



## show ip sockets through show sockets

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# show ip wccp

To display the IPv4 Web Cache Communication Protocol (WCCP) global configuration and statistics, use the **show ip wccp** command in user EXEC or privileged EXEC mode.

**show ip wccp** [**all**] [**capabilities**] [**summary**] [**interfaces** [**cef**] [**counts**] [**detail**]] [**vrf** *vrf-name*] [ {**web-cache** *service-number*}] [**assignment**] [**clients**] [**counters**] [**detail**] [**service**] [**view**]]

## Syntax Description

<b>all</b>	(Optional) Displays statistics for all known services.
<b>capabilities</b>	(Optional) Displays WCCP platform capabilities information.
<b>summary</b>	(Optional) Displays a summary of WCCP services.
<b>interfaces</b>	(Optional) Displays WCCP redirect interfaces.
<b>cef</b>	(Optional) Displays Cisco Express Forwarding interface statistics, including the number of input, output, dynamic, static, and multicast services.
<b>counts</b>	(Optional) Displays WCCP interface count statistics, including the number of Cisco Express Forwarding and process-switched output and input packets redirected.
<b>detail</b>	(Optional) Displays WCCP interface configuration statistics, including the number of input, output, dynamic, static, and multicast services.
<b>vrf</b> <i>vrf-name</i>	(Optional) Specifies a virtual routing and forwarding (VRF) instance associated with a service group to display.
<b>web-cache</b>	(Optional) Displays statistics for the web cache service.
<i>service-number</i>	(Optional) Identification number of the web cache service group being controlled by the cache. The number can be from 0 to 254. For web caches using Cisco cache engines, the reverse proxy service is indicated by a value of 99.
<b>assignment</b>	(Optional) Displays service group assignment information.

<b>clients</b>	(Optional) Displays detailed information about the clients of a service, including all per-client information. No per-service information is displayed.
<b>counters</b>	(Optional) Displays traffic counters.
<b>detail</b>	(Optional) Displays detailed information about the clients of a service, including all per-client information. No per-service information is displayed. Assignment information is also displayed.
<b>service</b>	(Optional) Displays detailed information about a service, including the service definition and all other per-service information.
<b>view</b>	(Optional) Displays other members of a particular service group, or all service groups, that have or have not been detected.

**Command Modes**

User EXEC (&gt;)

Privileged EXEC (#)

**Command History**

<b>Release</b>	<b>Modification</b>
11.1CA	This command was introduced for Cisco 7200 and 7500 platforms.
11.2P	Support for this command was added to a variety of Cisco platforms.
12.0(3)T	The <b>detail</b> and <b>view</b> keywords were added.
12.3(7)T	The output was enhanced to display the bypass counters (process and Cisco Express Forwarding) when WCCP is enabled.
12.2(14)SX	Support for this command was added for the Supervisor Engine 720.
12.2(17d)SXB	Support for this command was added for the Supervisor Engine 2.
12.2(25)S	This command was integrated into Cisco IOS Release 12.2(25)S.
12.3(14)T	The output was enhanced to display the maximum number of service groups.
12.2(27)SBC	This command was integrated into Cisco IOS Release 12.2(27)SBC.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.4(11)T	This command was enhanced to display information about the WCCP service mode.

