

# Configuring WCCP Version 2 on a Cisco Content Engine and Router

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## Introduction

### Before You Begin

- Conventions

- Prerequisites

- Components Used

- Network Diagram

### Configuring WCCPv2 on the Content Engine and Router

- Step-by-Step Instructions

- Example of WCCPv2 on the Router

- Example of WCCPv2 on the Content Engine

### Verify

### Troubleshoot

- Troubleshooting Commands

### Related Information

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## Introduction

This document provides basic instructions for configuring Web Cache Communication Protocol Version 2 (WCCPv2) on both the Cisco Content Engine and router. More information about WCCPv2 functions can be found under separate headings (see the Related Information section for suggestions).

## Before You Begin

### Conventions

For more information on document conventions, see the Cisco Technical Tips Conventions.

### Prerequisites

There are no specific prerequisites for this document.

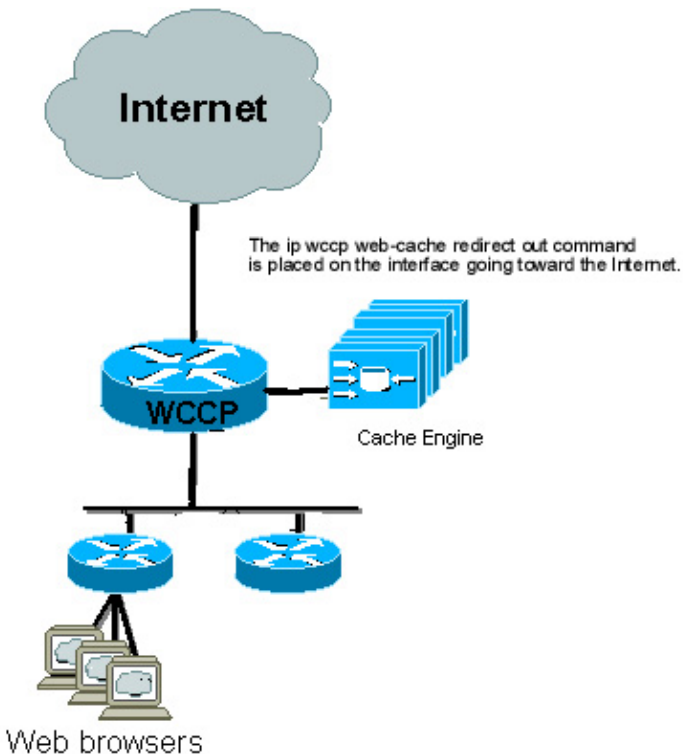
### Components Used

This document is not restricted to specific software and hardware versions.

### Network Diagram

This document uses the network setup shown in the diagram below.

Issue the **ip wccp web-cache redirect out** command on the interface going toward the Internet.



## Configuring WCCPv2 on the Content Engine and Router

### Step-by-Step Instructions

These steps show new or modified commands that configure the WCCPv2 feature:

1. Turn on the protocol for Web caching by issuing the **ip wccp web-cache** command.

```
Router(config)#ip wccp web-cache
```

2. Specify an interface for Web caching by issuing the **interface type number** command.

```
Router(config)#interface type number
```

3. Enable the check on packets to determine whether they need to be redirected to a Web cache by issuing the **ip wccp web-cache redirect out** command.

This command is placed on the interface going to the Internet.

**Note:** The **ip wccp web-cache redirect out** command is generic, and is used to enable redirection of outgoing destination port 80 packets on the applied interface to the Cache.

```
Router(config-if)#ip wccp web-cache redirect out
```

4. **Note:** This step is optional.

If the client and a Content Engine are located on the same network, issue the **ip route-cache same-interface** command to configure the router to use the fast switching path on the interface.

```
Router(config-if)#ip route-cache same-interface
```

5. Issue the **wccp version 2** command to enable Web cache service with WCCPv2.

```
CEConsole(config)#wccp version 2
```

6. To configure a router list for WCCPv2, issue the **wccp router-list number ip-address** command.

```
CEConsole(config)#wccp router-list number ip-address
```

7. To instruct the router to run the Web cache service with WCCPv2, issue the **wccp web-cache router-list-num number** command.

```
CEConsole(config)#wccp web-cache router-list-num number
```

## Example of WCCPv2 on the Router

WCCP is applied to the interface out of which the HTTP traffic flows, typically the interface facing the Internet.

```
Router#configure terminal
Router(config)#ip wccp web-cache
Router(config)#interface
```

*!-- Relevant interface, such as the interface going to the Internet.*

```
Router(config-if)#ip wccp web-cache redirect out
Router(config-if)#^Z
```

## Example of WCCPv2 on the Content Engine

```
cache#configure terminal
cache(config)#wccp version 2
cache(config)#wccp router-list 1 (series-of-router-ip-addr) [...]
cache(config)#wccp web-cache router-list-num 1
cache(config)#^Z
cache#write
Building configuration... [OK]
```

## Verify

This section provides information you can use to confirm your configuration is working properly.

Certain **show** commands are supported by the Output Interpreter Tool ( registered customers only) , which allows you to view an analysis of **show** command output.

