detail` option to display out-of-band route-map entries.

On OS ONE devices, route maps are displayed using the routing-policy configuration synchronized by XCO.

Examples

This example displays the route maps for the devices at 10.20.246.10 and 10.20.246.11.

```
efa policy route-map list --ip 10.20.246.10-11
```

Route-map details:

Name: rmap_1

Seq: 5

Action: permit

Match-ipv4-prefixlist:

Prefix-list: prefix_1

Name: rmap_2

Seq: 5

Action: permit

Match-ipv4-prefixlist:

Prefix-list: prefix_1

IP Addresses:

Name	Seq	IP Address	App State
rmap_1	5	10.20.246.10	cfg-in-sync
rmap_1	5	10.20.246.11	cfg-in-sync

rmap_2	5	10.20.246.10	cfg-in-sync	
+-----+	+-----+	+-----+	+-----+	+-----+
rmap_2	5	10.20.246.11	cfg-in-sync	
+-----+	+-----+	+-----+	+-----+	+-----+

```
efa policy route-map list --ip 10.20.246.29 -detail
```

Route Map details

Name: rmap1

Seq: 5

Action: permit

Matches:

match: matchExtcommunityList extcommunitystd1

Sets:

Name: rmap1

Seq: 65535

Action: permit

Matches:

Sets:

set: setCommunityValue 6550:125 internet local-as setNextHopIpv6 2004::22

efa policy route-map-match create

Creates the match criterion for a route map rule on supported devices.

Syntax

```
efa policy route-map-match create [ --match-community-list string |  
  --match-extcommunity-list string | --match-ipv4-prefix string | --  
  match-ipv6-prefix string | --match-largecommunity-list string | --  
  match-prefix-set string | --name route-map name | --rule string ]
```

Parameters

--match-community-list *string*
Specifies the community list name.

--match-extcommunity-list *string*
Specifies the extcommunity list name.

--match-ipv4-prefix *string*
Specifies the name of the IPv4 prefix list that contains the rule that you want to match.
In OS ONE-only deployments, use **--match-prefix-set** instead.

--match-ipv6-prefix *string*
Specifies the name of the IPv6 prefix list that contains the rule that you want to match.
In OS ONE-only deployments, use **--match-prefix-set** instead.

--match-largecommunity-list *string*
Specifies the large community list name.
Not supported for OS ONE devices.

--match-prefix-set *string*
Specifies the prefix-set name.
Supported for OS ONE-only deployments. A prefix set can contain both IPv4 and IPv6 prefixes.

--name *route-map name*
Specifies the name of the route map.

--rule *string*
Specifies the rule in the following format: *seq[seq-num],action[permit/deny]*.
Example: *seq[5],action[permit]*.

Usage Guidelines

There is no separate CLI to display the route-map match criteria. Use **efa policy route-map list** to display the configured match criteria.

For OS ONE-only deployments, use **--match-prefix-set** to reference a prefix set containing IPv4 and IPv6 prefixes.

Examples

```
efa policy route-map-match create --name rmap_1
--rule seq[5],action[permit] --match-ipv4-prefix prefix_1

efa policy route-map-match create --name telco_3
_in --rule seq[14],action[permit] --match-ipv4-prefix prefix_1_in

efa policy route-map-match create --name telco_3_in
--rule seq[14],action[permit] --match-community-list commList1 --match-extcommunity-list
excommList1
efa policy route-map-match create --name foo
--rule seq[10],action[permit] --match-extcommunity-list extFoo
```

```
efa policy route-map-match create --name rmap_test
--rule "seq[11],action[permit]" --match-ipv6-prefix prefix_1_in
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap_test      | 11      | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Success |        |                  |
+-----+-----+-----+-----+
| 10.20.246.30 | Success |        |                  |
+-----+-----+-----+-----+
Device Results
```

```
efa policy route-map-match create --name rmap_test
--rule "seq[11],action[permit]" --match-ipv6-prefix prefix_1_in
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap_test      | 11      | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.20.246.29 | Success |        |                  |
+-----+-----+-----+-----+
| 10.20.246.30 | Success |        |                  |
+-----+-----+-----+-----+
Device Results
```

```
efa policy route-map-match delete --name rmap_test
--rule "seq[10],action[permit]" --match-ipv6-prefix prefix_1_in
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap_test      | 10      | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
```

```
+-----+-----+-----+
| 10.20.246.29 | Success |         |
+-----+-----+-----+
| 10.20.246.30 | Success |         |
+-----+-----+-----+
Device Results
```

This example creates a route-map match using a prefix set on an OS ONE device.

```
efa policy route-map-match create --name rmap_1 --rule "seq[5],action[permit]" --match-
prefix-set prefix_set_1
```

efa policy route-map-match delete

Deletes the match criterion for a route map rule on SLX-OS and OS ONE devices.

Syntax

```
efa policy route-map-match delete [ --name string | --rule string |  
  --match-ipv4-prefix string | --match-ipv6-prefix string | --match-  
  community-list string | --match-extcommunity-list string | --match-  
  largecommunity-list string ]
```

Parameters

--match-community-list *string*

Specifies the community-list name.

--match-extcommunity-list *string*

Specifies the extcommunity-list name.

--match-ipv4-prefix *string*

Specifies the name of the IPv4 prefix list that contains the rule that you want to delete.

In OS ONE-only deployments, use **--match-prefix-set** instead.

--match-ipv6-prefix *string*

Specifies the name of the IPv6 prefix list that contains the rule that you want to delete.

In OS ONE-only deployments, use **--match-prefix-set** instead.

--match-largecommunity-list *string*

Specifies the large community list name.

Not supported for OS ONE devices.

--match-prefix-set *string*

Specifies the prefix-set name.

Supported for OS ONE-only deployments. A prefix set can contain both IPv4 and IPv6 prefixes.

--name *string*

Specifies the name of the route map.

--rule *string*

Specifies the rule in the following format: `seq[seq-num],action[permit/deny]`.

Example: `seq[5],action[permit]`.

Usage Guidelines

There is no separate CLI to display the route-map match criteria. Use **efa policy route-map list** to display the configured match criteria.

For OS ONE-only deployments, use **--match-prefix-set** to reference a prefix set containing IPv4 and IPv6 prefixes.

Examples

```
efa policy route-map-match delete --name telco_3_in
--rule seq[14],action[permit] --match-community-list commList1

efa policy route-map-match delete --name telco_3_in
--rule seq[14],action[permit] --match-extcommunity-list excommList1

efa policy route-map-match delete --name telco_3_in
--rule seq[14],action[permit] --match-ipv4-prefix prefix_1_in
efa policy route-map-match delete --name foo
--rule seq[10],action[permit] --match-extcommunity-list extFoo

efa policy route-map-match delete --name rmap_test --rule "seq[10],action[permit]"
--match-ipv6-prefix prefix_1_in
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap_test      | 10      | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+
| 10.20.246.29 | Success |        |                  |
+-----+-----+-----+
| 10.20.246.30 | Success |        |                  |
+-----+-----+-----+
Device Results

Name: rmap_test
Seq: 10
Action: permit
Matches:
    match: matchIPv6PrefixList prefix_1_in
Sets:
Name: rmap_test
Seq: 11
Action: permit
Matches:
    match: matchIPv6PrefixList prefix_1_in
Sets:
```

This example removes a prefix-set match from a route-map rule on an OS ONE device.

```
efa policy route-map-match delete --name rmap_1 --rule "seq[5],action[permit]" --match-
prefix-set prefix_set_1
```

efa policy route-map-set create

Create route map set.

Syntax

```
efa policy route-map-set create [ --name string | --rule string
| --set-community string | --set-extcommunity-rt string | --set-
extcommunity-soo string | --set-communitylist-delete string | --set-
large-community string | --set-large-communitylist-delete string | --
set-next-hop string ]
```

Parameters

--name *string*

Specifies the name of the route map.

--rule *string*

Rule in format seq[seq-num],action[permit/deny].

--set-community *string*

In format [1-4294967295 | AA:NN, AA and NN is 2 bytes | internet | local-as | no-export | no-advertise]. Example: 6550:125,local-as,internet.

This option is not supported for Extreme OS ONE devices.

--set-extcommunity-rt *string*

In format [ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes]. Example: 2:300,12.12.13.33:24.

This option is not supported for OS ONE devices.

--set-ext-community-soo *string*

In format [ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes]. Example: 32:124.

This option is not supported for OS ONE devices.

--set-communitylist-delete *string*

Specifies the name of the community list to delete.

--set-large-community *string*

In format value[value: <NN:NN:NN | additive> NN is 4 bytes]. Example: 10:20:30,40:50:60,additive.

This option is not supported for OS ONE devices.

--set-large-communitylist-delete *string*

Specifies the name of the large community list to delete.

This option is not supported for OS ONE devices.

--set-next-hop *string*

In format ipv4|ipv6,next-hop-address. Example: ipv6,2003::23 ipv4,10.2.3.2

Usage Guidelines



Note

Support for efa policy route-map-set options depends on the target device operating system.

For OS ONE devices, only the following route-map set operations are supported:

- **--set-next-hop**
- **--set-communitylist-delete**

The following options are **not supported** on Extreme-OS ONE devices:

- **--set-community**
- **--set-extcommunity-rt**
- **--set-extcommunity-soo**
- **--set-large-community**
- **--set-large-communitylist-delete**

If these options are specified for an Extreme-OS ONE device, the operation is not supported.

Examples

```
efa policy route-map-set create --name rmap1 --rule "seq[1],action[permit]"
--set-largcommunitylist-delete lgcomm1
```

```
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap1         | 1       | permit |
+-----+-----+-----+
```

Route Map details

```
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.159 | Success |        |                  |
+-----+-----+-----+-----+
```

Device Results

```
efa policy route-map-set create --name rmap1 --rule "seq[1],action[permit]"
--set-largcommunity 50:50:50,additive
```

```
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap1         | 1       | permit |
+-----+-----+-----+
```

Route Map details

```
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.159 | Success |        |                  |
+-----+-----+-----+-----+
```

Device Results

```
efa policy route-map-set delete --name foo --rule seq[10],action[permit] --set-community
6550:125,internet,local-as --set-next-hop ipv6,2004:22
```

```
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
```

```

+-----+-----+-----+
| foo | 10 | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address | Result | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.161 | Success | | |
+-----+-----+-----+-----+
| 10.139.44.162 | Success | | |
+-----+-----+-----+-----+
Device Results
--- Time Elapsed: 11.547377938s ---

```

OS ONE Examples

```

efa policy route-map-set create \
  --name rmap1 \
  --rule "seq[10],action[permit]" \
  --set-next-hop ipv4,10.10.10.1

efa policy route-map-set create \
  --name rmap1 \
  --rule "seq[20],action[permit]" \
  --set-communitylist-delete comm_list1

```

efa policy route-map-set delete

Delete route map set.

Syntax

```
efa policy route-map-set delete [ --name string | --rule string
| --set-community string | --set-extcommunity-rt string | --set-
extcommunity-soo string | --set-communitylist-delete string | --set-
large-community string | --set-large-communitylist-delete string | --
set-next-hop string ]
```

Parameters

--name *string*

Specifies the name of the route map.

--rule *string*

Rule in format seq[seq-num],action[permit/deny].

--set-community *string*

In format [1-4294967295 | AA:NN, AA and NN is 2 bytes | internet | local-as | no-export | no-advertise]. Example: 6550:125,local-as,internet.

This option is not supported for OS ONE devices.

--set-extcommunity-rt *string*

In format [ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes]. Example: 2:300,12.12.13.33:24.

This option is not supported for OS ONE devices.

--set-extcommunity-soo *string*

In format [ASN:NN|IpAddress:NN, ASN and NN is 2 or 4 bytes]. Example: 32:124.

This option is not supported for OS ONE devices.

--set-communitylist-delete *string*

Specifies the name of the community list to delete.

--set-large-community *string*

In format value[value: <NN:NN:NN | additive> NN is 4 bytes].

This option is not supported for OS ONE devices.

--set-large-communitylist-delete *string*

Specifies the name of the large community list to delete.

This option is not supported for OS ONE devices.

--set-next-hop *string*

In format ipv4|ipv6,next-hop-address Example: ipv6,2003::23 ipv4,10.1.2.4

Usage Guidelines



Note

Support for efa policy route-map-set options depends on the target device operating system.

For OS ONE devices, only the following route-map set operations are supported:

- **--set-next-hop**
- **--set-communitylist-delete**

The following options are **not supported** on OS ONE devices:

- **--set-community**
- **--set-extcommunity-rt**
- **--set-extcommunity-soo**
- **--set-large-community**
- **--set-large-communitylist-delete**

If these options are specified for an OS ONE device, the operation is not supported.

Examples

```
efa policy route-map-set delete --name rmap1 --rule "seq[1],action[permit]"
--set-largecommunity 50:50:50,additive --set-largecommunitylist-delete lg1
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| rmap1          | 1       | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.159 | Success |        |                  |
+-----+-----+-----+-----+
Device Results
```

```
efa policy route-map-set delete --name foo --rule seq[10],action[permit] --set-community
6550:125,internet,local-as --set-next-hop ipv6,2004:22
+-----+-----+-----+
| Route Map Name | Seq num | Action |
+-----+-----+-----+
| foo | 10 | permit |
+-----+-----+-----+
Route Map details
+-----+-----+-----+-----+
| IP Address   | Result  | Reason | Rollback reason |
+-----+-----+-----+-----+
| 10.139.44.161 | Success | | |
+-----+-----+-----+-----+
| 10.139.44.162 | Success | | |
+-----+-----+-----+-----+
Device Results
--- Time Elapsed: 11.547377938s ---
```

OS ONE Examples

```
efa policy route-map-set delete \  
  --name rmap1 \  
  --rule "seq[10],action[permit]" \  
  --set-next-hop ipv4,10.10.10.1  
  
efa policy route-map-set delete \  
  --name rmap1 \  
  --rule "seq[20],action[permit]" \  
  --set-communitylist-delete comm_list1
```

efa rbac execution

Displays or deletes the execution logs of the Auth and RBAC services.

Syntax

```
efa rbac execution show [ --id id | --limit exec-limit | --status  
  { failed | succeeded | all }]
```

```
efa rbac execution delete [ --day days ]
```

Parameters

--id *id*

Filters the log entries based on execution ID. The `limit` and `status` flags are ignored when the `id` flag is used.

--limit *exec-limit*

Limits the number of log entries to be listed. Enter 0 to show all of the executions. The default is 10.

--status { **failed** | **succeeded** | **all** }

Filters the log entries based on the status. The default is `all`.

--day *days*

Deletes log entries older than the specified number of days. The default is 30 days.

efa rbac role show

Displays the static and dynamic roles available in XCO.

Syntax

```
efa rbac role show [ --name role-name ]
```

Parameters

--name *role-name*

Specifies name of the role.

Usage Guidelines

Output of the command is as follows.

Role	Description
FabricAdmin	- Registers devices to the fabric - Configures fabric parameters - Validates all devices in the fabric - Configures switches for IP fabric with overlay and without overlay - Creates tenants - Creates networks inside tenants, such as VRF, EPG, and PO - Performs fabric debug activities - Has privileges for Hyper-V, and vCenter operations
SecurityAdmin	Performs user management, PKI, and key management operations
NetworkOperator	- Has view-only privileges for fabric configurations, information for tenants and inventory, and all ecosystem information - Cannot make changes in the system
SystemDebugger	- Has privileges to perform supportsave and system backup, and to view the running system configurations - Has privileges to perform fabric debug operations - Sets debug levels for services - Has privileges to collect execution logs from services

Role	Description
SystemAdmin	Has complete privileges to all operations in the system
<Tenant>Admin * Created dynamically per tenant	Performs tenant administration within the assigned tenant, such as the following: • Adding networks to the tenant • Configuring network parameters • Configuring switches with tenant-specific information Cannot perform actions for any other tenant

efa scvmm delete

Deletes the SCVMM server.

Syntax

```
efa scvmm delete [--host ip | --cleanup-epgs ]
```

Parameters

--host *ip*

Specifies the IP address or host name of the SCVMM server to be deleted.

--cleanup-epgs

Cleans up EPGs from the tenant service when the SCVMM server is deleted.

efa scvmm links physical

Configures SCVMM physical links.

Syntax

```
efa scvmm links physical [ --host ip-host | --hyperv hostname ]
```

Parameters

--host *ip-host*

Specifies the IP address or host name of the SCVMM server.

--hyperv *hostname*

Specifies the name of the Hyper-V host.

efa scvmm links virtual

Configures SCVMM virtual links.

Syntax

```
efa scvmm links virtual [ --hyperv hostname ]
```

Parameters

--hyperv *hostname*

Specifies the name of the Hyper-V host.

efa scvmm list

Lists all SCVMM servers and their summary information.

Syntax

```
efa scvmm list [ --host string]
```

Parameters

--host *string*

Specifies the name or IP address of the SCVMM server.

efa scvmm register

Registers an SCVMM server.

Syntax

```
efa scvmm register [ --host ip | --username user name | --password password | --tenant tenant ]
```

Parameters

--host *ip*

Specifies the IP address or name of the SCVMM server to connect to.

--username *user name*

Specifies the user name with which to connect to the SCVMM server.

--password *password*

Specifies the password with which to connect to the SCVMM server.

--tenant *tenant*

Specifies the tenant name for the SCVMM server.

efa scvmm settings show

Lists SCVMM Service settings.

Syntax

```
efa scvmm settings show
```

efa scvmm settings update

Updates SCVMM service settings.

Syntax

```
efa scvmm settings update [ --poll-frequency frequency ]
```

Parameters

--poll-frequency *frequency*

Specifies the polling frequency in hours. Valid values range from 1 to 24.

efa scvmm update

Updates the SCVMM server.

Syntax

```
efa scvmm update [ --host ip-host | --username user name | --password  
                    password ]
```

Parameters

--host *ip-host*

Specifies the IP address or host name of the SCVMM server you want to update.

--username *user name*

Specifies the user name with which to connect to the SCVMM server.

--password *password*

Specifies the password with which to connect to the SCVMM server.

efa snmp subscriber

Lists, adds, or unregisters SNMP trap subscribers. Traps received can have source IPv4/IPv6 address of Active Node or Virtual IPv4/IPv6 address for multi node deployment.

Syntax

```
efa snmp subscriber list
```

```
efa snmp subscriber add [ --host ipv4/ipv6 | --type type | --community community | --v3user user | --auth auth_protocol | --authpassword password | --priv priv_protocol | --privpassword password ]
```

```
efa snmp subscriber unregister [ --host ipv4/ipv6 ]
```

Parameters

--host *ipv4/ipv6*

(Required) Specifies the IP address or host name of the SCVMM server you want to update. Can be either IPv4 or IPv6 address.

--type *type*

(Required) v2c or v3.

--community *community*

(Optional) Community string for v2c trap type.

--v3user *user*

(Required for v3 type) v3 user when trap type is v3.

--auth *auth_protocol*

(Optional) v3 authentication protocol (MD5 or SHA1) when trap type is v3.

--authpassword *user name*

(Optional) v3 authentication password when trap type is v3. Default is "<prompt>".

--priv *priv_protocol*

(Optional) v3 privacy protocol (DES or AES) when trap type is v3.

--privpassword *password*

(Optional) v3 privacy password when trap type is v3. Default is "<prompt>".

Examples

This example shows how to add a version 2c trap receiver.

```
# efa snmp subscriber add --host 10.20.241.86 --type v2c --community
    testcommunity
Register SNMP Trap forwarding
Successfully registered trap subscriber.
+-----+-----+
| attribute | value |
+-----+-----+
| id        | 1     |
+-----+-----+
```

```

| host          | 10.20.241.86 |
+-----+
| type          | v2c           |
+-----+
| community     | testcommunity |
+-----+
| v3 user       | efaUser       |
+-----+
| v3 Auth Type  |               |
+-----+
| v3 Priv Type  |               |
+-----+
Trap Subscriber Host=10.20.241.86

```

This example shows how to add an SMTP version 3 trap receiver.

```

efa snmp subscriber add --host 2.1.1.1 --type v3 --v3user efaUser
--auth SHA1 --authpassword testing --priv AES --privpassword testingPrivacy
Register SNMP Trap forwarding
Successfully registered trap subscriber.
+-----+
| attribute    | value         |
+-----+
| id           | 2             |
+-----+
| host         | 2.1.1.1       |
+-----+
| type         | v3            |
+-----+
| community    |               |
+-----+
| v3 user      | efaUser       |
+-----+
| v3 Auth Type | SHA1          |
+-----+
| v3 Priv Type | AES           |
+-----+
Trap Subscriber
Host=2.1.1.1

```

This example lists currently registered trap subscribers.

```

efa snmp subscriber list
+-----+-----+-----+-----+-----+-----+-----+
| id | type | host   | community | user   | Auth Protocol | Privacy Protocol |
+-----+-----+-----+-----+-----+-----+-----+
| 64 | v3   | 2.1.1.1 |           | efaUser | SHA1          | AES              |
+-----+-----+-----+-----+-----+-----+-----+
SNMP Trap Subscribers Count=2
--- Time Elapsed: 263.997115ms ---

```

This example deletes a trap subscriber.

```

efa snmp subscriber unregister --host 2.1.1.1
Delete SNMP Trap forwarding subscriber
Successfully unregistered trap subscriber

```

efa show-running-config

Displays the running-config of all current XCO configurations.

Syntax

```
efa show-running-config
```

Usage Guidelines

Run this command to display the running-config of current configurations for core services.

The output is displayed in the following order: Asset, Fabric, Tenant commands.

The output contains the default values for each configuration line item.

You can use the command output for CLI playback on an empty XCO deployment. The output is a useful tool for recovery.



Note

For Extreme OS ONE, the **--force-default-password-change** attribute is always enabled. Even if you set it to disable, it still shows as Enable in **efa show-running-config** command output.

Examples

This example shows a truncated list of typical output. Running configuration output showing the complete XCO deployment state across Asset, Fabric, and Tenant sections, including device registration, VRF creation with static routes and BFD, BGP peer-group and peer configuration, and EPG definitions.

```
efa tenant vrf create --tenant "Tnt-5" --name "Tnt-5_VR1" --routing-type "distributed" --
layer3-extension-enable false --rt-type import --rt 102:102 --rt-type export --rt 102:102
--ipv4-static-route-next-hop 10.64.224.17,2.4.1.0/24,2.2.1.3 --ipv4-static-route-next-hop
10.64.224.17,2.4.1.0/24,2.2.6.4 --ipv4-static-route-bfd 10.64.224.17,2.2.1.3,,300,300,3
--ipv4-static-route-bfd 10.64.224.17,2.2.6.4,,300,300,3 --max-path 50 --redistribute
connected --redistribute static --graceful-restart-enable --next-hop-recursion-enable
true --default-information-originate-enable true
...
efa tenant service bgp peer-group create --tenant "Tnt-6"
--name "PG_Policy_6_1" --pg-name 10.64.224.16:pg1:Tnt-6_VR1 --pg-asn
10.64.224.16,pg1,Tnt-6_VR1:1200065535 --pg-bfd-enable 10.64.224.16,pg1,Tnt-6_VR1:true
--pg-bfd 10.64.224.16,pg1,Tnt-6_VR1:450,50,5 --pg-next-hop-self
10.64.224.16,pg1,Tnt-6_VR1:true --pg-update-source-ip 10.64.224.16,pg1,Tnt-6_VR1:10ab::1
--pg-md5-password 10.64.224.16,pg1,Tnt-6_VR1:<password> --pg-ipv6-uc-nbr-
activate 10.64.224.16,pg1,Tnt-6_VR1:true --pg-ipv6-uc-nbr-add-path-capability
10.64.224.16,pg1,Tnt-6_VR1:receive
...
efa tenant service bgp peer create --tenant "Tnt-6" --
name "customer_Policy_6_1" --ipv4-uc-nbr 10.64.224.16,Tnt-6_VR1:1.1.1.10,pg2
--ipv4-uc-nbr-bfd 10.64.224.16,Tnt-6_VR1:1.1.1.10,true,50,5001,50 --ipv4-
uc-nbr-update-source-ip 10.64.224.16,Tnt-6_VR1:1.1.1.10,10.11.12.13 --
ipv4-uc-dyn-nbr 10.64.224.16,Tnt-6_VR1:10.20.50.0/29,pg2,10 --ipv6-uc-
nbr 10.64.224.16,Tnt-6_VR1:110a::10,pg1 --ipv6-uc-nbr-bfd
10.64.224.16,Tnt-6_VR1:110a::10,true,50,5000,50 --ipv6-uc-nbr-update-source-ip
```

```

10.64.224.16,Tnt-6_VR1:110a::10,12a::1 --ipv6-uc-dyn-nbr 10.64.224.16,Tnt-6_VR1:13a::/
127,pg1,10
...
efa tenant epg create --tenant "Tnt-6" --name "Tnt-6_Ext_EPG1" --type extension
--switchport-mode trunk --single-homed-bfd-session-type auto --po po613 --vrf
Tnt-6_VR1 --ctag-range 1061 --anycast-ip 1061:192.168.189.254/24 --anycast-ipv6
1061:fd01:0:bd:1::fe/64 --local-ip 1061,10.64.224.16:192.168.189.101/24 --local-ipv6
1061,10.64.224.16:fd01:0:bd:1::65/64 --local-ip 1061,10.64.224.17:192.168.189.102/24 --
local-ipv6 1061,10.64.224.17:fd01:0:bd:1::66/64 --ctag-description "1061:XCO L3 Extended
VLAN" --suppress-arp 1061:false --suppress-nd 1061:false
...
--- Time Elapsed: 7.47988928s ---

```

Running Configuration — Multi-Node Installation Running configuration output showing the complete XCO deployment state across Asset and Tenant sections, including secure settings, device registration, interface breakout and description configuration, VRF creation with static routes and BFD, BGP peer-group and peer configuration, and EPG definitions. The output is displayed in the order: Asset, Fabric, Tenant commands.

```

(efa:extreme)extreme@node-1:~$ efa show-running-config
efa inventory device secure settings enable
efa inventory device secure settings update --min-tls-version 1.3 --mac-algorithm hmac-
sha1,hmac-sha1-96,hmac-sha2-256,hmac-sha2-256-etm-openssh,hmac-sha2-512,hmac-sha2-512-etm-
openssh --cipher aes128-ctr,aes128-cbc,aes128-gcm-openssh,aes256-ctr,aes192-ctr,aes256-
cbc,aes256-gcm-openssh,chacha20-poly1305-openssh --key-exchange-algorithm curve25519-
sha256,curve25519-sha256-libssh,diffie-hellman-group-exchange-sha1,diffie-hellman-group-
exchange-sha256,diffie-hellman-group14-sha1,diffie-hellman-group14-sha256,diffie-hellman-
group16-sha512,ecdh-sha2-nistp256,ecdh-sha2-nistp384,ecdh-sha2-nistp521 --telnet Enable --
max-password-age 90 --force-default-password-change Enable
efa inventory device register --ip "10.64.224.17" --username admin --password
'<encrypted>'
efa inventory device setting update --ip "10.64.224.17" --maint-mode-enable-on-reboot Yes
--maint-mode-enable No --mct-bring-up-delay 300 --prefix-independent-convergence Yes --
crypto-cert-expiry-info 70 --crypto-cert-expiry-minor 50 --crypto-cert-expiry-major 25 --
crypto-cert-expiry-critical 5 --password-expiry-info 70 --password-expiry-minor 50 --
password-expiry-major 25 --password-expiry-critical 5 --health-check-enable Yes --health-
check-interval 6m --health-check-heartbeat-miss-threshold 3 --config-backup-periodic-
enable Yes --config-backup-interval 2h --number-of-config-backups 5
efa inventory device interface set-breakout --ip "10.64.224.17" --if-type eth --if-name
0/8 --mode 4x100g
...
efa inventory device interface set-description --ip "10.64.224.17" --if-type eth --if-
name 0/2:1 --description XCO OSONE Interface
...
efa tenant create --name "Tnt-5" --type private --vlan-range 3151-3162,3171,3176 --vrf-
count 2 --port 10.64.224.16[0/20:2],10.64.224.17[0/20:2]
efa tenant po create --tenant "Tnt-5" --name "po501" --description " po501" --min-link-
count 1 --mtu 9000 --negotiation active --number 140 --lACP-timeout short --port
10.64.224.16[0/20:2],10.64.224.17[0/20:2]
efa tenant vrf create --tenant "Tnt-5" --name "Tnt-5_VR1" --routing-type "distributed" --
layer3-extension-enable false --rt-type import --rt 102:102 --rt-type export --rt 102:102
--ipv4-static-route-next-hop 10.64.224.17,2.4.1.0/24,2.2.1.3 --ipv4-static-route-next-hop
10.64.224.17,2.4.1.0/24,2.2.6.4 --ipv4-static-route-bfd 10.64.224.17,2.2.1.3,,300,300,3 --
ipv4-static-route-bfd 10.64.224.17,2.2.6.4,,300,300,3 --ipv4-static-route-next-hop
10.64.224.16,2.4.1.0/24,2.3.1.3 --ipv4-static-route-next-hop
10.64.224.16,2.4.1.0/24,2.3.6.4 --ipv4-static-route-bfd 10.64.224.16,2.3.1.3,,300,300,3 --
ipv4-static-route-bfd 10.64.224.16,2.3.6.4,,300,300,3 --max-path 50 --redistribute
connected --redistribute static --graceful-restart-enable --next-hop-recursion-enable
true --default-information-originate-enable true
efa tenant vrf create --tenant "Tnt-5" --name "Tnt-5_VR2" --routing-type "distributed" --
layer3-extension-enable false --local-asn 9001 --rt-type import --rt 103:103 --rt-type
export --rt 103:103 --ipv4-static-route-next-hop 10.64.224.16,9.0.1.0/24,9.1.1.4 --ipv4-
static-route-next-hop 10.64.224.16,9.0.2.0/24,9.1.2.4 --max-path 50 --redistribute
connected --redistribute static --graceful-restart-enable --next-hop-recursion-enable

```

```

true --default-information-originate-enable true
...
efa tenant create --name "Tnt-6" --type private --vlan-range
411-423,426,1051-1090,1411-1423,1426,1451-1473,1476,1601-1650,2411-2423,2426,2451-2473,247
6,3411-3423,3426,3801-3850 --vrf-count 14 --port
10.64.224.16[0/10:1-4,0/11:1-4,0/12:1,0/19:2-4,0/20:4],10.64.224.17[0/10:1-4,0/11:1-4,0/12
:1,0/19:2-4,0/20:4]
efa tenant po create --tenant "Tnt-6" --name "po613" --description " po613" --min-link-
count 1 --mtu 9000 --negotiation active --number 153 --lACP-timeout short --port
10.64.224.16[0/12:1],10.64.224.17[0/12:1]
...
efa tenant vrf create --tenant "Tnt-6" --name "Tnt-6_VR1" --routing-type "distributed" --
layer3-extension-enable false --rt-type import --rt 102:102 --rt-type export --rt 102:102
--ipv4-static-route-next-hop 10.64.224.17,2.4.1.0/24,2.2.1.3 --ipv4-static-route-next-hop
10.64.224.17,2.4.1.0/24,2.2.6.4 --ipv6-static-route-bfd 10.64.224.17,2:2:1::3,,300,300,3
--ipv4-static-route-bfd 10.64.224.17,2.2.1.3,,300,300,3 --ipv4-static-route-bfd
10.64.224.16,2.3.6.4,,300,300,3 --ipv4-static-route-bfd 10.64.224.16,2.3.1.3,,300,300,3 --
max-path 50 --redistribute connected --redistribute static --graceful-restart-enable --
next-hop-recursion-enable true --default-information-originate-enable true
...
efa tenant service bgp peer-group create --tenant "Tnt-6" --name "PG_Policy_6_1" --pg-
name 10.64.224.16:pg1:Tnt-6_VR1 --pg-asn 10.64.224.16:pg1:Tnt-6_VR1:1200065535 --pg-bfd-
enable 10.64.224.16:pg1:Tnt-6_VR1:true --pg-bfd 10.64.224.16:pg1:Tnt-6_VR1:450,50,5 --pg-
next-hop-self 10.64.224.16:pg1:Tnt-6_VR1:true --pg-update-source-ip
10.64.224.16:pg1:Tnt-6_VR1:10ab::1 --pg-md5-password
10.64.224.16:pg1:Tnt-6_VR1:<password> --pg-ipv6-uc-nbr-activate
10.64.224.16:pg1:Tnt-6_VR1:true --pg-ipv6-uc-nbr-add-path-capability
10.64.224.16:pg1:Tnt-6_VR1:receive --pg-name 10.64.224.16:pg2:Tnt-6_VR1 --pg-asn
10.64.224.16:pg2:Tnt-6_VR1:1200065535 --pg-bfd-enable 10.64.224.16:pg2:Tnt-6_VR1:true --
pg-bfd 10.64.224.16:pg2:Tnt-6_VR1:450,50,5 --pg-next-hop-self
10.64.224.16:pg2:Tnt-6_VR1:true --pg-update-source-ip
10.64.224.16:pg2:Tnt-6_VR1:10.20.30.1 --pg-md5-password
10.64.224.16:pg2:Tnt-6_VR1:<password> --pg-ipv4-uc-nbr-add-path-capability
10.64.224.16:pg2:Tnt-6_VR1:receive --pg-name 10.64.224.17:pg1:Tnt-6_VR1 --pg-asn
10.64.224.17:pg1:Tnt-6_VR1:1200065535 --pg-bfd-enable 10.64.224.17:pg1:Tnt-6_VR1:true --
pg-bfd 10.64.224.17:pg1:Tnt-6_VR1:450,50,5 --pg-next-hop-self
10.64.224.17:pg1:Tnt-6_VR1:true --pg-update-source-ip 10.64.224.17:pg1:Tnt-6_VR1:10ab::2
--pg-md5-password 10.64.224.17:pg1:Tnt-6_VR1:<password> --pg-ipv6-uc-nbr-activate
10.64.224.17:pg1:Tnt-6_VR1:true --pg-ipv6-uc-nbr-add-path-capability
10.64.224.17:pg1:Tnt-6_VR1:receive --pg-name 10.64.224.17:pg2:Tnt-6_VR1 --pg-asn
10.64.224.17:pg2:Tnt-6_VR1:1200065535 --pg-bfd-enable 10.64.224.17:pg2:Tnt-6_VR1:true --
pg-bfd 10.64.224.17:pg2:Tnt-6_VR1:450,50,5 --pg-next-hop-self
10.64.224.17:pg2:Tnt-6_VR1:true --pg-update-source-ip
10.64.224.17:pg2:Tnt-6_VR1:10.20.30.2 --pg-md5-password
10.64.224.17:pg2:Tnt-6_VR1:<password> --pg-ipv4-uc-nbr-add-path-capability
10.64.224.17:pg2:Tnt-6_VR1:receive
...
efa tenant service bgp peer create --tenant "Tnt-6" --name "customer_Policy_6_1" --ipv4-
uc-nbr 10.64.224.16:Tnt-6_VR1:1.1.1.10,pg2 --ipv4-uc-nbr-bfd
10.64.224.16:Tnt-6_VR1:1.1.1.10,true,50,5001,50 --ipv4-uc-nbr-update-source-ip
10.64.224.16:Tnt-6_VR1:1.1.1.10,10.11.12.13 --ipv4-uc-dyn-nbr
10.64.224.16:Tnt-6_VR1:10.20.50.0/29,pg2,10 --ipv6-uc-nbr
10.64.224.16:Tnt-6_VR1:110a::10,pg1 --ipv6-uc-nbr-bfd
10.64.224.16:Tnt-6_VR1:110a::10,true,50,5000,50 --ipv6-uc-nbr-update-source-ip
10.64.224.16:Tnt-6_VR1:110a::10,12a::1 --ipv6-uc-dyn-nbr 10.64.224.16:Tnt-6_VR1:13a::/
127,pg1,10 --ipv4-uc-nbr 10.64.224.17:Tnt-6_VR1:1.1.1.11,pg2 --ipv4-uc-nbr-bfd
10.64.224.17:Tnt-6_VR1:1.1.1.11,true,50,5001,50 --ipv4-uc-nbr-update-source-ip
10.64.224.17:Tnt-6_VR1:1.1.1.11,10.11.12.14 --ipv4-uc-dyn-nbr
10.64.224.17:Tnt-6_VR1:10.20.60.0/29,pg2,10 --ipv6-uc-nbr
10.64.224.17:Tnt-6_VR1:110a::11,pg1 --ipv6-uc-nbr-bfd
10.64.224.17:Tnt-6_VR1:110a::11,true,50,5000,50 --ipv6-uc-nbr-update-source-ip
10.64.224.17:Tnt-6_VR1:110a::11,12a::2 --ipv6-uc-dyn-nbr 10.64.224.17:Tnt-6_VR1:23a::/
127,pg1,10
...

```

```
efa tenant epg create --tenant "Tnt-6" --name "Tnt-6_Ext_EPG1" --type extension --
switchport-mode trunk --single-homed-bfd-session-type auto --po po613 --vrf Tnt-6_VR1 --
ctag-range 1061 --anycast-ip 1061:192.168.189.254/24 --anycast-ipv6
1061:fd01:0:bd:1::fe/64 --local-ip 1061,10.64.224.16:192.168.189.101/24 --local-ipv6
1061,10.64.224.16:fd01:0:bd:1::65/64 --local-ipv6 1061,10.64.224.17:fd01:0:bd:1::66/64 --
local-ip 1061,10.64.224.17:192.168.189.102/24 --ctag-description "1061:XCO L3 Extended
VLAN" --suppress-arp 1061:false --suppress-nd 1061:false
...
--- Time Elapsed: 7.493054085s ---
(efa:extreme)extreme@node-1:~$
```

efa status

Displays the role and the status of the nodes in a single-node or multi-node deployment.

Syntax

```
efa status
```

Usage Guidelines

Roles are either Active or Standby.

Examples

The following example shows output for a single node installation.

```
xmcdev@xmcdev-virtual-machine:~$ efa status
+-----+-----+-----+-----+
| Node Name          | Role   | Status | IP           |
+-----+-----+-----+-----+
| xmcdev-virtual-machine | active | up      | 10.20.255.114 |
+-----+-----+-----+-----+
--- Time Elapsed: 2.224282775s ---
```

The following example shows output for a multi-node installation.

```
(efa:extreme)extreme@tpvm:~$ efa status
+-----+-----+-----+-----+
| Node Name | Role   | Status | IP           |
+-----+-----+-----+-----+
| tpvm      | active | up      | 10.20.255.114 |
+-----+-----+-----+-----+
| tpvm2     | standby | up      | 10.20.255.115 |
+-----+-----+-----+-----+
--- Time Elapsed: 2.318350499s ---
```

efa system alarm acknowledge

Acknowledges the alarm instance referenced by resource path with query parameters and optional comment.

Syntax

```
efa system alarm acknowledge [ --resource string | --instance instance-id --comment string ]
```

Parameters

--resource *string*

Specifies the health resource path, with possible query parameters to acknowledge the raised alarm. Value is enclosed in quotes. Example: `--resource "/App/System/Security/Certificate?type=app_server_cert"`.

--instance *instance-id*

Specifies the run-time generated IDs of alarms. Instance id can be single, sequential, or multiple. Example: `--instance 3,4,5-6` or `all`.

--comment *string*

Brief description that is tracked with the acknowledgment. Value is enclosed in quotes. Example: `--comment "Will investigate, ticket 4412"`

Usage Guidelines

This command is available only to users with the admin role.

Examples

The following example acknowledges the alarm instance referenced by resource path with query parameters and optional comment.

```
# efa system alarm acknowledge --resource "/App/System/Security/Certificate?
type=app_server_cert"
--comment "Will investigate, ticket 12345"
```

The following example acknowledges the alarm by run-time generated id and no additional comment.

```
# efa system alarm acknowledge --instance 1
```


efa system alarm close

Closes an open alarm.

Syntax

```
efa system alarm close [ --resource string | --instance string --comment  
                        string ]
```

Parameters

--resource *string*

Specifies the health resource path, with possible query parameters to close a raised alarm. Example: --resource "/App/System/Security/Certificate?type=app_server_cert".

--instance *string*

Specifies the run-time generated IDs of alarms. Instance id can be single, sequential, or multiple. Example: --instance 3,4,5-6 or all.

--comment *string*

Brief description that is tracked with the close operation. Example: --comment "Will investigate, ticket 4412".

Usage Guidelines

This command is available only to users with the admin role.

You can close an alarm, but cannot clear it. Only the system can clear a raised alarm.

You cannot close or acknowledge a cleared alarm until the system reopens it.

The alarm close operation is stored in the user state change list. When the user state change list is full, the oldest user state changes are overwritten.

Examples

The following example closes the alarm instance referenced by resource path with query parameters and no additional comment.

```
# efa system alarm close --resource "/App/System/Security/Certificate?  
type=app_server_cert"
```

The following example closes the alarm by run-time generated id with a comment.

```
# efa system alarm close --instance 1 --comment "Ticket 12345 has been investigated,  
partially resolved, and determined that the alarm can be closed."
```

efa system alarm inventory show

Displays the list of alarms supported by XCO.

Syntax

```
efa system alarm inventory show [ --name alarm-name | --id alarm-id |
  --type alarm-category | --resource resource-path | --detail ]
```

Parameters

--name *alarm-name*

Specifies the alarm inventory name. Example: --name CertificateExpiration.

--id *alarm-id*

Specifies the alarm inventory id. Example: --id 32000.

--type *alarm-category*

Specifies the alarm inventory type. Example: --type security.

--resource *resource-path*

Specifies the health resource path string. Example: --resource "/App/System/Security/Certificate".

--detail

Displays detailed system alarm information.

Usage Guidelines

This command is available only to users with the admin role.