Release	Modification
12.2(33)SXH	This command was integrated into Cisco IOS Release 12.2(33)SXH.
Cisco IOS XE Release 2.2	This command was integrated into Cisco IOS XE Release 2.2.
15.0(1)M	This command was modified. The <b>summary</b> keyword and the <b>vrf vrf-name</b> keyword and argument pair were added.
12.2(33)SRE	This command was modified. The <b>summary</b> keyword and the <b>vrf vrf-name</b> keyword and argument pair were added.
Cisco IOS XE Release 3.1S	This command was modified. The following keywords and arguments were added: <b>all</b> , <b>assignment</b> , <b>capabilities</b> , <b>clients</b> , <b>counters</b> , <b>full</b> , <b>id ip-address</b> , <b>service</b> , <b>summary</b> , and <b>vrf vrf-name</b> . The output was modified to display information about the WCCP client timeout interval and the redirect assignment timeout.
12.2(50)SY	This command was modified. The <b>summary</b> keyword and the <b>vrf vrf-name</b> keyword and argument pair were added.
15.2(3)T	This command was integrated into Cisco IOS Release 15.2(3)T.
15.1(1)SG	This command was integrated into Cisco IOS Release 15.1(1)SG.
Cisco IOS XE Release 3.3SG	This command was integrated into Cisco IOS XE Release 3.3SG.
Cisco IOS XE 3.3SE	This command was implemented in Cisco IOS XE Release 3.3SE.

### Usage Guidelines

Use the **clear ip wccp** command to reset all WCCP counters.

Use the **show ip wccp service-number detail** command to display information about the WCCP client timeout interval and the redirect assignment timeout interval if those intervals are not set to their default value of 10 seconds.

Use the **show ip wccp summary** command to display the configured WCCP services and a summary of their current state.

On Cisco ASR 1000 Series Aggregation Services Routers, nonzero values can only be seen for platform-specific counters because Cisco ASR 1000 Series Routers implement all redirection in hardware. Configuring the **counters** keyword also displays counters received in hardware.

### Examples

This section contains examples and field descriptions for the following forms of this command:

- **show ip wccp service-number** (service mode displayed)
- **show ip wccp service-number view**
- **show ip wccp service-number detail**
- **show ip wccp service-number clients**

- **show ip wccp interfaces**
- **show ip wccp web-cache**
- **show ip wccp web-cache counters**
- **show ip wccp web-cache detail**
- **show ip wccp web-cache detail** (bypass counters displayed)
- **show ip wccp web-cache clients**
- **show ip wccp web-cache service**
- **show ip wccp summary**

## Examples

The following is sample output from the **show ip wccp service-number** command:

```
Router# show ip wccp 90

Global WCCP information:
  Router information:
    Router Identifier:                209.165.200.225

    Service Identifier: 90
      Protocol Version:                2.00
      Number of Service Group Clients: 2
      Number of Service Group Routers: 1
      Total Packets Redirected:        0
      Process:                          0
      CEF:                              0
      Service mode:                    Open
      Service Access-list:              -none-
      Total Packets Dropped Closed:     0
      Redirect access-list:             -none-
      Total Packets Denied Redirect:    0
      Total Packets Unassigned:         0
      Group access-list:                -none-
      Total Messages Denied to Group:   0
      Total Authentication failures:    0
      Total GRE Bypassed Packets Received: 0
      Process:                          0
      CEF:                              0
```

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

**Table 1: show ip wccp service-number Field Descriptions**

Field	Description
Router information	A list of routers detected by the current router.
Protocol Version	The version of WCCP being used by the router in the service group.
Service Identifier	Indicates which service is detailed.
Number of Service Group Clients	The number of clients that are visible to the router and other clients in the service group.

Field	Description
Number of Service Group Routers	The number of routers in the service group.
Total Packets Redirected	Total number of packets redirected by the router.
Service mode	Identifies the WCCP service mode. Options are Open or Closed.
Service Access-list	A named extended IP access list that defines the packets that will match the service.
Total Packets Dropped Closed	Total number of packets that were dropped when WCCP is configured for closed services and an intermediary device is not available to process the service.
Redirect access-list	The name or number of the access list that determines which packets will be redirected.
Total Packets Denied Redirect	Total number of packets that were not redirected because they did not match the access list.
Total Packets Unassigned	Number of packets that were not redirected because they were not assigned to any cache engine. Packets may not be assigned during initial discovery of cache engines or when a cache is dropped from a cluster.
Group access-list	Indicates which cache engine is allowed to connect to the router.
Total Messages Denied to Group	Indicates the number of packets denied by the <i>group-list</i> access list.
Total Authentication failures	The number of instances where a password did not match.
Total GRE Bypassed Packets Received	The number of generic routing encapsulation (GRE) packets that have been bypassed. Process and Cisco Express Forwarding are switching paths within Cisco IOS software.

