LISP Debug Commands

debug lisp control-plane all

To turn on all possible debugging messages related to the Locator/ID Separation Protocol (LISP) control plane, use the **debug lisp control-plane all** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane all

no debug lisp control-plane all

Caution Because the **debug lisp control-plane all** command can generate many messages and alter timing in the network node, use it only when instructed by authorized support personnel.

Caution Debugging output takes priority over other network traffic. The **debug lisp control-plane all** command generates more output than any other **debug lisp control-plane** command and can alter timing in the network node. Use of this command can severely diminish router performance or even render it unusable. In virtually all cases, you should use specific **debug lisp control-plane** commands.

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane all** command displays all possible debugging messages for the LISP control plane to help troubleshoot various LISP issues.

Examples

The following is sample output from the **debug lisp control-plane all** command. In this example, the **lig** command is used to query the mapping system for a remote endpoint identifier (EID) that is not currently in the local map cache as a test of the LISP control plane:

```
Router# debug lisp control-plane all
```

```
Dec 15 16:30:19.524 PST: LISP RIB_RWATCH: Debugging is ON

Router# lig self
Mapping information for EID 172.16.21.0 from 172.16.156.222 with RTT 4 msecs
172.16.21.0/24, uptime: 00:00:00, expires: 23:59:57, via map-reply, self
Locator Uptime State Pri/Wgt
192.168.156.222 00:00:00 up 1/100
Router#

Dec 15 16:30:34.476 PST: LISP: LIG LIG request for IPv4, EIDs self, count 3.
Dec 15 16:30:34.476 PST: LISP: Remote EID prefix 172.16.21.0/32, Change state to
incomplete (method: LIG, state: unknown, rlocs: 0, local).
Dec 15 16:30:34.508 PST: LISP: Remote EID prefix 172.16.21.0/32, Send map request (1)
(method: LIG, state: incomplete, rlocs: 0, local).
Dec 15 16:30:34.508 PST: LISP: LIG 172.16.21.0 Overriding map request parameters.
Dec 15 16:30:34.508 PST: LISP: Send map request for EID prefix 172.16.21.0/32.
Dec 15 16:30:34.508 PST: LISP: AF IPv4, Sending map-request from 172.16.156.222 to
172.16.21.0 for EID 172.16.21.0/32 nonce 0xCD28F5B9-0xBBA15B0E (encap src 172.16.156.222,
dst 172.16.156.139).
Dec 15 16:30:34.508 PST: LISP: Processing received Encap-Control message from
172.16.156.139 to 172.16.156.222.
Dec 15 16:30:34.508 PST: LISP: Processing received Map-Request message from 172.16.156.222
to 172.16.21.0.
Dec 15 16:30:34.508 PST: LISP: Received map request, source_eid 0.0.0.0, itr_rloc UNKNOWN,
records 1, nonce 0xCD28F5B9-0xBBA15B0E.
Dec 15 16:30:34.508 PST: LISP: Processing map request record for EID prefix
172.16.21.0/32.
Dec 15 16:30:34.508 PST: LISP: Local EID prefix 172.16.21.0/24, Sending map-reply from
172.16.156.222 to 172.16.156.222 (rlocs: 1).
Dec 15 16:30:34.512 PST: LISP: Processing mapping information for EID prefix
172.16.21.0/24.
Dec 15 16:30:34.512 PST: LISP: Remote EID prefix 172.16.21.0/24, Change state to
incomplete (method: map-request, state: unknown, rlocs: 0, local).
Dec 15 16:30:34.512 PST: LISP: Processing received Map-Reply message from 172.16.156.222
to 172.16.156.222.
Dec 15 16:30:34.512 PST: LISP: Received map reply nonce 0xCD28F5B9-0xBBA15B0E, records 1.
Dec 15 16:30:34.512 PST: LISP: Processing mapping information for EID prefix
172.16.21.0/24.
Dec 15 16:30:34.512 PST: LISP: Remote EID prefix 172.16.21.0/24, Updating existing entry
(method: map-request, state: incomplete, rlocs: 0, local).
Dec 15 16:30:34.512 PST: LISP: Remote EID prefix 172.16.21.0/24, Change state to complete
(method: map-reply, state: incomplete, rlocs: 0, local).
Dec 15 16:30:34.512 PST: LISP: Remote EID prefix 172.16.21.0/24, Starting idle timer
(method: map-reply, state: complete, rlocs: 0, local).
Dec 15 16:30:34.512 PST: LISP: Remote EID prefix 172.16.21.0/32, Change state to deleted
(method: LIG, state: incomplete, rlocs: 0, local).
Dec 15 16:30:34.512 PST: LISP: LIG 172.16.21.0 Moving info block from mapping entry
172.16.21.0/32 to 172.16.21.0/24.
Dec 15 16:30:34.516 PST: LISP: Remote EID prefix 172.16.21.0/24 locator 172.68.156.222
priority 1 weight 100, Added locator (method: map-reply, state: complete, rlocs: 1,
local).
Dec 15 16:30:34.516 PST: LISP: Remote EID prefix 172.16.21.0/24, Recalculated RLOC status
bits from 0x0 to 0x1 (method: map-reply, state: complete, rlocs: 1, local).
Dec 15 16:30:34.976 PST: LISP: LIG 172.16.21.0 Checking for mapping updates.
Dec 15 16:30:34.976 PST: LISP: LIG 172.16.21.0 Displaying info.

Router# no debug lisp control-plane all

Dec 15 16:31:25.069 PST: LISP RIB_RWATCH: Debugging is OFF
```

Related Commands

Command	Description
debug lisp control-plane configuration	Displays LISP control plane configuration debug messages.
debug lisp control-plane etr-map-server	Displays LISP control plane ETR map server debug messages.

Command	Description
debug lisp control-plane events	Displays LISP control plane event debug messages.
debug lisp control-plane exceptions	Displays LISP control plane exception condition debug messages.
debug lisp control-plane forward-api-events	Displays LISP control plane API forwarding event debug messages.
debug lisp control-plane lig	Displays LISP Internet Groper control plane debug messages.
debug lisp control-plane local-eid-database	Displays LISP control plane local EID database debug messages.
debug lisp control-plane local-rloc	Displays LISP control plane routing locator (RLOC) debug messages
debug lisp control-plane map-request	Displays LISP control plane debug messages related to map requests.
debug lisp control-plane map-resolver	Displays LISP control plane debug messages related to map-resolver functions.
debug lisp control-plane map-server	Displays LISP control plane debug messages related to map-server functions.
debug lisp control-plane messages	Displays LISP control plane message packet debug messages.
debug lisp control-plane nsf	Displays LISP control plane NSF debug messages.
debug lisp control-plane remote-eid-cache	Displays LISP control plane remote EID cache debug messages.
debug lisp control-plane rib-rloc-watch	Displays LISP control plane RIB RLOC watch debug messages.
debug lisp control-plane static-mapping	Displays LISP control plane static remote EID mapping debug messages.
lig	Initiate a LISP Internet Groper operation.

debug lisp control-plane configuration

To display Locator/ID Separation Protocol (LISP) control plane configuration activities, use the **debug lisp control-plane configuration** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane configuration

no debug lisp control-plane configuration

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane configuration** command displays events related to LISP control plane configuration.

Examples

The following is sample output from the **debug lisp control-plane configuration** command. In this example, the LISP Egress Tunnel Router (ETR) map-cache time-to-live (TTL) is modified:

```
Router# debug lisp control-plane configuration

LISP control plane configuration debugging is on

Router# configure terminal

Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# ipv4 etr map-cache-ttl 123

Router(config)#
Dec 18 07:40:50.457 PST: LISP: Config: ipv4 etr map-cache-ttl 123.

Router(config)# exit
Dec 18 07:41:07 PST: %SYS-5-CONFIG_I: Configured from console by admin on console

Router# no debug lisp control-plane configuration
LISP control plane configuration debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane etr-map-server

To display messages related to Locator/ID Separation Protocol (LISP) Egress Tunnel Router (ETR) map server registration, use the **debug lisp control-plane etr-map-server** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane configuration etr-map-server

no debug lisp control-plane configuration etr-map-server

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane configuration etr-map-server** command displays messages related to LISP ETR map-server registration events, including initial registration and periodic map server registration updates. This command can be useful for troubleshooting ETR map server registration issues.

Examples

The following is sample output from the **debug lisp control-plane etr-map-server** command. In this example, periodic LISP map-register messages are displayed.

```
Router# debug lisp control-plane configuration etr-map-server

LISP control plane ETR map server debugging is on

Router#
Dec 18 07:45:21.476 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
Dec 18 07:45:25.668 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
Dec 18 07:46:21.526 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
Dec 18 07:46:25.721 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
Dec 18 07:47:21.531 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
Dec 18 07:47:25.751 PST: LISP: Map Server 172.16.156.139, Sending map-register (src_rloc
172.16.156.222).
```

```
Router# no debug lisp control-plane etr-map-server
LISP control plane ETR map server debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane events

To display messages related to high-level Locator/ID Separation Protocol (LISP) Egress Tunnel Router (ETR) control-plane events, use the **debug lisp control-plane events** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane events

no debug lisp control-plane events

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane events** command displays high level messages related to LISP control-plane activities. These include activities such as clearing the LISP map-cache. This command can be useful for troubleshooting LISP control plane issues. This command is especially useful when used in conjunction with the **debug lisp detail** command.

Examples

The following is sample output from the **debug lisp control-plane events** command. In this example the **clear ip lisp map-cache** command is used to clear the map-cache:

```
Router# debug lisp control-plane events

LISP control plane event debugging is on

Router# clear ip lisp map-cache
Router#
Dec 18 08:07:46.187 PST: LISP: AF IPv4, Completed remote EID clear processing.
Dec 18 08:07:46.187 PST: LISP: AF IPv4, Static mapping re-create request while idle.

Router# no debug lisp control-plane events

LISP control plane event debugging is off
```

Related Commands

Command	Description
clear ip lisp map-cache	Clears the LISP map cache .
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.
debug lisp detail	Enables the display of additional detailed information, when available, by LISP debug commands.

debug lisp control-plane exceptions

To display Locator/ID Separation Protocol (LISP) control plane exceptions activities, use the **debug lisp control-plane exceptions** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane exceptions

no debug lisp control-plane exceptions

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane exceptions** displays all activities related to LISP control-plane exceptions not covered by other specific **debug lisp control-plane** commands. This debug command should be triggered only under error conditions. This command is useful for diagnosing many LISP control plane issues.

