



# show ip

This chapter describes the outputs of the **show ip** command.

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## show ip framed-prefixes

*Table 1: show ip framed-prefixes Command Output Descriptions*

| Field        | Description   |
|--------------|---|
| session-id   | Displays the session identifier for the session corresponding to the framed-prefix. |
| Address/Mask | Displays the IP address.  |
| vrf-name     | Displays the vrf routing information.   |
| pool-name    | Displays the pool name used for framed-prefixes.                                    |

## show ip interface

*Table 2: show ip interface Command Output Descriptions*

| Field     | Description  |
|-----------|--|
| Intf Name | Indicates the name of the IP interface for which information is displayed. |

| Field                         | Description  |
|-------------------------------|--|
| Intf Type                     | Indicates the type of IP interface for which information is displayed. Possible types are: <ul style="list-style-type: none"> <li>• broadcast</li> <li>• loopback</li> <li>• point-to-point</li> <li>• tunnel</li> </ul> |
| Description                   | Indicates the provided description for specific interface name.  |
| VRF                           | Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface.   |
| IP State                      | Indicates the state of the IP interface. Possible values are: <ul style="list-style-type: none"> <li>• UP</li> <li>• DOWN</li> </ul>   |
| IP Address                    | Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation.   |
| Number of Secondary Addresses | Indicates the total number of secondary IP addresses bound with this IP interface.   |
| Secondary IP Addresses        | Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be display only when secondary IP addresses are configured for this interface.  |

## show ip interface gre-keepalive

*Table 3: show ip interface gre-keepalive Command Output Descriptions*

| Field     | Description  |
|-----------|--|
| Intf Name | Indicates the name of the IP interface for which information is displayed.   |
| Intf Type | Indicates the type of IP interface for which information is displayed. Possible types are: <ul style="list-style-type: none"> <li>• broadcast</li> <li>• loopback</li> <li>• point-to-point</li> <li>• tunnel</li> </ul> |

| Field  | Description  |
|--|--|
| Description  | Indicates the provided description for specific interface name.  |
| VRF  | Indicates the name of the configured virtual routing and forwarding (VRF) table for this IP interface.   |
| IP State   | Indicates the state of the IP interface. Possible values are: <ul style="list-style-type: none"> <li>• UP</li> <li>• DOWN</li> </ul>   |
| IP Address   | Indicates the primary IP address bound with this IP interface in IPv4/IPv6 notation.   |
| Number of Secondary Addresses                            | Indicates the total number of secondary IP addresses bound with this IP interface.   |
| Secondary IP Addresses                                   | Indicates the secondary IP address bound with this IP interface in IPv4/IPv6 notation. This will be displayed only when secondary IP address(es) are configured for this interface.        |
| GRE Keepalives sent after receiving last response        | Indicates the total number of GRE keepalive requests sent after last response was received.  |
| Time remaining before sending next GRE Keepalive request | Indicates the time duration in seconds left after which next GRE keepalive request will be sent.   |
| Time elapsed since last Keepalive from the remote        | Indicates the time in seconds lapsed after last keepalive received from the remote node of GRE tunnel.   |
| Total Number of GRE Keepalive requests sent              | Indicates the total number of GRE keepalive requests sent by this node to remote GRE tunnel node during this session.  |
| Total Number of GRE Keepalive responses received         | Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from this node, received on this interface from remote GRE tunnel node during this session.   |
| Total Number of GRE Keepalive requests received          | Indicates the total number of GRE keepalive requests from remote GRE tunnel node, received by this node on this interface during this session.   |
| Total Number of GRE Keepalive responses sent             | Indicates the total number of GRE keepalive responses, in response to GRE keepalive requests from remote GRE tunnel node, sent by this node to remote GRE tunnel node during this session. |

## show ip pool address pool-name

Table 4: show ip pool address pool-name Command Output Descriptions

| Field                    | Description  |
|--------------------------|--|
| Busyout                  | Defines whether or not the associated IP address is unavailable due to a busyout command having been applied to the entire pool or a range of addresses within the pool.   |
| Status                   | Identifies the current condition of the IP address. Valid conditions are:<br>(F) - Free: IP address is available for use.<br>(U) - Used: IP address is currently in use and is unavailable.<br>(H) - Hold: IP address is unavailable and on hold for the subscriber that just disconnected in case a reconnect occurs within the range of the <b>address-hold-timer</b> value configured in the <b>ip pool</b> command.<br>(R) - Release: IP address is in the process of being released (from general use or the hold state). |
| Address                  | Displays the IP address.   |
| NAI/MSID Hash            | A 64-bit value identifying the subscriber's MN in order to reapply a specific IP address should the subscriber return within the hold timer range.   |
| Hold Timer               | Specifies the amount of time, in seconds, that the IP address is placed on hold in the event that the subscriber, who last used the address, reconnects.   |
| Session Start/Disconnect | Displays the session start time for IP addresses in use and the session disconnect time for IP addresses on hold.  |

## show ip pool summary




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**Note** This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context context\_name** command at the Execute prompt to switch between contexts.

