LISP Show Commands

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show ip lisp

To display the IPv4 Locator ID Separation Protocol (LISP) configuration status, use the **show ip lisp** command in privileged EXEC mode.

show ip lisp [*router-lisp-id*]

Syntax Description

router-lisp-id	(Optional) Router LISP instantiation ID. Valid values are 0 to 15.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB	This command was introduced.
15.1(1)XB1	This command was modified.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
15.1(1)XB2	This command was modified.
Cisco IOS XE Release 2.5.1XB	This command was modified.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M and modified to include the **locator-table** keyword.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S and modified to include the **locator-table** keyword.

Usage Guidelines

When used without the optional router LISP ID value, the **show ip lisp** command displays the IPv4 LISP configuration status for the local device for the default router LISP instantiation. When the *router-lisp-id* argument is used, the command displays the IPv4 LISP configuration status for the specified router LISP instantiation.

Examples

The following sample output from the **show ip lisp** command displays information about the current IPv4 LISP configuration status. The output varies, depending on the LISP features configured.

```
Router# show ip lisp

Instance ID:                    0
  Ingress Tunnel Router (ITR):   enabled
  Egress Tunnel Router (ETR):    enabled
```

```
  Proxy-ITR Router (PITR):       disabled
  Proxy-ETR Router (PETR):       disabled
  Map Server (MS):               disabled
  Map Resolver (MR):             disabled
  Map-Request source:            10.0.2.1
  ITR Map-Resolver:              10.0.100.2
  ETR Map-Server(s):             10.0.100.2 (00:00:37)
  ITR Solicit Map Request (SMR): accept and process
     Max SMRs per map-cache entry:    8 more specifics
     Multiple SMR suppression time:   60 secs
  ETR accept mapping data:         disabled, verify disabled
  ETR map-cache TTL:             1d00h
  Locator Status Algorithms:
     RLOC-probe algorithm:       disabled
  Static mappings configured:    0
  Map-cache size/limit:          1/1000
  Map-cache activity check period: 60 secs
  Map-database size:             1
  Persistent map-cache:          interval 00:10:00
     Earliest next store:        00:05:28
     Location: flash:LISP-MapCache-IPv4-00000000-00030
Router#
```

The table below describes the significant fields shown in the display.

Table 1: show ip lisp Field Descriptions

Field	Description
Ingress Tunnel Router (ITR)	Indicates whether the router is configured as an ITR. See the **ipv4 itr** command.
Egress Tunnel Router (ETR)	Indicates whether the router is configured as an ETR. See the **ipv4 etr** command.
Proxy-ITR (PITR)	Indicates whether the router is configured as a PITR. See the **ipv4 proxy-itr** command.
Proxy-ETR (PETR)	Indicates whether the router is configured as a PETR. See the **ipv4 proxy-etr** command.
Map Server (MS)	Indicates whether the router is configured as a map server. See the **ipv4 map-server** command.
Map Resolver (MR)	Indicates whether the router is configured as a map resolver. See the **ipv4 map-resolver** command. .
Map-Request source	Identifies the IPv4 address used as the source in Map Request messages.
ITR Map-Resolver	Identifies the configured ITR map resolver. See the **ipv4map-resolver** command.
ETR Map-Server(s)	Identifies the configured ETR map servers. See the **ipv4 map-server** command.
ITR Solicit Map Request (SMR)	Indicates whether SMRs are accepted and processed. See the **ipv4 solicit-map-request**) command.

Field	Description
ETR accept mapping data	Indicates whether the ETR is configured to cache the mapping data contained in a map request. See the **ipv4 etr accept-map-request-mapping** command.
ETR map-cache TTL	Identifies the current ETR map cache time-to-live (TTL) value. See the **ipv4 etr map-cache-ttl** command.
Locator Status Algorithms	Indicates whether the locator reachability algorithm routing locator (RLOC) probing is enabled. See the **loc-reach-algorithm** command.
Static mappings configured	Indicates the number of static cache-map entries configured. See the **map-cache** command.
Map-cache size/limit	Indicates the number of entries currently in the map cache and indicates the limit value. See the **ipv4 map-cache-limit** command.
Map-cache activity check period	Indicates how often the control plane checks the map cache for outbound usage activity.
Map-database size	Indicates the number of entries currently in the map database. See the **database-mapping** .
Persistent map-cache	Indicates the persistent map-cache timer interval, next use, and storage location. See the **ipv4 map-cache-persistent** command.
ITR use proxy ETR RLOC configuration	Indicates that the router uses PETR services, and lists the PETR locator. See the **ipv4 use-petr** command.

The following sample output from the **show ip lisp** command displays information about the current IPv4 LISP configuration status when a LISP instantiation has been created using the **router lisp** *id* command and the **locator-table** command. Below, the results shown are based on router lisp 6 and locator-table vrf Cust-1. (Other output varies depending on the LISP features configured.)

```
Router# show ip lisp 6

Information applicable to all EID instances:
Router-lisp ID:              6
Locator table:               vrf Cust-1
Ingress Tunnel Router (ITR): enabled
Egress Tunnel Router (ETR):  enabled
---<more>---
```

Related Commands

Command	Description
database-mapping	Configure an IPv4 or IPv6 EID-to-RLOC mapping relationship and its associated traffic policy for LISP.
eid-table	Configures a LISP instance ID for association with a VRF table or default table through which the EID address space is reachable.
ip lisp source-locator	Configures a source locator to be used for an IPv4 LISP-encapsulated packets.
ipv4 etr	Configures the router to act as an IPv4 LISP ETR.
ipv4 etr accept-map-request-mapping	Configures an ETR to cache IPv4 mapping data contained in a map-request message.
ipv4 etr map-cache-ttl	Configures the TTL value inserted into LISP IPv4 map-reply messages.
ipv4 etr map-server	Configures the IPv4 or IPv6 locator address of the LISP map server to be used by the ETR when registering for IPv4 EIDs.
ipv4 itr	Configures the router to act as an IPv4 LISP ITR.
ipv4 itr map-resolver	Configures the IPv4 locator address of the LISP map resolver to be used by the ITR when sending map requests for IPv4 EID-to-RLOC mapping resolution.
ipv4 map-cache-limit	Configures the maximum number of IPv4 LISP map-cache entries allowed to be stored by the router.
ipv4 map-cache-persistent	Configures how often, in minutes, that an ITR should save its dynamically learned map-cache entries to a file in flash.
ipv4 map-resolver	Configures a router to act as an IPv4 LISP map resolver.
ipv4 map-server	Configures a router to act as an IPv4 LISP map server.
ipv4 solicit-map-request ignore	Configures an ITR to ignore an IPv4 Map Request message that has the solicit-map-request (SMR) bit set.
ipv4 proxy-etr	Configures the router to act as an IPv4 LISP PETR.
ipv4 proxy-itr	Configures the router to act as an IPv4 LISP PITR.

