IPv6 Commands: show ipv6 cef tr to show ipv6 in

show ipv6 cef traffic prefix-length

To display Cisco Express Forwarding for IPv6 (CEFv6) and distributed CEFv6 (dCEFv6) traffic statistics, use the **show ipv6 cef traffic prefix-length**command in user EXEC or privileged EXEC mode.

show ipv6 cef traffic prefix-length

Syntax Description

This command has no arguments or keywords.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.0(22)S	This command was introduced.
12.2(13)T	This command was integrated into Cisco IOS Release 12.2(13)T.
12.2(14)S	This command was integrated into Cisco IOS Release 12.2(14)S.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
12.4(20)T	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

The **show ipv6 cef traffic prefix-length**command is similar to the **show ip cef traffic prefix-length** command, except that it is IPv6-specific.

This command is used to display CEFv6 switched traffic statistics by destination prefix length. The **ipv6 cef accounting prefix-length** command must be enabled for the counters to increment.

Examples

The following is sample output from the **show ipv6 cef traffic prefix-length**command:

```
Router#
show ipv6 cef traffic prefix-length
IPv6 prefix length switching statistics:
----------------------------------------
Prefix       Number of       Number of
Length       Packets         Bytes
----------------------------------------
     0               0               0
     1              24            3840
     2               0               0
     3              14            1120
     4               0               0
     5              10            1200
```

```
.
.
.
    28                0                0
    29                4              512
    30                0                0
    31               18             2448
    32                0                0
```

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

Table 1: show ipv6 cef traffic prefix-length Field Descriptions

Field	Description
Prefix Length	Destination IPv6 prefix length for Cisco Express Forwarding switched traffic.
Number of Packets	Number of packets forwarded for the specified IPv6 prefix length.
Number of Bytes	Number of bytes sent for the specified IPv6 prefix length.

Related Commands

Command	Description
ipv6 cef accounting	Enables CEFv6 network accounting.
show ipv6 cef	Displays entries in the IPv6 FIB.
show ipv6 cef summary	Displays a summary of the entries in the IPv6 FIB.

show ipv6 cef tree

To display summary information on the default tree in the IPv6 Forwarding Information Base (FIB), use the **show ipv6 cef tree**command in user EXEC or privileged EXEC mode.

show ipv6 cef tree [**statistics**| **dependents** [*prefix-filter*]]

Syntax Description

statistics	(Optional) Displays the default tree statistics.
dependents	(Optional) Displays the dependents of the selected tree with optional prefix filter.
prefix-filter	(Optional) A prefix filter on the dependents of the selected tree.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.2(25)S	This command was introduced.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Usage Guidelines

If none of the optional keywords or arguments is used, all summary information on the default tree in the IPv6 FIB is shown.

Examples

The following is sample output from the **show ipv6 cef tree**command:

```
Router# show ipv6 cef tree
VRF Default tree information:
 RTRIE storing IPv6 addresses
 6 entries (6/0 fwd/non-fwd)
 Forwarding & Non-forwarding tree:
  6 inserts, 0 delete
  8 nodes using 288 bytes
```

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

Table 2: show ipv6 cef tree Field Descriptions

Field	Description
RTRIE storing IPv6 addresses	Indicates the tree type as RTRIE.
6 entries (6/0 fwd/non-fwd)	Indicates total number of prefix entries as 6 forwarding and 0 nonforwarding entries.
Forwarding & Non-forwarding tree	Same tree is used for forwarding and nonforwarding.
6 inserts, 0 delete	Indicates that 6 entries were inserted and 0 entries were deleted from the tree.
8 nodes using 288 bytes	Indicates a total of 8 nodes using a total of 288 bytes of memory.
*calloc failures: *number* node	This line is not present in the example output. If this line is present in output, it indicates a memory allocation error at the indicated node.

Related Commands

Command	Description
show ipv6 cef	Displays entries in the IPv6 FIB.

show ipv6 cef unresolved

To display unresolved entries in the IPv6 Forwarding Information Base (FIB), use the **show ipv6 cef unresolved**command in user EXEC or privileged EXEC mode.

show ipv6 cef unresolved [**detail**| **internal**| **samecable**] [**platform** [**detail**| **internal**| **samecable**]] [**source** [**internal**| **epoch** *epoch-number* [**internal**| **samecable**| **platform** [**detail**| **internal**| **samecable**]]]] [**epoch** *epoch-number* [**internal**| **samecable**| **platform** [**detail**| **internal**| **samecable**]]]

Syntax Description

detail	(Optional) Displays detailed FIB entry information.
internal	(Optional) Displays data structures for unresolved routes.
samecable	(Optional) Displays the connected (up) interface for unresolved routes.
platform	(Optional) Displays platform-specific information on unresolved routes.
source	(Optional) Displays source-specific information on unresolved routes.
epoch *epoch-number*	(Optional) Displays the basic unresolved routes filtered by a specified epoch number. The epoch number range is from 0 to 255.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.0(22)S	This command was introduced.
12.2(13)T	This command was integrated into Cisco IOS Release 12.2(13)T.
12.2(14)S	This command was integrated into Cisco IOS Release 12.2(14)S.
12.2(25)S	The **internal**, **samecable**, **platform**, **source**, and **epoch** keywords were added. The *epoch-number* argument was added.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Release	Modification
12.4(20)T	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

The **show ipv6 cef unresolved**command is similar to the **show ip cef unresolved**command, except that it is IPv6-specific.

The **show ipv6 cef unresolved detail** command displays detailed information for all unresolved FIB entries.

Examples

The following is sample output from the **show ipv6 cef unresolved**command with the **detail** keyword:

```
Router# show ipv6 cef unresolved detail
IPv6 CEF is enabled for distributed  and running
VRF Default:
 5 prefixes (5/0 fwd/non-fwd)
 Table id 0, version 5, 0 resets
 Database epoch: 2 (5 entries at this epoch)
```

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

Table 3: show ipv6 cef unresolved Field Descriptions

Field	Description
5 prefixes (5/0 fwd/non-fwd)	Indicates how many IPv6 prefixes are being used for forwarding or not forwarding.
Table id 0, version 5, 0 resets	Provides information about the Cisco Express Forwarding table.
Database epoch: 2 (5 entries at this epoch)	The epoch number of any unresolved database epochs.

This is an example of the **show ipv6 cef unresolved detail**command output in Cisco IOS Releases 12.2(25)S, 12.2(28)SB, 12.2(33)SRA, 12.2(33)SXH, 12.4(20)T, and later releases:

```
Router# show ipv6 cef unresolved detail
```

No unresolved adjacencies exist, therefore nothing is displayed in the output of the **show ipv6 cef unresolved detail**command.

Related Commands

Command	Description
show cef interface	Displays Cisco Express Forwarding-related interface information.
show ipv6 cef	Displays entries in the IPv6 FIB.
show ipv6 cef summary	Displays a summary of the entries in the IPv6 FIB.

show ipv6 cef vrf

To display the Cisco Express Forwarding Forwarding Information Base (FIB) associated with an IPv6 Virtual Private Network (VPN) routing and forwarding (VRF) instance, use the **show ipv6 cef vrf**command in user EXEC or privileged EXEC mode.

show ipv6 cef vrf [*vrf-name*| *****| **internal**]

Syntax Description

vrf-name	(Optional) Name assigned to the VRF.
*	(Optional) All VRFs are displayed.
internal	(Optional) Only internal data is displayed.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.2(33)SRB	This command was introduced.
12.2(33)SRB1	This command was integrated into Cisco IOS Release 12.2(33)SRB1.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
12.2(33)SB	This command was integrated into Cisco IOS Release 12.2(33)SB.
15.2(2)SNI	This command was implemented on the Cisco ASR 901 Series Aggregation Services Routers.

Usage Guidelines

Use the **show ipv6 cef vrf** command to display content of the IPv6 FIB for the specified VRF.

Examples

The following is sample output from a Cisco Express Forwarding FIB associated with a VRF named cisco1:

```
Router# show ipv6 cef vrf cisco1
 2001:8::/64
  attached to FastEthernet0/0
 2001:8::3/128
  receive
 2002:8::/64
  nexthop 10.1.1.2 POS4/0 label 22 19
 2010::/64
  nexthop 2001:8::1 FastEthernet0/0
 2012::/64
  attached to Loopback1
```

```
2012::1/128
 receive
```

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

Table 4: show ipv6 cef vrf Field Descriptions

Field	Description
2001:8::/64	Specifies the network prefix.
attached to FastEthernet0/0	Specifies the VRF interface.
nexthop 10.1.1.2 POS4/0 label 22 19	Specifies the BGP next hop address.

show ipv6 cef with epoch

To display Cisco Express Forwarding IPv6 Forwarding Information Base (FIB) information filtered for a specific epoch, use the **show ipv6 cef with epoch** command in privileged EXEC mode.

show ipv6 cef with epoch *epoch-number* [**checksum**| **detail**| **internal [checksum]**| **platform** [**checksum**| **detail**| **internal [checksum]**]]

Syntax Description

epoch-number	Number of the epoch, from 0 to 255.
checksum	(Optional) Displays FIB entry checksums.
detail	(Optional) Displays detailed information about FIB epochs.
internal	(Optional) Displays internal data structure information.
platform	(Optional) Displays platform-specific data structures.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(25)S	This command was introduced.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
12.4(20)T	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

Use this command to display information about prefix properties for a specified epoch in the Cisco Express Forwarding IPv6 FIB. This command is similar to the **show ip cef with epoch** command, except that it is IPv6 specific. Use the **show ipv6 cef epoch**command to display entries filtered by epoch number.

Examples

The following is sample output from the **show ipv6 cef with epoch**command:

```
Router# show ipv6 cef with epoch 0
::/0
```

```
  no route
::/127
  discard
2000::1/128
  receive for Loopback0
2000::2/128
  nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0
2000::3/128
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2000::4/128
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2001::/64
  attached to Ethernet2/0
2001::1/128
  receive for Ethernet2/0
2001::3/128
  attached to Ethernet2/0
2001:1::/64
  attached to Ethernet0/0
2001:1::1/128
  receive for Ethernet0/0
2001:2::/64
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2002::/64
  attached to Tunnel0
2002::1/128
  receive for Tunnel0
FE80::/10
  receive for Null0
FF00::/8
  receive for Null0
```

The table below describes significant fields shown in the display.

Table 5: show ipv6 cef with epoch Field Descriptions

Field	Description
no route	No route is associated with the IPv6 prefix.
discard	Traffic for this prefix is discarded.
2000::1/128 receive for Loopback0	A receive prefix for interface Loopback0.
2000::2/128 nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0	An IPv6 prefix that is forwarded to a next-hop address (FE80::A8BB:CCFF:FE00:2500) through interface Ethernet 0/0.
2001::/64 attached for Ethernet2/0	This prefix is a connected network on interface Ethernet 0/0.
2001::1/128 receive for Ethernet2/0	A receive prefix for interface Ethernet 0/0.

