Release Notes for Cisco Cache Software, Release 3.1.1

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Note The most current Cisco documentation for released products is available at Cisco.com at http://www.cisco.com. The online documents may contain updates and modifications made after the hardcopy documents were printed.

Contents

Introduction

These release notes for Cache software, Release 3.1.1 contain new and updated information, particularly in reference to features added since Release 3.0.1. They also contain installation instructions and information about known caveats.

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> **Note** If you plan to upgrade from Cache software Release 2.x, verify that the features you require are in Release 3.1.1 before performing the upgrade procedure. See "Release 3.1.1 Feature Set" section on page 2.

System Requirements

Hardware Supported

Cisco Cache software, Release 3.1.1, can operate on Cisco Content Engine 507, 560, 590, and 7320 models.

> **Note** The Content Engine 560 can operate a maximum of five 18-GB SCSI disk drives running Release 3.1.1.

Determining the Software Version

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

Upgrading to a New Software Release

See the "Installation Notes" section on page 9 for procedures on how to upgrade to Release 3.1.1 software.

> **Note** If you plan to upgrade from Cache software Release 2.x, verify that the features you require are in Release 3.1.1 before performing the upgrade procedure. See "Release 3.1.1 Feature Set" section on page 2.

Release 3.1.1 Feature Set

This section contains:

Features in Release 3.1.1

The following table lists the principal features of Cache software, Release 3.1.1, and the associated command-line interface (CLI) commands.

Note You must purchase a license key in order to activate the RealProxy features in the Cache software.

Cisco Cache Software, Release 3.1.1 Feature	Related CLI Commands
Streaming media splitting and caching	
RealProxy 8.0 support	**disk** **mediafs** **rtsp proxy** **wccp media-cache**
Content preloading	**pre-load** **pre-load force**
Proxy-style caching (nontransparent operation)	
Hypertext Transfer Protocol (HTTP) proxy caching	**http proxy incoming**
File Transfer Protocol (FTP) proxy caching	**ftp proxy incoming**
Secure Shell (SSL) tunneling	**https proxy incoming**
Transparent caching	
Transparent caching with the Cisco CSS11000 series switch	**http l4-switch enable**
Transparency through WCCP	**wccp**
Accelerated WCCP Layer 2 support	**wccp custom-web-cache** **wccp media-cache** **wccp reverse-proxy** **wccp service-number** **wccp web-cache**
Authentication bypass	**bypass auth-traffic** **bypass timer**
Overload bypass	**bypass load**
Static bypass	**bypass static**
Multiport transparent redirection	**proxy-protocols** **wccp port-list** **wccp service-number**
WCCP flow protection	**wccp slow-start** **wccp flow-redirect**
Logging	
Squid-style transaction logging	**transaction-logs**
Sanitized transaction logs	**transaction-logs sanitize**
Pushing of log files	**transaction-logs export**
Cache hierarchy features	
Outgoing Proxy	**http proxy outgoing** **proxy-protocols**
Internet Cache Protocol (ICP)	**icp**
Management features	

Cisco Cache Software, Release 3.1.1 Feature	Related CLI Commands
Administration from GUI	**gui-server**
Administration from CLI	**trusted-host** **user**
Boot from Flash memory	**copy** **install** **reload** **write**
SNMP agent (MIB II and CE-MIB support)	**snmp-server community**
SNMP traps	**snmp-server enable traps** **snmp-server host**
Syslog	**logging**
NTP time syncing	**ntp**
Cache parameter settings	
Cache freshness	**http min-ttl** **http max-ttl** **http age-multiplier** **http reval-each-request**
Caching of content with cookies	**http cache-cookies**
Object size capping	**http object**
Selective abort of object downloading on client-abort (also called "quick_abort")	**http cache-on-abort**
Rules template	**rule**
TCP stack parameters	
User-configurable TCP parameters	**tcp**
TCP-over-satellite extensions	**tcp client-satellite** **tcp server-satellite**
Miscellaneous features	
Embed client information in HTTP headers	**http append**
Microsoft NT LAN Manager (NTLM) authentication transparency	**http authenticate-strip-ntlm**

Features Not Included in Release 3.1.1

The following features have been included in prior releases of the Cisco Cache Software, but are not included in the current Release 3.1.1:

- URL filtering (allow list/block list)
- Websense support
- Healing mode
- TACACS+ for User Authentication
- RADIUS for HTTP Authentication
- LDAP for HTTP Authentication

- Full configuration in the graphical user interface (GUI). (3.1.1 has partial support of the GUI.)
- Authenticated data caching via IMS
- Content routing agent support

New Software Features in Release 3.1.1

The following features were added in Cache software, Release 3.1.1:

RealProxy 8.0 Support

Note You must purchase a license key in order to activate the RealProxy features in the Cache software.

