Fabric in a Box with external Fabric edge

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A Fabric in a Box topology is a network architecture that

- combines border node, control plane, Fabric Edge, and wireless controller in a single device
- supports external Fabric Edge Nodes to extend network capabilities, and
- enables seamless integration and roaming of APs and clients across both internal and external nodes.

Beginning with Cisco IOS XE Amsterdam 17.2.1, the Fabric in a Box (FiaB) topology supports external Fabric Edge Nodes. External Fabric Edge Nodes increase port density and extend wireless reach by adding more APs.

Configure a Fabric profile (CLI)

Set up a wireless Fabric profile, assign a client L2-VNID, and add a description for organizational clarity using commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure the wireless Fabric profile parameters.

Example:

```
Device(config)# wireless profile fabric fabric-profile-name
```

Step 3 Configure client L2-VNID.

Example:

```
Device(config-wireless-fabric)# client-l2-vnid client-l2-vnid
```

Here, *client-l2-vnid* refers to the client L2-VNID value. The valid range is from 0 to 16777215.

Step 4 Add a description for the Fabric profile.

Example:

```
Device(config-wireless-fabric)# description description
```

Step 5 Return to the privileged EXEC mode.

Example:

```
Device(config-wireless-fabric)# end
```

Configure a policy profile (CLI)

Set up a wireless policy profile via commands to define AAA policy overrides, DHCP mode, local switching, and apply Fabric profiles for wireless networks.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure wireless policy profile and enter the wireless policy configuration mode.

Example:

```
Device(config)# wireless profile policy profile-policy
```

Note
In Fabric deployments, local mode, local authentication, and local association are not supported.

Step 3 Configure local DHCP mode, where the DHCP is performed in an AP.

Example:

```
Device(config-wireless-policy)# no central dhcp
```

Step 4 Configure a WLAN for local switching.

Example:

```
Device(config-wireless-policy)# no central switching
```

Step 5 Apply the Fabric profile.

Example:

```
Device(config-wireless-fabric)# fabric fabric-name
```

Step 6 Enable the policy profile.

Example:

```
Device(config-wireless-fabric)# no shutdown
```

Step 7 Return to the privileged EXEC mode.

Example:

```
Device(config-wireless-fabric)# end
```

Configure a site tag (CLI)

Set up a site tag and assign an AP profile to manage wireless APs using commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure site tag and enter the site tag configuration mode.

Example:

```
Device(config)# wireless tag site site-tag
```

Step 3 Assign an AP profile to the wireless site.

Example:

```
Device(config-site-tag)# ap-profile ap-profile-name
```

Step 4 Add a description to the AP profile.

Example:

```
Device(config-site-tag)# description description
```

Step 5 Return to the privileged EXEC mode.

Example:

```
Device(config-site-tag)# end
```

Configure a WLAN (CLI)

Configure a WLAN on your device using commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure a WLAN and enter the WLAN configuration submode.

Example:

```
Device(config)# wlan wlan-name wlan-id SSID-name
```

Step 3 Enable the WLAN.

Example:

```
Device(config-wlan)# no shutdown
```

Configure a policy tag (CLI)

Set up a policy tag, and map a policy profile to a WLAN profile using the device commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure policy tag and enter the policy tag configuration mode.

Example:

```
Device(config)# wireless tag policy policy-tag-name
```

Step 3 Map a policy profile to a WLAN profile.

Example:

```
Device(config-policy-tag)# wlan wlan-name policy profile-policy-name
```

Step 4 Return to the privileged EXEC mode.

Example:

```
Device(config-site-tag)# end
```

Configure an AP profile (CLI)

Set up an AP profile for managing APs with specific configuration parameters using commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Configure an AP profile and enter the AP profile configuration mode.

Example:

```
Device(config)# ap profile ap-profile-name
```

Step 3 Enter the AP configuration mode.

Example:

```
Device(config-ap-profile)# ap ap-ether-mac
```

Step 4 Specify the policy tag that is to be attached to the AP.

Example:

```
Device(config-ap-profile)# policy-tag policy-tag
```

Step 5 Return to the privileged EXEC mode.

Example:

```
Device(config-ap-profile)# end
```

Configure map server and AP subnet (CLI)

Enable SD-Access wireless features by configuring the map server and setting up AP subnet Layer 2 and Layer 3 VNIDs using commands.