Command	Description
ipv4 use-petr	Configures a router to use a LISP PETR.
locator-table	Configure the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.
map-cache	Configures a static IPv4 or IPv6 EID-to-RLOC mapping relationship and its associated traffic policy, or statically configures the packet handling behavior associated with a specified destination IPv4 or IPv6 EID prefix.
router lisp	Enters LISP configuration mode and configures LISP commands on a router.
show ip lisp locator-table	Displays the IPv4 LISP ETR configured local IPv4 EID prefixes and associated locator sets.

show ip lisp database

To display Locator/ID Separation Protocol (LISP) Egress Tunnel Router (ETR) configured local IPv4 EID prefixes and associated locator sets, use the **show ip lisp database** command in privileged EXEC mode.

show ip lisp database[*EID-prefix*]

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used on LISP ETR devices to display the configured local IPv4 EID prefixes and associated locator sets.

Examples

The following sample output from the **show ip lisp database**command displays the configured IPv4 EID-prefix blocks and associated locator sets. The output of this command shows the configured IPv4 endpoint identifier-to-routing locator (EID-to-RLOC) database mappings.

```
Router# show running-config
.
.
.
!
database-mapping 172.16.21.0/24 192.168.156.222 priority 1 weight 100

Router# show ip lisp database

LISP ETR IPv4 Mapping Database

EID-prefix: 172.16.21.0/28
  192.168.156.222, priority: 1, weight: 100, state: up, local
```

Related Commands

Command	Description
database-mapping	Configures an IPv6 EID-to-RLOC mapping relationship and its associated traffic policy.

show ip lisp forwarding

To display Locator/ID Separation Protocol (LISP) IPv4 EID-prefix information, use the **show ip lisp forwarding** command in privileged EXEC mode.

show ip lisp forwarding {**eid** {**local**| **remote** [*eid-profix* | **detail**]}| **state**}

Syntax Description

eid	Displays information related to EID prefixes (local or remote)
local	Displays locally configured EID prefixes.
remote	Displays forwarding action and locator status bits for dynamically learned EID-prefix blocks, and the number of packets and total bytes encapsulated
eid-prefix	(Optional) The specific remote EID prefix for which associated detailed information is displayed.
detail	(Optional) Displays detailed information associated with each remote EID prefix.
state	Displays information about the LISP module forwarding state

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB	This command was introduced.
15.1(1)XB1	This command was modified.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display information for either local or remote IPv4 EID prefixes. Local IPv4 EID prefixes are those for which the router is authoritative and added via the **database-mapping** command. Remote

IPv4 EID prefixes are for remote sites and learned dynamically through map-reply information or via map-request messages when the **ipv4 etr accept-map-request-mapping** command is configured.

Examples

The following sample output from the **show ip lisp forwarding eid local** command displays local IPv4 EID-prefix information.

```
Router# show ip lisp forwarding eid local

Prefix
192.168.1.0/24
192.168.100.0/24
```

The following sample output from the **show ip lisp forwarding eid remote** command displays summary remote IPv4 EID prefix information when the keyword **detail** is not used. The display shows EID prefix, associated locator status bits, and total encapsulated packets and bytes for each remote IPv4 EID prefix.

```
Router# show ip lisp forwarding eid remote

Prefix                Fwd action  Locator status bits
0.0.0.0/0             signal      0x00000000
  packets/bytes       1/86
192.168.2.0/24        encap       0x00000003
  packets/bytes       4/344
192.168.3.0/24        encap       0x00000003
  packets/bytes       5/430
```

The following sample output from the **show ip lisp forwarding eid remote detail** command displays detailed remote IPv4 EID-prefix information by adding the **detail** keyword. The display shows EID prefix, associated locator status bits, and total encapsulated packets and bytes for each remote IPv4 EID-prefix.

```
Router# show ip lisp forwarding eid remote detail

Prefix                Fwd action  Locator status bits
0.0.0.0/0             signal      0x00000000
  packets/bytes       1/86
  path list 060A4690, flags 0x49, 3 locks, per-destination
  ifnums:
   LISP0(14)
  1 path
    path 060A4DF0, path list 060A4690, share 1/1, type attached prefix, for IPv4
    attached to LISP0, adjacency glean for LISP0
  1 output chain
  chain[0]:  glean for LISP0
192.168.2.0/24        encap       0x00000003
  packets/bytes      19/1634
  path list 06BFA2B8, flags 0x49, 5 locks, per-destination
  ifnums:
   LISP0(14): 10.0.0.6
  1 path
    path 06E8C8C0, path list 06BFA2B8, share 100/100, type attached nexthop, for IPv4
    nexthop 10.0.0.6 LISP0, adjacency IP midchain out of LISP0, addr 10.0.0.6 073747B8
  1 output chain
Prefix                Fwd action  Locator status bits
  chain[0]:  IP midchain out of LISP0, addr 10.0.0.6 073747B8 IP adj out of Ethernet0/0,
addr 10.0.0.2 0620D8A8
192.168.3.0/24        encap       0x00000003
```

The following sample output from the **show ip lisp forwarding state** command displays detailed information about the state of the LISP process forwarding state. (IPv4 and IPv6 information is presented).

```
Router# show ip lisp forwarding state

LISP forwarding state for EID table IPv4:Default
  EID VRF                  Default (0x0)
    IPv4
      Configured roles     ITR|ETR
      Active roles         ITR|ETR
```

```
  EID table              IPv4:Default
  ALT table              <null>
  Locator status bits    0x00000001
IPv6
  Configured roles       ITR|ETR
  Active roles           ITR|ETR
  EID table              IPv6:Default
  ALT table              <null>
  Locator status bits    0x00000001
RLOC transport VRF       Default (0x0)
  IPv4 RLOC table        IPv4:Default
  IPv6 RLOC table        IPv6:Default
LISP virtual interface   LISP0
```

Related Commands

Command	Description
database-mapping	Configures an IPv6 EID-to-RLOC mapping relationship and its associated traffic policy.
ipv4 etr accept-map- request-mapping	Configures an ETR to cache IPv4 mapping data contained in a map-request message.
show ip lisp map-cache	Displays the current dynamic and static IPv4 EID-to-RLOC map-cache entries.

show ip lisp instance-id

To display the negative prefix hole in the LISP ALT for an EID within a specified instance-id, use the **show ip lisp instance-id** command in privileged EXEC mode.

show ip lisp instance-id *iid* **alt negative-prefix** *EID-prefix*

Syntax Description

iid	EID instance-id.
EID-prefix	IPv4 EID address covered by negative ALT prefix.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB3	This command was introduced.
2.5.1XC	This command was integrated into Cisco IOS XE Release 2.5.1XC.

Usage Guidelines

This command is only used on LISP Map-Server (MS) devices to display the negative prefix hole in the LISP ALT for an EID within a specified instance-id.

Examples

The following sample output from the show ip lisp instance-id command for the instance-id 123 and EID 172.16.0.1.

```
Router# show ip lisp instance-id 123 alt negative-prefix 172.16.0.1
Negative mapping system prefix 128.0.0.0/2
Router#
```

Related Commands

Command	Description
eid-prefix (LISP site)	Configures the EID-prefix associated with a LISP site on a Map-Server as part of the LISP Site configuration process.

show ip lisp locator-table

To display Locator/ID Separation Protocol (LISP) IPv4 configurations associated with a specific locator table, use the **show ip lisp locator-table** command in privileged EXEC mode.

show ip lisp locator-table {**default**| **vrf** *vrf-name*}

Syntax Description

default	Displays IPv4 LISP information and configuration status related to the default table.
vrf *vrf-name*	Displays IPv4 LISP information and configuration status related to the specified virtual routing and forwarding (VRF) table.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB6	This command was introduced.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S.