Cisco Cache software, Release 3.1.1, optionally includes the RealProxy from RealNetworks, Inc. to support both stream splitting (distributing "live" feeds) and streaming media caching (on-demand content) in both Real-Time Streaming Protocol (RTSP)-based streaming and other Real PNM (RealNetworks metafile) formats.

When performing stream splitting, the RealProxy accepts a "live" stream from a RealServer and re-serves the stream to multiple requesting RealPlayer clients, thus eliminating multiple connections to the RealServer. The RealServer is preconfigured to act as a RealMedia transmitter and the RealProxy is preconfigured to act as a RealMedia receiver.

Streaming media caching provides content on demand. If one user has viewed a cached streaming media file, it can be served to subsequent users without the requirement to connect with the origin server. Live broadcasts are not files and are not cached.

Use the **rtsp proxy** global configuration command to configure the Content Engine to accept redirected RTSP traffic or to configure the Content Engine as a media proxy to receive RTSP proxy-style requests from RealPlayer clients. The **wccp media-cache** global configuration command registers the Content Engine with Web Cache Communication Protocol (WCCP) version 2-enabled routers that can transparently redirect RTSP traffic to the Content Engine. Streaming media objects are cached in the media file system (mediafs) disk partitions. The RealProxy software is copied to the software file system (swfs) partition as part of the installation procedure. Use the **disk** EXEC command to create swfs and mediafs partitions. Use the **mediafs** EXEC command to maintain the mediafs partitions. For further information on disk partitions (swfs, mediafs, sysfs, and cfs), and the installation process, see the "Installation Notes" section on page 9.

RealProxy software is configured with the RealSystem administrator GUI, accessed from the RealProxy page of the Content Engine management GUI.

Table 1 describes the features and benefits of RealProxy software.

Table 1   RealProxy Features and Benefits

RealProxy Feature	Description	Benefits
Proxy for RealPlayer 8.0	RealProxy makes requests for content on behalf of client RealPlayer users.	• Manages traffic inside the firewall by coordinating requests for similar content. • Masks end user IP addresses.
Splitting support for live broadcasts	RealProxy "splits" a single inbound live broadcast feed to multiple client RealPlayers.	• Reduces inbound bandwidth usage to a single stream of content during a live event. • Improves RealPlayer quality of experience.
Caching of RealSystem G2 and PNM content	RealProxy caches all proxied streaming media traffic from RealNetworks servers. RealProxy caches content locally after authentication with origin RealNetworks server.	Significantly reduces inbound bandwidth usage by eliminating redundant file transmissions across the network.
Authentication/accounting	RealProxy authenticates every content request with the origin RealNetworks server before delivering the cached content to the client.	• Broadcaster retains access to general usage data. • Users are appropriately authenticated. • End-users are guaranteed the freshest content.
Aggregate bandwidth thresholds	Thresholds cap inbound and outbound bandwidth to RealProxy.	Provides control over aggregate bandwidth usage within the network and prevents stress on mission-critical applications.
Proxy routing	Ability to tier proxies and manage bandwidth at lower nodes in the network. "Parent" proxies can be chosen based on logical sets of rules on the downstream proxy.	Allows network administrators to proxy route requests, providing an additional level of control.

Content Preloading

Cisco Cache software, Release 3.1.1, can read a file of URLs and download the specified content into the Content Engine. This preloading can be scheduled with the **pre-load schedule** global configuration command, or triggered immediately with the **pre-load force** EXEC command.

Rules Template

The Rules Template feature allows for requests to be *matched* using an arbitrary number of parameters with an arbitrary number of *policies* applied against the matches. Requests can be matched against regular expressions symbolizing domain names, source IP addresses and network masks, destination IP addresses and network masks, destination port numbers, MIME-types, or regular expressions symbolizing a URL.

Policies that can be applied include blocking the request, using a specific object freshness calculation factor, not caching an object, bypassing an upstream proxy for the request, redirecting the request to a different URL, revalidating the object with the origin server, rewriting the URL, selectively caching the object, using a specific upstream proxy, or using a specific server for the request.

The options **freshness-factor**, **redirect**, **rewrite**, and **use-server** were not included in Cache software, Release 2.3.0, which is the release prior to Release 3.1.1 that includes the Rules Template feature.

Support for streaming protocols (such as RTSP and Real-Time Protocol [RTP]) is not implemented in Release 3.1.1, although RealProxy can use source-IP-based block and allow configurations to restrict client access.