Examples

The following is sample output from the **debug lisp control-plane exceptions** command. In this example, the Egress Tunnel Router (ETR) is configured to register with a map server prior to the configuration of any local endpoint identifier (EID) prefixes, resulting in an exception condition:

```
Router# debug lisp control-plane exceptions

LISP control plane exception condition debugging is on

Router# configure terminal
Router(config)# ipv4 etr map-server 192.168.156.23 key 6 ############

Dec 18 15:40:12.504 PST: LISP: Map Server 192.168.156.23, Cannot send map register, no
locally configured EID prefixes.

Router(config)# exit
Router# no debug lisp control-plane exceptions

LISP control plane exception condition debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane forward-api-events

To display Locator/ID Separation Protocol (LISP) control plane messages related to the Cisco Express Forwarding (CEF) process, use the **debug lisp control-plane forward-api-events** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane forward-api-events

no debug lisp control-plane forward-api-events

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane forward-api-events** command displays messages related to the CEF process related to the LISP control-plane, including signals for new remote endpoint identifier (EID) prefixes for which data packets and locator status bit (LSB) reports are seen. This command can be useful for troubleshooting many LISP control plane issues. This command is best used in conjunction with the **debug lisp detail** command.

Examples

The following is sample output from the **debug lisp control-plane forward-api-events** command. In this example, LISP Ingress Tunnel Router (ITR) functionality is enabled on the router.

```
Router# debug lisp detail
Router# debug lisp control-plane forward-api-events

LISP control plane API forwarding event debugging is on

Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.

Router(config)# ipv4 itr
Router(config)#
*Dec 18 16:41:57.831: LISP: AF IPv4, Update of forwarding role to NONE.
*Dec 18 16:41:57.839: LISP: AF IPv4, Update of forwarding role to ITR.
*Dec 18 16:41:58.839: %LINEPROTO-5-UPDOWN: Line protocol on Interface LISP0, changed state
 to up

Router(config)# exit
Router# no debug lisp control-plane forward-api-events
```

```
LISP control plane API forwarding event debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.
debug lisp detail	Enables the display of additional detailed information, when available, by LISP debug commands.

debug lisp control-plane interface-address-watch

To display Locator/ID Separation Protocol (LISP) control plane messages related to routing locator (RLOC) interface tracking when an interface (as opposed to an address) is specified using the **database-mapping** command (such as when Dynamic Host Configuration Protocol (DHCP) is used), use the **debug lisp control-plane interface-address-watch** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane interface-address-watch

no debug lisp control-plane interface-address-watch

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane interface-address-watch** command displays LISP control plane messages related to RLOC interface tracking when an interface (as opposed to an address) is specified using the **database-mapping** command (such as when DHCP is used). This command is useful for troubleshooting many LISP control plane issues.

Examples

The following is sample output from the **debug lisp control-plane interface-address-watch** command. In this example, LISP Ingress Tunnel Router (ITR) functionality is enabled on the router.

```
Router# debug lisp control-plane interface-address-watch

LISP control plane interface address watch debugging is on

Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router(config)# router lisp
Router(config-router-lisp)# database-mapping 192.168.1.0/24 IPv4-interface Ethernet 0/0
priority 1 weight 1

Router(config)#
*Nov 2 13:58:57.111: LISP: IfAddrWatchIf Ethernet0/0, address 10.0.0.2
```

```
Router(config-router-lisp)#^Z

Router# no debug lisp control-plane interface-address-watch
LISP control plane interface address watch debugging is off
```

Related Commands

Command	Description
database-mapping	Configures an EID-to-RLOC mapping relationship and its associated traffic policy.
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.
debug lisp detail	Enables the display of additional detailed information, when available, by LISP debug commands.

debug lisp control-plane lig

To display messages related to Locator/ID Separation Protocol (LISP) Internet Groper (LIG) activities, use the **debug lisp control-plane lig** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane lig

no debug lisp control-plane lig

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane lig** command displays control-plane messages related to LIG activities. These include activities such as sending map-request messages and updating the map-cache database. This command can be useful for troubleshooting remote endpoint-identifier (EID) reachability issues when LIG is used as a diagnostic tool.

Examples

The following is sample output from the **debug lisp control-plane lig** command. In this example the **lig self** command is used to generate LISP control-plane LIG events:

```
Router# debug lisp control-plane lig

LISP control plane Internet Groper debugging is on

Router# lig self

Router#
Dec 18 08:37:48.421 PST: LISP: LIG LIG request for IPv4, EIDs self, count 3.
Dec 18 08:37:48.453 PST: LISP: LIG 172.16.21.0 Overriding map request parameters.
Dec 18 08:37:48.453 PST: LISP: Processing received Map-Reply message from 192.168.156.23
to 172.16.156.222.
Dec 18 08:37:48.457 PST: LISP: Received map reply nonce 0xF36F0E29-0x3E0CB09E, records 1.
Dec 18 08:37:48.457 PST: LISP: Processing mapping information for EID prefix
172.16.21.0/24.
Dec 18 08:37:48.457 PST: LISP: LIG 172.16.21.0 Moving info block from mapping entry
172.16.21.0/32 to 172.16.21.0/24.
```

```
Dec 18 08:37:48.921 PST: LISP: LIG 172.16.21.0 Checking for mapping updates.
Dec 18 08:37:48.921 PST: LISP: LIG 172.16.21.0 Displaying info.
```

In this example, the **lig** command is used to verify reachability and locator information for a remote EID:

```
Router# lig 172.16.12.1

Dec 18 08:38:24.391 PST: LISP: LIG LIG request for IPv4, EIDs 172.16.12.1, count 3.
Dec 18 08:38:24.423 PST: LISP: LIG 172.16.12.1 Overriding map request parameters.
Dec 18 08:38:24.423 PST: LISP: Processing received Map-Reply message from 192.168.156.23
to 172.16.156.222.
Dec 18 08:38:24.423 PST: LISP: Received map reply nonce 0x3B682123-0x7F506906, records 1.
Dec 18 08:38:24.423 PST: LISP: Processing mapping information for EID prefix
172.16.12.0/24.
Dec 18 08:38:24.423 PST: LISP: LIG 172.16.12.1 Moving info block from mapping entry
172.16.12.1/32 to 172.16.12.0/24.
Dec 18 08:38:24.891 PST: LISP: LIG 172.16.12.1 Checking for mapping updates.
Dec 18 08:38:24.891 PST: LISP: LIG 172.16.12.1 Displaying info.
```

In this example, the **lig** command is used to verify reachability and locator information for a remote EID that is not reachable (LIG fails to return a valid mapping entry):

```
Router# lig 172.16.2.1

Dec 18 08:39:33.496 PST: LISP: LIG LIG request for IPv4, EIDs 172.16.2.1, count 3.
Dec 18 08:39:33.532 PST: LISP: LIG 172.16.2.1 Overriding map request parameters.
Dec 18 08:39:33.996 PST: LISP: LIG 172.16.2.1 Checking for mapping updates.
***Did not receive*** mapping information for EID 172.16.2.1
Displaying information already present in cache:
0.0.0.0/0, uptime: 00:06:23, expires: never, via static
```

In this example, the **lig** command is used to verify reachability and locator information for a remote IPv6 EID that is reachable over an IPv4 (RLOC):

```
Router# lig 2001:db8:ab::1

*Mar 5 19:54:06.635: LISP: LIG Request for IPv6, EIDs 2001:DB8:AB::1, count 3.
*Mar 5 19:54:06.635: LISP: Remote EID prefix 2001:DB8:AB::1/128, Change state to
incomplete (method: LIG, state: unknown, rlocs: 0).
*Mar 5 19:54:06.659: LISP: Remote EID prefix 2001:DB8:AB::1/128, Send map request (1)
(method: LIG, state: incomplete, rlocs: 0).
*Mar 5 19:54:06.659: LISP: LIG 2001:DB8:AB::1 Overriding map request parameters.
*Mar 5 19:54:06.659: LISP: Send map request for EID prefix 2001:DB8:AB::1/128.
*Mar 5 19:54:06.659: LISP: AF IPv6, Sending map-request from 2001:DB8:AA:: to
2001:DB8:AB::1 for EID 2001:DB8:AB::1/128 nonce 0xC521BE47-0xAB5DAFD1 (encap src 10.0.0.1,
dst 10.0.0.6).
*Mar 5 19:54:06.659: LISP: Processing received Map-Reply message from 10.0.0.6 to
10.0.0.1.
*Mar 5 19:54:06.659: LISP: Received map reply nonce 0xC521BE47-0xAB5DAFD1, records 1.
*Mar 5 19:54:06.659: LISP: Processing mapping information for EID prefix
2001:DB8:AB::/48.
*Mar 5 19:54:06.659: LISP: Remote EID prefix 2001:DB8:AB::1/128, Change state to deleted
(method: LIG, state: incomplete, rlocs: 0).
*Mar 5 19:54:06.659: LISP: Remote EID prefix 2001:DB8:AB::/48, Updating existing entry
(method: map-request, state: complete, rlocs: 1).
*Mar 5 19:54:06.659: LISP: LIG 2001:DB8:AB::1 Moving info block from mapping entry
2001:DB8:AB::1/128 to 2001:DB8:AB::/48.
*Mar 5 19:54:06.659: LISP: Remote EID prefix 2001:DB8:AB::/48 locator 10.0.0.6 priority 1
weight 100, No change in locator (method: map-reply, state: complete, rlocs: 1).
*Mar 5 19:54:07.147: LISP: LIG 2001:DB8:AB::1 Checking for mapping updates.
*Mar 5 19:54:07.147: LISP: LIG 2001:DB8:AB::1 Displaying info.Router#
Mapping information for EID 2001:DB8:AB::1 from 10.0.0.6 with RTT 0 msecs
2001:DB8:AB::/48, uptime: 00:00:00, expires: 23:59:57, via map-reply, complete
Locator Uptime State Pri/Wgt
10.0.0.6 00:11:10 up 1/100

Router# no debug lisp control-plane lig
LISP control plane Internet Groper debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.
lig	Initiates a LIG operation for a destination EID or to test the router's local EID prefixes.

debug lisp control-plane local-eid-database

To display Locator/ID Separation Protocol (LISP) map-cache database mapping activities related to the addition or removal of local endpoint-identifier (EID) prefixes using the **database-mapping** command, use the **debug lisp control-plane local-eid-database** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane local-eid-database

no debug lisp control-plane local-eid-database

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane local-eid-database** command display LISP map-cache database mapping activities related to the addition or removal of local EID-prefixes using the **database-mapping** command. This command can be useful for troubleshooting issues related to the LISP map-cache and local EID-prefixes.

Examples

The following is sample output from the **debug lisp control-plane local-eid-database** command. In this example, a new local EID prefix is added using the **database-mapping** command:

```
Router# debug lisp control-plane local-eid-database

LISP control plane local EID database debugging is on

Router# configure terminal
Router(config)# database-mapping 10.1.1.0/24 192.223.156.22 priority 1 weight 100

Dec 18 08:41:56.857 PST: LISP: Local EID prefix 10.1.1.0/24, Created (rlocs: 0).
Dec 18 08:41:56.857 PST: LISP: Local RLOC Addr 192.223.156.22, Created (instances: 0).
Dec 18 08:41:56.857 PST: LISP: Local RLOC Addr prefix 10.1.1.0/24 192.223.156.22, Added
EID prefix (instances: 1).
Dec 18 08:41:56.857 PST: LISP: Local EID prefix 10.1.1.0/24 locator 192.223.156.22
priority 0 weight 0, Setting locator state to down (was unknown) (rlocs: 1).
Dec 18 08:41:56.861 PST: LISP: Local EID prefix 10.1.1.0/24 locator 192.223.156.22
priority 1 weight 100, Added locator (rlocs: 1).
Dec 18 08:41:56.861 PST: LISP: Local EID prefix 10.1.1.0/24 locator 192.223.156.22
priority 1 weight 100, Setting locator state to up (was down) (rlocs: 1).
```

```
Dec 18 08:41:56.861 PST: LISP: Local EID prefix 10.1.1.0/24, Updating locator status bits
from 0x0 to 0x1 (rlocs: 1).
```

In this example, a local EID prefix is removed using the **no database-mapping** command:

```
Router(config)# no database-mapping 10.1.1.0/24 172.16.156.22 priority 1 weight 100

Dec 18 08:43:25.681 PST: LISP: Local EID prefix 10.1.1.0/24 locator 192.223.156.22
priority 1 weight 100, Deleting locator (rlocs: 1).
Dec 18 08:43:25.681 PST: LISP: Local RLOC Addr prefix 10.1.1.0/24 192.223.156.22, Removed
prefix (instances: 0).
Dec 18 08:43:25.681 PST: LISP: Local EID prefix 10.1.1.0/24, Updating locator status bits
from 0x1 to 0x0 (rlocs: 0).
Dec 18 08:43:25.681 PST: LISP: Local EID prefix 10.1.1.0/24, Deleting (rlocs: 0).

