

# show ip cache policy

To display the cache entries in the policy route cache, use the **show ip cache policy** command in EXEC mode.

**show ip cache policy**

## Syntax Description

This command has no arguments or keywords.

## Command Modes

EXEC

## Command History

Release	Modification
11.3	This command was introduced.

## Examples

The following is sample output from the **show ip cache policy** command:

```
Router# show ip cache policy

Total adds 10, total deletes 10

Type Routemap/sequence      Age      Interface      Next Hop
NH  george/10                00:04:31 Ethernet0      192.168.1.2
Int george/30                00:01:23 Serial4        192.168.5.129
```

[Table 45](#) describes the significant fields shown in the display.

**Table 47** *show ip cache policy Field Descriptions*

Field	Description
Total adds	Number of times a cache entry was created.
total deletes	Number of times a cache entry or the entire cache was deleted.
Type	“NH” indicates the <b>set ip next-hop</b> command. “Int” indicates the <b>set interface</b> command.
Routemap	Name of the route map that created the entry; in this example, george.
sequence	Route map sequence number.
Age	Age of the cache entry.
Interface	Output interface type and number.
Next Hop	IP address of the next hop.

## Related Commands

Command	Description
<a href="#">ip route-cache</a>	Configures the router to export the flow cache entry to a workstation when a flow expires.

# show ip community-list

To display configured community lists, use the **show ip community-list command** in EXEC mode.

```
show ip community-list [standard-community-list-number | extended-community-list-number |
community-list-name] [exact-match]
```

## Syntax Description

<i>standard-community-list-number</i>	(Optional) Community list number in the range from 1 to 99.
<i>expanded-community-list-number</i>	(Optional) Community list number in the range from 100 to 199.
<i>community-list-name</i>	(Optional) Community list name. The community list name can be standard or expanded.
<b>exact-match</b>	(Optional) Displays only routes that have an exact match.

## Command Modes

EXEC

## Command History

Release	Modification
11.0	This command was introduced.
12.0(10)S	Named community list support was added.
12.0(16)ST	Named community lists support was integrated into Cisco IOS Release 12.0(16)ST.
12.1(9)E	Named community lists support was integrated into Cisco IOS Release 12.1(9)E.
12.2(8)T	Named community lists support was integrated into Cisco IOS Release 12.2(8)T.

## Usage Guidelines

This command can be used without any arguments or keywords. If no arguments are specified, this command will display all community lists. However, the community list name or number can be specified when entering the **show ip community-list** command. This option can be useful for filtering the output of this command and verifying a single named or numbered community list.

## Examples

The following sample output is similar to the output that will be displayed when the **show ip community-list** command is entered in privileged EXEC mode:

```
Router# show ip community-list
Community standard list 1
    permit 3
    deny 5
Community (expanded) access list 101
    deny 4
    permit 6
Named Community standard list COMMUNITY_LIST_NAME
    permit 1
    deny 7
Named Community expanded list COMMUNITY_LIST_NAME_TWO
    deny 2
```

```
permit 8
```

Table 46 describes the significant fields shown in the display.

**Table 48** *show ip bgp community-list Field Descriptions*

Field	Description
Community standard list	If shown, this value will display a standard community list number (1 to 99). The standard community list number will immediately follow this value.
Community (expanded) access list	If shown, this value will display an expanded community list number (100 to 199). The expanded community list number will immediately follow this value.
Named community standard list	If shown, this value will display a standard community list name. The standard community list name will immediately follow this value.
Named community expanded list	If shown, this value will display an expanded community list name. The expanded community list name will immediately follow this value.

# show ip eigrp accounting

To display prefix accounting information for Enhanced Interior Gateway Routing Protocol (EIGRP) processes, use the **show ip eigrp accounting** command in EXEC mode.

**show ip eigrp accounting** [*as-number*]

<b>Syntax Description</b>	<i>as-number</i> (Optional) Specifies the autonomous system number.
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<b>Command Modes</b>	EXEC
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	12.0(29)S	This command was introduced.
	12.3(14)T	This command was integrated into Cisco IOS Release 12.3(14)T.

## Examples

The following is sample output from the **show ip eigrp accounting** command:

```
Router# show ip eigrp accounting
IP-EIGRP accounting for AS(100)/ID(10.0.2.1) Routing Table: RED
Total Prefix Count: 4 States: A-Adjacency, P-Pending, D-Down
State Address/Source Interface Prefix Restart Restart/
Count Count Reset(s)
P Redistributed ---- 0 3 211
A 10.0.1.2 Et0/0 2 0 84
P 10.0.2.4 Se2/0 0 2 114
D 10.0.1.3 Et0/0 0 3 0
```



### Note

Connected and summary routes are not listed individually in the output of this command but are counted in the total aggregate count per process.