The following is sample output from the **show ipv6 cef with epoch detail**command:

```
Router# show ipv6 cef with epoch 0 detail

IPv6 CEF is enabled and running centrally.
VRF base:
 16 prefixes (16/0 fwd/non-fwd)
 Table id 0
 Database epoch:        0 (16 entries at this epoch)
```

```
::/0, epoch 0, flags default route handler
  no route
::/127, epoch 0, flags attached, discard
  discard
2000::1/128, epoch 0, flags attached, connected, receive, local
  receive for Loopback0
2000::2/128, epoch 0
  nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0
2000::3/128, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2000::4/128, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2001::/64, epoch 0, flags attached, connected, cover dependents
  Covered dependent prefixes: 1
    notify cover updated: 1
  attached to Ethernet2/0
2001::1/128, epoch 0, flags attached, receive, local
  receive for Ethernet2/0
2001::3/128, epoch 0, flags attached
  Adj source: IPV6 adj out of Ethernet2/0, addr 2001::3 02513FD8
   Dependent covered prefix type adjfib cover 2001::/64
  attached to Ethernet2/0
2001:1::/64, epoch 0, flags attached, connected
  attached to Ethernet0/0
2001:1::1/128, epoch 0, flags attached, receive, local
  receive for Ethernet0/0
2001:2::/64, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2002::/64, epoch 0, flags attached, connected
  attached to Tunnel0
2002::1/128, epoch 0, flags attached, receive, local
  receive for Tunnel0
FE80::/10, epoch 0, flags attached, receive, local
  receive for Null0
FF00::/8, epoch 0, flags attached, receive, local
  receive for Null0
```

The table below describes significant fields shown in the display.

Table 6: show ipv6 cef with epoch detail Field Descriptions

Field	Description
IPv6 CEF is enabled and running centrally	Indicates that IPv6 CEF is enabled and running on the RP.
VRF base 16 prefixes (16/0 fwd/non-fwd)	Number of prefixes in the VRF, how many of them are forwarded, and how many are not forwarded.
Table id 0	Table identification number.
Database epoch 0 (16 entries at this epoch)	Value of the database epoch and number of entries in the epoch.

Field	Description
2000::1/128, epoch 0, flags attached, connected, receive, local receive for Loopback0	Provides detail for the table entries. In this example, 2000:1/128 is an IPv6 prefix at epoch 0. The flags set for this prefix are: • attached--Prefix is a connected network • connected--Prefix includes an address that is bound to an interface on the device • receive--Prefix is punt to and handled by the process level • local--Prefix is a subset of receive and marks prefixes that are received by on interface on the device

The following is sample output from the **show ipv6 cef with epoch checksum** command:

```
Router# show ipv6 cef with epoch 0 checksum
::/0
  FIB checksum: 0x64E25610
::/127
  FIB checksum: 0xE0B3DE11
2000::1/128
  FIB checksum: 0xD04E36EC
2000::2/128
  FIB checksum: 0x84892BA5
2000::3/128
  FIB checksum: 0x912BA720
2000::4/128
  FIB checksum: 0xC6D89ADA
.
.
.
```

The table below describes significant fields shown in the display.

Table 7: show ipv6 cef with epoch checksum Field Descriptions

Field	Description
::/0	Default route handler. ::/0 prefix matches all addresses. (::/128 prefix is an exact match for all zero addresses only.)
FIB checksum: 0x64E25610	FIB checksum associated with the named prefix.

Related Commands

Command	Description
show ip cef with epoch	Displays Cisco Express Forwarding FIB information filtered for a specific epoch.

Command	Description
show ipv6 cef	Displays entries in the IPv6 FIB.
show ipv6 cef epoch	Displays a summary of IPv6 FIB epoch information.

show ipv6 cef with source

To display Cisco Express Forwarding IPv6 Forwarding Information Base (FIB) filtered for a specific source, use the **show ipv6 cef with source** command in privileged EXEC mode.

show ipv6 cef with source *source-type* [**checksum**| **detail**| **epoch**| **internal [checksum]**| **platform** [**checksum**| **detail**| **internal [checksum]**]]

Syntax Description

source-type	

The *source-type*argument must be replaced by one of the following keywords that are supported for your release.

Keywords for all supported Cisco IOS releases:

- **alias** --Displays alias address prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **broadband** --Displays broadband receive prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **fallback** --Displays fallback lookup prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **interface** --Displays interface configuration prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **nat** --Displays Network Address Translation (NAT) prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **rib** --Displays Routing Information Base (RIB) prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **special** --Displays special prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **test** --Displays test command prefix sources in the Cisco Express Forwarding IPv6 FIB.
- **virtual** --Displays virtual address prefix sources in the Cisco Express Forwarding IPv6 FIB, for example, Virtual Router Redundancy Protocol (VRRP) and Hot Standby Router Protocol (HSRP) addresses.

Additional keywords for Cisco IOS Releases 12.2(25)S, 12,2(28)SB, 12.2(33)SRA, and later SB and SR releases:

- **adjacency** --Displays adjacency prefix sources in the Cisco Express ForwardingIPv6 FIB.
- **default-route** --Displays default route handler prefix sources in the Cisco Express Forwarding FIB.
- **inherited-path-list** --Displays inherited path list prefix source in the Cisco Express Forwarding FIB.

Additional keywords for Cisco IOS Releases

	12.2(33)SXH, 12.4(20)T, and later SX and T releases: • **adj** --Displays adjacency prefix sources in the Cisco Express Forwarding FIB.
-	• **defnet--** Displays default network prefix sources in the Cisco Express Forwarding IPv6 FIB. • **defroutehandler** --Displays default route handler prefix sources in the Cisco Express Forwarding IPv6 FIB. • **ipl** --Displays inherited path list prefix source in the Cisco Express ForwardingIPv6 FIB. • **recursive-resolution** --Displays recursive resolution prefix sources in the Cisco Express Forwarding IPv6 FIB. Additional keyword for Cisco IOS Release 12.2(33)SXH and later SX releases: • **lte** --Displays Multiprotocol Label Switching (MPLS) label table entries.
checksum	(Optional) Displays IPv6 FIB entry checksums.
detail	(Optional) Displays detailed information about IPv6 FIB epochs.
epoch	(Optional) Displays information about epochs associated with the source prefix.
internal	(Optional) Displays internal data structure information.
platform	(Optional) Displays platform-specific data structures.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.2(25)S	This command was introduced.
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Release	Modification
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
12.4(20)T	This command was integrated into Cisco IOS Release 12.4(20)T.

Usage Guidelines

Use this command to filter on prefixes in the Cisco Express Forwarding FIB that are added by a specified source.

Examples

Examples

The following is sample output from the **show ipv6 cef with source rib** command:

```
Router# show ipv6 cef with source rib
::/127
  discard
2000::1/128
  receive for Loopback0
2000::2/128
  nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0
2000::3/128
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2000::4/128
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2001::/64
  attached to Ethernet2/0
2001::1/128
  receive for Ethernet2/0
2001:1::/64
  attached to Ethernet0/0
2001:1::1/128
  receive for Ethernet0/0
2001:2::/64
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2002::/64
  attached to Tunnel0
2002::1/128
  receive for Tunnel0
FE80::/10
  receive for Null0
FF00::/8
  receive for Null0
```

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

Table 8: show ipv6 cef with source rib Field Descriptions

Field	Description
::/127	IPv6 prefix.
discard	Indicates that traffic destined for this prefix should be discarded.
2000::1/128 receive for Loopback0	An IPv6 prefix that is a receive prefix for interface Loopback0. Traffic destined for this prefix will be punted to the process level.

Field	Description
2000::2/128 nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0	An IPv6 prefix that is forwarded to a next-hop address (FE80::A8BB:CCFF:FE00:2500) through interface Ethernet 0/0.
2001::/64 attached for Ethernet2/0	An IPv6 prefix that is a connected network on interface Ethernet 0/0. That is, the destination can be reached directly through the specified interface.

The following is sample output from the **show ipv6 cef with source fib detail** command:

```
Router# show ipv6 cef with source rib detail
IPv6 CEF is enabled and running centrally.
VRF base:
 16 prefixes (16/0 fwd/non-fwd)
 Table id 0
 Database epoch:        0 (16 entries at this epoch)
::/127, epoch 0, flags attached, discard
  discard
2000::1/128, epoch 0, flags attached, connected, receive, local
  receive for Loopback0
2000::2/128, epoch 0
  nexthop FE80::A8BB:CCFF:FE00:2500 Ethernet0/0
2000::3/128, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2000::4/128, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2001::/64, epoch 0, flags attached, connected, cover dependents
  Covered dependent prefixes: 1
    notify cover updated: 1
  attached to Ethernet2/0
2001::1/128, epoch 0, flags attached, receive, local
  receive for Ethernet2/0
2001:1::/64, epoch 0, flags attached, connected
  attached to Ethernet0/0
2001:1::1/128, epoch 0, flags attached, receive, local
  receive for Ethernet0/0
2001:2::/64, epoch 0, flags rib only nolabel, rib defined all labels
  nexthop FE80::A8BB:CCFF:FE00:2602 Ethernet2/0
2002::/64, epoch 0, flags attached, connected
  attached to Tunnel0
2002::1/128, epoch 0, flags attached, receive, local
  receive for Tunnel0
FE80::/10, epoch 0, flags attached, receive, local
  receive for Null0
FF00::/8, epoch 0, flags attached, receive, local
  receive for Null0
```

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

Table 9: show ipv6 cef with source rib detail Field Descriptions

Field	Description
IPv6 CEF is enabled and running centrally.	Verifies that Cisco Express Forwarding for IPV6 is enabled globally.
VRF base	Base VRF table.

Field	Description
16 prefixes (16/0 Fwd/non-fwd)	Number of prefixes in the VRF, how many prefixes are forwarded, and how many are not forwarded.
Table id 0	Identifies the table by number.
Database epoch:	Specifies the type of epoch.
0 (16 entries at this epoch)	Number of the epoch (0) and number of entries in the epoch.
2000::1/128, epoch 0, flags attached, connected, receive, local	Details about the prefix: the epoch in which it is found, the flags set for the prefix: • attached--Prefix is a connected network • connected--Prefix includes an address that is bound to an interface on the device • receive--Prefix is punt to and handled by the process level • local--Prefix is a subset of receive and marks prefixes that are received by on interface on the device

Examples

The following is sample output from the **show ipv6 cef with source adjacency** command:

```
Router# show ipv6 cef with source adjacency
2001::3/128
  attached to Ethernet2/0
```

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

Table 10: show ipv6 cef with source adjacency Field Descriptions

Field	Description
20001::3/128	IPv6 prefix whose source is an adjacency.
attached to Ethernet2/0	Indicates that the prefix is a connected network through Interface Ethernet 2/0.

The following is sample output from the **show ipv6 cef with source adjacency detail**command:

```
Router# show ipv6 cef with source adjacency detail
#
IPv6 CEF is enabled and running centrally.
VRF Default
 16 prefixes (16/0 fwd/non-fwd)
 Table id 0x1E000000
```

```
 Database epoch:        0 (16 entries at this epoch)
2001::3/128, epoch 0, flags attached
  Adj source: IPV6 adj out of Ethernet2/0, addr 2001::3 050878F0
   Dependent covered prefix type adjfib cover 2001::/64
  attached to Ethernet2/0
```

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

Table 11: show ipv6 cef with source adjacency detail Field Descriptions

Field	Description
IPv6 CEF is enabled and running centrally.	Verifies that Cisco Express Forwarding for IPV6 is enabled and running on the RP.
VRF Default	Default VRF table.
16 prefixes (16/0 Fwd/non-fwd)	Number of prefixes in the VRF, how many prefixes are forwarded and how many are not forwarded.
Table id 0x1E000000	Identifies the table by hexadecimal number.
2001::3/128, epoch 0, flags attached	Lists a prefix, its epoch number, and flags. Attached flag indicates a connected network.
Adj source: IPv6 adj out of Ethernet2/0, addr 2000::3 050878F0	Indicates that the prefix was sourced by an adjacency and specifies the address family, interface, and address in memory of the adjacency.
Dependent covered prefix type adjfib cover 2001::/64	A prefix sourced by an adjacency is dependent on another less specific prefix (2001::/64) for forwarding information. If this less specific prefix changes, the dependent prefix will need to be recomputed.
attached to Ethernet2/0	Indicates the prefix is a connect network through interface Ethernet 2/0.

