

# ANCP Commands

This module describes the commands used to configure Access Node Control Protocol (ANCP).

To use commands of this module, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using any command, contact your AAA administrator for assistance.

For detailed information regarding ANCP concepts, configuration tasks and examples, see the Configuring ANCP chapter in the *Modular QoS Configuration Guide for Cisco ASR 9000 Series Routers*


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# ancp

To enable Access Node Control Protocol (ANCP), use the **ancp** command in Global Configuration mode. To disable ANCP and delete the ANCP configuration, use the **no** form of the command.

**ancp**
**no ancp**

## Syntax Description

This command has no keywords or arguments.

## Command Default

Disabled

## Command Modes

Global Configuration mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to enable ANCP and enter ANCP configuration mode:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# ancp
RP/0/RSP0/CPU0:router(config-ancp)#
```

## Related Commands

| Command | Description |
|---|---|
| show ancp summary, on page 39 | Displays information about ANCP configuration, including server sender name and neighbor and port counts by state. |

# ancp an-port circuit-id

To define a unique access node ID for each access port, use the **ancp an-port circuit-id** command in the appropriate configuration mode . This information is included in the ANCP Port Up and Port Down messages.

**ancp an-port circuit-id** *Access-Loop-Circuit-Id* [**interface** *type interface-path-id* | **interface Bundle-Ether** *bundle-id*]
**no ancp an-port circuit-id** *Access-Loop-Circuit-Id* [**interface** *type interface-path-id* | **interface Bundle-Ether** *bundle-id*]

## Syntax Description

| | |
|---|---|
| *Access-Loop-Circuit-Id* | Unique access loop circuit ID name identifying the access port. Maximum 63 characters. |
| **interface** | Describes the access node (AN) port. |
| *type* | Interface type:<br>• **GigabitEthernet** (GigabitEthernet/IEEE 802.3 interface)<br>• **TenGigE** (TenGigabitEthernet/IEEE 802.3 interface) |
| *interface-path-id* | Physical interface instance. Naming notation is *slot / module / port / interface* **.** *subinterface* . |
| **interface Bundle-Ether** | Identifies a Bundle-Ether (Aggregated Ethernet) interface. |
| *bundle-id* | Bundle-Ether interface instance. Range is a number from 1 through 65535. Naming notation is *interface.subinterface* . |

## Command Default

No default behavior or values

## Command Modes

Global Configuration mode

ANCP configuration

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |

## Usage Guidelines

Only subinterfaces of Ethernet and Ethernet bundle interfaces can be mapped to AN ports.

The circuit ID must be supplied before an access node port configuration can be committed.

When using a shared policy instance in subinterfaces with ANCP, the same AN port circuit ID must be mapped to all subinterfaces that have the same shared policy instance.

Circuit ID information can be displayed using the **show ancp an-port** command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows a unique access node ID being defined:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# ancp an-port circuit-id circuit1 interface gigabitethernet
2/0/1/1.1
```

## Related Commands

| Command | Description |
|---|---|
| clear ancp an-port, on page 9 | Clears access node (AN) ports of dynamic data or statistics. |
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |

# ancp neighbor

To map a neighbor configuration to the respective TCP connection, use the **ancp neighbor** commanding the appropriate configuration mode. To remove the map, use the **no** form of the command.

**ancp neighbor sender-name** {*H.H.HA.B.C.D*} {**description** *string* | **adjacency-timer** *interval*}
**no ancp neighbor sender-name** {*H.H.HA.B.C.D*} {**description** *string* | **adjacency-timer** *interval*}

## Syntax Description

| | |
|---|---|
| **sender-name** | ANCP neighbor identification. |
| *H.H.H* | MAC address of the sending interface. |
| *A.B.C.D* | IP address of the sending interface. |
| **description** *string* | Identifier of ANCP neighbor. General string up to 63 characters. |
| **adjacency-timer** *interval* | The adjacency timer controls the frequency of adjacency protocol messages sourced by the ANCP server. Use the **adjacency-timer** keyword to define the maximum delay between different stages of ANCP session establishment and the period of ANCP keepalive. The adjacency-timer interval is measured in milliseconds. Replace the interval argument with a number between 100 and 255 (10 to 25.5 seconds). Defaults to 100 ms (10 seconds). |

## Command Default

Adjacency timer interval default is 10 seconds.

## Command Modes

Global Configuration mode

ANCP configuration

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

The TCP connection from any neighbor is accepted on any interface that is IP enabled. To match the neighbor configuration to a respective TCP connection, ANCP neighbors are identified by a sender name that must match the corresponding field in adjacency protocol messages.

To configure both **description** and **adjacency-timer** parameters, use two separate command lines as shown in the Examples section. If a neighbor session is already established, it resets so that the adjacency timer can take affect.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to map a neighbor configuration to its respective connection:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# ancp neighbor sender-name 0001.2222.3333 description VendorA-1

RP/0/RSP0/CPU0:router(config)# ancp neighbor sender-name 0001.2222.3333 adjacency-timer 20
```

## Related Commands

| Command | Description |
|---|---|
| clear ancp neighbor, on page 11 | Clears the adjacency connection with the neighbor. |
| clear ancp summary statistics, on page 13 | Clears aggregate message statistics only, without modifying individual neighbor or port statistics. |
| show ancp neighbor, on page 25 | Displays data or message statistics associated with individual ANCP adjacencies or sets of adjacencies. |
| show ancp neighbor summary, on page 28 | Displays adjacency counts by state. |

# ancp rate-adjustment

To apply a mathematical correction to the ANCP rate update prior to applying it as a shaper rate, use the **ancp rate-adjustment** command in the appropriate configuration mode. To disable the rate adjustment, use the **no** form of the command.

**ancp rate-adjustment** *dsl-type access-loop-type* **percent-factor** *factor*
**no ancp rate-adjustment** *dsl-type access-loop-type* **percent-factor** *factor*

## Syntax Description

| | |
|---|---|
| *dsl-type* | Sets DSL type. Possible values are:<br>**adsl1 adsl2 adsl2+ vdsl1 vdsl2 sdsl** |
| *access-loop-type* | Sets the access loop type, either **Ethernet** or **ATM** . |
| **percent-factor** *factor* | Sets the percentage of the ANCP rate. This value should be applied to the ANCP reported rate update prior to configuring it as a shaping rate. |

## Command Default

No default behavior or values

## Command Modes

Global Configuration mode

ANCP configuration

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

Both *dsl-type* and *access-loop-type* must be specified in order to configure rate adjustment. *access-loop-type* and *dsl-type* are compared to appropriate values in optional TLVs in the ANCP Port Up message. The ANCP rate is adjusted by a configured factor in case of a match.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to configure a percent factor of 90 with DSL type ADSL2, and an access loop type of Ethernet:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# ancp rate-adjustment adsl2 ethernet percent-factor 90
```

## Related Commands

| Command | Description |
|---|---|
| show ancp summary, on page 39 | Displays information about ANCP configuration, including server sender name and neighbor and port counts by state. |

# ancp server sender-name

To configure a local sender name to be used by the ANCP server in adjacency protocol messages toward DSLAMs, use the **ancp server sender-name** command in the appropriate configuration mode. To return the local sender name to its default value, use the **no** form of the command.