Procedure

Step 1 Enter the global configuration mode.

Example:

```
Device# configure terminal
```

Step 2 Enable SD-Access wireless globally.

Example:

```
Device(config)# wireless fabric
```

Step 3 Configure AP subnet Layer 2 and Layer 3 VNIDs.

Example:

```
Device(config)# wireless fabric name name l2-vnid l2-vnid-value l3-vnid l3-vnid-value ip
network-ip subnet-mask
```

Step 4 Define client Layer 2 VNID AAA override.

Example:

```
Device(config)# wireless fabric name name l2-vnid l2-vnid-value
```

Step 5 Configure the control plane name.

Example:

```
Device(config)# wireless fabric control-plane name
```

Step 6 Configure the map server IP address and authentication key shared with the map server.

Example:

```
Device((config-wireless-cp)# ip address ip-address key shared-key
```

Step 7 Return to the privileged EXEC mode.

Example:

```
Device(config)# end
```

Alternatively, you can also press *Ctrl-Z* to exit global configuration mode.

Configure Fabric on FiaB node (CLI)

Enable Layer 2 and Layer 3 network services on a FiaB node, configure address resolution, and facilitate secure locator discovery using commands.

Procedure

Step 1 Enter the global configuration mode. Enter the LISP configuration mode. Associate a default Virtual Routing and Forwarding (VRF) table through which the routing locator address space is reachable to a router Locator ID Separation Protocol (LISP) instantiation. Specify a named locator set and enter the LISP locator-set configuration mode. Specify an IP address of loopback or other egress tunnel router (ETR) interface. Exit the LISP locator-set configuration mode. Specify an existing locator set and enter the LISP locator-set configuration mode. Configure a locator address by creating a locator entry.

Example:

```
FiaB# configure terminal
FiaB(config)# router lisp
FiaB(config-router-lisp)# locator-table default
FiaB(config-router-lisp)# locator-set locator-set-name
FiaB(config-router-lisp-locator-set)# ip-address
FiaB(config-router-lisp-locator-set)# exit-locator-set
FiaB(config-router-lisp)# locator-set rloc_loopback
```

Step 2 Configure the ETR to auto discover the locators registered by other xTRs. (Ingress tunnel router (ITR) and an ETR are known as an xTR.). Exit LISP locator-set configuration mode. Enable Layer 3 network services for the IPv4 address family and enter the service submode. Configure VXLAN as encapsulation type for data packets. Configure map resolver address for sending map requests. Configure the map server for ETR registration. Configure a LISP ETR.

Example:

```
FiaB(config-router-lisp-locator-set)# IPv4-interface interface
FiaB(config-router-lisp-locator-set)# auto-discover-rlocs
FiaB(config-router-lisp-locator-set)# exit-locator-set
FiaB(config-router-lisp)# service ipv4
FiaB(config-lisp-srv-ipv4)# encapsulation vxlan
FiaB(config-lisp-srv-ipv4)# itr map-resolver map-resolver-address
FiaB(config-lisp-srv-ipv4)# etr map-server map-server-address key key-type authentication-key
```

Step 3 Enable security group tag propagation in LISP-encapsulated traffic. Remove the address family-specific map cache configuration. Enable the Proxy Ingress Tunnel Router (PITR) functionality and specify the address to use when LISP encapsulating packets to LISP sites. Configure a LISP map server. Configure a LISP map resolver. Export table entries into the map cache, with the action set to send-map-request. Export LISP site registrations to the routing information base (RIB).

Example:

```
FiaB(config-lisp-srv-ipv4)# etr
FiaB(config-lisp-srv-ipv4)# sgt
FiaB(config-lisp-srv-ipv4)# no map-cache away-eids send-map-request
FiaB(config-lisp-srv-ipv4)# proxy-itr ip-address
FiaB(config-lisp-srv-ipv4)# map-server
FiaB(config-lisp-srv-ipv4)# map-resolver
FiaB(config-lisp-srv-ipv4)# map-cache away-eids send-map-request
```

Step 4 Configure LISP installed routes of type site registrations. Install the map cache to a map request for site registrations. Exit LISP service-ipv4 configuration mode. Select service type as Ethernet and enter the service submode. Configure the maximum number of dynamic local endpoint identifier (EID) prefix database entries. Configure the map-resolver address for sending map requests.