Usage Guidelines

The **locator-table** command creates an association between a LISP instantiation and a virtual routing and forwarding (VRF) table through which the routing locator address space is reachable. The **show ip lisp locator-table** command displays the IPv4 LISP configuration status for a specific locator table. A locator table can be the default, meaning the global routing table, or id can be a specific VRF.

Examples

The following shows sample output from the **show ip lisp locator-table** command for the vrf Cust-1:

```
Router# show ip lisp locator-table Cust-1

Information applicable to all EID instances:
  Router-lisp ID:                  1
  Locator table:                   vrf Cust-1
  Ingress Tunnel Router (ITR):     disabled
  Egress Tunnel Router (ETR):      disabled
  Proxy-ITR Router (PITR):         enabled RLOCs: 10.100.8.2
  Proxy-ETR Router (PETR):         enabled
  Map Server (MS):                 disabled
  Map Resolver (MR):               disabled
  Delegated Database Tree (DDT):   disabled
  ITR Map-Resolver(s):             10.100.1.2
  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
    LSB reports:                    process
  Map-cache limit:                  1000
  Map-cache activity check period:  60 secs
  Persistent map-cache:             disabled
Router#
```

Related Commands

Command	Description
locator-table	Configures the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.

show ip lisp map-cache

To display the current dynamic and static IPv4 endpoint identifier-to-routing locator (EID-to-RLOC) map-cache entries, use the **show ip lisp map-cache** command in privileged EXEC mode.

show ip lisp map-cache [*destination-EID*| *destination-EID-prefix*/*prefix-length* | **eid-table**{**default**| **vrf***name*| **detail**}]

Syntax Description

destination-EID	(Optional) Destination EID for which to display mapping.
destination-EID-prefix/prefix-length	(Optional) Destination EID prefix for which to display mapping.
eid-table	(Optional) Specifies an EID table for which to display mapping.
default	(Optional) Displays detailed information for the default virtual routing and forwarding (VRF).
vrf *name*	(Optional) Displays detailed information for the identified VRF.
detail	(Optional) Displays detailed EID-to-RLOC cache mapping information

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB	This command was introduced.
15.1(1)XB1	This command was modified.
Cisco IOS XE2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display the current dynamic and static IPv4 EID-to-RLOC map-cache entries. When no IPv4 EID or IPv4 EID prefix is specified, summary information is listed for all current dynamic and static

IPv4 EID-to-RLOC map-cache entries. When an IPv4 EID or IPv4 EID prefix is included, information is listed for the longest-match lookup in the cache. When the **detail** option is used, detailed (rather than summary) information related to all current dynamic and static IPv4 EID-to-RLOC map-cache entries is displayed.

Examples

The following sample output from the **show ip lisp map-cache** command (without the use of an IPv4 EID or IPv4 EID prefix) displays a summary list of current dynamic and static IPv4 EID-to-RLOC map-cache entries. The display shows IPv4 EID prefix and associated information.

```
Router# show ip lisp map-cache

LISP IPv4 Mapping Cache, 2 entries
0.0.0.0/0, uptime: 00:00:17, expires: never, via static
  Negative cache entry, action: send-map-request
192.168.2.0/24, uptime: 00:00:02, expires: 23:59:54, via map-reply, complete
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:00:02  up           1/100
  10.1.0.6  00:00:02  admin-down 255/0
```

The following sample output from the **show ip lisp map-cache detail** command displays a detailed list of current dynamic and static IPv4 EID-to-RLOC map-cache entries.

```
Router# show ip lisp map-cache detail

LISP IPv4 Mapping Cache, 2 entries

0.0.0.0/0, uptime: 00:00:41, expires: never, via static
  State: send-map-request, last modified: 00:00:41, map-source: local
  Idle, Packets out: 0
  Negative cache entry, action: send-map-request
192.168.2.0/24, uptime: 00:00:26, expires: 23:59:31, via map-reply, complete
  State: complete, last modified: 00:00:26, map-source: 10.0.0.6
  Active, Packets out: 0
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:00:26  up           1/100
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
  10.1.0.6  00:00:26  admin-down 255/0
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
```

The following sample output from the **show ip lisp map-cache** command with a specific IPv4 EID prefix displays detailed information associated with that IPv4 EID-prefix entry.

```
Router# show ip lisp map-cache 192.168.2.0/24

LISP IPv4 Mapping Cache, 2 entries

192.168.2.0/24, uptime: 00:01:01, expires: 23:58:56, via map-reply, complete
  State: complete, last modified: 00:01:01, map-source: 10.0.0.6
  Active, Packets out: 0
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:01:01  up           1/100
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
  10.1.0.6  00:01:01  admin-down 255/0
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
```

Related Commands

Command	Description
show ip lisp forwarding	Displays LISP local or remote IPv4 EID-prefix information.

show ip lisp route-import

On a Proxy Ingress Tunnel Router (PITR), to display the current IPv4 endpoint identifier (EID) prefixes imported into Locator/ID Separation Protocol (LISP), use the **show ip lisp route-import** command in privileged EXEC mode.

show ip lisp route-import[*destination-eid*| *destination-eid-prefix/prefix-length*| | **eid-table vrf** *vrf-name*| **instance-id** *iid*]

Syntax Description

destination-eid	(Optional) Destination EID for which to display mapping.
destination-eid-prefix	(Optional) Destination EID prefix for which to display mapping.
eid-table vrf *vrf-name*	(Optional) Limits the output of the command to the referenced EID table.
instance-id *iid*	(Optional) Limits the output of the command to the referenced instance ID.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.2(3)T	This command was introduced.

Usage Guidelines

This command is used on a PITR to display the current IPv4 Routing Information Base (RIB) routes imported into LISP. A non-ALT-connected PITR uses this information for signaling the LISP control plane process (map-request generation) for populating the PITR IPv4 LISP map cache. IPv4 RIB routes may be imported into LISP using the **ipv4 route-import map-cache** command.

To restrict the output to a specific EID or EID prefix, add the *destination-eid* or *destination-eid-prefix* argument value to the command. To restrict the output to a specific EID table, add **eid-table vrf** *vrf-name* keywords and argument value to the command. To restrict the output to a specific LISP instance ID, add the **instance-id** *iid* keyword and argument value to the command.