### Examples

The following is sample output from the **show ip wccp service-number view** command for service group 1:

```
Router# show ip wccp 90 view
WCCP Routers Informed of:
 209.165.200.225
 209.165.200.226
WCCP Clients Visible
```

```

209.165.200.227
209.165.200.228
WCCP Clients Not Visible:
-none-

```

**Note**

The number of maximum service groups that can be configured is 256.

If any web cache is displayed under the WCCP Cache Engines Not Visible field, the router needs to be reconfigured to map the web cache that is not visible to it.

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

**Table 2: show ip wccp service-number view Field Descriptions**

Field	Description
WCCP Router Informed of	A list of routers detected by the current router.
WCCP Clients Visible	A list of clients that are visible to the router and other clients in the service group.
WCCP Clients Not Visible	A list of clients in the service group that are not visible to the router and other clients in the service group.

**Examples**

The following example displays WCCP client information and WCCP router statistics that include the type of services:

```

Router# show ip wccp 91 detail

WCCP Client information:
WCCP Client ID: 209.165.200.226
Protocol Version: 2.0
State:                Usable
  Redirection:         L2
  Packet Return:      L2
  Assignment:          MASK
  Connect Time:        6d20h
  Redirected Packets:
    Process:           0
    CEF:               0
  GRE Bypassed Packets:
    Process:           0
    CEF:               0
  Mask Allotment:     32 of 64 (50.00%)
  Assigned masks/values: 1/32

  Mask  SrcAddr  DstAddr  SrcPort  DstPort
  ----  -
  0000: 0x00000000 0x00001741 0x0000  0x0000

  Value SrcAddr  DstAddr  SrcPort  DstPort
  ----  -
  0000: 0x00000000 0x00000001 0x0000  0x0000
  0001: 0x00000000 0x00000041 0x0000  0x0000
  0002: 0x00000000 0x00000101 0x0000  0x0000
  0003: 0x00000000 0x00000141 0x0000  0x0000
  0004: 0x00000000 0x00000201 0x0000  0x0000
  0005: 0x00000000 0x00000241 0x0000  0x0000

```

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```

0006: 0x00000000 0x00000301 0x0000 0x0000
0007: 0x00000000 0x00000341 0x0000 0x0000
0008: 0x00000000 0x00000401 0x0000 0x0000
0009: 0x00000000 0x00000441 0x0000 0x0000
0010: 0x00000000 0x00000501 0x0000 0x0000
0011: 0x00000000 0x00000541 0x0000 0x0000
0012: 0x00000000 0x00000601 0x0000 0x0000
0013: 0x00000000 0x00000641 0x0000 0x0000
0014: 0x00000000 0x00000701 0x0000 0x0000
0015: 0x00000000 0x00000741 0x0000 0x0000
0016: 0x00000000 0x00001001 0x0000 0x0000
0017: 0x00000000 0x00001041 0x0000 0x0000
0018: 0x00000000 0x00001101 0x0000 0x0000
0019: 0x00000000 0x00001141 0x0000 0x0000
0020: 0x00000000 0x00001201 0x0000 0x0000
0021: 0x00000000 0x00001241 0x0000 0x0000
0022: 0x00000000 0x00001301 0x0000 0x0000
0023: 0x00000000 0x00001341 0x0000 0x0000
0024: 0x00000000 0x00001401 0x0000 0x0000
0025: 0x00000000 0x00001441 0x0000 0x0000
0026: 0x00000000 0x00001501 0x0000 0x0000
0027: 0x00000000 0x00001541 0x0000 0x0000
0028: 0x00000000 0x00001601 0x0000 0x0000
0029: 0x00000000 0x00001641 0x0000 0x0000
0030: 0x00000000 0x00001701 0x0000 0x0000
0031: 0x00000000 0x00001741 0x0000 0x0000

```