[Table 59](#) describes the significant fields shown in the display.

**Table 49** *show ip eigrp accounting* Field Descriptions

<b>Field</b>	<b>Description</b>
IP-EIGRP accounting for AS...	Identifies the EIGRP instance along with the AS number, Router ID and Table ID.
Total Prefix Count:	Shows to the aggregate sum of the prefixes in an EIGRP instance topology table. It includes prefixes learnt from all neighbors or from redistribution.

**Table 49** *show ip eigrp accounting Field Descriptions (continued)*

<b>Field</b>	<b>Description</b>
States: A-Adjacency, P-Pending, D-Down	<p>A-Adjacency: Indicates a stable adjacency with the neighbor or a normal redistribution state.</p> <p>P-Pending: Neighbor adjacency or redistribution in suspended or in a penalized state because the maximum prefix limit has been exceeded.</p> <p>D-Down: Neighbor adjacency or redistribution is suspended permanently until a manually reset is performed with the <b>clear ip route</b> command.</p>
Address/Source	Shows the peer IP address of the redistribution source.
Prefix Count	<p>Displays the total number of learned prefixes by source.</p> <p><b>Note</b> Routes can be learned for the same prefix from multiple sources, and the sum of all prefix counts in this column may be greater than the figure displayed in the “Prefix Count” field.</p>
Restart Count	Number of times a route source has exceeded the maximum-prefix limit.
Restart Reset(s)	Displays the time, in seconds, that a route source is in a P (penalized) state. If the route source is in an A (stable or normal) state, the displayed time, in seconds, is the time period until penalization history is reset.

# show ip eigrp interfaces

To display information about interfaces configured for Enhanced Interior Gateway Routing Protocol (EIGRP), use the **show ip eigrp interfaces** command in EXEC mode.

**show ip eigrp interfaces** [*interface-type interface-number*] [*as-number*]

Syntax Description		
<i>interface-type</i>	(Optional)	Interface type.
<i>interface-number</i>	(Optional)	Interface number.
<i>as-number</i>	(Optional)	Autonomous system number.

**Command Modes** EXEC

Command History	Release	Modification
	11.2	This command was introduced.

**Usage Guidelines**

Use the **show ip eigrp interfaces** command to determine on which interfaces EIGRP is active, and to learn information about EIGRP relating to those interfaces.

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 ip eigrp interfaces** command:

```
Router# show ip eigrp interfaces
```

```
IP EIGRP interfaces for process 109
```

Interface	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer	Pending Routes
Di0	0	0/0	0	11/434	0	0
Et0	1	0/0	337	0/10	0	0
SE0:1.16	1	0/0	10	1/63	103	0
Tu0	1	0/0	330	0/16	0	0

[Table 47](#) describes the significant fields shown in the display.

**Table 50** show ip eigrp interfaces Field Descriptions

Field	Description
Interface	Interface over which EIGRP is configured.
Peers	Number of directly connected EIGRP neighbors.

**Table 50** *show ip eigrp interfaces Field Descriptions (continued)*

Field	Description
Xmit Queue Un/Reliable	Number of packets remaining in the Unreliable and Reliable transmit queues.
Mean SRTT	Mean smoothed round-trip time (SRTT) interval (in milliseconds).
Pacing Time Un/Reliable	Pacing time used to determine when EIGRP packets should be sent out the interface (unreliable and reliable packets).
Multicast Flow Timer	Maximum number of seconds in which the router will send multicast EIGRP packets.
Pending Routes	Number of routes in the packets in the transmit queue waiting to be sent.

**Related Commands**

Command	Description
<a href="#">show ip eigrp vrf neighbors</a>	Displays the neighbors discovered by EIGRP.

# show ip eigrp neighbors

To display the neighbors discovered by Enhanced Interior Gateway Routing Protocol (EIGRP), use the **show ip eigrp neighbors** command in EXEC mode.

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

Syntax Description		
<i>interface-type</i>	(Optional)	Filters that output by interface.
<i>as-number</i>	(Optional)	Filters that output by <i>autonomous system number</i> .
static	(Optional)	Displays static routes.
detail	(Optional)	Displays detailed neighbor information.

**Command Modes** EXEC

Command History	Release	Modification
	10.3	This command was introduced.
	12.0(7)T	The <b>static</b> keyword was added.
	12.2(15)T	Support for NSF restart operations was integrated into the output.