Router(config)# exit
Router# no debug lisp control-plane local-eid-database
LISP control plane local EID database debugging is off
```

Related Commands

Command	Description
database-mapping	Configures an IPv6 EID-to-RLOC mapping relationship and its associated traffic policy.
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane local-rloc

To display Locator/ID Separation Protocol (LISP) database activities related to local routing locators (RLOCs), use the **debug lisp control-plane local-rloc**command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane local-rloc

no debug lisp control-plane local-rloc

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane local-rloc** command display LISP database activities related to RLOC probing. This command can be useful for troubleshooting issues related to local locators.

Examples

The following is sample output from the **debug lisp control-plane local-rloc** command:

```
Router# debug lisp control-plane local-rloc

LISP control plane local RLOC debugging is on

Router#
*Jun 25 19:31:39.755: LISP: Send map request for EID prefix 192.168.1.0/24.
*Jun 25 19:31:39.755: LISP: Local RLOC Addr 10.0.3.1, send local site RLOC probe.

Router# no debug lisp control-plane local-rloc

LISP control plane local RLOC debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-request

To display Locator/ID Separation Protocol (LISP) control plane activities related to map requests, use the **debug lisp control-plane map-request**command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-request

no debug lisp control-plane map-request

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane map-request** command display LISP control plane activities related to sending map requests. This command is useful for troubleshooting issues related to the LISP map cache.

Examples

The following is sample output from the **debug lisp control-plane map-request** command:

```
Router# debug lisp control-plane map-request

LISP control plane map-request debugging is on

Router# lig self

Mapping information for EID 192.168.1.0 from 10.0.2.1 with RTT 12 msecs
192.168.1.0/24, uptime: 01:15:23, expires: 23:59:57, via map-reply, self
Locator     Uptime    State      Pri/Wgt
10.0.2.1    01:15:23  up, self   1/50
10.0.3.1    01:15:23  up         1/50
*Jun 25 19:53:25.727: LISP: Send map request for EID prefix 192.168.1.0/32.
*Jun 25 19:53:25.727: LISP: AF IPv4, Sending map-request from 10.0.2.1 to 192.168.1.0 for
EID 192.168.1.0/32, ITR-RLOCs 1, nonce 0x56017D8F-0x975FDE4B (encap src 10.0.2.1, dst
10.0.100.2).

Router# no deb lisp control-plane map-request

LISP control plane map-request debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-resolver

On a device configured as a Locator/ID Separation Protocol (LISP) map resolver, to display LISP database activities related to local routing locators (RLOCs), use the **debug lisp control-plane map-resolver**command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-resolver

no debug lisp control-plane map-resolver

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane map-resolver**command displays LISP control plane activities related to map-resolver functions. This command can be useful for troubleshooting issues related to endpoint identifier-to-routing locator (EID-to-RLOC) mapping functions.

Examples

The following is sample output from the **debug lisp control-plane map-resolver**command. In this example, the **lig** command is used to query the EID-to-RLOC mapping for 192.168.2.1, but there is no entry, the map resolver returns a negative-map-reply:

On the map resolver:

```
Router# debug lisp control-plane map-resolver

LISP control plane map-resolver debugging is on
```

Next, on an Ingress Tunnel Router (ITR):

```
Router# lig 192.168.2.1

Mapping information for EID 192.168.2.1 from 10.0.100.2 with RTT 4 msecs
192.168.2.0/23, uptime: 00:04:38, expires: 00:14:57, via map-reply, forward-native
Negative cache entry, action: forward-native
```

Then, on the map resolver:

```
Router#
*Jun 25 20:00:21.879: LISP: Processing received Encap-Control message from 10.0.2.1 to
```

```
10.0.100.2.
*Jun 25 20:00:21.879: LISP: Processing received Map-Request message from 10.0.2.1 to
192.168.2.1.
*Jun 25 20:00:21.879: LISP: AF IPv4, Sending negative map-reply from 10.0.100.2 to
10.0.2.1 for 192.168.2.0/23.

Router# no debug lisp control-plane map-resolver

LISP control plane map-resolver debugging is off
Router#
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-server

To display Locator/ID Separation Protocol (LISP) database activities related to local routing locators (RLOCs), use the **debug lisp control-plane map-server**command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-server

no debug lisp control-plane map-server

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane map-server** command displays LISP control plane activities related to map-server functions, such as registration and the processing of Encapsulated Control Messages. This command can be useful for troubleshooting issues related to map-server functions.

Examples

The following is sample output from the **debug lisp control-plane map-server** command:

```
Router# debug lisp control-plane map-server

LISP control plane map-server debugging is on
*Jun 25 20:10:14.783: LISP: Processing received Map-Register message from 10.0.10.1 to
10.0.100.2.
*Jun 25 20:10:14.783: LISP: MS registration prefix 2001:DB8:B::/48 10.0.10.1 site
site2-xtr, Updating.
*Jun 25 20:10:15.615: LISP: Processing received Map-Register message from 10.0.9.1 to
10.0.100.2.
*Jun 25 20:10:15.615: LISP: MS registration prefix 192.168.11.0/24 10.0.9.1 site
site2-xtr, Updating.

Router# no debug lisp control-plane map-server

LISP control plane map-server debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-server-map-notify

To display Locator/ID Separation Protocol (LISP) control plane activities related to map-server map-notify message processing on a device configured as a LISP map server, use the **debug lisp control-plane map-server-map-notify** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-server-map-notify

no debug lisp control-plane map-server-map-notify

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane map-server-map-notify** command displays LISP control plane activities related to map-server map-notify message processing, which is part of LISP VM-Mobility. This command reports output only when the xTR is an NX-OS device. Use this command for troubleshooting issues related to map-server functions.

Examples

The following example shows how to enable LISP control-plane map-server-map-notify debugging:

```
Router# debug lisp control-plane map-server-map-notify
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-server-map-request

To display Locator/ID Separation Protocol (LISP) control plane activities related to map-server map-request message processing on a device configured as a LISP map server, use the **debug lisp control-plane map-server-map-request** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-server-map-request

no debug lisp control-plane map-server-map-request

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane map-server-map-request** command displays LISP control plane activities related to MS map-request message processing, such as registration and the processing of Encapsulated Control Messages. Use this command for troubleshooting issues related to map-server functions.

Examples

The following is sample output from the **debug lisp control-plane map-server-map-request** command:

```
Router# debug lisp control-plane map-server-map-request

LISP control plane map-server-map-request debugging is on
*Nov 2 16:22:42.339: LISP: Processing received Encap-Control message from 10.0.0.2 to
10.0.0.10
*Nov 2 16:22:42.339: LISP: Processing received Map-Request message from 192.168.1.255 to
192.168.2.1
*Nov 2 16:22:42.339: LISP: Received map request, source_eid UNSPEC, ITR-RLOCs: 10.0.0.2,
records 1, nonce 0xD4BDC3DE-0xFEDB32F8
*Nov 2 16:22:42.339: LISP: MS registration IID 123 prefix 192.168.2.0/24 10.0.0.6 site
Site-B, Forwarding map request to ETR 10.0.0.6.

Router# no debug lisp control-plane map-server-map-request

LISP control plane map-server-map-request debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-server-registration

To display Locator/ID Separation Protocol (LISP) control plane activities related to map-server map-registration message processing on a device configured as a LISP map server, use the **debug lisp control-plane map-server-registration** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-server-registration

no debug lisp control-plane map-server-registration

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane map-server-registration** command displays LISP control plane activities related to MS map-registration message processing. Use this command for troubleshooting issues related to map-server functions.

Examples

The following is sample output from the **debug lisp control-plane map-server-registration** command:

```
Router# debug lisp control-plane map-server-registration

LISP control plane map-server-registration debugging is on
*Nov 2 16:32:25.135: LISP: Processing received Map-Register message from 10.0.0.6 to
10.0.0.10
*Nov 2 16:32:25.135: LISP: Processing Map-Register, no proxy, do not want map-notify, 1
record, nonce 0xF52E06B6-0xBFEC2A80, key-id 1, auth-data-len 20
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LISP---101
*Nov 2 16:32:25.135: LISP: Processing Map-Register mapping record for IID 123
192.168.2.0/24,
ttl 1440, state complete, authoritative, 1 locator
*Nov 2 16:32:25.135: LISP: MS registration IID 123 prefix 192.168.2.0/24 10.0.0.6 site
Site-
B, Updating.
*Nov 2 16:32:30.095: LISP: Processing received Map-Register message from 10.0.0.6 to
10.0.0.10
*Nov 2 16:32:30.095: LISP: Processing Map-Register, no proxy, do not want map-notify, 1
```

```
record, nonce 0x114FC470-0x3E243D88, key-id 1, auth-data-len 20
*Nov 2 16:32:30.095: LISP: Processing Map-Register mapping record for IID 123
2001:DB8:B::/48, ttl 1440, state complete, authoritative, 1 locator
*Nov 2 16:32:30.095: LISP: MS registration IID 123 prefix 2001:DB8:B::/48 10.0.0.6 site
Site-B, Updating.

Router# no debug lisp control-plane map-server-registration

LISP control plane map-server-registration debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane map-server-registration errors

To display Locator/ID Separation Protocol (LISP) control plane errors related to map-server map-registration message processing on a device configured as a LISP map server, use the **debug lisp control-plane map-server-registration-errors** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane map-server-registration-errors

no debug lisp control-plane map-server-registration-errors

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane map-server-registration-errors** command displays LISP control plane errors related to map-server map-registration message processing. Use this command for troubleshooting issues related to map-server functions.