```

WCCP Client ID:      192.0.2.11
Protocol Version:    2.01
State:               Usable
Redirection:         L2
Packet Return:       L2
Assignment:           MASK
Connect Time:        6d20h
Redirected Packets:
  Process:            0
  CEF:                0
GRE Bypassed Packets:
  Process:            0
  CEF:                0
Mask Allotment:      32 of 64 (50.00%)
Assigned masks/values: 1/32

```

Mask	SrcAddr	DstAddr	SrcPort	DstPort
0000	0x00000000	0x00001741	0x0000	0x0000

Value	SrcAddr	DstAddr	SrcPort	DstPort
0000	0x00000000	0x00000000	0x0000	0x0000
0001	0x00000000	0x00000040	0x0000	0x0000
0002	0x00000000	0x00000100	0x0000	0x0000
0003	0x00000000	0x00000140	0x0000	0x0000
0004	0x00000000	0x00000200	0x0000	0x0000
0005	0x00000000	0x00000240	0x0000	0x0000
0006	0x00000000	0x00000300	0x0000	0x0000
0007	0x00000000	0x00000340	0x0000	0x0000
0008	0x00000000	0x00000400	0x0000	0x0000
0009	0x00000000	0x00000440	0x0000	0x0000
0010	0x00000000	0x00000500	0x0000	0x0000
0011	0x00000000	0x00000540	0x0000	0x0000
0012	0x00000000	0x00000600	0x0000	0x0000
0013	0x00000000	0x00000640	0x0000	0x0000
0014	0x00000000	0x00000700	0x0000	0x0000
0015	0x00000000	0x00000740	0x0000	0x0000
0016	0x00000000	0x00001000	0x0000	0x0000
0017	0x00000000	0x00001040	0x0000	0x0000
0018	0x00000000	0x00001100	0x0000	0x0000
0019	0x00000000	0x00001140	0x0000	0x0000
0020	0x00000000	0x00001200	0x0000	0x0000
0021	0x00000000	0x00001240	0x0000	0x0000
0022	0x00000000	0x00001300	0x0000	0x0000

```

0023: 0x00000000 0x00001340 0x0000 0x0000
0024: 0x00000000 0x00001400 0x0000 0x0000
0025: 0x00000000 0x00001440 0x0000 0x0000
0026: 0x00000000 0x00001500 0x0000 0x0000
0027: 0x00000000 0x00001540 0x0000 0x0000
0028: 0x00000000 0x00001600 0x0000 0x0000
0029: 0x00000000 0x00001640 0x0000 0x0000
0030: 0x00000000 0x00001700 0x0000 0x0000
0031: 0x00000000 0x00001740 0x0000 0x0000

```

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

**Table 3: show ip wccp service-number detail Field Descriptions**

Field	Description
Protocol Version	Indicates whether WCCPv1 or WCCPv2 is enabled.
State	Indicates whether the WCCP client is operating properly and can be contacted by a router and other clients in the service group.  When a WCCP client has an incompatible message interval setting, the state of the client is shown as "NOT Usable," followed by a status message describing the reason why the client is not usable.
Redirection	Indicates the redirection method used. WCCP uses GRE or L2 to redirect IP traffic.
Assignment	Indicates the load-balancing method used. WCCP uses HASH or MASK assignment.
Connect Time	The amount of time the client has been connected to the router.
Redirected Packets	The number of packets that have been redirected to the content engine.

## Examples

The following example displays WCCP client information and WCCP router statistics that include the type of services:

```

Router# show ip wccp 91 clients

WCCP Client information:
WCCP Client ID: 10.1.1.14
Protocol Version: 2.0
State:          Usable
  Redirection:      L2
  Packet Return:    L2
  Assignment:       MASK
  Connect Time:     6d20h
  Redirected Packets:
    Process:        0
    CEF:            0
  GRE Bypassed Packets:
    Process:        0
    CEF:            0

```