Examples

The following example displays the list of supported alarms in the inventory.

```
(efa:extreme)extreme@node-2:~$ efa system alarm inventory show --detail
Alarm Inventory detailed show:
Name      : CertificateExpiration
AlarmID   : 32000
AlarmType : Security
Resource  : /App/System/Security/Certificate?type=*
WillClear : true
Severity  : Warning, Critical
Description : Notify an application certificate is about to expire or has expired.
RaiseConditions :
    Raise the CertificateExpiration alarm when an application certificate is about to expire within 90 days.
    Update the CertificateExpiration alarm severity to critical when an application certificate has expired.
ClearConditions :
    Clear the CertificateExpiration alarm when an application certificate has been renewed.

Name      : DeviceCertificateExpiration
AlarmID   : 32001
AlarmType : Security
Resource  : /App/System/Security/Certificate?device_ip=*amp;type=*
WillClear : true
Severity  : Warning, Critical
Description : Notify a managed device certificate is about to expire or has expired.
RaiseConditions :
    Raise the DeviceCertificateExpiration alarm when a device certificate is about to expire within 90 days.
    Update the DeviceCertificateExpiration alarm severity to critical when a device certificate has expired.
    Update the DeviceCertificateExpiration alarm when a device certificate cannot be read.
ClearConditions :
```

```

Clear the DeviceCertificateExpiration alarm when a device certificate has been renewed.
Clear the DeviceCertificateExpiration alarm when a device has been removed.

Name      : CertificateRenewalFailure
AlarmID   : 32002
AlarmType : Security
Resource  : /App/System/Security/Certificate?type=*
WillClear : true
Severity  : Critical
Description : Notify an application certificate renewal failure.
RaiseConditions :
    Raise the CertificateRenewalFailure alarm when an application certificate is failed to renew.

ClearConditions :
    Clear the CertificateExpiration alarm when an application certificate has been renewed.

Name      : LoginAuthentication
AlarmID   : 32010
AlarmType : Security
Resource  : /App/System/Security/Authentication?username=*
WillClear : false
Severity  : Warning
Description : Notify suspicious login activity on the application.
RaiseConditions :
    Raise the LoginAuthentication alarm when a login failure condition occurs.

ClearConditions :

Name      : LDAPServerConnectivity
AlarmID   : 32030
AlarmType : Communications
Resource  : /App/System/Security/Authentication?server=*
WillClear : true
Severity  : Major
Description : Notify when an LDAP server is no longer reachable.
RaiseConditions :
    Raise the LDAPServerConnectivity alarm when an LDAP server cannot be reached.

ClearConditions :
    Clear the LDAPServerConnectivity alarm when the LDAP server can be reached.
    Clear the LDAPServerConnectivity alarm when the LDAP server configuration is removed.

Name      : StorageUtilization
AlarmID   : 32040
AlarmType : Processing
Resource  : /App/System/Storage?mount_point=*amp;node_ip=*
WillClear : true
Severity  : Warning, Minor, Major, Critical
Description : Notify when storage utilization for the application has reached a certain threshold or is full.
RaiseConditions :
    Raise the StorageUtilization alarm when an unsafe storage utilization threshold is reached.
    Update the StorageUtilization alarm when an unsafe storage utilization threshold is reached.
    Update the StorageUtilization alarm when the storage utilization full.

ClearConditions :
    Clear the StorageUtilization alarm when a safe storage utilization threshold is reached.

Name      : HAServiceRedundancy
AlarmID   : 32050
AlarmType : Operational
Resource  : /App/System/HA/Nodes/Node
WillClear : true
Severity  : Minor
Description : Notify when the HA service redundancy is degraded.
RaiseConditions :
    Raise the HAServiceRedundancy alarm when the standby node cannot be reached.
    Raise the HAServiceRedundancy alarm when HA failover has occurred.

ClearConditions :
    Clear the HAServiceRedundancy alarm when the HA nodes are fully redundant.

Name      : NodeService
AlarmID   : 32051
AlarmType : Operational
Resource  : /App/System/HA/Nodes/Services
WillClear : true
Severity  : Warning
Description : Notify when the node services are not running and degraded.
RaiseConditions :
    Raise the NodeService alarm when some of the active node's services are not operational.

ClearConditions :
    Clear the NodeService alarm when all the active node's services are operational.

Name      : DeviceConnectivity
AlarmID   : 32500
AlarmType : Communications
Resource  : /App/Component/Asset/Device?device_ip=*
WillClear : true
Severity  : Major
Description : Notify when a registered device is no longer reachable.
RaiseConditions :

```

```

ClearConditions :      Raise the DeviceConnectivity alarm when a device cannot be reached.
                        Clear the DeviceConnectivity alarm when the device can be reached.
                        Clear the DeviceConnectivity alarm when the device is unregistered.

Name                :      FabricHealth
AlarmID             :      33000
AlarmType           :      FabricService
Resource            :      /App/Component/Fabric?fabric_name=*
WillClear           :      true
Severity            :      Major, Critical
Description         :      Notify when overall fabric health changes to degraded/critical state or any of the contributors( to the degraded/
critical state) have changed
RaiseConditions :
    Raise the FabricHealth alarm when    fabric state health changed to degraded/critical or any of the contributors( to
the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric physical topology health changed to degraded/critical or any of the
contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device app state health changed to degraded/critical or any of the
contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device provisioning state health changed to degraded/critical or any of
the contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device mct cluster health changed to degraded/critical or any of the
contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device physical topology health changed to degraded/critical or any of
the contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device underlay topology health changed to degraded/critical or any of
the contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    fabric device overlay topology health changed to degraded/critical or any of
the contributors( to the degraded/critical state) have changed.
    Raise the FabricHealth alarm when    overall fabric health changed to degraded/critical or any of the
contributors( to the degraded/critical state) have changed.
ClearConditions :
    Clear the FabricHealth alarm when    fabric is deleted.
    Clear the FabricHealth alarm when    device is removed from fabric.
    Clear the FabricHealth alarm when    fabric state health changed to healthy.
    Clear the FabricHealth alarm when    fabric physical topology health changed to healthy.
    Clear the FabricHealth alarm when    fabric device app state health changed to healthy.
    Clear the FabricHealth alarm when    fabric device provisioning state health changed to healthy.
    Clear the FabricHealth alarm when    fabric device mct cluster health changed to healthy.
    Clear the FabricHealth alarm when    fabric device physical topology health changed to healthy.
    Clear the FabricHealth alarm when    fabric device underlay topology health changed to healthy.
    Clear the FabricHealth alarm when    fabric device overlay topology health changed to healthy.
    Clear the FabricHealth alarm when    overall fabric health is changed to healthy.

Name                :      PortFlap
AlarmID             :      34000
AlarmType           :      Communications
Resource            :      /App/Component/Asset/Device/PortFlap?device_ip=*amp;port=*
WillClear           :      true
Severity            :      Info, Warning
Description         :      Notify application on port flap.
RaiseConditions :
    Raise the PortFlap alarm when there is port flap event detected on device.

ClearConditions :
    Clear the PortFlap alarm when Port is not flapping on the device.

Name                :      PasswordExpiry
AlarmID             :      35000
AlarmType           :      Communications
Resource            :      /App/Component/Asset/Device/Password?device_ip=*amp;username=*
WillClear           :      true
Severity            :      Warning, Minor
Description         :      Notify application on password expiry.
RaiseConditions :
    Raise the Password Expiry alarm when there is password expiry event detected on device.
    Raise the Password Expiry alarm when there is password expired event is detected on device.

ClearConditions :
    Clear the PortFlap alarm when Port is not flapping on the device.

--- Time Elapsed: 62.1051ms ---
(efa:extreme)extreme@node-2:~$

```

The following example displays an alarm and its configuration in the inventory by the alarm name.

```
# efa system alarm inventory show --name CertificateExpiration --detail
```

The following example displays an alarm and its configuration in the inventory by the alarm id.

```
# efa system alarm inventory show --id 1 --detail
```

The following example displays the set of alarms and their configurations in the inventory by the alarm type.

```
# efa system alarm inventory show --type security --detail
```

The following example displays the set of alarms and their configurations in the inventory by the associated resource path.

```
# efa system alarm inventory show --resource /App/System/Security/Certificate --detail
```

efa system alarm purge

Purges all closed alarms.

Syntax

```
efa system alarm purge
```

Usage Guidelines

This command is available only to users with the admin role.

An alarm purge releases all resources related to the stateful alarm entity.

Examples

The following example purges all closed alarms from the system.

```
# efa system alarm purge
```

efa system alarm show

Displays the list of alarm history.

Syntax

```
efa system alarm show [ --unacked | --acked | --cleared | --closed | --  
    name alarm-name | --id alarm-id | --type alarm-category | --resource  
    resource-path | --instance run-time-instance-id | --detail ]
```

Parameters

--unacked

Specifies the unacknowledged alarms.

--acked

Specifies the acknowledged alarms.

--cleared

Specifies the cleared alarms.

--closed

Specifies the closed alarms.

--name *alarm-name*

Specifies the name of the alarm. Example: --name CertificateExpiration

--id *alarm-id*

Specifies the alarm inventory id. Example: --id 32000.

--type *alarm-category*

Specifies the alarm type. Example: --type security.

--resource *resource-path*

Specifies the health resource path string. Example: --resource /App/System/Security/
Certificate

--instance *run-time-instance-id*

Specifies the run-time generated ID for the alarm. Example: --instance 3.

--detail

Displays the detailed system alarm information.

Usage Guidelines

This command is available only to users with the admin role.

If parameters are not provided, this command lists unclosed alarms.

Perform the alarms order on server-side to have consistent ordering on both REST and CLI.

Examples

The following example displays alarms that are currently open.

```
(efa:extreme)extreme@node-2:~$ efa system alarm show --detail
Alarm detailed show:
Name           : FabricHealth
AlarmID        : 33000
InstanceID     : 3
AlarmType      : fabricService
Resource       : /App/Component/Fabric?fabric_name=fabric2
Severity       : major
IsCleared      : true
Message        : The fabric "fabric2" health is restored.
TimeCreated    : 2026-06-08T09:38:03
LastRaised     : 2026-06-08T09:57:23
LastChanged    : 2026-06-08T09:57:24
IsAacked       : false
IsClosed       : false
StatusChangeList :
                Time      : 2026-06-08T09:43:33
                Severity:  major
                Message :  The device "10.64.224.17" of fabric
"fabric2" has app state set to cfg ready.
                Time      : 2026-06-08T09:43:33
                Severity:  major
                Message :  The device "10.64.224.17" of fabric
"fabric2" has dev state set to not provisioned.
                Time      : 2026-06-08T09:43:33
                Severity:  major
                Message :  The fabric "fabric2" health
is in degraded state because the app state has errors for the
device(s) [10.64.224.16,10.64.224.17], dev state has errors for the device(s)
[10.64.224.16,10.64.224.17].
                Time      : 2026-06-08T09:53:28
                Severity:  major
                Message :  The device "10.64.224.16" of fabric
"fabric2" has missing intra rack links with device(s) [10.64.224.17].
                Time      : 2026-06-08T09:53:28
                Severity:  major
                Message :  The device "10.64.224.17" of fabric
"fabric2" has missing intra rack links with device(s) [10.64.224.16].
                Time      : 2026-06-08T09:53:29
                Severity:  critical
                Message :  The device "10.64.224.16" of fabric
"fabric2" has app state set to cfg error.
                Time      : 2026-06-08T09:53:29
                Severity:  critical
                Message :  The device "10.64.224.17" of fabric
"fabric2" has app state set to cfg error.
                Time      : 2026-06-08T09:53:29
                Severity:  critical
                Message :  The fabric "fabric2" health
is in critical state because the physical topology has errors for
the device(s) [10.64.224.16,10.64.224.17], app state has errors for the
device(s) [10.64.224.16,10.64.224.17], dev state has errors for the device(s)
[10.64.224.16,10.64.224.17].
                Time      : 2026-06-08T09:54:59
                Severity:  critical
                Message :  The fabric "fabric2" health
is in critical state because the physical topology has errors for
the device(s) [10.64.224.16,10.64.224.17], app state has errors for the
device(s) [10.64.224.16,10.64.224.17], dev state has errors for the device(s)
[10.64.224.16,10.64.224.17].
                Time      : 2026-06-08T09:55:39
```



```

Severity: cleared
Message : The device "10.64.224.16" is removed from
the fabric "fabric2".

Time : 2026-06-08T09:55:39
Severity: cleared
Message : The device "10.64.224.17" is removed from
the fabric "fabric2".

Time : 2026-06-08T09:55:39
Severity: cleared
Message : The fabric "fabric2" health is restored.
Time : 2026-06-08T09:56:22
Severity: major
Message : The device "10.64.224.16" of fabric
"fabric2" has MCT Peer state,Peer keep alive state and Cluster state down.
Time : 2026-06-08T09:56:22
Severity: major
Message : The device "10.64.224.17" of fabric
"fabric2" has MCT Peer state,Peer keep alive state and Cluster state down.
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.16" of fabric
"fabric2" does not have bgp neighbors configured with device(s) [10.64.224.17].
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.17" of fabric
"fabric2" does not have bgp neighbors configured with device(s) [10.64.224.16].
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.16" of fabric
"fabric2" has app state set to cfg ready.
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.16" of fabric
"fabric2" has dev state set to not provisioned.
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.17" of fabric
"fabric2" has app state set to cfg ready.
Time : 2026-06-08T09:56:23
Severity: major
Message : The device "10.64.224.17" of fabric
"fabric2" has dev state set to not provisioned.
Time : 2026-06-08T09:56:23
Severity: major
Message : The fabric "fabric2" health is
in degraded state because the underlay topology has errors for the
device(s) [10.64.224.16,10.64.224.17], mct cluster state has errors for
the device(s) [10.64.224.16,10.64.224.17], app state has errors for the
device(s) [10.64.224.16,10.64.224.17], dev state has errors for the device(s)
[10.64.224.16,10.64.224.17].
Time : 2026-06-08T09:56:57
Severity: cleared
Message : The device "10.64.224.16" of fabric
"fabric2" has app state set to healthy.
Time : 2026-06-08T09:56:57
Severity: cleared
Message : The device "10.64.224.16" of fabric
"fabric2" has dev state set to healthy.
Time : 2026-06-08T09:56:57
Severity: cleared
Message : The device "10.64.224.17" of fabric
"fabric2" has app state set to healthy.
Time : 2026-06-08T09:56:57
Severity: cleared

```

```

                                Message :      The device "10.64.224.17" of fabric
"fabric2" has dev state set to healthy.
                                Time   :      2026-06-08T09:56:57
                                Severity:      cleared
                                Message :      The fabric "fabric2" has status set to
healthy.
                                Time   :      2026-06-08T09:56:57
                                Severity:      major
                                Message :      The fabric "fabric2" health is in
degraded state because the underlay topology has errors for the device(s)
[10.64.224.16,10.64.224.17], mct cluster state has errors for the device(s)
[10.64.224.16,10.64.224.17].
                                Time   :      2026-06-08T09:57:21
                                Severity:      cleared
                                Message :      The device "10.64.224.16" of fabric
"fabric2" has MCT cluster in healthy state.
                                Time   :      2026-06-08T09:57:21
                                Severity:      cleared
                                Message :      The device "10.64.224.17" of fabric
"fabric2" has MCT cluster in healthy state.
                                Time   :      2026-06-08T09:57:23
                                Severity:      cleared
                                Message :      The device "10.64.224.16" of fabric
"fabric2" has underlay topology in healthy state.
                                Time   :      2026-06-08T09:57:23
                                Severity:      cleared
                                Message :      The device "10.64.224.17" of fabric
"fabric2" has underlay topology in healthy state.
                                Time   :      2026-06-08T09:57:23
                                Severity:      cleared
                                Message :      The fabric "fabric2" health is restored.
UserStateChangeList      :
Name                      :      StorageUtilization
AlarmID                   :      32040
InstanceID                :      1
AlarmType                 :      processing
Resource                  :      /App/System/Storage?mount_point=/amp;node_ip=10.64.224.202
Severity                  :      warning
IsCleared                 :      true
Message                   :      The Node IP "10.64.224.202" mount point "/" is at a safe
storage utilization of 70% with 2.800 GB free.
TimeCreated               :      2026-06-08T07:00:00
LastRaised                :      2026-06-08T10:00:00
LastChanged               :      2026-06-08T11:00:00
IsAcked                   :      false
IsClosed                  :      false
StatusChangeList          :
                                Time   :      2026-06-08T07:00:00
                                Severity:      warning
                                Message :      The Node IP "10.64.224.202" mount point
"/" has reached a storage utilization of 75% with 2.355 GB free.
                                Time   :      2026-06-08T08:00:00
                                Severity:      warning
                                Message :      The Node IP "10.64.224.202" mount point
"/" has reached a storage utilization of 75% with 2.348 GB free.
                                Time   :      2026-06-08T09:00:00
                                Severity:      warning
                                Message :      The Node IP "10.64.224.202" mount point
"/" has reached a storage utilization of 75% with 2.347 GB free.
                                Time   :      2026-06-08T10:00:00
                                Severity:      warning
                                Message :      The Node IP "10.64.224.202" mount point
"/" has reached a storage utilization of 75% with 2.345 GB free.

```

```

Time      :      2026-06-08T11:00:00
Severity:      cleared
Message :      The Node IP "10.64.224.202" mount point
"/" is at a safe storage utilization of 70% with 2.800 GB free.
UserStateChangeList      :

--- Time Elapsed: 53.009176ms ---
(efa:extreme)extreme@node-2:~$

```

The following example displays alarms that are currently open and unacknowledged.

```
# efa system alarm show --unacked --detail
```

The following example displays alarms that are currently open and acknowledged.

```
# efa system alarm show --acked --detail
```

The following example displays alarms that are currently open and cleared by the system.

```
# efa system alarm show --cleared --detail
```

The following example displays alarms that are closed by the user.

```
# efa system alarm show --closed --detail
```

The following example displays one or more instances of the alarm by the given inventory name even if the alarm is closed.

```
# efa system alarm show --name CertificateExpiration --detail
```

The following example displays one or more instances of the alarm by the given inventory id even if the alarm is closed.

```
# efa system alarm show --id 32000 --detail
```

The following example displays one or more instances of the alarm by the given inventory type even if the alarm is closed.

```
# efa system alarm show --type security --detail
```

The following example displays one or more instances of the alarm by the resource path (as referenced in the alarm inventory) even if the alarm is closed.

```
# efa system alarm show --resource "/App/System/Security/Certificate" --detail
```

The following example displays the instance of the alarm by the resource path with query parameters even if the alarm is closed.

```
# efa system alarm show --resource "/App/System/Security/Certificate?
type=app_server_cert" --detail
```

The following example displays instance of the alarm by the run-time generated id even if the alarm is closed.

```
# efa system alarm show --instance 1 --detail
```

efa system alarm summary

Displays alarm counts and statistics grouped by severity.

Syntax

```
efa system alarm summary
```

Usage Guidelines

This command is available only to users with the admin role.

Examples

The following example displays the alarm summary.

```
(efa:extreme)extreme@node-2:~$ efa system alarm summary
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Severity | Total | NotCleared | Cleared |
ClearedNotClosed | ClearedClosed | NotClearedClosed | NotClearedNotClosed |
+-----+-----+-----+-----+-----+-----+-----+
| major   | 1     | 0         | 1       |
|         | 1     | 0         | 0       | 0       |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| warning | 1     | 0         | 1       |
|         | 1     | 0         | 0       | 0       |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
Alarm Summary Show
--- Time Elapsed: 41.01798ms ---
(efa:extreme)extreme@node-2:~$
```

efa system alert

Alert commands.

Syntax

```
efa system alert show [ --id int32 | --resource string | --severity  
    string | --sequence-id int32 | --limit int32 | --before-timestamp  
    string | --after-timestamp string ]  
  
efa system alert inventory show [ --id int32 | --resource string ]  
  
efa system alert clear
```

Parameters

--after-timestamp *string*

Alerts being sent after a particular time stamp. Example: --after-timestamp
2022-10-11T22:14:15.003Z

--before-timestamp *string*

Alerts being sent before a particular time stamp. Example: --before-timestamp
2022-10-11T22:14:15.003Z

--id *int32*

Specifies the ID identifying XCO alert. Example: --id 3100.

--limit *int32*

Limits the number of alerts to be displayed. Example: --limit 2.

--resource *string*

Specifies the health resource path associated to the alert being sent. Example: --
resource /App/System/Security/Certificate

--sequence-id *int32*

Tracks the sequence that messages are submitted. Example --sequence-id 41.

--severity *string*

Specifies the severity of XCO alert. Valid values are <critical|major|minor|warning|info>.
Example: --severity warning.

efa system backup

Backs up the XCO system, including the database and certificates.

Syntax

```
efa system backup [ --device-ip stringArray | --remote | --fabric-all |  
  --fabric-name string ]
```

Parameters

--device-ip *stringArray*

Specifies a comma-separated range of device IPs for which the configuration backup will be taken. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

--remote *boolean*

Specifies if backup should be stored remotely. Default is false (only on local). When set to true, backup is stored both locally and remotely. Use the [efa system settings update](#) on page 435 command to configure the remote server.

--fabric-all

Indicates to back up all devices that are part of all fabrics running the configuration backup.

--fabric-name *string*

Indicates to back up all devices that are part of this fabric running the configuration backup.

Usage Guidelines

You can restore a backed-up database for various reasons, such as if the database becomes corrupted or you want to revert to a previous configuration. The backup process creates a backup tar file, which you specify for the restore process. The backup tar file is saved to one of the following locations:

- Server: /var/log/efa/backup
- TPVM: /apps/efa_logs/backup

Run this command as a sudo user for the base operating system.

Examples

This example performs system backup without device configuration backup.

```
efa system backup --remote  
Generating backup of EFA...  
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.735.tar  
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all devices that are part of the fabric specified.

```
efa system backup --fabric default --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.736.tar
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all fabrics and its devices.

```
efa system backup --fabric-all --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.734.tar
--- Time Elapsed: 5.741750131s ---
```

This example performs system backup by taking configuration backup of all devices that are specified.

```
efa system backup --device-ip 10.20.1.2,10.20.1.3,10.20.1.4 --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.737.tar
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Fabric does not exist.

```
efa system backup --fabric default --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.733.tar
Backup is partially success:
    Fabric does not exist
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Device not found.

```
efa system backup --device-ip 10.20.1.5,10.20.1.6 --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.738.tar
Backup is partially success:
    Device 10.20.1.5 not found
--- Time Elapsed: 5.741750131s ---
```

This example shows the error message: Operation not allowed.

```
efa system backup --device-ip 10.20.1.2,10.20.1.3 --remote
Generating backup of EFA...
Backup Location: root@10.10.10.10:/tmp/efa/EFA-2021-04-07T03-04-48.739.tar
Backup is partially success:
    Devices [10.20.1.2] failed to get config backup as its locked for configuration
    change by process [Firmware download].
--- Time Elapsed: 5.741750131s ---
```

efa system backup-list

Displays a list of all available XCO backup files.

Syntax

efa system backup-list

Examples

This example shows two backup .tar files that are available to use in a restore operation.

```
efa system backup-list
+---+-----+-----+-----+
+-----+
| ID |           File           |
Version      | Generated By | Location          |
+---+-----+-----+-----+
+-----+
| 1  | EFA-2021-04-07T00-00-00.000.tar |
2.4.1-8799 | System      |                  |
+---+-----+-----+-----+
+-----+
| 2  | EFA-2021-04-07T03-04-48.736.tar |
2.5.0-1   | User        | 10.10.10.10:/tmp/efa |
+---+-----+-----+-----+
+-----+
--- Time Elapsed: 16.263551ms ---
```


efa system cleanup

Cleans up archives.

Syntax

```
efa system cleanup [ --archive-type { backup | support } | --name  
    string ]
```

Parameters

--archive-type { backup | support }

Type of archive to delete. The default is backup.

--name *string*

Name of archive to delete.

efa system feature show

Displays the status of the system-level (in-flight) transaction, and other features.

Syntax

efa system feature show

Usage Guidelines

Use the **efa system feature update** command to enable the feature.

For more information, see the "In-flight Transaction Recovery" topic in the *ExtremeCloud Orchestrator Administration Guide*.

Examples

The following example shows that the feature is turned on.

```
$ efa system feature show
+-----+-----+
|          FEATURE NAME          | STATUS |
+-----+-----+
| Inflight Transaction Auto      | Enabled|
| Recovery                       |        |
+-----+-----+
| Tenant Api Concurrency         | Enabled|
+-----+-----+
| Tenant EPG Api Bulking         | Disabled|
+-----+-----+
| Host AuditD RSyslog            | Enabled|
+-----+-----+
--- Time Elapsed: 110.860783ms ---
```

efa system feature update

Enables the system-level transactions and other features after a service restart or high-availability failover

Syntax

```
efa system feature update [ --host-auditd-rsyslog { enable | disable } |  
    --inflight-transaction-auto-recovery { enable | disable } | --tenant-  
    api-concurrency { enable | disable } | --bulk-epg-api { enable |  
    disable } ]
```

Parameters

--bulk-epg-api { enable | disable }

Turns on or turns off the Bulk EPG API feature. The "tenant service" has to be restarted for the change to take effect.

--host-auditd-rsyslog { enable | disable }

Turns on or turns off the Auditd configuration feature.

--inflight-transaction-auto-recovery { enable | disable }

Turns on or turns off the automatic recovery of in-flight transactions after a service restart or high-availability failover.

--tenant-api-concurrency { enable | disable }

Turns on or turns off the tenant API concurrency feature.

Usage Guidelines

After a service restart or high-availability failover, XCO can recover in-progress transactions by rolling them back or rolling them forward. In-progress transactions are those that are outstanding in the execution log after a restart or a failover.

- When transactions are rolled back, the requested action is undone. This category includes transactions launched by create commands and by update commands with add operations.
- When transactions are rolled forward, the requested action is completed. This category includes transactions launched by delete commands and by update commands with delete operations.

When this feature is enabled, all Day-1 to Day-N tenant operations support automatic in-progress transaction recovery. This feature is enabled by default.

When this feature is turned off, Day-1 to Day-N tenant operations do not support automatic in-progress transaction recovery.

For more information about the feature, see the "In-flight Transaction Recovery" topic in the *ExtremeCloud Orchestrator Administration Guide*.

Examples

This example enables automatic in-flight transaction recovery.

```
efa system feature update --inflight-transaction-auto-recovery enable
Feature Setting Updated Successful
--- Time Elapsed: 634.557118ms ---
```

This example turns off automatic in-flight transaction recovery.

```
efa system feature update --inflight-transaction-auto-recovery disable
Feature Setting Updated Successful
--- Time Elapsed: 634.557125ms ---
```

This example enables the Bulk EPG API feature.

```
efa system feature update --bulk-epg-api Enable
Feature Setting Updated Successful
```

Restart of the Tenant Service is required for the changes to take effect.

```
efactl restart-service gotenant-service
Are you sure you want to restart "gotenant-service"? [Y/n]
y
"gotenant-service" has been stopped
"gotenant-service" has been started
"gotenant-service" has been restarted
```

Example

```
efa system feature show
```

FEATURE NAME	STATUS
Inflight Transaction Auto Recovery	Enabled
Tenant Api Concurrency	Enabled
Tenant EPG Api Bulking	Disabled
Host AuditD RSyslog	Enabled

```
--- Time Elapsed: 228.076737ms ---
(efa:extreme)extreme@tpvml01:~$
```

This example enables auditd rsyslog auditd config on node.

```
(efa:extreme)extreme@node-1:~$ efa system feature update --host-auditd-rsyslog Enable
Feature Setting Updated Successful
--- Time Elapsed: 19.98308142s ---
```

This example disables auditd rsyslog auditd config on node.

```
(efa:extreme)extreme@node-1:~$ efa system feature update --host-auditd-rsyslog Disable
Feature Setting Updated Successful
--- Time Elapsed: 19.98308142s ---
```

efa system logging set

Configure logging of a service.

Syntax

```
efa system logging set [ --service service-name | --type logging-type |
  --size file-size | --maximum-files number-of-files | --level logging-
  level ]
```

Parameters

--service *service-name*

Comma separated list of service names. Valid values are [all|auth|fabric|faultmanager|hyperv|inventory|notification|policy|raslog|rbac|system|tenant|vcenter].

--type *logging-type*

Logging type to modify. Valid values are [all|error]. Default all.

--size *file-size*

Logging file size in megabytes. Default 100 for type base. Default 10 for type error. Range 1-100.

--maximum-files *number-of-files*

Maximum number of Logging files. Default 10. Range 1-100.

--level *logging-level*

Detail level of logging. Allow logging between panic and selected level. Valid values are [panic|fatal|error|warning|info|debugging|trace]. Default debugging for type base. Default error for type error.

Examples

The following examples configures logging on the specified services.

```
efa system logging set --service inventory --size 200 --level info
+-----+-----+-----+-----+-----+-----+-----+
| Service | Type | Size | Maximum Files | Level | Status | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| inventory | all | 200 | | info | Success | |
+-----+-----+-----+-----+-----+-----+-----+
Logging set

efa system logging set --service inventory,fabric --type error --maximum-files 20
+-----+-----+-----+-----+-----+-----+-----+
| Service | Type | Size | Maximum Files | Level | Status | Reason |
+-----+-----+-----+-----+-----+-----+-----+
| inventory | error | | 20 | | Success | |
+-----+-----+-----+-----+-----+-----+-----+
| fabric | error | | 20 | | Success | |
+-----+-----+-----+-----+-----+-----+-----+
Logging set

efa system logging set --service inventory --type error --level fatal
+-----+-----+-----+-----+-----+-----+-----+
| Service | Type | Size | Maximum Files | Level | Status | Reason |
```

```
+-----+-----+-----+-----+-----+-----+
| inventory | error |      |      | fatal | Success |      |
+-----+-----+-----+-----+-----+-----+
Logging set

efa system logging set --service policy --level trace
+-----+-----+-----+-----+-----+-----+
| Service | Type | Size | Maximum Files | Level | Status | Reason |
+-----+-----+-----+-----+-----+-----+
| policy  | all  |      |      | trace | Success |      |
+-----+-----+-----+-----+-----+-----+
Logging set
--- Time Elapsed: 106.295771ms ---
(efa:user)user@xco-78-160:~$
```

efa system logging unset

Unconfigure logging for a service.

Syntax

```
efa system logging unset [ --service service name | --type logging type ]
```

Parameters

--service *service name*

Comma separated list of service names. Valid values are [all|auth|fabric|faultmanager|hyperv|inventory|notification|policy|raslog|rbac|system|tenant|vcenter].

--type *logging type*

Logging type to modify. Valid values are [all|error]. Default all.

Examples

The following examples set logging configuration to defaults with the unset command.

```
efa system logging unset --service inventory
+-----+-----+-----+-----+
| Service | Type | Status | Reason |
+-----+-----+-----+-----+
| inventory | all | Success |      |
+-----+-----+-----+-----+
Logging unset

efa system logging unset --service inventory,fabric --type error
+-----+-----+-----+-----+
| Service | Type | Status | Reason |
+-----+-----+-----+-----+
| inventory | error | Success |      |
+-----+-----+-----+-----+
| fabric   | error | Success |      |
+-----+-----+-----+-----+
Logging unset
```

efa system logging show

Display the current logging configuration.

Syntax

```
efa system logging show [ --service service name | --type logging type ]
```

Parameters

--service *service name*

Comma separated list of service names. Valid values are [all|auth|fabric|faultmanager|hyperv|inventory|notification|policy|raslog|rbac|system|tenant|vcenter].

--type *logging type*

Logging type to modify. Valid values are [all|error]. Default all.

Examples

This example shows the current logging customization configuration.

```
efa system logging show
+-----+-----+-----+-----+-----+
| Service | Type | File Size | Number of Files | Detail Level |
+-----+-----+-----+-----+-----+
| auth    | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| fabric   | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| fabricmanager | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| hyperv   | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| inventory | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| notification | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| policy   | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| raslog   | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
|          | error | 10 MB     | 10               | error        |
+-----+-----+-----+-----+-----+
| rbac     | all  | 100 MB    | 10               | debugging    |
+-----+-----+-----+-----+-----+
```



```

|          | error | 10 MB | 10 | error |
+-----+-----+-----+-----+-----+
| system   | all   | 100 MB | 10 | debugging |
+-----+-----+-----+-----+-----+
|          | error | 10 MB | 10 | error |
+-----+-----+-----+-----+-----+
| tenant   | all   | 100 MB | 10 | debugging |
+-----+-----+-----+-----+-----+
|          | error | 10 MB | 10 | error |
+-----+-----+-----+-----+-----+
| vcenter  | all   | 100 MB | 10 | debugging |
+-----+-----+-----+-----+-----+
|          | error | 10 MB | 10 | error |
+-----+-----+-----+-----+-----+

```

Logging show

```
efa system logging show --service inventory --type all
```

```

+-----+-----+-----+-----+-----+
| Service | Type | File Size | Number of Files | Detail Level |
+-----+-----+-----+-----+-----+
| inventory | all | 100 MB | 10 | debug |
+-----+-----+-----+-----+-----+

```

Logging show

efa system restore

Restores the XCO system from a backup.

Syntax

```
efa system restore [ --backup-tar filename ]
```

Parameters

--backup-tar *filename*

Specifies the file name for the backup tar file.

Usage Guidelines

You can restore a backed-up database for various reasons, such as if the database becomes corrupted or you want to revert to a previous configuration. The backup process creates a backup tar file, which you specify for the restore process.

If you do not specify the **--backup-tar** parameter, the restore process displays the list of available backup files for you to choose from.

After the database is restored, a list of all pods is displayed, showing their status, number of restarts, and age.

Run this command as a sudo user for the base operating system.

Examples

This syntax restores the database.

```
efa system restore --backup-tar EFA-2020.06.08-15.52.09.tar
Backup file name:  EFA-2020.06.08-15.52.09.tar
Restore result :: Restore operation successful
--- Time Elapsed: 3m11.269648985s ---
```

efa system security-banner reset

Reset the system security banner message to the default banner - "WARNING: This system is for authorized use only. Activities on this system are monitored and recorded. Unauthorized access or use is prohibited and may result in disciplinary action and/or legal prosecution"

Syntax

```
efa system security-banner reset
```

Examples

```
$ efa system security-banner reset  
The security banner reset is successful
```

efa system security-banner set

Set the security banner message.

Syntax

```
efa system security-banner set [--banner-message string ]
```

Parameters

--banner-message

Provide valid banner message. Example: Please be an valid user to login to the system. To include special characters use single quotes. Example : 'Warning !! Please be a valid user.' A maximum of 500 characters is allowed.

Examples

```
$ efa system security-banner set --banner-message 'WARNING: This system is for authorized
use only. Activities on this system are monitored and recorded. Unauthorized access or
use is prohibited and may result in disciplinary action and/or legal prosecution. Users
should not expect privacy'
Setting up the security banner is successful
--- Time Elapsed: 111.308132ms ---
$
```

efa system security-banner show

Show the security banner message.

Syntax

```
efa system security-banner show
```

Examples

```
$ efa system security-banner show
```

```
WARNING: This system is for authorized use only. Activities on this system are monitored  
and recorded. Unauthorized access or use is prohibited and may result in disciplinary  
action and/or legal prosecution. Users should not expect privacy
```

efa system security-banner unset

Unset the system security banner message, so there will be no security banner displayed.

Syntax

```
efa system security-banner unset
```

Examples

```
$ efa system security-banner unset
Security banner has been deleted successfully
--- Time Elapsed: 78.072998ms ---
$
```

efa system service enable

Enable and start a service.

Syntax

```
efa system service enable [ --name { hyperv | vcenter | snmp |  
    notification } ]
```

Parameters

--name { hyperv | vcenter | snmp | notification }

Specifies the service to enable and start.

efa system service disable

Disable and stop a service.

Syntax

```
efa system service disable [ --name { hyperv | vcenter | snmp |  
    notification } ]
```

Parameters

--name { hyperv | vcenter | snmp | notification }

Specifies the service to disable and stop.

efa system settings reset

Resets system settings to default values.

Syntax

```
efa system settings reset [ --backup-schedule | -max-backup-files | --max-supportsave-files | --remote-server-settings | --periodic-device-config-backup ]
```

Parameters

--backup-schedule

The default time is scheduled for Sunday 12 AM.

--max-backup-files

The default is five backup files.

--max-supportsave-files

The default is five supportsave files.

--remote-server-settings

By specifying this flag, you set the following remote server settings to **null**: **remote-server-ip**, **remote-server-username**, **remote-server-password**, **remote-server-directory**, **private-key**, **passphrase**, **certificate-key**, **ca-public-key**, and the **remote-server-protocol** setting to **scp**.

--periodic-device-config-backup

By specifying this flag, you turn off the backup.

Usage Guidelines

You must issue the **efa system settings reset** command with at least one flag. For the flags that you specify, the command resets values to their defaults.

Examples

The following command sets all the flags that you specify to their default values: **--max-backup-files** to 5, **--max-supportsave-files** to 5, **--backup-schedule** to **0 * * ***, **--remote-server-settings** to **null** **--periodic-device-config-backup** to off.

```
efa system settings reset --max-backup-files --max-supportsave-files --backup-schedule --remote-server-settings --periodic-device-config-backup
```

efa system settings show

Displays the settings for the maximum number of backup and supportsave files to save, and the schedule for backing up the database.

Syntax

```
efa system settings show
```

Examples

This command prints the current (default) system settings.

```
$efa system settings show
+-----+-----+
|          SETTING          |   VALUE   |
+-----+-----+
| Max Backup File Limit     | 5         |
+-----+-----+
| Max Supportsave File Limit | 5         |
+-----+-----+
| Backup Schedule           | 0:*:*:*   |
+-----+-----+
| Remote Server Ip          | 10.32.85.24 |
+-----+-----+
| Remote Server Username    | user       |
+-----+-----+
| Remote Server Password    | *****   |
+-----+-----+
| Remote Server Directory   | /home/user |
+-----+-----+
| Remote Transfer Protocol  | scp        |
+-----+-----+
| Periodic Device Config Backup | Disabled  |
+-----+-----+
| Show User Creation On Startup | true      |
+-----+-----+
| Private Key                | *****   |
+-----+-----+
| Certificate Key            | *****   |
+-----+-----+
| CA Public Key              | *****   |
+-----+-----+
| Passphrase                 | *****   |
+-----+-----+
| SSHKeyID                   |            |
+-----+-----+
```

efa system settings update

Configures the schedule for automatic database backups and determines the maximum number of backup and supportsave files to save before they are deleted.

Syntax

```
efa system settings update [--backup-schedule time | --max-backup-files num | --max-supportsave-files num | --remote-server-ip ip/ipv6 | --remote-transfer-protocol { ftp | scp } | --remote-server-username name | --remote-server-password password | --remote-server-directory directory | --periodic-device-config-backup { Enabled | Disabled } | --private-key string | --passphrase string | --certificate-key string | --ca-public-key string | --ssh-key-id string ]
```

Parameters

--backup-schedule *time*

Specifies the schedule for periodic, automatic backups, in the format HOUR:DOM:MON:DOW (hour, day of month, month, day of week).

--ca-public-key *string*

Public Key file path to connect to remote server.

--certificate-key *string*

Signed Certificate file path to connect to remote server.

--max-backup-files *num*

Specifies the maximum number of backup files to keep. As new backup files are created, older backup files in excess of this value are deleted. The range of values is 2-20. The default is 5.

--max-supportsave-files *num*

Specifies the maximum number of supportsave files to keep. As new supportsave files are created, older files in excess of this value are deleted. The range of values is 2-20. The default is 5.

--passphrase *string*

Provide private key passphrase to connect to remote server.

--periodic-device-config-backup { **Enabled** | **Disabled** }

Specifies whether to include device configuration backup in periodic backup. Default is No.

--private-key *string*

Private Key file path to connect to remote server.

--remote-server-directory *directory*

Specifies the remote server directory where backup is copied.

--remote-server-ip *ip*

Specifies the remote server IP where backup is copied. IP address can be either IPv4 or IPv6. Example: 10.1.10.1 or 2000::1

--remote-server-password *password*

Specifies the remote server password. The default is "<prompt>".

--remote-server-username *name*

Specifies the remote server user name.

--remote-transfer-protocol { **ftp** | **scp** }

Specifies a valid transfer protocol.

--ssh-key-id *string*

Provide SSH Key ID to connect to remote server.

Usage Guidelines

The settings described here enable you to configure details of the remote server where the backup is copied. Use the [efa system settings reset](#) on page 433 command to remove settings.



Note

The details of the remote server are verified before configuring the remote parameters. If you specify a value for any **one** of the following, you must also specify values for **all the others**:

- `remote-server-ip`
- `remote-server-username`
- `remote-server-password`
- `remote-server-directory`
- `private-key`
- `certificate-key`
- `ca-public-key`
- `ssh-key-id`
- `passphrase` (optional)

If the above values have already been set, they are retained in the database. If you then modify any one of them, the other values are used.

Examples

```
efa system settings update --remote-server-ip 10.20.255.177 --remote-server-username  
extreme
```

```
--remote-server-password password --remote-server-directory efa/backup  
Setting Update Successful
```

```
efa system settings update --remote-server-ip 10.20.255.177  
Error: Remote server settings missing or incomplete
```

```
efa system settings update --remote-server-username extreme  
Error: Remote server settings missing or incomplete
```

```
efa system settings update --remote-server-ip 10.20.241.7  
--remote-server-username root --remote-server-password pass  
--remote-server-directory /root/vinod/ --remote-transfer-protocol scp
```

```
Setting Update Successful
```

```
--- Time Elapsed: 148.800033ms ---
```

Configuring the remote settings with password using cli:

```
efa system settings update --remote-server-ip 10.32.85.5 --remote-server-username root --  
remote-server-    directory /home/user/Downloads --remote-password password
```

Configuring the remote settings without password using cli. This configuration is passwordless cert-based:

```
efa system settings update -remote-server-password password --remote-server-ip  
10.32.85.5 --remote-server-username root --remote-server-directory /home/user/Downloads --  
certificate-key /home/user/id_rsa-cert.pub --private-key id_rsa --passphrase pkeyabc --  
ca-publickey /home/user/ca.pub
```

Associating SSH key Id with remote settings using cli. This configuration is passwordless key-based:

```
efa system settings update -remote-server-password password --remote-server-ip 10.32.85.5  
--remote-server-username root --remote-server-directory /home/user/Downloads --ssh-key-id  
my_rsa_key
```

efa system ssh-key delete

Delete ssh key.