Example:

```
FiaB(config-lisp-srv-ipv4)# route-export site-registrations
FiaB(config-lisp-srv-ipv4)# distance site-registrations number
FiaB(config-lisp-srv-ipv4)# map-cache site-registration
```

```
FiaB(config-lisp-srv-ipv4)# exit-service-ipv4
FiaB(config-router-lisp)# service ethernet
FiaB(config-lisp-srv-eth)# database-mapping limit dynamic limit
FiaB(config-lisp-srv-eth)# itr map-resolver map-resolver-address
```

Step 5 Enable the LISP ITR functionality. Configure a map server for ETR registration. Enable the LISP ETR functionality. Enable the LISP map server functionality. Enable the LISP map resolver functionality. Exit LISP service-ethernet configuration mode. Create a LISP EID instance to group multiple services.

Example:

```
FiaB(config-lisp-srv-eth)# itr
FiaB(config-lisp-srv-eth)# etr map-server map-server-address key key-type authentication-key
FiaB(config-lisp-srv-eth)# etr
FiaB(config-lisp-srv-eth)# map-server
FiaB(config-lisp-srv-eth)# map-resolver
FiaB(config-lisp-srv-eth)# exit-service-ethernet
FiaB(config-router-lisp)# instance-id instance
```

Step 6 Configure the parameters for probing of remote routing locators (RLOCs). Configure a dynamic EID and enter the dynamic EID configuration mode. Configure EID prefix and locator-set for dynamic EID. Exit LISP dynamic-eid configuration mode. Exit LISP instance-id configuration mode. Create a LISP EID instance to group multiple services. Configure parameters for probing remote RLOCs.

Example:

```
FiaB(config-lisp-inst)# remote-rloc-probe on-route-change
FiaB(config-lisp-inst)# dynamic-eid dynamic-eid-name
FiaB(config-router-lisp-dynamic-eid)# database-mapping eid locator-set rloc_loopback
FiaB(config-router-lisp-dynamic-eid)# exit-dynamic-eid
FiaB(config-router-lisp-instance)# exit-instance-id
FiaB(config-router-lisp)# instance-id instance
FiaB(config-lisp-inst)# remote-rloc-probe on-route-change
```

Step 7 Enable Layer 2 network services and enter the service submode. Bind an EID table to VLAN. Configure an address family-specific local EID prefixes database. Exit LISP service-ethernet configuration mode. Exit LISP instance-id configuration mode. Configure a map server with open passive TCP sockets to listen for incoming connections.

Example:

```
FiaB(config-lisp-inst)# service ethernet
FiaB(config-lisp-inst-srv-eth)# eid-table vlan vlan-number
FiaB(config-lisp-inst-srv-eth)# database-mapping mac locator-set rloc_loopbac
FiaB(config-lisp-inst-srv-eth)# exit-service-ethernet
FiaB(config-lisp-inst)# exit-instance-id
FiaB(config-router-lisp)# map-server session passive-open server
```

Step 8 Configure a LISP site on a map server. Specify a description text for the LISP site. Configure the authentication key used by the LISP site.

Example:

```
FiaB(config-router-lisp)# site site-name
FiaB(config-router-lisp-site)# description map-server-description
FiaB(config-router-lisp-site)# authentication-key key
```

Step 9 Accept registrations, if any, for Layer 2 EID records. Exit LISP site configuration mode. Configure the IPv4 locator address of the LISP. Configure the IPv4 source locator address of the interface. Exit LISP router-lisp configuration mode.

Example:

```
FiaB(config-router-lisp-site)# eid-record instance-id instance-id address
accept-more-specifics
FiaB(config-router-lisp-site)# eid-record instance-id instance-id any-mac
FiaB(config-router-lisp-site)# exit-site
FiaB(config-router-lisp)# ipv4 locator reachability exclude-default
FiaB(config-router-lisp)# ipv4 source-locator interface-name
FiaB(config-router-lisp)# exit-router-lisp
```

Configure a Fabric Edge Node (CLI)

Set up a Fabric Edge Node with essential configurations for LISP operation, routing, and interface management using commands.

Note You can perform these configuration tasks only from Fabric Edge Node, and not from your controller.