Examples

The following sample output from the **show ip lisp route-import** command shows the IPv4 routes imported into LISP for use in signaling the LISP control plane to send map requests when populating its map cache.

```
Router# show ip lisp route-import
```

```
LISP IPv4 imported routes for EID-table default (IID 0)
Config: 1, Entries: 3
Prefix                        Uptime     Source  Map-cache State
10.0.1.0/24                   4d12h      bgp     installed
10.0.2.0/24                   4d12h      bgp     installed
10.0.3.0/24                   4d12h      bgp     installed
Router#
```

In the above output it can be seen that three BGP routes have been installed. The source of the routes is listed as bgp. Possible entries for Source include static and bgp. Possible entries for Map-cache State include:

- none—The router is not attempting to install the map-cache map-request entry (for example, PITR is not enabled).
- installed—The router has created the matching map-cache map-request entry.
- got-bumped—Another source of map-cache entry (for example, static or a received mapping) replaced the route-import entry.
- hit-limit—The router was not able to create the matching map-cache map-request entry because the configured map-cache entry limit was reached.

Related Commands

Command	Description
clear ip lisp route-import	Clears the table and force a re-evaluation of all imported routes.
debug lisp control-plane rib-route-import	Displays LISP control plane activities related to the **ipv4 route-import** or **ipv6 route-import** commands.
ipv4 route-import map-cache	Configures a Proxy-ITR to dynamically import IPv4 LISP EID space for which it is proxying.

show ip lisp statistics

To display Locator/ID Separation Protocol (LISP) IPv4 address-family packet count statistics, use the **show ip lisp statistics** command in privileged EXEC mode.

show ip lisp statistics

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB1	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display IPv4 LISP statistics related to packet encapsulations, de-encapsulations, map requests, map replies, map registers, and other LISP-related packets.

Examples

The following sample output from the **show ip lisp statistics** command displays the current LISP IPv4 address family statistics. The output varies, depending on the LISP features configured and the state of various LISP components:

```
Router# show ip lisp statistics

LISP Statistics - last cleared: never
Control Packets:
  Map-Requests in/out:                      76/35
    Encapsulated Map-Requests in/out:       76/35
    RLOC-probe Map-Requests in/out:         0/0
  Map-Reply records in/out:                 35/76
    Authoritative records in/out:           0/76
    Non-authoritative records in:           35
    Negative records in:                    35
    RLOC-probe records in/out:              0/0
  Map-Registers out:                        626
Errors:
  Map-Request format errors:                0
  Map-Reply format errors:                  0
  Map-Reply spoof alerts:                   0
  Mapping record TTL alerts:                0
Cache Related:
  Cache entries created/deleted:            72/69
```

```
  Number of EID-prefixes in map-cache:      3
  Number of negative entries in map-cache:  3
  Total number of RLOCs in map-cache:       0
  Average RLOCs per EID-prefix:             0
Forwarding:
  Number of data signals processed:         35 (+ dropped 0)
  Number of reachability reports:           0 (+ dropped 0)
```

Related Commands

Command	Description
show ip lisp	Displays the IPv4 LISP configuration status for the local device.

show ipv6 lisp

To display the Locator/ID Separation Protocol (LISP) IPv6 configuration status, use the **show ipv6 lisp** command in privileged EXEC mode.

show ipv6 lisp [*router-lisp-id*]

Syntax Description

router-lisp-id	(Optional) router lisp instantiation id (0-15)

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB	This command was introduced.
15.1(1)XB1	This command was modified.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
15.1(1)XB2	This command was modified.
Cisco IOS XE Release 2.5.1XB	This command was modified.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M and modified to include the **locator-table** keyword.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S and modified to include the **locator-table** keyword.

Usage Guidelines

When used without the optional router LISP ID value, the **show ipv6 lisp** command displays the IPv6 LISP configuration status for the local device for the default router LISP instantiation. When the *router-lisp-id* argument is used, the command displays the IPv6 LISP configuration status for the specified router LISP instantiation.

Examples

The following sample output from the **show ipv6 lisp** command displays information about the current IPv6 LISP configuration status. The output varies, depending on the LISP features configured:

```
Router# show ipv6 lisp

  Ingress Tunnel Router (ITR):      enabled
  Egress Tunnel Router (ETR):       enabled
  Proxy-ITR Router (PITR):          disabled
  Proxy-ETR Router (PETR):          disabled
```

```
Map Server (MS):                  disabled
Map Resolver (MR):                disabled
Map-Request source:               2001:DB8:A:2::1
ITR Map-Resolver:                 10.0.100.2
ETR Map-Server(s):                10.0.100.2 (00:00:07)
ETR accept mapping data:          disabled, verify disabled
ETR map-cache TTL:                1d00h
Locator Status Algorithms:
  RLOC-probe algorithm:           disabled
Static mappings configured:       0
Map-cache size/limit:             1/1000
Map-cache activity check period:  60 secs
```

The table below describes the significant fields shown in the display.

show ipv6 lisp Field Descriptors

Table 2: ipv6 lisp Field Descriptions

Field	Description
Ingress Tunnel Router (ITR)	Indicates whether the router is configured as an ITR. See the **ipv6 itr** command.
Egress Tunnel Router (ETR)	Indicates whether the router is configured as an ETR. See the **ipv6 etr** command.
Proxy-ITR (PITR)	Indicates whether the router is configured as a PITR. See the **ipv6 proxy-itr** command.
Proxy-ETR (PETR)	Indicates whether the router is configured as a PETR. See the **ipv6 proxy-etr** command.
Map Server (MS)	Indicates whether the router is configured as a map server. See the **ipv6 map-server** command.
Map Resolver (MR)	Indicates whether the router is configured as a map resolver. See the **ipv6 map-resolver** command.
Map-Request source	Identifies the IPv6 address used as the source in Map Request messages.
ITR Map-Resolver	Identifies the configured ITR map resolver. See the **ipv6 itr map-resolver** command.
ETR Map-Server(s)	Identifies the configured ETR map servers. See the **ipv6 etr map-server** command.
ITR Solicit Map Request (SMR)	Indicates whether SMRs are accepted and processed. See the **ipv6 solicit-map-request** command.
ETR accept mapping data	Indicates whether the ETR is configured to cache the mapping data contained in a map request. See the **ipv6 etr accept-map-request-mapping** command.

Field	Description
ETR map-cache TTL	Identifies the current ETR map-cache TTL. See the **ipv6 etr map-cache-ttl** command.
RLOC-probe algorithm	Indicates whether the locator reachability algorithm RLOC probing is enabled. See the **loc-reach-algorithm** command.
Static mappings configured	Indicates the number of static cache-map entries configured. See the **map-cache** command.
Map-cache size/limit	Indicates the number of entries currently in the map cache and indicates the limit value. See the **ipv6 map-cache-limit** command.
Map-cache activity check period	Indicates how often the control plane checks the map cache for outbound usage activity.
Map-database size	Indicates the number of entries currently in the map-database. See the **database-mapping** command.
Persistent map-cache	Indicates the persistent map-cache timer interval, next use, and storage location. See the **ipv6 map-cache-persistent** command.
ITR use proxy ETR RLOC configuration	When configured, indicates that the router uses PETR services and lists the PETR locator. See the **ipv6 use-petr** command.