Syntax

```
efa system ssh-key delete [ --ssh-key-id string ]
```

Parameters

--ssh-key-id *string*

a unique name of ssh-key pair. Example:"my_rsa_key"

```
$ efa system ssh-key delete --ssh-key-id my_rsa_key
```

```
SSH Key pair my_rsa_key deleted successfully
```

efa system ssh-key export

Export ssh public key as .pub file into the home directory of the current efa user.

Syntax

```
efa system ssh-key export [ --ssh-key-id string ]
```

Parameters

--ssh-key-id *string*

a unique name of ssh-key pair. Example:"my_rsa_key"

```
$efa system ssh-key export --ssh-key-id my_rsa_key
```

```
File Exported Successfully
```

```
File : my_rsa_key.pub
```

```
Location: /home/user/my_rsa_key.pub
```

efa system ssh-key generate

Generate SSH keys

Syntax

```
efa system ssh-key generate [ --ssh-key-id string | --algorithm-type
                             string | --key-size int32 | --passphrase string ]
```

Parameters

--ssh-key-id *string*

a unique name of ssh-key pair. Example:"my_rsa_key"

--algorithm-type *string*

algorithm type rsalecdsaed25519

--key-size *int32*

Provide number of bits in the key. Supported Key Sizes: – RSA: 1024, 2048, 4096, 8192 bits (default: 2048) – ECDSA: 256, 384, 521 bits (default: 256) – ED25519: 256 bits (default: 256)

--passphrase *string*

passphrase for the ssh-key(Optional)

The following example generates a ssh key using the rsa algorithm, a key size of 2048, and called "my_rsa_key".

```
$efa system ssh-key generate --algorithm-type rsa --ssh-key-id my_rsa_key --key-size 2048

Please enter passphrase:

SSH key generated successfully

PublicKey:ssh-rsa
AAAAB3NzaC1yc2EAAAADAQABAAQGDSDb0QTKr+JBVuKXhHhj0ANck3VMmulaitTniROJtbCwyzwY9ysQkoyAix8H
MtpLT0rvMXNIJZ/F2v/+7asxB5uJWQHR0K57fAja82cMAZS0wU/
Nj3crPc3ise08NK78EkXBuKEpwt6PMVgZMYRnFLMd2NZTvWv1zet1kMIxtA/
Fn3QWejlfKa0tovOCk5TxyYc5uIipHkkqAKM/
YlTlNyQlLa9Wnbz56HmMJ7PZJq7tIK6HE8jRSO+mPLXTolwbt1QG+AADwYDyrzExOVUZrqHWGvkkdZNypv2//
hN9qPEecTlRbNati1OzIvw6aEQiYjCwAT4GiRg2stADqekOolV5rQCQ4sAGmBwgsdHc58BNP/
94ZSWnNkLxm3NIyHKw43c9OqfOfohsescmFE+EVi8s/RQsIYiUOZf8rSLuzYVXoG2IQV/
MYs7lTanV7YS48jkR5GRR+QuzPIFhLo9UfyUL3LeJHUB6HtoidcY0337g2LhgBp8GTWbSbW5r/w2k=
```


efa system ssh-key show

Display ssh public key.

Syntax

```
efa system ssh-key show [ --ssh-key-id string ]
```

Parameters

--ssh-key-id *string*

a unique name of ssh-key pair. Example: "my_rsa_key"

This example displays all the available ssh keys.

```
$ efa system ssh-key show

+-----+-----+-----+
| SSH Key ID | Algorithm type | SSH Key Size |
+-----+-----+-----+
| my_rsa_key | rsa           | 2048          |
+-----+-----+-----+
| my_ecdsa_key | ecdsa         | 256           |
+-----+-----+-----+
| my_rsa_key1 | rsa           | 1024          |
+-----+-----+-----+

--- Time Elapsed: 95.469328ms ---
```

This example displays the ssh key details for a specific ssh key id.

```
$ efa system ssh-key show --ssh-key-id ecdsa1

Public Key: ecdsa-sha2-
nistp256 AAAAE2VjZHNhLXNoYTItbmlzdHAyNTYAAAAIbmlzdHAyNTYAAABBDp0YT1ZlnrFYD1mL+fTeAWoXQq7/
FrMqqvjFjqFHmY0j1k8ra+32gxstssXucaoXQ53NmoXQEbJNw0qxcPBi+M=

--- Time Elapsed: 28.446504ms ---
```

efa system supportsave

Collects the system supportsave of the Inventory, Tenant, and Fabric service logs, and their associated database dumps.

Syntax

```
efa system supportsave [--device-ip stringArray | --disable-advance-cli-
  capture | --collect-device-information | --fabric-all | --fabric-name
  string ]
```

Parameters

--collect-device-information

Include the additional data collection from the device. The collection is disabled by default. --collect-device-information must be provided along with any one of the following options: --device-ip, --fabric-all, and --fabric-name. The additional command outputs for each device are saved in separate files named **<device-ip-address>_info.txt**, located within a newly created device_data/ folder under the existing support save directory structure.

Not supported for OS ONE devices.

--device-ip *stringArray*

Specifies a comma-separated range of device IPs to collect supportsave from. Example: 10.1.1.13,10.1.1.50,10.1.1.101.

--disable-advance-cli-capture

Disable the collection of advance CLI output.

--fabric-all

Indicates to collect supportsave from all devices.

--fabric-name *string*

Indicates to collect supportsave from all devices that are part of the specified fabric.

Usage Guidelines

Location of supportsave files:

- For TPVM deployments, the file is saved to /apps/efa_logs/efa_<log_id>.logs.zip.
- For non-TPVM deployments, the file is saved to /var/log/efa/efa_<log_id>.logs.zip.



Note

If SLX-OS devices are part of the supportsave collection, the command triggers the **copy support** command (supportsave) on SLX-OS devices. You must check the SLX-OS devices to confirm that the supportsave copy is complete before running the command again.

SLX-OS supportsave can take up to 15 minutes to complete on each switch.

By default, the following advanced CLI output are captured by supportsave:

efa auth client show

efa auth execution show

efa auth ldapconfig show

efa auth rolemapping show

efa auth settings token show

efa fabric execution show

efa fabric show --detail

efa health detail show

efa health inventory show

efa inventory admin-state history

efa inventory config-backup history

efa inventory config-replay history

efa inventory debug device-adapter-status --fabric-all

efa inventory debug show-fwdl-Inprogress-devices

efa inventory device list

efa inventory device firmware-download history --type fabric

efa inventory device tpvm list

efa inventory drift-reconcile history

efa inventory execution show

efa inventory firmware-host list

efa inventory kvstore list

efa inventory rma history

efa notification subscribers list

efa openstack execution show

efa openstack network show

efa openstack network-interface show

efa openstack router show

efa openstack router-interface show

efa openstack router-route show

efa openstack subnet show

efa policy community-list list

efa policy extcommunity-list list

efa policy large-community-list list

efa policy prefix-list list --type ipv4

efa policy prefix-list list --type ipv6

efa policy qos map list

efa policy qos profile list

efa policy qos service-policy-map list

efa policy route-map list

efa scvmm list

efa snmp execution show

efa snmp subscriber list

efa status

efa system alarm show

efa system alert show

efa system backup-list

efa system execution show

efa system feature show

efa system restore-history show

efa system settings show

efa tenant epg show --detail

efa tenant execution show

efa tenant po show

efa tenant service bgp peer show

efa tenant service bgp peer-group show

efa tenant service mirror

efa tenant show

efa tenant vrf show --detail

efa vcenter list

**Note**

The following are the additional command output collected when `--collect-device-information` is specified.

show bfd neighbors

show bfd

show bgp evpn summary

show bridge-domain

show cluster

show interface stats brief

show ip arp

show ip bgp summary

show ip interface brief

show lldp neighbors

show mac-address-table

show overlay-gateway vni-mappings

show overlay-gateway

show port-channel

show system maintenance

show tunnel brief

show vlan brief

Examples

This example collects the system supportsave logs.

```
$ efa system supportsave
SupportSave File Location: /apps/efa_logs/efa_2022-04-28T19-23-59.706.logs.zip
--- Time Elapsed: 51.441277667s ---
```

This example disables the inclusion of advanced CLI input and output while collecting the supportsave.

```
$ efa system supportsave --disable-advance-cli-capture
SupportSave File Location: /var/log/efa/efa_2025-01-31T07-02-34.657.logs.zip
--- Time Elapsed: 10.477560239s ---
$
```

efa system supportsave-list

Displays a list of all available EFA supportsave files.

Syntax

```
efa system supportsave-list
```

Examples

This example shows two supportsave files available.

```
(efa:user)user@devqa-server:~$ efa system supportsave-list.
```

```
Fetching supportsave-list of EFA...
```

ID	File	Date
1	efa_2022-06-30T17-36-57.278.logs.zip	2022-06-30
2	efa_2022-06-30T17-44-09.225.logs.zip	2022-06-30

efa tenant create

Creates tenant reserved resources such as the total number of Layer 3 VNIs, VLANs, VRFs, and bridge domains for fabrics with non-auto VNI settings, which can later be applied to an endpoint group.

Syntax

```
efa tenant create [ --name name | --description description | --type
  { private | shared } | --l2-vni-range range | --l3-vni-range range |
  --vlan-range range | --vrf-count vrfs | --enable-bd { true | false }
  | --port list-of-ports | --mirror-destination-port list-of-ports ]
```

Parameters

--description *description*

Description of the tenant.

--enable-bd { **true** | **false** }

Enable BD capability for networks created under this tenant. Example: **--enable-bd=true** or **--enable-bd=false**.

--l2-vni-range *range*

Contiguous range of L2 VNIs in ascending order reserved for the tenant within the scope of a fabric. Valid values: 1–16777215. Example: 14201–14300.

--l3-vni-range *range*

Contiguous range of L3 VNIs in ascending order reserved for the tenant within the scope of a fabric. Valid values: 1–16777215. Example: 14201–14300.

--mirror-destination-port *list-of-ports*

List of physical ports of devices reserved as mirror destination ports. Example: SW1_IP[0/1,0/2,0/12–15,0/5:4],SW2_IP[0/1,0/4,0/5:1–2,0/5:3,0/9–20].

--name *name*

Name of the tenant.

--port *list-of-ports*

List of physical ports of devices reserved as data ports. Example: SW1_IP[0/1,0/2,0/12–15,0/5:4],SW2_IP[0/1,0/4,0/5:1–2,0/5:3,0/9–20].

--type { **private** | **shared** }

Default tenant type is private. In a shared tenant, endpoints and VRFs are available to other tenants.

Cannot create VRF, EndpointGroup, BGP Peer, or BGP Peer-Group for shared tenants.

--vlan-range *range*

Contiguous range of VLANs to be reserved for the tenant. Valid values: 2–4090. Example: 2–100.

"--vlan-range 1" is reserved for the default shared tenant.

--vrf-count *int*

Number of VRFs reserved for the tenant.

Examples

This example creates a VLAN-based tenant with manual VNI mapping.

```
$ efa tenant create --name tenant11 --l2-vni-range 10002-14190
--l3-vni-range 14191-14200 --vlan-range 2-4090 --vrf-count 10
--port 10.20.216.15[0/11-20],10.20.216.16[0/11-20] --description Subscriber1

Tenant created successfully.

--- Time Elapsed: 455.141597ms ---
```

This example creates a BD-based tenant.

```
$ efa tenant create --name tenant21 --l2-vni-range 30002-34190
--l3-vni-range 34191-34200 --vlan-range 2-4090 --vrf-count 10 --enable-bd
--port 10.20.216.15[0/21-28],10.20.216.16[0/21-28]

Tenant created successfully.

--- Time Elapsed: 501.176996ms ---
```

This example creates a tenant with auto-VNI with breakout ports.

```
$ efa tenant create --name tenant12 --vlan-range 2-100 --vrf-count 10
--port 10.20.216.103[0/1-10],10.20.216.104[0/1-5,0/6:1-4]

Tenant created successfully.

--- Time Elapsed: 427.73527ms ---
```

This example creates a shared tenant.

```
$ efa tenant create --name ST --type shared
--port 10.20.216.15[0/1-10],10.20.216.16[0/1-10]

Tenant created successfully.

--- Time Elapsed: 381.182892ms ---
```

efa tenant debug

Identifies drift in device configuration.

Syntax

```
efa tenant debug device drift [ --device-ip | --filter { po | evpn | ovg
    | lif | bd | vlan | intf | ve | vrf | mct | routerbgp | pwprofile |
    all } | --reconcile ]

efa tenant debug set [ --level { debug | info | debugdb | nodebugdb } ]

efa tenant debug device config sync [ --device-ip ip-addr ]
```

Parameters

--device-ip *ip-addr*

Specifies a comma-separated list of device IP addresses.

--filter { po | evpn | ovg | lif | bd | vlan | intf | ve | vrf | mct
| routerbgp | pwprofile | all }

Filters the displayed draft data by the type of data you select. The default is all.

--level { debug | info | debugdb | nodebugdb }

Specifies the debug level.

--reconcile

Reconciles configuration on the device.

Usage Guidelines

You can also use the API to set up debug level and debug for the module.

Examples

This example identifies drift.

```
$ efa tenant debug device drift --device-ip 10.20.216.15
=====
Device           : 10.20.216.15

Operation succeeded.

--- Time Elapsed: 626.727571ms ---
```

This example reconciles the drifted configuration.

```
$ efa tenant debug device drift --device-ip 10.20.216.15 --reconcile
=====
Device           : 10.20.216.15
===== VLAN Drift =====
VLAN              : 10
App-state         : cfg-refreshed

Drifted Interface
```

```

+-----+-----+-----+
| Interface-Type | Interface-Name | App-State |
+-----+-----+-----+
| ethernet      | 0/11          | cfg-refreshed |
+-----+-----+-----+
===== Interface Drift =====

Drifted Interface
+-----+-----+-----+
| Interface-Type | Interface-Name | App-State |
+-----+-----+-----+
| ethernet      | 0/11          | cfg-in-sync |
+-----+-----+-----+

===== Reconciliation Status =====
+-----+-----+-----+
| CONFIG TYPE | STATUS | ERROR |
+-----+-----+-----+
| Port-Property | Success |      |
| Portchannel   | Success |      |
| Vlan          | Success |      |
+-----+-----+-----+

Operation succeeded.

--- Time Elapsed: 32.202412126s ---

```

This example synchronizes the tenant database with the inventory database.

```

$ efa tenant debug device config sync --device-ip 10.20.216.15

+-----+-----+-----+-----+
| IP Address | Role | State | Result |
+-----+-----+-----+-----+
| 10.20.216.15 | Leaf | READY | Device 10.20.216.15 is already present in Tenant |
|              |      |      | DB with READY state |
+-----+-----+-----+-----+

Device Details

--- Time Elapsed: 451.271557ms ---

```

This example sets the debug level.

```

$ efa tenant debug set --level debugdb

Level debugdb set successfully.

--- Time Elapsed: 116.43581ms ---

```

efa tenant delete

Deletes a tenant.

Syntax

```
efa tenant delete [ --name tenant-name | --force ]
```

Parameters

--name *tenant-name*

Specifies a tenant and a tenant name.

--force

Forces the deletion on the tenant if the option is provided.

Examples

The following example deletes a tenant.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12  
Tenant deleted successfully.  
--- Time Elapsed: 1.972258324s ---
```

The following example deletes the tenant and all the related entities forcibly.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12 --force  
Tenant delete with force will delete associated Vrfs, EndpointGroups and PortChannels.  
Do you want to proceed (Y/N): y  
Tenant deleted successfully.  
--- Time Elapsed: 3.258645739s ---
```

efa tenant epg configure

Pushes or removes a pending endpoint group configuration.

Syntax

```
efa tenant epg configure [ --name name | --tenant name ]
```

Parameters

--name *name*

Specifies the name of the endpoint group.

--tenant *name*

Specifies the name of the tenant.

Examples

Pushes or removes a pending endpoint group configuration.

```
$ efa tenant epg configure --name epgl --tenant tenant11
```

```
EndpointGroup configured successfully.
```

```
--- Time Elapsed: 444.898897ms ---
```

efa tenant epg create

Creates a Layer 3 endpoint group.

Syntax

```
efa tenant epg create [--name epg-name | --tenant tenant-name | --
  description desc | --port ip-ethport | --po po-name | --switchport-
  mode { access | trunk | trunk-no-default-native } | --type { 13-
  hand-off | extension | port-profile } | --switchport-native-vlan-
  tagging | --switchport-native-vlan value | --ctag-range range |
  --ctag description desc | --vrf vrf-name | --l3-vni vni | --l2-
  vni vni | --anycast-ip ipv4 | --anycast-ipv6 ipv6 | --local-ip
  ipv4 | --local-ipv6 ipv6 | --bridge-domain bd-name | --ipv6-nd-mtu
  mtu-value | --ipv6-nd-managed-config flag | --ipv6-nd-other-config
  other-flag | --ipv6-nd-prefix ipv6-prefix | --ipv6-nd-prefix-valid-
  lifetime lifetime | --ipv6-nd-prefix-preferred-lifetime pref-lifetime
  | --ipv6-nd-prefix-no-advertise | --ipv6-nd-prefix-config-type { no-
  autoconfig | no-onlink | off-link } | --single-homed-bfd-session-type
  { auto | software | hardware } | --ip-mtu mtu-value | --suppress-
  arp array | --suppress-nd array | --pp-mac-acl-in ext-mac-permit-
  any-mirror-acl | --pp-mac-acl-out ext-mac-permit-any-mirror-acl | --
  pp-ip-acl-in ext-ip-permit-any-mirror-acl | --pp-ip-acl-out ext-ip-
  permit-any-mirror-acl | --pp-ipv6-acl-in ext-ipv6-permit-any-mirror-
  acl | --np-mac-acl-in ctag:ext-mac-permit-any-mirror-acl | --np-mac-
  acl-out ctag:ext-mac-permit-any-mirror-acl | --np-ip-acl-in ctag:ext-
  ip-permit-any-mirror-acl | --np-ip-acl-out ctag:ext-ip-permit-any-
  mirror-acl | --np-ipv6-acl-in ctag:ext-ipv6-permit-any-mirror-acl |
  --dhcpv4-relay-address-ip ipv4 | --dhcpv6-relay-address-ip ipv6 |
  --dhcpv4-relay-gateway-ip ipv4 | --dhcpv4-relay-gateway-ip-interface
  ipv4 | --dhcpv6-relay-gateway-ip-interface ipv6 | --dhcpv4-relay-
  gateway-interface ipv4 | --dhcpv6-relay-gateway-interface ipv6 | --
  dhcpv6-relay-gateway-interface-ip ipv6 | --ip-icmp-redirect ctag:ip-
  icmp-redirect | --ipv6-icmp-redirect ctag:ipv6-icmp-redirect | --
  dhcpv4-relay-address-ip-vrf stringArray | --dhcpv6-relay-address-ip-
  interface stringArray | --dhcpv6-relay-address-ip-vrf stringArray |
  --bfd-session-type { hardware | software } | --help | ]
```

Parameters

--anycast-ip *ipv4*

Specifies the IPv4 anycast address in the following format: ctag:anycast-ip.

--anycast-ipv6 *ipv6*

Specifies the IPv6 anycast address in the following format: ctag:anycast-ipv6.

--bfd-session-type { **hardware** | **software** }

Default: hardware

--bridge-domain *bd-name*

Specifies the bridge domain name in the following format: `ctag:bridge-domain`.

--ctag-description *desc*

Specifies a unique description of the ctag in the following format: `ctag:l2-vni`.

--ctag-range *range*

Specifies the customer VLAN range in comma and hyphen separated format. Example: 2-20,30,40,50-55.



Note

Using multiple `--ctag-range` options in a single efa tenant epg create or efa tenant epg update command causes an "anycast-ip not in ctag-range" error. To avoid this, specify a single contiguous range such as `--ctag-range < start-ctag > - < end-ctag >` format (for example, `--ctag-range 1101-1109`) to specify multiple tags instead of repeating `--ctag-range` with individual values.

--description *desc*

Describes the endpoint group.

--dhcpv4-relay-address-ip *ipv4*

DHCP Server IPv4 Address

Not Supported for OS ONE devices.

--dhcpv4-relay-address-ip-vrf *stringArray*

IPv4 dhcp relay address ip vrf in the format `ctag,device-ip:dhcp-address-ip,vrf-name`. Example '10,10.20.20.1:10.1.1.1,vrf1'

Not Supported for OS ONE devices.

--dhcpv6-relay-address-ip-interface *stringArray*

IPv6 dhcp relay address ip interface in the format `ctag,device-ip:dhcp-address-ipv6,interfaceType,interfaceName`. Example '10,10.20.20.1:3::3,eth,0/21' | '10,10.20.20.1:3::3,po,po1'

Not Supported for OS ONE devices.

--dhcpv6-relay-address-ip-vrf *stringArray*

IPv6 dhcp relay address ip vrf in the format `ctag,device-ip:dhcp-address-ipv6,vrf-name`. Example '10,10.20.20.1:3::3,vrf1'

Not Supported for OS ONE devices.

--dhcpv4-relay-gateway-interface *ipv4*

DHCP ipv4 relay gateway interface.

--dhcpv4-relay-gateway-ip *ipv4*

IPv4 dhcp relay address in the format `ctag,device-ip:dhcp-address-ip`. Example '10,10.20.20.1:10.1.1.1'

Not Supported for OS ONE devices.

--dhcpv4-relay-gateway-ip-interface *ipv4*

DHCP ipv4 relay gateway ip interface.

Not supported for OS ONE devices.

--dhcpv6-relay-address-ip *ipv6*

IPv6 dhcp relay address in the format ctag:device-ip:dhcp-address-ipv6. Example '10,10.20.20.1:3::3'

Not Supported for OS ONE devices.

--dhcpv6-relay-gateway-interface *ipv6*

DHCP ipv6 relay gateway interface.

Not supported for OS ONE devices.

--dhcpv6-relay-gateway-interface-ip *ipv6*

DHCP ipv6 relay gateway interface ip.

Not supported for OS ONE devices.

--dhcpv6-relay-gateway-ip-interface *ipv6*

DHCP ipv6 relay gateway interface.

Not supported for OS ONE devices.

--ip-icmp-redirect *ctag:ip-icmp-redirect*

Sets IPv4 icmp redirect flag in the format ctag:icmp-redirect. Example: 1002:true

Not Supported for OS ONE devices.

--ip-mtu *mtu-value*

Sets the IP maximum transmission unit (MTU) for the tenant network. Valid values range from 1280 through 9194. The format is ctag:ip-mtu.

--ipv6-icmp-redirect *ctag:ipv6-icmp-redirect*

Sets IPv6 icmpv6 redirect flag in the format ctag:icmpv6-redirect. Example: 1002:true

Not Supported for OS ONE devices.

--ipv6-nd-managed-config *flag*

Sets the managed configuration flag for IPv6 router advertisement. The format is ctag:managedflag.

--ipv6-nd-mtu *mtu-value*

Sets the maximum transmission unit (MTU) for IPv6 neighbor discovery. Valid values range from 1280 through 65535. The format is ctag:mtu.

Not Supported for OS ONE devices.

--ipv6-nd-other-config *other-flag*

Sets the other configuration flag for IPv6 router advertisement. The format is ctag:otherflag.

--ipv6-nd-prefix *ipv6-prefix*

Configures the IPv6 prefix address in the following format: ctag:prefix1,prefix2.

--ipv6-nd-prefix-config-type { **no-autoconfig** | **no-onlink** | **off-link** }

Sets the configuration type for the IPv6 prefix. Format: ctag,prefix:configType. Example: 1002,1:5::/64:no-autoconfig / 1002,1:5::/64:no-onlink / 1002,1:5::/64:off-link

The 'off-link' option is not supported for OS ONE devices.

--ipv6-nd-prefix-no-advertise

Enables the prevention of prefix advertisement. The format is `ctag,prefix:noadvertiseflag`.

--ipv6-nd-prefix-preferred-lifetime *pref-lifetime*

Sets the IPv6 prefix preferred lifetime. Valid range: <0–4294967295> or *infinite*. Format: `ctag,prefix:preferredTime`. Example: `2000,1:5::/64:1500` or `2000,1:5::/64:infinite`

'infinite' is not supported for OS ONE devices.

--ipv6-nd-prefix-valid-lifetime *lifetime*

Sets the IPv6 prefix valid lifetime. Valid range: <0–4294967295> or *infinite*. Format: `ctag,prefix:validTime`. Example: `2000,1:5::/64:1500` or `2000,1:5::/64:infinite`

'infinite' is not supported for OS ONE devices.

--l2-vni *vni*

Specifies the Layer 2 VNI to be used for this network in the following format: `ctag:l2-vni`.

Not Supported for OS ONE devices.

--l3-vni *vni*

Specifies the Layer 3 VNI to be used for this VRF

Not Supported for OS ONE devices.

--local-ip *ipv4*

Specifies the IPv4 local address in the following format: `ctag,device-ip:local-ip`.

--local-ipv6 *ipv6*

Specifies the IPv6 local address in the following format: `ctag,device-ip:local-ipv6`.

--name *epg-name*

Specifies the name of the endpoint group.

--np-ip-acl-in *ctag:ext-ip-permit-any-mirror-acl*

Apply IP ACL in ingress direction on ve interface. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is *extended*.

Format `--np-ip-acl-in <ctag:acl-name>`. Example: `--np-ip-acl-in 101:ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-ip-acl-out *ctag:ext-ip-permit-any-mirror-acl*

Apply IP ACL in egress direction on ve interface. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is *extended*. Format

`--np-ip-acl-out <ctag:acl-name>`. Example: `--np-ip-acl-out 101:ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-ipv6-acl-in *ctag:ext-ipv6-permit-any-mirror-acl*

Apply IPv6 ACL in ingress direction on ve interface. The only supported ACL name is `ext-ipv6-permit-any-mirror-acl` and only supported ACL type is extended. Format `--np-ipv6-acl-in <ctag:acl-name>`. Example: `--np-ipv6-acl-in 101:ext-ipv6-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-mac-acl-in *ctag:ext-mac-permit-any-mirror-acl*

Apply MAC ACL in ingress direction on vlan. The only supported ACL name is `ext-mac-permit-any-mirror-acl` and only supported ACL type is extended. Format `--np-mac-acl-in <ctag:acl-name>`. Example: `--np-mac-acl-in 101:ext-mac-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-mac-acl-out *ctag:ext-mac-permit-any-mirror-acl*

Apply MAC ACL in egress direction on vlan. The only supported ACL name is `ext-mac-permit-any-mirror-acl` and only supported ACL type is extended. Format `--np-mac-acl-out <ctag:acl-name>`. Example: `--np-mac-acl-out 101:ext-mac-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--po *po-name*

Lists port channels. Example: `po1, po2`

--port *ip-ethport*

Specifies the device IP address and Ethernet port details. Example: `SW1_IP[0/1]`, `SW2_IP[0/5,0/6]`, `SW3_IP[0/7-10]`

--pp-ip-acl-in *ext-ip-permit-any-mirror-acl*

Apply IP ACL in ingress direction on ethernet / portchannel interfaces. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is extended. Format `--pp-ip-acl-in <acl-name>`. Example: `--pp-ip-acl-in ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--pp-ip-acl-out *ext-ip-permit-any-mirror-acl*

Apply IP ACL in egress direction on ethernet / portchannel interfaces. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is extended. Format `--pp-ip-acl-out <acl-name>`. Example: `--pp-ip-acl-out ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--pp-ipv6-acl-in *ext-ipv6-permit-any-mirror-acl*

Apply IPv6 ACL in ingress direction on ethernet / portchannel interfaces. The only supported ACL name is `ext-ipv6-permit-any-mirror-acl` and only supported ACL type is extended. Format `--pp-ipv6-acl-in <acl-name>`. Example: `--pp-ipv6-acl-in ext-ipv6-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--pp-mac-acl-in *ext-mac-permit-any-mirror-acl*

Apply MAC ACL in ingress direction on ethernet / portchannel interfaces. The only supported ACL name is *ext-mac-permit-any-mirror-acl* and only supported ACL type is *extended*. Format **--pp-mac-acl-in** <acl-name>. Example: **--pp-mac-acl-in** *ext-mac-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--pp-mac-acl-out *ext-mac-permit-any-mirror-acl*

Apply MAC ACL in egress direction on ethernet / portchannel interfaces. The only supported ACL name is *ext-mac-permit-any-mirror-acl* and only supported ACL type is *extended*. Format **--pp-mac-acl-out** <acl-name>. Example: **--pp-mac-acl-out** *ext-mac-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--single-homed-bfd-session-type { **auto** | **software** | **hardware** }

Specifies the BFD session type for the endpoint group. The default is *auto*, which means that the BFD session type is automatically determined based on the value of the *type* parameter: *extension* or *L3 hand-off*.

Not Supported for OS ONE devices.

--suppress-arp *value*

Sets suppress-arp flag to this network. The format is *ctag:suppress-arp*. Example: *1002:false*.

--suppress-nd *value*

Sets suppress-nd flag to this network. The format is *ctag:suppress-nd*. Example: *1002:false*.

--switchport-mode { **access** | **trunk** | **trunk-no-default-native** }

Configures switch port mode on the interfaces. The default is *trunk*.

"access" is not supported for OS ONE devices.

"trunk" is not supported for OS ONE devices when used in BD-based tenant.

--switchport-native-vlan *value*

Configures native VLAN on the interfaces. Valid values are 2 through 4090, corresponding to the value of the *ctag-range* parameter.

Not Supported for OS ONE devices.

--switchport-native-vlan-tagging

Enables the native VLAN characteristics on the ports of this endpoint group. Valid only if the *switchport-mode* parameter is set to *trunk*.

Not Supported for OS ONE devices.

--tenant *tenant-name*

Specifies the name of the associated tenant.

--type { **l3-hand-off** | **extension** | **port-profile** }

Configures the BGP service type. Valid values are `l3-hand-off`, `port-profile`, or `extension`. The default is `extension`.

--vrf *vrf-name*

Specifies the VRF to which these networks are attached.

Usage Guidelines

An empty endpoint group has no `network-policy`, `network-property`, or `port-property`.

An endpoint group can be created with a `port-property` but without a `port-group`. However, an endpoint group cannot be created with a `port-group` but without a `port-property`.

ARP suppression is enabled for all the possible broadcast domains, VLAN or BD, on the device.

CEP is handled by replicating all the tenant configuration on the MCT neighbor except for the endpoint configuration, because the endpoint does not exist on the MCT neighbor.

Event handling sets the corresponding tenant networks to the `cfg-refreshed` state. However, there is no way to re-push the refreshed configuration onto the devices.

The value of `--single-homed-bfd-session-type` is configured for one endpoint group and then propagated to all Ethernet and single-homed port channel interfaces defined for that endpoint group.

XCO does not distinguish between SRIOV (single-root input/output virtualization) and non-SRIOV connections. Therefore, it treats both connections the same way. If you want to use hardware-based BFD sessions for CEP non-SRIOV connections, then create an endpoint group that contains all the CEP non-SRIOV connections and set the `--single-homed-bfd-session-type` to `hardware`.

You use the `--ip-mtu` parameter to configure the Maximum Transmission Unit (MTU) for the tenant network. This value is then configured on the interface VE on the SLX-OS device. The output of the `efa tenant epg show --detail` command includes the configured `--ip-mtu <mtu-value>`.

Examples

This example creates a VLAN-based Layer 3 endpoint group.

```
$ efa tenant epg create --name epg1 --tenant tenant11 --switchport-mode trunk
--switchport-native-vlan 10 --switchport-native-vlan-tagging --port
10.20.216.15[0/11],10.20.216.16[0/11]
--po po1 --vrf blue11 --ctag-range 10 --l2-vni 10:10010 --l3-vni 14191 --anycast-ip
10:10.10.10.1/24
--anycast-ipv6 10:10::1/125 --local-ip 10,10.20.216.15:1.1.10.3/28 --local-ip
10,10.20.216.16:1.1.10.4/28
--local-ipv6 10,10.20.216.15:10a:10::3/125 --local-ipv6 10,10.20.216.16:10a:10::4/125 --
ipv6-nd-mtu 10:9000
--ipv6-nd-prefix 10:1002::/125,1003::/125,1004::/125 --ipv6-nd-prefix-valid-lifetime
10,1002::/125:infinite
--ipv6-nd-prefix-preferred-lifetime 10,1002::/125:1020304 --ipv6-nd-prefix-valid-lifetime
10,1003::/125:1020304
--ipv6-nd-prefix-preferred-lifetime 10,1003::/125:1020304 --ipv6-nd-prefix-valid-lifetime
```

```

10,1004::/125:1020304
--ipv6-nd-prefix-preferred-lifetime 10,1004::/125:infinite --ipv6-nd-prefix-config-type
10,1004::/125:no-onlink
--ipv6-nd-prefix-config-type 10,1003::/125:off-link --ipv6-nd-prefix-config-type
10,1002::/125:no-autoconfig
--ipv6-nd-managed-config 10:true --ipv6-nd-other-config 10:true --ctag-description
10:Network-10

EndpointGroup created successfully.

--- Time Elapsed: 16.922083265s ---

```

This example creates a VLAN-based L3-hand-off endpoint group.

```

$ efa tenant epg create --tenant tenant11 --name epg2
--type l3-hand-off --switchport-mode trunk --port 10.20.216.15[0/18],10.20.216.16[0/18]
--po po2
--vrf blue11 --ctag-range 12 --l2-vni 12:10012 --l3-vni 14191 --local-ipv6
12,10.20.216.16:10:12a::1/127
--local-ipv6 12,10.20.216.15:10:12a::2/127 --local-ip 12,10.20.216.16:1.1.12.1/29
--local-ip 12,10.20.216.15:1.1.12.2/29

EndpointGroup created successfully.

--- Time Elapsed: 8.605943783s ---

```

This example creates a bridge-domain-based Layer 3 endpoint group.

```

$ efa tenant epg create --tenant tenant21 --name epg3 --type extension
--switchport-mode trunk --po po11 --ctag-range 1002 --bridge-domain 1002:Net-30002 --l2-
vni 1002:30002
--vrf red11 --anycast-ip 1002:10.20.30.1/24

EndpointGroup created successfully.

--- Time Elapsed: 13.469697138s ---

```

This example creates a VLAN-based Layer 2 endpoint group.

```

$ efa tenant epg create --name epg4 --tenant tenant11
--ctag-range 101-103 --switchport-mode trunk-no-default-native --port 10.20.216.15[0/17]

EndpointGroup created successfully.

--- Time Elapsed: 19.83265s ---

```

This example creates an endpoint group for which the BFD session type is automatically determined.

```

$ efa tenant epg create --name epg5 --tenant tenant11 --port 10.20.216.15[0/11]
,10.20.216.16[0/11] --po po1 --switchport-mode trunk --single-homed-bfd-session-type auto

```

This example creates an endpoint group with MTU values for Ctag 11 and Ctag 12.

```

$ efa tenant epg create --name ten1epg1 --tenant ten1 --port 10.20.246.17[0/1],
10.20.246.18[0/1] --switchport-mode trunk --ctag-range 11-12 --anycast-ip11:10.0.11.1/24
--anycast-ip12:10.0.12.1/24 --anycast-ipv6 11:11::1/127 --anycast-ipv6 12:12::1/127
--vrf ten1vrf1 --ip-mtu 11:7900 --ip-mtu 12:8900

```

This example creates an endpoint group with ICMP redirect.

```

efa tenant epg create --tenant "t1" --name "epg1" --type extension
--switchport-mode trunk --single-homed-bfd-session-type auto
--po po1
--vrf vrf1 --ctag-range 19
--l3-vni 5001 --anycast-ip 19:3.33.3.3/24 --bridge-domain 19:Auto-BD-2 --ctag-description
"19:Tenant L3 Extended BD" --l2-vni 19:2 --ip-mtu 19:1600

```

```
--ip-icmp-redirect 19:true  
--ipv6-icmp-redirect 19:true
```

efa tenant epg delete

Deletes an endpoint group.

Syntax

```
efa tenant epg delete [ --force | --name epg-name | --tenant tenant-name ]
```

Parameters

--force

Forces the deletion of any endpoint group that is tied to the tenant.

--name *epg-name*

Specifies the name of the endpoint group or a comma-separated list of names to be deleted. Example: EPG-1 or EPG-1, EPG2, EPG3.

--tenant *tenant-name*

Specifies the tenant name.

Usage Guidelines

Before deleting a tenant, delete any endpoint group that is tied to the tenant to remove any port level configurations on the device that are defined by the endpoint group. Failure to do this causes XCO to return an error. Using the `-force` option overrides this error and deletes the underlying endpoint group configuration on the device.

Examples

The following example deletes a specific EPG.

```
(efa:extreme)extreme@node-1:~$ efa tenant epg delete --name epg2 --tenant tenant11
EndpointGroup: epg2 deleted successfully.
--- Time Elapsed: 5.853148185s ---
```

The following example deletes a specific EPG forcefully and ignores any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant delete --name tenant12 --force
Tenant delete with force will delete associated Vrfs, EndpointGroups and PortChannels.
Do you want to proceed (Y/N): y
Tenant deleted successfully.
--- Time Elapsed: 3.258645739s ---
```

efa tenant epg detach

Splits an endpoint group into multiple endpoint groups.

Syntax

```
efa tenant epg detach [ --tenant name | --source-epg epg-  

name | --destination-epg epg-name | --destination-epg-description | --  

destination-epg-ctag-range ctag-range ]
```

Parameters

--tenant *name*

Specifies the tenant name.

--source-epg *epg-name*

Specifies the name of the source endpoint group.

--destination-epg *epg-name*

Specifies the name of the destination endpoint group.

--destination-epg-description

Displays destination endpoint group description.

--destination-epg-ctag-range *ctag-range*

Specifies the destination endpoint group CTAG range.

Examples

The following example shows an existing endpoint group, splits it into multiple endpoint groups, and then shows the individual endpoint groups.

```
$ efa tenant epg show --name epg4 --tenant tenant11
+-----+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports | PO | |
|      | SwitchPort | Native Vlan | | |
|      | | | | | Mode |
| Tagging | | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+
| epg4 | tenant11 | extension | 10.20.216.15[0/17] | | |
| trunk-no-default-native | false | | | |
| | | | | | |
| | | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
+-----+-----+-----+-----+
| 101-103 | | | | |
| | | | | |
+-----+-----+-----+-----+
EndpointGroup Details
```



```

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 156.85406ms ---

$ efa tenant epg detach --tenant tenant11 --source-epg epg4
--destination-epg epg5 --destination-epg-ctag-range 103

EndpointGroup: epg4 split successfully.

--- Time Elapsed: 263.570996ms ---

$ efa tenant epg show --name epg4 --tenant tenant11
+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports |
| PO | SwitchPort | Native Vlan |
| | | | |
| Mode | Tagging |
+-----+-----+-----+-----+-----+
+-----+
| epg4 | tenant11 | extension | 10.20.216.15[0/17] |
| | trunk-no-default-native | false |
| | | |
| | |
+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
| | | | |
+-----+-----+-----+-----+
| 101-102 | | | |
| | | |
+-----+-----+-----+-----+
EndpointGroup Details

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 155.775375ms ---
$ efa tenant epg show --name epg5 --tenant tenant11
+-----+-----+-----+-----+-----+
+-----+
| Name | Tenant | Type | Ports |
| PO | SwitchPort | Native Vlan |
| | | | |
| Mode | Tagging |
+-----+-----+-----+-----+-----+
+-----+
| epg5 | tenant11 | | 10.20.216.15[0/17] |
| | trunk-no-default-native | false |
| | | |
| | |
+-----+-----+-----+-----+-----+
+-----+
+-----+-----+-----+-----+
| Ctag Range | Vrf | L3Vni | State |
| | | | |
+-----+-----+-----+-----+
| 103 | | | |

```

```
|          |      |          |
+-----+-----+-----+
EndpointGroup Details

PO/Vrf [Flags : * - Unstable]

For 'unstable' entities, run 'efa tenant po/vrf show' for details

--- Time Elapsed: 154.028719ms ---
```

efa tenant epg error show

Reports errors related to the creation or update of endpoint groups.

Syntax

```
efa tenant epg error show [ --name epg-name | --tenant tenant-name | --summary ]
```

Parameters

--name *epg-name*

Specifies the name of the endpoint group.

--tenant *tenant-name*

Specifies the tenant name.

--summary

Displays a summary of endpoint groups in the error state.

Examples

```
efa tenant epg error show --name epg_nonclos --tenant tenant1
```

```
=====
```

```
Name : epg_nonclos
```

```
Tenant : tenant1
```

```
Errors
```

```
-----
```

```
MgmtIp Ctag NetworkPolicyErrorList
```

```
-----
```

```
10.25.225.173 2001 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

```
10.25.225.173 2002 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

```
10.25.225.173 2003 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

```
10.25.225.174 2001 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

```
10.25.225.174 2002 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

```
10.25.225.174 2003 Adding/Removing VLANs under MCT Cluster failed due to  
netconf rpc [error] '"2001:2002:2003" is an invalid value.'
```

```
-----
```

efa tenant epg show

Shows brief or detailed information for all endpoint groups or a specific endpoint group.

Syntax

```
efa tenant epg show [ --name epg-name | --detail | --tenant tenant-name |  
--vrf vrf-name ]
```

Parameters

--name *epg-name*

Specifies the name of the endpoint group.

--detail

Displays all attributes of the specified endpoint group or all endpoint groups. When this parameter is not used, only brief tabular output is returned.

--tenant *tenant-name*

Specifies the name of the tenant.

--vrf *vrf-name*

Specifies the name of the VRF.

Usage Guidelines

The following table lists the details that this command can return. Your details may vary, depending on the deployment.

Information Type	Brief Output	Detailed Output
Name	X	X
Tenant	X	X
Type	X	X
Ports	X	X
Switchport mode	X	X
Native VLAN tagging	X	X
CTAG range	X	X
VRF	X	X
L3 VNI	X	X
State	X	X
Dev state		X
App state		X
Port property states		X

Information Type	Brief Output	Detailed Output
Network property flags		X
IPv6 ND prefix flags		X

Examples

Use this syntax to return brief details for all configured endpoint groups.

```
$ efa tenant epg show
```

This syntax returns full details for all configured endpoint groups.

```
$ efa tenant epg show --detail
```

This syntax returns brief details for the specified endpoint group.

```
$ efa tenant epg show --name epg2
```

This syntax returns full details for the specified endpoint group and tenant.

```
$ efa tenant epg show --name epg3 --tenant tenant21 --detail
```

This syntax returns full details for all endpoint groups for the specified tenant.

```
$ efa tenant epg show --tenant tenant21 --detail
```

efa tenant epg update

Update an endpoint group.