Procedure

Step 1 Enter the global configuration mode. Enter the LISP configuration mode. Associate a default VRF table through which the routing locator address space is reachable to a router LISP instantiation. Specify a named locator set and enters LISP locator-set configuration mode. Configure the IPv4 address of the interface as locator. Exit the LISP locator-set configuration mode. Exit the LISP router-lisp configuration mode.

Example:

```
FabricEdge# configure terminal
FabricEdge(config)# router lisp
FabricEdge(config-router-lisp)# locator-table default
FabricEdge(config-router-lisp)# locator-set rloc_loopback
FabricEdge(config-router-lisp-locator-set)# IPv4-interface interface-num priority priority
 weight weight
FabricEdge(config-router-lisp-locator-set)# exit-locator-set
FabricEdge(config-router-lisp-)# exit-router-lisp
```

Step 2 Configure an interface. Specify a description text for the interface. Set an interface MAC address manually. Configure an IP address for the interface. Specify a destination address for UDP broadcasts. Disable sending of ICMP redirect messages. Enable fast-switching cache for outgoing packets on the same interface.

Example:

```
FabricEdge(config)# interface Vlan interface-num
FabricEdge(config-if)# description description
FabricEdge(config-if)# mac-address mac-address
FabricEdge(config-if)# ip address ip-address mask
FabricEdge(config-if)# ip helper-address ip-address
FabricEdge(config-if)# no ip redirects
FabricEdge(config-if)# ip route-cache same-interface
```

Step 3 Remove liveness test on dynamic EID discovered on this interface. Allow EID mobility on the interface. Exit from the interface configuration mode. Enter the LISP configuration mode. Specify a locator set and enter the LISP locator-set configuration mode. Exit the LISP locator-set configuration mode. Enable Layer 3 network services for the IPv4 address family and enter the service submode.

Example:

```
FabricEdge(config-if)# no lisp mobility liveness test
FabricEdge(config-if)# lisp mobility dynamic-eid-name
FabricEdge(config-if)# exit
FabricEdge(config)# router lisp
FabricEdge(config-router-lisp)# locator-set locator-set-name
FabricEdge(config-router-lisp-locator-set)# exit-locator-set
FabricEdge(config-router-lisp)# service ipv4
```

Step 4 Configure the loopback IP address of the Proxy Egress Tunnel Router (PETR). Select the encapsulation type as VXLAN for data packets. Configure the map resolver address for sending map requests. Configure the map server for ETR registration. Configure the locator address of the LISP map server and the authentication key that this router, acting as a LISP ETR, will use to register with the LISP mapping system. Configure a LISP Egress Tunnel Router (ETR).

Example:

```
FabricEdge(config-lisp-srv-ipv4)# use-petr ip-address
FabricEdge(config-lisp-srv-ipv4)# encapsulation vxlan
FabricEdge(config-lisp-srv-ipv4)# itr map-resolver map-resolver-address
FabricEdge(config-lisp-srv-ipv4)# etr map-servermap-server-address key key-type
authentication-key
FabricEdge(config-lisp-srv-ipv4)# etr map-servermap-server-address proxy-reply
authentication-key
FabricEdge(config-lisp-srv-ipv4)# etr
```

Step 5 Enable security group tag propagation in LISP encapsulated traffic. Remove the address family-specific map cache configuration. Enable the Proxy Ingress Tunnel Router (PITR) functionality and specify the address to use when LISP encapsulating packets to LISP sites. Exit LISP service-ipv4 configuration mode. Select the service type as Ethernet. Configure the map-resolver address for sending map requests.

Example:

```
FabricEdge(config-lisp-srv-ipv4)# sgt
FabricEdge(config-lisp-srv-ipv4)# no map-cache away-eids send-map-request
FabricEdge(config-lisp-srv-ipv4)# proxy-itr ip-address
FabricEdge(config-lisp-srv-ipv4)# exit-service-ipv4
FabricEdge(config-router-lisp)# service ethernet
FabricEdge(config-lisp-srv-eth)# itr map-resolver map-resolver-address
```

Step 6 Enable the LISP ITR functionality. Configure the map server for ETR registration. Enable the LISP ETR functionality. Exit the LISP service-ethernet configuration mode. Create a LISP EID instance to group multiple services. Configure the parameters for probing remote Routing locators (RLOCs).