The following sample output from the **show ipv6 lisp** command displays information about the current IPv6 LISP configuration status when a LISP instantiation has been created using the **router lisp** *router-lisp-id* command and the **locator-table** command. Below, the results shown are based on router LISP 6 and locator table VRF named Cust-1. (Other output varies depending on the LISP features configured.)

```
Router# show ipv6 lisp 6

Information applicable to all EID instances:
Router-lisp ID: 6
Locator table: vrf Cust-1
Ingress Tunnel Router (ITR): enabled
---<more>---
```

Related Commands

Command	Description
database-mapping	Configures an IPv4 or IPv6 EID-to-RLOC mapping relationship and its associated traffic policy for LISP.

Command	Description
eid-table	Configures a LISP instance-id for association with a VRF table or default table through which the EID address space is reachable.
ipv6 etr	Configures a router to act as an IPv6 LISP ETR.
ipv6 etr map-cache-ttl	Configures the TTL value inserted into LISP IPv6 map-reply messages.
ipv6 etr map-server	Configures the IPv4 or IPv6 locator address of the LISP map server to be used by the ETR when registering for IPv4 EIDs.
ipv6 itr	Configures the router to act as an IPv6 LISP ITR.
ipv6 itr map-resolver	Configures the IPv6 locator address of the LISP map resolver to be used by the ITR when sending map requests for IPv6 EID-to-RLOC mapping resolution.
ipv6 lisp etr accept-map- request-mapping	Configures an ETR to cache IPv6 mapping data contained in a map-request message.
ipv6 lisp source- locator	Configures a source locator to be used for IPv6 LISP encapsulated packets.
ipv6 map-cache-limit	Configures the maximum number of IPv6 LISP map-cache entries allowed to be stored by the router.
ipv6 map-cache-persistent	Configures how often, in minutes, an ITR should save its dynamically learned IPv6 map-cache entries to a file in flash.
ipv6 map-resolver	Configures the router to act as an IPv6 LISP map resolver.
ipv6 map-server	Configures the router to act as an IPv6 LISP map server.
ipv6 solicit-map-request ignore	Configures an ITR to ignore an IPv6 Map Request message that has the solicit-map-request (SMR) bit set.
ipv6 proxy-etr	Configures the router to act as an IPv6 LISP PETR.
ipv6 proxy-itr	Configures the router to act as an IPv6 LISP PITR.
ipv6 use-petr	Configures a router to use an IPv6 LISP PETR.

Command	Description
locator-table	Configures the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.
map-cache	Configures a static IPv4 or IPv6 EID-to-RLOC mapping relationship and its associated traffic policy, or statically configures the packet handling behavior associated with a specified destination IPv4 or IPv6 EID prefix.
router lisp	Enters LISP configuration mode and configures LISP commands on a router.
show ipv6 lisp locator-table	Displays the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.

show ipv6 lisp database

To display Locator/ID Separation Protocol (LISP) Egress Tunnel Router (ETR) configured local IPv6 EID prefixes and associated locator sets, use the **show ipv6 lisp database** command in privileged EXEC mode.

show ipv6 lisp database[**eid-prefix**]

Syntax Description

eid-prefix	(Optional) Displays one of any IPv6 EID prefixes configured using the **database-mapping** command.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB1	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used on LISP ETR devices to display the configured local IPv6 EID prefixes and associated locator sets.

Examples

The following sample output from the **show ipv6 lisp database**command displays the configured IPv6 EID-prefix blocks and associated locator sets and the configured IPv6 endpoint identifier-to-routing locator (EID-to-RLOC) database mappings:

```
Router# show running-config
.
.
!
database-mapping 2610:D0:1209::/48 172.16.156.222 priority 1 weight 100
!
Router# show ipv6 lisp database

LISP ETR IPv6 Mapping Database, LSBs: 0x1

EID-prefix: 2610:D0:1209::/48
  172.16.156.222, priority: 1, weight: 100, state: up, local
```

Related Commands

Command	Description
database-mapping	Configures an IPv6 EID-to-RLOC mapping relationship and its associated traffic policy.

show ipv6 lisp forwarding

To display Locator/ID Separation Protocol (LISP) IPv6 endpoint identifier (EID)-prefix forwarding information, use the **show ipv6 lisp forwarding** command in privileged EXEC mode.

show ipv6 lisp forwarding {**eid** {**local**| **remote [detail]**}| **state**}

Syntax Description

eid	Displays information related to EID prefixes (local or remote)
local	Displays locally configured EID prefixes.
remote	Displays forwarding action and Locator status bits for dynamically learned EID-prefix blocks, and the number of packets and total bytes encapsulated
detail	(Optional) Displays detailed information associated with each remote EID prefix
state	Displays information about the LISP module forwarding state

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB1	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display information for either local or remote IPv6 EID-prefixes. Local IPv6 EID-prefixes are those for which the router is authoritative and added via the **database-mapping**command. Remote IPv6 EID-prefixes are those for remote sites and learned dynamically through map-reply information or via map-request messages when the **ipv6 etr accept-map-request-mapping** command is configured.

Examples

The following sample output from the **show ipv6 lisp forwarding eid local** command displays local IPv6 EID-prefix information.

```
Router# show ipv6 lisp forwarding eid local

Prefix
2001:DB8:AA::/48
2001:DB8:BB::/48
```

The following sample output from the **show ipv6 lisp forwarding eid remote** command displays summary remote IPv6 EID-prefix information. Summary information is displayed when the keyword **detail** is not used. The display shows the EID prefix, associated locator status bits, and total encapsulated packets and bytes for each remote IPv6 EID prefix.

```
Router# show ipv6 lisp forwarding eid remote

Prefix                 Fwd action  Locator status bits
::/0                   signal      0x00000000
  packets/bytes       0/0
2001:DB8:AB::/48       encap       0x00000001
  packets/bytes      25/2150
```

The following sample output from the **show ipv6 lisp forwarding eid remote detail** command displays detailed remote IPv6 EID-prefix information by adding the **detail** keyword. The display shows the EID-prefix, associated locator status bits, and total encapsulated packets/bytes for each remote IPv6 EID prefix.

```
Router# show ipv6 lisp forwarding eid remote detail

Prefix                 Fwd action  Locator status bits
::/0                   signal      0x00000000
  packets/bytes       0/0
  path list 0729CE78, flags 0x49, 3 locks, per-destination
  ifnums:
   LISP0(14)
  1 path
    path 0729D4E0, path list 0729CE78, share 1/1, type attached prefix, for IPv6
    attached to LISP0, adjacency glean for LISP0
  1 output chain
  chain[0]:  glean for LISP0
2001:DB8:AB::/48       encap       0x00000001
  packets/bytes      25/2150
  path list 06BFA050, flags 0x49, 3 locks, per-destination
  ifnums:
   LISP0(14): 10.0.0.6
  1 path
    path 06E8C5B0, path list 06BFA050, share 100/100, type attached nexthop, for IPv6
    nexthop 10.0.0.6 LISP0, adjacency IPV6 midchain out of LISP0, addr 10.0.0.6 07374688
  1 output chain
Prefix                 Fwd action  Locator status bits
  chain[0]:  IPV6 midchain out of LISP0, addr 10.0.0.6 07374688 IP adj out of Ethernet0/0,
 addr 10.0.0.2 0620D8A8
```