**ancp server sender-name** {*H.H.HA.B.C.D*}
**no ancp server sender-name** {*H.H.HA.B.C.D*}

## Syntax Description

| | |
|---|---|
| *H.H.H* | MAC address of the sending interface. |
| *A.B.C.D* | IP address of the sending interface. |

## Command Default

By default, the local sender name is set to the MAC address of a Management Ethernet port.

## Command Modes

Global Configuration mode

ANCP configuration

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to configure a local sender name:

```
RP/0/RSP0/CPU0:router# configure
RP/0/RSP0/CPU0:router(config)# ancp server sender-name 0013.1aff.c2bd
```

## Related Commands

| Command | Description |
|---|---|
| show ancp summary, on page 39 | Displays information about ANCP configuration, including server sender name and neighbor and port counts by state. |

# clear ancp an-port

To clear access node (AN) ports of dynamic data or statistics, either individually or in groups, use the **clear ancp an-port** command in EXEC mode mode.

**clear ancp an-port** {**all** | **circuit-id** *Access-Loop-Circuit* | **interface** *type interface-path-id* | **interface Bundle-Ether** *bundle-id* | **neighbor** {**description** *string* | **sender-name** {*H.H.HA.B.C.D*}}} [**statistics**]

## Syntax Description

| | |
|---|---|
| **statistics all** | Clears dynamic data or statistics on all ports. |
| **circuit-id** | A single access node port. |
| *Access-Loop-Circuit-Id* | Unique access loop circuit ID name identifying the access port. Maximum 63 characters. |
| **interface** | Describes the AN port. |
| *type* | Interface type:<br>• **statistics GigabitEthernet** (Gigabit Ethernet/IEEE 802.3 interface)<br>• **TenGigE** (TenGigabitEthernet/IEEE 802.3 interface) |
| *interface-path-id* | Physical interface instance. Naming notation is *slot/module/port/interface.subinterface* . |
| **interface Bundle-Ether** | Identifies a Bundle-Ether (Aggregated Ethernet) interface. |
| *bundle-id* | Bundle-Ether interface instance. Range is a number from 1 to 65535. Naming notation is *interface.subinterface* . |
| **neighbor** | Access node with an established adjacency with an ANCP server. |
| **description** *string* | Description associated with the ANCP neighbor. General string up to 63 characters. |
| **sender-name** | ANCP neighbor identification. |
| *H.H.H* | MAC address of the sending interface. |
| *A.B.C.D* | IP address of the sending interface. |
| **statistics** | (Optional) Resets statistics for the specified set of ports. |

## Command Default

No default behavior or values

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

| Release | Modification |
|---|---|
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |

## Usage Guidelines

Individual ports can be identified by circuit ID or mapped interfaces, as with **show** commands.

Dynamic data or statistics can be cleared for all ports or for all ports for just a given neighbor.

When used without the **statistics** keyword, the **clear ancp an-port** command clears dynamic data, including all rate information, for the selected AN ports. Ports that are not mapped to any local interface are removed from the ANCP port database. When used with the **statistics** keyword, statistics for the selected ports will be reset.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Related Commands

| Command | Description |
|---|---|
| clear ancp neighbor, on page 11 | Clears the adjacency connection with the neighbor. |
| clear ancp summary statistics, on page 13 | Clears aggregate message statistics only, without modifying individual neighbor or port statistics. |

# clear ancp neighbor

To clear the adjacency connection with the neighbor, use the **clear ancp neighbor** command in EXEC mode mode.

**clear ancp neighbor** {**all** | **description** *string* | **sender-name** {*H.H.HA.B.C.D*}} [**state** | **statistics**]

## Syntax Description

| | |
|---|---|
| all | Clears all ANCP neighbors. |
| **description** *string* | Identifies an ANCP neighbor. General string of up to 63 characters. |
| **sender-name** | ANCP neighbor identification. |
| *H.H.H* | MAC address of the sending interface. |
| *A.B.C.D* | IP address of the sending interface. |
| **state** | (Optional) Resets adjacencies. |
| **statistics** | (Optional) Resets only adjacency message statistics. |

## Command Default

No default behavior or values

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

Neighbor data or statistics can be cleared individually or as a list.

If the **state** keyword is specified, adjacencies are not cleared, they are reset. ANCP adjacency protocol restarts, but TCP connections remain open. Unmapped ports belonging to the adjacency are removed.

If the **statistics** keyword is specified, the adjacency state remains intact and only adjacency message statistics are reset.

If neither option is specified, selected adjacencies are cleared, and if no description for these adjacencies is present, they are removed from the ANCP neighbor database. Whether the neighbor is reset or fully cleared, all unmapped ports belonging to this neighbor are removed. Mapped ports are placed in a down state and rates remain intact.



**Note** Mapped access node port data is not affected by this operation.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to clear all neighbor data and statistics:

```
RP/0/RSP0/CPU0:router# clear ancp neighbor all
```

The following example shows how to clear a specific neighbor:

```
RP/0/RSP0/CPU0:router# clear ancp neighbor description vendor1a
```

## Related Commands

| Command | Description |
|---|---|
| clear ancp an-port, on page 9 | Clears access node (AN) ports of dynamic data or statistics. |
| clear ancp summary statistics, on page 13 | Clears aggregate message statistics only, without modifying individual neighbor or port statistics. |

# clear ancp summary statistics

To clear aggregate message statistics only, without modifying individual neighbor or port statistics, use the **clear ancp summary statistics** command in EXEC mode mode.

**clear ancp summary statistics**

## Syntax Description

This command has no keywords or arguments.