Syntax

```
efa tenant epg update [--name epg-name | --tenant tenant-name | --
operation { port-group-add | port-group-delete | port-property-update
| ctag-range-add | ctag-range-delete | vrf-add, vrf-delete | local-
ip-add | local-ip-delete | anycast-ip-add | anycast-ip-delete |
port-property-add | port-property-delete | port-property-update |
network-property-add | network-property-delete | network-property-
update } { port-group-add | port-group-delete | port-property-update
| ctag-range-add | ctag-range-delete | vrf-add | vrf-delete | local-
ip-add | local-ip-delete | anycast-ip-add | anycast-ip-delete |
network-property-update | port-property-add | port-property-delete
| port-property-update | network-property-add | network-property-
delete | network-property-update } | --port ip-ethport | --po
po-name | --switchport-mode { access | trunk | trunk-no-default-
native } { access | trunk | trunk-no-default-native } | --switchport-
native-vlan-tagging | --switchport-native-vlan value | --ctag-range
range | --ctag-description desc | --vrf vrf-name | --l3-vni
vni | --l2-vni vni | --anycast-ip ipv4 | --anycast-ipv6 ipv6
| --local-ip ipv4 | --bridge-domain bd-name | --single-homed-bfd-
session-type { auto | software | hardware } { auto | software |
hardware } | --ip-mtu mtu-value | --suppress-arp array | --suppress-
nd array | --pp-mac-acl-in ext-mac-permit-any-mirror-acl | --pp-
mac-acl-out ext-mac-permit-any-mirror-acl | --pp-ip-acl-in ext-ip-
permit-any-mirror-acl | --pp-ip-acl-out ext-ip-permit-any-mirror-acl
| --pp-ipv6-acl-in ext-ipv6-permit-any-mirror-acl | --np-mac-acl-in
ctag:ext-mac-permit-any-mirror-acl | --np-mac-acl-out ctag:ext-mac-
permit-any-mirror-acl | --np-ip-acl-in ctag:ext-ip-permit-any-mirror-
acl | --np-ip-acl-out ctag:ext-ip-permit-any-mirror-acl | --np-ipv6-
acl-in ctag:ext-ipv6-permit-any-mirror-acl | --dhcpv4-relay-address-
ip ipv4 | --dhcpv6-relay-address-ip ipv6 | --dhcpv4-relay-gateway-ip
ipv4 | --dhcpv4-relay-gateway-ip-interface ipv4 | --dhcpv4-relay-
gateway-interface ipv4 | --dhcpv6-relay-gateway-interface ipv6 | --
dhcpv6-relay-gateway-interface-ip ipv6 | --ip-icmp-redirect ctag:ip-
icmp-redirect | --ipv6-icmp-redirect ctag:ipv6-icmp-redirect | --
local-ipv6 | --ipv6-nd-mtu | --ipv6-nd-managed-config | --ipv6-nd-
other-config | --ipv6-nd-prefix | --ipv6-nd-prefix-valid-lifetime
| --ipv6-nd-prefix-preferred-lifetime | --ipv6-nd-prefix-no-advertise
| --ipv6-nd-prefix-config-type | --dhcpv4-relay-address-ip-vrf | --
dhcpv6-relay-address-ip-vrf | --dhcpv6-relay-address-ip-interface
```

Parameters

--anycast-ip *ipv4*

IPv4 anycast per CTAG: ctag:anycast-ip. Example: 10:10.1.1.1/24.

--anycast-ipv6 *ipv6*

IPv6 anycast per CTAG: *ctag:anycast-ipv6*. Example: 10:2000::1/64.

--bridge-domain *bd-name*

Bridge-domain per CTAG in the format *ctag:bridge-domain*. Example: 1002:Ten1-Net2.

--ctag-description *desc*

Description per CTAG in the format *ctag:Description*. Example: 1002:VlanDescription.

--ctag-range *range*

Customer VLANs in comma/hyphen form. Example: 2-20,30,40,50-55.



Note

Using multiple **--ctag-range** options in a single efa tenant epg create or efa tenant epg update command causes an "anycast-ip not in ctag-range" error. To avoid this, specify a single contiguous range such as **--ctag-range < start-ctag > - < end-ctag >** format (for example, **--ctag-range 1101-1109**) to specify multiple tags instead of repeating **--ctag-range** with individual values.

--ip-icmp-redirect *ctag:ip-icmp-redirect*

IPv4 ICMP redirect flag per CTAG. Example: 213:true.

Not Supported for OS ONE devices.

--ip-mtu *mtu-value*

IP MTU per CTAG: *ctag:ip-mtu*. Valid: 1280-9194. Example: 11:5990.

--ipv6-icmp-redirect *ctag:ipv6-icmp-redirect*

IPv6 ICMP redirect flag per CTAG. Example: 213:true.

Not Supported for OS ONE devices.

--l2-vni *vni*

L2 VNI per CTAG in the format *ctag:l2-vni*. Example: 10:12156.

Not Supported for OS ONE devices.

--l3-vni *vni*

L3 VNI for the VRF; must follow tenant range policy.

Not Supported for OS ONE devices.

--local-ip *ipv4*

IPv4 local IP per device: *ctag,device-ip:local-ip*. Example: 10,10.20.216.15:1.1.10.3/28.

--local-ipv6 *ipv6*

IPv6 local IP per device: *ctag,device-ip:local-ipv6*. Example: 10,10.20.216.16:10a:10::4/125.

--name *epg-name*

Specifies the name of the endpoint group to update.

--np-ip-acl-in *ctag:ext-ip-permit-any-mirror-acl*

Apply IP ACL for mirror action in ingress direction on ve interface. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is extended. **Format** `--np-ip-acl-in <ctag:acl-name>`. **Example:** `--np-ip-acl-in 101:ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-ip-acl-out *ctag:ext-ip-permit-any-mirror-acl*

Apply IP ACL for mirror action in egress direction on ve interface. The only supported ACL name is `ext-ip-permit-any-mirror-acl` and only supported ACL type is extended. **Format** `--np-ip-acl-out <ctag:acl-name>`. **Example:** `--np-ip-acl-out 101:ext-ip-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-ipv6-acl-in *ctag:ext-ipv6-permit-any-mirror-acl*

Apply IPv6 ACL for mirror action in ingress direction on ve interface. The only supported ACL name is `ext-ipv6-permit-any-mirror-acl` and only supported ACL type is extended. **Format** `--np-ipv6-acl-in <ctag:acl-name>`. **Example:** `--np-ipv6-acl-in 101:ext-ipv6-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-mac-acl-in *ctag:ext-mac-permit-any-mirror-acl*

Apply MAC ACL for mirror action in ingress direction on vlan. The only supported ACL name is `ext-mac-permit-any-mirror-acl` and only supported ACL type is extended. **Format** `--np-mac-acl-in <ctag:acl-name>`. **Example:** `--np-mac-acl-in 101:ext-mac-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--np-mac-acl-out *ctag:ext-mac-permit-any-mirror-acl*

Apply MAC ACL for mirror action in egress direction on vlan. The only supported ACL name is `ext-mac-permit-any-mirror-acl` and only supported ACL type is extended. **Format** `--np-mac-acl-out <ctag:acl-name>`. **Example:** `--np-mac-acl-out 101:ext-mac-permit-any-mirror-acl`.

Not supported for OS ONE devices.

--operation { *port-group-add | port-group-delete | port-property-add | port-property-delete | port-property-update | ctag-range-add | ctag-range-delete | network-property-add | network-property-delete | network-property-update | vrf-add | vrf-delete | local-ip-add | local-ip-delete | anycast-ip-add | anycast-ip-delete | dhcp-relay-address-ip-add | dhcp-relay-address-ip-delete | dhcp-relay-gateway-ip-add | dhcp-relay-gateway-ip-delete* }

Selects the update action for this command.

--po *po-name*

PortChannel(s) to include. **Example:** `po1` or `po1,po2`.

--port *ip-ethport*

Device IP with Ethernet port list. Example:

SW1_IP[0/1,0/2,0/12-15,0/5:4],SW2_IP[0/1,0/4,0/5:1-2,0/5:3,0/9-20].

--pp-ip-acl-in *ext-ip-permit-any-mirror-acl*

Apply IP ACL for mirror action in ingress direction on ethernet / portchannel interfaces.

The only supported ACL name is *ext-ip-permit-any-mirror-acl* and only

supported ACL type is extended. Format **--pp-ip-acl-in** <acl-name>. Example:

--pp-ip-acl-in *ext-ip-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--pp-ip-acl-out *ext-ip-permit-any-mirror-acl*

Apply IP ACL for mirror action in egress direction on ethernet / portchannel interfaces.

The only supported ACL name is *ext-ip-permit-any-mirror-acl* and only

supported ACL type is extended. Format **--pp-ip-acl-out** <acl-name>. Example:

--pp-ip-acl-out *ext-ip-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--pp-ipv6-acl-in *ext-ipv6-permit-any-mirror-acl*

Apply IPv6 ACL for mirror action in ingress direction on ethernet / portchannel

interfaces. The only supported ACL name is *ext-ipv6-permit-any-mirror-acl*

and only supported ACL type is extended. Format **--pp-ipv6-acl-in** <acl-name>.

Example: **--pp-ipv6-acl-in** *ext-ipv6-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--pp-mac-acl-in *ext-mac-permit-any-mirror-acl*

Apply MAC ACL for mirror action in ingress direction on ethernet / portchannel

interfaces. The only supported ACL name is *ext-mac-permit-any-mirror-acl* and

only supported ACL type is extended. Format **--pp-mac-acl-in** <acl-name>.

Example: **--pp-mac-acl-in** *ext-mac-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--pp-mac-acl-out *ext-mac-permit-any-mirror-acl*

Apply MAC ACL for mirror action in egress direction on ethernet / portchannel

interfaces. The only supported ACL name is *ext-mac-permit-any-mirror-acl* and

only supported ACL type is extended. Format **--pp-mac-acl-out** <acl-name>.

Example: **--pp-mac-acl-out** *ext-mac-permit-any-mirror-acl*.

Not supported for OS ONE devices.

--single-homed-bfd-session-type { *auto* | *software* | *hardware* }

Sets BFD session type on ports of this EPG; propagated to Ethernet and single-homed POs.

Only *auto* is supported for OS ONE devices.

--switchport-mode { *access* | *trunk* | *trunk-no-default-native* }

Configures switchport mode on interfaces. Default: *trunk*.

--switchport-native-vlan *value*

Sets the native VLAN on interfaces. Valid values are 2-4090.

Not Supported for OS ONE devices.

--switchport-native-vlan-tagging

Enables native-VLAN tagging on ports. Valid only when `--switchport-mode` is set to `trunk`.

--tenant *tenant-name*

Specifies the tenant that owns the endpoint group.

--vrf *vrf-name*

Associates or changes the VRF used for network properties during the selected operation.

Usage Guidelines

An empty endpoint group has no network-policy, network-property, or port-property.

An endpoint group can be created with a port-property and without a port-group. But an endpoint group cannot be created with a port-group and without a port-property.

ARP suppression is enabled for all the possible broadcast domains VLAN or BD on the device.

CEP is handled by replicating all the tenant configuration on the MCT neighbor except for the endpoint configuration, since the endpoint does not exist on the MCT neighbor.

The update operation for a bridge domain-based endpoint group is similar to that of a VLAN-based endpoint group. During a port-group add or delete operation, the logical interface configurations will be created or deleted for the existing ctags, and the corresponding bridge-domains.

During a `ctag-range-add` or `delete` operation, the logical interface and bridge-domain configurations are updated on the endpoint group.

During `vrf-add` or `delete` operation, the corresponding Layer 3 configurations are added to or deleted from the endpoint group.

Event handling sets the corresponding tenant networks to the `cfg-refreshed` state. However, there is no way to re-push the refreshed configuration onto the devices.

The value of `--single-homed-bfd-session-type` is configured for one endpoint group and then propagated to all Ethernet and single-homed port channel interfaces defined for that endpoint group.

XCO does not distinguish between SRIOV (single-root input/output virtualization) and non-SRIOV connections. Therefore, it treats both connections the same way. If you want to use hardware-based BFD sessions for CEP non-SRIOV connections, then create an endpoint group that contains all the CEP non-SRIOV connections and set the `--single-homed-bfd-session-type` to `hardware`.

During `vrf-add` and `ctag-range-add` operations, you can use the `--ip-mtu` parameter to configure the MTU for the tenant network. This value is then configured on the interface VE on the SLX-OS device. The output of the `efa tenant epg show --detail` command includes the configured `--ip-mtu <mtu-value>`.

Examples

The following example adds a port to the endpoint group.

```
$ efa tenant epg update --name epg1
--tenant tenant11 --operation port-group-add --port 10.20.216.15[0/20]

EndpointGroup updated successfully.

--- Time Elapsed: 32.208253521s ---
```

The following example adds a Ctag with network properties to endpoint group.

```
$ efa tenant epg update --name epg1 --tenant tenant11
--operation ctag-range-add --ctag-range 100 --anycast-ip 100:1.1.100.1/24
--local-ip 100,10.20.216.15:100.100.1.1/28

EndpointGroup updated successfully.

--- Time Elapsed: 37.428381252s ---
```

The following example adds a automatic BFD session type to an endpoint group.

```
$ efa tenant epg update --name epg5 --tenant tenant11 --operation port-group-add
--port 10.20.216.15[0/11],10.20.216.16[0/11] --po po1 --switchport-mode trunk
--single-homed-bfd-session-type auto
```

The following example configures the MTU during a `vrf-add` operation.

```
$ efa tenant epg update --name tenlepg1 --tenant ten1 --operation vrf-add
--anycast-ip11:10.0.11.1/24 --anycast-ipv6 11:11::1/127 --vrf tenlvrf1 --ip-mtu 11:5990
```

The following example configures the MTU during a `ctag-range-add` operation.

```
$ efa tenant epg update --name tenlepg1 --tenant ten1 --operation ctag-range-add
--ctag-range 212 --anycast-ip 213:33.1.1.1/24 --anycast-ipv6 213:12::1/127 --ip-mtu
213:6990
--ip-icmp-redirect 213:true --ipv6-icmp-redirect 213:true
```

efa tenant execution

Displays the list of runs and event histories and deletes entries older than the specified number of days.

Syntax

```
efa tenant execution delete [--days days ]

efa tenant execution show [ --limit runs | --status { failed | succeeded
                        | all | incomplete | reconcile-failed | reconcile-succeeded } | --id
                        id ]

efa tenant execution show-event [--device ip-addr | --execution-id uuid ]

efa tenant execution delete [ --days value ]
```

Parameters

--days *days*

Deletes run entries older than the specified days (default 30).

--id *id*

Filter the executions based on the ID. The **limit** and **status** flags are ignored when the **id** flag is specified.

--device *ip-addr*

Filters run entries on IP address.

--limit *runs*

Limits the number of runs to be listed. Value "0" will list all the runs. Default is 10.

--status { **failed** | **succeeded** | **all** | **incomplete** | **reconcile-failed** | **reconcile-succeeded** }

Filters the runs based on the status. Default is **all**.

--execution-id *uuid*

Filters run entries on run UUID.

The following example returns the following information for all statuses: ID, entity, command, status, start time, end time, and user name.

```
$ efa tenant execution show
```

The following example shows the list of all event histories.

```
$ efa tenant execution show-event
```

The following example deletes run entries older than one day.

```
$ efa tenant execution delete --days 1
```

efa tenant po configure

Pushes or removes pending port channel configuration.

Syntax

```
efa tenant po configure [ --name po-name | --tenant name ]
```

Parameters

--name *po-name*

Specifies the name of the port channel.

--tenant *name*

Specifies the name of the tenant.

This example pushes or removes pending port channel configuration.

```
$ efa tenant po configure --name pol --tenant tenant11
```

```
PortChannel: pol configured successfully.
```

efa tenant po create

Creates a port channel for a tenant.

Syntax

```
efa tenant po create [ --name po-name | --tenant tenant-name | --
  description description | --speed speed | --negotiation { active |
  passive | static } | --port port-info | --min-link-count num-links |
  --number interface_number | --lACP-timeout { long | short } | --mtu
  int32]
```

Parameters

--description *description*

Describes the port channel.

--lACP-timeout { long | short }

Specifies the length of the timeout. Only valid when --negotiation is set to active or passive.

--min-link-count *num-links*

Specifies the least number of links that need to be operationally up to declare the port channel as operationally up. Valid range is 1–64. Default is 1. The number of ports provided must be greater than or equal to this count.

--mtu *int32*

MTU configuration for the port channel. Valid values are 1500 through 9216.

--name *po-name*

Specifies the port channel name.

--negotiation { active | passive | static }

Configures LACP Negotiation mode for a port channel.

--number *interface_number*

Specifies the port channel interface number generated by the service.

--port *port-info*

Specifies the device IP address and Ethernet port details. Example:

SW1_IP[0/1],SW2_IP[0/5]. Port lists support ranges (for example, 0/12–15) and breakout lane notation (for example, 0/5:1–2).

--speed *speed*

Configures the speed for the port channel and its member ports. Valid values are 100Mbps, 1Gbps, 10Gbps, 25Gbps, 40Gbps, and 100Gbps. Values are not case-sensitive.

Parameter is ignored for XCO version 4.0.11. speed is optional for OS ONE. XCO ignores it even when it is provided while creating PO with OS ONE devices.

--tenant *tenant-name*

Specifies the tenant name.

Examples

This example creates a dual-homed PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po create --tenant tenant11 --name po1
--speed 100Gbps --negotiation active --lacp-timeout short --port 10.20.216.15[0/12-13],
10.20.216.16[0/12-13]
--min-link-count 2
```

```
PortChannel created successfully.
```

This example creates a single-homed PO.

```
((efa:extreme)extreme@node-1:~$ efa tenant po create --tenant "tenant11" --name "po2"
--speed 10Gbps --negotiation static --port 10.20.216.15[0/15] --min-link-count 1
--description po2
```

```
PortChannel created successfully.
```

```
--- Time Elapsed: 3.894884521s ---
```

efa tenant po delete

Deletes a port channel.

Syntax

```
efa tenant po delete [ --name name | --force | --tenant name ]
```

Parameters

--name *name*

Specifies port channel name or comma-separated port channel names. For example: po1 or po1,po2,po3.

--force

Forces the port channel deletion if the option is provided.

--tenant *name*

Specifies the tenant name.

Examples

This example deletes the specified port channels.

```
$ efa tenant po delete --name po1,po2 --tenant tenant11
```

```
PortChannel: po1 deleted successfully.
```

```
PortChannel: po2 deleted successfully.
```

This example deletes a port channel even when it is associated with an EPG.

```
$ efa tenant po delete --name po1 --tenant tenant11 --force
```

```
PortChannel Delete with force will update associated EndpointGroups and  
Networks and deletes them if there are no other ports associated to them (N/Y): y
```

```
PortChannel: po1 deleted successfully.
```


efa tenant po show

Shows brief or detailed output of the port channel of all tenants, a given tenant, or a given port channel.

Syntax

```
efa tenant po show [--name po-name | --tenant tenant-name | --detail ]
```

Parameters

- name** *po-name*
Specifies the port channel name.
- tenant** *tenant-name*
Specifies the tenant name.
- detail**
Displays detailed output of the port channel. When this parameter is not used, only brief tabular output is returned.

Examples

This example shows brief output of all port channels.

```
$ efa tenant po show
+-----+-----+-----+-----+-----+-----+-----+
| Name | Tenant | ID | Description | Speed | Negotiation | MinLinkCount |
+-----+-----+-----+-----+-----+-----+-----+
| po1 | tenant11 | 1 | EFA Port-channel po1 | 100Gbps | active | 2 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| po2 | tenant11 | 2 | po2 | 10Gbps | static | 1 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
| po11 | tenant21 | 3 | EFA Port-channel po11 | 25Gbps | active | 1 |
| | | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
| Ports | LacpTimeout | State | Dev-State | App-State |
+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/12-13] | short | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/12-13] | | | | |
+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/15] | | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/15] | | | | |
+-----+-----+-----+-----+-----+-----+
| 10.20.216.15[0/22] | short | po-created | provisioned | cfg-in-sync |
| 10.20.216.16[0/22] | | | | |
+-----+-----+-----+-----+-----+-----+

PortChannel Details

--- Time Elapsed: 832.496716ms ---
```

This example shows detailed output of all port channels.

```
$ efa tenant po show --detail
=====
```

```
Name      : po1
Tenant    : tenant11
ID        : 1
Description : EFA Port-channel po1
Speed     : 100Gbps
Negotiation : active
Min Link Count : 2
Lacp Timeout : short
Ports     : 10.20.216.15[0/12-13]
           : 10.20.216.16[0/12-13]
State     : po-created
Dev State : provisioned
App State : cfg-in-sync

=====
Name      : po2
Tenant    : tenant11
ID        : 2
Description : EFA Port-channel po3
Speed     : 10Gbps
Negotiation : static
Min Link Count : 1
Lacp Timeout :
Ports     : 10.20.216.15[0/15]
           : 10.20.216.16[0/15]
State     : po-created
Dev State : provisioned
App State : cfg-in-sync

=====
Name      : poll
Tenant    : tenant21
ID        : 3
Description : EFA Port-channel poll
Speed     : 25Gbps
Negotiation : active
Min Link Count : 1
Lacp Timeout : short
Ports     : 10.20.216.15[0/22]
           : 10.20.216.16[0/22]
State     : po-created
Dev State : provisioned
App State : cfg-in-sync

=====

--- Time Elapsed: 506.117046ms ---
```

This example shows brief output of a specific port channel.

```
$ efa tenant po show --tenant tenant11 --name po1
+-----+-----+-----+-----+-----+-----+-----+
| Name | Tenant | ID | Speed | Negotiation | Min Link | Lacp |
|      |        |   |      |              | Count   | Timeout |
+-----+-----+-----+-----+-----+-----+-----+
| po1  | tenant11 | 1 | 100Gbps | active | 1 | short |
|      |          |   |      |        |   |      |
+-----+-----+-----+-----+-----+-----+
| Lacp | Ports | State | Dev State | App State |
| Timeout |      |      |           |           |
+-----+-----+-----+-----+-----+-----+
| short | 10.20.216.15[0/12] | po-created | provisioned | cfg-in-sync |
```

```

|          | 10.20.216.16[0/12] |          |          |          |
+-----+-----+-----+-----+-----+
PortChannel Details

--- Time Elapsed: 150.30883ms ---

```

This example shows detailed output of all port channels belonging to a tenant.

```

$ efa tenant po show --tenant tenant21 --detail
=====
Name           : po11
Tenant         : tenant21
ID             : 3
Description    : EFA Port-channel po11
Speed          : 25Gbps
Negotiation    : active
Min Link Count : 1
Lacp Timeout   : short
Ports          : 10.20.216.15[0/22]
                : 10.20.216.16[0/22]
State          : po-created
Dev State      : provisioned
App State      : cfg-in-sync
=====

--- Time Elapsed: 223.892847ms ---

```

efa tenant po update

Updates port channel parameters such as name, operation, management IP, and port.

Syntax

```
efa tenant po update [ --name po-name | --tenant tenant-name | --
  operation { port-add | port-delete | lacp-timeout | description |
  min-link-count | mtu-add | mtu-delete } | --port port-list | --lacp-
  timeout { long | short } | --min-link-count num-links | --description
  description | --mtu int32 ]
```

Parameters

--name *po-name*

Specifies the name of the port channel.

--tenant *tenant-name*

Specifies tenant name.

--operation { port-add | port-delete | lacp-timeout | description | min-link-count | mtu-add | mtu-delete }

Adds or deletes operation on the ports.

--port *port-list*

Specifies device IP along with ethernet port details. Example: SW1_IP [O/1], SW2_IP[O/5]

--lacp-timeout { long | short }

Specifies LACP timeout configuration.

--min-link-count *num-links*

Specifies the least number of links that need to be operationally up to declare the port channel as operationally up. The default value is 1. Valid values are 1 through 64.

--description

Describes the port channel.

--mtu *int32*

MTU configuration for the port channel. Valid values are 1500 through 9216.

Examples

This example updates the min-link-count of an existing PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po update --name poll --tenant tenant21
--operation min-link-count --min-link-count 1

PortChannel: poll updated successfully.

--- Time Elapsed: 378.143836ms ---
```

This example updates the lacp-timeout of an existing PO.

```
(efa:extreme)extreme@node-1:~$ efa tenant po update --name poll --tenant tenant21
--operation lacp-timeout --lacp-timeout long
```

```
PortChannel: poll updated successfully.
```

```
--- Time Elapsed: 5.883514246s ---
```

efa tenant service bgp peer configure

Pushes or removes a pending configuration for a BGP peer instance.

Syntax

```
efa tenant service bgp peer configure [ --name peer-name | --tenant tenant-name ]
```

Parameters

--name *peer-name*

Specifies the name of the BGP peer instance.

--tenant *tenant-name*

Specifies the name of the tenant.

Examples

This example pushes or removes a pending configuration for a BGP peer instance.

```
$ efa tenant service bgp peer configure --name B2 --tenant tenant11  
BgpService configured successfully.
```

efa tenant service bgp peer create

Creates a BGP (Border Gateway Protocol) peer for a specified VRF.

Syntax

```
efa tenant service bgp peer create [--name peer-name|--
  tenant tenantname|--description description|--ipv4-uc-dyn-nbr
  string|--ipv4-uc-nbr string|--ipv4-uc-nbr-bfd string|--ipv4-uc-nbr-
  route-map stringArray|--ipv4-uc-nbr-send-community string|--ipv4-
  uc-nbr-next-hop-self string|--ipv4-uc-nbr-remove-private-as |--ipv4-
  uc-nbr-default-originate stringArray|--ipv4-uc-nbr-default-originate-
  route-map stringArray|--ipv4-uc-nbr-update-source-ip string|--ipv4-
  uc-nbr-md5-password string|--md5-password-prompt-enable {true|false}
  | --ipv4-uc-nbr-prefix-list stringArray | --ipv6-uc-nbr-prefix-
  list stringArray |--ipv6-uc-dyn-nbr string|--ipv6-uc-nbr string|--
  ipv6-uc-nbr-bfd string|--ipv6-uc-nbr-default-originate stringArray
  |--ipv6-uc-nbr-default-originate-route-map stringArray | --ipv6-uc-
  nbr-md5-password string | --ipv6-uc-nbr-next-hop-self string | --
  ipv6-uc-nbr-remove-private-as stringArray | --ipv6-uc-nbr-route-map
  stringArray | --ipv6-uc-nbr-update-source-ip string | --ipv6-uc-
  nbr-send-community stringArray | --ipv4-uc-nbr-add-path-capability
  string | --ipv4-uc-nbr-add-path-advertise-all string | --ipv4-uc-
  nbr-add-path-advertise-group-best string | --ipv4-uc-nbr-add-path-
  advertise-best string | --ipv6-uc-nbr-add-path-capability string
  | --ipv6-uc-nbr-add-path-advertise-all string | --ipv6-uc-nbr-add-
  path-advertise-group-best string | --ipv6-uc-nbr-add-path-advertise-
  best string | --ipv4-uc-nbr-activate-in-ipv6-uc-af stringArray | --
  ipv4-uc-nbr-default-originate-in-ipv6-uc-af stringArray | --ipv4-uc-
  nbr-default-originate-route-map-in-ipv6-uc-af stringArray | --ipv4-
  uc-nbr-route-map-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-prefix-
  list-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-send-community-in-
  ipv6-uc-af stringArray | --ipv4-uc-nbr-add-path-capability-in-ipv6-
  uc-af stringArray | --ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-
  af stringArray | --ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af
  stringArray | --ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-
  af stringArray | --ipv4-uc-nbr-activate-in-ipv6-uc-af stringArray
  | --ipv4-uc-nbr-activate-in-ipv6-uc-af stringArray]
```

Parameters

--description *description*

Describes the BGP service.

--ipv4-uc-dyn-nbr *stringArray*

Identifies the IPv4 unicast dynamic neighbor with a string in the following format: device-ip,vrf-name:ipv4-listen-range,peer-group-name,listen-limit. For example: 10.x.x.x:red:11.22.33.44/27. The listen-limit value is optional.

--ipv4-uc-nbr *stringArray*

SLX-OS (with remote-as): device-ip,af:neighbor-ip,remote-as,update-source. Example: 10.1.1.1,ipv4:1.1.1.1,65001,loopback0.

EXTREME OS ONE (with peer-group): device-ip,af:neighbor-ip,peer-group-name,update-source. Example: 10.1.1.1,ipv4:1.1.1.1,myPeerGrp,loopback0.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-activate-in-ipv4-uc-af *stringArray*

IPv4 Unicast Neighbor in the format device-ip,vrf-name:ipv4-neighbor,activate(true/false).

Only for SLX OS MPLS BGP peers

Not Supported for OS ONE devices.

--ipv4-uc-nbr-activate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor in the format device-ip,vrf-name:ipv4-neighbor,activate(true/false).

Only for SLXOS MPLS BGP peers

Not Supported for OS ONE devices.

--ipv4-uc-nbr-activate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor in the format device-ip,vrf-name:ipv4-neighbor,activate(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-all *string*

Identifies the BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-best *string*

Identifies the BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best. Valid values are 2-16.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best. Valid values are 2-16.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-group-best *string*

Identifies the BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-af*stringArray*

BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-capability *string*

Identifies the BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability. Valid values are (send / receive / both).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-capability-in-ipv6-uc-af *stringArray*

BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability. Valid values are (send / receive / both).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-bfd *string*

Identifies the IPv4 BFD unicast neighbor with a string in the following format: device-ip,vrf-name:ipv4-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier. For example: 10.x.x.x,red:10.20.30.40,true,100,200,5. BFD timers are optional.

--ipv4-uc-nbr-default-originate *stringArray*

Identifies the default-originate setting for the IPv4 unicast neighbor, with a string in the following format: device-ip,vrf-name:neighbor-ip,true/false. For example: 10.20.246.15,ten1vrf1:10.20.30.40,true.

By default, the setting is off.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate in the format device-ip,vrf-name:ipv4-neighbor,default-originate(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-route-map *stringArray*

Identifies the default-originate setting for the IPv4 unicast neighbor, with a string in the following format: device-ip,vrf-name:neighbor-ip,route-map. For example: 10.20.246.16,ten1vrf1:10.20.30.40,rmap1.

By default, the setting is off.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-md5-password *string*

Identifies the IPv4 unicast neighbor MD5 password in the following format: device-ip,vrf-name:ipv4-neighbor,ipv4-md5-password. Example for encrypted/password

containing special characters: `--ipv4-uc-nbr-md5-password device-ip,vrf-name:ipv4-neighbor,'$9$MCgKGaNT6OASX68/7TC6Lw=='`

Not Supported for OS ONE devices.

--ipv4-uc-nbr-next-hop-self *string*

Identifies the next-hop-self for the IPv4 unicast neighbor with a string in the following format: `device-ip,vrf-name:ipv4-neighbor,next-hop-self(true/false/always)`. For example: `10.x.x.x,red:10.y.y.y,true`.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-prefix-list *stringArray*

IPv4 Unicast Neighbor prefix list in the format `device-ip,vrf-name:ipv4-neighbor,prefix-list-name,direction(in/out)`

Not supported on OS ONE devices. To apply IPv4 prefix filtering, associate a prefix set with a route map and then associate the route map with the BGP peer group.

--ipv4-uc-nbr-prefix-list-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor prefix list in the format `device-ip,vrf-name:ipv4-neighbor,prefix-list-name,direction(in/out)`.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-remove-private-as *stringArray*

Turns the remove-private-as setting on or off per BGP peer group, created for external connectivity, in the following format: `device-ip,vrf-name:neighbor-ip,truefalse`. For example: `10.20.246.15,ten1vrf1:10.20.30.40,true`.

By default, the setting is off.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-route-map *stringArray*

Identifies the IPv4 unicast neighbor route map in the following format: `device-ip,vrf-name:ipv4-neighbor,route-map-name,direction(in/out)`.

Not supported on OS ONE devices. Configure IPv4 unicast route-map associations on the BGP peer group instead.

--ipv4-uc-nbr-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor route map in the format `device-ip,vrf-name:ipv4-neighbor,route-map-name,direction(in/out)`.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-send-community *string*

Identifies the send-community in the following format: `device-ip,vrf-name:neighbor-ip, (all | both | extended | large | standard | large-and-standard | large-and-extended)`.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-send-community-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor send-community in the format `device-ip,vrf-name:ipv4-neighbor,send-community`. Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-update-source-ip *string*

Updates the source IP for the IPv4 unicast neighbor with a string in the following format: device-ip,vrf-name:ipv4-neighbor,update-source-ip. For example: 10.x.x.x,red:10.y.y.y,11.x.x.x.

--ipv6-uc-dyn-nbr *stringArray*

Identifies the IPv6 unicast dynamic neighbor with a string in the following format: device-ip,vrf-name:ipv6-listen-range,peer-group-name,listen-limit. The listen-limit value is optional.

--ipv6-uc-nbr *stringArray*

Two formats are supported:

SLXOS (with remote-as): device-ip,af:neighbor-ip,remote-as,update-source. Example: 10.1.1.1,ipv6:2001::1,65001,loopback0.

EXTREME OS ONE (with peer-group): device-ip,af:neighbor-ip,peer-group-name,update-source. Example: 10.1.1.1,ipv6:2001::1,myPeerGrp,loopback0.

Not Supported for OS ONE devices.

--ipv6-uc-nbr-add-path-advertise-all *string*

Identifies the BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-all(true/false).

Not Supported for OS ONE devices.

--ipv6-uc-nbr-add-path-advertise-best *string*

Identifies the BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-best. Valid values are 2-16.

Not Supported for OS ONE devices.

--ipv6-uc-nbr-add-path-advertise-group-best *string*

Identifies the BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-group-best(true/false).

Not Supported for OS ONE devices.

--ipv6-uc-nbr-add-path-capability *string*

Identifies the BGP neighbor add-path capability in the format device-ip,vrf-name:ipv6-neighbor,add-path-capability. Valid values are (send / receive / both).

Not Supported for OS ONE devices.

--ipv6-uc-nbr-bfd *string*

Identifies the IPv6 BFD unicast neighbor with a string in the following format: device-ip,vrf-name:ipv6-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier. For example: 10.x.x.x,red:10::40,true,100,200,5. BFD timers are optional.

--ipv6-uc-nbr-default-originate *stringArray*

Identifies the IPv6 unicast neighbor default originate in the following format: device-ip,vrf-name:ipv6-neighbor,default-originate(true/false).

Not Supported for OS ONE devices.

--ipv6-uc-nbr-default-originate-route-map *stringArray*

Identifies the IPv6 unicast neighbor default originate route map in the following format: device-ip,vrf-name:ipv6-neighbor,route-map-name.

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-md5-password *string*

Identifies the IPv6 unicast neighbor MD5 password, in the following format: device-ip,vrf-name:ipv6-neighbor,ipv6-md5-password. Example for encrypted/password containing special characters: --ipv6-uc-nbr-md5-password device-ip,vrf-name:ipv6-neighbor,'\$9\$MCgKGaNT6OASX68/7TC6Lw=='

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-next-hop-self *string*

Identifies the next-hop-self for the IPv6 unicast neighbor with a string in the following format: device-ip,vrf-name:ipv6-neighbor,next-hop-self(true/false/always). For example: 10.x.x.x,red:10::40,true.

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-prefix-list *stringArray*

IPv6 Unicast Neighbor prefix list in the format device-ip,vrf-name:ipv6-neighbor,prefix-list-name,direction(in/out)

Not supported on EXTREME OS ONE devices. To apply IPv6 prefix filtering, associate a prefix set with a route map and then associate the route map with the BGP peer group.

--ipv6-uc-nbr-remove-private-as *stringArray*

Identifies the IPv6 unicast neighbor remove private AS in the format device-ip,vrf-name:ipv6-neighbor,remove-private-as(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-route-map *stringArray*

Identifies the IPv6 unicast neighbor route map in the format device-ip,vrf-name:ipv6-neighbor,route-map-name,direction(in/out).

Not supported on EXTREME OS ONE devices. Configure IPv6 unicast route-map associations on the BGP peer group instead.

--ipv6-uc-nbr-send-community *string*

Identifies the send-community in the following format: device-ip,vrf-name:neighbor-ip, (all | both | extended | large | standard | large-and-standard | large-and-extended).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-update-source-ip *string*

Updates the source IP address for the IPv6 unicast neighbor with a string in the following format: device-ip,vrf-name:ipv6-neighbor,update-source-ip. For example: 10.x.x.x,red:10::40,11::22.

--md5-password-prompt-enable { **true** | **false** }

Turns on secure input for the MD5 password. The default is false.

Not Supported for EXTREME OS ONE devices.

--name *peer-name*

Identifies the name of the BGP peer instance.

--tenant *tenant-name*

Identifies the name of the tenant.

Usage Guidelines

On EXTREME OS ONE devices, route-map and prefix-filter configuration is supported only at the BGP peer-group level.

Peer-level route-map and prefix-list associations are supported on SLX devices only.