Proxy protocols such as HTTP, FTP, and HTTPS are supported, but not on a per protocol basis.

Multiport Transparent Redirection

The multiport feature can be summarized as follows:

- Up to eight incoming proxy ports are supported for each proxy protocol (FTP, HTTP, Hypertext Transfer Protocol Secure [HTTPS], and RTSP).
- Proxy-style requests in HTTP, FTP, HTTPS, and RTSP protocols can be received on the same incoming proxy port.
- Both transparent and proxy-style requests can be serviced on the same port
- Transparent traffic is disallowed on invalid ports.
- Invalid protocols are disallowed over incoming ports.

The **proxy incoming** option of the **http**, **https**, **ftp**, and **rtsp** global configuration commands now support up to eight ports per protocol.

The multiport feature requires WCCP Version 2. The **wccp port-list** and the **wccp service-number** global configuration commands were added to the CLI to enable transparent redirection of HTTP, HTTPS, FTP, and RTSP traffic.

Note DNS must be configured in order to support incoming HTTPS proxy requests

There are two basic styles in which requests may be received: transparent and proxy-style. In addition, transparent requests have two distinct subcases depending on the addressing style within the message. There are no restrictions that prevent any of these styles of requests from coming in or being serviced on any of the ports as described.

Proxy-Style Operation

A proxy style request arrives with the same IP address as the Content Engine; it has been specifically routed to that device by the client. A proxy-style URL (including the protocol and full path of the URL) is included in the request. In this mode, the Content Engine services any protocols it understands and for which it has been configured. The currently understood protocols are HTTP, HTTPS, and FTP.

Transparent Mode Operation

A request redirected to the Content Engine from a router is called transparent. Transparent and proxy-mode requests may be distinguished by comparison of the destination IP address of the request and the IP address of the Content Engine. A nonmatching IP indicates that the request has been redirected and is therefore transparent. The style of the URL within the request may be proxy-style or server-style (that is, the URL does not include the protocol and host name). In general, transparent requests have a server-style URL, but proxy-style ones may also be received: for example, when the Content Engine is intercepting a request destined for a proxy. If a server-style URL is received, only HTTP is supported. However, if a proxy-style URL is received, all of the protocols understood by the Content Engine are supported.

WCCP (Web Cache Communication Protocol) is used to communicate the Content Engine configuration for transparent mode to the associated router(s). WCCP defines up to eight services, in which each service may have an associated list of ports, list of routers, and hash method. The hash method determines how URLs are redirected by the router to Content Engines in a cache farm.

The WCCP services are numbered from 90 to 100 (11 total), of which 8 services may be active at a time. The services from 98 through 100 have specific labels and may not be modified. The remaining services are configurable by the user. WCCP allows for a priority to be included with each service, but these priorities are fixed for services configured from the Content Engine. Service 90 has the lowest priority, whereas service 100 has the highest.

At most eight WCCP services may be active at once. For each service, at most eight ports may be active.

Some ports are already in use for various features or system services (DNS, FTP server, and so forth). These ports should not be configured for proxying or transparent services.

Parent Proxy Failover

The **http proxy outgoing** option can configure up to eight backup proxy servers. One proxy server functions as the primary proxy server, and all requests are redirected to it. If the primary proxy server fails to respond to the HTTP CONNECT, the server is noted as failed, and the requests are redirected to the next outgoing proxy server until one of the proxies services the request. This is currently available only for HTTP, not for HTTPS and FTP. Cache software, Release 3.1.1, also permits the specification of up to eight ports to receive incoming HTTP incoming proxy requests.

Accelerated WCCP Support

Accelerated WCCP is a generic term for a deployment in which WCCP on a router or switch can take advantage of switching hardware that either partially implements the traffic intercept or redirect function of WCCP in hardware (ASICs) or fully implements traffic intercept or redirect function in hardware at layer 2.

The Content Engine must have a direct physical connection with the router or switch. Related commands are **wccp custom-web-cache**, **wccp media-cache**, **wccp reverse-proxy**, **wccp service-number**, and **wccp web-cache**. The following are examples of CLI output that displays the Layer 2-redirect option:

```
cache(config)# wccp web-cache router-list-num 1 ?
```

```
  l2-redirect   WCCPv2 forwarding encapsulation method
  password      Authentication password (key)
  weight        Weight Percentage
  <cr>
cache(config)# wccp web-cache router-list-num 1 l2-redirect ?
  password  Authentication password (key)
  weight    Weight Percentage
  <cr>
```

Improved HTTP Range Request Caching

The Content Engine using Cache software, Release 3.1.1, serves HTTP Range requests from the cache if the requested range exists in the Content Engine cache. Specifically, the Content Engine handles range request with the following logic:

```
lookup the object in the cache;
if object in the cache
{
        check whether the requested ranges are in the cache;
        if the requested ranges are in cache then serve the request from cache;
        else pipe through the request;
}
else pipe through the request;
```

Note The If-Range header is not fully supported. If a request has an If-Range header, it is piped through to the server even if the requested object is in the cache.