Examples

The following is sample output from the **debug lisp control-plane map-server-registration-errors** command. In this case, the xTR has been configured with a mismatching key, which results in a "Registration failed authentication" error message:

```
Router# debug lisp control-plane map-server-registration-errors

LISP control plane map-server-registration-errors debugging is on
*Nov 2 16:40:39.199: LISP: Processing received Map-Register message from 10.0.0.2 to
10.0.0.10
© 1992-2010 Cisco Systems, Inc. All rights reserved.
LISP---102
*Nov 2 16:40:39.199: LISP: Processing Map-Register, no proxy, do not want map-notify, 1
record, nonce 0x386E25EF-0x867941C6, key-id 1, auth-data-len 20
*Nov 2 16:40:39.199: LISP: Processing Map-Register mapping record for IID 123
192.168.1.0/24,
ttl 1440, state complete, authoritative, 1 locator
*Nov 2 16:40:39.199: LISP: MS EID IID 123 prefix 192.168.1.0/24 site Site-A, Registration
failed authentication.
```

```
Router# no debug lisp control-plane map-server-registration-errors
LISP control plane map-server-registration-errors debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane messages

To display Locator/ID Separation Protocol (LISP) control plane messages sent and received by the router, use the **debug lisp control-plane messages** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane messages

no debug lisp control-plane messages

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane messages** command displays all LISP control messages sent and received by the router, including map-register, map-request, and map-reply messages. This command can be useful for troubleshooting issues related to the LISP control plane.

Examples

The following is sample output from the **debug lisp control-plane messages** command. In this example, the **lig** command is used to generate LISP control-plane messages:

```
Router# debug lisp control-plane messages

LISP control plane message packet debugging is on

Router# lig 172.16.12.1
Dec 18 08:45:07.793 PST: LISP: Send map request for EID prefix 172.16.12.1/32.
Dec 18 08:45:07.793 PST: LISP: AF IPv4, Sending map-request from 172.16.156.222 to
172.16.12.1 for EID 172.16.12.1/32 nonce 0x8D222F15-0x056AA867 (encap src 172.16.156.222,
dst 172.16.156.139).
Dec 18 08:45:07.829 PST: LISP: Send map request for EID prefix 172.16.12.0/24.
Dec 18 08:45:07.829 PST: LISP: AF IPv4, Sending map-request from 172.16.156.222 to
172.16.156.23 for EID 172.16.12.0/24 nonce 0x531A2B97-0xEDD787F7.
Dec 18 08:45:12.240 PST: LISP: Processing received Encap-Control message from
172.16.156.139 to 172.16.156.222.
Dec 18 08:45:12.240 PST: LISP: Processing received Map-Request message from 164.73.6.2 to
172.16.21.67.
Dec 18 08:45:12.240 PST: LISP: Received map request, source_eid 190.2.29.193, itr_rloc
164.73.6.2, records 1, nonce 0x79A57533-0x2A41B57F.
```

```
Dec 18 08:45:12.240 PST: LISP: Processing map request record for EID prefix
172.16.21.67/32.
Dec 18 08:45:12.240 PST: LISP: Local EID prefix 172.16.21.0/24, Sending map-reply from
172.16.156.222 to 164.73.6.2 (rlocs: 1).
```

In this example, the local Egress Tunnel Router (ETR) is processing map request LISP control-plane messages:

```
Router#
Dec 18 08:48:54.250 PST: LISP: Processing received Encap-Control message from
172.16.156.139 to 172.16.156.222.
Dec 18 08:48:54.250 PST: LISP: Processing received Map-Request message from 172.16.156.23
to 172.16.21.1.
Dec 18 08:48:54.250 PST: LISP: Received map request, source_eid 172.16.12.0, itr_rloc
172.16.156.23, records 1, nonce 0xE8CF16C6-0x0A2DCEE8.
Dec 18 08:48:54.250 PST: LISP: Processing map request record for EID prefix
172.16.21.1/32.
Dec 18 08:48:54.250 PST: LISP: Local EID prefix 172.16.21.0/24, Sending map-reply from
172.16.156.222 to 172.16.156.23 (rlocs: 1).
Dec 18 08:48:54.250 PST: LISP: AF IPv4, Control packet parsing, Map-Request message has
trailing data (4).

Router# no debug lisp control-plane messages

LISP control plane messages debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane nsf

To display Locator/ID Separation Protocol (LISP) control plane activities related to nonstop forwarding, use the **debug lisp control-plane nsf** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane nsf

no debug lisp control-plane nsf

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane nsf** command displays activities related to LISP control plane activities during nonstop forwarding (NSF) events.

Examples

The following is sample output from the **debug lisp control-plane nsf** command. In this example, the output is displayed on the standby router:

```
Router-standby# debug lisp control-plane nsf
LISP control plane NSF debugging is on

Router-standby#
Mar 6 18:05:04.059 PST: %REDUNDANCY-3-SWITCHOVER: RP switchover (PEER_DOWN_INTERRUPT)
Mar 6 18:05:04.307 PST: LISP: AF IPv4, NSF start processing.
Mar 6 18:05:04.307 PST: LISP: AF IPv4, NSF control set state to hold.
Mar 6 18:05:04.419 PST: LISP: AF IPv4, NSF remote EID replay walk done.
Mar 6 18:05:10.731 PST: %HA-6-MODE: Operating RP redundancy mode is SSO
Router#
Mar 6 18:05:32.523 PST: LISP: AF IPv4, NSF control set state to ready.
Router#
Mar 6 18:05:39.539 PST: %HA_CONFIG_SYNC-6-BULK_CFGSYNC_SUCCEED: Bulk Sync succeeded
Mar 6 18:05:39.547 PST: %HA-6-STANDBY_READY: Standby RP in slot 7 is operational in SSO
mode
Router#
Mar 6 18:05:39.551 PST: %RF-5-RF_TERMINAL_STATE: Terminal state reached for (SSO)
Router#
Mar 6 18:05:42.795 PST: LISP: AF IPv4, NSF RIB converged.
```

```
Router # no debug lisp control-plane nsf

LISP control plane NSF debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane remote-eid-cache

To display messages alerting to modifications to the Locator/ID Separation Protocol (LISP) mapping cache, use the **debug lisp control-plane remote-eid-cache** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane remote-eid-cache

no debug lisp control-plane remote-eid-cache

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane remote-eid-cache** command displays messages alerting you to modifications to the LISP mapping cache. This command can be useful for troubleshooting issues such as endpoint-identifier (EID) reachability.

Examples

The following is sample output from the **debug lisp control-plane remote-eid-cache** command. In this example, the **lig** command is used to modify the LISP map-cache:

```
Router# debug lisp control-plane remote-eid-cache

LISP control plane remote EID cache debugging is on

Router# lig 172.16.12.1

Dec 18 08:50:18.970 PST: LISP: Remote EID prefix 172.16.12.1/32, Change state to
incomplete (method: LIG, state: unknown, rlocs: 0).
Dec 18 08:50:19.006 PST: LISP: Remote EID prefix 172.16.12.1/32, Send map request (1)
(method: LIG, state: incomplete, rlocs: 0).
Dec 18 08:50:19.006 PST: LISP: Processing received Map-Reply message from 172.16.156.23 to
172.16.156.222.
Dec 18 08:50:19.006 PST: LISP: Received map reply nonce 0x8F5B46DE-0xC515F41C, records 1.
Dec 18 08:50:19.006 PST: LISP: Processing mapping information for EID prefix
172.16.12.0/24.
Dec 18 08:50:19.006 PST: LISP: Remote EID prefix 172.16.12.0/24, Updating existing entry
(method: map-reply, state: complete, rlocs: 1).
Dec 18 08:50:19.006 PST: LISP: Remote EID prefix 172.16.12.1/32, Change state to deleted
```

```
(method: LIG, state: incomplete, rlocs: 0).
Dec 18 08:50:19.010 PST: LISP: Remote EID prefix 172.16.12.0/24 locator 172.16.156.23
priority 1 weight 100, No change in locator (method: map-reply, state: complete, rlocs:
1).
```

The following example shows how to enter the **clear ip lisp map-cache** command to clear the LISP map cache:

```
Router# clear ip lisp map-cache

Dec 18 08:52:40.816 PST: LISP: Remote EID prefix 0.0.0.0/0, Change state to deleted
(method: static, state: send-map-request, rlocs: 0).
Dec 18 08:52:40.816 PST: LISP: Remote EID prefix 0.0.0.0/1, Change state to deleted
(method: map-reply, state: forward-native, rlocs: 0).
Dec 18 08:52:40.816 PST: LISP: Remote EID prefix 172.16.12.0/24, Change state to deleted
(method: map-reply, state: complete, rlocs: 1).
Dec 18 08:52:40.816 PST: LISP: Remote EID prefix 172.16.12.0/24 locator 172.16.156.23
priority 1 weight 100, Deleting locator (method: map-reply, state: complete, rlocs: 1).
Dec 18 08:52:40.816 PST: LISP: Remote EID prefix 172.16.12.0/24, Recalculated RLOC status
bits from 0x1 to 0x0 (method: map-reply, state: complete, rlocs: 0).
Dec 18 08:52:40.820 PST: LISP: AF IPv4, Completed remote EID clear processing.
Dec 18 08:52:40.820 PST: LISP: Remote EID prefix 0.0.0.0/0, Change state to
send-map-request (method: static, state: unknown, rlocs: 0).

Router# no debug lisp control-plane remote-eid-cache

LISP control plane remote EID cache debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane remote-eid-persistent

To display alert messages regarding modifications to the Locator/ID Separation Protocol (LISP) mapping cache for remote endpoint identifiers (EIDs), use the **debug lisp control-plane remote-eid-persistent** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane remote-eid-persistent

no debug lisp control-plane remote-eid-persistent

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Use the **debug lisp control-plane remote-eid-persistent** command to display messages alerts regarding modifications to the LISP mapping cache for remote EIDs. You can use this command for troubleshooting issues such as remote EID reachability problems.

