



Release Notes for Cisco Cache Software, Release 2.4.0

January 8, 2000



The most current Cisco documentation for released products is available on Cisco Connection Online (CCO) at <http://www.cisco.com>. The online documents may contain updates and modifications made after the hardcopy documents were printed.

Contents

These release notes describe the following topics:

- Introduction, page 2
- Determining the Operating Software Version, page 2
- New Features in Software Release 2.4.0, page 3
- Caveats, page 11
- Related Documentation, page 13
- Obtaining Documentation, page 13
- Obtaining Technical Assistance, page 14



Introduction

These release notes describe new commands included in Cisco Cache software, Release 2.4.0 for the Cisco Cache Engine. Cisco Cache software, Release 2.4.0 is supported on the Cisco Cache Engine 505 and 550.

Release 2.4.0 includes new commands that allow you to configure your Cache Engine as a content routing agent. Content routing agents are used in conjunction with the Cisco Content Router 4400. These new commands are referred to as “boomerang” software. The commands in Cache software, Release 2.3.0 are also part of this release. With Release 2.4.0, you can use your Cache Engine for transparent caching or as a content routing agent, but you cannot use the Cache Engine for both of these functions at once.

Refer to the *Cisco Content Router 4400 User Guide* for the following information:

- Instructions for configuring the Cache Engine as a content routing agent
- Description of the boomerang content routing process

Refer to the *Cisco Cache Software Configuration Guide* for the following information:

- Instructions for installing and maintaining the Cache software
- Descriptions of Web Cache Communication Protocol (WCCP) Versions 1 and 2

Refer to the *Cisco Cache Software Command Reference, Release 2.3.0* for global configuration, EXEC, **show**, and interface command descriptions.

Determining the Operating Software Version

To determine the version of the software currently running on the Cisco Cache Engine, log on to the Cache Engine and enter the **show version** EXEC command.

Downloading Cache Software

Cache software can be downloaded from the Cisco Systems Software Center at the following URL:

<http://www.cisco.com/cgi-bin/tablebuild.pl/cache-engine>

Upgrading to a New Software Release

Two types of Cache software files are available on CCO to download: files with the .pax suffix and files with the .bin suffix. The .pax file contains the full-image software with the graphical user interface (GUI) and is the file routinely installed. The .bin file software is for recovery situations that require booting from the network, or restoring Flash memory. Refer to the section “Recovering the System Software” in the *Cisco Cache Software Configuration Guide* for instructions on loading your system image with the .bin file.

Step 1 Use an FTP client to transfer the .pax file to the */local* directory of your Cache Engine.

Step 2 Log on to the Cache Engine, and at the privileged level EXEC command prompt enter:

```
install filename.pax
where filename is the name of the .pax file.
```

- Step 3** Follow the command-line interface instructions as prompted. At the following prompt, enter **y**:
- ```
Copy new image to flash memory?[yes]:
```
- Step 4** Reboot the Cache Engine with the **reload** command, and then use the **show version** command to display the current software version.
- 

## New Features in Software Release 2.4.0

This release of the Cisco Cache software includes these new content routing software commands:

- alias Command
- boomerang Command
- boomerang send-packet Command
- content-server Command
- dns-ttl Command
- ip-ttl Command
- key Command
- no Command
- show boomerang Command

In addition, **statistics boomerang** has been added to the **clear** command.

For a description of how to use these commands to perform a basic startup configuration of a content routing agent, refer to Chapter 6, “Configuring the System Software,” in the Cisco Content Router 4400 User Guide.



### Note

A Cache Engine running Cache software, Release 2.4.0 cannot be used for transparent caching if it has been configured as a content routing agent. Therefore, if you want to use a Cache Engine for transparent caching, do not enable **boomerang** on the Cache Engine. See the “Caveats” section on page 11.

---

## alias Command

To establish alternative domain names, use the **alias** command in boomerang configuration mode.

```
alias domain-name
```

## Syntax Description

*domain-name*

Name of domain (for example, www.foo.com).

## Defaults

No default behaviors or values

## Command Modes

Boomerang configuration

## User Guidelines

Use this command on both the Content Router and the agent to establish an alternative name for a domain.