Examples

This example creates a static BGP peer (IPv4 and IPv6).

```
$ efa tenant service bgp peer create --name B1 --tenant tenant11
--ipv4-uc-nbr 10.20.216.16,blue11:1.1.1.11,95001
--ipv4-uc-nbr-bfd 10.20.216.16,blue11:1.1.1.11,true,50,5000,50
--ipv4-uc-nbr-next-hop-self 10.20.216.16,blue11:1.1.1.11,always
--ipv4-uc-nbr-update-source-ip 10.20.216.16,blue11:1.1.1.11,10.11.12.13
--ipv6-uc-nbr 10.20.216.16,blue11:20a1:a::10,95001
--ipv6-uc-nbr-bfd 10.20.216.16,blue11:20a1:a::10,true,50,5000,50
--ipv6-uc-nbr-next-hop-self 10.20.216.16,blue11:20a1:a::10,always
--ipv6-uc-nbr-update-source-ip 10.20.216.16,blue11:20a1:a::10,20::10

BgpService created successfully.
```

This example creates a dynamic BGP peer (IPv4 and IPv6).

```
$ efa tenant service bgp peer create --name B2 --tenant tenant11
--ipv6-uc-dyn-nbr 10.20.216.16,blue11:15::/127,pg1,10
--ipv4-uc-dyn-nbr 10.20.216.16,blue11:15.15.15.0/28,pg1,10

BgpService created successfully.
```

This example creates a BGP peer MD5 password in a secure manner. For more information, see the "Configure BGP MD5 Authentication for Tenant BGP Peer and Peer-group Securely" topic in the *ExtremeCloud Orchestrator Security Configuration Guide*.

```
$ efa tenant service bgp peer create --name bgp173-2501
--tenant tenant11
--ipv4-uc-nbr 10.20.246.6,v1:25.1.1.3,5901
--ipv4-uc-nbr-bfd 10.20.246.6,v1:25.1.1.3,true
--ipv6-uc-nbr 10.20.246.5,v1:25:1::3,5901
--ipv6-uc-nbr-bfd 10.20.246.5,v1:25:1::3,true
--md5-password-prompt-enable=true

$ efa tenant service bgp peer create --name ten1bgppeer1
--tenant ten1 --ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.40,true
--ipv4-uc-nbr-remove-private-as 10.20.246.15,ten1vrf1:10.20.30.40,true
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.40,true
--ipv4-uc-nbr-remove-private-as 10.20.246.16,ten1vrf1:10.20.30.40,true

$ efa tenant service bgp peer create --name ten1bgppeer1
--tenant ten1 --ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.40,true
--ipv4-uc-nbr-default-originate 10.20.246.15,ten1vrf1:10.20.30.40,true
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.40,true
```

```
--ipv4-uc-nbr-default-originate 10.20.246.16,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-default-originate-route-map 10.20.246.16,tenlvrf1:10.20.30.40,rmap1
```

```
$ efa tenant service bgp peer create --name tenlbgppeer1
--tenant ten1 --ipv4-uc-nbr 10.20.246.15,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.15,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-prefix-list-in 10.20.246.15,tenlvrf1:10.20.30.40,ipprefix1
--ipv4-uc-nbr 10.20.246.16,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.16,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-prefix-list-out 10.20.246.16,tenlvrf1:10.20.30.40,ipprefix1
```

```
$ efa tenant service bgp peer create --name tenlbgppeer1
--tenant ten1 --ipv4-uc-nbr 10.20.246.15,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.15,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-route-map 10.20.246.15,tenlvrf1:10.20.30.40,rmap1,in
--ipv4-uc-nbr 10.20.246.16,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.16,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-route-map 10.20.246.16,tenlvrf1:10.20.30.40,rmap1,out
--ipv6-uc-nbr 10.20.246.15,tenlvrf1:25:1::3,50000
--ipv6-uc-nbr-bfd 10.20.246.15,tenlvrf1:25:1::3,true
--ipv6-uc-nbr-route-map 10.20.246.15,tenlvrf1:25:1::3,rmap1,in
--ipv6-uc-nbr 10.20.246.16,tenlvrf1:25:1::3,50000
--ipv6-uc-nbr-bfd 10.20.246.16,tenlvrf1:25:1::3,true
--ipv6-uc-nbr-route-map 10.20.246.16,tenlvrf1:25:1::3,rmap1,out
```

```
$ efa tenant service bgp peer create --name tenlbgppeer1
--tenant ten1 --ipv4-uc-nbr 10.20.246.15,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.15,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-default-originate 10.20.246.15,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr 10.20.246.16,tenlvrf1:10.20.30.40,50000
--ipv4-uc-nbr-bfd 10.20.246.16,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-default-originate 10.20.246.16,tenlvrf1:10.20.30.40,true
--ipv4-uc-nbr-default-originate-route-map 10.20.246.16,tenlvrf1:10.20.30.40,rmap1
```

```
efa tenant service bgp peer create --name tenlbgppeer1 --tenant ten1
--ipv4-uc-nbr-bfd 10.20.246.15,tenlvrf1:25.1.1.2,true
--ipv6-uc-nbr 10.20.246.15,tenlvrf1:25:1::3,5900
--ipv6-uc-nbr-bfd 10.20.246.15,tenlvrf1:25:1::3,true
--ipv6-uc-nbr-md5-password 10.20.246.15,tenlvrf1:25:1::3,password
--ipv4-uc-nbr-md5-password 10.20.246.15,tenlvrf1:25.1.1.2,password
--ipv4-uc-nbr-send-community 10.20.246.15,tenlvrf1:25.1.1.2,all
--ipv6-uc-nbr-send-community 10.20.246.15,tenlvrf1:1::1,both
--ipv4-uc-nbr-add-path-capability 10.20.246.15,tenlvrf1:25.1.1.2,send
--ipv4-uc-nbr-add-path-advertise-all 10.20.246.15,tenlvrf1:25.1.1.2,true
--ipv4-uc-nbr 10.20.246.15,tenlvrf1:25.1.1.2,5900
--ipv4-uc-nbr-add-path-advertise-all 10.20.246.15,tenlvrf1:25.1.1.2,true
--ipv6-uc-nbr 10.20.246.15,tenlvrf1:1::1,5900
--ipv6-uc-nbr-add-path-advertise-best 10.20.246.15,tenlvrf1:1::1,2
--ipv6-uc-nbr-add-path-capability 10.20.246.15,tenlvrf1:1::1,both
--ipv6-uc-nbr-add-path-advertise-best 10.20.246.15,tenlvrf1:1::1,2
--ipv6-uc-nbr-add-path-advertise-group-best 10.20.246.15,tenlvrf1:1::1,true
```

```
(efa:root)root@Server41:~# efa tenant service bgp peer create --name customer_1 --tenant
tv3 \
--ipv4-uc-nbr 10.20.49.119,v1:10.10.10.11,95001 \ --ipv4-uc-nbr-md5-password
10.20.49.119,v1:10.10.10.11,password \ --ipv4-uc-nbr-bfd
10.20.49.119,v1:10.10.10.11,true,50,5000,50 \
--ipv4-uc-nbr-next-hop-self 10.20.49.119,v1:10.10.10.11,always \ --ipv4-uc-nbr-update-
source-ip
10.20.49.119,v1:10.10.10.11,10.11.12.13 \ --ipv4-uc-nbr-remove-private-as
10.20.49.119,v1:10.10.10.11,true \ --ipv4-uc-nbr-default-originate
10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-default-originate-route-map 10.20.49.119,v1:10.10.10.11,rt1 \ --ipv4-uc-nbr-
route-map
```

```

10.20.49.119,v1:10.10.10.11,customer_1_v4_in,in \ --ipv4-uc-nbr-prefix-list
10.20.49.119,v1:10.10.10.11,customer_1_v4_out,out \ --ipv4-uc-nbr-send-community
10.20.49.119,v1:10.10.10.11,all \ --ipv4-uc-nbr-add-path-capability
10.20.49.119,v1:10.10.10.11,both \
--ipv4-uc-nbr-add-path-advertise-all 10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-add-path-advertise-best 10.20.49.119,v1:10.10.10.11,16 \
--ipv4-uc-nbr-add-path-advertise-group-best 10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-activate-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-default-originate-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-default-originate-route-map-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,rt1 \
--ipv4-uc-nbr-send-community-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,all \
--ipv4-uc-nbr-add-path-capability-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,both \
--ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,16 \
--ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-af
10.20.49.119,v1:10.10.10.11,true \
--ipv4-uc-nbr-route-map-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,customer_1_v6_in,in \
--ipv4-uc-nbr-prefix-list-in-ipv6-uc-af 10.20.49.119,v1:10.10.10.11,customer_1_v6_out,out

(efa:root)root@Server41:~# efa tenant service bgp peer update --name customer_1 --tenant
tv3
--operation peer-add \ --ipv4-uc-nbr 10.20.49.118,v1:10.10.10.12,95001 \ --ipv4-uc-nbr-
md5-password
10.20.49.118,v1:10.10.10.12,password \ --ipv4-uc-nbr-bfd
10.20.49.118,v1:10.10.10.12,true,50,5000,50 \
--ipv4-uc-nbr-next-hop-self 10.20.49.118,v1:10.10.10.12,always \ --ipv4-uc-nbr-update-
source-ip
10.20.49.118,v1:10.10.10.12,10.11.12.12 \ --ipv4-uc-nbr-remove-private-as
10.20.49.118,v1:10.10.10.12,true \ --ipv4-uc-nbr-default-originate
10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-default-originate-route-map 10.20.49.118,v1:10.10.10.12,rt1 \ --ipv4-uc-nbr-
route-map
10.20.49.118,v1:10.10.10.12,customer_1_v4_in,in \ --ipv4-uc-nbr-prefix-list
10.20.49.118,v1:10.10.10.12,customer_1_v4_out,out \ --ipv4-uc-nbr-send-community
10.20.49.118,v1:10.10.10.12,all \ --ipv4-uc-nbr-add-path-capability
10.20.49.118,v1:10.10.10.12,both \
--ipv4-uc-nbr-add-path-advertise-all 10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-add-path-advertise-best 10.20.49.118,v1:10.10.10.12,16 \
--ipv4-uc-nbr-add-path-advertise-group-best 10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-activate-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-default-originate-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-default-originate-route-map-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,rt1 \
--ipv4-uc-nbr-send-community-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,all \
--ipv4-uc-nbr-add-path-capability-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,both \
--ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,16 \
--ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-af
10.20.49.118,v1:10.10.10.12,true \
--ipv4-uc-nbr-route-map-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,customer_1_v6_in,in \
--ipv4-uc-nbr-prefix-list-in-ipv6-uc-af 10.20.49.118,v1:10.10.10.12,customer_1_v6_out,out

```

```
(efa:root)root@Server41:~# efa tenant service bgp peer show --detail
```

```

=====
=== Name : customer_1 Tenant : tv3 State : bgp-peer-created Description : Static Peer
----- Device IP : 10.20.49.119 VRF : v1 AFI : ipv4 SAFI : unicast Remote IP : 10.10.10.11
Remote ASN : 95001 Activate : true Next Hop Self : always Update Source IP : 10.11.12.13 BFD
Enabled : true BFD Interval : 50 BFD Rx : 5000 BFD Multiplier : 50 MD5 Password :
$9$MCGkGaNt6OASX68/7TC6Lw== Remove Private AS : true Default Originate : true Default
Originate Route Map : rt1 Send Community : all Prefix List In : Prefix List Out :
customer_1_v4_out Route Map In : customer_1_v4_in Route Map Out : Add Path
Capability : both Add Path Advertise : All, Group Best, Best 16 Dev State : provisioned App
State : cfg-in-sync --Multi protocol capability-- AFI : ipv6 SAFI : unicast Activate : true Default

```

```

Originate : true Default Originate Route Map : rt1 Send Community : all Prefix List In : Prefix List
Out : customer_1__v6_out Route Map In : customer_1__v6_in Route Map Out : Add Path
Capability : both Add Path Advertise : All, Group Best, Best 16 Dev State : provisioned App
State : cfg-in-sync Device IP : 10.20.49.118 VRF : v1 AFI : ipv4 SAFI : unicast Remote IP : 10.10.10.12
Remote ASN : 95001 Activate : true Next Hop Self : always Update Source IP : 10.11.12.12 BFD
Enabled : true BFD Interval : 50 BFD Rx : 5000 BFD Multiplier : 50 MD5 Password :
$9$MCGkGaNt6OASX68/7TC6Lw== Remove Private AS : true Default Originate : true Default
Originate Route Map : rt1 Send Community : all Prefix List In : Prefix List Out :
customer_1__v4_out Route Map In : customer_1__v4_in Route Map Out : Add Path
Capability : both Add Path Advertise : All, Group Best, Best 16 Dev State : provisioned App
State : cfg-in-sync --Multi protocol capability-- AFI : ipv6 SAFI : unicast Activate : true Default
Originate : true Default Originate Route Map : rt1 Send Community : all Prefix List In : Prefix List
Out : customer_1__v6_out Route Map In : customer_1__v6_in Route Map Out : Add Path
Capability : both Add Path Advertise : All, Group Best, Best 16 Dev State : provisioned App
State : cfg-in-sync Dynamic Peer ----- 0 Records
=====
===

```

This example creates a BGP peer instance for EXTREME OS ONE devices using Format Two (peer-group-name), with IPv4 and IPv6 unicast neighbors, BFD, update source IP, and dynamic neighbor configuration for both devices in the fabric.

```

$ efa tenant service bgp peer create --tenant "Tnt-6" --name "customer_Policy_6_1"
--ipv4-uc-nbr 10.64.224.16,Tnt-6_VR1:1.1.1.10,pg2
--ipv4-uc-nbr-bfd 10.64.224.16,Tnt-6_VR1:1.1.1.10,true,50,5001,50
--ipv4-uc-nbr-update-source-ip 10.64.224.16,Tnt-6_VR1:1.1.1.10,10.11.12.13
--ipv4-uc-dyn-nbr 10.64.224.16,Tnt-6_VR1:10.20.50.0/29,pg2,10
--ipv6-uc-nbr 10.64.224.16,Tnt-6_VR1:110a::10,pg1
--ipv6-uc-nbr-bfd 10.64.224.16,Tnt-6_VR1:110a::10,true,50,5000,50
--ipv6-uc-nbr-update-source-ip 10.64.224.16,Tnt-6_VR1:110a::10,12a::1
--ipv6-uc-dyn-nbr 10.64.224.16,Tnt-6_VR1:13a::/127,pg1,10
--ipv4-uc-nbr 10.64.224.17,Tnt-6_VR1:1.1.1.11,pg2
--ipv4-uc-nbr-bfd 10.64.224.17,Tnt-6_VR1:1.1.1.11,true,50,5001,50
--ipv4-uc-nbr-update-source-ip 10.64.224.17,Tnt-6_VR1:1.1.1.11,10.11.12.14
--ipv4-uc-dyn-nbr 10.64.224.17,Tnt-6_VR1:10.20.60.0/29,pg2,10
--ipv6-uc-nbr 10.64.224.17,Tnt-6_VR1:110a::11,pg1
--ipv6-uc-nbr-bfd 10.64.224.17,Tnt-6_VR1:110a::11,true,50,5000,50
--ipv6-uc-nbr-update-source-ip 10.64.224.17,Tnt-6_VR1:110a::11,12a::2
--ipv6-uc-dyn-nbr 10.64.224.17,Tnt-6_VR1:23a::/127,pg1,10

BgpService created successfully.

```


efa tenant service bgp peer delete

Deletes the BGP neighbors for a given VRF on the fabric device.

Syntax

```
efa tenant service bgp peer delete [ --force | --name service-name | --tenant tenant-name ]
```

Parameters

--force

Forces BGP service deletion when set to true.

--name

Specifies the name of the BGP service instance.

--tenant

Specifies the name of the tenant.

Examples

The following example deletes the BGP peer instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer delete --name B1 --tenant
tenant11

BgpService deleted successfully.

--- Time Elapsed: 4.301665698s ---
```

The following example deletes the BGP peer instance forcefully avoiding any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer delete --name B1 --tenant
tenant11 --force

Bgp Service delete with "force" option will delete the device configuration corresponding
to the bgp and also
deletes the Bgp record from the application. Do you want to proceed (Y/N): y

BgpService deleted successfully.

--- Time Elapsed: 4.301665698s ---
```

efa tenant service bgp peer operational show

Gets the operational state of the BGP peers belonging to both default-vrf and tenant-vrf.

Syntax

```
efa tenant service bgp peer operational show [--tenant name | --vrf
name ]
```

Parameters

--tenant *name*

Specifies the name of the tenant.

--vrf *name*

Specifies the name of the VRF.

Examples

```
efa tenant service bgp peer operational show --tenant tenant2 --vrf vrf101
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| Tenant | VRF   | Source | Destination | Source Device | BGP Peer |
| BGP Peer | BGP Peer | BGP Peer | BGP Peer | BGP Peer | BGP Peer |
| | | Device IP | Device IP | Router ID | IP |
| Source ASN | Destination ASN | AFI | SAFI | Session State |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.24 | | 172.31.254.178 | 10.40.40.251 |
| 65000 | 65000 | ipv4 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.24 | | 172.31.254.178 | 121.10.1.1 |
| 65000 | 4200000000 | ipv4 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.24 | | 172.31.254.178 | 121:a::1 |
| 65000 | 4200000000 | ipv6 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.24 | | 172.31.254.178 | fd40:4040:4040:1::fd |
| 65000 | 65000 | ipv6 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.23 | | 172.31.254.114 | 10.40.40.250 |
| 65000 | 65000 | ipv4 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.23 | | 172.31.254.114 | 121.10.1.2 |
| 65000 | 4200000000 | ipv4 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| tenant2 | vrf101 | 10.20.246.23 | | 172.31.254.114 | fd40:4040:4040:1::fc |
| 65000 | 65000 | ipv6 | unicast | CONN | |
+-----+-----+-----+-----+-----+-----+-----+
```

```

+-----+-----+-----+-----+-----+
BGP Summary
+-----+-----+-----+-----+-----+

efa tenant service bgp peer operational show
+-----+-----+-----+-----+-----+
+-----+
| Tenant | VRF | Source | Destination | Source Device |
BGP Peer | BGP Peer | BGP Peer | BGP Peer | BGP Peer | BGP Peer |
| | | Device IP | Device IP | Router ID |
IP | Source ASN | Destination ASN | AFI | SAFI | Session State |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.24 | | |
| | 172.31.254.178 | 10.40.40.251 |
| 65000 | 34566 | ipv4 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.24 | | |
| | 172.31.254.178 | 121.10.1.1 |
| 65000 | 4200000000 | ipv4 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.24 | | |
| | 172.31.254.178 | 121:a::1 |
| 65000 | 4200000000 | ipv6 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.24 | | |
| | 172.31.254.178 | fd40:4040:4040:1::fd |
| 65000 | 34566 | ipv6 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.23 | | |
| | 172.31.254.114 | 10.40.40.250 |
| 65000 | 34566 | ipv4 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 | 10.20.246.23 | | |
| | 172.31.254.114 | 121.10.1.2 |
| 65000 | 4200000000 | ipv4 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf102 |
10.20.246.23 | | 172.31.254.114 | fd40:4040:4040:1::fc |
| 65000 | 34566 | ipv6 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101 |
10.20.246.23 | | 172.31.254.114 | 10.40.40.250 |
| 65000 | 65000 | ipv4 | unicast | CONN |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101 |
10.20.246.23 | | 172.31.254.114 | 121.10.1.2 |

```

```

| 65000      | 4200000000      | ipv4      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101      |
10.20.246.23 |      | 172.31.254.114 | fd40:4040:4040:1::fc
| 65000      | 65000      | ipv6      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101      |
10.20.246.24 |      | 172.31.254.178 | 10.40.40.251
| 65000      | 65000      | ipv4      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101      |
10.20.246.24 |      | 172.31.254.178 | 121.10.1.1
| 65000      | 4200000000      | ipv4      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101      |
10.20.246.24 |      | 172.31.254.178 | 121:a::1
| 65000      | 4200000000      | ipv6      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
| tenant2 | vrf101      |
10.20.246.24 |      | 172.31.254.178 | fd40:4040:4040:1::fd
| 65000      | 65000      | ipv6      | unicast  | CONN      |
+-----+-----+-----+-----+-----+
+-----+
|      | default-vrf | 10.20.246.21
|      | 172.31.254.237 | 10.10.10.13
| 66000      | 64512      | ipv4      | unicast  | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|      | default-vrf | 10.20.246.21
|      | 172.31.254.237 | 10.10.10.15
| 66000      | 64512      | ipv4      | unicast  | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|      | default-vrf | 10.20.246.21
|      | 172.31.254.237 | 10.10.10.13
| 66000      | 64512      | l2vpn     | evpn     | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|      | default-vrf | 10.20.246.21
|      | 172.31.254.237 | 10.10.10.15
| 66000      | 64512      | l2vpn     | evpn     | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|      | default-vrf | 10.20.246.21
|      | 172.31.254.237 | 10.20.20.9
| 66000      | 66000      | l2vpn     | evpn     | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+

```

```

|          | default-vrf | 10.20.246.22
|          | 172.31.254.218 | 10.10.10.5
| 66000    | 64512        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.22
|          | 172.31.254.218 | 10.10.10.7
| 66000    | 64512        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.22
|          | 172.31.254.218 | 10.10.10.5
| 66000    | 64512        | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.22
|          | 172.31.254.218 | 10.10.10.7
| 66000    | 64512        | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.22
|          | 172.31.254.218 | 10.20.20.8
| 66000    | 66000        | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.0
| 64512    | 65000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.2
| 64512    | 65000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.4
| 64512    | 66000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.6
| 64512    | 66000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.8
| 64512    | 65000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|          | default-vrf | 10.20.246.14
|          | 172.31.254.239 | 10.10.10.10
| 64512    | 65000        | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+

```

```

+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.12
| 64512     | 66000         | ipv4         | unicast     | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.14
| 64512     | 66000         | ipv4         | unicast     | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.0
| 64512     | 65000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.2
| 64512     | 65000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.4
| 64512     | 66000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.6
| 64512     | 66000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.8
| 64512     | 65000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.10
| 64512     | 65000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.12
| 64512     | 66000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.14 |         | 172.31.254.239 | 10.10.10.14
| 64512     | 66000         | l2vpn        | evpn        | ESTAB       |
+-----+-----+-----+-----+-----+
+-----+
|         | default-vrf |
10.20.246.23 |         | 172.31.254.114 | 10.10.10.9

```

```

| 65000      | 64512      | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.23 |           | 172.31.254.114 | 10.10.10.11
| 65000      | 64512      | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.23 |           | 172.31.254.114 | 10.10.10.9
| 65000      | 64512      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.23 |           | 172.31.254.114 | 10.10.10.11
| 65000      | 64512      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.23 |           | 172.31.254.114 | 10.20.20.6
| 65000      | 65000      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.24 |           | 172.31.254.178 | 10.10.10.1
| 65000      | 64512      | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.24 |           | 172.31.254.178 | 10.10.10.3
| 65000      | 64512      | ipv4      | unicast    | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.24 |           | 172.31.254.178 | 10.10.10.1
| 65000      | 64512      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.24 |           | 172.31.254.178 | 10.10.10.3
| 65000      | 64512      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
|           | default-vrf |
10.20.246.24 |           | 172.31.254.178 | 10.20.20.7
| 65000      | 65000      | l2vpn     | evpn       | ESTAB      |
+-----+-----+-----+-----+-----+
+-----+
BGP Summary

--- Time Elapsed: 21.822450796s ---

```

efa tenant service bgp peer show

Shows brief or detailed output of the BGP neighbors for a given tenant.

Syntax

```
efa tenant service bgp peer show [ --name peer-name | --tenant tenant-name
| --detail ]
```

Parameters

--name *peer-name*

Specifies the name of the BGP peer instance.

--tenant *tenant-name*

Specifies the name of the tenant.

--detail

Displays detailed output of the BGP peer instance. When this parameter is not used, only brief tabular output is returned.

Examples

The following example shows brief output of all instances.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show
=====
=====
=====
Name      : customer_Policy_4_1
Tenant    : Tnt-4
State     : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |
| Activate | Next Hop | Update | BFD | BFD | Dev State |
| App State |
| | Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
| |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 | |
| false | | 10.11.12.13 | true | 50, 5001, 50 | | provisioned | cfg-
| in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | pg1 | ipv6 | unicast | 110a::10 | |
| false | | 12a::1 | true | 50, 5000, 50 | | provisioned | cfg-
| in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
```



```

| 10.64.224.17 | Tnt-4_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 | | |
false | | 10.11.12.14 | true | | 50, 5001, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-4_VR1 | pg1 | ipv6 | unicast | 110a::11 | | |
false | | 12a::2 | true | | 50, 5000, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State | | | | | Limit |
| | | | | | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | Tnt-4_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | Tnt-4_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-4_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-4_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
Dynamic Peer Details

=====
=====
=====
...
--- Time Elapsed: 1.829188687s ---
(efa:extreme)extreme@node-1:~$

```

The following example shows brief output of all instances created for a tenant.

```

(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show --tenant Tnt-6
=====
=====
=====
Name      : customer_Policy_6_1
Tenant    : Tnt-6
State     : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |

```

```

Activate | Next Hop | Update | BFD | BFD | Dev State |
App State |
| | | | | |
| | Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
| | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::10 | |
false | | 12a::1 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 | |
false | | 10.11.12.13 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 | |
false | | 10.11.12.14 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::11 | |
false | | 12a::2 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State |
| | | | | | | Limit |
| | | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
Dynamic Peer Details

=====
=====

```

```

=====
...
--- Time Elapsed: 208.803854ms ---
(efa:extreme)extreme@node-1:~$

```

The following example shows detailed output of a specific instance.

```

(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show --tenant Tnt-6 --name
customer_Policy_6_1
=====
=====
Name      : customer_Policy_6_1
Tenant    : Tnt-6
State     : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF   | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |
Activate | Next Hop | Update   | BFD |      BFD      | Dev State |
App State |         |          |     |          |           |
|         | Self  | Source IP | Enabled | [Interval,Rx,Multiplier] |
|         |         |          |     |          |           |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 | |
false | | 10.11.12.13 | true | 50, 5001, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::10 | |
false | | 12a::1 | true | 50, 5000, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 | |
false | | 10.11.12.14 | true | 50, 5001, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::11 | |
false | | 12a::2 | true | 50, 5000, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| Device-IP | VRF   | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State |
|         |         |     |     |               | Limit  |
|         |         |     |     |               |
+-----+-----+-----+-----+-----+-----+

```

```

+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
Dynamic Peer Details

=====
=====
=====

--- Time Elapsed: 89.168597ms ---
(efa:extreme)extreme@node-1:~$

```

efa tenant service bgp peer update

Adds, deletes, or updates a BGP peer instance.

Syntax

```
efa tenant service bgp peer update [ --name peer-name | --operation
{peer-add|peer-delete|desc-update} | --tenant tenant-name | --description
description | --ipv4-uc-dyn-nbr string | --ipv4-uc-nbr string |
--ipv4-uc-nbr-bfd string | --ipv4-uc-nbr-send-community string | |
--ipv4-uc-nbr-remove-private-as stringArray | --ipv4-uc-nbr-default-
originate stringArray | --ipv4-uc-nbr-default-originate-route-map
stringArray | --ipv4-uc-nbr-next-hop-self string | --ipv4-uc-nbr-
update-source-ip string | --ipv4-uc-nbr-route-map stringArray |
--ipv4-uc-nbr-md5-password password | --md5-password-prompt-enable
{ true | false } | --ipv4-uc-nbr-prefix-list stringArray |
--ipv6-uc-nbr-prefix-list stringArray | --ipv6-uc-dyn-nbr string
| --ipv6-uc-nbr string | --ipv6-uc-nbr-bfd string | --ipv6-uc-
nbr-default-originate stringArray | --ipv6-uc-nbr-default-originate-
route-map stringArray | --ipv6-uc-nbr-md5-password string | --
ipv6-uc-nbr-next-hop-self string | --ipv6-uc-nbr-remove-private-as
stringArray | --ipv6-uc-nbr-route-map stringArray | --ipv6-uc-nbr-
update-source-ip string | --ipv6-uc-nbr-send-community stringArray
| | --ipv4-uc-nbr-add-path-capability string | --ipv4-uc-nbr-add-
path-advertise-all string | --ipv4-uc-nbr-add-path-advertise-group-
best string | --ipv4-uc-nbr-add-path-advertise-best string | --ipv6-
uc-nbr-add-path-capability string | --ipv6-uc-nbr-add-path-advertise-
all string | --ipv6-uc-nbr-add-path-advertise-group-best string
| --ipv6-uc-nbr-add-path-advertise-best string | --ipv4-uc-nbr-
activate-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-default-originate-
in-ipv6-uc-af stringArray | --ipv4-uc-nbr-default-originate-route-
map-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-route-map-in-ipv6-uc-
af stringArray | --ipv4-uc-nbr-prefix-list-in-ipv6-uc-af stringArray
| --ipv4-uc-nbr-send-community-in-ipv6-uc-af stringArray | --ipv4-
uc-nbr-add-path-capability-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-
add-path-advertise-all-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-add-
path-advertise-best-in-ipv6-uc-af stringArray | --ipv4-uc-nbr-add-
path-advertise-group-best-in-ipv6-uc-af stringArray ]
```

Parameters

--description *string*

Description of the Bgp Service

--ipv4-uc-dyn-nbr *stringArray*

IPv4 Unicast Dynamic Neighbor in the format device-ip,vrf-name:ipv4-listen-range,peer-group-name,listen-limit. listen-limit is optional

--ipv4-uc-nbr *stringArray*

IPv4 Unicast Neighbor in the format SLX-OS Format: device-ip,vrf-name:ipv4-neighbor,remote-as Example: --ipv4-uc-nbr 10.64.160.11,vrfRed:1.1.1.1,65000 EXTREME OS ONE Format: device-ip,vrf-name:ipv4-neighbor,peer-group-name Example: --ipv4-uc-nbr 10.64.160.11,vrfRed:1.1.1.1,pg1. 64.160.11,vrfRed:1.1.1.1 EXTREME OS ONE Format: device-ip,vrf-name:ipv4-neighbor,peer-group-name Example: --ipv4-uc-nbr 10.64.160.11,vrfRed:1.1.1.1,pg1.

SLX-OS Format is not supported for OS ONE devices for "peer-add" operation, SLX-OS Format: device-ip,vrf-name:ipv4-neighbor Example: --ipv4-uc-nbr 10.

SLX-OS Format is not supported for OS ONE devices for "peer-delete" operation.

--ipv4-uc-nbr-activate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor in the format "device-ip,vrf-name:ipv4-neighbor,true" for "peer-add" operation, "device-ip,vrf-name:ipv4-neighbor" for "peer-delete" operation.

--ipv4-uc-nbr-add-path-advertise-all *stringArray*

BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-best *stringArray*

BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best Valid values are 2-16.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best Valid values are 2-16.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-group-best *stringArray*

BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-capability *stringArray*

BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability Valid values are (send / receive / both).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-add-path-capability-in-ipv6-uc-af *stringArray*

BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability Valid values are (send / receive / both).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-bfd *stringArray*

IPv4 Unicast Neighbor BFD in the format device-ip,vrf-name:ipv4-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier. bfd timers are optional.

--ipv4-uc-nbr-default-originate *stringArray*

IPv4 Unicast Neighbor default originate in the format device-ip,vrf-name:ipv4-neighbor,default-originate(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate in the format device-ip,vrf-name:ipv4-neighbor,default-originate(true/false).

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-route-map *stringArray*

IPv4 Unicast Neighbor default originate route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-default-originate-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-md5-password *stringArray*

IPv4 Unicast Neighbor md5-password in the format device-ip,vrf-name:ipv4-neighbor,ipv4-md5-password. Example for encrypted/password containing special characters: --ipv4-uc-nbr-md5-password device-ip,vrf-name:ipv4-neighbor,'\$9\$MCgKGaNT6OASX68/7TC6Lw=='.

Not Supported for OS ONE devices.

--ipv4-uc-nbr-next-hop-self *stringArray*

IPv4 Unicast Neighbor next hop self in the format device-ip,vrf-name:ipv4-neighbor,next-hop-self(true/false/always).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-prefix-list *stringArray*

IPv4 Unicast Neighbor prefix list in the format device-ip,vrf-name:ipv4-neighbor,prefix-list-name,direction(in/out).

Not supported on EXTREME OS ONE devices. To apply IPv4 prefix filtering, associate a prefix set with a route map and then associate the route map with the BGP peer group.

--ipv4-uc-nbr-prefix-list-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor prefix list in the format device-ip,vrf-name:ipv4-neighbor,prefix-list-name,direction(in/out).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-remove-private-as *stringArray*

IPv4 Unicast Neighbor remove private AS in the format device-ip,vrf-name:ipv4-neighbor,remove-private-as(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-route-map *stringArray*

IPv4 Unicast Neighbor route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name,direction(in/out).

Not supported on EXTREME OS ONE devices. Configure IPv4 unicast route-map associations on the BGP peer group instead.

--ipv4-uc-nbr-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name,direction(in/out).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-send-community *stringArray*

IPv4 Unicast Neighbor send-community in the format device-ip,vrf-name:ipv4-neighbor,send-community. Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-send-community-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor send-community in the format device-ip,vrf-name:ipv4-neighbor,send-community. Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

Not Supported for EXTREME OS ONE devices.

--ipv4-uc-nbr-update-source-ip *stringArray*

IPv4 Unicast Neighbor update source IP in the format device-ip,vrf-name:ipv4-neighbor,update-source-ip

--ipv6-uc-dyn-nbr *stringArray*

IPv6 Unicast Dynamic Neighbor in the format device-ip,vrf-name:ipv6-listen-range,peer-group-name,listen-limit. listen-limit is optional

--ipv6-uc-nbr *stringArray*

IPv6 Unicast Neighbor in the format SLX-OS Format: device-ip,vrf-name:ipv6-neighbor,remote-as Example: --ipv6-uc-nbr 10.64.160.1,vrfRed:ff::ff,65000 EXTREME OS ONE Format: device-ip,vrf-name:ipv6-neighbor,peer-group-name Example: --ipv6-uc-nbr 10.64.160.1,vrfRed:ff::ff,pg1. 64.160.11,vrfRed:ff::ff EXTREME OS ONE Format: device-ip,vrf-name:ipv6-neighbor,peer-group-name Example: --ipv6-uc-nbr 10.64.160.1,vrfRed:ff::ff,pg1.

SLX-OS Format is not supported for EXTREME OS ONE devices " for "peer-add" operation, SLX-OS Format: device-ip,vrf-name:ipv6-neighbor Example: --ipv6-uc-nbr 10.

SLX-OS Format is not supported for EXTREME OS ONE devices for "peer-delete" operation.

--ipv6-uc-nbr-add-path-advertise-all *stringArray*

BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-all(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-add-path-advertise-best *stringArray*

BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-best Valid values are 2-16.

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-add-path-advertise-group-best *stringArray*

BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-group-best(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-add-path-capability *stringArray*

BGP neighbor add-path capability in the format device-ip,vrf-name:ipv6-neighbor,add-path-capability Valid values are (send / receive / both).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-bfd *stringArray*

IPv6 Unicast Neighbor BFD in the format device-ip,vrf-name:ipv6-neighbor,bfd-enable(true/false),bfd-interval,bfd-min-rx,bfd-multiplier. bfd timers are optional.

--ipv6-uc-nbr-default-originate *stringArray*

IPv4 Unicast Neighbor default originate in the format device-ip,vrf-name:ipv6-neighbor,default-originate(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-default-originate-route-map *stringArray*

IPv4 Unicast Neighbor default originate route map in the format device-ip,vrf-name:ipv6-neighbor,route-map-name.

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-md5-password *stringArray*

IPv6 Unicast Neighbor md5-password in the format device-ip,vrf-name:ipv6-neighbor,ipv6-md5-password. Example for encrypted/password containing special characters: --ipv6-uc-nbr-md5-password device-ip,vrf-name:ipv6-neighbor,'\$9\$MCgKGaNT6OASX68/7TC6Lw=='.

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-next-hop-self *stringArray*

IPv6 Unicast Neighbor next hop self in the format device-ip,vrf-name:ipv6-neighbor,next-hop-self(true/false/always).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-prefix-list *stringArray*

IPv6 Unicast Neighbor prefix list in the format device-ip,vrf-name:ipv6-neighbor,prefix-list-name,direction(in/out).

Not supported on EXTREME OS ONE devices. To apply IPv6 prefix filtering, associate a prefix set with a route map and then associate the route map with the BGP peer group.

--ipv6-uc-nbr-remove-private-as *stringArray*

IPv4 Unicast Neighbor remove private AS in the format device-ip,vrf-name:ipv6-neighbor,remove-private-as(true/false).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-route-map *stringArray*

IPv6 Unicast Neighbor route map in the format device-ip,vrf-name:ipv6-neighbor,route-map-name,direction(in/out).

Not supported on EXTREME OS ONE devices. Configure IPv6 unicast route-map associations on the BGP peer group instead.

--ipv6-uc-nbr-send-community *stringArray*

IPv6 Unicast Neighbor send-community in the format device-ip,vrf-name:ipv6-neighbor,send-community. Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

Not Supported for EXTREME OS ONE devices.

--ipv6-uc-nbr-update-source-ip *stringArray*

IPv6 Unicast Neighbor update source IP in the format device-ip,vrf-name:ipv6-neighbor,update-source-ip

--md5-password-prompt-enable { **true** | **false** }

Enable BGP neighbor md5-password using prompt option. Example: --md5-password-prompt-enable=true | --md5-password-prompt-enable=false.

Not Supported for EXTREME OS ONE devices.

--name *string*

Name of the BGP Peer Instance

--operation *string*

Operation code. Valid values are peer-add | peer-delete | desc-update

--tenant *string*

Name of the Tenant

Example for encrypted/password containing special characters: --ipv6-uc-nbr-md5-password device-ip,vrf-name:ipv6neighbor, '\$9\$MCgKGaNT6OASX68/7TC6Lw=='

Parameters

--ipv6-uc-nbr-next-hop-self *string*

Identifies the next-hop-self for the IPv6 unicast neighbor with a string in the following format: device-ip,vrf-name:ipv6-neighbor,next-hop-self (true/false/always). For example: 10.x.x,red:10::40,true.

--ipv6-uc-nbr-remove-private-as *stringArray*

Identifies the IPv6 unicast neighbor remove private AS in the format: device-ip,vrfname:ipv6-neighbor,remove-private-as(true/false).

--ipv6-uc-nbr-route-map *stringArray*

Identifies the IPv6 unicast neighbor route map in the format: device-ip,vrf-name:ipv6neighbor,route-map-name,direction(in/out).

--ipv6-uc-nbr-update-source-ip *string*

Updates the source IP address for the IPv6 unicast neighbor with a string in the following format: device-ip,vrf-name:ipv6-neighbor,update-source-ip. For example: 10.x.x.x,red:10::40,11::22.

--ipv4-uc-nbr-add-path-capability *string*

Identifies the BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability. Valid values are (send / receive / both).

--ipv4-uc-nbr-add-path-advertise-all *string*

Identifies the BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

--ipv4-uc-nbr-add-path-advertise-group-best *string*

Identifies the BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

--ipv4-uc-nbr-add-path-advertise-best *string*

Identifies the BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best. Valid values are 2-16.

--ipv6-uc-nbr-add-path-capability *string*

Identifies the BGP neighbor add-path capability in the format device-ip,vrf-name:ipv6-neighbor,add-path-capability. Valid values are (send / receive / both).

--ipv6-uc-nbr-add-path-advertise-all *string*

Identifies the BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-all(true/false).

--ipv6-uc-nbr-add-path-advertise-group-best *string*

Identifies the BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-group-best(true/false).

--ipv6-uc-nbr-add-path-advertise-best *string*

Identifies the BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv6-neighbor,add-path-advertise-best. Valid values are 2-16.

--ipv4-uc-nbr-activate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor in the format device-ip,vrf-name:ipv4-neighbor,activate(true/false).

--ipv4-uc-nbr-default-originate-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate in the format device-ip,vrf-name:ipv4-neighbor,default-originate(true/false).

--ipv4-uc-nbr-default-originate-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor default originate route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name.

--ipv4-uc-nbr-route-map-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor prefix list in the format device-ip,vrf-name:ipv4-neighbor,prefix-list-name,direction(in/out).

--ipv4-uc-nbr-prefix-list-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor route map in the format device-ip,vrf-name:ipv4-neighbor,route-map-name,direction(in/out).

--ipv4-uc-nbr-send-community-in-ipv6-uc-af *stringArray*

IPv4 Unicast Neighbor send-community in the format device-ip,vrf-name:ipv4-neighbor,send-community. Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

--ipv4-uc-nbr-add-path-capability-in-ipv6-uc-af *stringArray*

BGP neighbor add-path capability in the format device-ip,vrf-name:ipv4-neighbor,add-path-capability. Valid values are (send / receive / both).

--ipv4-uc-nbr-add-path-advertise-all-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise all in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-all(true/false).

--ipv4-uc-nbr-add-path-advertise-best-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-best. Valid values are 2-16.

--ipv4-uc-nbr-add-path-advertise-group-best-in-ipv6-uc-af *stringArray*

BGP neighbor add-path advertise group best in the format device-ip,vrf-name:ipv4-neighbor,add-path-advertise-group-best(true/false).

Usage Guidelines

On EXTREME OS ONE devices, route-map and prefix-filter configuration is supported only at the BGP peer-group level.

Peer-level route-map and prefix-list associations are supported on SLX devices only.

Examples

This example adds a peer to instance B2.

```
$ efa tenant service bgp peer update
--name B2 --tenant tenant11 --operation peer-add
--ipv6-uc-nbr 10.20.216.15,blue11:18::1,98100
--ipv4-uc-nbr 10.20.216.16,blue11:1.1.1.12,95001
```

```
BGP service updated successfully.
```

This example deletes a BGP peer for the specified VRF (red) in the bgpservice1 instance for tenant1.

```
$ efa tenant service bgp peer update --name bgpservice1 --tenant tenant1
--operation peer-delete --ipv4-uc-nbr 10.24.80.134,red:10.20.30.40
```

```
$ efa tenant service bgp peer update --name ten1bgppeer1 --tenant ten1
--operation peer-add --ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-remove-private-as 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-remove-private-as 10.20.246.16,ten1vrf1:10.20.30.50,false
```

```
$ efa tenant service bgp peer update --name ten1bgppeer1 --tenant ten1
--operation peer-add --ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-default-originate 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-default-originate-route-map 10.20.246.15,ten1vrf1:10.20.30.50,rmap2
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-default-originate 10.20.246.16,ten1vrf1:10.20.30.50,false
```

```
$ efa tenant service bgp peer update --name ten1bgppeer1 --tenant ten1
--operation peer-add --ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-route-map 10.20.246.15,ten1vrf1:10.20.30.50,rmap2,in
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-route-map 10.20.246.16,ten1vrf1:10.20.30.50,rmap2,out
```

```
efa tenant service bgp peer update --name ten1bgppeer1 --tenant ten1
--operation peer-add
--ipv4-uc-nbr 10.20.246.15,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-add-path-capability 10.20.246.15,ten1vrf1:10.20.30.50,send
--ipv4-uc-nbr-add-path-advertise-all 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-add-path-advertise-group-best 10.20.246.15,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-add-path-advertise-best 10.20.246.15,ten1vrf1:10.20.30.50,8
.....
--ipv4-uc-nbr 10.20.246.16,ten1vrf1:10.20.30.50,50000
--ipv4-uc-nbr-bfd 10.20.246.16,ten1vrf1:10.20.30.50,true
--ipv4-uc-nbr-add-path-capability 10.20.246.16,ten1vrf1:10.20.30.50,receive
--ipv4-uc-nbr-add-path-advertise-all 10.20.246.16,ten1vrf1:10.20.30.50,false
--ipv4-uc-nbr-add-path-advertise-group-best 10.20.246.16,ten1vrf1:10.20.30.50,false
--ipv4-uc-nbr-add-path-advertise-best 10.20.246.16,ten1vrf1:10.20.30.50,4
```

efa tenant service bgp peer-group configure

Pushes or removes a partial configuration for a peer-group.

Syntax

```
efa tenant service bgp peer-group configure [ --name peer-group-name |  
  --tenant tenant-name ]
```

Parameters

--name *peer-group-name*

Specifies the name of the BGP peer group instance.

--tenant *tenant-name*

Specifies the name of the tenant.

Examples

Pushes or removes a partial configuration for a peer-group.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group configure --name PG1 --  
tenant tenant11  
BgpService configured successfully.  
  
--- Time Elapsed: 790.953838ms ---
```

efa tenant service bgp peer-group create

Creates a BGP peer group for the specified tenant.

Syntax

```
efa tenant service bgp peer-group create [ --name peer-group-name |
--tenant tenant-name | --description string | --pg-name string |
--pg-asn string | --pg-bfd string | --pg-bfd-enable string | --
pg-remove-private-as stringArray | --pg-next-hop-self string | --
pg-update-source-ip string | --pg-md5-password string | --pg-md5-
password-prompt-enable { true | false } | --pg-ipv4-uc-nbr-prefix-
list string | --pg-ipv4-uc-nbr-route-map string | --pg-ipv4-uc-nbr-
send-community string | --pg-ipv6-uc-nbr-prefix-list string | --pg-
ipv6-uc-nbr-route-map string | --pg-ipv6-uc-nbr-send-community string
| --pg-ipv4-uc-nbr-add-path-capability string | --pg-ipv4-uc-nbr-
add-path-advertise-all string | --pg-ipv4-uc-nbr-add-path-advertise-
group-best string | --pg-ipv4-uc-nbr-add-path-advertise-best string
| --pg-ipv6-uc-nbr-add-path-capability string | --pg-ipv6-uc-nbr-
add-path-advertise-all string | --pg-ipv6-uc-nbr-add-path-advertise-
group-best string | --pg-ipv6-uc-nbr-add-path-advertise-best string |
--pg-ipv6-uc-nbr-activate stringArray ]
```

Parameters

--description *string*

BGP Peer Group Instance description.

--name *string*

Name of the BGP Peer Group Instance.

--pg-asn *stringArray*

BGP peer-group ASN in the format:

SLX-OS (Format One): device-ip,peer-group-name:remote-asn. Example:

10.25.25.100,pg1:65001. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:remote-asn. Example: 10.25.25.100,pg1,vrf1:65001.

--pg-bfd *stringArray*

BGP peer-group BFD Properties in the format:

SLX-OS (Format One): device-ip,peer-group-name:bfd-interval,bfd-min-rx,bfd-

multiplier. Example: 10.25.25.100,pg1:100,100,3. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-

name:bfd-interval,bfd-min-rx,bfd-multiplier. Example: 10.25.25.100,pg1,vrf1:100,100,3.

--pg-bfd-enable *stringArray*

BGP peer-group BFD in the format:

SLX-OS (Format One): device-ip,peer-group-name:bfd-enable(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:bfd-enable(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv4-uc-nbr-add-path-advertise-all *stringArray*

BGP peer-group add-path advertise-all.