## Command Default

No default behavior or values

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows how to clear aggregate message statistics:

```
RP/0/RSP0/CPU0:router# clear ancp summary statistics
```

## Related Commands

| Command | Description |
|---|---|
| clear ancp an-port, on page 9 | Clears access node (AN) ports of dynamic data or statistics. |
| clear ancp neighbor, on page 11 | Clears the adjacency connection with the neighbor. |

# show ancp an-port

Use the **show ancp an-port** command to display data or message statistics referring to individual or multiple Access Node (AN) ports.

**show ancp an-port** [ {**all** | **configured** | **dynamic-only** | **summary**} [**statistics**] | **statistics**]

## Syntax Description

| | |
|---|---|
| **all** | (Optional) Displays data for all AN ports. |
| **configured** | (Optional) Displays data for AN ports mapped to local subinterfaces. |
| **dynamic-only** | (Optional) Displays data for AN ports not mapped to any local subinterfaces. |
| **summary** | (Optional) Displays summary data for all active AN ports. |
| **statistics** | (Optional) Displays message statistics for AN ports. |

## Command Default

If no arguments are specified, the **show ancp an-port** command displays all ANCP ports sorted by circuit ID.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |
| Release 4.0.0 | This command was modified to provide information on the ICCP groups of VLAN sub-interfaces. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

The following example shows how to display the statistics for all AN ports.

```
RP/0/RSP0/CPU0:router# show ancp an-port all statistics

  List of AN port message statistics

  Circuit-id                     Port Up    Port Down  Total
  ------------------------------ ---------- ---------- ----------
  cir100_1                       1          0          1
  cir101_1                       1          0          1
```

```
  cir200_1                        0          0          0
```

The following example shows how to display information and statistics for all AN ports mapped to any local VLAN subinterfaces..

```
RP/0/RSP0/CPU0:router# show ancp an-port configured

  List of AN port data for ports mapped to local sub-interfaces

  ------------------------------ ----- ---------- -------- ---- ------------
                                                   Line     Num  Adjusted DS
  Circuit-id                     State Uptime     State    Intf Rate (kbps)
  ------------------------------ ----- ---------- -------- ---- ------------
  cir100_1                       UP    00:12:04   SHOWTIME 1    10000
  cir101_1                       UP    00:12:04   SHOWTIME 1    10000
  cir200_1                       -     00:00:00   -        1    0

RP/0/RSP0/CPU0:router# show ancp an-port configured statistics

  List of AN port message statistics for ports mapped to local sub-interfaces

  Circuit-id                     Port Up    Port Down  Total
  ------------------------------ ---------- ---------- ----------
  cir100_1                       1          0          1
  cir101_1                       1          0          1
  cir200_1                       0          0          0
```

The following example shows how to display summary data for all AN ports.

```
RP/0/RSP0/CPU0:router# show ancp an-port summary

     AN Port Summary
  --------------------------------
  State Up                  2
  State Down                0
  Config only ports         1
  Total                     3
  # Configured ports        3
  # Mapped sub-interfaces   3
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port circuit-id, on page 16 | Displays data or message statistics for an AN port identified by its circuit-id. |
| show ancp an-port interface, on page 18 | Displays data or message statistics for a sub-interface mapped to an AN port. |
| show ancp an-port neighbor, on page 21 | Displays data or message statistics for AN ports associated with a specific neighbor. |
| show ancp an-port state, on page 23 | Displays data or message statistics for AN ports which are in a specific state. |

# show ancp an-port circuit-id

Use the **show ancp an-port circuit-id** command to display data or message statistics for an AN port identified by its circuit-id.

**show ancp an-port circuit-id** *Access-Loop-Circuit-Id* [**detail** | **statistics** [**detail**]]

## Syntax Description

| | |
|---|---|
| *Access-Loop-Circuit-Id* | Unique access loop circuit ID name identifying the access port. Maximum 63 characters. |
| **detail** | (Optional) Displays additional data on a list of interfaces mapped to the port. |
| **statistics** | (Optional) Displays message statistics for an AN port. |

## Command Default

No default behavior or values.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |
| Release 4.0.0 | This command was modified to provide information on the ICCP groups of VLAN sub-interfaces. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

The following example shows how to display information for an AN port identified by its circuit-id.

```
RP/0/RSP0/CPU0:router# show ancp an-port circuit-id cir100_1

  AN port circuit-id cir100_1:
  State                                                 UP
  Uptime                                                00:11:31
  Time Since Last Message                               00:11:31
  Encap Type                                            ETHERNET
  DSL type                                              VDSL2
  DSL Line State                                        SHOWTIME
  Number of Mapped Sub-interfaces                       1
  Neighbor sender-name                                  0000.3200.0102
  Neighbor description                                  -
  Configured Rate Adjustment                            100%
```

```
  Actual Downstream Data Rate (kbps)                      10000
  Effective Downstream Data Rate (kbps)                   10000
```

The following example shows how to display statistics for an AN port identified by its circuit-id.

```
RP/0/RSP0/CPU0:router# show ancp an-port circuit-id cir100_1 statistics

  Port message statistics for circuit-id cir100_1:

    Port Up       1
    Port Down     0
    ------------------------
    Total         1
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp an-port interface, on page 18 | Displays data or message statistics for a sub-interface mapped to an AN port. |
| show ancp an-port neighbor, on page 21 | Displays data or message statistics for AN ports associated with a specific neighbor. |
| show ancp an-port state, on page 23 | Displays data or message statistics for AN ports which are in a specific state. |

# show ancp an-port interface

Use the **show ancp an-port interface** command to display data or message statistics for a sub-interface mapped to an AN port.

**show ancp an-port interface** {*physical interface-id* [**detail** | **statistics** [**detail**]] | **mapping**}

## Syntax Description

| | |
|---|---|
| *physical interface-id* | (Optional) Physical layer identifier as defined in Table 1: Physical Interface-id parameters for the show ancp an-port command, on page 18. |
| **detail** | (Optional) Displays additional data on a list of interfaces mapped to the port. |
| **statistics** | (Optional) Displays message statistics for an AN port. |
| *mapping* | (Optional) Displays a summary of sub-interface mapping to AN ports. |

## Command Default

No default behavior or values.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |
| Release 4.0.0 | This command was modified to provide information on the ICCP groups of VLAN sub-interfaces. |

## Usage Guidelines

The following table defines physical interface **id** parameters available to refine the output of the **show ancp redundancy iccp group** command. Use any of the physical interface id parameters in place of the physical interface **id** argument.