The following is sample output from the **show ipv6 cef with source adjacency checksum**command:

```
Router# show ipv6 cef with source adjacency checksum
2001::3/128
  FIB checksum: 0x4AE0F5DC
```

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

Table 12: show ipv6 cef with source adjacency checksum Field Descriptions

Field	Description
2001::3/128	IPv6 prefix whose source is an adjacency.
FIB checksum: 0x4AE0F5DC	FIB checksum.

Examples

The following is sample output from the **show ipv6 cef with source adjacency** command:

```
Router# show ipv6 cef with source adj
2001::3/128
  attached to Ethernet2/0
```

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

Table 13: show ipv6 cef with source adj Field Descriptions

Field	Description
20001::3/128	IPv6 prefix whose source is an adjacency.
attached to Ethernet2/0	Indicates that the prefix is a network connected through interface Ethernet 2/0.

The following is sample output from the **show ipv6 cef with source adj detail**command:

```
Router# show ipv6 cef with source adj detail
IPv6 CEF is enabled and running centrally.
VRF base:
 16 prefixes (16/0 fwd/non-fwd)
 Table id 0
 Database epoch:        0 (16 entries at this epoch)
2001::3/128, epoch 0, flags attached
  Adj source: IPV6 adj out of Ethernet2/0, addr 2001::3 02513FD8
   Dependent covered prefix type adjfib cover 2001::/64
  attached to Ethernet2/0
```

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

Table 14: show ipv6 cef with source adj detail Field Descriptions

Field	Description
IPv6 CEF is enabled and running centrally.	Verifies that Cisco Express Forwarding for IPV6 is enabled an running on the RP.
VRF base	Base VRF table.
16 prefixes (16/0 Fwd/non-fwd)	Number of prefixes, and how many prefixes are forwarded and how many are not forwarded.
2001::3/128, epoch 0, flags attached	Provides more detail about the adjacency source, such as epoch number and flags.
Adj source: IPv6 adj out of Ethernet2/0, addr 2000::3 050878F0	Lists a prefix, its epoch number, and flags. Attached flag indicates a connected network.
Dependent covered prefix type adjfib cover 2001::/64	A prefix sourced by an adjacency is dependent on another less specific prefix (2001::/64) for forwarding information. If this less specific prefix changes, the dependent prefix will need to be recomputed.

Field	Description
attached to Ethernet2/0	Indicates the prefix is a connect network through interface Ethernet 2/0.

The following is sample output from the **show ipv6 cef with source adj checksum**command:

```
Router# show ipv6 cef with source adj checksum
2001::3/128
  FIB checksum: 0x4AE0F5DC
```

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

Table 15: show ipv6 cef with source adj checksum Field Descriptions

Field	Description
2001::3/128	IPv6 prefix whose source is an adjacency.
FIB checksum: 0x4AE0F5DC	FIB checksum.

Related Commands

Command	Description
show ip cef	Displays entries in the FIB or displays a summary of the FIB.
show ip cef with epoch	Displays information about an epoch in the Cisco Express Forwarding FIB.
show ipv6 cef with epoch	Displays information about an epoch in the Cisco Express Forwarding IPv6 FIB.
show ipv6 cef with source	Displays information about prefix sources in the Cisco Express Forwarding IPv6 FIB.

show ipv6 cga address-db

To display IPv6 cryptographically generated addresses (CGA) from the address database, use the **show ipv6 cga address-db** command in privileged EXEC mode.

show ipv6 cga address-db

Syntax Description

This command has no arguments or keywords.

Command Default

No CGAs are displayed.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.4(24)T	This command was introduced.

Examples

The following example displays CGAs in the CGA database:

```
Router# show ipv6 cga address-db
2001:0DB8:/64 ::2011:B680:DEF4:A550 - table 0x0
        interface:      Ethernet0/0 (3)
        modifier:       SEND1024e
FE80::/64 ::3824:3CE4:C044:8D65 - table 0x12000003
        interface:      Ethernet0/0 (3)
        modifier:       SEND1024e
```

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

Table 16: show ipv6 cga address-db Field Descriptions

Field	Description
2001:0DB8:/64 ::2011:B680:DEF4:A550 - table 0x0	CGA address for which information is shown.
interface:	Interface on which the address is configured.
modifier:	The CGA modifier.

Related Commands

Command	Description
show ipv6 cga modifier-db	Displays IPv6 CGA modifiers.

Command	Description
show ipv6 nd secured certificates	Displays active SeND certificates.
show ipv6 nd secured counters interface	Displays SeND counters on an interface.
show ipv6 nd secured nonce-db	Displays active SeND nonce entries.
show ipv6 nd secured timestamp-db	Displays active SeND time-stamp entries.

show ipv6 cga modifier-db

To display IPv6 cryptographically generated address (CGA) modifier database entries, use the **show ipv6 cga modifier-db** command in privileged EXEC mode.

show ipv6 cga modifier-db

Syntax Description

This command has no arguments or keywords.

Command Default

No CGA modifiers are displayed.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.4(24)T	This command was introduced.

Usage Guidelines

The **show ipv6 cga modifier-db** command is used to display the modifiers generated with the **ipv6 cga modifier** command and the addresses generated from them.

Examples

The following example displays CGA modifiers in the CGA modifier database:

```
Router# show ipv6 cga modifier-db
F046:E042:13E8:1661:96E5:DD05:94A8:FADC
        label:          SubCA11
        sec level:      1
        Addresses:
  2001:100::38C9:4A1A:2972:794E
  FE80::289C:3308:4719:87F2
```

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

.

Table 17: show ipv6 cga modifier-db Field Descriptions

Field	Description
D695:5D75:F9B5:9715:DF0A:D840:70A2:84B8	The CGA modifier for which the information is displayed.
label	Name used for the Rivest, Shamir, and Adelman (RSA) key pair.
Addresses: 2001:100::38C9:4A1A:2972:794EFE80::289C:3308:4719:87F2	The CGA address.

Related Commands

Command	Description
ipv6 cga modifier	Generates an IPv6 CGA modifier for a specified RSA key pair.
show ipv6 cga address-db	Displays IPv6 CGAs.
show ipv6 nd secured certificates	Displays active SeND certificates.
show ipv6 nd secured counters interface	Displays SeND counters on an interface.
show ipv6 nd secured nonce-db	Displays active SeND nonce entries.
show ipv6 nd secured timestamp-db	Displays active SeND time-stamp entries.

show ipv6 destination-guard policy

To display destination guard information, use the **show ipv6 destination-guard policy** command in privileged EXEC mode.

show ipv6 destination-guard policy [*policy-name*]

Syntax Description

policy-name	(Optional) Name of the destination guard policy.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.2(4)S	This command was introduced.

Usage Guidelines

If the *policy-name* argument is specified, only the specified policy information is displayed. If the *policy-name* argument is not specified, information is displayed for all policies.

Examples

The following is sample output from the **show ipv6 destination-guard policy** command when the policy is applied to a VLAN:

```
Device# show ipv6 destination-guard policy pol1
Destination guard policy destination:
  enforcement always
        Target: vlan 300
```

Related Commands

Command	Description
ipv6 destination-guard policy	Defines the destination guard policy.

show ipv6 dhcp

To display the Dynamic Host Configuration Protocol (DHCP) unique identifier (DUID) on a specified device, use the **show ipv6 dhcp** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp

Syntax Description

This command has no arguments or keywords.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(4)T	This command was introduced.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.
12.2(33)SRE	This command was modified. It was integrated into Cisco IOS Release 12.2(33)SRE.

Usage Guidelines

The **show ipv6 dhcp** command uses the DUID based on the link-layer address for both client and server identifiers. The device uses the MAC address from the lowest-numbered interface to form the DUID. The network interface is assumed to be permanently attached to the device. Use the **show ipv6 dhcp** command to display the DUID of a device.

Examples

The following is sample output from the **show ipv6 dhcp**command. The output is self-explanatory:

```
Router# show ipv6 dhcp
This device's DHCPv6 unique identifier(DUID): 000300010002FCA5DC1C
```

show ipv6 dhcp binding

To display automatic client bindings from the Dynamic Host Configuration Protocol (DHCP) for IPv6 server binding table, use the **show ipv6 dhcp binding** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp binding [*ipv6-address*] [**vrf** *vrf-name*]

Syntax Description

ipv6-address	(Optional) The address of a DHCP for IPv6 client.
vrf *vrf-name*	(Optional) Specifies a virtual routing and forwarding (VRF) configuration.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
12.3(4)T	This command was introduced.
12.4	This command was modified. Command output was updated to display a PPP username associated with a binding.
12.4(24)T	This command was modified. Command output was updated to display address bindings.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.
15.1(2)S	This command was modified. The **vrf** *vrf-name* keyword and argument were added.
Cisco IOS XE Release 3.3S	This command was modified. The **vrf** *vrf-name* keyword and argument were added.

Usage Guidelines

The **show ipv6 dhcp binding** command displays all automatic client bindings from the DHCP for IPv6 server binding table if the *ipv6-address* argument is not specified. When the *ipv6-address* argument is specified, only the binding for the specified client is displayed.

If the **vrf** *vrf-name*keyword and argument combination is specified, all bindings that belong to the specified VRF are displayed.

Examples

The following sample output displays all automatic client bindings from the DHCP for IPv6 server binding table:

```
Router# show ipv6 dhcp binding
Client: FE80::A8BB:CCFF:FE00:300
  DUID: 00030001AABBCC000300
  Username : client_1
  Interface: Virtual-Access2.1
  IA PD: IA ID 0x000C0001, T1 75, T2 135
    Prefix: 2001:380:E00::/64
            preferred lifetime 150, valid lifetime 300
            expires at Dec 06 2007 12:57 PM (262 seconds)
Client: FE80::A8BB:CCFF:FE00:300 (Virtual-Access2.2)
  DUID: 00030001AABBCC000300
  IA PD: IA ID 0x000D0001, T1 75, T2 135
    Prefix: 2001:0DB8:E00:1::/64
            preferred lifetime 150, valid lifetime 300
            expires at Dec 06 2007 12:58 PM (288 seconds)
```

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

Table 18: show ipv6 dhcp binding Field Descriptions

Field	Description
Client	Address of a specified client.
DUID	DHCP unique identifier (DUID).
Virtual-Access2.1	First virtual client. When an IPv6 DHCP client requests two prefixes with the same DUID but a different identity association for prefix delegation (IAPD) on two different interfaces, these prefixes are considered to be for two different clients, and interface information is maintained for both.
Username : client_1	The username associated with the binding.
IA PD	Collection of prefixes assigned to a client.
IA ID	Identifier for this IAPD.
Prefix	Prefixes delegated to the indicated IAPD on the specified client.
preferred lifetime, valid lifetime	The preferred lifetime and valid lifetime settings, in seconds, for the specified client.
Expires at	Date and time at which the valid lifetime expires.

Field	Description
Virtual-Access2.2	Second virtual client. When an IPv6 DHCP client requests two prefixes with the same DUID but different IAIDs on two different interfaces, these prefixes are considered to be for two different clients, and interface information is maintained for both.

When the DHCPv6 pool on the Cisco IOS DHCPv6 server is configured to obtain prefixes for delegation from an authentication, authorization, and accounting (AAA) server, it sends the PPP username from the incoming PPP session to the AAA server for obtaining the prefixes. The PPP username is associated with the binding is displayed in output from the **show ipv6 dhcp binding** command. If there is no PPP username associated with the binding, this field value is displayed as "unassigned."