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

## Examples

### show ip eigrp neighbors Example

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

```
Router# show ip eigrp neighbors
IP-EIGRP Neighbors for process 77
Address                Interface      Holdtime  Uptime    Q      Seq  SRTT  RTO
                    (secs)      (h:m:s)  Count    Num   (ms)  (ms)
172.16.81.28           Ethernet1     13       0:00:41  0      11   4     20
172.16.80.28           Ethernet0     14       0:02:01  0      10   12    24
172.16.80.31           Ethernet0     12       0:02:02  0      4    5     20
```

[Table 48](#) describes the significant fields shown in the display.

**Table 51** show ip eigrp neighbors Field Descriptions

Field	Description
process 77	Autonomous system number specified in the <b>router</b> configuration command.
Address	IP address of the EIGRP peer.
Interface	Interface on which the router is receiving hello packets from the peer.

**Table 51** show ip eigrp neighbors Field Descriptions (continued)

Field	Description
Holdtime	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.
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.
SRTT	Smoothed round-trip time. This is 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.

**show ip eigrp neighbors detail Example**

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

```
Router# show ip eigrp neighbors detail
IP-EIGRP neighbors for process 101
H   Address                Interface          Hold Uptime    SRTT   RTO   Q Seq Tye
   (sec)                   (ms)              Cnt Num
3  1.1.1.3                  Et0/0             12 00:04:48 1832  5000  0 14
   Version 12.2/1.2, Retrans:0, Retries:0
   Restart time 00:01:05
0  10.4.9.5                  Fa0/0             11 00:04:07  768  4608  0  4  S
   Version 12.2/1.2, Retrans: 0, Retries: 0
2  10.4.9.10                 Fa0/0             13 1w0d          1  3000  0  6  S
   Version 12.2/1.2, Retrans: 1, Retries: 0
1  10.4.9.6                  Fa0/0             12 1w0d          1  3000  0  4  S
   Version 12.2/1.2, Retrans: 1, Retries: 0
```

[Table 49](#) describes the significant fields shown in the display.

**Table 52** show ip eigrp neighbors Field Descriptions

Field	Description
process 77	Autonomous system number specified in the <b>router</b> configuration command.
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.
Address	IP address of the EIGRP peer.
Interface	Interface on which the router is receiving hello packets from the peer.

**Table 52** *show ip eigrp neighbors Field Descriptions (continued)*

<b>Field</b>	<b>Description</b>
Holdtime	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.
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.
SRTT	Smoothed round-trip time. This is 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.
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.
Restart time	Elapsed time (in hours:minutes: seconds) since the specified neighbor has restarted.

# show ip eigrp topology

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

```
show ip eigrp topology [as-number | [ip-address mask]] [active | all-links | pending | summary
| zero-successors]
```

Syntax Description	
<i>as-number</i>	(Optional) Autonomous system number.
<i>ip-address</i>	(Optional) IP address. When specified with a mask, a detailed description of the entry is provided.
<i>mask</i>	(Optional) Subnet mask.
<b>active</b>	(Optional) Displays only active entries in the EIGRP topology table.
<b>all-links</b>	(Optional) Displays all entries in the EIGRP topology table.
<b>pending</b>	(Optional) Displays all entries in the EIGRP topology table that are waiting for an update from a neighbor or are waiting to reply to a neighbor.
<b>summary</b>	(Optional) Displays a summary of the EIGRP topology table.
<b>zero-successors</b>	(Optional) Displays available routes in the EIGRP topology table.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	10.0	This command was introduced.
	12.3(8)T	This command was enhanced to display internal and external EIGRP routes.

**Usage Guidelines** The **show ip eigrp topology** command can be used without any keywords or arguments. If this command is used without any keywords or arguments, then only routes that are feasible successors are displayed. The **show ip 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 ip eigrp topology** command:

```
Router# show ip eigrp topology

IP-EIGRP Topology Table for process 77

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - Reply status

P 10.16.90.0 255.255.255.0, 2 successors, FD is 0
   via 10.16.80.28 (46251776/46226176), Ethernet0
   via 10.16.81.28 (46251776/46226176), Ethernet1
   via 10.16.80.31 (46277376/46251776), Serial0
P 10.16.81.0 255.255.255.0, 1 successors, FD is 307200
   via Connected, Ethernet1
```

## show ip eigrp topology

```
via 10.16.81.28 (307200/281600), Ethernet1
via 10.16.80.28 (307200/281600), Ethernet0
via 10.16.80.31 (332800/307200), Serial0
```