***Table 1: Physical Interface-id parameters for the show ancp an-port command***

| Syntax | Description |
|---|---|
| **Bundle-Ether** *instance.subinterface* | Specifies an aggregated Ethernet interface.<br>Replace the *instance* argument with an Ethernet bundle instance. Range is 1 to 65535.<br>Replace the *subinterface* argument with a subinterface value. Range is 0 to 21474883647. |

| Syntax | Description |
|---|---|
| **GigabitEthernet** *instance.subinterface* | Specifies a GigabitEthernet/IEEE 802.3 interface.<br>Replace the *instance* argument with a physical interface instance specified in the *rack/slot/module/port* notation.<br>Replace the *subinterface* argument with a subinterface value. Range is 0 to 21474883647. |
| **TenGigE** *instance.subinterface* | Specifies a TenGigabitEthernet/IEEE 802.3 interface.<br>Replace the *instance* argument with a physical interface instance specified in the *rack/slot/module/port* notation.<br>Replace the *subinterface* argument with a subinterface value. Range is 0 to 21474883647. |

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

The following examples show how to display ANCP information and statistics for the Bundle-Ether interface at location 100.1:

```
RP/0/RSP0/CPU0:router# show ancp an-port interface bundle-Ether 100.1

  AN port circuit-id cir100_1:

  State                                                 UP
  Uptime                                                00:13:26
  Time Since Last Message                               00:13:26
  Encap Type                                            ETHERNET
  DSL type                                              VDSL2
  DSL Line State                                        SHOWTIME
  Number of Mapped Sub-interfaces                       1
  Neighbor sender-name                                  0000.3200.0102
  Neighbor description                                  -
  Configured Rate Adjustment                            100%
  Actual Downstream Data Rate (kbps)                    10000
  Effective Downstream Data Rate (kbps)                 10000


RP/0/RSP0/CPU0:router# show ancp an-port interface bundle-Ether 100.1 statistics

  Port message statistics for circuit-id cir100_1:

    Port Up       1
    Port Down     0
    -------------------------
    Total         1

RP/0/RSP0/CPU0:router# show ancp an-port interface bundle-Ether 1.1 detail
Tue Nov 17 17:28:44.390 EST

  AN port circuit-id ckt1:
```

```
  State                                                 -
  Uptime                                                00:00:00
  Time Since Last Message                               00:00:00
  Encap Type                                            -
  DSL type                                              -
  DSL Line State                                        -
  Number of Mapped Sub-interfaces                       3
  Neighbor sender-name                                  -
  Neighbor description                                  -
  Configured Rate Adjustment                            0%
  Actual Downstream Data Rate (kbps)                    0
  Effective Downstream Data Rate (kbps)                 0
  Actual Data Rate Upstream/Downstream (kbps)           0/0
  Minimum Data Rate Upstream/Downstream (kbps)          0/0
  Attainable Data Rate Upstream/Downstream (kbps)       0/0
  Maximum Data Rate Upstream/Downstream (kbps)          0/0
  Minimum Low Power Data Rate Upstream/Downstream (kbps)  0/0
  Maximum Interleaving Delay Upstream/Downstream (ms)   0/0
  Actual Interleaving Delay Upstream/Downstream (ms)    0/0

  Sub-interface Summary: total 3
  ------------------------------------------------
  Sub-interface name                ifhandle    ICCP Group    Redundancy State
  --------------------------------  ----------  ------------
------------------------
  Bundle-Ether1.1                   0x20000072  1             ACTIVE

  GigabitEthernet0/0/0/0.1          0x20000022  0             DOWN

  GigabitEthernet0/0/0/0.2          0x20000042  0             DOWN
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp an-port circuit-id, on page 16 | Displays data or message statistics for an AN port identified by its circuit-id. |
| show ancp an-port neighbor, on page 21 | Displays data or message statistics for AN ports associated with a specific neighbor. |
| show ancp an-port state, on page 23 | Displays data or message statistics for AN ports which are in a specific state. |

# show ancp an-port neighbor

Use the **show ancp an-port neighbor** command to display data or message statistics for AN ports associated with a specific neighbor.

**show ancp an-port neighbor** {**description** *description* | **none** | **sender-name** {*H.H.HA.B.C.D*}} [**statistics**]

## Syntax Description

| | |
|---|---|
| **description** *description* | (Optional) Identifies the neighbor by description. The argument *description* has a maximum of 63 characters. |
| **none** | (Optional) Displays AN ports not associated with a neighbor. |
| **sender-name** | (Optional) Identifies the neighbor by sender-name. |
| *H.H.H* | (Optional) MAC address of the sending interface. |
| *A.B.C.D* | (Optional) IPv4 address of the sending interface. |
| **statistics** | (Optional) Displays port message statistics for a specific AN port. |

## Command Default

No default behaviour or values.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |
| Release 4.0.0 | This command was modified to provide information on the ICCP groups of VLAN sub-interfaces. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

The following example shows how to display information and statistics for AN ports not associated with any neighbor:

```
RP/0/RSP0/CPU0:router# show ancp an-port neighbor none

  List of AN port data for ports associated with no neighbor
```

```
  ------------------------------ ----- ---------- -------- ---- ------------
                                                  Line     Num  Adjusted DS
  Circuit-id                     State Uptime     State    Intf Rate (kbps)
  ------------------------------ ----- ---------- -------- ---- ------------
  cir200_1                       -     00:00:00   -        1    0


RP/0/RSP0/CPU0:router# show ancp an-port neighbor none statistics

  List of AN port message statistics for ports associated with no neighbor

  Circuit-id                     Port Up    Port Down  Total
  ------------------------------ ---------- ---------- ----------
  cir200_1                       0          0          0
```

The following example shows how to display information and statistics on all AN ports associated with a neighbor identified by its sender-name:

```
RP/0/RSP0/CPU0:router# show ancp an-port neighbor sender-name 0000.3200.0102

  List of AN port data for neighbor sender name 0000.3200.0102

  ------------------------------ ----- ---------- -------- ---- ------------
                                                  Line     Num  Adjusted DS
  Circuit-id                     State Uptime     State    Intf Rate (kbps)
  ------------------------------ ----- ---------- -------- ---- ------------
  cir100_1                       UP    00:18:03   SHOWTIME 1    10000

RP/0/RSP0/CPU0:router# show ancp an-port neighbor sender-name 0000.3200.0102 statistics

  List of AN port message statistics for neighbor sender name 0000.3200.0102

  Circuit-id                     Port Up    Port Down  Total
  ------------------------------ ---------- ---------- ----------
  cir100_1                       1          0          1
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp an-port circuit-id, on page 16 | Displays data or message statistics for an AN port identified by its circuit-id. |
| show ancp an-port interface, on page 18 | Displays data or message statistics for a sub-interface mapped to an AN port. |
| show ancp an-port state, on page 23 | Displays data or message statistics for AN ports which are in a specific state. |

# show ancp an-port state

Use the **show ancp an-port state** command to display data or message statistics for AN ports which are in a specific state.