The **http cache-on-abort** feature must be disabled for this feature to operate. Some client applications close the server connection immediately after receiving the response header for the normal GET request (for example, to a .pdf file). If the **http cache-on-abort** is configured to not cache aborted objects, later range requests to that object will not hit in the cache at all.

Installation Notes

Cisco Cache software, Release 3.1.1 is available to download from Cisco.com.

Cache software, Release 3.1.1, introduces optional software that requires the creation of two new types of disk partitions. The new disk partitions in Release 3.1.1 are the swfs (software file system), and mediafs (media file system) partitions. The swfs partition is factory installed for Content Engines shipped with Release 3.1.1, but must be created when upgrading from Release 2.x or 3.0.x. The mediafs partitions can be created as necessary.

This section contains the following:

Note Refer to the *Cisco Cache Software Configuration Guide, Release 3.1.1* for information on configuring optional software and standard Cache software features, and for instructions on booting the Content Engine in the event that a software upgrade fails.

Upgrading Cache Software, Release 3.1.1 Systems to Release 3.1.x

Use the procedure in this section to install more recent images of the Release 3.1.1 Cache software on a Content Engine already running a version of Release 3.1.1.

Requirements

The requirements for this upgrade are:

- Access to a UNIX, Linux, or Windows FTP server on which the full Release 3.1.1 image file resides.

  Note A full Release file comprises the 3.1.1 operating system, Management GUI, and all optional software.

- The full Release 3.1.x image files appropriate to the model of Content Engine:
  - ce507-cache-31x.bin
  - ce560-cache-31x.bin
  - ce590-cache-31x.bin
  - ce7320-cache-31x.bin

Procedure

This section explains how to install a Release 3.1.x system image on a Content Engine running Release 3.1.1, with the assumption that all disk partitions remained unchanged.

Step 1 Log in to the Content Engine through Telnet or the console port.

Note A console port connection is required if you are changing the basic startup configuration. The Telnet session is disconnected when the Content Engine reboots.

Step 2 Save the current system configuration to Flash memory.

```
ContentEngine# copy running-config startup-config
```

Step 3 Verify that the present working directory is local1 or local2.

```
ContentEngine# cd /local1
ContentEngine# pwd
/local1
```

Step 4 Download the Release 3.1.x image from an FTP server to the Content Engine /loca1 or /local2 directory.

In the following example, the image file, ce590-311_FCS.bin, is downloaded from the /images directory of FTP server 172.16.8.9.

```
ContentEngine# copy ftp disk 172.16.8.9 /images ce590-cache-31x.bin

Enter username for remote ftp server: my_ftpserver_username
Enter password for remote ftp server: my_ftpserver_password
```

Step 5 Install the Release 3.1.x software with the **install** EXEC command.

The install command copies a new system image to Flash memory, and installs the optional software on the swfs partition. In the following example, the full release image file is in the sysfs directory /local1.

```
ContentEngine# install /local1/ce7320-cache-31x.bin
```

Step 6   Reboot the Content Engine.

```
ContentEngine# reload
Proceed with reload?[confirm] yes
```

For information on installing optional software, refer to Chapter 3 of the *Cisco Cache Software Configuration Guide, Release 3.1.1*.

Upgrading Cache Software, Release 3.0.x Systems to Release 3.1.1

The upgrade of a Release 3.0.x image to a Release 3.1.1 image is a three-part process as follows:

1. Copy a Release 3.1.x Flash memory-only image to Flash memory.

2. Boot with the Flash memory-only image, reformat the disk drives, and then copy the full Release 3.1.x image to a local disk.

3. Install the full Release 3.1.1 image.

Requirements

Select the image file appropriate to the model of the Content Engine. The Flash memory-only file contains the Release 3.1.1 operating system only. The Release 3.1.1 full-release file contains Release 3.1.1 operating system and optional software.

*   Release 3.1.1 Flash memory-only image files:
    *   ce7320-31x.sysimg
*   Release 3.1.1 full-release files:
    *   ce7320-cache-31x.bin

Procedure

Step 1 Log in to the Content Engine through Telnet or the console port.

> **Note** A console port connection is required if you are changing the basic startup configuration. The telnet session is disconnected when the Content Engine reboots.