Examples

The following is sample output from the **debug lisp control-plane remote-eid-persistent** command. In this example, the **lig** command is used to modify the LISP map-cache:

```
Router# debug lisp control-plane remote-eid-persistent

LISP control plane remote EID mapping persistent debugging is on
Router# lig 192.168.2.1

Mapping information for EID 192.168.2.1 from 10.0.0.6 with RTT 4 msecs
192.168.2.0/24, uptime: 00:00:00, expires: 23:59:52, via map-reply, complete
Locator Uptime State Pri/Wgt
10.0.0.6 00:00:00 up 1/1
*Nov 2 16:52:50.591: LISP: AF IPv4, Persistent db: opened
unix:LISP-MapCache-IPv4-00000123-
00030.tmp for writing.
*Nov 2 16:52:50.591: LISP: AF IPv4, Persistent db: wrote 1 prefixes to unix:LISP-MapCache-
IPv4-00000123-00030.tmp.
*Nov 2 16:52:50.599: LISP: AF IPv4, Persistent db: deleted
unix:LISP-MapCache-IPv4-00000123-
00030 prior to rename.
*Nov 2 16:52:50.599: LISP: AF IPv4, Persistent db: renamed
```

```
unix:LISP-MapCache-IPv4-00000123-
00030.tmp to unix:LISP-MapCache-IPv4-00000123-00030.

Router# no debug lisp control-plane remote-eid-persistent

LISP control plane remote EID mapping persistent debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane remote-rloc-watch

To display messages related to routing-locator (RLOC) probes from other xTRs, use the **debug lisp control-plane remote-rlocwatch** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane remote-rloc-watch

no debug lisp control-plane remote-rloc-watch

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Use the **debug lisp control-plane remote-rloc-watch** command to display messages related to RLOC probes from other xTRs. Use this command for troubleshooting local endpoint identifier-to-routing locator (EID-to-RLOC) mapping issues.

Examples

The following example shows how to enable debugging related to RLOC probes from other xTRs:

```
Router# debug lisp control-plane remote-rloc watch
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane rib-rloc-watch

To display messages related to the up/down local/remote status of local locators in the Routing Information Base (RIB), use the **debug lisp control-plane rib-rloc-watch** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane rib-rloc-watch

no debug lisp control-plane rib-rloc-watch

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane rib-rloc-watch** command displays messages related to the up/down local/remote status of local locators in the RIB. This command can be useful for troubleshooting local endpoint identifier-to-routing locator (EID-to-RLOC) mapping issues.

Examples

The following is sample output from the **debug lisp control-plane rib-rloc-watch** command. In this example, the locator is marked as unreachable (down) using the **locator-down** command:

```
Router# debug lisp control-plane rib-rloc-watch

LISP control plane RIB RLOC watch debugging is on
Dec 18 09:26:21.932 PST: LISP RIB_RWATCH: Debugging is ON

Router# configure terminal
Router(config)# router lisp
Router(config-router-lisp)# locator-down 172.16.21.0/24 172.16.156.222

Dec 18 09:29:02.864 PST: LISP: Local RLOC Addr prefix 172.16.21.0/24 172.16.156.222,
Removed prefix (instances: 0).
Dec 18 09:29:02.864 PST: LISP: Local RLOC Addr 172.16.156.222, Deleting (instances: 0).
Dec 18 09:29:02.868 PST: LISP RIB_RWATCH: (default:ipv4:base) W 172.16.156.222/32
c=0x4843B5DC EVENT Track stop
Dec 18 09:29:02.868 PST: LISP RIB_RWATCH: (default:ipv4:base) W 172.16.156.222/32
c=0x4843B5DC Removing

Router(config-router-lisp)# no locator-down 172.16.21.0/24 172.16.156.222
```

```
Dec 18 09:30:16.869 PST: LISP RIB_RWATCH: (default:ipv4:base) T 172.16.156.222/32 EVENT
Track start
Dec 18 09:30:16.869 PST: LISP RIB_RWATCH: (default:ipv4:base) N 172.16.156.222/32 Adding
track
Dec 18 09:30:16.869 PST: LISP RIB_RWATCH: Adding to client notification queue
Dec 18 09:30:16.869 PST: LISP: Local RLOC Addr prefix 172.16.21.0/24 172.16.156.222, Added
EID prefix (instances: 1).
Dec 18 09:30:16.869 PST: LISP RIB_RWATCH: (default:ipv4:base) W 172.16.156.222/32
c=0x4843B5DC Client notified reachable
Dec 18 09:30:16.869 PST: LISP: Local RLOC Addr 172.16.156.222, Reachability notification,
up* local* (instances: 1).

Router(config-router-lisp)# exit
Router# no debug lisp control-plane rib-rloc-watch

LISP control plane RIB RLOC watch debugging is off
Dec 18 09:31:13.614 PST: LISP RIB_RWATCH: Debugging is OFF
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane rib-route-import

To display Locator ID Separation Protocol (LISP) control plane activities related to the **ipv4 route-import** or **ipv6 route-import** commands, use the **debug lisp control-plane rib-route-import** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane rib-route-import

no debug lisp control-plane rib-route-import

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

When a Proxy Ingress Tunnel Router (PITR) is configured to dynamically import IPv4 or IPv6 endpoint identifier (EID) prefixes for use in signaling the LISP control plane to send a Map Request message for EID-to-RLOC mapping resolution, it may be desirable to monitor this dynamic import activity. The **debug lisp control-plane rib-route-import** command displays events related to LISP control plane route-import activities.

Examples

The following is sample output from the **debug lisp control-plane rib-route-import** command. In this example, when **clear ip lisp route-import** is entered, all route-import routes are marked stale, then re-evaluated according to the **ip lisp route-import map-cache** command, and remaining stale routes removed, as indicated by the debug output.

```
Router# debug lisp control-plane rib-route-import
LISP control plane RIB route import debugging is on
Router# clear ip lisp route-import
*Jun 27 21:42:12.215: LISP: AF IPv4, rtimp re-eval marking stale.
*Jun 27 21:42:12.215: LISP: AF IPv4, rtimp re-eval walking rib.
*Jun 27 21:42:12.215: LISP: AF IPv4, rtimp re-eval delete stale.
*Jun 27 21:42:12.215: LISP: AF IPv4, rtimp re-eval done.
Router# show ip lisp route-import
LISP IPv4 imported routes for EID-table default (IID 0)
Config: 1, Entries: 4
Prefix        Uptime     Source    Map-cache State
10.0.1.0/24   00:08:20   static    installed
10.0.2.0/24   00:08:20   static    installed
10.0.3.0/24   00:08:20   static    installed
10.0.4.0/24   00:08:20   static    installed
Router# no debug lisp control-plane rib-route-import
LISP control plane RIB route import debugging is off
Router#
```

Related Commands

Command	Description
clear ip lisp route-import	Clears the IPv4 table and forces a re-evaluation of all imported routes.
clear ipv6 lisp route-import	Clears the IPv6 table and forces a re-evaluation of all imported routes.
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.
ipv4 route-import map-cache	Configures a Proxy-ITR to dynamically import IPv4 LISP EID space for which it is proxying.
ipv6 route-import map-cache	Configures a Proxy-ITR to dynamically import IPv6 LISP EID space for which it is proxying.

debug lisp control-plane solicit-map-request

To display information related to Locator/ID Separation Protocol (LISP) solicit-map-request messages, use the **debug lisp control-plane solicit-map-request** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane solicit-map-request

no debug lisp control-plane solicit-map-request

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

The **debug lisp control-plane solicit-map-request** command controls the display of information related to LISP solicit-map-request (SMR) messages. When this command is configured, an SMR is sent each time endpoint identifier-to-routing locator (EID-to-RLOC) mapping information changes. Use this command for troubleshooting static EID-to-RLOC mapping issues.

Examples

The following is sample output from the **debug lisp control-plane solicit-map-request** command. In this example, the priority value is changed in a LISP EID-to-RLOC mapping:

```
Router# debug lisp control-plane solicit-map-request

LISP control plane solicit-map-request debugging is on

Router# configure terminal
Router(config)# router lisp
Router(config-router-lisp)# database-mapping 192.168.1.0/24 10.0.0.2 priority 2 weight 1

*Nov 2 17:44:31.943: LISP: Send map request for EID prefix 192.168.2.0/24
*Nov 2 17:44:31.943: LISP: AF IPv4, Sending probe map-request from 10.0.0.2 to 10.0.0.6
for
EID 192.168.2.0/24, ITR-RLOCs 1, nonce 0x5E2340D9-0x8E15E34A, SMR 192.168.1.0.
*Nov 2 17:44:33.243: %SYS-5-CONFIG_I: Configured from console by console

Router(config-router-lisp)#^Z
Router# no debug lisp control-plane solicit-map-request
```

```
LISP control plane solicit-map-request debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp control-plane static-mapping

To display messages related to the creation or removal of Locator/ID Separation Protocol (LISP) static map-cache entries via the **map-cache** command, use the **debug lisp control-plane static-mapping** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp control-plane static-mapping

no debug lisp control-plane static-mapping

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp control-plane static-mapping** command displays messages related to the creation or removal of LISP static map-cache entries via the **map-cache** command. This command can be useful for troubleshooting static (EID-to-RLOC) mapping issues.

Examples

The following is sample output from the **debug lisp control-plane static-mapping** command. In this example, a LISP static map-cache entry is created using the **map-cache** command:

```
Router# debug lisp control-plane static-mapping

LISP control plane static remote EID mapping debugging is on

Router# configure terminal
Router (config)# router lisp
Router(config-router-lisp)# map-cache 10.1.1.0/24 172.16.1.1 priority 1 weight 100

Dec 18 09:43:13.982 PST: LISP: Static Mapping prefix 10.1.1.0/24 locator 172.16.1.1 priority
 1 weight 100, Created (state: complete).

Router(config-router-lisp)# exit
Router# no debug lisp control-plane static-mapping

LISP control plane static remote EID mapping debugging is off
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp detail

To enable the display of additional detailed information, when available, by Locator/ID Separation Protocol (LISP) debug commands, use the **debug lisp detail** command in privileged EXEC mode prior to issuing any other LISP debug command. To turn off detailed debugging for LISP debug commands, use the **no** form of this command.

debug lisp detail

no debug lisp detail

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp detail** command enables the display of detailed information, when available, by certain LISP debug commands. This command can be useful for troubleshooting many LISP related issue by causing the display of more detailed debugging output.

Examples

The following is sample output from the **debug lisp detail** command. In this example, the **clear ip lisp map-cache** command is first issued with the debug **debug lisp control-plane events** command enabled. The **clear ip lisp map-cache** command is then repeated after you enter the debug **ebug lisp detail** command for comparison:

```
Router# debug lisp control-plane events

LISP control plane event debugging is on

Router# clear ip lisp map-cache

Dec 18 09:47:28.386 PST: LISP: AF IPv4, Completed remote EID clear processing.
Dec 18 09:47:28.386 PST: LISP: AF IPv4, Static mapping re-create request while idle.

Router# debug lisp detail
Router# clear ip lisp map-cache

Dec 18 09:47:48.229 PST: LISP: AF IPv4, Completed remote EID clear processing.
Dec 18 09:47:48.229 PST: LISP: AF IPv4, Static mapping re-create request while idle.
```

```
Dec 18 09:47:48.233 PST: LISP: AF IPv4, Updated 2 remote EID entries in forwarding table.
Dec 18 09:47:48.233 PST: LISP: AF IPv4, Re-creating default static map.
Dec 18 09:47:48.233 PST: LISP: AF IPv4, Re-created 0 static mappings.
Dec 18 09:47:48.233 PST: LISP: AF IPv4, Updated 1 remote EID entries in forwarding table.