The following example shows that the PPP username associated with the binding is "client_1":

```
Router# show ipv6 dhcp binding
Client: FE80::2AA:FF:FEBB:CC
  DUID: 0003000100AA00BB00CC
  Username : client_1
  Interface : Virtual-Access2
  IA PD: IA ID 0x00130001, T1 75, T2 135
    Prefix: 2001:0DB8:1:3::/80
            preferred lifetime 150, valid lifetime 300
            expires at Aug 07 2008 05:19 AM (225 seconds)
```

The following example shows that the PPP username associated with the binding is unassigned:

```
Router# show ipv6 dhcp binding
Client: FE80::2AA:FF:FEBB:CC
  DUID: 0003000100AA00BB00CC
  Username : unassigned
  Interface : Virtual-Access2
  IA PD: IA ID 0x00130001, T1 150, T2 240
    Prefix: 2001:0DB8:1:1::/80
            preferred lifetime 300, valid lifetime 300
            expires at Aug 11 2008 06:23 AM (233 seconds)
```

Related Commands

Command	Description
clear ipv6 dhcp binding	Deletes automatic client bindings from the DHCP for IPv6 binding table.

show ipv6 dhcp conflict

To display address conflicts found by a Dynamic Host Configuration Protocol for IPv6 (DHCPv6) server when addresses are offered to the client, use the **show ipv6 dhcp conflict** command in privileged EXEC mode.

show ipv6 dhcp conflict [*ipv6-address*] [**vrf** *vrf-name*]

Syntax Description

ipv6-address	(Optional) The address of a DHCP for IPv6 client.
vrf *vrf-name*	(Optional) Specifies a virtual routing and forwarding (VRF) configuration.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
12.4(24)T	This command was introduced.
Cisco IOS XE Release 2.5	This command was integrated into Cisco IOS XE Release 2.5.
15.1(2)S	This command was modified. The **vrf** *vrf-name* keyword and argument were added.
Cisco IOS XE Release 3.3S	This command was modified. The **vrf** *vrf-name* keyword and argument were added.
Cisco IOS XE Release 3.2SE	This command was integrated into Cisco IOS XE Release 3.2SE.

Usage Guidelines

When you configure the DHCPv6 server to detect conflicts, it uses ping. The client uses neighbor discovery to detect clients and reports to the server through a DECLINE message. If an address conflict is detected, the address is removed from the pool, and the address is not assigned until the administrator removes the address from the conflict list.

Examples

The following is a sample output from the **show ipv6 dhcp conflict** command. This command shows the pool and prefix values for DHCP conflicts.:

```
Router# show ipv6 dhcp conflict
Pool 350, prefix 2001:0DB8:1005::/48
     2001:0DB8:1005::10
```

Related Commands

Command	Description
clear ipv6 dhcp conflict	Clears an address conflict from the DHCPv6 server database.

show ipv6 dhcp database

To display the Dynamic Host Configuration Protocol (DHCP) for IPv6 binding database agent information, use the **show ipv6 dhcp database** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp database [*agent-URL*]

Syntax Description

agent-URL	(Optional) A flash, NVRAM, FTP, TFTP, or remote copy protocol (RCP) uniform resource locator.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(4)T	This command was introduced.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.

Usage Guidelines

Each permanent storage to which the binding database is saved is called the database agent. An agent can be configured using the **ipv6 dhcp database** command. Supported database agents include FTP and TFTP servers, RCP, Flash file system, and NVRAM.

The **show ipv6 dhcp database**command displays DHCP for IPv6 binding database agent information. If the *agent-URL* argument is specified, only the specified agent is displayed. If the *agent-URL* argument is not specified, all database agents are shown.

Examples

The following is sample output from the **show ipv6 dhcp database**command:

```
Router# show ipv6 dhcp database
Database agent tftp://172.19.216.133/db.tftp:
  write delay: 69 seconds, transfer timeout: 300 seconds
  last written at Jan 09 2003 01:54 PM,
     write timer expires in 56 seconds
  last read at Jan 06 2003 05:41 PM
  successful read times 1
  failed read times 0
  successful write times 3172
  failed write times 2
Database agent nvram:/dhcpv6-binding:
  write delay: 60 seconds, transfer timeout: 300 seconds
  last written at Jan 09 2003 01:54 PM,
     write timer expires in 37 seconds
  last read at never
  successful read times 0
  failed read times 0
  successful write times 3325
  failed write times 0
```

```
Database agent flash:/dhcpv6-db:
  write delay: 82 seconds, transfer timeout: 3 seconds
  last written at Jan 09 2003 01:54 PM,
    write timer expires in 50 seconds
  last read at never
  successful read times 0
  failed read times 0
  successful write times 2220
  failed write times 614
```

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

Table 19: show ipv6 dhcp database Field Descriptions

Field	Description
Database agent	Specifies the database agent.
Write delay	The amount of time (in seconds) to wait before updating the database.
transfer timeout	Specifies how long (in seconds) the DHCP server should wait before aborting a database transfer. Transfers that exceed the timeout period are aborted.
Last written	The last date and time bindings were written to the file server.
Write timer expires...	The length of time, in seconds, before the write timer expires.
Last read	The last date and time bindings were read from the file server.
Successful/failed read times	The number of successful or failed read times.
Successful/failed write times	The number of successful or failed write times.

Related Commands

Command	Description
ipv6 dhcp database	Specifies DHCP for IPv6 binding database agent parameters.

show ipv6 dhcp guard policy

To display Dynamic Host Configuration Protocol for IPv6 (DHCPv6) guard information, use the **show ipv6 dhcp guard policy** command in privileged EXEC mode.

show ipv6 dhcp guard policy [*policy-name*]

Syntax Description

policy-name	(Optional) DHCPv6 guard policy name.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
15.2(4)S	This command was introduced.

Usage Guidelines

If the *policy-name* argument is specified, only the specified policy information is displayed. If the *policy-name* argument is not specified, information is displayed for all policies.

Examples

The following is sample output from the **show ipv6 dhcp guard guard** command:

```
Router#show ipv6 dhcp guard policy

Dhcp guard policy: default
        Device Role: dhcp client
        Target: Et0/3

Dhcp guard policy: test1
        Device Role: dhcp server
        Target: vlan 0    vlan 1    vlan 2    vlan 3    vlan 4
        Max Preference: 200
        Min Preference: 0
        Source Address Match Access List: acl1
        Prefix List Match Prefix List: pfxlist1

Dhcp guard policy: test2
        Device Role: dhcp relay
        Target: Et0/0 Et0/1 Et0/2
```

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

Table 20: show ipv6 dhcp guard Field Descriptions

Field	Description
Device Role	The role of the device. The role is either client, server or relay.
Target	The name of the target. The target is either an interface or a VLAN.

Related Commands

Command	Description
ipv6 dhcp guard policy	Defines the DHCPv6 guard policy name.

show ipv6 dhcp interface

To display Dynamic Host Configuration Protocol (DHCP) for IPv6 interface information, use the **show ipv6 dhcp interface** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp interface [*type number*]

Syntax Description

type number	(Optional) Interface type and number. For more information, use the question mark (**?**) online help function.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(4)T	This command was introduced.
12.3(11)T	Command output was modified to allow relay agent information to be displayed on a specified interface if the relay agent feature is configured on that interface.
12.4(24)T	Command output was updated to display interface address assignments and T1 and T2 renew/rebind times.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.
12.2(33)SRE	This command was modified. It was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(33)XNE	This command was modified. It was integrated into Cisco IOS Release 12.2(33)XNE.

Usage Guidelines

If no interfaces are specified, all interfaces on which DHCP for IPv6 (client or server) is enabled are shown. If an interface is specified, only information about the specified interface is displayed.

Examples

The following is sample output from the **show ipv6 dhcp interface**command. In the first example, the command is used on a router that has an interface acting as a DHCP for IPv6 server. In the second example, the command is used on a router that has an interface acting as a DHCP for IPv6 client:

```
Router1# show ipv6 dhcp interface
Ethernet2/1 is in server mode
  Using pool: svr-p1
```

```
  Preference value: 20
  Rapid-Commit is disabled
Router2# show ipv6 dhcp interface
Ethernet2/1 is in client mode
  State is OPEN (1)
  List of known servers:
    Address: FE80::202:FCFF:FEA1:7439, DUID 000300010002FCA17400
    Preference: 20
      IA PD: IA ID 0x00040001, T1 120, T2 192
        Prefix: 3FFE:C00:C18:1::/72
                preferred lifetime 240, valid lifetime 54321
                expires at Nov 08 2002 09:10 AM (54319 seconds)
        Prefix: 3FFE:C00:C18:2::/72
                preferred lifetime 300, valid lifetime 54333
                expires at Nov 08 2002 09:11 AM (54331 seconds)
        Prefix: 3FFE:C00:C18:3::/72
                preferred lifetime 280, valid lifetime 51111
                expires at Nov 08 2002 08:17 AM (51109 seconds)
      DNS server: 1001::1
      DNS server: 1001::2
      Domain name: domain1.net
      Domain name: domain2.net
      Domain name: domain3.net
    Prefix name is cli-p1
    Rapid-Commit is enabled
```

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

Table 21: show ipv6 dhcp interface Field Descriptions

Field	Description
Ethernet2/1 is in server/client mode	Displays whether the specified interface is in server or client mode.
Preference value:	The advertised (or default of 0) preference value for the indicated server.
Prefix name is cli-p1	Displays the IPv6 general prefix pool name, in which prefixes successfully acquired on this interface are stored.
Using pool: svr-p1	The name of the pool that is being used by the interface.
State is OPEN	State of the DHCP for IPv6 client on this interface. "Open" indicates that configuration information has been received.
List of known servers	Lists the servers on the interface.
Address, DUID	Address and DHCP unique identifier (DUID) of a server heard on the specified interface.
Rapid commit is disabled	Displays whether the **rapid-commit** keyword has been enabled on the interface.

The following example shows the DHCP for IPv6 relay agent configuration on FastEthernet interface 0/0, and use of the **show ipv6 dhcp interface** command displays relay agent information on FastEthernet interface 0/0:

```
Router(config-if)# ipv6 dhcp relay destination FE80::250:A2FF:FEBF:A056 FastEthernet0/1
Router# show ipv6 dhcp interface FastEthernet 0/0
FastEthernet0/0 is in relay mode
  Relay destinations:
    FE80::250:A2FF:FEBF:A056 via FastEthernet0/1
```

Related Commands

Command	Description
ipv6 dhcp client pd	Enables the DHCP for IPv6 client process and enables requests for prefix delegation through a specified interface.
ipv6 dhcp relay destination	Specifies a destination address to which client messages are forwarded and enables DHCP for IPv6 relay service on the interface.
ipv6 dhcp server	Enables DHCP for IPv6 service on an interface.

show ipv6 dhcp pool

To display Dynamic Host Configuration Protocol (DHCP) for IPv6 configuration pool information, use the **show ipv6 dhcp pool** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp pool [*poolname*]

Syntax Description

poolname	(Optional) User-defined name for the local prefix pool. The pool name can be a symbolic string (such as "Engineering") or an integer (such as 0).

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(4)T	This command was introduced.
12.4(24)T	Command output was updated to display address pools and prefix pools.
Cisco IOS XE Release 2.1	This command was integrated into Cisco IOS XE Release 2.1.
12.2(33)SRE	This command was modified. It was integrated into Cisco IOS Release 12.2(33)SRE.
12.2(33)XNE	This command was modified. It was integrated into Cisco IOS Release 12.2(33)XNE.

Usage Guidelines

Use the **ipv6 dhcp pool** command to create a configuration pool, and use the **ipv6 dhcp server** command to associate the configuration pool with a server on an interface.

The **show ipv6 dhcp pool** command displays DHCP for IPv6 configuration pool information. If the *poolname* argument is specified, only information on the specified pool is displayed. If the *poolname* argument is not specified, information about all pools is shown.