## Examples

In the following example, assume you are configuring a domain named `www.foobar.com`. Here, it is given the alias `www.foobar.net`. First, enter the alias on the Content Router.

```
Console (config-boomerang)# alias www.foobar.net
```

When configuring `www.foo.bar.com` on the agent, enter the alias on the agent:

```
Console (config-boomerang)# alias www.foobar.net
```

## boomerang Command

To configure the boomerang software on an agent or to enter boomerang configuration mode, use the **boomerang** global configuration command.

```
boomerang dns { enable | domain domain-name }
```

## Syntax Description

|                    |                                                                        |
|--------------------|------------------------------------------------------------------------|
| <b>dns</b>         | Configures DNS boomerang distributed reverse proxy.                    |
| <b>enable</b>      | Enables the boomerang software.                                        |
| <b>domain</b>      | Establishes support for a domain. Enters boomerang configuration mode. |
| <i>domain-name</i> | Name of domain (for example, <code>www.foo.com</code> ).               |

## Defaults

No default behaviors or values

## Command Modes

Global configuration

## Usage Guidelines

Use the **boomerang dns enable** command to enable boomerang. Use the **boomerang dns domain** command to establish support for a domain and to enter boomerang configuration mode.

## Examples

```
Console (config)# boomerang dns enable
```

```
Console (config)# boomerang dns domain www.foobar.com
```

## boomerang send-packet Command

To send test packets to determine whether or not a destination accepts boomerang-altered source IP addresses, use the **boomerang send-packet EXEC** command.

```
boomerang send-packet {tcp | udp} dest-port source-port {dest-ip-address | dest-hostname}
{source-ip-address | source-hostname}
```

## Syntax Description

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>tcp</b>               | Sends a TCP packet.                 |
| <b>udp</b>               | Sends a UDP packet.                 |
| <i>dest-port</i>         | Destination port number.            |
| <i>source-port</i>       | Source port number.                 |
| <i>dest-ip-address</i>   | IP address of the destination site. |
| <i>dest-hostname</i>     | Name of the destination host.       |
| <i>source-ip-address</i> | IP address of the source.           |
| <i>source-hostname</i>   | Name of the source host.            |

## Defaults

No default behavior or values

## Command Modes

EXEC

## Usage Guidelines

Some networks may have filters that prevent the transmission of packets with source addresses outside the address space of the network. Such filters could inhibit the boomerang process. To determine whether such filters exist, use a sniffer and the **boomerang send-packet** command to send a packet with a source address outside the subnet on which the agent resides. The sniffer should be set up to monitor traffic on the network of the destination site to which the packet is sent. If the sniffer detects this packet, you know that the destination can accept boomerang-altered source IP addresses.

## Examples

```
Console# boomerang send-packet tcp 53 53 10.1.1.1 10.1.1.2
```

## content-server Command

To configure the address of a content server co-located with an agent, use the **content-server** boomerang configuration command.

```
content-server ip-address filename
```

## Syntax Description

|                   |                                               |
|-------------------|-----------------------------------------------|
| <i>ip-address</i> | IP address of the Web content server.         |
| <i>filename</i>   | Filename to probe (for example, /index.html). |

## Defaults

If no filename is included in the command, the probe consists only of trying to connect to port 80.

## Command Modes

Boomerang configuration

## Usage Guidelines

Use this command on the agent to specify an external content source. The agent needs to return the address of the content appliance or switch that is serving the content.

The agent probes the content server periodically to ensure that it is active. The probe is an HTTP GET request for the configured filename. A response of “200 OK” indicates the content server is active.

## Examples

```
Console (config-boomerang)# content-server 11.22.33.55 /index.html
```

## dns-ttl Command

To specify the DNS Time-To-Live (TTL) value contained in the content routing agent's DNS response, use the **dns-ttl** command in boomerang configuration mode.

**dns-ttl** *seconds*

### Syntax Description

*seconds*

Number of seconds to live (1–4294967295). The default is 20.

### Defaults

The default number of seconds is 20.

### Command Modes

Boomerang configuration

### Usage Guidelines

Use this command to specify the DNS Time-To-Live value contained in the DNS response generated by the agent. In general, a lower DNS TTL value ensures more recent content, whereas a higher DNS TTL value reduces the Content Router load.