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1:true. Default-vrf is used as the peer-group-vrf-name.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv4-uc-nbr-add-path-advertise-best *stringArray*

BGP peer-group add-path advertise best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-best. Example: 10.25.25.100,pg1:2. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-best. Example: 10.25.25.100,pg1,vrf1:2. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are 2-16.

--pg-ipv4-uc-nbr-add-path-advertise-group-best *stringArray*

BGP peer-group add-path advertise group best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv4-uc-nbr-add-path-capability *stringArray*

BGP peer-group add-path capability in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-capability. Example: 10.25.25.100,pg1:send. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-capability. Example: 10.25.25.100,pg1,vrf1:receive. Only 'receive' is supported for EXTREME OS ONE devices.

Valid values are (send / receive / both) for SLX-OS .

--pg-ipv4-uc-nbr-prefix-list *stringArray*

Specifies one or more IPv4 unicast prefix-list associations for a BGP peer group.

This option is **not supported** on Extreme OS ONE devices. On Extreme OS ONE, apply prefix filtering by associating a prefix set with a route map and then associating the route map with the peer group.

--pg-ipv4-uc-nbr-route-map *stringArray*

Specifies one or more IPv4 unicast route-map associations for a BGP peer group.

The value can be specified in one of the following formats:

- device-ip,peer-group-name:route-map-name,direction
- device-ip,peer-group-name,peer-group-vrf-name:route-map-name,direction

Valid directions are `in` and `out`.

For SLX devices, the peer-group VRF name is ignored and `default-vrf` is used. For Extreme OS ONE devices, the specified peer-group VRF name is used.

--pg-ipv4-uc-nbr-send-community *stringArray*

BGP peer-group send community in the format:

SLX-OS (Format One): device-ip,peer-group-name:send-community. Example: 10.25.25.100,pg1:all. default-vrf is used as the peer-group-vrf-name.

--pg-ipv6-uc-nbr-activate *stringArray*

BGP peer-group Activate in the format:

SLX-OS (Format One): device-ip,peer-group-name:activate(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:activate(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv6-uc-nbr-add-path-advertise-all *stringArray*

BGP peer-group add-path advertise all in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv6-uc-nbr-add-path-advertise-best *stringArray*

BGP peer-group add-path advertise best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-best. Example: 10.25.25.100,pg1:2. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-best. Example: 10.25.25.100,pg1,vrf1:2. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are 2-16.

--pg-ipv6-uc-nbr-add-path-advertise-group-best *stringArray*

BGP peer-group add-path advertise group best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv6-uc-nbr-add-path-capability *stringArray*

BGP peer-group add-path capability in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-capability. Example: 10.25.25.100,pg1:send. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-capability. Example: 10.25.25.100,pg1,vrf1:receive. Only 'receive' is supported for EXTREME OS ONE devices.

Valid values are (send / receive / both) for SLX-OS .

--pg-ipv6-uc-nbr-prefix-list *stringArray*

Specifies one or more IPv6 unicast prefix-list associations for a BGP peer group.

This option is **not supported** on Extreme OS ONE devices. On Extreme OS ONE, apply prefix filtering by associating a prefix set with a route map and then associating the route map with the peer group.

--pg-ipv6-uc-nbr-route-map *stringArray*

Specifies one or more IPv6 unicast route-map associations for a BGP peer group.

The value can be specified in one of the following formats:

- device-ip,peer-group-name:route-map-name,direction
- device-ip,peer-group-name,peer-group-vrf-name:route-map-name,direction

Valid directions are in and out.

For SLX devices, the peer-group VRF name is ignored and default-vrf is used. For Extreme OS ONE devices, the specified peer-group VRF name is used.

--pg-ipv6-uc-nbr-send-community *stringArray*

BGP peer-group send community in the format:

SLX-OS (Format One): device-ip,peer-group-name:send-community. Example: 10.25.25.100,pg1:all. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:send-community. Example: 10.25.25.100,pg1,vrf1:all. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are (all – large, extended and standard / both – extended and standard / large / extended / standard / large-and-standard – large and standard / large-and-extended – large and extended).

--pg-md5-password *stringArray*

BGP peer-group md5-password in the format:

SLX-OS (Format One): device-ip,peer-group-name:md5-password. Example: for encrypted/password with special characters: --pg-md5-password 10.25.25.100,pg1:'\$9\$MCgKGaNT6OASX68/7TC6Lw=='. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME- OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:md5-password. Example: for encrypted/password with special characters: --pg-md5-password 10.25.25.100,pg1,vrf1:'\$9\$MCgKGaNT6OASX68/7TC6Lw=='.

--pg-md5-password-prompt-enable { **true** | **false** }

Enable BGP peer-group md5-password using prompt option. Example: --pg-md5-password-prompt-enable=true | --pg-md5-password-prompt-enable=false.

--pg-name *stringArray*

BGP peer-group name in the format:

SLX-OS (Format One): device-ip:peer-group-name. Example: 10.25.25.100:pg1. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip:peer-group-name:peer-group-vrf-name. Example: 10.25.25.100:pg1:vrf1.

--pg-next-hop-self *stringArray*

BGP peer-group next-hop-self in the format:

SLX-OS (Format One): device-ip,peer-group-name:next-hop-self(true/false/always). Example: 10.25.25.100,pg1:always. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:next-hop-self(true/false). Example: 10.25.25.100,pg1,vrf1:true. 'always' is not supported for EXTREME OS ONE devices.

--pg-remove-private-as *stringArray*

BGP peer-group remove private AS in the format:

SLX-OS (Format One): device-ip,peer-group-name:remove-private-as(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:remove-private-as(true/false). Example: 10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-update-source-ip *stringArray*

BGP peer-group update source IP in the format:

SLX-OS (Format One): device-ip,peer-group-name:update-source-ip. Example: 10.25.25.100,pg1:10.0.0.0. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:update-source-ip. Example: 10.25.25.100,pg1,vrf1:10.0.0.0.

--tenant *string*

Name of the Tenant.

Usage Guidelines

On Extreme OS ONE devices, route maps can be associated with BGP peer groups for IPv4 and IPv6 unicast address families.

Direct prefix-list association with peer groups is not supported on Extreme OS ONE. To apply prefix filtering, first create a prefix list, associate it with a route map, and then associate the route map with the peer group.

For SLX devices, the peer-group VRF specified in the route-map token is ignored and default-vrf is used.

Examples

This example creates a peer group instance.

```
$ efa tenant service bgp peer-group create --name ten1bgppg1
--tenant ten1 --pg-name 10.20.246.15:pg1 --pg-asn 10.20.246.15,pg1:55001
--pg-bfd-enable 10.20.246.15,pg1:true
--pg-remove-private-as 10.20.246.15,pg1:true --pg-name 10.20.246.16:pg1
--pg-asn 10.20.246.16,pg1:55001 --pg-bfd-enable 10.20.246.16,pg1:true
--pg-remove-private-as 10.20.246.16,pg1:true
```

This example creates a BGP peer-group MD5 password in a secure manner. For more information, see the "Configure BGP MD5 Authentication for Tenant BGP Peer and Peer-group Securely" topic in the *ExtremeCloud Orchestrator Security Configuration Guide*.

```
$ efa tenant service bgp peer-group create --tenant "tenant11"
--name "v1-PeerGrp" --pg-name 10.20.246.5:v1-PeerGrp --pg-asn 10.20.246.5,v1-PeerGrp:5200
--pg-bfd-enable 10.20.246.5,v1-PeerGrp:true --pg-name 10.20.246.5:v3-PeerGrp
--pg-asn 10.20.246.5,v3-PeerGrp:5201 --pg-bfd-enable 10.20.246.5,v3-PeerGrp:true
--pg-name 10.20.246.6:v1-PeerGrp --pg-asn 10.20.246.6,v1-PeerGrp:5200
--pg-bfd-enable 10.20.246.6,v1-PeerGrp:true --pg-md5-password-prompt-enable=true
```

```
efa tenant service bgp peer-group create --name ten1bgppg1 --tenant ten1
--pg-name 10.20.246.15:pg1
--pg-bfd-enable 10.20.246.15,pg1:true
--pg-ipv4-uc-nbr-add-path-capability 10.20.246.15,pg1:both
--pg-ipv4-uc-nbr-add-path-advertise-all 10.20.246.15,pg1:true
--pg-ipv4-uc-nbr-add-path-advertise-group-best 10.20.246.15,pg1:true
--pg-ipv4-uc-nbr-add-path-advertise-best 10.20.246.15,pg1:10
--pg-ipv6-uc-nbr-add-path-capability 10.20.246.15,pg1:both
--pg-ipv6-uc-nbr-add-path-advertise-all 10.20.246.15,pg1:true
--pg-ipv6-uc-nbr-add-path-advertise-group-best 10.20.246.15,pg1:true
--pg-ipv6-uc-nbr-add-path-advertise-best 10.20.246.15,pg1:10
```

```
efa tenant service bgp peer-group create --tenant "t1" --name "vs"
--pg-name 10.20.246.30:v1 --pg-asn 10.20.246.30,v1:5200 --pg-ipv6-uc-nbr-activate
10.20.246.30,v1:true
```

```

--pg-ipv4-uc-nbr-route-map 10.20.246.30,v1:customer_1_in,in --pg-ipv4-uc-nbr-prefix-list
10.20.246.30,v1:customer_1_in,in
--pg-name 10.20.246.30:v2 --pg-asn 10.20.246.30,v2:5201
--pg-name 10.20.246.30:v3 --pg-asn 10.20.246.30,v3:5203
--pg-name 10.20.246.30:v4 --pg-asn 10.20.246.30,v4:5204

--pg-name 10.20.246.29:v1 --pg-asn 10.20.246.29,v1:5200 --pg-ipv6-uc-nbr-activate
10.20.246.29,v1:true
--pg-ipv4-uc-nbr-route-map 10.20.246.29,v1:customer_1_in,in --pg-ipv4-uc-nbr-prefix-list
10.20.246.29,v1:customer_1_in,in
--pg-name 10.20.246.29:v2 --pg-asn 10.20.246.29,v2:5201
--pg-name 10.20.246.29:v3 --pg-asn 10.20.246.29,v3:5203
--pg-name 10.20.246.29:v4 --pg-asn 10.20.246.29,v4:5204

efa tenant service bgp peer create --tenant "t1" --name "vs"
--ipv4-uc-dyn-nbr 10.20.246.29,vs:15.16.16.0/28,v1,20 --ipv4-uc-dyn-nbr
10.20.246.29,vs:15.16.17.0/28,v3,20
--ipv4-uc-dyn-nbr 10.20.246.29,vs:15.16.18.0/28,v4,20 --ipv6-uc-dyn-nbr
10.20.246.29,vs:14::/127,v2,10

--ipv6-uc-dyn-nbr 10.20.246.29,vs:15::/127,v3,10 --ipv4-uc-dyn-nbr
10.20.246.30,vs:15.16.16.0/28,v1,20
--ipv4-uc-dyn-nbr 10.20.246.30,vs:15.16.17.0/28,v3,20 --ipv4-uc-dyn-nbr
10.20.246.30,vs:15.16.18.0/28,v4,20
--ipv6-uc-dyn-nbr 10.20.246.30,vs:14::/127,v2,10 --ipv6-uc-dyn-nbr
10.20.246.30,vs:15::/127,v3,10

```

This example shows the use of the `--pg-update-source-ip` flag with IPv6 addressing.

```

efa tenant service bgp peer-group create --tenant "tenant1" --name "bgpPeerGroup2"
--pg-name 10.20.246.15:bgppg2 --pg-asn 10.20.246.15:bgppg2:100 --pg-
update-source-ip 10.20.246.15:bgppg2:10::10

efa tenant service bgp peer-group update --tenant "tenant1" --name "bgpPeerGroup2" --
operation peer-group-add
--pg-name 10.20.246.15:bgppg1 --pg-asn 10.20.246.15:bgppg1:200 --pg-
update-source-ip 10.20.246.15:bgppg1:10::20

efa tenant service bgp peer-group show --tenant tenant1 -detail
=====
Name           : bgpPeerGroup2
Tenant         : tenant1
State          : bgp-pg-created
Description    :

Peer Group
-----
Device IP      : 10.20.246.15
Peer Group     : bgppg2
Remote ASN     : 100
Next Hop Self  : false
Update Source IP : 10::10
BFD Enabled    : false
BFD Interval   :
BFD Rx        :
BFD Multiplier :
MD5 Password   :
Remove Private AS : false
Activate       : Activate (afi)
                true (ipv4)
                false (ipv6)
Prefix List In :
Prefix List Out :
Route Map In   :

```

```

Route Map Out      :
Send Community     :
Add Path Capability :
Add Path Advertise :
Dev State          : provisioned
App State          : cfg-in-sync

Device IP          : 10.20.246.15
Peer Group         : bgppg1
Remote ASN         : 200
Next Hop Self      : false
Update Source IP   : 10::20
BFD Enabled        : false
BFD Interval       :
BFD Rx             :
BFD Multiplier     :
MD5 Password       :
Remove Private AS  : false
Activate           : Activate (afi)
                   : true (ipv4)
                   : false (ipv6)

Prefix List In     :
Prefix List Out    :
Route Map In       :
Route Map Out      :
Send Community     :
Add Path Capability :
Add Path Advertise :
Dev State          : provisioned
App State          : cfg-in-sync
=====

```

This example creates a BGP peer-group instance for EXTREME OS ONE devices using Format Two, which includes the VRF name in each peer-group flag.

```

$ efa tenant service bgp peer-group create --tenant "Tnt-6" --name "PG_Policy_6_1"
--pg-name 10.64.224.16:pg1:Tnt-6_VR1
--pg-asn 10.64.224.16,pg1,Tnt-6_VR1:1200065535
--pg-bfd-enable 10.64.224.16,pg1,Tnt-6_VR1:true
--pg-bfd 10.64.224.16,pg1,Tnt-6_VR1:450,50,5
--pg-next-hop-self 10.64.224.16,pg1,Tnt-6_VR1:true
--pg-update-source-ip 10.64.224.16,pg1,Tnt-6_VR1:10ab::1
--pg-md5-password 10.64.224.16,pg1,Tnt-6_VR1:<password>
--pg-ipv6-uc-nbr-activate 10.64.224.16,pg1,Tnt-6_VR1:true
--pg-ipv6-uc-nbr-add-path-capability 10.64.224.16,pg1,Tnt-6_VR1:receive

```

This example creates a BGP peer group using the default peer-group VRF format.

```

efa tenant service bgp peer-group create \
--name BgpService1 \
--tenant t1 \
--pg-name 10.64.184.86:pg1 \
--pg-asn 10.64.184.86,pg1:650001 \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1:rm1_in,in \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1:rm1_out,out

```

This example creates a BGP peer group using an explicit peer-group VRF.

```

efa tenant service bgp peer-group create \
--name BgpService1 \
--tenant t1 \
--pg-name 10.64.184.86:pg1:vrf1 \
--pg-asn 10.64.184.86,pg1,vrf1:650001 \

```

```
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1,vrf1:rm1_in,in \  
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1,vrf1:rm1_out,out
```

efa tenant service bgp peer-group delete

Deletes the specified BGP peer group.

Syntax

```
efa tenant service bgp peer-group delete [ --force | --name peer-group-name | --tenant tenant-name ]
```

Parameters

--force

Forces the deletion of the BGP service when set to true.

--name *peer-group-name*

Specifies the name of the BGP peer instance.

--tenant *tenant-name*

Specifies the name of the tenant.

Examples

This example removes a peer-group instance.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group delete --name PG1 --tenant tenant11

BgpService deleted successfully.

--- Time Elapsed: 1.359719067s ---
```

This example removes an instance forcefully and ignores any error.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer-group delete --name PG1 --tenant tenant11 --force

Bgp service peer-group delete with "force" option will delete the device configuration corresponding to the bgp and also deletes the bgp record from the application. Do you want to proceed (Y/N): y

BgpService deleted successfully.

--- Time Elapsed: 1.359719067s ---
```


efa tenant service bgp peer-group show

Displays brief or detailed output of BGP peer groups for the specified tenant.

Syntax

```
efa tenant service bgp peer-group show [ --name peer-group-name | --tenant tenant-name | --detail ]
```

Parameters

--name *peer-group-name*

Specifies the name of the BGP peer group instance.

--tenant *tenant-name*

Specifies the name of the tenant.

--detail

Displays detailed output of the BGP peer group instance. When this parameter is not used, only brief tabular output is returned.

Usage Guidelines

For EXTREME OS ONE devices, the command displays IPv4 and IPv6 unicast route-map associations configured on the BGP peer group.

Peer-group prefix-list associations are not supported on EXTREME OS ONE devices and are therefore not displayed.

For SLX devices, the peer-group VRF specified when configuring a route-map association is ignored and the default VRF is used.

On EXTREME OS ONE devices, route-map and prefix-filter associations are configured and displayed at the BGP peer-group level. Peer-level route-map and prefix-list associations are not supported.

On SLX devices, peer-level route-map and prefix-list associations are supported and are displayed by this command when configured.

Examples

The following example shows brief output of all instances.

```
(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show
=====
=====
=====
Name       : customer_Policy_4_1
Tenant     : Tnt-4
State      : bgp-peer-created
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
```

```

+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |
Activate | Next Hop | Update | BFD | BFD | Dev State |
App State |
| Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
|
+-----+
+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 |
false | 10.11.12.13 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+
+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | pg1 | ipv6 | unicast | 110a::10 |
false | 12a::1 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+
+-----+
+-----+
| 10.64.224.17 | Tnt-4_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 |
false | 10.11.12.14 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+
+-----+
+-----+
| 10.64.224.17 | Tnt-4_VR1 | pg1 | ipv6 | unicast | 110a::11 |
false | 12a::2 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+
+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+
+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State |
| | | | | | Limit |
|
+-----+
+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+
+-----+
+-----+
| 10.64.224.16 | Tnt-4_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+
+-----+
+-----+
| 10.64.224.17 | Tnt-4_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+
+-----+
+-----+
| 10.64.224.17 | Tnt-4_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+
+-----+
+-----+
Dynamic Peer Details

```

```

=====
-----
=====
...
--- Time Elapsed: 1.829188687s ---
(efa:extreme)extreme@node-1:~$

```

The following example shows detailed output for a specified tenant.

```

(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show --tenant Tnt-6 --name
customer_Policy_6_1
=====
=====
Name          : customer_Policy_6_1
Tenant        : Tnt-6
State         : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |
Activate | Next Hop | Update | BFD | BFD | BFD | Dev State |
App State |
|         | Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
|         |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 |
false | 10.11.12.13 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::10 |
false | 12a::1 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 |
false | 10.11.12.14 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::11 |
false | 12a::2 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State |

```

```

| | | | | | Limit |
|-----|-----|-----|-----|-----|-----|-----|
+-----+-----+-----+-----+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
Dynamic Peer Details

=====
=====
=====

--- Time Elapsed: 89.168597ms ---
(efa:extreme)extreme@node-1:~$

```

The following example shows detailed output of a specific instance.

```

(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show --tenant Tnt-6 --name
customer_Policy_6_1
=====
=====
Name      : customer_Policy_6_1
Tenant    : Tnt-6
State     : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |
Activate | Next Hop | Update | BFD | BFD | BFD | Dev State |
App State |
| | | | | | |
| | Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
| |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 |
false | | 10.11.12.13 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::10 |
false | | 12a::1 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+

```

```

| 10.64.224.17 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 | | |
false | | 10.11.12.14 | true | | 50, 5001, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::11 | | |
false | | 12a::2 | true | | 50, 5000, 50 | | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State | | | | | Limit |
| | | | | | |
| | | | |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 | |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+
Dynamic Peer Details

=====
=====
=====

--- Time Elapsed: 89.168597ms ---
(efa:extreme)extreme@node-1:~$

```

The following example shows brief output of all instances created for a tenant.

```

(efa:extreme)extreme@node-1:~$ efa tenant service bgp peer show --tenant Tnt-6
=====
=====
=====
Name      : customer_Policy_6_1
Tenant    : Tnt-6
State     : bgp-peer-created

+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
+-----+
| Device IP | VRF | PeerGroup | AFI | SAFI | Remote IP | Remote ASN |

```

```

Activate | Next Hop | Update | BFD | BFD | Dev State |
App State |
| | | | | |
| | Self | Source IP | Enabled | [Interval,Rx,Multiplier] |
| | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::10 | |
false | | 12a::1 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.16 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.10 | |
false | | 10.11.12.13 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg2 | ipv4 | unicast | 1.1.1.11 | |
false | | 10.11.12.14 | true | 50, 5001, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
| 10.64.224.17 | Tnt-6_VR1 | pg1 | ipv6 | unicast | 110a::11 | |
false | | 12a::2 | true | 50, 5000, 50 | provisioned | cfg-
in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+
+-----+
Static Peer Details

[Flag '*' indicates Multi protocol capability]

+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| Device-IP | VRF | AFI | SAFI | Listen Range | Listen | Peer Group | Dev
State | App State |
| | | | | | | Limit |
| | | | | | |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv6 | unicast | 13a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.16 | Tnt-6_VR1 | ipv4 | unicast | 10.20.50.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv4 | unicast | 10.20.60.0/29 | 10 | pg2 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
| 10.64.224.17 | Tnt-6_VR1 | ipv6 | unicast | 23a::/127 | 10 | pg1 |
provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+
Dynamic Peer Details

=====
=====

```

```
=====  
...  
--- Time Elapsed: 208.803854ms ---  
(efa:extreme)extreme@node-1:~$
```

efa tenant service bgp peer-group update

Adds, deletes, or updates a BGP peer group for the specified tenant.

Syntax

```
efa tenant service bgp peer-group update [ --name peer-group-name |
  --tenant tenant-name | --description description | --operation { peer-
group-add | peer-group-delete | desc-update } | --pg-name string
  | --pg-asn string | --pg-bfd string | --pg-bfd-enable string | --pg-
  remove-private-as stringArray | --pg-md5-password string | --pg-md5-
  password-prompt-enable { true | false } | --pg-next-hop-self string
  | --pg-update-source-ip string | --pg-ipv4-uc-nbr-prefix-list string
  | --pg-ipv4-uc-nbr-route-map string | --pg-ipv6-uc-nbr-prefix-list
  string | --pg-ipv6-uc-nbr-route-map string | --pg-ipv4-uc-nbr-send-
  community string | --pg-ipv6-uc-nbr-send-community string | --pg-
  ipv4-uc-nbr-add-path-capability string | --pg-ipv4-uc-nbr-add-path-
  advertise-all string | --pg-ipv4-uc-nbr-add-path-advertise-group-best
  string | --pg-ipv4-uc-nbr-add-path-advertise-best string | --pg-
  ipv6-uc-nbr-add-path-capability string | --pg-ipv6-uc-nbr-add-path-
  advertise-all string | --pg-ipv6-uc-nbr-add-path-advertise-group-best
  string | --pg-ipv6-uc-nbr-add-path-advertise-best string | --pg-ipv6-
  uc-nbr-activate stringArray ]
```

Parameters

--description *string*

BGP Peer Group Instance description.

--name *string*

Name of the BGP Peer Group Instance.

--operation *string*

Specifies the update operation to perform on the BGP peer-group.

Valid values are: peer-group-add, peer-group-delete, desc-update.

--pg-asn *stringArray*

BGP peer-group ASN in the format:

SLX-OS (Format One): device-ip,peer-group-name:remote-asn. Example:

10.25.25.100,pg1:65001. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:remote-asn. Example: 10.25.25.100,pg1,vrf1:65001.

--pg-bfd *stringArray*

BGP peer-group BFD Properties in the format:

SLX-OS (Format One): device-ip,peer-group-name:bfd-interval,bfd-min-rx,bfd-

multiplier. Example: 10.25.25.100,pg1:100,100,3. default-vrf is used as the peer-group-

vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:bfd-interval,bfd-min-rx,bfd-multiplier. Example: 10.25.25.100,pg1,vrf1:100,100,3.

--pg-bfd-enable *stringArray*

BGP peer-group BFD in the format:

SLX-OS (Format One): device-ip,peer-group-name:bfd-enable(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:bfd-enable(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv4-uc-nbr-add-path-advertise-all *stringArray*

BGP peer-group add-path advertise-all.

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1:true. Default-vrf is used as the peer-group-vrf-name.

EXTREME- OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv4-uc-nbr-add-path-advertise-best *stringArray*

BGP peer-group add-path advertise best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-best. Example: 10.25.25.100,pg1:2. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-best. Example: 10.25.25.100,pg1,vrf1:2. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are 2-16.

--pg-ipv4-uc-nbr-add-path-advertise-group-best *stringArray*

BGP peer-group add-path advertise group best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv4-uc-nbr-add-path-capability *stringArray*

BGP peer-group add-path capability in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-capability. Example: 10.25.25.100,pg1:send. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-capability. Example: 10.25.25.100,pg1,vrf1:receive. Only 'receive' is supported for EXTREME OS ONE devices.

Valid values are (send / receive / both) for SLX-OS .

--pg-ipv4-uc-nbr-prefix-list *stringArray*

Specifies one or more IPv4 unicast prefix-list associations for a BGP peer group.

This option is not supported on EXTREME OS ONE devices. To apply prefix filtering, associate a prefix set with a route map and then associate the route map with the peer group.

--pg-ipv4-uc-nbr-route-map *stringArray*

Specifies one or more IPv4 unicast route-map associations for a BGP peer group.

The value can be specified in one of the following formats:

- device-ip,peer-group-name:route-map-name,direction
- device-ip,peer-group-name,peer-group-vrf-name:route-map-name,direction

Valid directions are in and out.

For SLX devices, the peer-group VRF name is ignored and default-vrf is used. For EXTREME OS ONE devices, the specified peer-group VRF name is used.

--pg-ipv4-uc-nbr-send-community *stringArray*

BGP peer-group send community in the format:

SLX-OS (Format One): device-ip,peer-group-name:send-community. Example: 10.25.25.100,pg1:all. default-vrf is used as the peer-group-vrf-name.

--pg-ipv6-uc-nbr-activate *stringArray*

BGP peer-group Activate in the format:

SLX-OS (Format One): device-ip,peer-group-name:activate(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:activate(true/false). Example: 10.25.25.100,pg1,vrf1:true.

--pg-ipv6-uc-nbr-add-path-advertise-all *stringArray*

BGP peer-group add-path advertise all in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-all(true/false). Example: 10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv6-uc-nbr-add-path-advertise-best *stringArray*

BGP peer-group add-path advertise best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-best. Example: 10.25.25.100,pg1:2. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-best. Example: 10.25.25.100,pg1,vrf1:2. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are 2-16.

--pg-ipv6-uc-nbr-add-path-advertise-group-best *stringArray*

BGP peer-group add-path advertise group best in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-advertise-group-best(true/false). Example:10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-ipv6-uc-nbr-add-path-capability *stringArray*

BGP peer-group add-path capability in the format:

SLX-OS (Format One): device-ip,peer-group-name:add-path-capability. Example: 10.25.25.100,pg1:send. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:add-path-capability. Example: 10.25.25.100,pg1,vrf1:receive. Only 'receive' is supported for EXTREME OS ONE devices.

Valid values are (send / receive / both) for SLX-OS .

--pg-ipv6-uc-nbr-prefix-list *stringArray*

Specifies one or more IPv6 unicast prefix-list associations for a BGP peer group.

This option is not supported on EXTREME OS ONE devices. To apply prefix filtering, associate a prefix set with a route map and then associate the route map with the peer group.

--pg-ipv6-uc-nbr-route-map *stringArray*

Specifies one or more IPv6 unicast route-map associations for a BGP peer group.

The value can be specified in one of the following formats:

- device-ip,peer-group-name:route-map-name,direction
- device-ip,peer-group-name,peer-group-vrf-name:route-map-name,direction

Valid directions are in and out.

For SLX devices, the peer-group VRF name is ignored and default-vrf is used. For EXTREME OS ONE devices, the specified peer-group VRF name is used.

--pg-ipv6-uc-nbr-send-community *stringArray*

BGP peer-group send community in the format:

SLX-OS (Format One): device-ip,peer-group-name:send-community. Example: 10.25.25.100,pg1:all. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:send-community. Example: 10.25.25.100,pg1,vrf1:all. peer-group-vrf-name will be ignored for SLX-OS devices.

Valid values are (all - large, extended and standard / both - extended and standard / large / extended / standard / large-and-standard - large and standard / large-and-extended - large and extended).

--pg-md5-password *stringArray*

BGP peer-group md5-password in the format:

SLX-OS (Format One): device-ip,peer-group-name:md5-password. Example: for encrypted/password with special characters: --pg-md5-password 10.25.25.100,pg1: '\$9\$MCgKGaNT6OASX68/7TC6Lw=='. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:md5-password. Example: for encrypted/password with special characters: --pg-md5-password 10.25.25.100,pg1,vrf1: '\$9\$MCgKGaNT6OASX68/7TC6Lw=='.

--pg-md5-password-prompt-enable { **true** | **false** }

Enable BGP peer-group md5-password using prompt option. Example: --pg-md5-password-prompt-enable=true | --pg-md5-password-prompt-enable=false.

--pg-name *stringArray*

BGP peer-group name in the format:

SLX-OS (Format One): device-ip:peer-group-name. Example: 10.25.25.100:pg1. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip:peer-group-name:peer-group-vrf-name. Example: 10.25.25.100:pg1:vrf1.

--pg-next-hop-self *stringArray*

BGP peer-group next-hop-self in the format:

SLX-OS (Format One): device-ip,peer-group-name:next-hop-self(true/false/always). Example: 10.25.25.100,pg1:always. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:next-hop-self(true/false). Example: 10.25.25.100,pg1,vrf1:true. 'always' is not supported for EXTREME OS ONE devices.

--pg-remove-private-as *stringArray*

BGP peer-group remove private AS in the format:

SLX-OS (Format One): device-ip,peer-group-name:remove-private-as(true/false). Example: 10.25.25.100,pg1:true. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:remove-private-as(true/false). Example: 10.25.25.100,pg1,vrf1:true. peer-group-vrf-name will be ignored for SLX-OS devices.

--pg-update-source-ip *stringArray*

BGP peer-group update source IP in the format:

SLX-OS (Format One): device-ip,peer-group-name:update-source-ip. Example: 10.25.25.100,pg1:10.0.0.0. default-vrf is used as the peer-group-vrf-name. peer-group-vrf-name is ignored on SLX-OS devices and default-vrf will be assigned.

EXTREME OS ONE (Format Two): device-ip,peer-group-name,peer-group-vrf-name:update-source-ip. Example: 10.25.25.100,pg1,vrf1:10.0.0.0.

--tenant *string*

Name of the Tenant.

Usage Guidelines

On EXTREME OS ONE devices, route maps can be associated with BGP peer groups for IPv4 and IPv6 unicast address families.

Direct prefix-list association with BGP peer groups is not supported on EXTREME OS ONE devices. To apply prefix filtering, first associate the prefix set with a route map, then associate the route map with the peer group.

For SLX devices, the peer-group VRF specified in the route-map association is ignored and default-vrf is used.

Examples

This example updates a peer group instance by defining several of its attributes.

```
$ efa tenant service bgp peer-group update --name ten1bgppg1
--tenant ten1 --operation peer-group-add --pg-name 10.20.246.15:pg2
--pg-asn 10.20.246.15,pg2:55002 --pg-bfd-enable 10.20.246.15,pg2:true
--pg-remove-private-as 10.20.246.15,pg2:true --pg-name 10.20.246.16:pg2
--pg-asn 10.20.246.16,pg2:55002 --pg-bfd-enable 10.20.246.16,pg2:true
```

This example updates a peer group instance and deletes a peer group from an instance.

```
$ efa tenant service bgp peer-group update
--name PG1 --tenant tenant11 --operation peer-group-delete
--pg-name 10.20.216.15:pg1

efa tenant service bgp peer-group update --name ten1bgppg1 --tenant ten1
--operation peer-group-add
--pg-name 10.20.246.15:pg2 --pg-asn 10.20.246.15,pg2:55002
--pg-bfd-enable 10.20.246.15,pg2:true
--pg-ipv4-uc-nbr-add-path-capability 10.20.246.15,pg2:send
--pg-ipv4-uc-nbr-add-path-advertise-all 10.20.246.15,pg2:true
--pg-ipv4-uc-nbr-add-path-advertise-group-best 10.20.246.15,pg2:true
--pg-ipv4-uc-nbr-add-path-advertise-best 10.20.246.15,pg2:8
.....
--pg-name 10.20.246.16:pg2 --pg-asn 10.20.246.16,pg2:55002
--pg-bfd-enable 10.20.246.16,pg2:true
--pg-ipv4-uc-nbr-add-path-capability 10.20.246.16,pg2:receive
```

```
--pg-ipv4-uc-nbr-add-path-advertise-all 10.20.246.16,pg2:false
--pg-ipv4-uc-nbr-add-path-advertise-group-best 10.20.246.16,pg2:false
--pg-ipv4-uc-nbr-add-path-advertise-best 10.20.246.16,pg2:4
```

This example shows the use of the `--pg-update-source-ip` flag with IPv6 addressing.

```
efa tenant service bgp peer-group create --tenant "tenant1" --name "bgpPeerGroup2"
--pg-name 10.20.246.15:bgppg2 --pg-asn 10.20.246.15,bgppg2:100 --pg-
update-source-ip 10.20.246.15,bgppg2:10::10
```

```
efa tenant service bgp peer-group update --tenant "tenant1" --name "bgpPeerGroup2" --
operation peer-group-add
--pg-name 10.20.246.15:bgppg1 --pg-asn 10.20.246.15,bgppg1:200 --pg-
update-source-ip 10.20.246.15,bgppg1:10::20
```

```
efa tenant service bgp peer-group show --tenant tenant1 -detail
```

```
=====
```

```
Name          : bgpPeerGroup2
Tenant         : tenant1
State          : bgp-pg-created
Description    :
```

```
Peer Group
```

```
-----
```

```
Device IP      : 10.20.246.15
Peer Group     : bgppg2
Remote ASN     : 100
Next Hop Self  : false
Update Source IP : 10::10
BFD Enabled    : false
BFD Interval   :
BFD Rx         :
BFD Multiplier :
MD5 Password   :
Remove Private AS : false
Activate       : Activate (afi)
                  true (ipv4)
                  false (ipv6)

Prefix List In :
Prefix List Out :
Route Map In    :
Route Map Out   :
Send Community :
Add Path Capability :
Add Path Advertise :
Dev State       : provisioned
App State       : cfg-in-sync
```

```
Device IP      : 10.20.246.15
Peer Group     : bgppg1
Remote ASN     : 200
Next Hop Self  : false
Update Source IP : 10::20
BFD Enabled    : false
BFD Interval   :
BFD Rx         :
BFD Multiplier :
MD5 Password   :
Remove Private AS : false
Activate       : Activate (afi)
                  true (ipv4)
```

```

false (ipv6)
Prefix List In      :
Prefix List Out     :
Route Map In        :
Route Map Out       :
Send Community      :
Add Path Capability :
Add Path Advertise  :
Dev State           : provisioned
App State            : cfg-in-sync
=====

```

This example updates the IPv4 route-map associations for a BGP peer group.

```

efa tenant service bgp peer-group update \
--name BgpService1 \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1:rm2_in,in \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1:rm2_out,out

```

This example updates the IPv4 route-map associations for a BGP peer group in a specific peer-group VRF.

```

efa tenant service bgp peer-group update \
--name BgpService1 \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1,vrf1:rm2_in,in \
--pg-ipv4-uc-nbr-route-map 10.64.184.86,pg1,vrf1:rm2_out,out

```

efa tenant service mirror session create

Creates a mirror session for a specified tenant. Not supported for EXTREME OS ONE devices.

Syntax

```
efa tenant service mirror session create [-name session-name | --
    tenant tenant-name | --description string | --source stringArray |
    --type stringArray | --destination-type stringArray | --destination
    stringArray | --direction stringArray | -h, --help]
```

Parameters

-name *session-name*

Specifies the name of the mirror service session.

--tenant *tenant-name*

Specifies the name of the mirror source tenant.

--description *stringArray*

Specifies the description of the mirror service session.

--source *stringArray*

Specifies the mirror source, in the following format: deviceIP, IfType, IfName.

Valid values of **IfType** are eth | po | vlan. Global Vlan Source format: vlan, vlan-range. Vlan Range Source format: vlan,a-b,c,d,e-f,g.

Example: 10.20.20.1,eth,0/1 10.20.20.1,po,p01 10.20.20.1,vlan,100
vlan,100 vlan,100-110,115,120-130.

A maximum of 253 characters are allowed for the Vlan Range.

--type *stringArray*

Specifies the mirror type in the following format: sourceDeviceIP, sourceIfType, sourceIfName:Value

Example: 10.20.20.1,eth,0/1:port-based 10.20.20.1,po,p01:flow-based.

Default is port-based. Valid values are **port-based** | **flow-based**.

--destination-type *stringArray*

Specifies the mirror destination type in the following format: sourceDeviceIP, sourceIfType, sourceIfName:value

Example:10.20.20.1,eth,0/1:span. Valid Values are **span**.

--destination *string*

Specifies the mirror destination in the following format: sourceDeviceIP, sourceIfType,sourceIfName:destinationDeviceIP, destinationIfType, destinationIfName

Example: 10.20.20.1,eth,0/1:10.20.20.1,eth,0/5
 10.20.20.1,vlan,100:10.20.20.1,eth,0/6 vlan,100:10.20.20.1,eth,0/6

--direction *stringArray*

Specifies the mirror traffic direction in the following format: sourceDeviceIP, sourceIfType, sourceIfName:Value

Example: 10.20.20.1,eth,0/1:tx. Valid values are **tx** | **rx** | **both**.

Examples

This example demonstrates the configuration to enable traffic mirroring with the following features:

- Out-of-band mirroring
- Port-based mirroring
- Multi tenancy

(1) For the IP: 10.20.246.15.

```
efa tenant service mirror session create -name ten1mirrorsession1
--tenant ten1--source-if-type port-channel--source-if-name 10.20.246.15,ten1po1
--destination-if-type eth--destination-if-name 10.20.246.15,0/31
--direction both--type port-based
```

and

```
efa tenant service mirror session create -name ten2mirrorsession1
--tenant ten2--source-if-type port-channel--source-if-name 10.20.246.15,ten2po1
--destination-if-type eth--destination-if-name 10.20.246.15,0/31
--direction both--type port-based
```

(2) For the IP: 10.20.246.16

```
efa tenant service mirror session create -name ten1mirrorsession2
--tenant ten1--source-if-type port-channel--source-if-name 10.20.246.16,ten1po1
--destination-if-type eth--destination-if-name 10.20.246.16,0/31
--direction both--type port-based
```

and

```
efa tenant service mirror session create -name ten2mirrorsession2
--tenant ten2--source-if-type port-channel--source-if-name 10.20.246.16,ten2po1
--destination-if-type eth--destination-if-name 10.20.246.16,0/31
--direction both--type port-based
```

efa tenant service mirror session delete

Deletes the specified mirror session.

Syntax

```
efa tenant service mirror session delete [ --tenant tenant-name | --name mirror-session-name | --force ]
```

Parameters

--tenant *tenant-name*

Specifies the name of the tenant being mirrored.

--name *mirror-session-name*

Specifies the name of the mirror session to delete.

--force

Forces the deletion of the mirror session service.

efa tenant service mirror session configure

Pushes or removes a pending mirror session configuration.

Syntax

```
efa tenant service mirror session configure [ --tenant tenant-name | --  
name mirror-session-name ]
```

Parameters

--tenant *tenant-name*

Specifies the name of the source tenant.

--name *mirror-session-name*

Specifies the name of the mirror session.

efa tenant service mirror session show

Displays the mirror session details for the specified tenant or mirror session.

Syntax

```
efa tenant service mirror session show [ --tenant tenant-name | --name mirror-session-name ]
```

Parameters

--tenant *tenant-name*

Specifies the name of the source tenant.

--name *mirror-session-name*

Specifies the name of the mirror session.

efa tenant show

Displays brief or detailed tenant details.

Syntax

```
efa tenant show [ --name tenant-name | --detail ]
```

Parameters

--name *tenant-name*

Specifies the name of the tenant.

--detail

Displays detailed output of the tenant. When this parameter is not used, only brief tabular output is returned.

Examples

Use this syntax to return brief output of all configured tenants.

```
$ efa tenant show
```

Use this syntax to return brief output of a specific tenant.

```
$ efa tenant show --name tenant21
```

Use this syntax to return detailed output of a specific tenant.

```
$ efa tenant show --name tenant21 --detail
```

efa tenant update

Allows changes to be made to a tenant after it has been created.

Syntax

```
efa tenant update [ --name tenant-name | --description tenant-  
description | --l2-vni-range range | --l3-vni-range range | --vlan-  
range range | --vrf-count number | --enable-bd | --operation { desc-  
update | vni-update | port-add | port-delete | vlan-add | vlan-  
delete | vlan-update | num-vrf-update | enable-bd-update | mirror-  
destination-port-add | mirror-destination-port-delete } | --port port-  
list | --force | --port value | --mirror-destination-port value ]
```

Parameters

--description *string*

Description of the Tenant.

--enable-bd { **true** | **false** }

BD capability for networks created under this Tenant. Example **--enable-bd=true** | **--enable-bd=false**

--l2-vni-range *string*

Contiguous Range of L2 VNIs in ascending order will be reserved for the tenant within the scope of a fabric. Valid VNI values are <1-16777215>. Example: 14201-14300

--l3-vni-range *string*

Contiguous Range of L3 VNIs in ascending order will be reserved for the tenant within the scope of a fabric. Valid VNI values are <1-16777215>. Example: 14201-14300

--mirror-destination-port *stringArray*

List of physical ports of devices which will be reserved as mirror destination ports. Example: SW1_IP[0/1,0/2,0/12-15,0/5:4],SW2_IP[0/1,0/4,0/5:1-2,0/5:3,0/9-20]

--name *string*

Name of the Tenant.

--operation { **desc-update** | **vni-update** | **port-add** | **port-delete** | **vlan-add** | **vlan-delete** | **vlan-update** | **num-vrf-update** | **enable-bd-update** | **mirror-destination-port-add** | **mirror-destination-port-delete** }

Operation code.