Examples

The following sample output displays DHCP for IPv6 configuration pool information:

```
Router# show ipv6 dhcp pool

DHCPv6 pool: svr-p1
  Static bindings:
    Binding for client 000300010002FCA5C01C
      IA PD: IA ID 00040002,
        Prefix: 3FFE:C00:C18:3::/72
                preferred lifetime 604800, valid lifetime 2592000
```

```
      IA PD: IA ID not specified; being used by 00040001
        Prefix: 3FFE:C00:C18:1::/72
                preferred lifetime 240, valid lifetime 54321
        Prefix: 3FFE:C00:C18:2::/72
                preferred lifetime 300, valid lifetime 54333
        Prefix: 3FFE:C00:C18:3::/72
                preferred lifetime 280, valid lifetime 51111
  Prefix from pool: local-p1, Valid lifetime 12345, Preferred lifetime 180
  DNS server: 1001::1
  DNS server: 1001::2
  Domain name: example1.net
  Domain name: example2.net
  Domain name: example3.net
Active clients: 2
```

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

Table 22: show ipv6 dhcp pool Field Descriptions

Field	Description
DHCPv6 pool: svr-p1	The name of the pool.
IA PD	Identity association for prefix delegation (IAPD), which is a collection of prefixes assigned to a client.
IA ID	Identifier for this IAPD.
Prefix	Prefixes to be delegated to the indicated IAPD on the specified client.
preferred lifetime, valid lifetime	Lifetimes, in seconds, associated with the prefix statically assigned to the specified client.
DNS server	IPv6 addresses of the DNS servers.
Domain name	Displays the DNS domain search list.
Active clients	Total number of active clients.

Related Commands

Command	Description
ipv6 dhcp pool	Configures a DHCP for IPv6 configuration information pool and enters DHCP for IPv6 pool configuration mode.
ipv6 dhcp server	Enables DHCP for IPv6 service on an interface.

show ipv6 dhcp relay binding

To display DHCPv6 Internet Assigned Numbers Authority (IANA) and DHCPv6 Identity Association for Prefix Delegation (IAPD) bindings on a relay agent, use the **show ipv6 dhcp relay binding** command in user EXEC or privileged EXEC mode.

show ipv6 dhcp relay binding [**vrf** *vrf-name*]

Syntax Description

vrf *vrf-name*	(Optional) Specifies a virtual routing and forwarding (VRF) configuration.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
15.1(2)S	This command was introduced.
Cisco IOS XE Release 3.3S	This command was integrated into Cisco IOS XE Release 3.3S.
15.2(1)S	This command was modified. In addition to DHCPv6 IAPD bindings, DHCPv6 IANA bindings on a relay agent can be displayed.
Cisco IOS XE Release 3.5S	This command was modified. In addition to DHCPv6 IAPD bindings, DHCPv6 IANA bindings on a relay agent can be displayed.
12.2(33)SCF4	This command was implemented on Cisco uBR10012 and Cisco uBR7200 series universal broadband devices.
15.3(3)M	This command was integrated into Cisco IOS Release 15.3(3)M.

Usage Guidelines

If the **vrf** *vrf-name* keyword-argument pair is specified, all bindings belonging to the specified VRF are displayed.

Note Only the DHCPv6 IAPD bindings on a relay agent are displayed on the Cisco uBR10012 and Cisco uBR7200 series universal broadband devices.

Examples

The following is sample output from the **show ipv6 dhcp relay binding** command:

```
Device# show ipv6 dhcp relay binding
```

The following example shows output from the **show ipv6 dhcp relay binding** command with a specified VRF name on a Cisco uBR10012 universal broadband device:

```
Device# show ipv6 dhcp relay binding vrf vrf1

Prefix: 2001:DB8:0:1:/64 (Bundle100.600)
  DUID: 000300010023BED94D31
  IAID: 3201912114
  lifetime: 600
```

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

Table 23: show ipv6 dhcp relay binding Field Descriptions

Field	Description
Prefix	IPv6 prefix for DHCP.
DUID	DHCP Unique Identifier (DUID) for the IPv6 relay binding.
IAID	Identity Association Identification (IAID) for DHCP.
lifetime	Lifetime of the prefix, in seconds.

Related Commands

Command	Description
clear ipv6 dhcp relay binding	Clears a specific IPv6 address or IPv6 prefix of a DHCP for IPv6 relay binding.

show ipv6 eigrp events

To display Enhanced Interior Gateway Routing Protocol (EIGRP) events logged for IPv6, use the **show ipv6 eigrp events** command in user EXEC or privileged EXEC mode.

show ipv6 eigrp events [[**errmsg**| **sia**] [*event-num-start event-num-end*]| **type**]

Syntax Description

errmsg	(Optional) Displays error messages being logged.
sia	(Optional) Displays Stuck In Active (SIA) messages.
event-num-start	(Optional) Starting number of the event range. The range is from 1 to 4294967295.
event-num-end	(Optional) Ending number of the event range. The range is from 1 to 4294967295.
type	(Optional) Displays event types being logged.

Command Default

If no event range is specified, information for all IPv6 EIGRP events is displayed.

Command Modes

User EXEC (>) Privileged EXEC (#)

Command History

Release	Modification
15.0(1)M	This command was introduced in a release earlier than Cisco IOS Release 15.0(1) on the Cisco 3845 series routers.

Usage Guidelines

The **show ipv6 eigrp events**command is used to analyze a network failure by the Cisco support team and is not intended for general use. This command provides internal state information about EIGRP and how it processes route notifications and changes.

Examples

The following is sample output from the **show ipv6 eigrp events** command. The fields are self-explanatory.

```
Router# show ipv6 eigrp events
Event information for AS 65535:
1    00:56:41.719 State change: Successor Origin Local origin
2    00:56:41.719 Metric set: 2555:5555::/32 4294967295
3    00:56:41.719 Poison squashed: 2555:5555::/32 lost if
4    00:56:41.719 Poison squashed: 2555:5555::/32 rt gone
5    00:56:41.719 Route installing: 2555:5555::/32 FE80::ABCD:4:EF00:1
6    00:56:41.719 RDB delete: 2555:5555::/32 FE80::ABCD:4:EF00:2
```

```
7    00:56:41.719 Send reply: 2555:5555::/32 FE80::ABCD:4:EF00:1
8    00:56:41.719 Find FS: 2555:5555::/32 4294967295
9    00:56:41.719 Free reply status: 2555:5555::/32
10   00:56:41.719 Clr handle num/bits: 0 0x0
11   00:56:41.719 Clr handle dest/cnt: 2555:5555::/32 0
12   00:56:41.719 Rcv reply met/succ met: 4294967295 4294967295
13   00:56:41.719 Rcv reply dest/nh: 2555:5555::/32 FE80::ABCD:4:EF00:2
14   00:56:41.687 Send reply: 2555:5555::/32 FE80::ABCD:4:EF00:2
15   00:56:41.687 Rcv query met/succ met: 4294967295 4294967295
16   00:56:41.687 Rcv query dest/nh: 2555:5555::/32 FE80::ABCD:4:EF00:2
17   00:56:41.687 State change: Local origin Successor Origin
18   00:56:41.687 Metric set: 2555:5555::/32 4294967295
19   00:56:41.687 Active net/peers: 2555:5555::/32 65536
20   00:56:41.687 FC not sat Dmin/met: 4294967295 2588160
21   00:56:41.687 Find FS: 2555:5555::/32 2588160
22   00:56:41.687 Rcv query met/succ met: 4294967295 4294967295
23   00:56:41.687 Rcv query dest/nh: 2555:5555::/32 FE80::ABCD:4:EF00:1
24   00:56:41.659 Change queue emptied, entries: 1
25   00:56:41.659 Metric set: 2555:5555::/32 2588160
```

Related Commands

Command	Description
clear ipv6 eigrp	Deletes entries from EIGRP for IPv6 routing tables.
debug ipv6 eigrp	Displays information about EIGRP for IPv6 protocol.
ipv6 eigrp	Enables EIGRP for IPv6 on a specified interface.

show ipv6 eigrp interfaces

To display information about interfaces configured for the Enhanced Interior Gateway Routing Protocol (EIGRP) in IPv6 topologies, use the **show ipv6 eigrp interfaces** command in user EXEC or privileged EXEC mode.

show ipv6 eigrp [*as-number*] **interfaces** [*type number*] **[detail]**

Syntax Description

as-number	(Optional) Autonomous system number.
type	(Optional) Interface type. For more information, use the question mark (?) online help function.
number	(Optional) Interface number. For more information about the numbering syntax for your networking device, use the question mark (?) online help function.
detail	(Optional) Displays detailed interface information.

Command Modes

User EXEC (>)

Privileged EXEC (#)

Command History

Release	Modification
12.4(6)T	This command was introduced.
12.2(33)SRB	This command was integrated into Cisco IOS Release 12.2(33)SRB.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
Cisco IOS XE Release 2.1	This command was implemented on Cisco ASR 1000 Series Aggregation Services Routers.
15.2(1)S	This command was integrated into Cisco IOS Release 15.2(1)S. Information about the Equal Cost Multipath (ECMP) mode was included in the command output.
Cisco IOS XE Release 3.5S	This command was modified. Information about the ECMP mode was included in the command output.
15.2(3)T	This command was modified. Information about the ECMP mode was included in the command output.

Usage Guidelines

Use the **show ipv6 eigrp interfaces** command to determine the interfaces on which EIGRP is active and to get information about EIGRP processes related to those interfaces. The optional *type number* argument and the **detail** keyword can be entered in any order.

If an interface is specified, only that interface is displayed. Otherwise, all interfaces on which EIGRP is running are displayed.

If an autonomous system is specified, only the routing process for the specified autonomous system is displayed. Otherwise, all EIGRP processes are displayed.

Examples

The following is sample output from the **show ipv6 eigrp interfaces** command:

```
Device# show ipv6 eigrp 1 interfaces

IPv6-EIGRP interfaces for process 1
                     Xmit Queue    Mean    Pacing Time    Multicast     Pending
Interface    Peers   Un/Reliable   SRTT    Un/Reliable    Flow Timer    Routes
Et0/0         0         0/0          0        0/10           0           0
```

The following is sample output from the **show ipv6 eigrp interfaces detail** command:

```
Device# show ipv6 eigrp interfaces detail

IPv6-EIGRP interfaces for process 1
                     Xmit Queue    Mean    Pacing Time    Multicast    Pending
Interface    Peers   Un/Reliable   SRTT    Un/Reliable    Flow Timer    Routes
Et0/0          0        0/0          0        0/10           0           0
Hello interval is 5 sec
Next xmit serial <none>
Un/reliable mcasts: 0/0 Un/reliable ucasts: 0/0
Mcast exceptions: 0 CR packets: 0 ACKs suppressed: 0
Retransmissions sent: 0 Out-of-sequence rcvd: 0
Authentication mode is not set
```

The following sample output from the **show ipv6 eigrp interface detail** command displays detailed information about a specific interface on which the **no ipv6 next-hop self** command is configured with the **no-ecmp-mode** option:

```
Device# show ipv6 eigrp interfaces detail tunnel 0

EIGRP-IPv6 Interfaces for AS(1)
                        Xmit Queue   PeerQ        Mean   Pacing Time   Multicast   Pending

Interface        Peers  Un/Reliable  Un/Reliable  SRTT   Un/Reliable   Flow Timer   Routes
Tu0/0              2        0/0          0/0        29       0/0          136          0
Hello-interval is 5, Hold-time is 15
  Split-horizon is disabled
  Next xmit serial <none>
  Packetized sent/expedited: 48/1
  Hello's sent/expedited: 13119/49
  Un/reliable mcasts: 0/20  Un/reliable ucasts: 31/398
  Mcast exceptions: 5  CR packets: 5  ACKs suppressed: 1
  Retransmissions sent: 355  Out-of-sequence rcvd: 6
  Next-hop-self disabled, next-hop info forwarded, ECMP mode Enabled
  Topology-ids on interface - 0
  Authentication mode is not set
```

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

Table 24: show ipv6 eigrp interfaces Field Descriptions

Field	Description
Interface	Interface over which EIGRP is configured.
Peers	Number of directly connected EIGRP neighbors.
Xmit Queue Un/Reliable	Number of packets remaining in the Unreliable and Reliable transmit queues.
Mean SRTT	Mean smooth round-trip time (SRTT) interval (in seconds).
Pacing Time Un/Reliable	Pacing time (in seconds) used to determine when EIGRP packets (unreliable and reliable) should be sent out of the interface.
Multicast Flow Timer	Maximum number of seconds in which the device will send multicast EIGRP packets.
Pending Routes	Number of routes in the transmit queue waiting to be sent.
Hello interval is 5 sec	Length (in seconds) of the hello interval.

show ipv6 eigrp neighbors

To display the neighbors discovered by Enhanced Interior Gateway Routing Protocol (EIGRP) for IPv6, use the **show ipv6 eigrp neighbors** command in user EXEC or privileged EXEC mode.

show ipv6 eigrp neighbors [*interface-type*| *as-number*| **static**| **detail**]

Syntax Description

interface-type	(Optional) Interface type.
as-number	(Optional) Autonomous system number.
static	(Optional) Displays static routes.
detail	(Optional) Displays detailed neighbor information.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.4(6)T	This command was introduced.
12.2(33)SRB	This command was integrated into Cisco IOS Release 12.2(33)SRB.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
Cisco IOS XE Release 2.1	This command was introduced on Cisco ASR 1000 Series Routers.