The higher the DNS Time-To-Live value, the lesser the load on the Content Router. A lower value means an increased Content Router load, but also means that winning agent addresses are used for a shorter amount of time. For example, if the DNS TTL is set at 60 seconds, a name server will return to the Content Router to look up a domain name no more than once a minute. In other words, the name server uses the winning agent address for 60 seconds before consulting the Content Router again.



Note

---

A **dns-ttl** command entered on an agent overrides a **dns-ttl** command entered on the Content Router.

---

### Examples

```
Console (config-boomerang)# dns-ttl 4
```

## ip-ttl Command

To specify the IP Time-To-Live (TTL) value contained in the content routing agent's DNS response, use the **ip-ttl** command in boomerang configuration mode.

**ip-ttl** *hops*

## Syntax Description

*hops* Number of hops to live (1–255). The default is 255.

## Defaults

The default is 255 hops.

## Command Modes

Boomerang configuration

## Usage Guidelines

Use this command to set the IP TTL artificially low in order to restrict the number of hops that agent DNS responses can travel.



**Note**

An **ip-ttl** command entered on an agent overrides an **ip-ttl** command entered on the Content Router.

## Examples

```
Console (config-boomerang)# ip-ttl 5
```

## key Command

To specify the keyword that is used to encrypt packets sent between the Content Router and agents, use the **key** boomerang configuration command.

**key** {0 | 7} *keyword*

## Syntax Description

|                |                                                            |
|----------------|------------------------------------------------------------|
| <b>0</b>       | Indicates that the keyword will be clear text.             |
| <b>7</b>       | Indicates that the keyword will be a type 7 encrypted key. |
| <i>keyword</i> | Keyword shared by Content Router and agent.                |

## Defaults

No default behavior or values



## Command Modes

Boomerang configuration

## Usage Guidelines

Use this command to specify the same shared keyword on the Content Router and each agent. You can use a unique keyword for each domain.

## Examples

```
Console (config-boomerang)# key 0 cantsay
```

## no Command

To undo a boomerang configuration mode command or set its defaults, use the **no** form of a command to undo the original command.

**no** *command*

## Syntax Description

*command*

- **alias**
- **boomerang**
- **boomerang send-packet**
- **content server**
- **dns-ttl**
- **ip-ttl**
- **key**

*command function*

- Establishes alternate domain names.
- Enables and configures the boomerang software.
- Sends test packets.
- Configures the address of a content server co-located with an agent
- Specifies the DNS Time-To-Live value contained in the agent's DNS response.
- Specifies the IP Time-To-Live value contained in the agent's DNS response.
- Specifies the keyword that is used to encrypt packets sent between the Content Router and agents.

## Defaults

No default behavior or values

## Command Modes

Boomerang configuration

## Usage Guidelines

Use the **no** command to disable functions or negate a command. If you need to negate a specific command, such as the content server IP address, you must include the specific string in your command, such as **no content-server** *ip-address filename*.

## Examples

```
Console(config-boomerang)# alias www.fooobar.net
```

```
Console(config-boomerang)# no alias www.fooobar.net
```

## show boomerang Command

To display Content Router and content routing agent connectivity information, use the **show boomerang EXEC** command.

```
show boomerang domain-name
```

## Syntax Description

*domain-name*

Name of a domain supported (for example, www.foo.com).

## Defaults

No default behavior or values

## Command Modes

EXEC

## Usage Guidelines

On an agent, this command displays the current number of queries received, as well as whether or not the agent can connect to its external content server (if applicable).

## Examples

```

Console# show boomerang www.boomtest.com

DNS packets with unknown domain 0
HTTP hostname requests dropped 0

Domain www.boomtest.com
Content server 10.6.2.2
Origin server 10.6.1.2
DNS A record requests 1
Dropped (server down) 0
Dropped (CPU busy) 0
Security failures 0
Cache hit bytes 0
Cache miss bytes 0
Total bytes served 0

```

## clear statistics boomerang Command

The **statistics boomerang** parameter has been added to the **clear EXEC** command. It clears all boomerang statistical data without losing configurations.

## Caveats

Caveats describe unexpected behavior of Software Release 2.4.0. Severity 1 caveats are the most serious caveats, severity 2 caveats are less serious. Severity 3 caveats are moderate caveats, and only select severity 3 caveats are included here. The following caveats are still open (unresolved) at the printing of these release notes.