**show ancp an-port state** {**up** | **down** | **none**} [**statistics**]

## Syntax Description

| | |
|---|---|
| **up** | (Optional) Displays information about AN ports in an up state. |
| **down** | (Optional) Displays information about AN ports in a down state. |
| **none** | (Optional) Displays information about AN ports not reported by any neighbor. |
| **statistics** | (Optional) Displays port message statistics for a specific AN port. |

## Command Default

No default behaviour or values.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |
| Release 3.9.0 | This command was updated to support the mapping of ANCP ports to VLAN interfaces over Ethernet bundles. |
| Release 4.0.0 | This command was modified to provide information on the ICCP groups of VLAN sub-interfaces. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

The following example shows how to display information for all AN ports in an Up state:

```
RP/0/RSP0/CPU0:router# show ancp an-port state up

  List of AN port data for ports in UP state

  ------------------------------ ----- ---------- -------- ---- ------------
                                                  Line     Num  Adjusted DS
  Circuit-id                     State Uptime     State    Intf Rate (kbps)
  ------------------------------ ----- ---------- -------- ---- ------------
  cir100_1                       UP    00:18:42   SHOWTIME 1    10000
  cir101_1                       UP    00:18:42   SHOWTIME 1    10000
```

The following example shows how to display information for all AN ports not reported by any neighbor:

```
RP/0/RSP0/CPU0:router# show ancp an-port state none

  List of AN port data for ports with NO state

  ------------------------------ ----- ---------- -------- ---- ------------
                                                   Line     Num  Adjusted DS
  Circuit-id                     State Uptime     State    Intf Rate (kbps)
  ------------------------------ ----- ---------- -------- ---- ------------
  cir200_1                       -     00:00:00   -        1    0
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp an-port circuit-id, on page 16 | Displays data or message statistics for an AN port identified by its circuit-id. |
| show ancp an-port interface, on page 18 | Displays data or message statistics for a sub-interface mapped to an AN port. |
| show ancp an-port neighbor, on page 21 | Displays data or message statistics for AN ports associated with a specific neighbor. |

# show ancp neighbor

To display data or message statistics associated with individual ANCP adjacencies or sets of adjacencies, use the **show ancp neighbor** command in EXEC mode.

**show ancp neighbor** {**description** *string* | **sender-name** {*H.H.HA.B.C.D*}} [**all**] **state** {**none** | **synsent** | **synrcvd** | **estab**} [**statistics**] [**summary**]

## Syntax Description

| | |
|---|---|
| **description** *string* | Identifier of ANCP neighbor. General string up to 63 characters. |
| **sender-name** | ANCP neighbor identification. |
| *H.H.H* | MAC address of the sending interface. |
| *A.B.C.D* | IP address of the sending interface. |
| **all** | Displays all ANCP neighbors. |
| **state** | Displays ANCP neighbors in specified state.<br>• none—Displays ANCP neighbors in a down state.<br>• synsent—Displays ANCP neighbors in the SYNSENT state.<br>• synrcvd—Displays ANCP neighbors in the SYNRCVD state.<br>• estab—Displays ANCP neighbors in the ESTAB state. |
| **statistics** | (Optional) Displays packet statistics. |
| **summary** | (Optional) Displays a summary of all active ANCP neighbors. |

## Command Default

No default behavior or values

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows the output from a specific neighbor using the **sender-name** MAC address:

```
RP/0/RSP0/CPU0:router# show ancp neighbor sender-name 0006.2aaa.281b

            ANCP Neighbor Data
  ----------------------------------------
  Sender Name              0006.2aaa.281b
  Description              first
  State                    ESTAB
  Capability               Topology Discovery
  Ports:
    State Up               25
    State Down             5
    Total                  30
```

The following example shows the same command with the addition of the **detail** keyword, showing a summary of AN ports that were reported by that neighbor:

```
RP/0/RSP0/CPU0:router# show ancp neighbor sender-name 0006.2aaa.281b detail

             ANCP Neighbor Data
  ----------------------------------------
  Sender Name               0006.2aaa.281b
  Description               first
  State                     ESTAB
  Capability                Topology Discovery
  Ports:
    State Up                4
    State Down              0
    Total                   4
Remote IP Addr/TCP Port   4.11.0.1/11126
Local  IP Addr/TCP Port   4.11.0.100/6068
Server Sender Name        0013.1aff.c2bd
Remote Timeout            25500 msec
Local  Timeout            10000 msec
Adjacency Uptime          01:25:20
Time Since Last Port Msg  00:00:04
Remote Port               0
Remote Instance           1
Local Instance            1
Remote Partition ID       0

List of AN port data for neighbor sender name 0006.2aaa.281b
------------------------------ ----- ---------- -------- ----  ------------
                                                 Line     Num   Adjusted DS
Circuit-id                     State Uptime     State    Intf  Rate (kbps)
------------------------------ ----- ---------- -------- ----  ------------
circuit1                       UP    00:27:49  SHOWTIME   3    2250
circuti2                       UP    00:00:49  SHOWTIME   2    2250
circuit3                       UP    00:00:49  SHOWTIME   2    2250
circuti4                       UP    00:00:49  SHOWTIME   0    2250
```

The following example shows the same command, this time with the addition of the **statistics** keyword, showing a summary of message statistics for the selected neighbor:

```
RP/0/RSP0/CPU0:router# show ancp neighbor sender-name 0006.2aaa.281b statistics

ANCP Neighbor Message Statistics
for Sender-name -, Description 0006.2aaa.281b
-----------------------------------------------
               Sent         Received
SYN            1            2
SNYACK         1            0
ACK            589          238
```

```
RSTACK          0             0
Port Up         -             10
Port Down       -             0
Drops           0             0
Total           600           250
```

## Related Commands

| Command | Description |
|---|---|
| clear ancp neighbor, on page 11 | Clears the adjacency connection with the neighbor. |
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp neighbor summary, on page 28 | Displays adjacency counts by state. |
| show qos summary | Lists the interfaces at a specific location. |

# show ancp neighbor summary

To display adjacency counts by state, use the **show ancp neighbor summary** command in EXEC mode.

**show ancp neighbor summary** [**statistics**] [**detail**]

## Syntax Description

| | |
|---|---|
| **statistics** | (Optional) Provides summary message statistics. |
| **detail** | (Optional) Displays the current rate adjustment table. |

## Command Default

No default behavior or values

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operations |
|---|---|
| ancp | read, write |

## Examples

The following example shows the output from the **show ancp neighbor summary** command:

```
RP/0/RSP0/CPU0:router# show ancp neighbor summary

    ANCP Neighbor Summary Information
    ---------------------------------
    Neighbor count by state:
     -                0
     SYNSENT          0
     SYNRCVD          0
     ESTAB            1
```

The following example shows the same command with the addition of the **detail** keyword, showing a summary of individual neighbor data:

```
RP/0/RSP0/CPU0:router# show ancp neighbor summary detail

    ANCP Neighbor Summary Information
    ---------------------------------
    Neighbor count by state:
     -                0
     SYNSENT          0
     SYNRCVD          0
     ESTAB            1
```

```
  Summary Data By Neighbor
-----------------------------------------------------------
Neighbor          Neighbor                 Port Cnt by State
Description       Sender-Name     State    Up       Down
----------------- --------------  -------- -------  -------
first             0006.2aaa.281b  ESTAB    5        2
-                 0101.0101.0000  -        0        0
```

This example shows how to display summary message statistics by adding the **statistics** keyword to the **show ancp neighbor summary** command:

```
RP/0/RSP0/CPU0:router# show ancp neighbor summary statistics

    ANCP summary Neighbor Statistics
  -----------------------------------
                Sent          Received
   SYN          4             8
   SYNACK       5             0
   ACK          8886          3525
   RSTACK       2             0
   Port Up      -             16
   Port Down    -             0
   Drops        0             0
Total           8897          3549
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp neighbor, on page 25 | Displays data or message statistics associated with individual ANCP adjacencies or sets of adjacencies. |
| show ancp summary, on page 39 | Displays information about ANCP configuration, including server sender name and neighbor and port counts by state. |

# show ancp redundancy iccp

To display the state or statistics of ICCP in the ANCP application, use the **show ancp redundancy iccp** command in EXEC mode.

**show ancp redundancy iccp** [**statistics**]

**Syntax Description**

| | |
|---|---|
| **statistics** | (Optional) Displays the ANCP ICCP statistics. |

**Command Default**

No default behaviour or values.

**Command Modes**

EXEC mode

**Command History**

| Release | Modification |
|---|---|
| Release 4.0.0 | This command was introduced. |

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

| Task ID | Operation |
|---|---|
| ancp | read |

**Examples**

The following example shows how to display the state of ICCP in the ANCP application:

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp
Tue Nov 17 17:17:04.043 EST

ANCP ICCP Information
-----------------------------------------------------------------
ICCP State                   UP
ICCP Congestion              Cleared
ICCP Group Count             1
ICCP Group Interface Count   1
Creation Timestamp           Tue Nov 17 14:20:15 2009
```

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

***Table 2: show ancp redundancy iccp Field Descriptions***

| Field | Description |
|---|---|
| ICCP State | ANCP ICCP State. |
| ICCP Congestion | State of ICCP congestion. |
| ICCP Group Count | Number of ICCP Groups that ANCP VLAN sub-interfaces are members of. |

| Field | Description |
|---|---|
| ICCP Group Interface Count | Number of MC-LAG VLAN sub-interfaces to which ANCP circuits are mapped. |
| Creation Timestamp | Timestamp of ANCP registration with the ICCP server. |

The following example shows how to display the ANCP ICCP statistics:

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp statistics
Tue Nov 17 17:17:08.150 EST

ANCP ICCP Statistics
------------------------------------------------------------------

ICCP Statistics
------------------------------------------------------------------
Up Rx                          1
Down Rx                        0
Congestion Clear Rx            0
Congestion Clear Rx Drop       0
Congestion Detecetd Rx         0
Congestion Detecetd Rx Drop    0
Tx Failure                     0

ICCP Group Statistics
------------------------------------------------------------------
Peer Up Rx                     0
Peer Down Rx                   0
Sync Request Rx                0
Connect Tx                     1
Connect Tx Failure             0
Disconnect Tx                  0
Disconnect Tx Failure          0
Start Retry Timer              0

ICCP Interface Statistics
------------------------------------------------------------------
Active Rx                      0
Standby Rx                     0
Down Rx                        0
Sync Request Rx                0
Sync Request Rx Drop           0
Sync Request Tx                0
Sync Request Tx Drop           0
Sync Rx                        0
Sync Rx Drop                   0
Sync Start Rx                  0
Sync Start Rx Drop             0
Sync End Rx                    0
Sync End Rx Drop               0
Sync Unsolicited Rx            0
Sync Unsolicited Rx Drop       0
Sync Invalid Rx                0
Sync Tx                        0
Sync Tx Drop                   0
App State Rx                   0
App_State_Rx Drop              0
App State Tx                   0
App_State_Tx Drop              0
Start Retry Timer              0
```

The output indicates the number and type of messages (for example, Up Rx) received (denoted by Rx) and transmitted (denoted by Tx) by the ANCP application. Failure denotes a failed message. Drop indicates a dropped message. Start Retry Timer indicates the number of times the Retry Timer has been initiated as a result of a message transmission failure.

## Related Commands

| Command | Description |
|---|---|
| show ancp redundancy iccp group, on page 33 | Displays the state and statistics of an ICCP Group in the ANCP application. |
| show iccp group | Displays summary of the configured ICCP Groups and their states. |

# show ancp redundancy iccp group

To display the state and/or statistics of an ICCP Group that an ANCP VLAN sub-interface is a member of, use the **show ancp redundancy iccp group** command in EXEC mode.

**show ancp redundancy iccp group** [*ICCP group id* [**interface Bundle-Ether** *instance*.*subinterface* [**statistics**] | **statistics**] | **detail** | **interface** [**Bundle-Ether** *instance*.*subinterface* [**statistics**] | **detail** | **statistics**] | **statistics**]

## Syntax Description

| | |
|---|---|
| *ICCP group id* | (Optional) Number identifying the ICCP Group. Range is 1 to 24. |
| **interface** | (Optional) Displays information for a particular physical layer interface. |
| **Bundle-Ether** *instance.subinterface* | (Optional) Specifies an aggregated Ethernet interface.<br>Replace the *instance* argument with an Ethernet bundle instance. Range is 1 to 65535.<br>Replace the *subinterface* argument with a subinterface value. Range is 0 to 21474883647. |
| **statistics** | (Optional) Displays message statistics. |
| **detail** | (Optional) Displays detailed information. |

## Command Default

No default behavior or values.