Usage Guidelines

Use the **show ipv6 eigrp neighbors** command to determine when neighbors become active and inactive. It is also useful for debugging certain types of transport problems.

Examples

The following is sample output from the **show ipv6 eigrp neighbors**command:

```
Router# show ipv6 eigrp neighbors
IPv6-EIGRP neighbors for process 1
H Address                 Interface      Hold      Uptime    SRTT    RTO   Q    Seq
                                         (sec)               (ms)          Cnt  Num
0 Link-local address:         Et0/0         14        00:00:13   11     200   0     2
FE80::A8BB:CCFF:FE00:200
```

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

Table 25: show ipv6 eigrp neighbors Field Descriptions

Field	Description
process 1	Autonomous system number.
Address FE80::A8BB:CCFF:FE00:200	IPv6 address of the EIGRP peer.
Interface	Interface on which the router is receiving hello packets from the peer.
Hold	Length of time (in seconds) that the Cisco IOS software will wait to hear from the peer before declaring it down. If the peer is using the default hold time, this number will be less than 15. If the peer configures a nondefault hold time, the nondefault hold time will be displayed.
Uptime	Elapsed time (in hours:minutes:seconds) since the local router first heard from this neighbor.
SRTT (ms)	Smoothed round-trip time (SRTT). The number of milliseconds required for an EIGRP packet to be sent to this neighbor and for the local router to receive an acknowledgment of that packet.
RTO	Retransmission timeout (in milliseconds). This is the amount of time the software waits before resending a packet from the retransmission queue to a neighbor.
Q count	Number of EIGRP packets (update, query, and reply) that the software is waiting to send.
Seq Num	Sequence number of the last update, query, or reply packet that was received from this neighbor.

The following is sample output from the **show ipv6 eigrp neighbors**command with the **detail** keyword:

```
Router# show ipv6 eigrp neighbors detail
IPv6-EIGRP neighbors for process 1
H  Address                 Interface      Hold      Uptime    SRTT    RTO   Q    Seq
                                         (sec)               (ms)          Cnt  Num
0  Link-local address:        Et0/0        11        00:00:30   11     200   0    2
FE80::A8BB:CCFF:FE00:200
Version 12.4/1.2, Retrans: 0, Retries: 0
```

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

Table 26: show ipv6 eigrp neighbors detail Field Descriptions

Field	Description
H	This column lists the order in which a peering session was established with the specified neighbor. The order is specified with sequential numbering starting with 0.
Version	The software version that the specified peer is running.
Retrans	The number of times that a packet has been retransmitted.
Retries	The number of times an attempt was made to retransmit a packet.

The following is sample output from the **show ipv6 eigrp neighbors**command with the **static**keyword:

```
Router# show ipv6 eigrp neighbors static
IPv6-EIGRP neighbors for process 1
Static Address Interface
Link-local address: Ethernet0/0
FE80::A8BB:CCFF:FE00:200
```

show ipv6 eigrp topology

To display Enhanced Interior Gateway Routing Protocol (EIGRP) IPv6 topology table entries, use the **show ipv6 eigrp topology** command in user EXEC or privileged EXEC mode.

show ipv6 eigrp topology [*as-number* | *ipv6-address*] [**active| all-links| pending| summary| zero-successors**]

Syntax Description

as-number	(Optional) Autonomous system number.
ipv6-address	(Optional) IPv6 address.
active	(Optional) Displays only active entries in the EIGRP topology table.
all-links	(Optional) Displays all entries in the EIGRP topology table (including nonfeasible-successor sources).
pending	(Optional) Displays all entries in the EIGRP topology table that are either waiting for an update from a neighbor or waiting to reply to a neighbor.
summary	(Optional) Displays a summary of the EIGRP topology table.
zero-successors	(Optional) Displays the available routes that have zero successors.

Command Modes

User EXEC (>)

Privileged EXEC (#)

Command History

Release	Modification
12.4(6)T	This command was introduced.
12.2(33)SRB	This command was integrated into Cisco IOS Release 12.2(33)SRB.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
15.2(1)S	This command was integrated into Cisco IOS Release 15.2(1)S. Information about the Equal Cost Multipath (ECMP) mode was included in the command output.
Cisco IOS XE Release 3.5S	This command was integrated into Cisco IOS XE Release 3.5S.

Release	Modification
15.2(2)S	This command was modified. The output of the command was enhanced to display route tag values in dotted-decimal format.
Cisco IOS XE Release 3.6S	This command was modified. The output of the command was enhanced to display route tag values in dotted-decimal format.
15.2(3)T	This command was modified. Information about the Equal Cost Multipath (ECMP) mode was included in the command output.

Usage Guidelines

If this command is used without any keywords or arguments, only routes that are feasible successors are displayed. The **show ipv6 eigrp topology** command can be used to determine Diffusing Update Algorithm (DUAL) states and to debug possible DUAL problems.

Examples

The following is sample output from the **show ipv6 eigrp topology** command. The fields in the display are self-explanatory.

```
Device# show ipv6 eigrp topology

IPv6-EIGRP Topology Table for AS(1)/ID(2001:0DB8:10::/64)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
r - reply Status, s - sia Status
P 2001:0DB8:3::/64, 1 successors, FD is 281600
via Connected, Ethernet1/0
```

The following sample output from the **show ipv6 eigrp topology** *prefix* command displays ECMP mode information when the **no ipv6 next-hop-self** command is configured without the **no-ecmp-mode** option in the EIGRP topology. The ECMP mode provides information about the path that is being advertised. If there is more than one successor, the top most path will be advertised as the default path over all interfaces, and the message “ECMP Mode: Advertise by default” will be displayed in the output. If any path other than the default path is advertised, the message “ECMP Mode: Advertise out <Interface name>” will be displayed. The fields in the display are self-explanatory.

```
Device# show ipv6 eigrp topology 2001:DB8:10::1/128

EIGRP-IPv6 Topology Entry for AS(1)/ID(192.0.2.100) for 2001:DB8:10::1/128
  State is Passive, Query origin flag is 1, 2 Successor(s), FD is 284160
  Descriptor Blocks:
  FE80::A8BB:CCFF:FE01:2E01 (Tunnel0), from FE80::A8BB:CCFF:FE01:2E01, Send flag is 0x0
      Composite metric is (284160/281600), route is Internal
      Vector metric:
        Minimum bandwidth is 10000 Kbit
        Total delay is 1100 microseconds
        Reliability is 255/255
        Load is ½55
        Minimum MTU is 1400
        Hop count is 1
        Originating router is 10.10.1.1
      ECMP Mode: Advertise by default
FE80::A8BB:CCFF:FE01:3E01 (Tunnel1), from FE80::A8BB:CCFF:FE01:3E01, Send flag is 0x0
      Composite metric is (284160/281600), route is Internal
      Vector metric:
        Minimum bandwidth is 10000 Kbit
        Total delay is 1100 microseconds
        Reliability is 255/255
        Load is ½55
        Minimum MTU is 1400
```

```
  Hop count is 1
  Originating router is 10.10.2.2
ECMP Mode: Advertise out Tunnel1
```

Related Commands

Command	Description
show eigrp address-family topology	Displays entries in the EIGRP topology table.

show ipv6 eigrp traffic

To display the number of Enhanced Interior Gateway Routing Protocol (EIGRP) for IPv6 packets sent and received, use the **show ipv6 eigrp traffic** command in user EXEC or privileged EXEC mode.

show ipv6 eigrp traffic [*as-number*]

Syntax Description

as-number	(Optional) Autonomous system number.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.4(6)T	This command was introduced.
12.2(33)SRB	This command was integrated into Cisco IOS Release 12.2(33)SRB.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Usage Guidelines

Use the **show ipv6 eigrp traffic**command to provide information on packets received and sent.

Examples

The following is sample output from the **show ipv6 eigrp traffic** command:

```
Router# show ipv6 eigrp traffic
IPv6-EIGRP Traffic Statistics for process 9
 Hellos sent/received: 218/205
 Updates sent/received: 7/23
 Queries sent/received: 2/0
 Replies sent/received: 0/2
 Acks sent/received: 21/14
```

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

Table 27: show ipv6 eigrp traffic Field Descriptions

Field	Description
process 9	Autonomous system number specified in the **ipv6 router eigrp**command.
Hellos sent/received	Number of hello packets sent and received.
Updates sent/received	Number of update packets sent and received.

Field	Description
Queries sent/received	Number of query packets sent and received.
Replies sent/received	Number of reply packets sent and received.
Acks sent/received	Number of acknowledgment packets sent and received.

Related Commands

Command	Description
ipv6 router eigrp	Configures the EIGRP for IPv6 routing process.

show ipv6 flow cache aggregation

To display the aggregation cache configuration, use the show ipv6 cache flow aggregation command in privileged EXEC mode.

show ipv6 flow cache aggregation aggregation-type [verbose]

Syntax Description

aggregation-type	Displays the configuration of a particular aggregation cache as follows: • Autonomous system • Destination prefix • Prefix • Protocol-port • Source prefix
verbose	(Optional) Displays additional information from the aggregation cache.

Command Default

No default behavior or values.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.3(7)T	This command was introduced.
12.2(30)S	This command was integrated into Cisco IOS Release 12.2(30)S.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Examples

The following is an example display of an autonomous system aggregation cache using the show iv6 flow cache aggregation as command:

```
Router# show ipv6 flow cache aggregation as
IPv6 Flow Switching Cache, 278544 bytes
  2 active, 4094 inactive, 13 added
  178 ager polls, 0 flow alloc failures
```

```
Src If       Src AS  Dst If       Dst AS  Flows   Pkts  B/Pk  Active
Fa1/0         0      Null          0         1      2     49    10.2
Fa1/0         0      Se2/0         20        1      5    100     0.0
```

The following is a sample display of an autonomous system aggregation cache for the prefix mask 2001::FFFC/64 using the show ipv6 flow cache aggregation as command:

```
Router# show ipv6 flow cache aggregation as
IPv6 Flow Switching Cache, 278544 bytes
  2 active, 4094 inactive, 13 added
  178 ager polls, 0 flow alloc failures
Src If         Src AS  Dst If         Dst AS     Flows    Pkts  B/Pk  Active
e1/2            0      Null           0            1     2       49    10.2
e1/2            0      e1/2           20           1     5      100     0.0
```

The following is a sample display of an autonomous system aggregation cache for Ethernet1/2 using the show ipv6 flow cache verbose aggregation as command:

```
Router# show ipv6 flow cache aggregation as verbose
IPv6 Flow Switching Cache, 278544 bytes
  2 active, 4094 inactive, 13 added
  178 ager polls, 0 flow alloc failures
Src If         Src AS  Dst If         Dst AS     Flows    Pkts  B/Pk  Active
e1/2            0      Null           0            1     2       49    10.2
e1/2            0      e1/2           20           1     5      100     0.0
```

The table below describes the significant fields shown in these examples.