### Open Caveats—Software Release 2.4.0

- CSCds79974
 

Symptom: Transparent caching is disabled on the Cache Engine if boomerang is enabled on the Cache Engine.

Workaround: If you want to use the Cache Engine for transparent caching, do not use the **boomerang** command. To disable boomerang, enter the **no boomerang dns enable** configuration command.
- CSCds61518
 

Symptom: In the case of the text and binary percentage values associated with the **http age-multiplier** command, the Cache Engine calculates the age of a binary file as though it is a text file. When revalidation is enabled for text objects only, HTTP binary objects are also revalidated.

Workaround: There is no known workaround at this time.
- CSCds63770
 

Symptom: In a busy environment, random clients may receive multiple user prompts when they try to reach random Internet HTTP servers.

**Cause:** When the Cache Engine is configured for Remote Authentication Dial-In User Service (RADIUS) authentication, it is possible for the client to issue another HTTP request during authentication with a remote server. These HTTP requests are not delayed, causing another prompt for authentication information to be sent back to the client, resulting in multiple user prompts.

**Workaround:** Avoid this problem by setting a concurrent open connections limit in the browser. Internet Explorer offers this option in the registry. See the Microsoft Knowledge Base article [qQ183110](#).

- CSCds53244

**Symptom:** When the number of active RADIUS authentication requests exceeds 950, requests that have recently been authenticated by the RADIUS server are forced to reauthenticate even though the authentication timeout interval defined by the **radius-server authtimeout** global configuration command has not expired.

**Possible cause:** User entries in RADIUS authentication cache in local Cache Engine RAM are not being purged properly. When the authentication cache is full, entries for recently authenticated users cannot be written to the authentication cache, forcing those users to be reauthenticated on each attempt to access restricted content. When the Cache Engine authenticates a user through the RADIUS server, a record of that authentication is stored locally in the Cache Engine RAM. As long as the authentication entry is kept, subsequent attempts to access restricted content by that user do not require RADIUS server lookups. Entries are purged when they are inactive for a period defined by the authentication timeout interval.

**Workaround:** There is no workaround, but power cycling the Cache Engine clears RAM contents, including the RADIUS authentication cache.

- CSCds54911

**Symptom:** In some cases, Websense blocking messages for blocked requests are not returned to the client from a Websense server.

**Workaround:** Ensure that the IP address and host name of the machine running the Websense server are specified in the internal Domain Name System (DNS) servers, or in the websense.ini file. To edit the websense.ini file, complete the following procedure:

- 
- Step 1** Go to the Websense directory on the Websense server host.
- Step 2** Stop the Websense server.
- Step 3** Open the websense.ini file in a text editor.
- Step 4** In the [OpenServer] field of the websense.ini file, enter the following on a blank line:  
**BlockPageServerName = *IP address***
- where *IP address* is the IP address or host name of the computer running the Websense server.
- Step 5** Save the edited websense.ini file.
- Step 6** Restart the Websense server.
-

## Related Documentation

*Cisco Content Router 4400 User Guide*

*Cisco Cache Software Configuration Guide, Software Versions 2.2.x, 2.3.x*

*Cisco Cache Software Command Reference, Release 2.3.0*

## Obtaining Documentation

The following sections provide sources for obtaining documentation from Cisco Systems.

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following sites:

- <http://www.cisco.com>
- <http://www-china.cisco.com>
- <http://www-europe.cisco.com>

### Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

### Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco Direct Customers can order Cisco Product documentation from the Networking Products MarketPlace:  
[http://www.cisco.com/cgi-bin/order/order\\_root.pl](http://www.cisco.com/cgi-bin/order/order_root.pl)
- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:  
<http://www.cisco.com/go/subscription>
- Nonregistered CCO users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, in North America, by calling 800 553-NETS(6387).

### Documentation Feedback

If you are reading Cisco product documentation on the World Wide Web, you can submit technical comments electronically. Click **Feedback** in the toolbar and select **Documentation**. After you complete the form, click **Submit** to send it to Cisco.

You can e-mail your comments to [bug-doc@cisco.com](mailto:bug-doc@cisco.com).