```

Mask Allotment:          32 of 64 (50.00%)

WCCP Client ID:         192.0.2.11
Protocol Version:       2.01
State:                  Usable
Redirection:            L2
Packet Return:          L2
Assignment:             MASK
Connect Time:           6d20h
Redirected Packets:
  Process:              0
  CEF:                  0
GRE Bypassed Packets:
  Process:              0
  CEF:                  0
Mask Allotment:          32 of 64 (50.00%)

```

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

**Table 4: show ip wccp service-number clients Field Descriptions**

Field	Description
Protocol Version	Indicates whether WCCPv1 or WCCPv2 is enabled.
State	Indicates whether the WCCP client is operating properly and can be contacted by a router and other clients in the service group.  When a WCCP client has an incompatible message interval setting, the state of the client is shown as "NOT Usable," followed by a status message describing the reason why the client is not usable.
Redirection	Indicates the redirection method used. WCCP uses GRE or L2 to redirect IP traffic.
Assignment	Indicates the load-balancing method used. WCCP uses HASH or MASK assignment.
Connect Time	The amount of time (in seconds) the client has been connected to the router.
Redirected Packets	The number of packets that have been redirected to the content engine.

## Examples

The following is sample output from the **show ip wccp interfaces** command:

```

Router# show ip wccp interfaces

IPv4 WCCP interface configuration:
  FastEthernet2/1
    Output services: 0
    Input services:  1
    Mcast services:  0
    Exclude In:      FALSE

```

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

**Table 5: show ip wccp interfaces Field Descriptions**

Field	Description
Output services	Indicates the number of output services configured on the interface.
Input services	Indicates the number of input services configured on the interface.
Mcast services	Indicates the number of multicast services configured on the interface.
Exclude In	Displays whether traffic on the interface is excluded from redirection.

## Examples

The following is sample output from the `show ip wccp web-cache` command:

```
Router# show ip wccp web-cache
Global WCCP information:
  Router information:
    Router Identifier:                209.165.200.225

  Service Identifier: web-cache
    Protocol Version:                 2.00
    Number of Service Group Clients:  2
    Number of Service Group Routers: 1
    Total Packets Redirected:         0
    Process:                          0
    CEF:                              0
    Service mode:                     Open
    Service Access-list:              -none-
    Total Packets Dropped Closed:     0
    Redirect access-list:             -none-
    Total Packets Denied Redirect:    0
    Total Packets Unassigned:         0
    Group access-list:                -none-
    Total Messages Denied to Group:   0
    Total Authentication failures:     0
    Total GRE Bypassed Packets Received: 0
    Process:                          0
    CEF:                              0
    GRE tunnel interface:             Tunnel0
```

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

**Table 6: show ip wccp web-cache Field Descriptions**

Field	Description
Service Identifier	Indicates which service is detailed.
Protocol Version	Indicates whether WCCPv1 or WCCPv2 is enabled.

Field	Description
Number of Service Group Clients	Number of clients using the router as their home router.
Number of Service Group Routers	The number of routers in the service group.
Total Packets Redirected	Total number of packets redirected by the router.
Service mode	Indicates whether WCCP open or closed mode is configured.
Service Access-list	The name or number of the service access list that determines which packets will be redirected.
Redirect access-list	The name or number of the access list that determines which packets will be redirected.
Total Packets Denied Redirect	Total number of packets that were not redirected because they did not match the access list.
Total Packets Unassigned	Number of packets that were not redirected because they were not assigned to any cache engine. Packets may not be assigned during initial discovery of cache engines or when a cache is dropped from a cluster.
Group access-list	Indicates which cache engine is allowed to connect to the router.
Total Messages Denied to Group	Indicates the number of packets denied by the <i>group-list</i> access list.
Total Authentication failures	The number of instances where a password did not match.

## Examples

The following example displays web cache engine information and WCCP traffic counters:

```
Router# show ip wccp web-cache counters
```

```
WCCP Service Group Counters:
  Redirected Packets:
    Process:                0
    CEF:                    0
  Non-Redirected Packets:
    Action - Forward:
      Reason - no assignment:
        Process:            0
        CEF:                0
    Action - Ignore (forward):
      Reason - redir ACL check:
        Process:            0
        CEF:                0
    Action - Discard:
```





```

Assigned Hash Info:      00000000000000000000000000000000
                        AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
                        AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

WCCP Client ID:        209.165.200.226
Protocol Version:      2.01
State:                 Usable
Redirection:          GRE
Packet Return:        GRE
Assignment:           HASH
Connect Time:         1w5d
Redirected Packets:
  Process:             0
  CEF:                 0
GRE Bypassed Packets:
  Process:             0
  CEF:                 0
Hash Allotment:       128 of 256 (50.00%)
Initial Hash Info:    00000000000000000000000000000000
                        00000000000000000000000000000000
Assigned Hash Info:    55555555555555555555555555555555
                        55555555555555555555555555555555
    
```

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

**Table 9: show ip wccp web-cache detail Field Descriptions**

Field	Description
WCCP Client Information	The header for the area that contains fields for information on clients.
Protocol Version	The version of WCCP that is being used by the router in the service group.
State	Indicates whether the cache engine is operating properly and can be contacted by a router and other cache engines in the service group.
Connect Time	The amount of time the cache engine has been connected to the router.
Hash Allotment	The percent of buckets assigned to the current cache engine. Both a value and a percent figure are displayed.
Initial Hash Info	The initial state of the hash bucket assignment.
Assigned Hash Info	The current state of the hash bucket assignment.
Redirected Packets	The number of packets that have been redirected to the cache engine.
GRE Bypassed Packets	The number of packets that have been bypassed. Process and Cisco Express Forwarding are switching paths within Cisco IOS software.

**Examples**

The following example displays information about a service, including the service definition and all other per-service information:

```
Router# show ip wccp web-cache service

WCCP service information definition:
  Type:          Standard
  Id:            0
  Priority:       240
  Protocol:      6
  Flags:         0x00000512
  Hash:          DstIP
  Alt Hash:      SrcIP SrcPort
  Ports used:    Destination
  Ports:        80
```

**Examples**

The following example displays information about the configured WCCP services and a summary of their current state:

```
Router# show ip wccp summary

WCCP version 2 enabled, 2 services
Service      Clients  Routers  Assign      Redirect  Bypass
-----
Default routing table (Router Id: 209.165.200.225):
web-cache   2        1        HASH        GRE        GRE
90          0        0        HASH/MASK   GRE/L2     GRE/L2
```

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

**Table 10: show ip wccp summary Field Descriptions**

Field	Description
Service	Indicates which service is detailed.
Clients	Indicates the number of cache engines participating in the WCCP service.
Routers	Indicates the number of routers participating in the WCCP service.
Assign	Indicates the load-balancing method used. WCCP uses HASH or MASK assignment.
Redirect	Indicates the redirection method used. WCCP uses GRE or L2 to redirect IP traffic.
Bypass	Indicates the bypass method used. WCCP uses GRE or L2 to return packets to the router.

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>clear ip wccp</b>	Clears the counter for packets redirected using WCCP.
<b>ip wccp</b>	Enables support of the WCCP service for participation in a service group.
<b>ip wccp redirect</b>	Enables packet redirection on an outbound or inbound interface using WCCP.
<b>show ip interface</b>	Lists a summary of the IP information and status of an interface.
<b>show ip wccp global counters</b>	Displays global WCCP information for packets that are processed in software.
<b>show ip wccp <i>service-number</i> detail</b>	Displays information about the WCCP client timeout interval and the redirect assignment timeout interval if those intervals are not set to their default value of 10 seconds.
<b>show ip wccp summary</b>	Displays the configured WCCP services and a summary of their current state.
<b>show platform software wccp</b>	Displays global statistics related to WCCP on Cisco ASR 1000 Series Aggregation Services Routers.