In the following examples, EIGRP metrics for specified internal routes and external routes are displayed:

```
Router# show ip eigrp topology 10.2.1.0/24
```

```
IP-EIGRP (AS 1): Topology entry for 10.2.1.0/24
```

```
State is Passive, Query origin flag is 1, 1 Successor(s), FD is 281600 Routing Descriptor
Blocks:
0.0.0.0 (Ethernet0/0), from Connected, Send flag is 0x0 Composite metric is (281600/0),
Route is Internal !This is the internal route.
Vector metric: Minimum bandwidth is 10000 Kbit
Total delay is 1000 microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 0
```

```
Router# show ip eigrp topology 10.4.80.0/20
```

```
IP-EIGRP (AS 1): Topology entry for 10.4.80.0/20
```

```
State is Passive, Query origin flag is 1, 1 Successor(s), FD is 409600
Routing Descriptor Blocks:
10.2.1.1 (Ethernet0/0), from 10.2.1.1, Send flag is 0x0
Composite metric is (409600/128256), Route is External !This is the external route.
Vector metric:
Minimum bandwidth is 10000 Kbit
Total delay is 6000 microseconds
Reliability is 255/255
Load is 1/255
Minimum MTU is 1500
Hop count is 1
External data:
Originating router is 10.89.245.1
AS number of route is 0
External protocol is Connected, external metric is 0
Administrator tag is 0 (0x00000000)
```

Table 53 describes the significant fields shown in the displays.

**Table 53** *show ip eigrp topology* Field Descriptions

Field	Description
Codes	State of this topology table entry. Passive and Active refer to the EIGRP state with respect to this destination; Update, Query, and Reply refer to the type of packet that is being sent.
P – Passive	No EIGRP computations are being performed for this destination.
A – Active	EIGRP computations are being performed for this destination.
U – Update	Indicates that an update packet was sent to this destination.
Q – Query	Indicates that a query packet was sent to this destination.
R – Reply	Indicates that a reply packet was sent to this destination.
r – Reply status	Flag that is set after the software has sent a query and is waiting for a reply.

**Table 53** *show ip eigrp topology Field Descriptions (continued)*

Field	Description
10.16.90.0	Destination IP network number.
255.255.255.0	Destination subnet mask.
successors	Number of successors. This number corresponds to the number of next hops in the IP routing table. If “successors” is capitalized, then the route or next hop is in a transition state.
FD	Feasible distance. The feasible distance is the best metric to reach the destination or the best metric that was known when the route went active. This value is used in the feasibility condition check. If the reported distance of the router (the metric after the slash) is less than the feasible distance, the feasibility condition is met and that path is a feasible successor. Once the software determines it has a feasible successor, it need not send a query for that destination.
via	IP address of the peer that told the software about this destination. The first <i>n</i> of these entries, where <i>n</i> is the number of successors, is the current successors. The remaining entries on the list are feasible successors.
(46251776/46226176)	The first number is the EIGRP metric that represents the cost to the destination. The second number is the EIGRP metric that this peer advertised.
Ethernet0	Interface from which this information was learned.
Serial0	Interface from which this information was learned.

# show ip eigrp traffic

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

**show ip eigrp traffic** [*as-number*]

<b>Syntax Description</b>	<i>as-number</i>	(Optional) Autonomous system number.
---------------------------	------------------	--------------------------------------

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	10.0	This command was introduced.

## Examples

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

```
Router# show ip eigrp traffic

IP-EIGRP Traffic Statistics for process 77
  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
```

[Table 51](#) describes the significant fields shown in the display.

**Table 54** *show ip eigrp traffic* Field Descriptions

Field	Description
process 77	Autonomous system number specified in the <b>ip router</b> command.
Hellos sent/received	Number of hello packets sent and received.
Updates sent/received	Number of update packets sent and received.
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.

# show ip eigrp vrf accounting

To display prefix accounting information for an Enhanced Interior Gateway Routing Protocol (EIGRP) VPN routing and forwarding instance (VRF), use the **show ip eigrp vrf traffic** command in privileged EXEC mode.

```
show ip eigrp vrf {vrf-name | *} accounting [as-number]
```

Syntax Description	Parameter	Description
	<i>vrf-name</i>	Specifies the VRF name. The * keyword can be used as a wild card to display all VRFs, instead of specifying a single VRF with the <i>vrf-name</i> argument.
	<i>as-number</i>	(Optional) Specifies the autonomous system number.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.0(29)S	This command was introduced.
	12.3(14)T	This command was integrated into Cisco IOS Release 12.3(14)T.