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Table 5: show ip pool summary Command Output Descriptions

| Field                           | Description  |
|---------------------------------|--|
| Type                            | Identifies the type of IP address pool.<br>(P) - Public: Indicates that the pool is comprised of public IP addresses.<br>(R) - Private: Indicates that the pool is comprised of private IP addresses.<br>(S) - Static: Indicates that the pool is comprised of statically assigned IP addresses.<br>(E) - Resource: Indicates that the pool is comprised of resource IP addresses.<br>(N) - NAT: Indicates that the pool is comprised of NAT IP addresses. |
| State                           | Identifies the state of the IP address pool.<br>(G) - Good: Indicates that the pool is ready to provide addresses.<br>(D) - Pending Delete: Indicates that the pool is in the process of being deleted.<br>(R) - Resizing: Indicates that the pool is in the process of being resized.<br>(I) - Inactive: Indicates that the pool is not being used.   |
| Priority                        | Specifies the priority use of a public or private pool. Pools with lower priority numbers are used first.  |
| Busyout                         | Indicates whether or not the pool has been configured for busyout.   |
| Pool Name                       | Identifies the name of the IP address pool.  |
| Start Address                   | Identifies the starting IP address of the pool.  |
| Mask/End Address                | Identifies the subnet mask or the ending IP address of the pool.   |
| Used                            | Specifies the number of IP addresses currently in use.   |
| Avail                           | Specifies the number of IP addresses currently available for use.  |
| Total Pool Count                | Specifies the total number of IP address pools in the summary.   |
| Total Pool Kernel Routes        | Specifies the total number of Kernel routes that exist across all pools in the summary.  |
| Max Pool Kernel Routes          | Specifies the maximum number of IP pool routes supported by the system.  |
| Total Pool Explicit Host Routes | Specifies the total number of pool explicit routes that exist across all pools in the summary.   |

| Field                         | Description  |
|-------------------------------|--|
| Max Pool Explicit Host Routes | Specifies the maximum number of pool explicit host routes supported by the system. |

## show ip pool verbose



**Note** This command must be executed from within the context in which the IP address pools are configured. As such, this command only provides information for the IP address pools configured in that context. Enter the **context** *context\_name* command at the Execute prompt to switch between contexts.

**Table 6: show ip pool verbose Command Output Descriptions**

| Field                             | Description  |
|-----------------------------------|--|
| Group                             | If there are IP address pools configured as part of a defined pool group, this field displays the name of the pool group.  |
| Ungrouped Public Pools            | Displays information for IP address pools not part of defined pool groups.   |
| Pool                              | Identifies the name of the IP Pool.  |
| Start Address/End Address or mask | Identifies the starting IP address and the ending IP address (or the subnet mask) of the pool.   |
| Pool Status                       | Identifies the status if the IP address pool.<br>Good: Indicates that the pool is ready to provide addresses.<br>Pending Delete: Indicates that the pool is in the process of being deleted.<br>Resizing: Indicates that the pool is in the process of being resized.<br>Inactive: Indicates that the pool is not being used.  |
| Type                              | Identifies the type of IP address pool.<br>Public: Indicates that the pool is comprised of public IP addresses.<br>Private: Indicates that the pool is comprised of private IP addresses.<br>Static: Indicates that the pool is comprised of statically assigned IP addresses.<br>Resource: Indicates that the pool is comprised of resource IP addresses.<br>NAT: Indicates that the pool is comprised of NAT IP addresses. |
| Priority                          | Identifies the priority of the IP pool (0 = highest, 10 = lowest)  |