The following sample output from the **show ipv6 lisp forwarding state** command displays detailed information about the state of the LISP process forwarding state. (Both IPv4 and IPv6 information is presented).

```
Router# show ipv6 lisp forwarding state

LISP forwarding state for EID table IPv4:Default
  EID VRF                    Default (0x0)
    IPv4
      Configured roles       ITR|ETR
      Active roles           ITR|ETR
      EID table              IPv4:Default
      ALT table              <null>
      Locator status bits    0x00000001
    IPv6
```

```
  Configured roles       ITR|ETR
  Active roles           ITR|ETR
  EID table              IPv6:Default
  ALT table              <null>
  Locator status bits    0x00000001
RLOC transport VRF       Default (0x0)
  IPv4 RLOC table        IPv4:Default
  IPv6 RLOC table        IPv6:Default
LISP virtual interface   LISP0
```

Related Commands

Command	Description
database-mapping	Configures an IPv6 EID-to-RLOC mapping relationship and its associated traffic policy.
ipv6 lisp etr accept-map- request-mapping	Configures an ETR to cache IPv6 mapping data contained in a map-request message.
show ipv6 lisp map-cache	Displays the current dynamic and static IPv6 EID-to-RLOC map-cache entries.

show ipv6 lisp instance-id

To display the negative prefix hole in the LISP ALT for an EID within a specified instance-id, use the **show ipv6 lisp instance-id** command in privileged EXEC mode.

show ipv6 lisp instance-id *iid* **alt negative-prefix** *EID-prefix*

Syntax Description

iid	EID instance-id.
EID-prefix	IPv4 EID address covered by negative ALT prefix.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB3	This command was introduced.
2.5.1XC	This command was integrated into Cisco IOS XE Release 2.5.1XC.

Usage Guidelines

This command is only used on LISP Map-Server (MS) devices to display the negative prefix hole in the LISP ALT for an EID within a specified instance-id.

Examples

The following sample output from the show ip lisp instance-id command for the instance-id 123 and EID 2001:db8:c::1.

```
Router# show ipv6 lisp instance-id 123 alt negative-prefix 2001:db8:c::1
Negative mapping system prefix 2001:DB8:C::/46
Router#
```

Related Commands

Command	Description
eid-prefix (LISP site)	Configures the EID-prefix associated with a LISP site on a Map-Server as part of the LISP Site configuration process.

show ipv6 lisp locator-table

To display Locator/ID Separation Protocol (LISP) IPv6 configurations associated with a specific locator table, use the **show ipv6 lisp locator-table** command in privileged EXEC mode.

show ipv6 lisp locator-table {**default**| **vrf** *vrf-name*}

Syntax Description

default	Displays IPv6 LISP information and configuration status related to the default table.
vrf *vrf-name*	Displays IPv6 LISP information and configuration status related to the specified VRF name.

Command Modes

Privileged EXEC

Command History

Release	Modification
15.1(1)XB6	This command was introduced.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S.

Usage Guidelines

The **locator-table** command creates an association between a LISP instantiation and a virtual routing and forwarding (VRF) table through which the routing locator address space is reachable. The **show ipv6 lisp locator-table** command is used to display the IPv6 LISP configuration status for a specific locator table. A locator table can be the default, meaning the global routing table, or a specific VRF.

Examples

The following is sample output from the **show ipv6 lisp locator-table** command for the VRF named Cust-1:

```
Router# show ipv6 lisp locator-table Cust-1

Information applicable to all EID instances:
  Router-lisp ID:                   1
  Locator table:                    vrf Cust-1
  Ingress Tunnel Router (ITR):      disabled
  Egress Tunnel Router (ETR):       disabled
  Proxy-ITR Router (PITR):          enabled RLOCs: 2001:db8:1:1::1
  Proxy-ETR Router (PETR):          enabled
  Map Server (MS):                  disabled
  Map Resolver (MR):                disabled
  Delegated Database Tree (DDT):    disabled
  ITR Map-Resolver(s):              10.100.1.2
  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
    LSB reports:                    process
  Map-cache limit:                  1000
  Map-cache activity check period:  60 secs
  Persistent map-cache:             disabled
Router#
```

Related Commands

Command	Description
locator-table	Configure the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.

show ipv6 lisp map-cache

To display the current dynamic and static IPv6 endpoint identifier-to-routing locator (EID-to-RLOC) map-cache entries, use the **show ipv6 lisp map-cache** command in privileged EXEC mode.

show ipv6 lisp map-cache [*destination-EID*| *destination-EID-prefix*/*prefix-length*| **detail**]

Syntax Description

destination-EID	(Optional) Destination EID for which to display mapping information.
destination-EID-prefix/prefix-length	(Optional) Destination EID prefix for which to display mapping information.
detail	(Optional) Displays detailed EID-to-RLOC cache mapping information.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB1	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display the current dynamic and static IPv6 EID-to-RLOC map-cache entries. When no IPv6 EID or IPv6 EID-prefix is specified, summary information is listed for all current dynamic and static IPv6 EID-to-RLOC map-cache entries. When an IPv6 EID or IPv6 EID prefix is included, information is listed for the longest-match lookup in the cache. When the **detail** option is used, detailed (rather than summary) information related to all current dynamic and static IPv4 or IPv6 EID-to-RLOC map-cache entries is displayed.

Examples

The following sample output from the **show ipv6 lisp map-cache** command (without the use of an IPv6 EID or IPv6 EID-prefix) displays a summary list of current dynamic and static IPv6 EID-to-RLOC map-cache entries. The display shows the IPv6 EID prefix and associated information:

```
Router# show ipv6 lisp map-cache
LISP IPv6 Mapping Cache, 2 entries
```

```
::/0, uptime: 00:00:26, expires: never, via static
  Negative cache entry, action: send-map-request
2001:DB8:AB::/48, uptime: 00:00:04, expires: 23:59:53, via map-reply, complete
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:00:04  up           1/100
Router#
```

The following sample output from the **show ipv6 lisp map-cache detail** command displays a detailed list of current dynamic and static IPv4 EID-to-RLOC map-cache entries:

```
Router# show ipv6 lisp map-cache detail

LISP IPv6 Mapping Cache, 2 entries

::/0, uptime: 00:00:52, expires: never, via static
  State: send-map-request, last modified: 00:00:52, map-source: local
  Idle, Packets out: 0
  Negative cache entry, action: send-map-request
2001:DB8:AB::/48, uptime: 00:00:30, expires: 23:59:27, via map-reply, complete
  State: complete, last modified: 00:00:30, map-source: 10.0.0.6
  Active, Packets out: 0
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:00:30  up           1/100
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
```

The following sample output from the **show ipv6 lisp map-cache** command with a specific IPv6 EID prefix displays detailed information associated with that IPv6 EID prefix entry.

```
Router# show ipv6 lisp map-cache 2001:DB8:AB::/48

LISP IPv6 Mapping Cache, 2 entries

2001:DB8:AB::/48, uptime: 00:01:02, expires: 23:58:54, via map-reply, complete
  State: complete, last modified: 00:01:02, map-source: 10.0.0.6
  Active, Packets out: 0
  Locator   Uptime    State      Pri/Wgt
  10.0.0.6  00:01:02  up           1/100
    Last up-down state change:         never, state change count: 0
    Last priority / weight change:     never/never
    RLOC-probing loc-status algorithm:
      Last RLOC-probe sent:            never
```