## Examples

The following is sample output from the **show ip eigrp vrf accounting** command:

```
Router# show ip eigrp vrf RED accounting
IP-EIGRP accounting for AS(100)/ID(10.0.2.1) Routing Table: RED
Total Prefix Count: 4 States: A-Adjacency, P-Pending, D-Down
State Address/Source Interface Prefix Restart Restart/
Count Count Count Reset(s)
P Redistributed ---- 0 3 211
A 10.0.1.2 Et0/0 2 0 84
P 10.0.2.4 Se2/0 0 2 114
D 10.0.1.3 Et0/0 0 3 0
```



### Note

Connected and summary routes are not listed individually in the output of this command but are counted in the total aggregate count per process.

[Table 55](#) describes the significant fields shown in the display.

**Table 55** *show ip eigrp vrf accounting* Field Descriptions

Field	Description
IP-EIGRP accounting for AS...	Identifies the EIGRP instance along with the AS number, Router ID and Table ID.
Total Prefix Count:	Shows to the aggregate sum of the prefixes in an EIGRP instance topology table. It includes prefixes learnt from all neighbors or from redistribution.

**Table 55** show ip eigrp vrf accounting Field Descriptions (continued)

Field	Description
States: A-Adjacency, P-Pending, D-Down	<p>A-Adjacency: Indicates a stable adjacency with the neighbor or a normal redistribution state.</p> <p>P-Pending: Neighbor adjacency or redistribution in suspended or in a penalized state because the maximum prefix limit has been exceeded.</p> <p>D-Down: Neighbor adjacency or redistribution is suspended permanently until a manually reset is performed with the <b>clear ip route</b> command.</p>
Address/Source	Shows the peer IP address of the redistribution source.
Prefix Count	<p>Displays the total number of learned prefixes by source.</p> <p><b>Note</b> Routes can be learned for the same prefix from multiple sources, and the sum of all prefix counts in this column may be greater than the figure displayed in the “Prefix Count” field.</p>
Restart Count	Number of times a route source has exceeded the maximum-prefix limit.
Restart/Reset(s)	Displays the time, in seconds, that a route source is in a P (penalized) state. If the route source is in an A (stable or normal) state, the displayed time, in seconds, is the time period until penalization history is reset.

# show ip eigrp vrf interfaces

To display information about interfaces that carry virtual routing and forwarding instance (VRF) information and are configured for Enhanced Interior Gateway Routing Protocol (EIGRP), use the **show ip eigrp vrf interfaces** command in privileged EXEC mode.

```
show ip eigrp vrf {vrf-name | *} interfaces [as-number] [interface-type] [detail interface-type]
[static interface-type]
```

Syntax Description		
<i>vrf-name</i>		Specifies the VRF name. The * keyword can be used as a wild card to display all VRFs, instead of specifying a single VRF with the <i>vrf-name</i> argument.
<i>as-number</i>		(Optional) Specifies the autonomous system number.
<i>interface-type</i>		(Optional) Specifies the VRF interface for which to display EIGRP information.
<b>detail</b> <i>interface-type</i>		(Optional) Displays detailed VRF peer information. The interface can be specified after this keyword is entered.
<b>static</b> <i>interface-type</i>		(Optional) Displays VRF information for static neighbors. The interface can be specified after this keyword is entered. The <i>interface-type</i> argument allows you to display information about static neighbors for VRFs that are configured on specific interfaces.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.0(22)S	This command was introduced.
	12.2(15)T	This command was integrated into 12.2(15)T.

**Usage Guidelines** Use the **show ip eigrp vrf interfaces** command to display EIGRP interfaces that are defined under the specified VRF. If an interface is specified with the *interface-type* argument, only the specified interface is displayed. Otherwise, all interfaces on which EIGRP is running as part of the specified VRF are displayed.

**Examples** The following is sample output from the **show ip eigrp vrf interfaces** command:

```
Router# show ip eigrp vrf VRF-PINK interfaces
IP-EIGRP interfaces for process 1

Interface          Peers  Xmit Queue  Mean   Pacing Time  Multicast  Pending
                  Un/Reliable SRTT   Un/Reliable  Flow Timer  Routes
Et3/0              1      0/0         131    0/10         528       0
```

[Table 52](#) describes the significant fields shown in the display.