Table 28: show ipv6 flow cache aggregation Field Descriptions

Field	Description
bytes	Number of bytes of memory used by the NetFlow cache.
active	Number of active flows in the NetFlow cache at the time this command was entered.
inactive	Number of flow buffers that are allocated in the NetFlow cache, but are not currently assigned to a specific flow at the time this command is entered.
added	Number of flows created since the start of the summary period.
ager polls	Number of times the NetFlow code looked at the cache to cause entries to expire (used by Cisco for diagnostics only).
flow alloc failures	Number of times the NetFlow code tried to allocate a flow but could not.
Src If	Specifies the source interface.
Src AS	Specifies the source autonomous system.
Dst If	Specifies the destination interface.
Dst AS	Specifies the destination autonomous system.
Flows	Number of flows.

Field	Description
Pkts	Number of packets.
B/Pk	Average number of bytes observed for the packets seen for this protocol (total bytes for this protocol or the total number of flows for this protocol for this summary period).
Active	Number of active flows in the NetFlow cache at the time this command was entered.

Related Commands

Command	Description
ipv6 flow-aggregation cache	Enables aggregation cache configuration mode.

show ipv6 flow export

To display the statistics for the data export, including the main cache and all other enabled caches, use the showipv6 flow export command in user EXEC or privileged EXEC mode.

show ipv6 flow export [template]

Syntax Description

template	(Optional) Displays export template statistics.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(7)T	This command was introduced.
12.2(30)S	This command was integrated into Cisco IOS Release 12.2(30)S.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.

Examples

The following is sample output from the **show ipv6 flow export** command:

```
Router# show ipv6 flow export
Flow export is enabled
   Exporting flows to 10.42.42.1 (9991) 10.0.101.254 (9991)
   Exporting using source IP address 10.0.101.203
   Version 5 flow records
   Export Stats for 10.42.42.1 (9991)
           3 flows exported in 3 udp datagrams
           0 flows failed due to lack of export packet
           3 export packets were sent up to process level
           0 export packets were dropped due to no fib
           0 export packets were dropped due to adjacency issues
           0 export packets were dropped enqueuing for the RP
           0 export packets were dropped due to IPC rate limiting
   Export Stats for 10.0.101.254 (9991)
           7 flows exported in 7 udp datagrams
           0 flows failed due to lack of export packet
           6 export packets were sent up to process level
           0 export packets were dropped due to no fib
           0 export packets were dropped due to adjacency issues
           0 export packets were dropped enqueuing for the RP
           0 export packets were dropped due to IPC rate limiting
```

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

Table 29: show ipv6 flow export Field Descriptions

Field	Description
Exporting flows to 10.42.42.1 (9991) 10.0.101.254 (9991)	Specifies the export destinations and ports. The ports are in parentheses.
Exporting using source IP address 10.0.101.203	Specifies the source address or interface.
Version 5 flow records	Specifies the version of the flow.
3 flows exported in 3udp datagrams	The total number of export packets sent, and the total number of flows contained within them.
0 flows failed due to lack of export packet	No memory was available to create an export packet.
0 export packets were sent up to process level	The packet could not be processed by CEF or by fast switching, possibly because another feature requires running on the packet.
0 export packets were dropped due to no fib 0 export packets were dropped due to adjacency issues	Indicates that CEF was unable to switch the packet or forward it up to the process level.
0 export packets were dropped enqueuing for the RP 0 export packets were dropped due to IPC rate limiting	Indicates that there was a problem transferring the export packet between the RP and the line card.

show ipv6 general-prefix

To display information on IPv6 general prefixes, use the **show ipv6 general-prefix** command in user EXEC or privileged EXEC mode.

show ipv6 general-prefix

Syntax Description

This command has no arguments or keywords.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.3(4)T	This command was introduced.

Usage Guidelines

Use the **show ipv6 general-prefix** command to view information on IPv6 general prefixes.

Examples

The following example shows an IPv6 general prefix called my-prefix, which has been defined based on a 6to4 interface. The general prefix is also being used to define an address on interface loopback42.

```
Router# show ipv6 general-prefix
IPv6 Prefix my-prefix, acquired via 6to4
2002:B0B:B0B::/48
 Loopback42 (Address command)
```

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

Table 30: show ipv6 general-prefix Field Descriptions

Field	Description
IPv6 Prefix	User-defined name of the IPv6 general prefix.
Acquired via	The general prefix has been defined based on a 6to4 interface. A general prefix can also be defined manually or acquired using DHCP for IPv6 prefix delegation.
2002:B0B:B0B::/48	The prefix value for this general prefix.
Loopback42 (Address command)	List of interfaces where this general prefix is used.

Related Commands

Command	Description
ipv6 general-prefix	Defines a general prefix for an IPv6 address manually.

show ipv6 inspect

To view Context-based Access Control (CBAC) configuration and session information, use the show ipv6 inspect command in privileged EXEC mode.

show ipv6 inspect {**name inspection-name**| **config**| **interfaces**| **session [detail]**| **all**}

Syntax Description

name *inspection-name*	Displays the configured inspection rule with the name inspection-name.
config	Displays the complete Cisco IOS firewall inspection configuration.
interfaces	Displays interface configuration with respect to applied inspection rules and access lists.
session [**detail**	Displays existing sessions that are currently being tracked and inspected by Cisco IOS firewall. The optional detail keyword causes additional details about these sessions to be shown.
all	Displays all Cisco IOS firewall configuration and all existing sessions that are currently being tracked and inspected by Cisco IOS firewall.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.3(7)T	This command was introduced.

Examples

The following example asks for information about interfaces currently under inspection:

```
Router# show ipv6 inspect
 interfaces
```

Related Commands

Command	Description
ipv6 inspect	Applies a set of inspection rules to an interface.

show ipv6 interface

To display the usability status of interfaces configured for IPv6, use the **show ipv6 interface**command in user EXEC or privileged EXEC mode.

show ipv6 interface [brief] [*type number*] **[prefix]**

Syntax Description

brief	(Optional) Displays a brief summary of IPv6 status and configuration for each interface.
type	(Optional) The interface type about which to display information.
number	(Optional) The interface number about which to display information.
prefix	(Optional) Prefix generated from a local IPv6 prefix pool.

Command Default

All IPv6 interfaces are displayed.

Command Modes

User EXEC Privileged EXEC

Command History

Release	Modification
12.2(2)T	This command was introduced.
12.2(4)T	The OK, TENTATIVE, DUPLICATE, ICMP redirects, and ND DAD fields were added to the command output.
12.0(21)ST	This command was integrated into Cisco IOS Release 12.0(21)ST.
12.0(22)S	This command was integrated into Cisco IOS Release 12.0(22)S.
12.2(14)S	This command was integrated into Cisco IOS Release 12.2(14)S.
12.2(25)S	Command output was updated to display information on the current Unicast RPF configuration.
12.4(2)T	Command output was updated to show the state of the default router preference (DRP) preference value as advertised by a device through an interface.

Release	Modification
12.2(28)SB	This command was integrated into Cisco IOS Release 12.2(28)SB.
12.2(25)SG	This command was integrated into Cisco IOS Release 12.2(25)SG.
12.4(4)T	Command output was updated to show Hot Standby Router Protocol (HSRP) for IPv6 information.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
Cisco IOS XE Release 2.1	This command was introduced on Cisco ASR 1000 series devices.
12.4(24)T	Command output was updated to show the Dynamic Host Configuration Protocol (DHCP) originated addresses.
12.2(50)SY	This command was integrated into Cisco IOS Release 12.2(50)SY.
15.0(1)SY	This command was integrated into Cisco IOS Release 15.0(1)SY.
15.2(2)SNG	This command was implemented on the Cisco ASR 901 Series Aggregation Services devices.
15.3(1)S	This command was integrated into Cisco IOS Release 15.3(1)S.
Cisco IOS XE Release 3.2SE	This command was integrated into Cisco IOS XE Release 3.2SE.
15.2(2)SA2	This command was implemented on the Cisco ME 2600X Series Ethernet Access Switches.

Usage Guidelines

The **show ipv6 interface** command provides output similar to the show ip interface command, except that it is IPv6-specific.

Use the **show ipv6 interface** command to validate the IPv6 status of an interface and its configured addresses. The show ipv6 interface command also displays the parameters that IPv6 is using for operation on this interface and any configured features.

If the interface's hardware is usable, the interface is marked up. If the interface can provide two-way communication for IPv6, the line protocol is marked up.

If you specify an optional interface type and number, the command displays information only about that specific interface. For a specific interface, you can enter the prefix keyword to see the IPv6 neighbor discovery (ND) prefixes that are configured on the interface.

Examples

Examples

The **show ipv6 interface**command displays information about the specified interface.

```
Device(config)# show ipv6 interface ethernet0/0
Ethernet0/0 is up, line protocol is up
```

```
IPv6 is enabled, link-local address is FE80::A8BB:CCFF:FE00:6700
No Virtual link-local address(es):
Global unicast address(es):
  2001::1, subnet is 2001::/64 [DUP]
  2001::A8BB:CCFF:FE00:6700, subnet is 2001::/64 [EUI]
  2001:100::1, subnet is 2001:100::/64
Joined group address(es):
  FF02::1
  FF02::2
  FF02::1:FF00:1
  FF02::1:FF00:6700
MTU is 1500 bytes
ICMP error messages limited to one every 100 milliseconds
ICMP redirects are enabled
ICMP unreachables are sent
ND DAD is enabled, number of DAD attempts: 1
ND reachable time is 30000 milliseconds (using 30000)
ND advertised reachable time is 0 (unspecified)
ND advertised retransmit interval is 0 (unspecified)
ND router advertisements are sent every 200 seconds
ND router advertisements live for 1800 seconds
ND advertised default router preference is Medium
Hosts use stateless autoconfig for addresses.
```

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

Table 31: show ipv6 interface Field Descriptions

Field	Description
Ethernet0/0 is up, line protocol is up	Indicates whether the interface hardware is active (whether line signal is present) and whether it has been taken down by an administrator. If the interface hardware is usable, the interface is marked "up." For an interface to be usable, both the interface hardware and line protocol must be up.
line protocol is up, down (down is not shown in sample output)	Indicates whether the software processes that handle the line protocol consider the line usable (that is, whether keepalives are successful or IPv6 CP has been negotiated). If the interface can provide two-way communication, the line protocol is marked up. For an interface to be usable, both the interface hardware and line protocol must be up.
IPv6 is enabled, stalled, disabled (stalled and disabled are not shown in sample output)	Indicates that IPv6 is enabled, stalled, or disabled on the interface. If IPv6 is enabled, the interface is marked "enabled." If duplicate address detection processing identified the link-local address of the interface as being a duplicate address, the processing of IPv6 packets is disabled on the interface and the interface is marked "stalled." If IPv6 is not enabled, the interface is marked "disabled."
link-local address	Displays the link-local address assigned to the interface.
Global unicast address(es):	Displays the global unicast addresses assigned to the interface.