| Field                                 | Description  |
|---------------------------------------|--|
| Group                                 | Identifies the group to which the IP pool belongs.   |
| VRF                                   | Identifies the VRF name.   |
| Used                                  | Specifies the number of IP addresses currently in use in this pool.  |
| Free                                  | Specifies the number of IP addresses currently available for use in this pool.   |
| Hold                                  | Specifies the number of IP addresses currently unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the <b>address-hold-timer</b> value configured in the <b>ip pool</b> command. |
| Released                              | Specifies the number of IP addresses in this pool that are in the process of being released (from general use or the hold state).  |
| Addr-Hold-Timer                       | Identifies the <b>address-hold-timer</b> value configured in the <b>ip pool</b> command.   |
| Limit Exceeded                        | Specifies the number of times the hold timer limit was exceeded and the IP address being held was returned to an available or free state.  |
| Addr-Quarantine-Timer                 | Identifies the <b>address-quarantine-timer</b> value configured in the <b>ip pool</b> command.   |
| Quarantine                            | Specifies the number of times the quarantine timer limit was exceeded and the IP address being quarantined was returned to an available or free state.   |
| Total Alloc Req                       | Specifies the total number of IP address requests made to this pool.   |
| Total Rel Req                         | Specifies the total number of IP address release requests made to this pool.   |
| Input Label                           | Identifies the input label for the VRF.  |
| Output Label                          | Identifies the output label for the VRF.   |
| Network Reachability Detection Server | Identifies the name of a configured network reachability server that is bound to the IP pool.  |
| Unicast Gratuitous-ARP Address        | Identifies if the ability to perform a unicast gratuitous ARP to the specified IP address rather than broadcast gratuitous ARP when gratuitous ARP generation is required is enabled for this pool.  |
| Nexthop Forwarding Address            | Identifies the IP address of the next hop gateway where a subscriber that is assigned an IP address from this pool is forwarded.   |

| Field                             | Description  |
|-----------------------------------|--|
| Vlan ID                           | Identifies the VLAN ID that enables over-lapping IP address pool support and associates the pool with the specified virtual LAN (VLAN).  |
| Suppress-Switchover-ARPS          | Identifies if the ability to suppress corresponding gratuitous ARP generation when a line card switchover occurs is enabled or disabled for this pool.   |
| Send-ICMP-Dest-Unreachable        | Specifies whether or not an ICMP destination unreachable PDU is generated when the system receives a PDU destined for an unused address within the pool.   |
| Explicit-Route-Advertise          | If a pool is configured with this option, then none of the fragment addresses for this pool are added to the kernel. However, the fragment addresses are added to the NPU. As the calls come up and addresses from this pool (with the new option) are used, these addresses are added to the kernel.  |
| Advertise-if-used                 | Indicates if the option is enabled to use advertise address or not.  |
| Include-Network-Broadcast-Address | Indicates whether IP pool is configured to include network broadcast address or not.   |
| Allow-Static-Allocation           | Indicates whether IP pool configured to allow static allocation of IP address or not.  |
| Group Available Threshold         | <p>Specifies the low threshold IP pool utilization percentage that must be met or passed within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated.</p>    |
| Pool-Free Threshold               | <p>Specifies the low threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the high threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage rises above the high threshold within the polling interval, a clear alarm will be generated.</p>  |
| Pool-Used Threshold               | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |



| Field                                | Description  |
|--------------------------------------|--|
| Pool-Release Threshold               | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| Pool-Hold Threshold                  | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| Pool-Quarantine Threshold            | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| cip-local-pool-used Threshold        | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| cip-local-pool-in-use-addr Threshold | <p>Specifies the high threshold IP pool utilization percentage that must be met or exceeded within the polling interval to generate an alert or alarm.</p> <p>Clear: Specifies the low threshold IP pool utilization percentage that maintains a previously generated alarm condition. If the utilization percentage falls beneath the low threshold within the polling interval, a clear alarm will be generated.</p> |
| <b>Group Summary</b>                 | This field and the related data are only displayed for pools that are part of a IP pool group.   |
| Group Used                           | Specifies the number of IP addresses within the group that are currently in use.   |
| Group Free                           | Specifies the number of IP addresses within the group that are currently available.  |