--port *stringArray*

List of physical ports of devices which will be reserved as data ports. Example: SW1_IP[0/1,0/2,0/12-15,0/5:4],SW2_IP[0/1,0/4,0/5:1-2,0/5:3,0/9-20]

--vlan-range *string*

Contiguous Range of VLANs to be reserved for the tenant. Valid values are <2-4090>. Example: 2-100

--vrf-count *int*

Number of VRFs reserved for the Tenant.

Examples

This example removes a VLAN range from the tenant.

```
$ efa tenant update --name tenant21 --operation vlan-delete  
--vlan-range 201-300
```

```
Tenant updated successfully.
```

This example adds a port to an existing tenant.

```
$ efa tenant update --name tenant21 --operation port-add  
--port 10.20.216.15[0/29]
```

```
Tenant updated successfully.
```

efa tenant vrf create

Creates a tenant VRF.

Syntax

```
efa tenant vrf create [ --name vrf-name | --tenant tenant-name | --rt-
  type { both | import | export } | --rt value | --ipv4-static-route-
  next-hop route | --ipv6-static-route-next-hop route | --local-asn
  local-asn | --ipv4-static-route-bfd route | --ipv6-static-route-bfd
  route | --ipv4-static-network stringArray | --ipv4-static-network-
  distance stringArray | --ipv6-static-network-distance stringArray |
  --max-path unit | --redistribute { static | connected } | --rh-
  max-path { 8 | 16 | 64 | 128 } | --rh-ecmp-enable { true |
  false } | --graceful-restart-enable { true | false } | --routing-
  type { distributed | centralized } | --centralized-router string
  | --ipv4-aggregate-address stringArray | --ipv6-aggregate-address
  stringArray | --ipv4-aggregate-as-set stringArray | --ipv6-aggregate-
  as-set stringArray | --ipv4-aggregate-summary-only stringArray | --
  ipv6-aggregate-summary-only stringArray | --ipv4-aggregate-advertise-
  map stringArray | --ipv6-aggregate-advertise-map stringArray | --
  ipv4-aggregate-suppress-map stringArray | --ipv6-aggregate-suppress-
  map stringArray | --ipv4-network network | --ipv4-network-backdoor
  stringArray | --ipv4-network-weight weight | --ipv4-network-route-
  map route-map | --ipv6-network network | --ipv6-network-backdoor
  stringArray | --ipv6-network-weight weight | --ipv6-network-route-map
  route-map | --layer3-extension-enable { true | false } | --next-hop-
  recursion-enable { true | false } | --default-information-originate-
  enable { true | false } ]
```

Parameters

--centralized-router *string*

Comma separated list of Border-Leaf IP Addresses. Example: 10.10.1.1,10.10.1.2 | 10.10.1.1-2.

--default-information-originate-enable { true | false }

Enable default information originate for VRF. Example: --default-information-originate-enable true | --default-information-originate-enable false.

--graceful-restart-enable { true | false }

Enable graceful restart for VRF. Example: --graceful-restart-enable=true | --graceful-restart-enable=false.

--ipv4-aggregate-address *stringArray*

IPv4 aggregate-address to be configured on the device. Format: device-ip,ipv4-aggregate-address. Example: --ipv4-aggregate-address 10.25.25.100,10.20.21.40/30.

Not supported for EXTREME OS ONE devices.

--ipv4-aggregate-advertise-map *stringArray*

Route map name used to filter the BGP attributes to be advertised as part of aggregate-address. Format: device-ip,ipv4-aggregate-address,advertise-map. Example: --ipv4-aggregate-advertise-map 10.25.25.100,10.20.21.40/30,routeMap1.

Not supported for EXTREME OS ONE devices.

--ipv4-aggregate-as-set *stringArray*

Enable as-set path information as part of aggregate-address advertisement.

Format: device-ip,ipv4-aggregate-address,as-set. Example: --ipv4-aggregate-as-set 10.25.25.100,10.20.21.40/30,true.

Not supported for EXTREME OS ONE devices.

--ipv4-aggregate-summary-only *stringArray*

Enable summary-only for the aggregate-address. Format: device-ip,ipv4-aggregate-address,summary-only. Example: --ipv4-aggregate-summary-only 10.25.25.100,10.20.21.40/30,true.

Not supported for EXTREME OS ONE devices.

--ipv4-aggregate-suppress-map *stringArray*

Route map name used to suppress the specific routes to be advertised along with the aggregate-address advertisement. Format: device-ip,ipv4-aggregate-address,suppress-map. Example: --ipv4-aggregate-suppress-map 10.25.25.100,10.20.21.40/30,routeMap1.

Not supported for EXTREME OS ONE devices.

--ipv4-network *stringArray*

Bgp advertises given network address. Format:device-ip,network-address. Example: --ipv4-network 10.24.80.134,10.20.30.0/30.

--ipv4-network-backdoor *stringArray*

Increases the administrative distance of eBGP with the goal of making IGP learned routes preferred for given network address. Format:device-ip,network-address,flag. Example: --ipv4-network-backdoor 10.24.80.134,10.21.30.0/30,true.

Not supported for EXTREME OS ONE devices.

--ipv4-network-route-map *stringArray*

Given Route-map is used to set the BGP attributes for the given network address like MED etc. Format:device-ip,network-address,route-map. Example: --ipv4-network-route-map 10.24.80.134,10.23.30.0/30,rmap1.

Not supported for EXTREME OS ONE devices.

--ipv4-network-weight *stringArray*

Given Weight is used to set the BGP weight attribute for the given network address. Format:device-ip,network-address,weight. Example: --ipv4-network-weight 10.24.80.134,10.22.30.0/30,144. Valid values for weight are <0-65535>.

Not supported for EXTREME OS ONE devices.

--ipv4-static-network *stringArray*

IPv4 Static Network to be configured on the device. Format: device-ip,static-network. Example: --ipv4-static-network 10.24.80.134,11.10.30.40/30.

Not supported for EXTREME OS ONE devices.

--ipv4-static-network-distance *stringArray*

IPv4 Static Network with distance to be configured on the device.

Format: device-ip,static-network,distance. Example: --ipv4-static-network-distance 10.24.80.134,11.10.30.40/30,169. Valid values for distance are <1-255>.

Not supported for EXTREME OS ONE devices.

--ipv4-static-route-bfd *stringArray*

IPv4 Static Route BFD configuration.

SLX-OS Format:device-ip,dest-ipv4-addr,source-ipv4-addr[interval,min-rx,multiplier]. Example: --ipv4-static-route-bfd 10.25.25.100,1.1.1.2.2.2,123,456,3.

EXTREME OS ONE Format:device-ip,dest-ipv4-addr[source-ipv4-addr,interval,min-rx,multiplier,dest-ipv4-prefix]. Example: --ipv4-static-route-bfd 10.25.25.100,1.1.1.0,,123,456,3,10.10.10.1/32.

--ipv4-static-route-next-hop *stringArray*

IPv4 static route configuration. Format:device-ip,ipv4-static-network-route,next-hop-ip,distance,metric. Example: --ipv4-static-route-next-hop 10.25.25.100,20.0.0.0/24,16.0.0.2,3,2. Distance and Metric are optional attributes. Valid values for Route distance are <1-254>. Valid values for Route metric are <1-16>.

--ipv6-aggregate-address *stringArray*

IPv6 aggregate-address to be configured on the device. Format: device-ip,ipv6-aggregate-address. Example: --ipv6-aggregate-address 10.25.25.100,10::20/126.

Not supported for EXTREME OS ONE devices.

--ipv6-aggregate-advertise-map *stringArray*

Route map name used to filter the BGP attributes to be advertised as part of aggregate-address. Format: device-ip,ipv6-aggregate-address,advertise-map. Example: --ipv6-aggregate-advertise-map 10.25.25.100,10::20/126,routeMap1.

Not supported for EXTREME OS ONE devices.

--ipv6-aggregate-as-set *stringArray*

Enable as-set path information as part of aggregate-address advertisement. Format: device-ip,ipv6-aggregate-address,as-set. Example: --ipv6-aggregate-as-set 10.25.25.100,10::20/126,true.

Not supported for EXTREME OS ONE devices.

--ipv6-aggregate-summary-only *stringArray*

Enable summary-only for aggregate-address. Format: device-ip,ipv6-aggregate-address,summary-only. Example: --ipv6-aggregate-summary-only 10.25.25.100,10::20/126,true.

Not supported for EXTREME OS ONE devices.

--ipv6-aggregate-suppress-map *stringArray*

Route map name used to suppress the specific routes to be advertised along with the aggregate-address advertisement. Format: device-ip,ipv6-aggregate-address,suppress-map. Example: --ipv6-aggregate-suppress-map 10.25.25.100,10::20/126,routeMap1.

Not supported for EXTREME OS ONE devices.

--ipv6-network *stringArray*

Bgp advertises given network address. Format: device-ip,network-address. Example:

--ipv6-network 10.24.80.134,11::1/128.

--ipv6-network-backdoor *stringArray*

Increases the administrative distance of eBGP with the goal of making IGP learned routes preferred for given network address. Format:device-ip,network-address,flag.

Example: --ipv6-network-backdoor 10.24.80.134,11::1/128,true.

Not supported for EXTREME OS ONE devices.

--ipv6-network-route-map *stringArray*

Given Route-map is used to set the BGP attributes for the given network address like MED etc. Format:device-ip,network-address,route-map. Example: --ipv6-network-route-map 10.24.80.134,11::1/128,rmap1.

Not supported for EXTREME OS ONE devices.

--ipv6-network-weight *stringArray*

Given Weight is used to set the BGP weight attribute for the given network address. Format:device-ip,network-address,weight. Example: --ipv6-network-weight 10.24.80.134,11::1/128,144. Valid values for weight are <0-65535>.

Not supported for EXTREME OS ONE devices.

--ipv6-static-route-bfd *stringArray*

IPv6 Static Route BFD configuration.

SLX-OS Format:device-ip,dest-ipv6-addr,source-ipv6-addr[interval,min-rx,multiplier].

Example: --ipv6-static-route-bfd 10.25.25.100,1::1,2::2,300,300,3.

EXTREME OS ONE Format:device-ip,dest-ipv6-addr[source-ipv6-addr,interval,min-rx,multiplier,dest-ipv6-prefix]. Example: --ipv6-static-route-bfd 10.25.25.100,1::1,,300,300,3,f::f/128.

--ipv6-static-route-next-hop *stringArray*

IPv6 static route configuration. Format:device-ip,ipv6-static-network-route,next-hop-ip,distance,metric. Example: --ipv6-static-route-next-hop 10.25.25.100,2001::1::/64,3001::2,3,4. Distance and Metric are optional attributes. Valid values for Route distance are <1-254>. Valid values for Route metric are <1-16>.

--layer3-extension-enable { **true** | **false** }

Enable layer3-extension. Example: --layer3-extension-enable true | --layer3-extension-enable false.

--local-asn *string*

Local ASN for the VRF.

--max-path *uint*

Number of load-sharing paths for the VRF. Valid values are <1-128>.

--name *string*

Name of the VRF.

--next-hop-recursion-enable { **true** | **false** }

Enable next hop recursion for VRF. Example: `--next-hop-recursion-enable true | --next-hop-recursion--enable false`.

--redistribute *stringArray*

Redistribute type for routes. Valid values are static | connected.

--rh-ecmp-enable { **true** | **false** }

Enable Resilient hashing for VRF. Example: `--rh-ecmp-enable=true | --rh-ecmp-enable=false`.

--rh-max-path *uint*

Resilient hashing maximum-path for VRF. Valid values are <8|16|64|128>.

--routing-type { **distributed** | **centralized** }

Vrf Routing Type. Valid Values are distributed | centralized. Default value is distributed.

--rt *stringArray*

A unique number for setting for forming Route Target and Route Distinguisher.

--rt-type *stringArray*

Route Target VPN Community. Valid Values are both | import | export.

--tenant *string*

Name of the Tenant.

Usage Guidelines

The **max-path** and **rh-max-path** parameters can co-exist.

You cannot choose the specific devices on which to configure resilient hashing. Configuration applies to all SLX-OS devices in the tenant VRF.

Examples

This example creates a distributed VRF.

```
$ efa tenant vrf create --tenant tenant11
--name blue11 --local-asn 65001 --rt-type import --rt 100:100 --rt-type export
--rt 100:100 --rt-type import --rt 200:200 --rt-type export --rt 200:200 --rt-type import
--rt 300:300 --rt-type export --rt 400:400 --max-path 50 --redistribute connected
--redistribute static --ipv4-static-route-next-hop
10.20.216.16,192.168.0.0/24,10.10.10.1,5
--ipv4-static-route-next-hop 10.20.216.15,192.168.10.0/24,10.10.10.5,5
--ipv6-static-route-next-hop 10.20.216.16,2020:20::1/128,3001::2,6
--ipv6-static-route-next-hop 10.20.216.15,2020:30::1/128,3001::3,5
--ipv6-static-route-bfd 10.20.216.16,3001::3,3001::1,100,200,5
--ipv6-static-route-bfd 10.20.216.16,3001::2,3001::1
--ipv6-static-route-bfd 10.20.216.16,3001::4,3001::1,100,300,6
--ipv4-static-route-bfd 10.20.216.15,10.10.10.1,10.10.10.254,200,300,6
--ipv4-static-route-bfd 10.20.216.16,10.10.10.5,10.10.10.252 --rh-ecmp-enable
--rh-max-path 16 --graceful-restart-enable --routing-type distributed

Vrf created successfully.
```

This example creates a centralized VRF.

```
$ efa tenant vrf create --name red13
--tenant tenant21 --max-path 50 --redistribute connected --redistribute static
```

```
--local-asn 65002 --ipv4-static-route-next-hop 10.20.216.104,192.168.0.0/24,10.10.10.1,5
--ipv4-static-route-next-hop 10.20.216.104,192.168.10.0/24,10.10.10.5,5
--ipv6-static-route-next-hop 10.20.216.104,2020:20::1/128,3001::2,6
--ipv6-static-route-next-hop 10.20.216.104,2020:30::1/128,3001::3,5
--ipv6-static-route-bfd 10.20.216.104,3001::3,3001::1,100,200,5
--ipv6-static-route-bfd 10.20.216.104,3001::2,3001::1
--ipv6-static-route-bfd 10.20.216.104,3001::4,3001::1,100,300,6
--ipv4-static-route-bfd 10.20.216.104,10.10.10.1,10.10.10.254,200,300,6
--ipv4-static-route-bfd 10.20.216.104,10.10.10.5,10.10.10.252 --rh-max-path 64
--routing-type centralized --centralized-router 10.20.216.103,10.20.216.104
```

Vrf created successfully.

```
$ efa tenant vrf create --name vrf1 --tenant tenant1
```

```
--ipv4-aggregate-address 10.24.80.134,10.20.21.40/30
--ipv4-aggregate-summary-only 10.24.80.134,10.20.21.40/30,true
--ipv4-aggregate-as-set 10.24.80.134,10.20.21.40/30,true
--ipv4-aggregate-advertise-map 10.24.80.134,10.20.21.40/30,some
--ipv4-aggregate-suppress-map 10.24.80.134,10.20.21.40/30,some

--ipv6-aggregate-address 10.24.80.135,10::20/126
--ipv6-aggregate-summary-only 10.24.80.135,10::20/126,true
--ipv6-aggregate-as-set 10.24.80.135,10::20/126,true
--ipv6-aggregate-advertise-map 10.24.80.135,10::20/126,some
--ipv6-aggregate-suppress-map 10.24.80.135,10::20/126,some
```

```
$ efa tenant vrf create --name vrf1 --tenant tenant1
```

```
--ipv4-network 10.24.80.134,10.20.30.40/30
--ipv4-network 10.24.80.134,10.21.30.40/30
--ipv4-network-backdoor 10.24.80.134,10.21.30.40/30,true

--ipv4-static-network 10.24.80.134,11.10.30.40/30
--ipv4-static-network 10.24.80.134,11.20.30.40/30
--ipv4-static-network-distance 10.24.80.134,11.20.30.40/30,169

--ipv6-network 10.24.80.135,11::22/128
--ipv6-network 10.24.80.135,11::23/128
--ipv6-network-backdoor 10.24.80.134,11::23/128,true
--ipv6-network 10.24.80.135,11::24/128
--ipv6-network-weight 10.24.80.134,11::24/128,144
--ipv6-network 10.24.80.135,11::25/128
--ipv6-network-route-map 10.24.80.134,11::25/128,rmap1
```

```
efa tenant vrf create --name ten1vrf2 --tenant ten1 --max-path 128 --rh-max-path 128
```

```
efa tenant vrf show --detail
```

```
=====
Name                : ten1vrf1
Tenant              : ten1
Routing Type        : distributed
Centralized Routers :
Enable Layer3 Extension : true
Redistribute        : connected
Max Path            : 8
Local Asn           :
L3VNI               :
EVPN IRB BD         :
EVPN IRB VE         :
BR VNI              :
BR BD               :
BR VE               :
RH Max Path         :
Enable RH ECMP       : false
Enable Graceful Restart : false
```

```

Enable NextHop Recursion: false
Route Target              :
Static Route              :
Static Route BFD          :
Network Route Address     :
Static Network            :
Aggregate Address         :
VRF Type                  : private
State                     : vrf-created
Dev State                 : not-provisioned
App State                 : cfg-ready
=====

```

```

=====
Name                      : ten1vrf2
Tenant                    : ten1
Routing Type              : distributed
Centralized Routers       :
Enable Layer3 Extension   : true
Redistribute              : connected
Max Path                  : 128
Local Asn                 :
L3VNI                    :
EVPN IRB BD              :
EVPN IRB VE              :
BR VNI                   :
BR BD                    :
BR VE                    :
RH Max Path               : 128
Enable RH ECMP            : false
Enable Graceful Restart   : false
Enable NextHop Recursion: false
Route Target              :
Static Route              :
Static Route BFD          :
Network Route Address     :
Static Network            :
Aggregate Address         :
VRF Type                  : private
State                     : vrf-created
Dev State                 : not-provisioned
App State                 : cfg-ready
=====

```

```
efa tenant vrf create --name vs --tenant t1 -- default-information-originate-enable true
```

```
efa tenant vrf show --tenant t1 --name vs --detail
```

```

Name                      : vs
Tenant                    : t1
Routing Type              : distributed
Centralized Routers       :
Enable Layer3 Extension   : true
Redistribute              : connected
Max Path                  : 8
Local Asn                 :
L3VNI                    :
EVPN IRB BD              :
EVPN IRB VE              :
BR VNI                   :
BR BD                    :
BR VE                    :
RH Max Path               :
Enable RH ECMP            : false
Enable Graceful Restart   : false

```

```

Enable NextHop Recursion      : false
Default Information Originate  : true
Route Target                  :
Static Route                  :
Static Route BFD              :
Network Route Address         :
Static Network                 :
Aggregate Address             :
VRF Type                      : private
State                         : vrf-created
Dev State                     : not-provisioned
App State                     : cfg-ready

```

This example creates a distributed VRF for an EXTREME OS ONE device with a local ASN, route targets, static routes for both devices, and redistribution enabled.

```

$ efa tenant vrf create --tenant "Tnt-5" --name "Tnt-5_VR2"
--routing-type "distributed"
--layer3-extension-enable false
--local-asn 9001
--rt-type import --rt 103:103
--rt-type export --rt 103:103
--ipv4-static-route-next-hop 10.64.224.17,9.0.1.0/24,9.1.1.4
--ipv4-static-route-next-hop 10.64.224.17,9.0.2.0/24,9.1.2.4
--ipv6-static-route-next-hop 10.64.224.17,9:0:1::/64,9:1:1::4
--ipv6-static-route-next-hop 10.64.224.17,9:0:2::/64,9:1:2::4
--ipv4-static-route-next-hop 10.64.224.16,9.0.1.0/24,9.1.1.4
--ipv4-static-route-next-hop 10.64.224.16,9.0.2.0/24,9.1.2.4
--ipv6-static-route-next-hop 10.64.224.16,9:0:1::/64,9:1:1::4
--ipv6-static-route-next-hop 10.64.224.16,9:0:2::/64,9:1:2::4
--max-path 50
--redistribute connected
--redistribute static
--graceful-restart-enable
--next-hop-recursion-enable true
--default-information-originate-enable true

Vrf created successfully.

```

This example creates a distributed VRF for an EXTREME OS ONE device with route targets, static routes and static route BFD configuration for both IPv4 and IPv6 on both devices in the fabric.

```

$ efa tenant vrf create --tenant "Tnt-5" --name "Tnt-5_VR1"
--routing-type "distributed"
--layer3-extension-enable false
--rt-type import --rt 102:102
--rt-type export --rt 102:102
--ipv4-static-route-next-hop 10.64.224.17,2.4.1.0/24,2.2.1.3
--ipv4-static-route-next-hop 10.64.224.17,2.4.1.0/24,2.2.6.4
--ipv6-static-route-next-hop 10.64.224.17,2:4:1::/64,2:2:1::3
--ipv6-static-route-next-hop 10.64.224.17,2:4:1::/64,2:2:6::4
--ipv4-static-route-bfd 10.64.224.17,2.2.1.3,,300,300,3
--ipv4-static-route-bfd 10.64.224.17,2.2.6.4,,300,300,3
--ipv6-static-route-bfd 10.64.224.17,2:2:1::3,,300,300,3
--ipv6-static-route-bfd 10.64.224.17,2:2:6::4,,300,300,3
--ipv4-static-route-next-hop 10.64.224.16,2.4.1.0/24,2.3.1.3
--ipv4-static-route-next-hop 10.64.224.16,2.4.1.0/24,2.3.6.4
--ipv6-static-route-next-hop 10.64.224.16,2:4:1::/64,2:3:1::3
--ipv6-static-route-next-hop 10.64.224.16,2:4:1::/64,2:3:6::4
--ipv4-static-route-bfd 10.64.224.16,2.3.1.3,,300,300,3
--ipv4-static-route-bfd 10.64.224.16,2.3.6.4,,300,300,3
--ipv6-static-route-bfd 10.64.224.16,2:3:1::3,,300,300,3
--ipv6-static-route-bfd 10.64.224.16,2:3:6::4,,300,300,3
--max-path 50

```

```
--redistribute connected
--redistribute static
--graceful-restart-enable
--next-hop-recursion-enable true
--default-information-originate-enable true
```

Vrf created successfully.

efa tenant vrf delete

Deletes a VRF.

Syntax

```
efa tenant vrf delete [--name vrf name | --tenant tenant name ]
```

Parameters

--name *vrf name*

Specifies the name of the VRF.

--tenant *tenant name*

Specifies the name of the tenant.

Examples

This example deletes the specified VRFs.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf delete --name red12,red13 --tenant tenant21  
Vrf: red12 deleted successfully.  
Vrf: red13 deleted successfully.  
--- Time Elapsed: 1.530242792s ---
```

efa tenant vrf error show

Displays VRF errors.

Syntax

```
efa tenant vrf error show [ --name vrf-name | --tenant tenant-name ]
```

Parameters

--name *vrf-name*

Specifies the name of the VRF.

--tenant *tenant-name*

Specifies the name of the tenant.

Examples

This example shows output of VRF errors for a specific VRF and tenant.

```
efa tenant vrf error show --tenant tnt1 --name vrf1
=====
Name : vrf1
Tenant : tnt1
Errors
+-----+-----+
| MgmtIp | ErrorList |
+-----+-----+
| 10.20.246.29 | Configure RemoteAsn under Router BGP failed for Vrf : |
| | vrf1 due to Netconf <x> error |
+-----+-----+
| 10.20.246.30 | Configure RemoteAsn under Router BGP failed for Vrf : |
| | vrf1 due to Netconf <x> error |
+-----+-----+
--- Time Elapsed: 195.971ms ---
```

Detailed VRF show output for an EXTREME OS ONE tenant displaying routing configuration, route targets, static routes, and static route BFD settings, where entries marked with '*' indicate auto-derived BFD sessions and unmarked entries indicate manually configured BFD sessions.

```
(efa:extreme)extreme@node-1:~$ efa tenant vrf show --tenant Tnt-6 --name Tnt-6_VR1 --
detail
=====
Name : Tnt-6_VR1
Tenant : Tnt-6
Routing Type : distributed
Centralized Routers :
Enable Layer3 Extension : false
Redistribute : connected,static
Max Path : 50
Local Asn :
L3VNI :
BR VNI : 8136
RH Max Path :
Enable RH ECMP : false
Enable Graceful Restart : true
Enable NextHop Recursion : true
```

```

Enable Default Information Originate : true
Route Target                         : import 102:102
                                   : export 102:102
Static Route                         : Switch-IP->{Network,NextHop-IP[Route-
Distance,Route-Metric]}, ...
                                   : 10.64.224.16->{2.4.1.0/24,2.3.1.3[ , ]}
{2.4.1.0/24,2.3.6.4[ , ]} {2.4.2.0/24,2.3.1.3[ , ]}
                                   ...
Static Route BFD                     : Switch-IP->{DestIP,SourceIP[Interval,Min-
Rx,Multiplier,DestPrefix]}, ...
                                   [Flag * - Derived Static Route BFD]
                                   : 10.64.224.16->{2.3.6.4,[300,300,3,]} {2.3.1.3,
[300,300,3,]}
                                   {2.3.6.4,[300,300,3,2.4.1.0/24]}* {2.3.1.3,
[300,300,3,2.4.1.0/24]}*
                                   {2:3:1::3,[300,300,3,]} {2:3:6::4,[300,300,3,]}
[300,300,3,2:4:1::/64]}* {2:3:6::4,
[300,300,3,2:4:1::/64]}*
                                   ...
                                   : 10.64.224.17->{2.2.1.3,[300,300,3,]} {2.2.6.4,
[300,300,3,]}
                                   {2.2.1.3,[300,300,3,2.4.1.0/24]}* {2.2.6.4,
[300,300,3,2.4.1.0/24]}*
                                   {2:2:1::3,[300,300,3,]} {2:2:6::4,[300,300,3,]}
[300,300,3,2:4:1::/64]}* {2:2:6::4,
[300,300,3,2:4:1::/64]}*
                                   ...
Network Route Address                :
Static Network                       :
Aggregate Address                     :
VRF Type                             : private
State                               : vrf-device-created
Dev State                           : provisioned
App State                           : cfg-in-sync

=====
-----

--- Time Elapsed: 88.55073ms ---
(efa:extreme)extreme@node-1:~$

```

efa tenant vrf show

Displays brief or detailed output of the VRF for all tenants, a selected tenant, or a selected VRF.

Syntax

```
efa tenant vrf show [ --name vrf-name | --tenant tenant-name | --detail ]
```

Parameters

--name *vrf-name*

Specifies the name of the VRF.

--tenant *tenant-name*

Specifies the name of the tenant.

--detail

Displays detailed output of the VRF. When this parameter is not used, only brief tabular output is returned.

Examples

This example shows brief output of all VRFs.

```
$ efa tenant vrf show
+-----+-----+-----+-----+-----+-----+
| Name | Tenant | Routing Type | Centralized Routers | Redistribute | Max Path |
+-----+-----+-----+-----+-----+-----+
| blue11 | tenant11 | distributed | | connected,static | 50 |
+-----+-----+-----+-----+-----+-----+
| red13 | tenant21 | centralized | 10.20.216.103 | connected,static | 50 |
| | | | 10.20.216.104 | | |
+-----+-----+-----+-----+-----+-----+
| red11 | tenant21 | distributed | | connected | 8 |
+-----+-----+-----+-----+-----+-----+

+-----+-----+-----+-----+-----+-----+
| Local Asn | Enable GR | State | Dev State | App State |
+-----+-----+-----+-----+-----+-----+
| 65001 | true | vrf-device-created | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
| 65002 | false | vrf-create | not-provisioned | cfg-ready |
| | | | | |
+-----+-----+-----+-----+-----+-----+
| | false | vrf-device-created | provisioned | cfg-in-sync |
+-----+-----+-----+-----+-----+-----+
Vrf Details

--- Time Elapsed: 551.819339ms ---
```

This example shows detailed output of a specific VRF.

```
$ efa tenant vrf show --tenant t1 --name vs --detail

Name : vs

Tenant : t1
```

```

Routing Type : distributed

Centralized Routers :

Enable Layer3 Extension : true

Redistribute : connected

Max Path : 8

Local Asn :

L3VNI :

EVPN IRB BD :

EVPN IRB VE :

BR VNI :

BR BD :

BR VE :

RH Max Path :

Enable RH ECMP : false

Enable Graceful Restart : false

Enable NextHop Recursion : true

Route Target :

Static Route :

Static Route BFD :

Network Route Address :

Static Network :

Aggregate Address :

VRF Type : private

State : vrf-created

Dev State : not-provisioned

App State : cfg-ready

```

This example shows detailed output of all VRFs belonging to a specific tenant.

```
$ efa tenant vrf show --tenant tenant21 --detail
```

```

=====
Name                : red13
Tenant              : tenant21
Routing Type        : centralized
Centralized Routers : 10.20.216.103
                   : 10.20.216.104
Redistribute        : connected,static
Max Path            : 50
Local Asn           : 65002
L3VNI               :

```

```

EVPN IRB BD      :
EVPN IRB VE      :
BR VNI           :
BR BD            :
BR VE            :
RH Max Path      : 64
Enable RH ECMP    : false
Enable Graceful Restart : false
Enable NextHop Recursion: false
Route Target      :
Static Route      : Switch-IP->Network, Nexthop-IP[Route-Distance], ...
                  : 10.20.216.104->192.168.0.0/24, 10.10.10.1[5] 192.168.10.0/24,
                  : 10.10.10.5[5] 2020:20::1/128, 3001::2[6]
2020:30::1/128, 3001::3[5]
Static Route BFD  : Switch-IP->[DestIP, SourceIP][Interval, Min-Rx, Multiplier], ...
                  : 10.20.216.104->10.10.10.1, 10.10.10.254[200, 300, 6]
10.10.10.5, 10.10.10.252
                  : 3001::3, 3001::1[100, 200, 5] 3001::2, 3001::1
3001::4, 3001::1[100, 300, 6]
State             : vrf-create
Dev State          : not-provisioned
App State          : cfg-ready

=====
Name               : red11
Tenant             : tenant21
Routing Type       : distributed
Centralized Routers :
Redistribute       : connected
Max Path           : 8
Local Asn          :
L3VNI              : 34191
EVPN IRB BD        : 4094
EVPN IRB VE        : 8190
BR VNI             : 34192
BR BD              : 4093
BR VE              : 8189
RH Max Path        :
Enable RH ECMP     : false
Enable Graceful Restart : false
Route Target       : import 101:101
                  : export 101:101
Static Route       :
Static Route BFD   :
State              : vrf-device-created
Dev State          : provisioned
App State          : cfg-in-sync

=====

--- Time Elapsed: 167.110904ms ---

```

Detailed VRF show output for an EXTREME OS ONE tenant displaying routing configuration, route targets, static routes, and static route BFD settings, where entries marked with * indicate auto-derived BFD sessions and unmarked entries indicate manually configured BFD sessions.

```

(efa:extreme)extreme@node-1:~$ efa tenant vrf show --tenant Tnt-6 --name Tnt-6_VR1 --
detail
=====
Name               : Tnt-6_VR1
Tenant             : Tnt-6
Routing Type       : distributed

```

```

Centralized Routers                                     :
Enable Layer3 Extension                               : false
Redistribute                                           : connected,static
Max Path                                              : 50
Local Asn                                             :
L3VNI                                                :
BR VNI                                               : 8136
RH Max Path                                           :
Enable RH ECMP                                       : false
Enable Graceful Restart                             : true
Enable NextHop Recursion                             : true
Enable Default Information Originate                 : true
Route Target                                          : import 102:102
                                                    : export 102:102
Static Route                                          : Switch-IP->{Network,NextHop-IP[Route-
Distance,Route-Metric]], ...
                                                    : 10.64.224.16->{2.4.1.0/24,2.3.1.3[ , ]}
{2.4.1.0/24,2.3.6.4[ , ]} {2.4.2.0/24,2.3.1.3[ , ]}
...
                                                    : 10.64.224.17->{2.4.1.0/24,2.2.1.3[ , ]}
{2.4.1.0/24,2.2.6.4[ , ]} {2.4.2.0/24,2.2.1.3[ , ]}
...
Static Route BFD                                     : Switch-IP->{DestIP,SourceIP[Interval,Min-
Rx,Multiplier,DestPrefix]], ...
                                                    [Flag * - Derived Static Route BFD]
                                                    : 10.64.224.16->{2.3.6.4,[300,300,3,]} {2.3.1.3,
[300,300,3,]}
                                                    {2.3.6.4,[300,300,3,2.4.1.0/24]}* {2.3.1.3,
[300,300,3,2.4.1.0/24]}*
                                                    {2:3:1::3,[300,300,3,]} {2:3:6::4,[300,300,3,]}
{2:3:1::3,[300,300,3,2:4:1::/64]}* {2:3:6::4,
[300,300,3,2:4:1::/64]}*
...
                                                    : 10.64.224.17->{2.2.1.3,[300,300,3,]} {2.2.6.4,
[300,300,3,]}
                                                    {2.2.1.3,[300,300,3,2.4.1.0/24]}* {2.2.6.4,
[300,300,3,2.4.1.0/24]}*
                                                    {2:2:1::3,[300,300,3,]} {2:2:6::4,[300,300,3,]}
{2:2:1::3,[300,300,3,2:4:1::/64]}* {2:2:6::4,
[300,300,3,2:4:1::/64]}*
...
Network Route Address                                :
Static Network                                        :
Aggregate Address                                    :
VRF Type                                             : private
State                                                : vrf-device-created
Dev State                                           : provisioned
App State                                           : cfg-in-sync

=====
-----

--- Time Elapsed: 88.55073ms ---
(efa:extreme)extreme@node-1:~$

```

efa tenant vrf update

Updates the tenant VRF for various operations and parameters, such as ASN.

Syntax

```
efa tenant vrf update [--name vrf-name | --tenant tenant-name | --
  operation { local-asn-add | local-asn-delete | static-route-bfd-add
  | static-route-bfd-delete | static-route-add | static-route-delete
  | max-path-add | max-path-delete | redistribute-add | redistribute-
  delete | rh-max-path-add | rh-max-path-delete | centralized-router-
  add | centralized-router-delete | rh-ecmp-update | graceful-restart-
  update | next-hop-recursion-update | network-add | network-delete
  | static-network-add | static-network-delete | aggregate-address-add
  | aggregate-address-delete | default-information-originate-update }
  | --local-asn local-asn | --ipv4-static-route-bfd route | --ipv6-
  static-route-bfd route --ipv4-static-route-next-hop route | | --ipv6-
  static-route-next-hop route | --ipv6-network-backdoor stringArray
  | --ipv6-network-weight stringArray | --ipv6-network-route-map
  stringArray --max-path unit | --redistribute { static | connected } |
  --rh-max-path { 8 | 16 | 64 | 128 } | --rh-ecmp-enable { true
  | false } | --centralized-router | --ipv4-network stringArray | --
  ipv4-network-backdoor stringArray | --ipv4-network-weight stringArray
  | --ipv4-network-route-map stringArray | --ipv4-network-route-map
  stringArray | --ipv6-network stringArray | --ipv4-static-network
  stringArray | --ipv4-static-network-distance stringArray | --graceful-
  restart-enable { true | false } | --operation aggregate-address-add
  | aggregate-address-delete | --ipv4-aggregate-address stringArray |
  --ipv4-aggregate-summary-only stringArray | --ipv6-aggregate-summary-
  only stringArray | --ipv6-aggregate-address stringArray | --ipv4-
  aggregate-as-set stringArray | --ipv6-aggregate-as-set stringArray
  | --ipv4-aggregate-advertise-map stringArray | --ipv6-aggregate-
  advertise-map stringArray | --ipv4-aggregate-suppress-map stringArray
  | --ipv6-aggregate-suppress-map stringArray | --next-hop-recursion-
  update { true | false } | --default-information-originate-enable
  { true | false } ]
```

Parameters

--centralized-router *string*

Comma separated list of Border-Leaf IP Addresses. Example: 10.10.1.1,10.10.1.2 | 10.10.1.1-2

--default-information-originate-enable {true | false}

Enable default information originate for vrf. Example: --default-information-originate-enable true | --default-information-originate-enable false

--graceful-restart-enable {true | false}

Enable graceful restart for vrf. Example: --graceful-restart-enable=true | --graceful-restart-enable=false

--ipv4-aggregate-address *stringArray*

IPv4 aggregate-address to be configured on the device. Format: device-ip,ipv4-aggregate-address. Example: --ipv4-aggregate-address 10.25.25.100,10.20.21.40/30

Not supported for OS ONE devices

--ipv4-aggregate-advertise-map *stringArray*

Route map name used to filter the BGP attributes to be advertised as part of aggregate-address. Format: device-ip,ipv4-aggregate-address,advertise-map. Example: --ipv4-aggregate-advertise-map 10.25.25.100,10.20.21.40/30,routeMap1

Not supported for OS ONE devices

--ipv4-aggregate-as-set *stringArray*

Enable as-set path information as part of aggregate-address advertisement. Format: device-ip,ipv4-aggregate-address,as-set. Example: --ipv4-aggregate-as-set 10.25.25.100,10.20.21.40/30,true

Not supported for OS ONE devices

--ipv4-aggregate-summary-only *stringArray*

Enable summary-only for the aggregate-address. Format: device-ip,ipv4-aggregate-address,summary-only. Example: --ipv4-aggregate-summary-only 10.25.25.100,10.20.21.40/30,true

Not supported for OS ONE devices

--ipv4-aggregate-suppress-map *stringArray*

Route map name used to suppress the specific routes to be advertised along with the aggregate-address advertisement. Format: device-ip,ipv4-aggregate-address,suppress-map. Example: --ipv4-aggregate-suppress-map 10.25.25.100,10.20.21.40/30,routeMap1

Not supported for OS ONE devices

--ipv4-network *stringArray*

Bgp advertises given network address. Format:device-ip,network-address. Example: --ipv4-network 10.24.80.134,10.20.30.0/30

--ipv4-network-backdoor *stringArray*

Increases the administrative distance of eBGP with the goal of making IGP learned routes preferred for given network address. Format:device-ip,network-address,flag. Example: --ipv4-network-backdoor 10.24.80.134,10.21.30.0/30,true

Not supported for OS ONE devices

--ipv4-network-route-map *stringArray*

Given Route-map is used to set the BGP attributes for the given network address like MED etc. Format:device-ip,network-address,route-map. Example: --ipv4-network-route-map 10.24.80.134,10.23.30.0/30,rmap1

Not supported for OS ONE devices

--ipv4-network-weight *stringArray*

Given Weight is used to set the BGP weight attribute for the given network address. Format:device-ip,network-address,weight. Example: --ipv4-network-weight 10.24.80.134,10.22.30.0/30,144. Valid values for weight are <0-65535>

Not supported for OS ONE devices

--ipv4-static-network *stringArray*

IPv4 Static Network to be configured on the device. Format: device-ip,static-network.

Example: --ipv4-static-network 10.24.80.134,11.10.30.40/30

Not supported for OS ONE devices

--ipv4-static-network-distance *stringArray*

IPv4 Static Network with distance to be configured on the device.

Format: device-ip,static-network,distance. Example: --ipv4-static-network-distance

10.24.80.134,11.10.30.40/30,169. Valid values for distance are <1-255>

Not supported for OS ONE devices

--ipv4-static-route-bfd *stringArray*

IPv4 Static Route BFD configuration.

SLX-OS Format:device-ip,dest-ipv4-addr,source-ipv4-addr[interval,min-rx,multiplier].

Example: --ipv4-static-route-bfd 10.25.25.100,1.1.1.2.2.2,123,456,3

EXTREME OS ONE Format:device-ip,dest-ipv4-addr[source-ipv4-addr,interval,min-rx,multiplier,dest-ipv4-prefix]. Example: --ipv4-static-route-bfd 10.25.25.100,1.1.1.0,,123,456,3,10.10.10.1/32

--ipv4-static-route-next-hop *stringArray*

IPv4 static route configuration. Format:device-ip,ipv4-static-network-

route,next-hop-ip,distance,metric. Example: --ipv4-static-route-next-hop

10.25.25.100,20.0.0.0/24,16.0.0.2,3,5. Distance and Metric are optional attributes. Valid values for Route distance are <1-254>. Valid values for Route metric are <1-16>

--ipv6-aggregate-address *stringArray*

IPv6 aggregate-address to be configured on the device. Format: device-ip,ipv6-

aggregate-address. Example: --ipv6-aggregate-address 10.25.25.100,10::20/126

Not supported for EXTREME OS ONE devices

--ipv6-aggregate-advertise-map *stringArray*

Route map name used to filter the BGP attributes to be advertised as

part of aggregate-address. Format: device-ip,ipv6-aggregate-address,advertise-map.

Example: --ipv6-aggregate-advertise-map 10.25.25.100,10::20/126,routeMap1

Not supported for OS ONE devices

--ipv6-aggregate-as-set *stringArray*

Enable as-set path information as part of aggregate-address advertisement.

Format: device-ip,ipv6-aggregate-address,as-set. Example: --ipv6-aggregate-as-set 10.25.25.100,10::20/126,true

Not supported for OS ONE devices

--ipv6-aggregate-summary-only *stringArray*

Enable summary-only for aggregate-address. Format: device-ip,ipv6-

aggregate-address,summary-only. Example: --ipv6-aggregate-summary-only

10.25.25.100,10::20/126,true

Not supported for OS ONE devices

--ipv6-aggregate-suppress-map *stringArray*

Route map name used to suppress the specific routes to be advertised along with the aggregate-address advertisement. Format: device-ip,ipv6-aggregate-address,suppress-map. Example: --ipv6-aggregate-suppress-map 10.25.25.100,10::20/126,routeMap1

Not supported for OS ONE devices

--ipv6-network *stringArray*

Bgp advertises given network address. Format: device-ip,network-address. Example: --ipv6-network 10.24.80.134,11::1/128

--ipv6-network-backdoor *stringArray*

Increases the administrative distance of eBGP with the goal of making IGP learned routes preferred for given network address. Format:device-ip,network-address,flag. Example: --ipv6-network-backdoor 10.24.80.134,11::1/128,true

Not supported for OS ONE devices

--ipv6-network-route-map *stringArray*

Given Route-map is used to set the BGP attributes for the given network address like MED etc. Format:device-ip,network-address,route-map. Example: --ipv6-network-route-map 10.24.80.134,11::1/128,rmap1

Not supported for OS ONE devices

--ipv6-network-weight *stringArray*

Given Weight is used to set the BGP weight attribute for the given network address. Format:device-ip,network-address,weight. Example: --ipv6-network-weight 10.24.80.134,11::1/128,144. Valid values for weight are <0-65535>

Not supported for OS ONE devices

--ipv6-static-route-bfd *stringArray*

IPv6 Static Route BFD configuration.

SLX-OS Format:device-ip,dest-ipv6-addr,source-ipv6-addr[interval,min-rx,multiplier]. Example: --ipv6-static-route-bfd 10.25.25.100,1::1,2::2,300,300,3

OS ONE Format:device-ip,dest-ipv6-addr[source-ipv6-addr,interval,min-rx,multiplier,dest-ipv6-prefix]. Example: --ipv6-static-route-bfd 10.25.25.100,1::1,,300,300,3,f::f/128

--ipv6-static-route-next-hop *stringArray*

IPv6 static route configuration. Format:device-ip,ipv6-static-network-route,next-hop-ip,distance,metric. Example: --ipv6-static-route-next-hop 10.25.25.100,2001::/64,3001::2,3,5. Distance and Metric are optional attributes. Valid values for Route distance are <1-254>. Valid values for Route metric are <1-16>

--local-asn *string*

Local ASN for the VRF. Valid values are <1-4294967295>

--max-path *uint*

Number of load-sharing paths for the Vrf. Valid values are <1-128>

--name *string*

Name of the VRF

--next-hop-recursion-enable {true | false}

Enable next hop recursion for vrf. Example: --next-hop-recursion-enable true | --next-hop-recursion--enable false

--operation *string*

Operation code. Valid value is local-asn-add | local-asn-delete | static-route-bfd-add | static-route-bfd-delete | static-route-add | static-route-delete | max-path-add | max-path-delete | centralized-router-add | centralized-router-delete | redistribute-add | redistribute-delete | rh-max-path-add | rh-max-path-delete | rh-ecmp-update | graceful-restart-update | next-hop-recursion-update | default-information-originate-update | network-add | network-delete | static-network-add | static-network-delete | aggregate-address-add | aggregate-address-delete



Note

Use this command to update a single operation at a time. Using multiple --operation flag may ignore the configurations.

--redistribute *stringArray*

Redistribute type for routes. Valid values are static | connected

--rh-ecmp-enable {true | false}

Enable Resilient hashing for vrf. Example: --rh-ecmp-enable=true | --rh-ecmp-enable=false

--rh-max-path *uint*

Resilient hashing maximum-path for vrf. Valid values are <8|16|64|128>

--routing-type {distributed | centralized}

VRF routing type. Default value is distributed.

--tenant *string*

Name of the Tenant

Usage Guidelines

The **--max-path** and **--rh-max-path** parameters can co-exist.

You cannot choose the specific devices on which to configure resilient hashing. Configuration applies to all SLX-OS devices in the tenant VRF.

Examples

This example adds redistribution connected to a VRF.