Field	Description
Joined group address(es):	Indicates the multicast groups to which this interface belongs.
MTU	Maximum transmission unit of the interface.
ICMP error messages	Specifies the minimum interval (in milliseconds) between error messages sent on this interface.
ICMP redirects	The state of Internet Control Message Protocol (ICMP) IPv6 redirect messages on the interface (the sending of the messages is enabled or disabled).
ND DAD	The state of duplicate address detection on the interface (enabled or disabled).
number of DAD attempts:	Number of consecutive neighbor solicitation messages that are sent on the interface while duplicate address detection is performed.
ND reachable time	Displays the neighbor discovery reachable time (in milliseconds) assigned to this interface.
ND advertised reachable time	Displays the neighbor discovery reachable time (in milliseconds) advertised on this interface.
ND advertised retransmit interval	Displays the neighbor discovery retransmit interval (in milliseconds) advertised on this interface.
ND router advertisements	Specifies the interval (in seconds) for neighbor discovery router advertisements (RAs) sent on this interface and the amount of time before the advertisements expire. As of Cisco IOS Release 12.4(2)T, this field displays the default router preference (DRP) value sent by this device on this interface.
ND advertised default router preference is Medium	The DRP for the device on a specific interface.

Examples

The **show ipv6 interface** command displays information about attributes that may be associated with an IPv6 address assigned to the interface.

Attribute	Description
ANY	Anycast. The address is an anycast address, as specified when configured using the **ipv6 address** command.

Attribute	Description
CAL	Calendar. The address is timed and has valid and preferred lifetimes.
DEP	Deprecated. The timed address is deprecated.
DUP	Duplicate. The address is a duplicate, as determined by duplicate address detection (DAD). To re-attampt DAD, the user must use the **shutdown** or **no shutdown** command on the interface.
EUI	EUI-64 based. The address was generated using EUI-64.
OFF	Offlink. The address is offlink.
OOD	Overly optimistic DAD. DAD will not be performed for this address. This attribute applies to virtual addresses.
PRE	Preferred. The timed address is preferred.
TEN	Tentative. The address is in a tentative state per DAD.
UNA	Unactivated. The virtual address is not active and is in a standby state.
VIRT	Virtual. The address is virtual and is managed by HSRP, VRRP, or GLBP.

The following is sample output from the **show ipv6 interface**command when entered with the **brief** keyword:

```
Device# show ipv6 interface brief
Ethernet0 is up, line protocol is up
Ethernet0                  [up/up]
    unassigned
Ethernet1                  [up/up]
    2001:0DB8:1000:/29
Ethernet2                  [up/up]
    2001:0DB8:2000:/29
Ethernet3                  [up/up]
    2001:0DB8:3000:/29
Ethernet4                  [up/down]
    2001:0DB8:4000:/29
Ethernet5                  [administratively down/down]
    2001:123::210:7BFF:FEC2:ACD8
Interface         Status                IPv6 Address
Ethernet0         up                    3FFE:C00:0:1:260:3EFF:FE11:6770
Ethernet1         up                    unassigned
Fddi0             up                    3FFE:C00:0:2:260:3EFF:FE11:6772
Serial0           administratively down unassigned
Serial1           administratively down unassigned
Serial2           administratively down unassigned
Serial3           administratively down unassigned
```

```
Tunnel0           up                    unnumbered (Ethernet0)
Tunnel1           up                    3FFE:700:20:1::12
```

Examples

This sample output shows the characteristics of an interface that has generated a prefix from a local IPv6 prefix pool:

```
Device# show ipv6 interface Ethernet 0/0 prefix

interface Ethernet0/0
 ipv6 address 2001:0DB8::1/64
 ipv6 address 2001:0DB8::2/64
 ipv6 nd prefix 2001:0DB8:2::/64
 ipv6 nd prefix 2001:0DB8:3::/64 2592000 604800 off-link
end
.
.
.
IPv6 Prefix Advertisements Ethernet0/0
Codes: A - Address, P - Prefix-Advertisement, O - Pool
       U - Per-user prefix, D - Default
       N - Not advertised, C - Calendar
     default [LA] Valid lifetime 2592000, preferred lifetime 604800
AD   2001:0DB8:1::/64 [LA] Valid lifetime 2592000, preferred lifetime 604800
APD  2001:0DB8:2::/64 [LA] Valid lifetime 2592000, preferred lifetime 604800
P    2001:0DB8:3::/64 [A] Valid lifetime 2592000, preferred lifetime 604800
```

The default prefix shows the parameters that are configured using the ipv6 nd prefix default command.

Examples

This sample output shows the state of the DRP preference value as advertised by this device through an interface:

```
Device# show ipv6 interface gigabitethernet 0/1
  GigabitEthernet0/1 is up, line protocol is up
    IPv6 is enabled, link-local address is FE80::130
    Description: Management network (dual stack)
    Global unicast address(es):
      FEC0:240:104:1000::130, subnet is FEC0:240:104:1000::/64
    Joined group address(es):
      FF02::1
      FF02::2
      FF02::1:FF00:130
    MTU is 1500 bytes
    ICMP error messages limited to one every 100 milliseconds
    ICMP redirects are enabled
    ND DAD is enabled, number of DAD attempts: 1
    ND reachable time is 30000 milliseconds
    ND advertised reachable time is 0 milliseconds
    ND advertised retransmit interval is 0 milliseconds
    ND router advertisements are sent every 200 seconds
    ND router advertisements live for 1800 seconds
    ND advertised default router preference is Low
    Hosts use stateless autoconfig for addresses.
```

Examples

When HSRP IPv6 is first configured on an interface, the interface IPv6 link-local address is marked unactive (UNA) because it is no longer advertised, and the HSRP IPv6 virtual link-local address is added to the virtual link-local address list with the UNA and tentative DAD (TEN) attributes set. The interface is also programmed to listen for the HSRP IPv6 multicast address.

This sample output shows the status of UNA and TEN attributes, when HSRP IPv6 is configured on an interface:

```
Device# show ipv6 interface ethernet 0/0
Ethernet0/0 is up, line protocol is up
```

```
  IPv6 is enabled, link-local address is FE80:2::2 [UNA]
  Virtual link-local address(es):
    FE80::205:73FF:FEA0:1 [UNA/TEN]
  Global unicast address(es):
    2001:2::2, subnet is 2001:2::/64
  Joined group address(es):
    FF02::1
    FF02::2
    FF02::66
    FF02::1:FF00:2
  MTU is 1500 bytes
  ICMP error messages limited to one every 100 milliseconds
  ND DAD is enabled, number of DAD attempts: 1
```

After the HSRP group becomes active, the UNA and TEN attributes are cleared, and the overly optimistic DAD (OOD) attribute is set. The solicited node multicast address for the HSRP virtual IPv6 address is also added to the interface.

This sample output shows the status of UNA, TEN and OOD attributes, when HSRP group is activated:

```
Device# show ipv6 interface ethernet 0/0
Ethernet0/0 is up, line protocol is up
  IPv6 is enabled, link-local address is FE80:2::2 [UNA]
  Virtual link-local address(es):
    FE80::205:73FF:FEA0:1 [OPT]
  Global unicast address(es):
    2001:2::2, subnet is 2001:2::/64
  Joined group address(es):
    FF02::1
    FF02::2
    FF02::66
    FF02::1:FF00:2
    FF02::1:FFA0:1
  MTU is 1500 bytes
  ICMP error messages limited to one every 100 milliseconds
  ICMP redirects are enabled
  ND DAD is enabled, number of DAD attempts: 1
```

The table below describes additional significant fields shown in the displays for the **show ipv6 interface** command with HSRP configured.

Table 32: show ipv6 interface Command with HSRP Configured Field Descriptions

Field	Description
IPv6 is enabled, link-local address is FE80:2::2 [UNA]	The interface IPv6 link-local address is marked UNA because it is no longer advertised.
FE80::205:73FF:FEA0:1 [UNA/TEN]	The virtual link-local address list with the UNA and TEN attributes set.
FF02::66	HSRP IPv6 multicast address.
FE80::205:73FF:FEA0:1 [OPT]	HSRP becomes active, and the HSRP virtual address marked OPT.
FF02::1:FFA0:1	HSRP solicited node multicast address.

Examples

When you enable Mobile IPv6 on an interface, you can configure a minimum interval between IPv6 router advertisement (RA) transmissions. The **show ipv6 interface** command output reports the minimum RA interval, when configured. If the minimum RA interval is not explicitly configured, then it is not displayed.

In the following example, the maximum RA interval is configured as 100 seconds, and the minimum RA interval is configured as 60 seconds on Ethernet interface 1/0:

```
Device(config-if)# ipv6 nd ra-interval 100 60
```

Subsequent use of the **show ipv6 interface** then displays the interval as follows:

```
Device(config)# show ipv6 interface ethernet 1/0
Ethernet1/0 is administratively down, line protocol is down
  IPv6 is enabled, link-local address is FE80::A8BB:CCFF:FE00:5A01 [TEN]
  No Virtual link-local address(es):
  No global unicast address is configured
  Joined group address(es):
    FF02::1
    FF02::2
  MTU is 1500 bytes
  ICMP error messages limited to one every 100 milliseconds
  ICMP redirects are enabled
  ICMP unreachables are sent
  ND DAD is enabled, number of DAD attempts: 1
  ND reachable time is 30000 milliseconds
  ND advertised reachable time is 0 milliseconds
  ND advertised retransmit interval is 0 milliseconds
  ND router advertisements are sent every 60 to 100 seconds
  ND router advertisements live for 1800 seconds
  ND advertised default router preference is Medium
  Hosts use stateless autoconfig for addresses.
```

In the following example, the maximum RA interval is configured as 100 milliseconds (ms), and the minimum RA interval is configured as 60 ms on Ethernet interface 1/0:

```
Device(config)# show ipv6 interface ethernet 1/0
Ethernet1/0 is administratively down, line protocol is down
  IPv6 is enabled, link-local address is FE80::A8BB:CCFF:FE00:5A01 [TEN]
  No Virtual link-local address(es):
  No global unicast address is configured
  Joined group address(es):
    FF02::1
    FF02::2
  MTU is 1500 bytes
  ICMP error messages limited to one every 100 milliseconds
  ICMP redirects are enabled
  ICMP unreachables are sent
  ND DAD is enabled, number of DAD attempts: 1
  ND reachable time is 30000 milliseconds
  ND advertised reachable time is 0 milliseconds
  ND advertised retransmit interval is 0 milliseconds
  ND router advertisements are sent every 60 to 100 milliseconds
  ND router advertisements live for 1800 seconds
  ND advertised default router preference is Medium
  Hosts use stateless autoconfig for addresses.
```

The table below describes additional significant fields shown in the displays for the **show ipv6 interface** command with minimum RA interval information configured.

Table 33: show ipv6 interface Command with Minimum RA Interval Information Configuration Field Descriptions

Field	Description
ND router advertisements are sent every 60 to 100 seconds	ND RAs are sent at an interval randomly selected from a value between the minimum and maximum values. In this example, the minimum value is 60 seconds, and the maximum value is 100 seconds.
ND router advertisements are sent every 60 to 100 milliseconds	ND RAs are sent at an interval randomly selected from a value between the minimum and maximum values. In this example, the minimum value is 60 ms, and the maximum value is 100 ms.

Related Commands

Command	Description
ipv6 nd prefix	Configures which IPv6 prefixes are included in IPv6 router advertisements.
ipv6 nd ra interval	Configures the interval between IPv6 RA transmissions on an interface.
show ip interface	Displays the usability status of interfaces configured for IP.