Step 2 Save the current system configuration to Flash memory.

```
ContentEngine# copy running-config startup-config
```

Step 3 If you wish to retain any sysfs files (such as the transaction logs) from Release 3.0.x disks, create a sysfs disk on disk01, and copy any log files from disk00 to disk01. All contents of disk00 will be erased as part of the upgrade procedure.

Step 4 Download the Release 3.1.1 Flash memory-only image file to a Windows NT, LINUX, or UNIX host that is running an FTP server.

Step 5 Perform the following substeps to copy the Release 3.1.1 Flash memory-only image file from an FTP server to the Content Engine Flash memory. In this example, the FTP server has the IP address 192.168.88.89 with the Flash memory-only system image file (ce7320-31x.flash) located in the /images directory:

a. At the EXEC command line of your Content Engine, enter the following:

```
ContentEngine# copy ftp flash 192.168.88.89 /images ce7320-31x.flash
```

b. Enter your FTP username and password when prompted:

```
Enter username for remote ftp server: my_ftpserver_username
Enter password for remote ftp server: my_ftpserver_password
```

The following messages appear:

```
Initiating FTP download. . .
Downloaded 10685440 byte image file
A new system image has been downloaded.
You should write it to flash at this time.
Write to flash [yes]: _
```

c. To write the new system image to Flash memory, press **Enter** to accept the default (yes) or enter **yes**.

The following message appears:

```
Ok, writing new image to flash. . . . . . . . . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . .
```

d. Reboot the Content Engine with the **reload** EXEC command.

```
ContentEngine# reload
Proceed with reload?[confirm] yes
```

After the reboot, the following message appears for each existing disk partition, indicating the conversion of the Release 3.0.x disk signature to the 3.1.1 format:

```
Converting disk signature format from 3.0 to 3.1:mydisk00
Cisco Content Engine Console
```

Step 6 Log in as **admin**.

```
Username: admin
```

Step 7 Configure the device with the basic startup parameters.

This step occurs only when the device does not have a saved configuration file (such as a new device). The following lines show an example of an interactive session from a Content Engine 590.

```
You may use Ctrl-D to abort Configuration Dialog at any prompt.
Would you like to enter the initial configuration?[yes]:yes
host name:mycontentengine
Admin password:mypassword
Please enter an interface from the following list:
0:FastEthernet 0/0
1:FastEthernet 0/1
enter choice:0
cache IP address: 10.1.1.1
IP network mask:255.255.0.0
Gateway IP address: 10.1.1.2
Use this configuration? [yes]:yes
```

Step 8 Erase all partitions on disk00 with the **disk erase-all-partitions** EXEC command.

```
ContentEngine# disk erase-all-partitions disk00
```

Step 9 Create the swfs disk partition with the **disk recover** EXEC command.

```
ContentEngine# disk recover
```

The swfs partition is created on disk00.

Step 10 Partition, format, and mount a sysfs partition.

A sysfs partition on a disk other than disk00 may already exist from Release 3.0.x. The sysfs partition is the repository for various log files (syslog, error log, and transaction logs). The full-release image file is downloaded to this partition. In the following example, a sysfs partition named disk00/01 is allocated 25 percent of the total disk and mounted at /local1. For further information on sysfs, refer to the "Maintaining the Hard Disk Storage" section in Chapter 2 of the *Cisco Cache Software Configuration Guide, Release 3.1*.

```
ContentEngine# disk partition disk00/01 25% sysfs
ContentEngine# sysfs format disk00/01
ContentEngine# sysfs mount disk00/01 local1
```

Step 11 Partition, format,and mount the mediafs disk partitions.

The mediafs partitions are used by the RealProxy to cache streaming objects. The mount point for this partition (like the cfs partition) is not visible to the user. The following example demonstrates how a mediafs partition of 10 GB is formatted and mounted as one of the partitions on disk03. For further information on mediafs, refer to the "Maintaining the Hard Disk Storage" section in Chapter 2 of the *Cisco Cache Software Configuration Guide, Release 3.1.1*.

```
ContentEngine# disk partition disk03/01 10g mediafs
ContentEngine# mediafs format disk03/01
ContentEngine# mediafs mount disk03/01
```

Step 12 Verify that the present working directory is local1 or local2.

```
ContentEngine# cd /local1
ContentEngine# pwd
/local1
```

Step 13 Download the full-release image file to the sysfs directory with the **copy ftp disk** EXEC command.