Related Commands

Command	Description
show ipv6 lisp forwarding	Displays LISP local or remote IPv6 EID-prefix information.

show ipv6 lisp route-import

On a Proxy Ingress Tunnel Router (PITR), to display the current IPv6 endpoint identifier (EID) prefixes imported into Locator/ID Separation Protocol (LISP), use the **show ipv6 lisp route-import** command in privileged EXEC mode.

show ipv6 lisp route-import[*destination-eid*| *destination-eid-prefix/prefix-length*| **eid-table vrf** *vrf-name*| **instance-id** *iid*]

Syntax Description

destination-eid	(Optional) Destination EID for which to display mapping.
destination-eid-prefix	(Optional) Destination EID prefix for which to display mapping.
eid-table vrf *vrf-name*	(Optional) Limits the output of the command to the referenced EID table.
instance-id *iid*	(Optional) Limits the output of the command to the referenced instance ID.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.2(3)T	This command was introduced.

Usage Guidelines

This command is used on a PITR to display the current IPv6 Routing Information Base (RIB) routes imported into LISP. A non-ALT-connected PITR uses this information for signaling the LISP control plane process (map request generation) for populating the PITR IPv6 LISP map cache. IPv6 RIB routes may be imported into LISP using the **ipv6 route-import map-cache** command.

To restrict the output to a specific EID or EID prefix, add the *destination-eid* or *destination-eid-prefix* argument value to the command. To restrict the output to a specific EID table, add **eid-table vrf** *vrf-name* keywords and argument value to the command. To restrict the output to a specific LISP instance ID, add the **instance-id** *iid* keyword and argument value to the command.

Examples

The following sample output from the **show ipv6 lisp route-import** command shows the IPv6 routes imported into LISP for use in signaling the LISP control plane to send map requests when populating its map cache.

```
Router# show ipv6 lisp route-import
```

```
LISP IPv4 imported routes for EID-table default (IID 0)
Config: 1, Entries: 3
Prefix                        Uptime     Source  Map-cache State
2001:DB8:A::/48               4d12h      bgp     installed
2001:DB8:B::/48               4d12h      bgp     installed
2001:DB8:C::/48               4d12h      bgp     installed
Router#
```

In the above output it can be seen that three BGP routes have been installed. The source of the routes is listed as bgp. Possible entries for Source include static and bgp. Possible entries for Map-cache State include:

- none—The router is not attempting to install the map-cache map-request entry (for example, PITR is not enabled).
- installed—The router has created the matching map-cache map-request entry.
- got-bumped—Another source of map-cache entry (for example, static or a received mapping) replaced the route-import entry.
- hit-limit—The router was not able to create the matching map-cache map-request entry because the configured map-cache entry limit was reached.

Related Commands

Command	Description
clear ipv6 lisp route-import	Clears the current IPv6 RIB routes imported into LISP.
debug lisp control-plane rib-route-import	Displays LISP control plane activities related to the **ipv4 route-import** or **ipv6 route-import** commands.
ipv6 route-import map-cache	Configures a PITR to dynamically import IPv6 LISP EID space for which it is proxying.

show ipv6 lisp statistics

To display Locator/ID Separation Protocol (LISP) IPv6 address-family statistics, use the **show ipv6 lisp statistics** command in privileged EXEC mode.

show ipv6 lisp statistics

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB1	This command was introduced.
Cisco IOS XE Release 2.5.1XA	This command was integrated into Cisco IOS XE Release 2.5.1XA.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used to display IPv6 LISP statistics related to packet encapsulations, de-encapsulations, map requests, map replies, map registers, and other LISP-related packets.

Examples

The following sample output from the **show ipv6 lisp statistics** command displays the current LISP IPv6 address family statistics. The output varies, depending on the LISP features configured and the state of various LISP components.

```
Router# show ipv6 lisp statistics

LISP Statistics - last cleared: 00:56:49
Control Packets:
  Map-Requests in/out:                        0/15
    Encapsulated Map-Requests in/out:         0/15
    RLOC-probe Map-Requests in/out:           0/0
  Map-Reply records in/out:                   4/0
    Authoritative records in/out:             4/0
    Non-authoritative records in:             0
    Negative records in:                      0
    RLOC-probe records in/out:                1/0
  Map-Registers out:                          114
Errors:
  Map-Request format errors:                  0
  Map-Reply format errors:                    0
  Map-Reply spoof alerts:                     0
  Mapping record TTL alerts:                  0
Cache Related:
  Cache entries created/deleted:              8/7
```

```
  Number of EID-prefixes in map-cache:      3
  Number of negative entries in map-cache:  2
  Total number of RLOCs in map-cache:       2
  Average RLOCs per EID-prefix:             2
Forwarding:
  Number of data signals processed:         0 (+ dropped 0)
  Number of reachability reports:           0 (+ dropped 0)
```

Related Commands

Command	Description
show ipv6 lisp	Displays the IPv6 LISP configuration status for the local device.

show lisp

To display summary information related to the Locator/ID Separation Protocol (LISP) configuration, use the **show lisp** command in privileged EXEC mode.

show lisp [*router-lisp-id*]

Syntax Description

router-lisp-id	(Optional) Router LISP instantiation ID. Valid values are 0 to 15.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB6	This command was introduced.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M and modified to include the **locator-table** keyword.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S and modified to include the **locator-table** keyword.

Usage Guidelines

When used without the optional router LISP ID value, the **show lisp** command displays summary information about the default router LISP process, including any associated locator table or EID instance IDs. When the optional *router-lisp-id* argument is used, the **show lisp** command displays the summary locator table or EID instance IDs related to the specified router LISP instantiation.

Examples

The following is sample output from the **show lisp** command:

```
Router# show lisp

Router-lisp ID:        0
Locator table:         default
EID instance count:    1
Router#
```

The following is sample output from the **show lisp** command when using the optional router LISP ID (and a configuration exists for this router LISP instantiation):

```
Router# show lisp 1

Router-lisp ID:        1
Locator table:         vrf Cust-1
EID instance count:    1
Router#
```

Related Commands

Command	Description
router lisp	Configures a LISP instantiation on the device.

show lisp ddt

To display the configured DDT root(s) and/or DDT delegation nodes on a router enabled for LISP DDT, use the **show lisp ddt** command in privileged EXEC mode.

show lisp ddt [**negative-prefix | referral-cache** | {*eid-address*| *iid*}| **queue**]

Syntax Description

negative-prefix	(Optional) Displays the DDT node delegation hole.
referral-cache	(Optional) Displays the DDT referral cache contents.
eid-address	(Optional) IPv4/IPv6 EID address or prefix.
iid	(Optional) EID instance ID.
queue	(Optional) Displays the DDT request queue.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.3(1)T	This command was introduced.
Cisco IOS XE Release 3.8S	This command was integrated into Cisco IOS XE Release 3.8S.