| Field                             | Description   |
|-----------------------------------|---|
| Group Hold                        | Specifies the number of IP addresses in the group that are unavailable and on hold for the subscribers that just disconnected in case a reconnect occurs within the range of the <b>address-hold-timer</b> value configured in the <b>ip pool</b> command.  |
| Group Released                    | Specifies the number of IP addresses in the group that are in the process of being released (from general use or the hold state).   |
| Group Effective Alarm Threshold % | Identifies the alarm threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group.   |
| Group Effective Clear Threshold % | Identifies the clear threshold for the group. This parameter is based on the configured threshold of the first IP pool used in the group.   |
| Group Current Usage %             | Identifies the percentage of IP addresses currently in use within the group.  |
| Group Status                      | Identifies the status of the group.<br>(G) - Good: Indicates that the pool is ready to provide addresses.<br>(D) - Pending Delete: Indicates that the pool is in the process of being deleted.<br>(R) - Resizing: Indicates that the pool is in the process of being resized.<br>(I) - Inactive: Indicates that the pool is not being used. |
| Total Pool Count                  | Specifies the total number of IP address pools in the summary.  |
| Total Pool Kernel Routes          | Specifies the total number of Kernel routes that exist across all pools in the summary.   |
| Max Pool Kernel Routes            | Specifies the maximum number of IP pool routes supported by the system.   |
| Total Pool Explicit Host Routes   | Specifies the total number of pool explicit routes that exist across all pools in the summary.  |
| Max Pool Explicit Host Routes     | Specifies the maximum number of pool explicit host routes supported by the system.  |

## show ip route

Table 7: show ip route Command Output Descriptions

| Field              | Description  |
|--------------------|--|
| Destination        | Designating ip address prefix/length                           |
| kernel-only        | Displays information for only kernel routes (ip route kernel). |
| Next hop           | Address of the directly connected next hop interface           |
| Protocol           | Connected<br>Unconnected                                       |
| Prec               | Number of precedence bits set                                  |
| Cost               | Number of router hops to destination address                   |
| Interface          | Name of the next hop interface                                 |
| Total Route Count  | Total number of routes   |
| Unique route count | Number of unique routes  |
| Connected          | Number of connected routes                                     |

## show ip traffic sctp

Table 8: show ip traffic sctp Command Output Descriptions

| Field             | Description  |
|-------------------|--|
| SctpCurrEstab     | Displays the number of SCTP (Stream Control Transmission Protocol ) associations for which the current state is either ESTABLISHED, SHUTDOWN-RECEIVED or SHUTDOWN-PENDING.               |
| SctpActiveEstabs  | Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the COOKIE-ECHOED state. The upper layer initiated the association attempt.   |
| SctpPassiveEstabs | Displays the number of times that associations have made a direct transition to the ESTABLISHED state from the CLOSED state. The remote endpoint initiated the association attempt.      |
| SctpAborteds      | Displays the number of times that associations have made a direct transition to the CLOSED state from any state using the primitive "ABORT". (Ungraceful termination of the association) |

| Field                | Description  |
|----------------------|--|
| SctpShutdowns        | Displays the number of times that associations have made a direct transition to the CLOSED state from either the SHUTDOWN-SENT state or the SHUTDOWN-ACK-SENT state. (Graceful termination of the association)                                 |
| SctpOutOfBlues       | Displays the number of out-of-the-blue packets received by the host. An out-of-the-blue packet is a correctly formed SCTP packet, including the proper checksum, but for which the receiver was unable to identify an appropriate association. |
| SctpChecksumErrors   | Displays the number of SCTP packets received with an invalid checksum.   |
| SctpOutCtrlChunks    | Displays the number of SCTP control chunks sent; retransmissions are not included. Control chunks are those chunks different from DATA.  |
| SctpOutOrderChunks   | Displays the number of SCTP ordered data chunks sent; retransmissions are not included.  |
| SctpOutUnorderChunks | Displays the the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) sent; retransmissions are not included.  |
| SctpInCtrlChunks     | Displays the number of SCTP control chunks received; no duplicate chunks included.   |
| SctpInOrderChunks    | Displays the number of SCTP ordered data chunks received; no duplicate chunks included.  |
| SctpInUnorderChunks  | Displays the number of SCTP unordered chunks (data chunks in which the U bit is set to 1) received; no duplicate chunks are included.  |
| SctpFragUsrMsg       | Displays the number of user messages that have to be fragmented because of the MTU.  |
| SctpReasmUsrMsgs     | Displays the number of user messages reassembled, after conversion into DATA chunks.   |
| SctpOutSCTPPacks     | Displays the number of SCTP packets sent; retransmitted DATA chunks are included.  |
| SctpInSCTPPacks      | Displays the number of SCTP packets received; duplicates are included.   |