

Configuring Web Cache Communication Protocol Version 1 on a Cisco Cache Engine and Router

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Introduction

This document provides the basic instructions used to configure Web Cache Communication Protocol Version 1 (WCCPv1) on both the Cisco Cache Engine and the Cisco router.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

Refer to the Supported Platforms section of the Web Cache Communication Protocol Version 1 documentation for detailed information.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Configure WCCPv1 on the Cache Engine and Router

The basic Cache Engine configuration should be similar to this:

```
interface ethernet 0
ip address 10.X.1.20 255.255.255.0
ip broadcast-address 10.X.1.255
```

```

exit
!
!
ip default-gateway 10.X.1.1
ip name-server 172.18.124.10
ip domain-name cisco.com
ip route 0.0.0.0 0.0.0.0 10.X.1.1

```

The basic router configuration should be similar to this:

```

ip subnet-zero
ip name-server 171.68.10.70
!
interface Ethernet0/0
ip address 10.X.1.1 255.255.255.0
no ip redirects
no ip directed-broadcast
!
ip classless
ip route 0.0.0.0 0.0.0.0 10.10.10.254

```

Enable WCCPv1 on the Router

Complete these steps beginning in global configuration mode to enable an interface to redirect web traffic to the Content Engine using WCCPv1:

1. Use the **ip wccp** command to enable the router to use WCCP.
2. (*This is an optional step.*) Specify the redirect access list using the **ip wccp redirect-list {number / name}** command.

Only packets that match this access list are redirected. If you do not configure this command, all web-based packets are redirected.

3. Use the **interface type number** command to enter interface configuration mode.
4. Configure the interface connected to the Internet to redirect web traffic to the Content Engine using the **ip wccp web-cache redirect in|out** command.
5. (*This is an optional step.*) If the client and a Content Engine are located on the same network, configure the router to use the fast switching path on the interface using the **ip route-cache same-interface** command.
6. Use the **end** command to exit configuration mode.
7. Save the configuration using the **copy running-config startup-config** command.

Example of WCCPv1 on the Router

```

Router#configure terminal
Router(config)#ip wccp webcache
Router(config)#interface (relevant-interface)
Router(config-if)#ip web-cache redirect out
Router(config-if)#^Z

```

Example of WCCPv1 on the Cache Engine

```

cache#configure terminal
Enter configuration commands, one per line. End with CNTL/Z
cache(config)#wccp version 1
cache(config)#wccp home-router (ip-addr-of-wccp-router)
cache(config)#^Z
cache#write
Building configuration... [OK]

```

Verify

Use this section to confirm that your configuration works properly.

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

- **show ip wccp** Displays all registered services.
- **show ip wccp <service-id> detail** Displays the WCCP bucket distribution for each cache in the cluster.
- **show ip wccp <service-id> view** Displays a quick summary of each WCCP service cluster of routers and caches. This includes caches which were previously registered with this router but are removed.

This is sample command output of 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 of the **show ip wccp <service-id> 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 of the **show ip wccp <service-id> view** command.

```
Router#show ip wccp web-cache view (or: show ip wccp 99 detail)
WCCP Routers Informed of:
10.1.1.1
WCCP Cache Engines Visible:
10.1.1.2
WCCP Cache Engines NOT Visible:
-none-
```

Troubleshoot

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

Troubleshooting Commands

The Output Interpreter Tool (registered customers only) (OIT) supports certain **show** commands. Use the OIT to view an analysis of **show** command output.

Note: Refer to Important Information on Debug Commands before you use **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** Shows 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.

Cache Engine Commands:

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

This is example output of the **debug ip wccp events** command 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 example output of the **debug ip wccp packets** command. The router sends 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
```

Related Information

- [WCCP Router Configuration Commands](#)
 - [Cisco Cache Engine Web Cache Coordination Protocol Version 1 Configuration Commands](#)
 - [Cisco Cache Engine Documentation](#)
 - [Product Support Pages Cisco Content Network Devices](#)
 - [Technical Support & Documentation – Cisco Systems](#)
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