Usage Guidelines

Use this command to display the configured DDT root(s) and/or DDT delegation nodes on a device that is enabled for LISP DDT node.

Examples

The following example shows the output of the **show lisp ddt** command for a LISP DDT node configured as a map resolver that refers to three LISP DDT root nodes with locators (10.1.1.1, 10.2.1.1, and 10.3.1.1) and configured as a map server for the EID prefixes 172.16.0.0/16 and 2001:db8:eeee::/48 in the default (0) instance ID for its own locator (10.1.10.10) and a peer map server locator (10.2.10.10).

```
Device> enable
Device# show lisp ddt

LISP-DDT Configuration in VRF "default"
  DDT IP Map-Resolver configured
  DDT IPv6 Map-Resolver configured
  DDT IP Map-Server configured
  DDT IPv6 Map-Server configured
  Configured DDT roots: 10.1.1.1  10.2.1.1  10.3.1.1
  Configured DDT delegated nodes/map-servers:
    [0] 172.16.0.0/16 -> 10.1.10.10, p/w: 0/0, map-server-peer
    [0] 172.16.0.0/16 -> 10.2.10.10, p/w: 0/0, map-server-peer
    [0] 2001:db8:eeee::/48 -> 10.1.10.10, p/w: 0/0, map-server-peer
```

```
    [0] 2001:db8:eeee::/48 -> 10.2.10.10, p/w: 0/0, map-server-peer

Configured authoritative EID-prefixes:
    [0] 172.16.0.0/16
    [0] 2001:db8:eeee::/48
```

Related Commands

Command	Description
clear lisp ddt	Clears the DDT referral cache stored on a DDT-enabled map resolver.
ddt	Configures a device to enable LISP DDT functionality.

show lisp locator-table

To display summary information related to the Locator/ID Separation Protocol (LISP) configuration, use the **show lisp locator-table** command in privileged EXEC mode.

show lisp locator-table {**default**| **vrf** *vrf-name*}

Syntax Description

default	Displays summary information related to the default table.
vrf *vrf-name*	Displays summary information related to the specified virtual routing and forwarding (VRF) table.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB6	This command was introduced.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M and modified to include the **locator-table** keyword.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S and modified to include the **locator-table** keyword.

Usage Guidelines

The **locator-table** command creates an association between a LISP instantiation and a VRF table through which the routing locator address space is reachable. When used with the **default** keyword, the **show lisp locator-table** command displays summary information about the default locator table, including any associated locator table or EID instance IDs. When the optional **vrf** *vrf-name* keyword and argument is included, the **show lisp** command displays summary information related to the specified locator table, including any associated locator table or EID instance IDs.

Examples

The following is sample output from the **show lisp locator-table default** command:

```
Router# show lisp locator-table default

Router-lisp ID:         0
Locator table:          default
EID instance count:     1
Router#
```

The following is sample output from the **show lisp locator-table vrf** command when using the locator-table VRF option (and a configuration exists for the specified locator table and VRF):

```
Router# show lisp locator-table vrf Cust-1

Router-lisp ID:         1
Locator table:          vrf Cust-1
EID instance count:     1
Router#
```

Related Commands

Command	Description
locator-table	Configures the association of a VRF table through which the routing locator address space is reachable to a router LISP instantiation.

show lisp site

To display configured LISP sites on a Locator/ID Separation Protocol (LISP) map server, use the **show lisp site** command in privileged EXEC mode.

show lisp site [*IPv4-dest-EID*| *IPv4-dest-EID-prefix*| *IPv6-dest-EID*| *IPv6-dest-EID-prefix*]|[**name** *site-name*]|**[detail]**

Syntax Description

IPv4-dest-EID	(Optional) Displays LISP site information matching this destination endpoint identifier (EID).
IPv4-dest-EID-prefix	(Optional) Displays LISP site information matching this destination EID prefix.
IPv6-dest-EID	(Optional) Displays LISP site information matching this destination EID.
IPv6-dest-EID-prefix	(Optional) Displays LISP site information matching this destination EID prefix.
name *site-name*	(Optional) Displays LISP site information matching this site name.
detail	(Optional) Increases the detail of all displayed LISP site information when no other parameters are used.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(1)XB2	This command was introduced.
Cisco IOS XE Release 2.5.1XB	This command was integrated into Cisco IOS XE Release 2.5.1XB.
Cisco IOS XE Release 3.3.0S	This command was integrated into Cisco IOS XE Release 3.3.0S.
15.1(4)M	This command was integrated into Cisco IOS Release 15.1(4)M.

Usage Guidelines

This command is used on a LISP map server to display information related to configured LISP sites. The displayed output indicates, among other things, whether a site is actively registered.

When the base form of the command is used (**show lisp site**), summary information related to all configured LISP sites is displayed. When the *IPv4-dest-EID*form is used, a longest match is done to return the site with

the best matching EID prefix and the displayed information applies specifically to that LISP site. When the *IPv4-dest-EID-prefix*form is used, an exact match is done to return the site configured with the EID prefix and the displayed information applies specifically to that LISP site. When the *site-name*form is used, the displayed information contains all EID prefixes configured for the named LISP site. When the **detail** keyword is added, all available details for the specific command form are presented.

Examples

The following sample output from the **show lisp site** command displays summary information related to all configured LISP sites:

```
Map-Server# show lisp site

LISP Site Registration Information

Site Name      Last      Up   Who Last             EID Prefix
               Register       Registered
site1-xtr      00:00:04  yes  10.0.2.1             192.168.1.0/24
               00:00:04  yes  10.0.2.1             2001:DB8:A::/48
site2-xtr      00:00:35  yes  10.0.9.1             192.168.11.0/24
               00:00:35  yes  10.0.10.1            2001:DB8:B::/48
```

The following sample output from the **show lisp site dmm-xtr-1** command displays detailed information related specifically to the LISP sites dmm-xtr-1.

```
Map-Server# show lisp site name site1-xtr

Description: LISP Site 1
Allowed configured locators: any
Allowed EID-prefixes:
  EID-prefix: 192.168.1.0/24
    First registered:     00:17:15
    Routing table tag:    0x0
    ETR 10.0.3.1, last registered 00:00:01, no proxy-reply
      Locator   Local  State      Pri/Wgt
      10.0.2.1  no     up           1/50
      10.0.3.1  yes    up           1/50
    ETR 10.0.2.1, last registered 00:00:24, no proxy-reply
      Locator   Local  State      Pri/Wgt
      10.0.2.1  yes    up           1/50
      10.0.3.1  no     up           1/50
  EID-prefix: 2001:DB8:A::/48
    First registered:     00:17:14
    Routing table tag:    0x0
    ETR 10.0.2.1, last registered 00:00:23, no proxy-reply
      Locator   Local  State      Pri/Wgt
      10.0.2.1  yes    up           1/50
      10.0.3.1  no     up           1/50
    ETR 10.0.3.1, last registered 00:00:58, no proxy-reply
      Locator   Local  State      Pri/Wgt
      10.0.2.1  no     up           1/50
      10.0.3.1  yes    up           1/50
```

Related Commands

Command	Description
show ip lisp	Displays the IPv4 LISP configuration status for the local device.