Router# no debug lisp detail
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp filter eid

To restrict the output of Locator/ID Separation Protocol (LISP) debug commands by filtering on a specific EID prefix, use the **debug lisp filter eid** command in privileged EXEC mode prior to issuing other LISP debug commands. To remove debug filtering restrictions for LISP debug commands, use the **no** form of this command.

debug lisp filter eid {*EID-prefix*/*prefix-length*| **ipv4**| **ipv6**}

no debug lisp filter eid

Syntax Description

EID-prefix/prefix-length	IPv4 or IPv6 EID-prefix to filter debug output..
ipv4	Enables debugging of all IPv4 EID prefixes
ipv6	Enables debugging of all IPv6 EID prefixes

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

The amount of output displayed by debug commands can be overwhelming, making the task of troubleshooting difficult. This is especially true when debugging is not filtered to match the packets of interest. The **debug lisp filter eid** command provides a mechanism for reducing the output of the various LISP-related debug commands by matching only on the specified EID-prefix. This command can be useful for troubleshooting any LISP related issue.

Examples

The following is sample output from the **debug lisp filter eid** command. In this example, a debug LISP filter is set for the EID 172.16.12.1/32, and then the **debug lisp control-plane lig** command is enabled. The **lig** command is used for the EID 172.16.12.1, and then repeated for the EID 172.16.8.1 for comparison. As shown, no debug output is displayed in the second case because the EID does not match the filter:

In this example, a debug LISP filter is set for the EID 172.16.12.1/32,

```
Router# debug lisp filter eid 172.16.12.1/32
Router# debug lisp control-plane lig
Router# lig 172.16.12.1

Mapping information for EID 172.16.12.1 from 172.16.156.23 with RTT 0 msecs
172.16.12.0/24, uptime: 00:09:27, expires: 23:59:57, via map-reply, complete
   Locator        Uptime     State     Pri/Wgt
172.16.156.23     00:09:27    up        1/100
Dec 18 10:12:51.664 PST: LISP: LIG LIG request for IPv4, EIDs 172.16.12.1, count 3.
Dec 18 10:12:51.700 PST: LISP: LIG 172.16.12.1 Overriding map request parameters.
Dec 18 10:12:51.700 PST: LISP: Processing received Map-Reply message from 172.16.156.23 to
172.16.156.222.
Dec 18 10:12:51.700 PST: LISP: Received map reply nonce 0x1D48A927-0x50643A78, records 1.
Dec 18 10:12:51.700 PST: LISP: Processing mapping information for EID prefix
172.16.12.0/24.
Dec 18 10:12:51.700 PST: LISP: LIG 172.16.12.1 Moving info block from mapping entry
172.16.12.1/32 to 172.16.12.0/24.
Dec 18 10:12:52.168 PST: LISP: LIG 172.16.12.1 Checking for mapping updates.
Dec 18 10:12:52.168 PST: LISP: LIG 172.16.12.1 Displaying info.

Router# lig 172.16.8.1

Mapping information for EID 172.16.8.1 from 149.142.0.87 with RTT 92 msecs
172.16.8.0/24, uptime: 00:00:00, expires: 23:59:57, via map-reply, complete
Locator                                 Uptime     State    Pri/Wgt
149.142.0.87                            00:00:00    up        1/100
2607:F010:3FD:3:230:48FF:FE7E:6EDF      00:00:00    up        1/100

Router# no debug lisp filter 172.16.12.1/32
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp filter instance-id

To restrict the output of LISP debug-related commands by filtering on a specific instance-id, use the **debug lisp filter instance-id** command in privileged EXEC mode prior to issuing any other LISP debug command. To remove debug filtering restrictions for LISP debug commands, use the **no** form of this command.

debug lisp filter instance-id *iid*

no debug lisp filter instance-id *iid*

Syntax Description

iid	IPv4 or IPv6 EID instance ID.

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

On an LISP Map-Server (MS), the amount of output displayed by debug commands can be overwhelming, making the task of troubleshooting difficult. This is especially true when debugging does not match solely the packets of interest. Use the **debug lisp filter instance-id** command to reduce the output of the various LISP-related debug commands by matching on and displaying only packets related to a specified LISP instance. Use this command for troubleshooting any LISP related issue.

Examples

The following is sample output from the **debug lisp filter instance-id** command when enabled on a LISP Map-Server. In this example, a debug LISP filter is configured for instance 123 and then the **debug lisp control-plane map-server-registration** command is enabled.

```
Router# debug lisp filter instance-id 123
LISP control debug instance ID filtering is on
Router# debug lisp control-plane map-server-registration
LISP control plane map-server-registration debugging is on
Router#
*Nov 2 19:11:21.627: LISP: Processing received Map-Register message from 10.0.0.6 to
10.0.0.10
*Nov 2 19:11:21.627: LISP: Processing Map-Register, no proxy, do not want map-notify, 1
record, nonce 0xA7AE6234-0xB3D2261C, key-id 1, auth-data-len 20
*Nov 2 19:11:21.627: LISP: Processing Map-Register mapping record for IID 123 192.168.2.0/24,
ttl 1440, state complete, authoritative, 1 locator
*Nov 2 19:11:21.627: LISP: MS registration IID 123 prefix 192.168.2.0/24 10.0.0.6 site Site-
B, Updating.
*Nov 2 19:11:22.683: LISP: Processing received Map-Register message from 10.0.0.6 to
10.0.0.10
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LISP--114
```

```
*Nov 2 19:11:22.683: LISP: Processing Map-Register, no proxy, do not want map-notify, 1
record, nonce 0x886A371D-0x7EAA1576, key-id 1, auth-data-len 20
*Nov 2 19:11:22.683: LISP: Processing Map-Register mapping record for IID 123
2001:DB8:B::/48, ttl 1440, state complete, authoritative, 1 locator
Router# no debug lisp filter instance-id 123
LISP control debug instance ID filtering is off
Router#
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp filter rloc

To restrict the output of Locator/ID Separation Protocol (LISP) debugging by filtering on a specific locator address , use the **debug lisp filter rloc** command in privileged EXEC mode prior to issuing any other LISP debug command. To remove debug filtering restrictions for LISP debug commands, use the **no** form of this command.

debug lisp filter rloc *locator*

no debug lisp filter rloc [*locator*]

Syntax Description

locator	Specific IPv4 or IPv6 locator address to filter debug output.

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

The amount of output displayed by debug commands can be overwhelming, making the task of troubleshooting difficult. This is especially true when debugging is not filtered to match the packets of interest. The **debug lisp filter rloc** command provides a mechanism for reducing the output of the various LISP-related debug commands by matching only on the specified locator address. This command can be useful for troubleshooting any LISP-related issue.

Examples

The following is sample output from the **debug lisp filter rloc** command. In this example, a debug LISP filter is set for the locator 172.16.156.23, and then the **debug lisp control-plane lig** command is enabled. The **lig** command is used for the EID 172.16.12.1 (which is mapped to the locator 172.16.156.23 and matches the locator filter), and then repeated for the EID 172.16.8.1 (for which the locator does not match the locator filter) for comparison:

```
Router# debug lisp filter rloc 172.16.156.23
Router# debug lisp control-plane lig
Router# lig 172.16.12.1

Mapping information for EID 172.16.12.1 from 172.16.156.23 with RTT 40 msecs
```

```
172.16.12.0/24, uptime: 00:00:00, expires: 23:59:57, via map-reply, complete
Locator         Uptime     State      Pri/Wgt
172.16.156.23   00:00:00   up         1/100
Dec 18 10:07:45.546 PST: LISP: LIG LIG request for IPv4, EIDs 172.16.12.1, count 3.
Dec 18 10:07:45.578 PST: LISP: LIG 172.16.12.1 Overriding map request parameters.
Dec 18 10:07:45.578 PST: LISP: Processing received Map-Reply message from 172.16.156.23 to
172.16.156.222.
Dec 18 10:07:45.578 PST: LISP: Received map reply nonce 0xB2FB1854-0xC509CF61, records 1.
Dec 18 10:07:45.578 PST: LISP: Processing mapping information for EID prefix
172.16.12.0/24.
Dec 18 10:07:45.578 PST: LISP: LIG 172.16.12.1 Moving info block from mapping entry
172.16.12.1/32 to 172.16.12.0/24.
Dec 18 10:07:46.046 PST: LISP: LIG 172.16.12.1 Checking for mapping updates.
Dec 18 10:07:46.046 PST: LISP: LIG 172.16.12.1 Displaying info.
dmm-isr#lig 172.16.10.1
Mapping information for EID 172.16.10.1 from 172.16.156.134 with RTT 0 msecs
172.16.10.0/24, uptime: 00:07:27, expires: 23:59:57, via map-reply, complete
Locator                      Uptime    State     Pri/Wgt
172.16.156.134               00:07:27   up         1/50
192.168.65.94                00:07:27   up         1/50
2001:468:D01:9C::80DF:9C86    00:07:27   up         2/100

Router# no debug lisp filter rloc 172.16.156.23
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp filter router-lisp-id

To restrict the output of Locator ID Separation Protocol (LISP)-related **debug** commands by filtering on a specific router LISP ID, use the **debug lisp filter router-lisp-id** command in privileged EXEC mode prior to issuing any other LISP **debug** command. To remove specific or all debug filtering restrictions for LISP **debug** commands, use the **no** form of this command.

debug lisp filter router-lisp-id *id*

no debug lisp filter router-lisp-id *id*

Syntax Description

id	LISP instantiation ID. Valid values are 0 to 15.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.1(4)XB6	This command was introduced.

Usage Guidelines

On a LISP map server (MS), the amount of output displayed by **debug** commands can be overwhelming, making the task of troubleshooting difficult. This is especially true when debugging does not match solely the packets of interest. Use the **debug lisp filter router-lisp-id** command to reduce the output of the various LISP-related **debug** commands by matching on and displaying only packets related to a specified router LISP ID. Use this command for troubleshooting any LISP-related issue.

Examples

In the following example, the **debug lisp filter router-lisp-id** command is configured on a LISP map server for the router LISP ID 1. Then, the **debug lisp control-plane map-server-registration** command is enabled. The result is that only map registrations associated with the router LISP ID 1 are displayed.