In the following example, the full-release image file ce7320-cache-31x.bin is downloaded from the /images directory of the FTP server 176.16.8.9:

```
ContentEngine# copy ftp disk 176.16.8.9 /images ce7320-cache-31x.bin

Enter username for remote ftp server: my_ftpserver_username
Enter password for remote ftp server: my_ftpserver_password
```

Step 14 Install the full-release image software with the **install** EXEC command.

The install command copies a new system image to Flash memory, and installs the optional software on the swfs partition. In the following example, the full Release 3.1.1 image file is stored in the sysfs directory /local1.

```
ContentEngine# install /local1/ce7320-cache-31x.bin
```

Step 15 When the CLI prompt reappears, reboot the Content Engine with the **reload** EXEC command. Enter **yes** to confirm.

```
ContentEngine# reload
Proceed with reload?[confirm] yes
```

Step 16 Set the system clock if necessary with the **clock set** EXEC command.

```
ContentEngine# clock set 14:22:00 24 Jan 2001
WARNING: Setting the clock may cause a temporary service interruption.
Do you want to proceed?[no] yes
Mon Jan 24 14:22:00 EST 2001
ContentEngine#
```

For information on installing optional software, refer to Chapter 3 of the *Cisco Cache Software Configuration Guide, Release 3.1.1*.

Upgrading Cache Software, Release 2.x.x Systems to Release 3.1.1

Note Verify that the features you require are in Release 3.1.1 before performing the upgrade procedure. See "Release 3.1.1 Feature Set" section on page 2.

The upgrade of a Release 2.x.x image to a Release 3.x.x. image is a three part process as follows:

1. Install a special upgrade image.

2. Reboot with the upgrade image, rewrite the boot ROM and load a Flash memory only image into Flash Memory.

3. Reboot with the Flash memory only image, format disk drives, then install the full 3.1.x image.

Requirements

Select the image file appropriate to the model of the Content Engine.

- Serial console access is required on the Content Engine to be upgraded.
- One of the following upgrade image files is required:
  - ce507-cache-2.x-UPGRADE.bin
  - ce507-cache-2.x-UPGRADE.pax
  - ce560-cache-2.x-UPGRADE.bin

- ce560-cache-2.x-UPGRADE.pax

- ce590-cache-2.x-UPGRADE.bin

- ce590-cache-2.x-UPGRADE.pax

- Flash memory-only image files for the 3.1.1 software:

  - ce507-31x.flash

  - ce560-31x.flash

  - ce590-31x.flash

- Full-release image files for Release 3.1.1:

  - ce507-cache-31x.bin

  - ce560-cache-31x.bin

  - ce590-cache-31x.bin

Procedure

Before starting your 2.x to 3.1.x upgrade, ensure that the desired 3.1.x Flash memory-only image file resides on an FTP server that is accessible to the Content Engine to be upgraded.

Step 1 Log on to the Content Engine through the console port.

Console access is necessary for entering initial network configuration information.

Step 2 Install the transition image for your model of Content Engine according to normal Cache Software Release 2.x upgrade procedures.

> **Note** This procedure assumes that the Content Engine is configured to boot from Flash memory. See the Cache Software Release 2.x documentation for netboot and install procedures.

Step 3 With the transition image installed, determine if the Content Engine IP parameters are properly configured with the **show running-config** EXEC command.

```
ContentEngine# show running-config

Building configuration...
Current configuration:
!
. . .
hostname ContentEngine
!
interface ethernet 0
 ip address 172.16.193.250 255.255.255.224
 ip broadcast-address 172.16.193.255
exit
!
!
interface ethernet 1
exit
!
ip default-gateway 172.16.193.225
ip name-server 172.16.2.133
ip domain-name cisco.com
ip route 0.0.0.0 0.0.0.0 172.16.193.225
. . .
```

If the IP parameters need to be modified, use the **ip** interface configuration command and the **ip** global configuration command. For instance, the basic IP parameters of IP address, default gateway, and netmask can be configured as follows:

```
ContentEngine# config
ContentEngine(config)# ip default-gateway ipaddress
ContentEngine(config)# interface ethernet 0
ContentEngine(config-if)# ip address ipaddress netmask
ContentEngine(config-if)# exit
ContentEngine(config)# exit
ContentEngine# write memory

Building configuration.... . [OK]
ContentEngine#
```

Note The Content Engine must be rebooted for changed IP parameters to take effect. The **write memory** EXEC command saves the configuration to Flash memory.

Step 4 Access the Content Engine TCL shell and enter **upgrade** to execute the TCL upgrade script.

```
ContentEngine# tcl
tcl% upgrade
```

Step 5 Enter the following information when prompted:

- Server hostname or IP address of the FTP server on which the 3.1.x Flash memory-only image resides.