**Table 56** *show ip eigrp vrf interfaces Field Descriptions*

Field	Description
IP-EIGRP interfaces for process...	Displays the autonomous-system number for the specified VRF.
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 smoothed round-trip time (SRTT) interval (in milliseconds).
Pacing Time Un/Reliable	Pacing time used to determine when EIGRP packets should be sent out the interface (unreliable and reliable packets).
Multicast Flow Timer	Maximum number of seconds in which the router will send multicast EIGRP packets.
Pending Routes	Number of routes in the packets in the transmit queue waiting to be sent.

**Related Commands**

Command	Description
<a href="#">clear ip eigrp vrf neighbor</a>	Clears neighbor entries of the specified VRF from the RIB.
<a href="#">show ip eigrp vrf neighbors</a>	Displays neighbors discovered by EIGRP that carry VRF information.
<a href="#">show ip eigrp vrf topology</a>	Displays VRF entries in the EIGRP topology table.
<a href="#">show ip eigrp vrf traffic</a>	Displays EIGRP VRF traffic statistics.

# show ip eigrp vrf neighbors

To display Enhanced Interior Gateway Routing Protocol (EIGRP) neighbors that are on interfaces that are part of the specified VRF, use the **show ip eigrp vrf neighbors** command privileged EXEC mode.

```
show ip eigrp vrf {vrf-name | *} neighbors [as-number] [interface-type] [detail interface-type]
[static interface-type]
```

Syntax Description		
<i>vrf-name</i>		Specifies the VRF name. The * keyword can be used as a wild card to display all VRFs, instead of specifying a single VRF with the <i>vrf-name</i> argument.
<i>as-number</i>		(optional) Specifies the autonomous system number.
<i>interface-type</i>		(optional) Specifies the interface to display neighbor information under the specified VRF.
<b>detail</b> <i>interface-type</i>		(optional) Displays detailed VRF peer information. The interface can be specified after this keyword is entered.
<b>static</b> <i>interface-type</i>		(optional) Displays VRF information for static neighbors. The interface can be specified after this keyword is entered. The <i>interface-type</i> argument allows you to display information about static neighbors for VRFs that are configured on specific interfaces.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.0(22)S	This command was introduced.
	12.2(15)T	This command was integrated into 12.2(15)T.

**Usage Guidelines** Use the **show ip eigrp vrf neighbors** command to determine when VRF neighbors become active and inactive. This command is also useful for debugging certain types of transport problems.

**Examples** The following is sample output from the **show ip eigrp vrf neighbors** command:

```
Router# show ip eigrp vrf VRF-GREEN neighbors
IP-EIGRP neighbors for process 1
H   Address                Interface           Hold Uptime    SRTT   RTO   Q
Seq Type
                                     (sec)          (ms)          Cnt
Num
0   10.10.10.2              Et3/0              10 1d16h      131   786   0   3
```

[Table 53](#) describes the significant fields shown in the display.

**Table 57** *show ip eigrp vrf neighbors Field Descriptions*

<b>Field</b>	<b>Description</b>
IP-EIGRP neighbors for process...	Displays the autonomous-system number for the specified EIGRP VRF.
Address	IP address of the EIGRP peer.
Interface	Interface on which the router is receiving hello packets from the peer.
Hold Uptime	Length of time (in seconds) that the Cisco IOS software will wait to hear from the peer before declaring it down, and the length in time (in seconds) since the local router first heard from this neighbor.
SRTT	Smoothed round-trip time. This is 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	Number of EIGRP packets (update, query, and reply) that the software is waiting to send.

# show ip eigrp vrf topology

To display virtual routing and forwarding instance (VRF) entries in the Enhanced Interior Gateway Routing Protocol (EIGRP) topology table, use the **show ip eigrp topology** command in EXEC mode.

```
show ip eigrp vrf {vrf-name | *} topology [as-number] [ip-address [mask]] [active | all-links | pending | summary | zero-successors]
```

Syntax Description		
<i>vrf-name</i>		Specifies the VRF name. The * keyword can be used as a wild card to display all VRFs, instead of specifying a single VRF with the vrf-name argument.
<i>as-number</i>		(Optional) Autonomous system number.
<i>ip-address</i>		(Optional) IP address. When specified with a mask, a detailed description of the entry is provided.
<i>mask</i>		(Optional) Subnet mask.
active		(Optional) Displays only active entries in the EIGRP topology table.
all-links		(Optional) Displays all entries in the EIGRP topology table.
pending		(Optional) Displays all entries in the EIGRP topology table that are waiting for an update from a neighbor or are waiting to reply to a neighbor.
summary		(Optional) Displays a summary of the EIGRP topology table.
zero-successors		(Optional) Displays available routes in the EIGRP topology table.