To submit your comments by mail, for your convenience many documents contain a response card behind the front cover. Otherwise, you can mail your comments to the following address:

Cisco Systems, Inc.  
 Document Resource Connection  
 170 West Tasman Drive  
 San Jose, CA 95134-9883

We appreciate your comments.

## Obtaining Technical Assistance

Cisco provides [Cisco.com](http://www.cisco.com) as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools. For [Cisco.com](http://www.cisco.com) registered users, additional troubleshooting tools are available from the TAC website.

### Cisco.com

[Cisco.com](http://www.cisco.com) is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information and resources at anytime, from anywhere in the world. This highly integrated Internet application is a powerful, easy-to-use tool for doing business with Cisco.

[Cisco.com](http://www.cisco.com) provides a broad range of features and services to help customers and partners streamline business processes and improve productivity. Through [Cisco.com](http://www.cisco.com), you can find information about Cisco and our networking solutions, services, and programs. In addition, you can resolve technical issues with online technical support, download and test software packages, and order Cisco learning materials and merchandise. Valuable online skill assessment, training, and certification programs are also available.

Customers and partners can self-register on [Cisco.com](http://www.cisco.com) to obtain additional personalized information and services. Registered users can order products, check on the status of an order, access technical support, and view benefits specific to their relationships with Cisco.

To access [Cisco.com](http://www.cisco.com), go to the following website:

<http://www.cisco.com>

### Technical Assistance Center

The Cisco TAC website is available to all customers who need technical assistance with a Cisco product or technology that is under warranty or covered by a maintenance contract.

### Contacting TAC by Using the Cisco TAC Website

If you have a priority level 3 (P3) or priority level 4 (P4) problem, contact TAC by going to the TAC website:

<http://www.cisco.com/tac>

P3 and P4 level problems are defined as follows:

- P3—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- P4—You need information or assistance on Cisco product capabilities, product installation, or basic product configuration.

In each of the above cases, use the Cisco TAC website to quickly find answers to your questions.

To register for Cisco.com, go to the following website:

<http://www.cisco.com/register/>

If you cannot resolve your technical issue by using the TAC online resources, Cisco.com registered users can open a case online by using the TAC Case Open tool at the following website:

<http://www.cisco.com/tac/caseopen>

## Contacting TAC by Telephone

If you have a priority level 1 (P1) or priority level 2 (P2) problem, contact TAC by telephone and immediately open a case. To obtain a directory of toll-free numbers for your country, go to the following website:

<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>

P1 and P2 level problems are defined as follows:

- P1—Your production network is down, causing a critical impact to business operations if service is not restored quickly. No workaround is available.
- P2—Your production network is severely degraded, affecting significant aspects of your business operations. No workaround is available.

---

This document is to be used in conjunction with the documents listed in the “Related Documentation” section.

AtmDirector, Browse with Me, CCDA, CCDE, CDP, CCIE, CCNA, CCNP, CCSI, CD-PAC, *CiscoLink*, the Cisco NetWorks logo, the Cisco Powered Network logo, Cisco Systems Networking Academy, the Cisco Systems Networking Academy logo, Fast Step, Follow Me Browsing, FormShare, FrameShare, GigaStack, IGX, Internet Quotient, IP/VC, iQ Breakthrough, iQ Expertise, iQ FastTrack, the iQ Logo, iQ Net Readiness Scorecard, MGX, the Networkers logo, *Packet*, PIX, RateMUX, ScriptShare, SlideCast, SMARTnet, TransPath, Voice LAN, Wavelength Router, WebViewer are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn, Empowering the Internet Generation, are service marks of Cisco Systems, Inc.; and Aironet, ASIST, BPX, Catalyst, Cisco, the Cisco Certified Internetwork Expert Logo, Cisco IOS, the Cisco IOS logo, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Enterprise/Solver, EtherChannel, EtherSwitch, FastHub, IOS, IP/TV, LightStream, Post-Routing, Pre-Routing, Registrar, StrataView Plus, Stratm, SwitchProbe, TeleRouter, and VCO are registered trademarks of Cisco Systems, Inc. or its affiliates in the U.S. and certain other countries.

All other brands, names, or trademarks mentioned in this document or Web site are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0011R)

Copyright © 2000, Cisco Systems, Inc.  
All rights reserved.