- Filename and path to the Release 3.1.x Flash memory-only image on the FTP server.

- Filename of the Release 3.1.x Flash memory-only image file.

- Username on the FTP server.

- Password on the FTP server.

- **yes** to confirm the FTP configuration.

- **yes** to confirm the Startup configuration parameters.

    If you do not confirm the startup parameters, you must perform a startup configuration when the Content Engine boots with the Flash memory-only image.

- password

- **yes** to begin writing the Flash memory-only image to Flash memory.

```
FTP Server IP Address: 172.16.63.150
Remote Filename :ce590-31x.flash
Remote username : my_ftp_username
Remote password : my_ftp_password
Are you sure you want to do this?
  Type YES if you are:YES
upgrade:checking integrity of cookie...
cookie is valid.
upgrade:allocating memory for new image...
upgrade:saving old bootrom (boot by hitting 'D')...
. . . . . . . . . BootROM length is 304397
Current Network parameters for this box are:
Ip address = 172.10.13.8
Ip mask = 255.255.255.0
Ip gateway = 172.10.55.2
Host name = CE_590
```

```
Those parameters may be saved so that the new version software will
automatically pick them up.   If you choose not to save them now,
you'll need to input them manually later during upgrade process.
Want to save those network parameters now?  Save?[yes]: yes
upgrade:Please specify password for admin so that upgraded software
will be safer after it comes up. Valid password would be alphanumerics
containing 3 to 8 characters.
Note:Your password WON'T BE SHOWN on the screen when you type it.
Enter password: ******
Re-enter password: ******
Password is accepted.
upgrade:save network parameters....
upgrade:initiating FTP download...
upgrade:12713984 bytes transferred
About to write to flash!  Your old software will
no longer exist on flash.  Are you sure you
want to do this?  Type YES if you are: YES
Ok, initiating flash write
FlashUpgrade:invoked
FlashUpgrade[0]: erasing: .  - programming:
FlashUpgrade[1]: erasing: .  - programming:
FlashUpgrade[2]: erasing: .  - programming:
....
```

Flash memory is now updated with the Release 3.1.1 Flash memory-only image.

Step 6 Perform a cold reboot using the following command:

```
tcl% reboot cold
```

The Content Engine reboots from Flash memory running the Release 3.1.1 Flash memory-only system image.

Step 7 Perform the following substeps to partition and format the disk drives in the Content Engine for the Release 3.1.1 software requirements.

Release 3.1 software cannot read or write Release 2.x disk partitions. The optional software available with Release 3.1 requires creating new disk partitions. See the "Maintaining the Hard Disk Storage" section in Chapter 2 of the *Cisco Cache Software Configuration Guide, Release 3.1.1.* for details on Release 3.1.1 disk partitions.

a. View all disk drives available to the Content Engine (and Storage Array if connected) by entering the **show disks** EXEC command:

```
ContentEngine# show disks
disk00  (scsi host 0, channel 0, id 0)
disk01  (scsi host 0, channel 0, id 1)
```

b. Remove all disk partitions with the **disk erase-all-partitions** EXEC command:

```
ContentEngine# disk erase-all-partitions disk00
ContentEngine# disk erase-all-partitions disk01
```

c. Create an swfs partition with the **disk recover** EXEC command. The swfs partition stores components of the Release 3.1.1 optional software.

```
ContentEngine# disk recover
```

d. Create and mount a sysfs partition. In this example we create a partition consuming 20% of the total disk space on disk00.

```
ContentEngine# disk partition disk00/01 20% sysfs
ContentEngine# sysfs format disk00/01
ContentEngine# sysfs mount disk00/01 local1
```

Step 8 Change the present working directory to **/local1** with the **cd** EXEC command:

```
ContentEngine# cd /local1
ContentEngine# pwd
/local1
ContentEngine#
```

Step 9 Download the full 3.1.1 release image with the **copy ftp disk** EXEC command:

```
ContentEngine# copy ftp disk server-address server-directory ce590-cache-31x.bin
```

The following FTP authentication challenge displays, enter your FTP username and password:

```
Enter username for remote ftp server: my_ftp_user_name
Enter password for remote ftp server: my_ftp_password
```

The image file downloads to the currently mounted sysfs directory.

Step 10 Install the downloaded image file with the **install** EXEC command.

```
ContentEngine# install ce590-cache-31x.bin
```

Step 11 Save the running configuration with the **write mem** EXEC command:

```
ContentEngine# write mem
```

Step 12 Reboot the Content Engine with the **reload** EXEC command.

```
ContentEngine# reload
Proceed with reload?[confirm] yes
```

Once the reboot is complete, Release 3.1.1 and optional software are ready for configuration.