**Command Modes** EXEC

Command History	Release	Modification
	12.0(22)S	This command was introduced.
	12.2(15)T	This command was integrated into 12.2(15)T.

**Usage Guidelines** The **show ip eigrp vrf topology** command can be used without any keywords or arguments, but you must specify either a VRF name or use \* character as a wild card. If this command is this way, only routes that are feasible successors are displayed. The **show ip eigrp vrf 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 ip eigrp vrf topology** command:

```
Router# show ip eigrp vrf VRF-PINK topology
IP-EIGRP Topology Table for AS(1)/ID(192.168.10.1) Routing Table:VRF-PINK

Codes:P - Passive, A - Active, U - Update, Q - Query, R - Reply,
      r - reply Status, s - sia Status

P 10.17.17.0/24, 1 successors, FD is 409600
   via 10.10.10.2 (409600/128256), Ethernet3/0
```

■ **show ip eigrp vrf topology**

```
P 172.16.19.0/24, 1 successors, FD is 409600
   via 10.10.10.2 (409600/128256), Ethernet3/0
P 192.168.10.0/24, 1 successors, FD is 281600
   via Connected, Ethernet3/0
P 10.10.10.0/24, 1 successors, FD is 281600
   via Redistributed (281600/0)
```

Table 54 describes the significant fields shown in the display.

**Table 58** *show ip vrf eigrp topology Field Descriptions*

Field	Description
Codes	State of this topology table entry. Passive and Active refer to the EIGRP state with respect to this destination; Update, Query, and Reply refer to the type of packet that is being sent.
P – Passive	No EIGRP computations are being performed for this destination.
A – Active	EIGRP computations are being performed for this destination.
U – Update	Indicates that an update packet was sent to this destination.
Q – Query	Indicates that a query packet was sent to this destination.
R – Reply	Indicates that a reply packet was sent to this destination.
r – reply Status	Flag that is set after the software has sent a query and is waiting for a reply.
s – sia Status	Flag that is set if a route is in a stuck in active state.
successors	Number of successors. This number corresponds to the number of next hops in the IP routing table. If “successors” is capitalized, then the route or next hop is in a transition state.
FD	Feasible distance. The feasible distance is the best metric to reach the destination or the best metric that was known when the route went active. This value is used in the feasibility condition check. If the reported distance of the router (the metric after the slash) is less than the feasible distance, the feasibility condition is met and that path is a feasible successor. Once the software determines it has a feasible successor, it need not send a query for that destination.
replies	(Not shown in the output) Number of replies that are still outstanding (have not been received) with respect to this destination. This information appears only when the destination is in Active state.
state	(Not shown in the output) Exact EIGRP state that this destination is in. It can be the number 0, 1, 2, or 3. This information appears only when the destination is in the active state.
via	IP address of the peer that told the software about this destination. The first N of these entries, where N is the number of successors, is the current successors. The remaining entries on the list are feasible successors.
(409600/128256)	The first number is the EIGRP metric that represents the cost to the destination. The second number is the EIGRP metric that this peer advertised.
Ethernet 3/0	Interface from which this information was learned.

# show ip eigrp vrf traffic

To display sent and received statistics for Enhanced Interior Gateway Routing Protocol (EIGRP) virtual routing and forwarding instance (VRF) packets, use the **show ip eigrp vrf traffic** command in privileged EXEC mode.

```
show ip eigrp vrf {vrf-name| *} traffic [as-number]
```

Syntax Description	Parameter	Description
	<i>vrf-name</i>	Specifies the VRF name. The * keyword can be used as a wild card to display all VRFs, instead of specifying a single VRF with the <i>vrf-name</i> argument.
	<i>as-number</i>	(Optional) Specifies the autonomous system number.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.0(22)S	This command was introduced.
	12.2(15)T	This command was integrated into 12.2(15)T.

## Examples

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

```
Router# show ip eigrp vrf VRF-RED traffic
IP-EIGRP Traffic Statistics for AS 101
  Hellos sent/received: 600/585
  Updates sent/received: 23/22
  Queries sent/received: 7/0
  Replies sent/received: 0/6
  Acks sent/received: 55/42
  Input queue high water mark 0, 0 drops
```

[Table 55](#) describes the significant fields shown in the display.

**Table 59** show ip eigrp vrf traffic Field Descriptions

Field	Description
IP-EIGRP Traffic Statistics for AS...	Displays the autonomous system number for the specified EIGRP VRF.
Hellos sent/received	Number of hello packets sent and received.
Updates sent/received	Number of update packets sent and received.
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.
Input queue high water mark..., ... drops	Number of received packets that are approaching the maximum receive threshold and number of dropped packets.