Example:

```
FabricEdge(config-lisp-srv-eth)# itr
FabricEdge(config-lisp-srv-eth)# etr map-server map-server-address key key-type
authentication-key
FabricEdge(config-lisp-srv-eth)# etr
FabricEdge(config-lisp-srv-eth)# exit-service-ethernet
FabricEdge(config-router-lisp)# instance-id instance
FabricEdge(config-lisp-inst)# remote-rloc-probe on-route-change
```

Step 7 Configure a dynamic EID and enter the dynamic EID configuration mode. Configure the EID prefix and locator set for the dynamic EID. Exit dynamic instance submode. Select service type as IPv4. Bind an EID table. Exit the LISP service-ipv4 configuration mode. Exit the LISP instance-id configuration mode.

Example:

```
FabricEdge(config-lisp-inst)# dynamic-eid dynamic-eid-name
FabricEdge(config-router-lisp-dynamic-eid)# database-mapping eid locator-set rloc_loopback
FabricEdge(config-router-lisp-dynamic-eid)# exit-instance-id
FabricEdge(config-lisp-inst)# service ipv4
FabricEdge(config-lisp-inst-srv-ipv4)# eid-table default
FabricEdge(config-lisp-inst-srv-ipv4)# exit-service-ipv4
FabricEdge(config-lisp-inst)# exit-instance-id
```

Step 8 Select service type as IPv4. Export away table entries into the map cache, with the action set to send-map-request. Exit LISP service-ipv4 configuration mode. Create a LISP EID instance to group multiple services. Configure parameters for probing remote RLOCs. Enable Layer 2 network services and enter the service submode. Bind an EID table to VLAN.

Example:

```
FabricEdge(config-router-lisp)# service ipv4
FabricEdge(config-lisp-srv-ipv4)# map-cache away-eids map-request
FabricEdge(config-lisp-srv-ipv4)# exit-service-ipv4
FabricEdge(config-router-lisp)# instance-id instance
FabricEdge(config-lisp-inst)# remote-rloc-probe on-route-change
FabricEdge(config-lisp-inst)# service ethernet
FabricEdge(config-lisp-inst-srv-eth)# eid-table vlan vlan-number
```

Step 9 Configure address family-specific local EID prefixes database. Exit LISP service-ethernet configuration mode. Exit from LISP instance-id configuration mode. Configure the IPv4 locator address of the LISP. Configure the IPv4 source locator address of the interface. Exit the LISP router-lisp configuration mode.

Example:

```
FabricEdge(config-lisp-inst-srv-eth)# database-mapping mac locator-set rloc_loopbac
FabricEdge(config-lisp-inst-srv-eth)# exit-service-ethernet
FabricEdge(config-lisp-inst)# exit-instance-id
FabricEdge(config-router-lisp)# ipv4 locator reachability minimum-mask-length length
FabricEdge(config-router-lisp)# ipv4 source-locator interface-name
FabricEdge(config-router-lisp)# exit-router-lisp
```

Verify Fabric configuration

Use these commands to verify the Fabric configuration.

To verify the LISP configuration on a device, use this command:

```
FabricEdge# show running-config | section router lisp

router lisp
locator-table default
locator-set default
exit-locator-set
 !
locator-set rloc_loopback
IPv4-interface Loopback0 priority 10 weight 10
exit-locator-set
 !
locator default-set rloc_loopback
service ipv4
encapsulation vxlan
itr map-resolver 21.21.21.21
itr
etr map-server 21.21.21.21 key tasman
etr map-server 21.21.21.21 proxy-reply
etr
use-petr 21.21.21.21 priority 1 weight 100
exit-service-ipv4
 !
service ethernet
itr map-resolver 5.5.5.5
itr map-resolver 21.21.21.21
itr
etr map-server 21.21.21.21 key tasman
etr map-server 21.21.21.21 proxy-reply
etr
exit-service-ethernet
 !
instance-id 0
loc-reach-algorithm lsb-reports ignore
dynamic-eid eid_10_56_25
database-mapping 10.56.25.0/24 locator-set rloc_loopback
exit-dynamic-eid
  !
```

```
service ipv4
eid-table default
database-mapping 26.26.26.26/32 locator-set rloc_loopback
exit-service-ipv4
  !
exit-instance-id
 !
instance-id 1
service ethernet
eid-table vlan 25
flood arp-nd
database-mapping mac locator-set rloc_loopback
exit-service-ethernet
  !
exit-instance-id
 !
instance-id 101
service ipv4
exit-service-ipv4
  !
exit-instance-id
 !
instance-id 8188
  exit-instance-id
 !
loc-reach-algorithm lsb-reports ignore
exit-router-lisp
```