```
$ efa tenant vrf update
--name blue11 --tenant tenant11 --operation redistribute-add --redistribute connected

Vrf updated successfully.
```

This example removes the max-path from the VRF.

```
$ efa tenant vrf update
--name blue12 --tenant tenant1 --operation rh-max-path-delete
```

Vrf updated successfully.

```
$ efa tenant vrf update --name vrf1 --tenant tenant1
--operation aggregate-address-add
--ipv4-aggregate-address 10.24.80.134,10.21.21.40/30
--ipv4-aggregate-summary-only 10.24.80.134,10.21.21.40/30,true
--ipv4-aggregate-as-set 10.24.80.134,10.21.21.40/30,true
--ipv4-aggregate-advertise-map 10.24.80.134,10.21.21.40/30,some
--ipv4-aggregate-suppress-map 10.24.80.134,10.21.21.40/30,some
```

```
$ efa tenant vrf update --name vrf1 --tenant tenant1
--operation network-add
--ipv4-network 10.24.80.134,10.22.30.40/30
--ipv4-network-weight 10.24.80.134,10.22.30.40/30,144
--ipv4-network 10.24.80.134,10.23.30.40/30
--ipv4-network-route-map 10.24.80.134,10.23.30.40/30,rmap1
```

```
efa tenant vrf update --name ten1vrf1 --tenant ten1 --operation max-path-add --max-path
128
efa tenant vrf update --name ten1vrf1 --tenant ten1 --operation rh-max-path-add --rh-max-
path 128
```

```
efa tenant vrf show --detail
```

```
=====
```

```
Name                : ten1vrf1
Tenant               : ten1
Routing Type         : distributed
Centralized Routers  :
Enable Layer3 Extension : true
Redistribute         : connected
Max Path             : 128
Local Asn             :
L3VNI                : 8192
EVPN IRB BD          : 4096
EVPN IRB VE          : 8192
BR VNI               : 4096
BR BD                :
BR VE                :
RH Max Path          : 128
Enable RH ECMP       : false
Enable Graceful Restart : false
Enable NextHop Recursion: false
Route Target         : import 101:101
                    : export 101:101
Static Route         :
Static Route BFD     :
Network Route Address :
Static Network       :
Aggregate Address     :
VRF Type             : private
State                : vrf-device-created
Dev State            : provisioned
App State            : cfg-in-sync
=====
```

```
=
Name                : ten1vrf2
Tenant               : ten1
Routing Type         : distributed
Centralized Routers  :
Enable Layer3 Extension : true
Redistribute         : connected
Max Path             : 128
Local Asn             :
```

```
L3VNI                : 8191
EVPN IRB BD          : 4095
EVPN IRB VE          : 8191
BR VNI               : 4096
BR BD                :
BR VE                :
RH Max Path          : 128
Enable RH ECMP        : false
Enable Graceful Restart : false
Enable NextHop Recursion: false
Route Target          : import 102:102
                     : export 102:102
Static Route          :
Static Route BFD      :
Network Route Address :
Static Network        :
Aggregate Address     :
VRF Type              : private
State                 : vrf-device-created
Dev State              : provisioned
App State              : cfg-in-sync
=====
```

efa vcenter debug

A set of debug commands for troubleshooting XCO vCenter issues. This command also sets configuration parameters for vCenter tenants.

Syntax

```
efa vcenter debug tenant show --host string
```

Shows a list of tenants for a particular VMware vCenter server host.

```
efa vcenter debug event show --host string [ --page int32 | --page-size int32 ]
```

Shows a list of events recorded for a particular VMware vCenter server host.

```
efa vcenter debug setting show
```

Shows the different settings configured on the VMware vCenter server host. These settings are global in nature and are applicable to all VMware vCenter Server hosts registered with this XCO vCenter Service instance.

```
efa vcenter debug setting update [ --poll-frequency string | --dead-link-clearing-time string ]
```

Updates the different settings for the added VMware vCenter server hosts registered with this XCO vCenter Service instance. These settings are applicable to all the VMware vCenter Server hosts.

```
efa vcenter debug set --level [ info | debug ]
```

Sets the debug level for this instance of XCO vCenter service. Debug levels can be set to receiving information level messages or complete debugging messages.

Command Default

This command has no defaults.

Parameters

--host *string*

IP address or hostname of the VMware vCenter Server to connect to.

--page *int32*

Events are fetched for the page number specified in this parameter. When this parameter is not passed, page number 1 is always fetched by default.

--page-size *int32*

The number of events to display per page. When this parameter is not passed, twenty (20) records are shown per page.

--poll-frequency *string*

The poll duration in hours. The XCO vCenter Service polls all the VMware vCenter servers registered with it after this time duration has expired.

--dead-link-clearing-time *string*

The time duration in days. This is the time duration for which dead links are removed from the XCO vCenter service database.

--level [*info* | *debug*]

Sets the debug level for this XCO vCenter service instance. Can be one of *info* or *debug*. Use *info* to view only messages of the level *info*. Use *debug* to view all debug messages.

Examples

This following example returns the debug information for tenant creation failure (and any other reported errors) for a vCenter server with IP address 10.24.85.111. This example shows only a portion of the possible output.

```
$ efa vcenter debug tenant --host 10.24.85.111
Tenant Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+
+-----+
| Tenant Name          | Ports
| VLANs   | Status          | Reason
+-----+-----+-----+-----+
+-----+
| vcenter-10.24.85.111 |      |
2-4089 | Creation Failed | Tenant vcenter-10.24.85.111 is missing the      |
|          |          |          |
| following interfaces: 10.25.225.46="ethernet-0/5"
+-----+-----+-----+-----+
+-----+
Tenant Details

EPG Configuration Details for vCenter 10.24.85.111
+-----+-----+-----+-----+
+-----+
| EPG Name
| Ports          | Switchport Mode |
+-----+-----+-----+-----+
+-----+
| vCenter_10.24.85.111_10.24.82.20_vSwitch1_VMNetwork2 |
10.24.82.20[0/11] | trunk          |
+-----+-----+-----+-----+
+-----+
```

This example shows the vCenter service settings.

```
$ efa vcenter debug setting show

vCenter service settings
+-----+-----+-----+-----+
| Poll Frequency Hours | Dead Link Clearing Time Days |
+-----+-----+-----+-----+
| 4                    | 3                            |
+-----+-----+-----+-----+
```


This example shows tenant and endpoint group information for the specified IP address.

```
$ efa vcenter debug tenant --host 10.24.85.111
```

Tenant Name	Ports	VLANs	Status	Reason
vcenter-10.24.85.111		2-4089	Created Successfully	

Tenant Details

EPG Configuration Details for vCenter 10.24.85.111

EPG Name	Ports	POs	Switchport Mode	VLANs	Status	Reason
----------	-------	-----	-----------------	-------	--------	--------

This example shows event details for the specified host. This example shows only a portion of the possible output.

```
$ efa vcenter debug event --host 10.24.85.111
```

Task: Update network configuration	10.24.81.10
dvPort group VM network 200-220 in SRA-Dev-DC was reconfigured. Modified: config.defaultPortConfig.vlan: (inherited = false, vlanId = 200) -> (inherited = false, vlanId = ((start = 0, end = 200))); Added: Deleted:	VM network 200-220
Task: Update network configuration	10.24.82.20
dvPort group VM network 200-220 in SRA-Dev-DC was reconfigured. Modified: config.defaultPortConfig.vlan: (inherited = false, vlanId = ((start = 200, end = 220))) -> (inherited = false, vlanId = 200); Added: Deleted:	VM network 200-220

The following example shows typical output for the specified host.

```
$ efa vcenter debug tenant --host 10.24.85.111
```

Tenant Configuration Details for vCenter 10.24.85.111

Tenant Name	Ports	VLANs	Status	Reason
vcenter-10.24.85.111		2-4089	Created Successfully	

Tenant Details

EPG Configuration Details for vCenter 10.24.85.111

EPG Name	Ports	POs	Switchport Mode	VLANs	Status	Reason
----------	-------	-----	-----------------	-------	--------	--------

This example shows typical, but truncated, output for debugging events for the specified host.

```
$ efa vcenter debug event --host 10.24.85.111

vCenter Events Total Count (4) for host 10.24.85.111
+-----+-----+
| Description | Target |
+-----+-----+
| Task: Update network configuration | 10.24.81.10 |
+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
| was reconfigured. Modified: | |
| config.defaultPortConfig.vlan: (inherited = false, vlanId | |
| = 200) -> (inherited = false, vlanId = ((start = 0, end = | |
| 200))); Added: Deleted: | |
+-----+-----+
| Task: Update network configuration | 10.24.82.20 |
+-----+-----+
| dvPort group VM network 200-220 in SRA-Dev-DC | VM network 200-220 |
| was reconfigured. Modified: | |
| config.defaultPortConfig.vlan: (inherited = false, vlanId = | |
| ((start = 200, end = 220))) -> (inherited = false, vlanId = | |
| 200); Added: Deleted: | |
+-----+-----+
```

This command sets the polling frequency to 5 minutes.

```
$ efa vcenter debug setting update --poll-frequency=5

vCenter service settings updated successfully
```

This example command sets the dead-link-clearing-time value to 4 days.

```
$ efa vcenter debug setting update --dead-link-clearing-time=4

vCenter service settings updated successfully
```

This example sets the log level to debug for this XCO instance.

```
$ efa vcenter debug set --level=debug

Level debug set successfully.
```

efa vcenter delete

Deletes the VMware vCenter server registered as a tenant with this XCO instance.

Syntax

```
efa vcenter delete --host string [ --cleanup-tenants ]
```

Parameters

--host *string*

IP address or hostname of the VMware vCenter server tenant to delete.

--cleanup-tenants

When included, the tenants and EPGs associated to the VMware vCenter Server are deleted. When not included, the tenants and EPGs associated with the VMware vCenter Server are retained when the server is removed.

When the `cleanup-tenants` parameter is supplied, the command removes the registered ESXi hosts and EPGs for this VMware vCenter Server tenant.

Examples

This example deletes the VMware vCenter Server with host IP 10.24.85.111 while retaining the associated tenants and EPGs.

```
$ efa vcenter delete --host 10.24.85.111
```

This example deletes the VMware vCenter Server with host IP 10.24.85.111 and removes the associated tenants and EPGs.

```
$ efa vcenter delete --host 10.24.85.111 --cleanup-tenants
```

efa vcenter links

Displays the links for VMware vCenter server tenants and their ESXi hosts.

Syntax

```
efa vcenter links [ physical | unconnected ] [ --host string | --esxi string ]
```

```
efa vcenter links virtual --esxi string
```

Parameters

physical

Displays the physical links for the selected device. Device can be a VMware vCenter Server or an ESXi server.

unconnected

Displays the unconnected (unused) links for the selected device. Device can be a VMware vCenter Server or an ESXi server.

virtual

Displays the virtual links created on a ESXi server.

--host

The IP address or host name of the VMware vCenter Server for which to view the physical and unconnected (unused) links.

--esxi

The IP address or host name of the ESXi tenant for which to view the physical, virtual, and unconnected (unused) links.

For VMware vCenter server tenants, physical and unconnected links are displayed. For ESXi hosts, physical, unconnected, and virtual links are displayed.

Examples

This example is list of ESXi device managed by the VMware vCenter Server with the IP 10.24.85.111.

```
$ efa vcenter links physical --host 10.24.85.111
Physical Links for vCenter 10.24.85.111
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| ESXi Host   | PNIC   | Driver | PNIC MAC |           |           |           |
| Interface   | PO Number | PO Name | Device   | Missing  | Missing Time |           |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| 10.24.81.10 | vmnic3 | ntg3   | 40:f2:e9:bb:4c:83 |           |           |           |
Ethernet 0/10 |           |           | 10.9.9.20 |           |           |           |
+-----+-----+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+-----+-----+-----+
| 10.24.82.20 | vmnic2 | ntg3   | 40:f2:e9:bb:58:b2 |           |           |           |
Ethernet 0/10 |           |           | 10.9.9.30 |           |           |           |
+-----+-----+-----+-----+-----+-----+-----+
```

```

+-----+-----+-----+-----+
| 10.24.83.30 | vmnic3 | ntg3 | 40:f2:e9:bb:58:b3
| Ethernet 0/10 | | | 10.9.9.40 | | |
+-----+-----+-----+-----+
Physical Link Details
--- Time Elapsed: 359.1528ms ---

```

This example is a list of virtual machines and their virtual links on the ESXi host with the IP 10.24.81.10.

```

$ efa vcenter links virtual --esxi 10.24.81.10
Virtual Links for ESXi server 10.24.81.10
+-----+-----+-----+-----+-----+
+-----+-----+
| Virtual Machine | vNIC | MAC
| VLAN | Port Group | vSwitch | Distributed |
+-----+-----+-----+-----+-----+
+-----+-----+
| 20200221 v1 | Network adapter 1 | 00:50:56:9c:75:29
| 3048 | VM Network | vSwitch0 | false |
+-----+-----+-----+-----+-----+
+-----+-----+
| test_vm2 | Network adapter 2 | 00:50:56:9c:7e:83
| 3048 | VM Network | vSwitch0 | false |
+-----+-----+-----+-----+-----+
+-----+-----+
| 20200221 v1 | Network adapter 2 |
00:50:56:9c:f6:13 | 3048 | VM Network | vSwitch0 | false |
+-----+-----+-----+-----+-----+
+-----+-----+
| vMotionVm | Network adapter 1 | 00:50:56:9c:8f:fd
| 10 | DPortGroup | Real-DV-Switch | true |
+-----+-----+-----+-----+-----+
+-----+-----+
| test_vm2 | Network adapter 1 |
00:50:56:9c:1d:09 | 10 | DPortGroup | Real-DV-Switch | true |
+-----+-----+-----+-----+-----+
vNIC Link Details
--- Time Elapsed: 500.4792ms ---

```

efa vcenter list

Lists the VMware vCenter servers registered as tenants.

Syntax

```
efa vcenter list [ --host string ]
```

Parameters

--host *string*

IP address or hostname of the VMware vCenter Server to connect to.

When the `host` parameter is supplied, the command lists the ESXi hosts for that VMware vCenter Server.

Examples

This example lists a VMware vCenter Server that has just been added as a tenant with this XCO instance.

```
$ efa vcenter list
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Host Name | Name | Version |
Discovery Status | Datacenters Count | Host Count | VM Count |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 10.24.85.111 | VMware vCenter Server | 6.7.0
| Pending Complete Discovery | 1 | 1 | 0 |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

This example lists a VMware vCenter Server with its status updated to this XCO instance.

```
$ efa vcenter list
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| Host Name | Name | Version | Discovery Status | Datacenters
Count | Host Count | VM Count |
+-----+-----+-----+-----+-----+
+-----+-----+-----+-----+
| 10.24.85.111 | VMware vCenter Server | 6.7.0 | Update Completed | 5
| 4 | 13 |
+-----+-----+-----+-----+
+-----+-----+-----+-----+
```

This example lists the ESXi devices managed by the VMware vCenter Server with IP address 10.24.85.111.

```
$ efa vcenter list --host 10.24.85.111
```

efa vcenter register

Registers a VMware vCenter server as a tenant with the XCO instance.

Syntax

```
efa vcenter register [ --host string | --username string | --password string | --tenant string ]
```

Command Default

This command has no defaults. All flags are mandatory.

Tenant details must be registered before running the command.

Parameters

--host *string*

IP address or hostname of the VMware vCenter Server to connect to.

--username *string*

Username to connect to the VMware vCenter Server.

--password *string*

Password to connect to the VMware vCenter Server.

--tenant *string*

Tenant associated with the VMware vCenter Server host.

Examples

This example registers a VMware vCenter Server as a tenant with XCO vCenter service.

```
$ efa vcenter register --host 10.24.85.111 --username administrator@vmvcenter.local  
--password 'aBc123#' --tenant tenant-10.24.85.111
```

efa vcenter update

Updates the local database with configuration changes made to the VMware vCenter server and the ESXi servers managed by it.

Syntax

```
efa vcenter update [ --host string | --username string | --password string ]
```

Command Default

This command has no defaults. All flags are mandatory.

Parameters

--host *string*

IP address or host name of the VMware vCenter server from which the local XCO vCenter service database needs to be updated.

--username *string*

Username to connect to the VMware vCenter Server.

--password *string*

Password to connect to the VMware vCenter Server.

Examples

This example updates the local XCO vCenter service database with the latest state of the VMware vCenter server with the IP address 10.24.85.111.

```
$ efa vcenter update --host 10.24.85.111 --username administrator@vmvcenter.local --password 'aBc123#'
```


efa version

Displays the version of XCO that is installed.

Syntax

efa version

Examples

The following example shows typical output for the command.

```
(efa:user)user@xco-78-160:~$ efa version
Version : 4.1.0
Build: 106
Time Stamp: 26-08-13:09:08:31
Mode: Secure
Deployment Type: single-node
Deployment Platform: SERVER
Deployment Suite: Fabric Automation
Deployment IP Mode: ipv4
Node IP: 10.64.78.160
--- Time Elapsed: 662.123µs ---
(efa:user)user@xco-78-160:~$
```

efa-change-hostname

Changes the host name in the XCO system after XCO is deployed.

Syntax

```
efa-change-hostname old-host-name
```

Parameters

old-host-name

Specifies the host name that you are changing.

Usage Guidelines

Host name changes are supported in single-node and multi-node deployments.

Running this command by itself does not change the host name. For the complete procedure, see the "Change the Host Name or IP Address" topic in the "System Management" section of the *ExtremeCloud Orchestrator Administration Guide*.

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run this command from `/apps/bin/`.

In a single-node deployment, XCO is not operational while this command is running. In a multi-node deployment, XCO remains operational if the command is running on the standby node. XCO is not operational if the command is running on the active node.

Examples

This example shows standard output for the command.

```
$ sudo efa-change-hostname <old-host-name>

Reading host name of the system
Restarting mariadb service
Restarting k3s service
Checking k3s for the new host name
Host is in ready state in k3s
Setting current host as active node
Deleting old host name references
Waiting for EFA containers to start
Successfully updated host name in EFA
```

efa-change-ip

Changes the IP address after XCO is deployed.

Syntax

efa-change-ip

Usage Guidelines

IP address changes are supported in single-node deployments.

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run the command from `/apps/bin/`.

XCO is not operational while this command is running.

After the IP address is changed, either run `source /etc/profile` or open a new XCO session to log in.

Examples

This example shows standard output for the command.

```
$ sudo efa-change-ip

Updating IP in EFA
Restarting k3s service
Updating all files with new IP
Deleting EFA services: gonotification-service gofabric-service gotenant-service
goauth-service gorbac-service goinventory-service govcenter-service
gohyperv-service goraslog-service efa-api-docs gosystem-service
Waiting for EFA containers to start
Successfully updated IP in EFA
```

efa-change-vip

Changes the virtual IP address (VIP) after XCO is deployed.

Syntax

```
efa-change-vip new-vip
```

Parameters

new-vip

Specifies the new VIP for the multi-node deployment.

Usage Guidelines

VIP changes are supported in multi-node deployments.

Run this command as a root user or as a user with sudo privileges.

In a TPVM deployment, run this command from `/apps/bin/`.

XCO is not operational while this command is running.

After the VIP is changed, run `source /etc/profile` or open a new XCO session to log in.

Examples

This example shows standard output for the command.

```
$ sudo efa-change-vip <new vip>

Updating all files with new VIP.
Restarting services on nodes
Waiting for EFA containers to start
Updating services with new VIP
Waiting for EFA containers to start
Successfully updated VIP for the installation.
```

efactl

Starts, stops, restarts, and displays the status services for XCO.

Syntax

```
efactl start  
efactl stop  
efactl restart  
efactl start-service service-name  
efactl restart-service service-name  
efactl clean  
efactl status  
efactl stop-service service-name  
efactl db-status  
efactl rabbit-status
```

Examples

The following example starts all services.

```
# efactl start  
Are you sure you want to start all services? [Y/n]  
Y  
gosystem-service has been started  
goauth-service has been started  
gorbac-service has been started  
godb-service has been started  
gonotification-service has been started  
goinventory-service has been started  
gofabric-service has been started  
gotenant-service has been started  
gohyperv-service has been started  
govcenter-service has been started  
goswitch-service has been started  
goraslog-service has been started  
efa-api-docs has been started  
rabbitmq has been started  
Services have been started
```

The following example stops all services.

```
# efactl stop  
Are you sure you want to stop all services? [Y/n]  
Y  
gosystem-service has been stopped  
goauth-service has been stopped  
gorbac-service has been stopped  
godb-service has been stopped  
gonotification-service has been stopped  
goinventory-service has been stopped  
gofabric-service has been stopped  
gotenant-service has been stopped
```

```
gohyperv-service has been stopped
govcenter-service has been stopped
goswitch-service has been stopped
goraslog-service has been stopped
efa-api-docs has been stopped
rabbitmq has been stopped
Services have been stopped
root@administrator-08:~#
```

The following example restarts all services.

```
efactl restart
Are you sure you want to restart all services? [Y/n]
Y
gosystem-service has been stopped
goauth-service has been stopped
gorbac-service has been stopped
godb-service has been stopped
gonotification-service has been stopped
goinventory-service has been stopped
gofabric-service has been stopped
gotenant-service has been stopped
gohyperv-service has been stopped
govcenter-service has been stopped
goswitch-service has been stopped
goraslog-service has been stopped
efa-api-docs has been stopped
rabbitmq has been stopped
Services have been stopped
gosystem-service has been started
goauth-service has been started
gorbac-service has been started
godb-service has been started
gonotification-service has been started
goinventory-service has been started
gofabric-service has been started
gotenant-service has been started
gohyperv-service has been started
govcenter-service has been started
goswitch-service has been started
goraslog-service has been started
efa-api-docs has been started
rabbitmq has been started
Services have been started
All services have been restarted
```

The following example starts one service.

```
# efactl start-service gofabric-service
Are you sure you want to start gofabric-service? [Y/n]
y
gofabric-service has been started
```

The following example stops one service.

```
# efactl stop-service gorbac-service
Are you sure you want to stop gorbac-service? [Y/n]
y
gorbac-service has been stopped
```

The following example restarts one service.

```
# efactl restart-service rabbitmq
Are you sure you want to restart rabbitmq? [Y/n]
```

```
Y
rabbitmq has been stopped
rabbitmq has been started
rabbitmq has been restarted
```

The following example deletes all logs.

```
# efactl clean
This will delete all logs. Are you sure [Y/n]?
Y
Cleaning efa Logs...
Cleaned logs
```

The following example shows XCO status.

```
(efa:extreme)extreme@tpvm:~$ efactl status
NAME      STATUS  ROLES  AGE  VERSION  LABELS
tpvm      Ready   primary 50m   v1.18.6+k3s1
beta.kubernetes.io/arch=amd64,beta.kubernetes.io/os=linux,keepalived=active,kubernetes.io/arch=amd64,kubernetes.io/hostname=tpvm,kubernetes.io/os=linux,node-role.kubernetes.io/primary=true
tpvm2     Ready   primary 50m   v1.18.6+k3s1  beta.kubernetes.io/arch=amd64,beta.kubernetes.io/os=linux,keepalived=standby,kubernetes.io/arch=amd64,kubernetes.io/hostname=tpvm2,kubernetes.io/os=linux,node-role.kubernetes.io/primary=true
```

NAME	AGE	IP	NODE	NOMINATED	NODE	READY	STATUS	RESTARTS
pod/gofabric-service-cb547d7db-lk6r9	45m	10.42.2.8	tpvm2	<none>		0/1	Init:0/2	0
pod/gonotification-service-ffccd5bf6-wl96v	45m	10.20.255.114	tpvm2	<none>		0/1	Init:0/2	0
pod/goauth-service-5fdd67574-g6jw5	45m	10.42.2.9	tpvm2	<none>		0/1	Init:0/2	0
pod/gotenant-service-7db6648b97-rvft9	45m	10.42.2.10	tpvm2	<none>		0/1	Init:0/3	0
pod/efa-api-docs-5886cb6fb4-vnq8x	45m	10.42.2.12	tpvm2	<none>		1/1	Running	0
pod/efa-api-docs-5886cb6fb4-h7lrb	45m	10.42.0.11	tpvm	<none>		1/1	Running	0
pod/gosnmp-service-56dc6c46c8-hd8nk	45m	10.20.255.114	tpvm2	<none>		0/1	Init:0/1	0
pod/gosnmp-service-56dc6c46c8-vbtbv	45m	10.20.255.230	tpvm	<none>		1/1	Running	0
pod/govcenter-service-6ff99bf8b8-dx2dk	45m	10.42.2.15	tpvm2	<none>		0/1	Init:0/2	0
pod/gohyperv-service-7f8d87d55-xspkg	45m	10.42.2.16	tpvm2	<none>		0/1	Init:0/2	0
pod/gosystem-service-67767c4796-n7rc4	45m	10.20.255.114	tpvm2	<none>		1/1	Running	0
pod/gosystem-service-67767c4796-l4w4m	45m	10.20.255.230	tpvm	<none>		1/1	Running	0
pod/rabbitmq-0	46m	10.42.0.6	tpvm	<none>		1/1	Running	0
pod/gorbac-service-69c665497b-bdlkh	45m	10.42.2.11	tpvm2	<none>		0/1	Init:1/2	0
pod/goauth-service-5fdd67574-5h4rx	45m	10.42.0.9	tpvm	<none>		1/1	Running	0
pod/gorbac-service-69c665497b-slkr2	45m	10.42.0.10	tpvm	<none>		1/1	Running	0
pod/goinventory-service-5c7f7b57c4-68b7w	45m	10.42.0.12	tpvm	<none>		1/1	Running	0
pod/gonotification-service-ffccd5bf6-755ld	45m	10.20.255.230	tpvm	<none>		1/1	Running	0
pod/goraslog-service-6d89f667bd-6d46n						1/1	Running	0

45m	10.20.255.114	tpvm2	<none>	<none>	
pod/gofabric-service-cb547d7db-nntlb				1/1	Running 0
45m	10.42.0.7	tpvm	<none>	<none>	
pod/gotenant-service-7db6648b97-6wdht				1/1	Running 0
45m	10.42.0.8	tpvm	<none>	<none>	
pod/goraslog-service-6d89f667bd-jgkww				1/1	Running 0
45m	10.20.255.230	tpvm	<none>	<none>	
pod/rabbitmq-1				1/1	Running 0
43m	10.42.2.17	tpvm2	<none>	<none>	
pod/govcenter-service-6ff99bf8b8-lvm46				1/1	Running 2
45m	10.42.0.14	tpvm	<none>	<none>	
pod/gohyperv-service-7f8d87d55-bqz1z				1/1	Running 2
45m	10.42.0.15	tpvm	<none>	<none>	

NAME	TYPE	CLUSTER-IP	EXTERNAL-
IP	AGE	SELECTOR	
service/rabbitmq	NodePort	10.43.215.4	<none>
15672:31672/TCP,5672:30672/TCP	46m	app=rabbitmq	
service/gofabric-service	ClusterIP	10.43.76.230	<none>
8081/TCP	46m	app=gofabric-service	
service/goinventory-service	ClusterIP	10.43.63.133	<none>
8082/TCP	46m	app=goinventory-service	
service/goinventory-cluster-service	ClusterIP	10.43.55.0	<none>
8082/TCP	46m	app=goinventory-service	
service/gotenant-service	ClusterIP	10.43.51.68	<none>
8083/TCP	46m	app=gotenant-service	
service/efa-api-docs	ClusterIP	10.43.243.140	<none>
80/TCP	46m	app=efa-api-docs	
service/goraslog-service	ClusterIP	10.43.207.123	<none>
8091/TCP	46m	app=goraslog-service	
service/gosnmp-service	ClusterIP	10.43.122.218	<none>
8092/TCP	46m	app=gosnmp-service	
service/gonotification-service	ClusterIP	10.43.95.30	<none>
8088/TCP	46m	app=gonotification-service	
service/goauth-service	ClusterIP	10.43.106.23	<none>
8080/TCP	46m	app=goauth-service	
service/gorbac-service	ClusterIP	10.43.10.15	<none>
8089/TCP	46m	app=gorbac-service	
service/govcenter-service	ClusterIP	10.43.25.206	<none>
8086/TCP	45m	app=govcenter-service	
service/gohyperv-service	ClusterIP	10.43.44.224	<none>
8087/TCP	45m	app=gohyperv-service	
service/gosystem-service	ClusterIP	10.43.210.54	<none>
8090/TCP	45m	app=gosystem-service	

NAME	READY	UP-TO-DATE	AVAILABLE
AGE	CONTAINERS	IMAGES	SELECTOR
deployment.apps/efa-api-docs	2/2	2	2
46m	efa-api-docs	efa-api-docs:2.4.0	app=efa-api-docs
deployment.apps/gosystem-service	2/2	2	2
45m	gosystem	gosystem:2.4.0	app=gosystem-service
deployment.apps/goraslog-service	2/2	2	2
45m	goraslog-service	goraslog:2.4.0	app=goraslog-service
deployment.apps/gosnmp-service	1/2	2	1
45m	gosnmp-service	gosnmp:2.4.0	app=gosnmp-service
deployment.apps/goauth-service	1/2	2	1
46m	go-auth	goauth:2.4.0	app=goauth-service
deployment.apps/gorbac-service	1/2	2	1
46m	go-rbac	gorbac:2.4.0	app=gorbac-service
deployment.apps/goinventory-service	1/2	2	1
46m	goinventory-service	goinventory:2.4.0	app=goinventory-service
deployment.apps/gonotification-service	1/2	2	1
46m	gonotification-service	gonotification:2.4.0	app=gonotification-service
deployment.apps/gofabric-service	1/2	2	1


```

46m  gofabric-service      gofabric:2.4.0      app=gofabric-service
deployment.apps/gotenant-service      1/2      2      1
46m  gotenant-service      gotenant:2.4.0      app=gotenant-service
deployment.apps/govcenter-service      1/2      2      1
45m  vcenter      govcenter:2.4.0      app=govcenter-service
deployment.apps/gohyperv-service      1/2      2      1
45m  hyperv      gohyperv:2.4.0      app=gohyperv-service

NAME                                DESIRED    CURRENT
READY  AGE    CONTAINERS      IMAGES      SELECTOR
replicaset.apps/efa-api-docs-5886cb6fb4      2          2          2          45m  efa-
api-docs      efa-api-docs:2.4.0      app=efa-api-docs,pod-template-hash=5886cb6fb4
replicaset.apps/gosnmp-service-56dc6c46c8      2          2
1      45m  gosnmp-service      gosnmp:2.4.0
app=gosnmp-service,pod-template-hash=56dc6c46c8
replicaset.apps/gosystem-service-67767c4796      2          2
2      45m  gosystem      gosystem:2.4.0
app=gosystem-service,pod-template-hash=67767c4796
replicaset.apps/goauth-service-5fdd67574      2          2
1      46m  go-auth      goauth:2.4.0
app=goauth-service,pod-template-hash=5fdd67574
replicaset.apps/gorbac-service-69c665497b      2          2
1      45m  go-rbac      gorbac:2.4.0
app=gorbac-service,pod-template-hash=69c665497b
replicaset.apps/goinventory-service-5c7f7b57c4      2          2
1      46m  goinventory-service      goinventory:2.4.0
app=goinventory-service,pod-template-hash=5c7f7b57c4
replicaset.apps/gonotification-service-ffccd5bf6      2          2
1      46m  gonotification-service      gonotification:2.4.0
app=gonotification-service,pod-template-hash=ffccd5bf6
replicaset.apps/gofabric-service-cb547d7db      2          2
1      46m  gofabric-service      gofabric:2.4.0
app=gofabric-service,pod-template-hash=cb547d7db
replicaset.apps/gotenant-service-7db6648b97      2          2
1      46m  gotenant-service      gotenant:2.4.0
app=gotenant-service,pod-template-hash=7db6648b97
replicaset.apps/goraslog-service-6d89f667bd      2          2
2      45m  goraslog-service      goraslog:2.4.0
app=goraslog-service,pod-template-hash=6d89f667bd
replicaset.apps/govcenter-service-6ff99bf8b8      2          2
1      45m  vcenter      govcenter:2.4.0
app=govcenter-service,pod-template-hash=6ff99bf8b8
replicaset.apps/gohyperv-service-7f8d87d55      2          2
1      45m  hyperv      gohyperv:2.4.0
app=gohyperv-service,pod-template-hash=7f8d87d55

NAME                                READY    AGE    CONTAINERS      IMAGES
statefulset.apps/rabbitmq      2/2      46m  rabbitmq-node      rabbitmq:2.4.0
(efa:extreme)extreme@tpvm:~$

```

The following example shows XCO db-status.

```

$ efactl db-status
• mariadb.service - MariaDB 10.4.17 database server
  Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor preset: enabled)
  Drop-In: /etc/systemd/system/mariadb.service.d
           └─migrated-from-my.cnf-settings.conf
  Active: active (running) since Thu 2022-04-28 09:37:31 PDT; 5h 50min ago
    Docs: man:mysqld(8)
           https://mariadb.com/kb/en/library/systemd/
  Process: 5355 ExecStartPost=/etc/mysql/debian-start (code=exited, status=0/SUCCESS)
  Process: 5349 ExecStartPost=/bin/sh -c systemctl unset-environment
  _WSREP_START_POSITION (code=exited, status=0/SUCCESS)
  Process: 4730 ExecStartPre=/bin/sh -c [ ! -e /usr/bin/galera_recovery ] && VAR= ||

```

```

VAR=`cd /usr/bin/..; /usr/bin/galera_recovery`; [ $?
  Process: 4719 ExecStartPre=/bin/sh -c systemctl unset-environment _WSREP_START_POSITION
(code=exited, status=0/SUCCESS)
  Process: 4717 ExecStartPre=/usr/bin/install -m 755 -o mysql -g root -d /var/run/mysql
d (code=exited, status=0/SUCCESS)
  Main PID: 4992 (mysqld)
    Status: "Taking your SQL requests now..."
    Tasks: 36 (limit: 4630)
    CGroup: /system.slice/mariadb.service
            └─4992 /usr/sbin/mysqld --wsrep_start_position=cd3b7a5b-
c670-11ec-9dbc-2e615cfda7d0:2502

Apr 28 09:37:24 tpvm2 systemd[1]: Starting MariaDB 10.4.17 database server...
Apr 28 09:37:27 tpvm2 mysqld[4730]: WSREP: Recovered position cd3b7a5b-
c670-11ec-9dbc-2e615cfda7d0:2502
Apr 28 09:37:27 tpvm2 mysqld[4992]: 2022-04-28 9:37:27 0 [Note] /usr/sbin/mysqld (mysqld
10.4.17-MariaDB-1:10.4.17+maria~bionic) starting
Apr 28 09:37:28 tpvm2 -wsrep-sst-joiner[5248]: Streaming with xstream
Apr 28 09:37:28 tpvm2 -wsrep-sst-joiner[5293]: Evaluating timeout -k 310 300 socat -u
TCP-LISTEN:4444,reuseaddr stdio | mbstream -x; RC=( $
Apr 28 09:37:31 tpvm2 -wsrep-sst-joiner[5312]: Removing the sst_in_progress file
Apr 28 09:37:31 tpvm2 systemd[1]: Started MariaDB 10.4.17 database server.

```

The following example shows XCO rabbit-status.

```

$ efactl rabbit-status
RABBITMQ_ERLANG_COOKIE env variable support is deprecated and will be REMOVED in a future
version. Use the $HOME/.erlang.cookie file or the --erlang-cookie switch instead.
Cluster status of node rabbit@rabbitmq ...
Basics

Cluster name: rabbit@rabbitmq

Disk Nodes

rabbit@rabbitmq

Running Nodes

rabbit@rabbitmq

Versions

rabbit@rabbitmq: RabbitMQ 3.8.14 on Erlang 23.3.2

Maintenance status

Node: rabbit@rabbitmq, status: not under maintenance

Alarms

(none)

Network Partitions

(none)

Listeners

Node: rabbit@rabbitmq, interface: [::], port: 15672, protocol: http, purpose: HTTP API
Node: rabbit@rabbitmq, interface: [::], port: 25672, protocol: clustering, purpose: inter-
node and CLI tool communication
Node: rabbit@rabbitmq, interface: [::], port: 5672, protocol: amqp, purpose: AMQP 0-9-1
and AMQP 1.0

```

Feature flags

```

Flag: drop_unroutable_metric, state: enabled
Flag: empty_basic_get_metric, state: enabled
Flag: implicit_default_bindings, state: enabled
Flag: maintenance_mode_status, state: enabled
Flag: quorum_queue, state: enabled
Flag: user_limits, state: enabled
Flag: virtual_host_metadata, state: enabled
extreme@tpvm2:~$ efactl db-status
● mariadb.service - MariaDB 10.4.17 database server
   Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor preset: enabled)
   Drop-In: /etc/systemd/system/mariadb.service.d
            └─migrated-from-my.cnf-settings.conf
   Active: active (running) since Thu 2022-04-28 09:37:31 PDT; 5h 43min ago
     Docs: man:mysqld(8)
            https://mariadb.com/kb/en/library/systemd/
   Process: 5355 ExecStartPost=/etc/mysql/debian-start (code=exited, status=0/SUCCESS)
   Process: 5349 ExecStartPost=/bin/sh -c systemctl unset-environment
   _WSREP_START_POSITION (code=exited, status=0/SUCCESS)
   Process: 4730 ExecStartPre=/bin/sh -c [ ! -e /usr/bin/galera_recovery ] && VAR= ||
   VAR=`cd /usr/bin/..; /usr/bin/galera_recovery`; [ $?
   Process: 4719 ExecStartPre=/bin/sh -c systemctl unset-environment _WSREP_START_POSITION
   (code=exited, status=0/SUCCESS)
   Process: 4717 ExecStartPre=/usr/bin/install -m 755 -o mysql -g root -d /var/run/mysqld
   (code=exited, status=0/SUCCESS)
   Main PID: 4992 (mysqld)
     Status: "Taking your SQL requests now..."
       Tasks: 36 (limit: 4630)
    CGroup: /system.slice/mariadb.service
            └─4992 /usr/sbin/mysqld --wsrep_start_position=cd3b7a5b-
c670-11ec-9dbc-2e615cfda7d0:2502

Apr 28 09:37:24 tpvm2 systemd[1]: Starting MariaDB 10.4.17 database server...
Apr 28 09:37:27 tpvm2 mysqld[4730]: WSREP: Recovered position cd3b7a5b-
c670-11ec-9dbc-2e615cfda7d0:2502
Apr 28 09:37:27 tpvm2 mysqld[4992]: 2022-04-28  9:37:27 0 [Note] /usr/sbin/mysqld (mysqld
10.4.17-MariaDB-1:10.4.17+maria~bionic) starting
Apr 28 09:37:28 tpvm2 -wsrep-sst-joiner[5248]: Streaming with xstream
Apr 28 09:37:28 tpvm2 -wsrep-sst-joiner[5293]: Evaluating timeout -k 310 300 socat -u
TCP-LISTEN:4444,reuseaddr stdio | mbstream -x; RC=( $
Apr 28 09:37:31 tpvm2 -wsrep-sst-joiner[5312]: Removing the sst_in_progress file
Apr 28 09:37:31 tpvm2 systemd[1]: Started MariaDB 10.4.17 database server.

```