## Command Modes

EXEC mode

## Command History

| Release | Modification |
|---|---|
| Release 4.0.0 | This command was introduced. |

## Usage Guidelines

No specific guidelines impact the use of this command.

## Task ID

| Task ID | Operation |
|---|---|
| ancp | read |

## Examples

```
The following example shows how to display the state of ICCP groups configured on the ANCP
 application:

RP/0/RSP0/CPU0:router# show ancp redundancy iccp group
Tue Nov 17 17:19:30.484 EST

ICCP                                Active      Standby

Group Id                Peers       Interfaces  Interfaces  ICCP Group State
-------------------------------------------------------------------------------------------
```

```
1                       1          1           0           Connected Peer Present
```

The output indicates the Group IDs, their states, and the number of peers. It also indicates the number of interfaces within each group for which the ANCP is the active or standby PoA.

The following example shows how to display details of ICCP Group 1:

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group 1
Tue Nov 17 17:19:33.470 EST

ICCP Group 1 Information
----------------------------------------------------------------
State                          Connected Peer Present
Previous State                 Connected No Peers
Number of Active Interfaces    1
Number of Standby Interfaces   0
Number of Peers                1
Creation Timestamp             Tue Nov 17 17:16:57 2009


ICCP Group 1 Peers

Ip Address       Timestamp
------------------------------
10.10.10.1       Tue Nov 17 17:18:49 2009
```

The output indicates the current and previous states of ICCP Group 1, its creation timestamp, and the number of peers and their IP addresses. It also indicates the number of interfaces within each group for which the ANCP is the active or standby PoA.

The following example shows how to display the statistics of ICCP Group 1:

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group 1 statistics
Tue Nov 17 17:19:38.262 EST

ICCP Group 1 Statistics
----------------------------------------------------------------
Peer Up Rx                     1
Peer Down Rx                   0
Sync Request Rx                0
Connect Tx                     1
Connect Tx Failure             0
Disconnect Tx                  0
Disconnect Tx Failure          0
Start Retry Timer              0

ICCP Group 1 Interface Statistics
----------------------------------------------------------------
Active Rx                      1
Standby Rx                     0
Down Rx                        0
Sync Request Rx                0
Sync Request Rx Drop           0
Sync Request Tx                4
Sync Request Tx Drop           0
Sync Rx                        0
Sync Rx Drop                   0
Sync Start Rx                  0
Sync Start Rx Drop             0
Sync End Rx                    0
Sync End Rx Drop               0
Sync Unsolicited Rx            0
Sync Unsolicited Rx Drop       0
```

```
Sync Invalid Rx                0
Sync Tx                        0
Sync Tx Drop                   0
App State Rx                   0
App_State_Rx Drop              0
App State Tx                   0
App_State_Tx Drop              0
Start Retry Timer              4
```

The output indicates the number and type of messages (for example, Up Rx) received (denoted by Rx) and transmitted (denoted by Tx) in ICCP Group 1. Failure denotes a failed message. Drop indicates a dropped message. Start Retry Timer indicates the number of times the Retry Timer has been initiated as a result of a message transmission failure.

The following example shows how to display information on the ICCP interfaces.

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group interface
Tue Nov 17 17:24:31.356 EST

ICCP Interfaces

Interface                          ICCP Group Id  Redundancy State    ICCP Group Port State
-------------------------------------------------------------------------------------------
Bundle-Ether1.1                    1              ACTIVE              Active Peers
```

The output indicates the MC-LAG Bundle-Ether sub-interfaces that are mapped to ANCP circuits, their ICCP Group ID's, redundancy states and ICCP Group Port States.

The following example shows how to display information on the Bundle-Ether interface at location 1.1.

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group interface bundle-Ether 1.1
Tue Nov 17 17:24:37.111 EST

ICCP Group Interface Bundle-Ether1.1
------------------------------------------------------------
ICCP Group Id                          1
Redundancy State                       ACTIVE
ICCP Group Port                        Active ICCP Down
Previous State                         Active No Peers
Last Redundancy State Change Timestamp  Thu Aug  5 12:20:40 2010
Last Sync Timestamp                    None
Creation Timestamp                     Thu Aug  5 12:20:40 2010
Request Id                             0
Retry Timer                            Not Running
Retry Timer Period                     0
```

The output displays information about the MC-LAG Bundle-Ether 1.1 interface, which is mapped to an ANCP circuit. ICCP Group Port indicates the current state of the ICCP Group Port. Previous State indicates the previous state of the ICCP Group Port. The Request ID is the tag attached to the last request message sent to the active PoA, for this interface. It is used to correlate PoA requests and responses. When a response to a request is not received, the request message is resent after the Retry Timer Period has elapsed. The Retry Timer field indicates the current state of the retry timer.

The following example shows how to display statistics for the Bundle_Ether interface at location 1.1.

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group interface bundle-Ether 1.1 statistics
Tue Nov 17 17:24:42.662 EST

ICCP Group Interface Bundle-Ether1.1 Statistics
----------------------------------------------------------------
Active Rx                     1
Standby Rx                    0
Down Rx                       0
Sync Request Rx               0
Sync Request Rx Drop          0
Sync Request Tx               4
Sync Request Tx Drop          0
Sync Rx                       0
Sync Rx Drop                  0
Sync Start Rx                 0
Sync Start Rx Drop            0
Sync End Rx                   0
Sync End Rx Drop              0
Sync Unsolicited Rx           0
Sync Unsolicited Rx Drop      0
Sync Invalid Rx               0
Sync Tx                       0
Sync Tx Drop                  0
App State Rx                  0
App_State_Rx Drop             0
App State Tx                  0
App_State_Tx Drop             0
Start Retry Timer             4
```

The output indicates the number and type of messages (for example, Up Rx) received (denoted by Rx) and transmitted (denoted by Tx), which relate to the MC-LAG Bundle Ether 1.1. interface. Failure denotes a failed message. Drop indicates a dropped message. Start Retry Timer indicates the number of times the Retry Timer has been initiated as a result of a message transmission failure.

The following example shows how to display information on the ICCP Group 1 interfaces

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group 1 interface
Tue Nov 17 17:25:18.302 EST

ICCP Interfaces

Interface                          ICCP Group Id  Redundancy State    ICCP Group Port State
-------------------------------------------------------------------------------------------
Bundle-Ether1.1                    1              ACTIVE              Active Peers
```

The output indicates the redundancy states and ICCP Group Port States of the MC-LAG Bundle-Ether sub-interfaces that are mapped to ANCP circuits in ICCP Group 1.