To verify the operational status of LISP as configured on a device, use this command:

```
FabricEdge# show ip lisp

Information applicable to all EID instances:
Router-lisp ID:                          0
Locator table:                           default
Ingress Tunnel Router (ITR):             enabled
Egress Tunnel Router (ETR):              enabled
Proxy-ITR Router (PITR):                 disabled
Proxy-ETR Router (PETR):                 disabled
NAT-traversal Router (NAT-RTR):          disabled
Mobility First-Hop Router:               disabled
Map Server (MS):                         disabled
Map Resolver (MR):                       disabled
Mr-use-petr:                             disabled
Delegated Database Tree (DDT):           disabled
Publication-Subscription:                enabled
Publisher(s):                           *** NOT FOUND ***
ITR Map-Resolver(s):                     21.21.21.21
ETR Map-Server(s):                       21.21.21.21
xTR-ID:                                  0xD89893A6-0x98749B2C-0x89810431-0x92F33C9C
site-ID:                                 unspecified
ITR local RLOC (last resort):            *** NOT FOUND ***
ITR use proxy ETR RLOC(Encap IID):       21.21.21.21
ITR Solicit Map Request (SMR):           accept and process
Max SMRs per map-cache entry:           8 more specifics
Multiple SMR suppression time:          20 secs
ETR accept mapping data:                 disabled, verify disabled
ETR map-cache TTL:                       1d00h
Locator Status Algorithms:
RLOC-probe algorithm:                   disabled
RLOC-probe on route change:             N/A (periodic probing disabled)
RLOC-probe on member change:            disabled
LSB reports:                            ignore
IPv4 RLOC minimum mask length:          /0
IPv6 RLOC minimum mask length:          /0
```

```
Map-cache:
Map-cache limit:                        32768
Map-cache activity check period:        60 secs
Persistent map-cache:                   disabled
Source locator configuration:
GigabitEthernet1/0/1: 24.24.24.24 (Loopback0)
Vlan25: 24.24.24.24 (Loopback0)
Database:
Dynamic database mapping limit:         25000
```

To verify the operational status of the map cache on a device configured as an ITR or PITR, use this command:

```
FabricEdge# show lisp instance-id iid ipv4 map-cache

LISP IPv4 Mapping Cache for EID-table default (IID 0), 5 entries
0.0.0.0/0, uptime: 2w5d, expires: never, via static-send-map-request
  Encapsulating to proxy ETR
10.56.25.0/24, uptime: 2w0d, expires: never, via dynamic-EID, send-map-request
  Encapsulating to proxy ETR
10.56.25.25/32, uptime: 2w5d, expires: 23:10:06, via map-reply, complete
  Locator      Uptime    State  Pri/Wgt     Encap-IID
  21.21.21.21  2w5d      up       0/0         -
22.0.0.0/8, uptime: 2w5d, expires: 00:04:54, via map-reply, forward-native
  Encapsulating to proxy ETR
26.26.26.26/32, uptime: 09:48:33, expires: 14:11:26, via map-reply, self, complete
  Locator      Uptime    State     Pri/Wgt     Encap-IID
  24.24.24.24  09:48:33  up, self   50/50        -
```

To verify the operational status of the database mapping on a device configured as an ETR, use this command:

```
FabricEdge# show lisp instance-id iid ipv4 database

LISP ETR IPv4 Mapping Database for EID-table default (IID 0), LSBs: 0x1
Entries total 3, no-route 0, inactive 0
10.56.25.27/32, dynamic-eid eid_10_56_25, skip reg, inherited from default locator-set
rloc_loopback
  Uptime: 00:25:11, Last-change: 00:25:11
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
10.56.25.67/32, dynamic-eid eid_10_56_25, inherited from default locator-set rloc_loopback
  Uptime: 00:24:47, Last-change: 00:24:47
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
26.26.26.26/32, locator-set rloc_loopback
  Uptime: 2w5d, Last-change: 00:50:36
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
```