```
Router# debug lisp filter router-lisp-id 1
LISP control debug Router LISP ID filtering is on
Router# debug lisp control-plane map-server-registration
LISP control plane map-server registration debugging is on
Router#
*Oct 19 06:46:35.386: LISP: Processing received Map-Register message from 10.1.1.1 to
10.100.1.2
*Oct 19 06:46:35.386: LISP: Processing Map-Register no proxy, no map-notify, no merge,
security, no mobile-node, 1 record, nonce 0x358177B0-0xDCA71C5C, key-id 1, auth-data-len
20
*Oct 19 06:46:35.386: LISP: Processing Map-Register mapping record for IID 101 192.168.1.0/24,
 ttl 1440, action none, authoritative, 1 locator
 10.1.1.1 pri/wei=1/1 Lpr
*Oct 19 06:46:35.386: LISP-1: MS registration IID 101 prefix 192.168.1.0/24 10.1.1.1 site
p1c1s1, Updating.
Router# no debug lisp filter router-lisp-id 1
LISP control debug Router LISP ID filtering is off
```

```
Router#
```

Related Commands

Command	Description
debug lisp control-plane all	Displays all possible debugging messages for the LISP control plane.

debug lisp forwarding adjacency

To display messages related to Locator/ID Separation Protocol (LISP) forwarding adjacency activities, use the **debug lisp forwarding adjacency** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding adjacency

no debug lisp forwarding adjacency

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp forwarding adjacency** command displays events related to LISP forwarding adjacency activities including when an adjacency is reevaluated, a new next hop is used, or when an adjacency maximum transmission unit (MTU) is updated as the result of path MTU discovery (PMTUD). This command can be useful for troubleshooting LISP forwarding issues.

Examples

The following is sample output from the **debug lisp forwarding adjacency** command. In this example, a static endpoint identifier-to-routing locator (EID-to-RLOC) map entry is configured using the **map-cache** command, resulting in the addition of a new map-cache forwarding entry:

```
Router# debug lisp forwarding adjacency

LISP adjacency debugging is on

Router# configure terminal
Router(config)# router lisp

Router(config-router-lisp)# map-cache 10.2.3.0/24 10.10.10.1 priority 1 weight 100
Dec 18 11:29:51.266 PST: LISPadj: IP adj out of LISP0, addr 10.10.10.1 (incomplete) adding
LISP source
Dec 18 11:29:51.270 PST: LISPadj: IP midchain out of LISP0, addr 10.10.10.1 (incomplete)
pick source RLOC 172.16.156.222 MTU 1464
Dec 18 11:29:51.270 PST: LISPadj: IP midchain out of LISP0, addr 10.10.10.1 pick source
RLOC 172.16.156.222 MTU 1464
```

```
Router(config-router-lisp)# ^Z
Router# no debug lisp forwarding adjacency

LISP adjacency debugging is off
```

Related Commands

Command	Description
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-map-request	Displays LISP data-driven map request debug messages.
debug lisp forwarding data-signal-status-bits	Displays LISP data driven locator status bits change debug messages.
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding remote-eid-prefix	Displays LISP remote eid prefix events in forwarding module debug messages.
debug lisp forwarding state	Displays debug messages related to LISP forwarding module state.
debug lisp forwarding virtual-interface-address	Displays LISP virtual interface address selection debugs.

debug lisp forwarding alt-prefix

To display messages related to Locator/ID Separation Protocol (LISP) forwarding adjacency activities associated with the LISP Alternative Logical Topology (ALT) virtual routing and forwarding (VRF), use the **debug lisp forwarding alt-prefix** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding alt-prefix

no debug lisp forwarding alt-prefix

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

The **debug lisp forwarding alt-prefix** command displays messages related to merging of prefixes from the ALT VRF into the main table. This command is used only when running as a Proxy Ingress Tunnel Router (PITR).

This command can be useful for troubleshooting LISP forwarding issues when a LISP ITR or PITR uses the ALT directly for IPv4 endpoint identifier-to-routing locator (EID-to-RLOC) mapping resolution.

Examples

The following is sample output from the **debug lisp forwarding alt-prefix** command. In this example, **ipv4 proxy-itr** and **ipv4 alt-vrf** command functions are enabled, and LISP ALT prefix events in forwarding module debugging is on:

```
Router# configure terminal
Router(config)# router lisp
Router(config-router-lisp)# ipv4 proxy-itr
Router(config-router-lisp)# ipv4 alt-vrf lisp
Router(config-router-lisp)# exit
Router# debug lisp forwarding alt-prefix

*Feb 24 01:14:15.347: LISPalt: IPv4:Default repopulate end
*Feb 24 01:14:15.347: LISPalt: IPv4:Default:172.16.0.0/24 Added LISP_ALT src, success
*Feb 24 01:14:15.347: LISPalt: IPv4:Default:172.16.1.0/31 Added LISP_ALT src, success
*Feb 24 01:14:15.347: LISPalt: IPv4:Default:172.16.1.0/32 Added LISP_ALT src, success
*Feb 24 01:14:15.347: LISPalt: IPv4:Default:192.168.1.0/24 Added LISP_ALT src, success
```

```
*Feb 24 01:14:15.347: LISPalt: IPv4:Default repopulate end
Router(config-router-lisp)# ^Z
Router# no debug lisp forwarding alt-prefix

LISP ALT prefix events in forwarding module debugging is off
```

Related Commands

Command	Description
ipv4 alt-vrf	Configures which VRF supporting the IPv4 address family LISP should use when sending map requests for an IPv4 EID-to-RLOC mapping directly over the ALT.
ipv4 proxy-itr	Configures the router to act as an IPv4 LISP PITR.
ipv6 alt-vrf	Configures which VRF supporting the IPv6 address family LISP should use when sending map requests for an IPv6 EID-to-RLOC mapping directly over the ALT.
ipv6 proxy-itr	Configures the router to act as an IPv6 LISP PITR.

debug lisp forwarding data-signal-map-request

To display Locator/ID Separation Protocol (LISP) control plane signaling information resulting from packets hitting map-cache entries requiring map-request message generation, use the **debug lisp forwarding data-signal-map-request** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding data-signal-map-request

no debug lisp forwarding data-signal-map-request

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp forwarding data-signal-map-request** command enables the display of LISP control plane signaling information caused by packets hitting map-cache entries that require the generation of map-request messages. This command can be useful for troubleshooting LISP forwarding-related issues.

Examples

The following is sample output from the **debug lisp forwarding data-signal-map-request** command. In this example, the **ping** command is used to generate a map request for a remote EID:

```
Router# debug lisp forwarding data-signal-map-request

LISP data driven map requests debugging is on

Router# ping 172.16.10.1 source 172.16.21.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.10.1, timeout is 2 seconds:
Packet sent with a source address of 172.16.21.1
.!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 1/2/4 ms
Dec 18 11:36:07.312 PST: LISPdata-signal: sending signal for 172.16.21.1->172.16.10.1 on
in IPv4:Default
Router#
Router# no debug lisp forwarding data-signal-map-request

LISP data driven map requests debugging is off
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP debug messages related to forwarding adjacency activities.
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-status-bits	Displays LISP data-driven locator status bits change debug messages.
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding remote-eid-prefix	Displays LISP remote EID prefix events in forwarding module debug messages.
debug lisp forwarding state	Displays debug messages related to LISP forwarding module state.
debug lisp forwarding virtual-interface-address	Displays LISP virtual interface address selection debugs.

debug lisp forwarding data-signal-status-bits

To display Locator/ID Separation Protocol (LISP) control plane signaling information resulting when the locator status bits (LSBs) of decapsulated packets do not match those of the map-cache entry for the remote endpoint identifier (EID) prefix, use the **debug lisp forwarding data-signal-status-bits** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding data-signal-status-bits

no debug lisp forwarding data-signal-status-bits

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp forwarding data-signal- status-bits** command enables the display of LISP control plane signaling information resulting when the LSBs of decapsulated packets do not match those of the map-cache entry for the remote EID prefix. This command can be useful for troubleshooting LISP forwarding-related issues.

Examples

The following is sample output from the **debug lisp forwarding data-signal-status-bits** command. In this example, the Egress Tunnel Router (ETR) database-mapping is modified, resulting in a change to the map-cache LSB for that EID entry on the Ingress Tunnel Router (ITR) when the EID is pinged:

ETR (Router-1):

```
Router-1# show run | include lisp database-mapping
.
.
.
database-mapping 172.16.12.0/24 172.16.156.23 priority 1 weight 100

Router-1# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.

Router-1(config)# router lisp
Router-1(config-router-lisp)# database-mapping 172.16.12.0/24 172.16.156.23 priority 2 w
```

```
50
Router-1(config-router-lisp)#
```

ITR (Router-2):

```
Router-2# debug lisp forwarding data-signal-status-bits

LISP data driven locator status bits change debugging is on

Router-2# show ip lisp map-cache 172.16.12.1

LISP IPv4 Mapping Cache, 4 entries

172.16.12.0/24, uptime: 00:01:11, expires: 23:58:45, via map-reply, complete
State: complete, last modified: 00:01:11, map-source: 172.16.156.23
Active, Packets out: 0
Locator         Uptime     State      Pri/Wgt
172.16.156.23   00:01:11     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:                00:01:11 (rtt 0ms)
Next RLOC-probe in:                  00:58:48

Router-2# ping 172.16.12.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 172.16.12.1, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
Dec 18 11:45:59.321 PST: LISPdata-signal: 172.16.156.23 sent status bits 0x00000000 for
172.16.12.0172.16.12.0/24, we got 0x00000001

Router-2# show ip lisp map-cache 172.16.12.1

LISP IPv4 Mapping Cache, 4 entries

172.16.12.0/24, uptime: 00:02:31, expires: 23:59:51, via map-reply, complete
State: complete, last modified: 00:01:06, map-source: 172.16.156.23
Active, Packets out: 5 (~ 00:00:33 ago)
Locator           Uptime     State      Pri/Wgt
172.16.156.23     00:02:31    down        2/50
Last up-down state change:              00:01:06, state change count: 1
Last priority / weight change:          00:01:06/00:01:06
RLOC-probing loc-status algorithm:
Last RLOC-probe sent:                   00:00:06 (rtt 0ms)
Next RLOC-probe in:                     00:00:53

Router-2# no debug lisp forwarding data-signal-status-bits

LISP data driven locator status bits change debugging is off
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP debug messages related to forwarding adjacency activities.
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-map-request	Displays LISP data driven map request debug messages.

Command	Description
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding remote-eid-prefix	Displays LISP remote EID prefix events in forwarding module debug messages.
debug lisp forwarding state	Displays debug messages related to LISP forwarding module state.
debug lisp forwarding virtual-interface-address	Displays LISP virtual interface address selection debugs.

debug lisp forwarding ipv4-traceroute

To display information on events related to caching IPv4 traceroute headers in an Ingress Tunnel Router (ITR), use the **debug lisp forwarding ipv4-traceroute** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding ipv4-traceroute

no debug lisp forwarding ipv4-traceroute

Syntax Description

This command has no arguments or keywords.

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

The information displayed by the **debug lisp forwarding ipv4-traceroute** command includes events related to caching IPv4 traceroute headers in an ITR, ITR modifications to Internet Control Message Protocol (ICMP) time-exceeded messages, and ICMP messages returned to the ITR and forwarded back to the traceroute source.

Examples

The following is sample output from the **debug lisp forwarding ipv4-traceroute** command. In this example, a **traceroute** command is issued from a host within the Locator/ID Separation Protocol (LISP) site (not from the router itself) to a remote host:

```
Router# debug lisp forwarding ipv4-traceroute

LISP IPv4 traceroute debugging is on

Router#

Then from a host within the LISP EID namespace:
Host$ traceroute 172.16.3.1 source 172.16.1.1