# show ip extcommunity-list

To display routes that are permitted by an extended community list, use the **show ip extcommunity-list** command in EXEC mode.

**show ip extcommunity-list** [*list-number* | *list-name*]

Syntax Description	
<i>list-number</i>	(Optional) Specifies an extended community list number from 1 to 500. A standard extended community list number is from 1 to 99. An expanded extended list is from 100 to 500.
<i>list-name</i>	(Optional) Specifies an extended community list name.

**Defaults** If a specific extended community list number is not specified when the **show ip extcommunity-list** command is entered, all locally configured extended community lists will be displayed by default.

**Command Modes** EXEC

Command History	Release	Modification
	12.1	This command was introduced.
	12.2(25)S	Support for named extended community lists was added. Minor formatting changes were made to the output.
	12.3(11)T	

**Examples** The following is sample output from the **show ip extcommunity-list** command in EXEC mode:

```
Router# show ip extcommunity-list
Standard extended community-list 1
  10 permit RT:64512:10
  20 permit SoO:65400:20
  30 deny RT:65424:30 SoO:64524:40
Standard extended community-list 99
  10 permit RT:65504:40 SoO:65505:50
  20 deny RT:65406:60 SoO:65307:70
Expanded extended community-list LIST_NAME
  10 permit 0-9* A-Z* a-z*
```

[Table 60](#) describes the significant fields shown in the display.

**Table 60** show ip extcommunity-list Field Descriptions

Field	Description
... extended community-list...	The type of extended community-list (standard or expanded), and the name or number of the extended community list.
10	The sequence number of the extended community list entry. 10 is the lowest default sequence number. Extended community lists increment by 10 when default values are configured.
permit/deny	Indicates a permit or deny sequence entry.

**Table 60** *show ip extcommunity-list Field Descriptions (continued)*

Field	Description
RT/SoO	Indicates the route target or the site of origin used in a standard extended community list.
0-9* A-Z* a-z*	Regular expression used in an expanded extended community list.

**Related Commands**

Command	Description
<b>show route-map</b>	Displays configured route maps.

# show ip local policy

To display the route map used for local policy routing, if any, use the **show ip local policy** command in EXEC mode.

**show ip local policy**

**Syntax Description** This command has no arguments or keywords.

**Command Modes** EXEC

Command History	Release	Modification
	11.1	This command was introduced.

**Examples** The following is sample output from the **show ip local policy** command:

```
Router# show ip local policy
Local policy routing is enabled, using route map equal
route-map equal, permit, sequence 10
  Match clauses:
    length 150 200
  Set clauses:
    ip next-hop 10.10.11.254
  Policy routing matches: 0 packets, 0 bytes
route-map equal, permit, sequence 20
  Match clauses:
    ip address (access-lists): 101
  Set clauses:
    ip next-hop 10.10.11.14
  Policy routing matches: 2 packets, 172 bytes
```

[Table 56](#) describes the significant fields shown in the display.

**Table 61** *show ip local policy Field Descriptions*

Field	Description
route-map equal	The name of the route map is equal.
permit	The route map contains permit statements.
sequence	The sequence number of the route map, which determines in what order it is processed among other route maps.
Match clauses:	Clauses in the route map that must be matched to satisfy the permit or deny action.
Set clauses:	Set clauses that will be put into place if the match clauses are met.
Policy routing matches: packets	Number of packets that meet the match clauses.
bytes	Number of bytes in the packets that meet the match clauses.

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<a href="#">ip policy route-map</a>	Identifies a route map to use for local policy routing.
	<a href="#">match ip address</a>	Distributes any routes that have a destination network number address that is permitted by a standard or extended access list, and performs policy routing on packets.
	<a href="#">match length</a>	Bases policy routing on the Level 3 length of a packet.
	<a href="#">route-map (IP)</a>	Defines the conditions for redistributing routes from one routing protocol into another, or enables policy routing.
	<a href="#">set default interface</a>	Indicates where to output packets that pass a match clause of a route map for policy routing and have no explicit route to the destination.
	<a href="#">set interface</a>	Indicates where to output packets that pass a match clause of route map for policy routing.
	<a href="#">set ip default next-hop verify-availability</a>	Indicates where to output packets that pass a match clause of a route map for policy routing and for which the Cisco IOS software has no explicit route to a destination.
	<a href="#">set ip next-hop</a>	Indicates where to output packets that pass a match clause of a route map for policy routing.

■ show ip local policy