After configuring the Content Engine and router, verify functionality using these commands:

- **show ip wccp** or **show ip wccp {web-cache | 99}** Displays global statistics related to WCCP.
- **show ip wccp {web-cache | 99} detail** Queries the router for information about which Content Engines the router has detected in a specific service group. The information can be displayed for either a Web cache or the reverse proxy service, which is indicated by a value of 99.
- **show ip interface** Displays whether any **ip wccp direct** commands are configured on an interface.
- **show ip wccp {web-cache | 99} view** Displays which devices in a particular service group have been detected and which Content Engines are not visible to all other routers to which the current router is connected. The information can be displayed for either a Web cache or the reverse proxy service, which is indicated by a value of 99.

This is sample command output from the **show ip wccp** command:

```
Router#show ip wccp
Global WCCP information:
Router information:
```

```
Router Identifier: 10.1.1.1
Protocol Version: 2.0
Service Identifier: web-cache
Number of Cache Engines: 1
Number of routers: 1
Total Packets Redirected: 446226
Redirect access-list: -none-
Total Packets Denied Redirect: 0
Total Packets Unassigned: 20
Group access-list: -none-
Total Messages Denied to Group: 0
Total Authentication failures: 0
```

This is sample command output from the **show ip wccp {web-cache | 99} detail** command:

```
Router#show ip wccp web-cache detail
WCCP Cache-Engine information:
IP Address: 10.1.1.2
Protocol Version: 2.0
State: Usable
Initial Hash Info: 00000000000000000000000000000000
00000000000000000000000000000000
Assigned Hash Info: FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF
Hash Allotment: 256 (100.00%)
Packets Redirected: 40807
Connect Time: 11:05:17
```

This is sample command output from the **show ip wccp {web-cache | 99} view** command:

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

!--- You can also issue the show ip wccp 99 detail command.

WCCP Routers Informed of:
10.1.1.1
WCCP Cache Engines Visible:
10.1.1.2
WCCP Cache Engines NOT Visible:
-none-
```

**Note:** Private IP addressing has been used in this example. You may need to use public IP addressing on the Content Engine and router.

## Troubleshoot

This section provides information you can use to troubleshoot your configuration.

### Troubleshooting Commands

Certain **show** commands are supported by the Output Interpreter Tool ( registered customers only ) , which allows you to view an analysis of **show** command output.

**Note:** Before issuing **debug** commands, please see Important Information on Debug Commands.

#### Router Commands:

- **show ip wccp** Displays global WCCP statistics.
- **show ip wccp web-caches** Displays information about all known Content Engines.

- **show ip interface** Displays whether Web cache redirecting is enabled on an interface.
- **show ip wccp** and **show ip wccp web-caches** Displays a count of the number of packets redirected.
- **clear ip wccp** Clears the counter displayed by the **show ip wccp** and **show ip wccp web-caches** commands.
- **debug ip wccp events** Displays information about significant WCCP events.
- **debug ip wccp packets** Displays information about every WCCP packet received or sent by the router.

This is sample **debug ip wccp events** command output when a Content Engine is added to the list of available Web caches:

```
Router#debug ip wccp events

WCCP-EVNT: Built I_See_You msg body w/1 usable web caches, change # 0000000A
WCCP-EVNT: Web Cache 192.168.25.3 added
WCCP-EVNT: Built I_See_You msg body w/2 usable web caches, change # 0000000B
WCCP-EVNT: Built I_See_You msg body w/2 usable web caches, change # 0000000C
```

This is sample **debug ip wccp packets** command output. The router is sending keepalive packets to the Content Engines at IP addresses 192.168.25.4 and 192.168.25.3. Each keepalive packet has an identification number associated with it. When the Content Engine receives a keepalive packet from the router, it sends a reply with the identification number back to the router.

```
Router#debug ip wccp packets

WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.4 w/rcvd_id 00003532
WCCP-PKT: Sending I_See_You packet to 192.168.25.4 w/ rcvd_id 00003534
WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.3 w/rcvd_id 00003533
WCCP-PKT: Sending I_See_You packet to 192.168.25.3 w/ rcvd_id 00003535
WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.4 w/rcvd_id 00003534
WCCP-PKT: Sending I_See_You packet to 192.168.25.4 w/ rcvd_id 00003536
WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.3 w/rcvd_id 00003535
WCCP-PKT: Sending I_See_You packet to 192.168.25.3 w/ rcvd_id 00003537
WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.4 w/rcvd_id 00003536
WCCP-PKT: Sending I_See_You packet to 192.168.25.4 w/ rcvd_id 00003538
WCCP-PKT: Received valid Here_I_Am packet from 192.168.25.3 w/rcvd_id 00003537
WCCP-PKT: Sending I_See_You packet to 192.168.25.3 w/ rcvd_id 00003539
```

## Content Engine Commands

- **show stat http savings** Records both byte and object hit-rate savings in the statistics.
- **show stat http usage** Displays usage statistics.

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## Related Information

- [Web Cache Communication Protocol Version 2 Router Configuration Commands](#)
  - [Cisco Cache Engine WCCPv2 Configuration Commands](#)
  - [Cisco Cache Engine Documentation](#)
  - [Cisco Cache Engine Product Support Pages – Cisco Systems](#)
  - [Technical Support – Cisco Systems](#)
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