Router#
*Dec 18 21:02:28.379: LISPipv4_tr: added pkt 172.16.1.1 -> 172.16.3.1 encap udp port 5888
entry 0x71004A0 payload udp 49154/33434
*Dec 18 21:02:28.383: LISPipv4_tr: probe #1 pkt 172.16.1.1 -> 172.16.3.1 entry 0x71004A0
payload udp 49155/33435
*Dec 18 21:02:28.383: LISPipv4_tr: probe #2 pkt 172.16.1.1 -> 172.16.3.1 entry 0x71004A0
payload udp 49156/33436
*Dec 18 21:02:31.395: LISPipv4_tr: proxy pkt 10.0.0.2 -> 172.16.1.1 for entry 0x71004A0
```

```
payload udp 49157/33437
*Dec 18 21:02:34.403: LISPipv4_tr: proxy pkt 10.0.0.2 -> 172.16.1.1 for entry 0x71004A0
payload udp 49158/33438

Router# no debug lisp forwarding ipv4-traceroute

LISP IPv4 traceroute debugging is off
```

Related Commands

Command	Description
debug lisp forwarding adjacency	LISP adjacency debugs.

debug lisp forwarding ipv6-traceroute

To display information on events related to caching IPv6 traceroute headers in an Ingress Tunnel Router (ITR), use the **debug lisp forwarding ipv6-traceroute** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding ipv6-traceroute

no debug lisp forwarding ipv6-traceroute

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

The information displayed by the **debug lisp forwarding ipv6-traceroute** command includes events related to caching IPv6 traceroute headers in an ITR, ITR modifications to Internet Control Message Protocol (ICMP) time-exceeded messages, and ICMP messages returned to the ITR and forwarded back to the traceroute source.

Examples

The following example shows how to enable debugging on events related to caching IPv6 traceroute headers in an ITR:

```
Router# debug lisp forwarding ipv6-traceroute
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP adjacency debug information.

debug lisp forwarding remote-eid-prefix

To display Locator/ID Separation Protocol (LISP) control plane signaling information related to updates about a remote endpoint identifier (EID) prefix, use the **debug lisp forwarding remote-eid-prefix** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding remote-eid-prefix

no debug lisp forwarding remote-eid-prefix

Syntax Description

This command has no arguments or keywords.

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

The **debug lisp forwarding remote-eid-prefix** command enables the display of LISP control plane signaling information related to updates about a remote EID prefix. This command can be useful for troubleshooting LISP forwarding-related issues.

Examples

The following is sample output from the **debug lisp forwarding remote-eid-prefix** command. In this example, the **ping** command is used to test the reachability of a remote EID for which a map-cache entry does not currently exist:

```
Router# debug lisp forwarding remote-eid-prefix

LISP remote eid prefix events in forwarding module debugging is on

Router# clear ip lisp map-cache
Dec 18 10:34:42.725 PST: LISPreid: 0.0.0.0/0 Removed LISP src, success
Dec 18 10:34:42.729 PST: LISPreid: 0.0.0.0/0 Removed LISP IPL src, success
Dec 18 10:34:42.729 PST: LISPreid: 172.16.10.0/24 Removed LISP src, success
Dec 18 10:34:42.729 PST: LISPreid: 172.16.10.0/24 Removed LISP IPL src, success
Dec 18 10:34:42.729 PST: LISPreid: 0.0.0.0/0 Added LISP IPL src, success
Dec 18 10:34:42.729 PST: LISPreid: 0.0.0.0/0 Created pco 0x48CE88C0 linked to glean for
LISP0
Dec 18 10:34:42.729 PST: LISPreid: 0.0.0.0/0 Added LISP src, success
Dec 18 10:34:42.733 PST: LISPreid: 172.16.10.0/24 Removed LISP subtree, success

Router# ping 172.16.10.1 source 172.16.21.1
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 172.16.10.1, timeout is 2 seconds:
Packet sent with a source address of 172.16.21.1

Dec 18 10:35:34.498 PST: LISPreid: 172.16.10.1/32 Added LISP IPL src, success
Dec 18 10:35:34.498 PST: LISPreid: 172.16.10.1/32 Created pco 0x493BE260 linked to drop
Dec 18 10:35:34.498 PST: LISPreid: 172.16.10.1/32 Added LISP src, success
Dec 18 10:35:34.498 PST: LISPreid: 172.16.10.1/32 Added LISP subtree, success
Dec 18 10:35:34.530 PST: LISPreid: 172.16.10.1/32 Null modify of pco 0x493BE260 linked to
drop
Dec 18 10:35:34.534 PST: LISPreid: 172.16.10.0/24 Added LISP IPL src, success
Dec 18 10:35:34.538 PST: LISPreid: 172.16.10.0/24 Created pco 0x493BE320 linked to
loadinfo 48D2D6E8, per-session, flags 0083, 3 locks
Dec 18 10:35:34.538 PST: LISPreid: 172.16.10.0/24 Added LISP src, success
Dec 18 10:35:34.538 PST: LISPreid: 172.16.10.1/32 Removed LISP src, success
Dec 18 10:35:34.538 PST: LISPreid: 172.16.10.1/32 Removed LISP IPL src, success
Dec 18 10:35:34.542 PST: LISPreid: 172.16.10.0/24 Added LISP subtree, success
Dec 18 10:35:34.542 PST: LISPreid: 172.16.10.0/24 Null modify of pco 0x493BE320 linked to
loadinfo 48D2D6E8, per-session, flags 0083, 3 locks
Dec 18 10:35:34.542 PST: LISPreid: 172.16.10.1/32 Removed LISP subtree, success
..!!!
Success rate is 60 percent (3/5), round-trip min/avg/max = 1/2/4 ms

Router# no debug lisp forwarding remote-eid-prefix

LISP remote eid prefix events in forwarding module debugging is off
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP debug messages related to forwarding adjacency activities.
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-map-request	Displays LISP data-driven map request debug messages.
debug lisp forwarding data-signal-status-bits	Displays LISP data-driven locator status bits change debug messages.
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding state	Displays debug messages related to LISP forwarding module state.
debug lisp forwarding virtual-interface-address	Displays LISP virtual interface address selection debugs.

debug lisp forwarding state

To display messages related to Locator/ID Separation Protocol (LISP) forwarding state, use the **debug lisp forwarding state** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding state

no debug lisp forwarding state

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

The **debug lisp forwarding state** command displays messages related to LISP forwarding module state. LISP forwarding state is dependent on the device role (for example, Ingress Tunnel Router (ITR) or Proxy ITR), locator status bit (LSB) changes, RLOC changes, Alternative Logical Topology (ALT) virtual routing and forwarding (VRF) configuration, and other similar functions. This command can be useful for troubleshooting LISP forwarding-related issues.

Examples

The following is sample output from the **debug lisp forwarding state** command. In this example, an RLOC is removed, and then added back for a site endpoint identifier (EID):

```
Router# debug lisp forwarding state

LISP forwarding module state debugging is on

Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# router lisp
Router(config)# no database-mapping 192.168.1.0/24 10.0.0.1 priority 1 weight 100
Router(config-router-lisp)#
*Feb 24 21:32:17.055: LISPstate: IPv4:Default set LSB to 0x00000000
Router(config-router-lisp)# database-mapping 192.168.1.0/24 10.0.0.1 priority 1 weight 100
Router(config-router-lisp)# ^Z
Router(config)#
*Feb 24 21:32:36.371: LISPstate: IPv4:Default set LSB to 0x00000001
(config)#
```

```
Router(config-router-lisp)# ^Z
Router# no debug lisp forwarding state
LISP forwarding module state debugging is off
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP debug messages related to forwarding adjacency activities.
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-map-request	Displays LISP data-driven map request debug messages.
debug lisp forwarding data-signal-status-bits	Displays LISP data-driven locator status bits change debug messages.
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding remote-eid-prefix	Displays LISP remote EID prefix events in forwarding module debug messages.
debug lisp forwarding virtual-interface-address	Displays LISP virtual interface address selection debugs.

debug lisp forwarding virtual-interface-address

To display Locator/ID Separation Protocol (LISP) information related to the process of selecting an interface with a local endpoint identifier (EID) address for association with the virtual interface LISP0, use the **debug lisp forwarding virtual-interface-address** command in privileged EXEC mode. To disable debugging output, use the **no** form of this command.

debug lisp forwarding virtual-interface-address

no debug lisp forwarding virtual-interface-address

Syntax Description

This command has no arguments or keywords.

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

The virtual interface LISP0 uses an internal IP address in order to encapsulate packets at the process level. The **debug lisp forwarding virtual-interface-address** command displays information related to the selection of this interface. This command can be useful for troubleshooting LISP forwarding-related issues.

Examples

The following is sample output from the **debug lisp forwarding virtual-interface-address** command. In this example, the IP address of the LISP site (EID) interface is changed from 172.16.21.1/32 to 172.16.21.2/32.

```
Router# debug lisp forwarding virtual-interface-address
LISP virtual interface address selection debugging is on
Router# show interface Lisp0
LISP0 is up, line protocol is up
  Hardware is LISP
  Interface is unnumbered. Using address of Loopback0 (153.16.21.1)
---<skip>---
Router# configure terminal
Router(config)# interface Loopback0
Router(config-if)# ip address 172.16.21.2 255.255.255.252
Dec 18 12:21:42.800 PST: LISPvif-addr: Start timer with delay of 1 seconds
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 start walk to check
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 Checking if FastEthernet0/0 addr
172.16.156.222/24 against local EID 172.16.21.0/24, no match
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 Skipping if LISP0 no address configured
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 Checking if Loopback0 addr 172.16.21.0/24
 against local EID 172.16.21.0/24, match
```

```
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 Skipping if Null0 no address configured
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 walk ended, found address 172.16.21.0/24
 on Loopback0
Dec 18 12:21:43.800 PST: LISPvif-addr: IPv4 LISP0 already unnumbered to Loopback0, no change
Dec 18 12:21:43.800 PST: LISPvif-addr: All interfaces are unnumbered request timer to be
stopped
Router(config-if)# exit
Router(config)# exit
Router# no debug lisp forwarding virtual-interface-address
LISP virtual interface address selection debugging is off
Router#
```

Related Commands

Command	Description
debug lisp forwarding adjacency	Displays LISP debug messages related to forwarding adjacency activities.
debug lisp forwarding alt-prefix	Displays debug messages related to LISP forwarding adjacency activities associated with the LISP ALT VRF.
debug lisp forwarding data-signal-map-request	Displays LISP data-driven map request debug messages.
debug lisp forwarding data-signal-status-bits	Displays LISP data-driven locator status bits change debug messages.
debug lisp forwarding ipv4-traceroute	Displays debug messages on events related to caching IPv4 traceroute headers in an ITR.
debug lisp forwarding ipv6-traceroute	Displays information on events related to caching IPv6 traceroute headers in an ITR.
debug lisp forwarding remote-eid-prefix	Displays LISP remote EID prefix events in forwarding module debug messages.
debug lisp forwarding state	Displays debug messages related to LISP forwarding module state.