The following example shows how to display information on the Bundle_Ether interface, in ICCP Group 1, at location 1.1.

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group 1 interface bundle-Ether 1.1
Tue Nov 17 17:25:24.389 EST

ICCP Group Interface Bundle-Ether1.1
----------------------------------------------------------------
ICCP Group Id                      1
Redundancy State                   ACTIVE
```

```
ICCP Group Port                          Active ICCP Down
Previous State                           Active No Peers
Last Redundancy State Change Timestamp   Thu Aug  5 12:20:40 2010
Last Sync Timestamp                      None
Creation Timestamp                       Thu Aug  5 12:20:40 2010
Request Id                               0
Retry Timer                              Not Running
Retry Timer Period                       0
```

The output displays information about the MC-LAG Bundle-Ether 1.1 interface, in ICCP Group 1, which is mapped to an ANCP circuit. ICCP Group Port indicates the current state of the ICCP Group Port. Previous State indicates the previous state of the ICCP Group Port. The Request ID is the tag attached to the last request message sent to the active PoA, for this interface. It is used to correlate PoA requests and responses. When a response to a request is not received, the request message is resent after the Retry Timer Period has elapsed. The Retry Timer field indicates the current state of the retry timer.

The following example shows how to display statistics for the Bundle_Ether interface, in ICCP Group 1, at location 1.1.

```
RP/0/RSP0/CPU0:router# show ancp redundancy iccp group 1 interface bundle-Ether 1.1 statistics
Tue Nov 17 17:25:27.719 EST

ICCP Group Interface Bundle-Ether1.1 Statistics
----------------------------------------------------------------
Active Rx                     1
Standby Rx                    0
Down Rx                       0
Sync Request Rx               0
Sync Request Rx Drop          0
Sync Request Tx               4
Sync Request Tx Drop          0
Sync Rx                       0
Sync Rx Drop                  0
Sync Start Rx                 0
Sync Start Rx Drop            0
Sync End Rx                   0
Sync End Rx Drop              0
Sync Unsolicited Rx           0
Sync Unsolicited Rx Drop      0
Sync Invalid Rx               0
Sync Tx                       0
Sync Tx Drop                  0
App State Rx                  0
App_State_Rx Drop             0
App State Tx                  0
App_State_Tx Drop             0
Start Retry Timer             4
```

The output indicates the number and type of messages (for example, Up Rx) received (denoted by Rx) and transmitted (denoted by Tx) which relate to the MC-LAG Bundle Ether 1.1. interface, in ICCP Group 1. Failure denotes a failed message. Drop indicates a dropped message. Start Retry

Timer indicates the number of times the Retry Timer has been initiated as a result of a message transmission failure.

**Related Commands**

| Command | Description |
|---|---|
| show ancp redundancy iccp, on page 30 | Displays the state or statistics of ICCP in the ANCP application. |

# show ancp summary

To display information about ANCP configuration, including server sender name and neighbor and port counts by state, use the **show ancp summary** command in EXEC mode.

**show ancp summary** [**statistics**] [**detail**]

**Syntax Description**

| | |
|---|---|
| **statistics** | (Optional) Provides a summary of ANCP message statistics. |
| **detail** | (Optional) Provides rate adjustment configuration information in addition to the **show ancp summary** output. |

**Command Default**

No default behavior or values

**Command Modes**

EXEC mode

**Command History**

| Release | Modification |
|---|---|
| Release 3.7.2 | This command was introduced. |

**Usage Guidelines**

No specific guidelines impact the use of this command.

**Task ID**

| Task ID | Operations |
|---|---|
| ancp | read |

**Examples**

The following example shows how to display generic information about ANCP configuration, along with neighbor and port counts by state:

```
RP/0/RSP0/CPU0:router# show ancp summary
    ANCP Summary Information
   ------------------------------------------------
   Capability:                 Topology Discovery
   Server sender-name:         0013:1aff.c2bd

Neighbor count by state:
  -                            0
  SYNSENT                      0
  SUNRCVD                      0
  ESTAB                        1
  ---------------------------------
  Total                        1

Port count by state:
  State Up                     1
  State Down                   0
  State Unknown                0
  ---------------------------------
  Total                        1
```

```
  No. configured ports         1
  No. mapped sub-interfaces    4
```

The following example shows how to display rate adjustment configuration information in addition to the generic information shown in the previous example:

```
RP/0/RSP0/CPU0:router# show ancp summary detail
    ANCP Summary Information
   ------------------------------------------
   Capability:                Topology Discovery
   Server sender-name:        0013:1aff.c2bd

Neighbor count by state:
  -                           0
  SYNSENT                     0
  SUNRCVD                     0
  ESTAB                       1
  ---------------------------------
  Total                       1
Port count by state:
  State Up                    1
  State Down                  0
  State Unknown               0
  ---------------------------------
  Total                       1

  No. configured ports        1
  No. mapped sub-interfaces   4

Rate adjustment configuration:
-----------------------------------------
DSL Type   Loop Type        Percent-Factor
-----------------------------------------
ADSL1      ETHERNET               90
ADSL2      ETHERNET               100
ADSL2PLUS  ETHERNET               100
VDSL1      ETHERNET               100
VDSL2      ETHERNET               100
SDSL       ETHERNET               100
ADSL1      ATM                    100
ADSL2      ATM                    100
ADSL2PLUS  ATM                    100
VDSL1      ATM                    100
VDSL2      ATM                    100
SDSL       ATM                    100
```

The following example shows how to display a summary of ANCP message statistics:

```
RP/0/RSP0/CPU0:router# show ancp summary statistics

    ANCP Summary Message Statistics
   ---------------------------------------
                Sent          Received
   SYN          3             6
   SYNACK       4             0
   ACK          7105          2819
   RSTACK       2             0
   Port Up      -             6
   Port Down    -             0
```

```
Drops          0              0
Total          7114           2831
```

## Related Commands

| Command | Description |
|---|---|
| show ancp an-port, on page 14 | Displays data or message statistics referring to individual or multiple Access Node (AN) ports. |
| show ancp neighbor, on page 25 | Displays data or message statistics associated with individual ANCP adjacencies or sets of adjacencies. |
| show ancp neighbor summary, on page 28 | Displays adjacency counts by state. |