To verify the configured LISP sites on a LISP map server, use this command:

```
FabricEdge# show lisp instance-id iid ipv4 server

LISP Site Registration Information
* = Some locators are down or unreachable
# = Some registrations are sourced by reliable transport
Site Name      Last      Up     Who Last             Inst     EID Prefix
               Register         Registered           ID
eca            never     no     --                   0        10.56.25.0/24
               04:52:53  yes#   21.21.21.21:40875    0        10.56.25.25/32
               04:07:09  yes#   27.27.27.27:24949    0        10.56.25.64/32
               03:21:16  yes#   24.24.24.24:23672    0        10.56.25.67/32
               04:52:53  yes#   21.21.21.21:40875    0        23.23.23.23/32
               03:47:04  yes#   24.24.24.24:23672    0        26.26.26.26/32
```

```
              2w0d      yes#   27.27.27.27:24949    0        29.29.29.29/32
site_uci      never     no     --                   4097     0.0.0.0/0
```

To verify the operational status of LISP sites, use this command in FiaB node:

```
FabricEdge# show lisp instance-id 1 ethernet server

================================================
Output for router lisp 0 instance-id 1
================================================
LISP Site Registration Information
================================================
Output for router lisp 0 instance-id 1
================================================
LISP Site Registration Information
* = Some locators are down or unreachable
# = Some registrations are sourced by reliable transport
Site Name      Last      Up     Who Last             Inst     EID Prefix
               Register         Registered           ID
eca            never     no     --                   1        any-mac
               04:10:37  yes#   27.27.27.27:24949    1        00b0.e19c.2578/48
               04:09:20  yes#   22.22.22.22:64083    1        00b0.e19c.fc40/48
               03:24:52  yes#   24.24.24.24:23672    1        dcce.c130.0b70/48
               03:23:39  yes#   22.22.22.22:64083    1        dcce.c130.9820/48
```

To verify the operational status of LISP sites, use this command in FiaB node:

```
FabricEdge# show lisp instance-id 0 ipv4 server

LISP Site Registration Information
* = Some locators are down or unreachable
# = Some registrations are sourced by reliable transport
Site Name      Last      Up     Who Last             Inst     EID Prefix
               Register         Registered           ID
eca            never     no     --                   0        10.56.25.0/24
               6d18h     yes#   21.21.21.21:40875    0        10.56.25.25/32
               01:23:56  yes#   27.27.27.27:24949    0        10.56.25.64/32
               00:24:40  yes#   24.24.24.24:23672    0        10.56.25.72/32
               6d18h     yes#   21.21.21.21:40875    0        23.23.23.23/32
               6d17h     yes#   24.24.24.24:23672    0        26.26.26.26/32
               3w0d      yes#   27.27.27.27:24949    0        29.29.29.29/32
```

To verify the operational status of LISP sites on IPv4 database, use this command in Fabric Edge Node:

```
FabricEdge# show lisp instance-id 0 ipv4 database

LISP ETR IPv4 Mapping Database for EID-table default (IID 0), LSBs: 0x1
Entries total 3, no-route 0, inactive 0
10.56.25.27/32, dynamic-eid eid_10_56_25, skip reg, inherited from default locator-set
rloc_loopback
  Uptime: 00:25:54, Last-change: 00:25:54
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
10.56.25.72/32, dynamic-eid eid_10_56_25, inherited from default locator-set rloc_loopback
 Uptime: 00:25:25, Last-change: 00:25:25
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
26.26.26.26/32, locator-set rloc_loopback
  Uptime: 3w5d, Last-change: 6d17h
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
```

To verify the operational status of LISP sites on mac mapping database, use this command on the FE node:

```
FabricEdge# show lisp instance-id 1 ethernet database

LISP ETR MAC Mapping Database for EID-table Vlan 25 (IID 1), LSBs: 0x1
Entries total 2, no-route 0, inactive 0
cc98.911b.73f1/48, dynamic-eid Auto-L2-group-1, skip reg, inherited from default locator-set
 rloc_loopback
  Uptime: 00:00:49, Last-change: 00:00:49
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
dcce.c130.0b70/48, dynamic-eid Auto-L2-group-1, inherited from default locator-set
rloc_loopback
  Uptime: 00:00:50, Last-change: 00:00:50
  Domain-ID: unset
  Locator      Pri/Wgt  Source     State
  24.24.24.24   10/10   cfg-intf   site-self, reachable
```