Downgrading Cache Software, Release 3.1.1 Systems to Release 2.x.x

The downgrade of a Release 3.1.1 image to a Release 2.x.x image is a three part process as follows:

1. Netboot with a special transition image.

2. With the transition image, rewrite the boot ROM and load a Release 2.x.x Flash memory-only image into Flash memory.

3. Reboot with the Flash memory-only image, reformat the disk drives and install a standard Release 2.x.x .pax file.

Requirements

Select the image file appropriate to the Content Engine.

- Serial console access is required on the Content Engine to be downgraded.

- One of the following transition image files is required:
    - ce507-cache-2.x-UPGRADE.bin
    - ce560-cache-2.x-UPGRADE.bin
    - ce590-cache-2.x-UPGRADE.bin

- One of the following Release 2.3.0 Flash memory-only image files is required:
    - ce507-cache-230.flash
    - ce560-cache-230.flash
    - ce590-cache-230.flash

- One of the Full 2.x.x software release files is required:
    - ce507-2.x.x_FCS.pax
    - ce560-2.x.x_FCS.pax
    - ce590-2.x.x_FCS.pax

Note The 3.1.x to 2.x transition file may contain the word UPGRADE although it is used in a downgrade procedure.

Procedure

Before starting your Release 3.1.1 to 2.x.x downgrade, ensure that the transition image, the 2.3.0 target Flash memory-only image, and the full 2.x.x software release file reside on an FTP server that is accessible to the Content Engine being downgraded.

Step 1 Log on to the Content Engine through the console port.

Console access is necessary for entering initial network configuration information.

Before proceeding with the following steps, read and understand the entire procedure. Step 3 requires that you act promptly, or you will be required to start over.

Step 2 At the CLI prompt, reboot the Content Engine with the **reload** EXEC command.

```
ContentEngine# reload
Proceed with reload?[confirm] yes
```

The autoboot sequence begins and the BIOS boot messages displays.

```
Symbios, Inc. PCI boot ROM successfully installed!
.....
.....
```

Step 3 Perform the following substeps to interrupt the autoboot sequence:

a. Press the **D** key when you see the following message:

```
Cisco CE Booting From Flash.
```

b. Press the space bar when you see the following message:

```
Press any key to stop auto-boot...
```

Step 4 Perform the following substeps to enable the Content Engine to netboot the upgrade image.

a. Enter **c** in the `[CE500 Series]:` field.

```
[CE500 Series]:c
```

b. Enter the network parameters to enable a netboot from the 2.x upgrade image on the FTP server, as shown in the example:

```
boot device (flash,net) [          flash]:net
file name [ ]                             :/somedirectory/ce590-cache-2.x-UPGRADE.bin
cache IP address       [    10.1.16.104]:
IP network mask        [   255.255.254.0]:
server IP address      [                ]:172.16.63.150
gateway IP address     [     10.1.16.1]: 10.1.16.2
protocol (rcp,ftp,tftp) [               ]: ftp
username               [                ]: my_ftp_username
password               [                ]: my_ftp_password
flags                  [             0]:
```

Step 5   Enter @ in the `[CE500 Series]:` field to continue the boot sequence.

```
[CE500 Series]: @

    boot device (flash,net) [                  net]:
                  file name [/somedirectory/ce590-cache-2.x-transition.bin]:
            cache IP address [         10.1.16.104]:
              IP network mask [       255.255.254.0]:
            server IP address [       172.16.63.150]:
          gateway IP address [           10.1.16.2]:
    protocol (rcp,ftp,tftp) [                 ftp]:
                    username [     my_ftp_username]:
                    password [     my_ftp_password]:
                       flags [                  0]:

    Loading from the network
    Attaching network interface fei0... done.
    Attaching network interface lo0... done.
    Loading... Starting at 0x108000...
```

Step 6   Login to the Content Engine as **admin**.

Step 7   With the upgrade image installed, verify that the Content Engine IP parameters are properly configured with the **show running-config** EXEC command.

```
ContentEngine# show running-config

Building configuration...
Current configuration:
!
. . .
hostname ContentEngine
!
interface ethernet 0
 ip address 10.1.16.104
 ip broadcast-address 172.16.193.255
exit
!
!
interface ethernet 1
exit
!
ip default-gateway 10.1.16.2
ip name-server 172.16.2.133
ip domain-name cisco.com
ip route 0.0.0.0 0.0.0.0 172.16.193.225
. . .
```

If the IP parameters require modification, use the **ip** interface configuration command and the **ip** global configuration command. For instance, the basic IP parameters of IP address, default gateway, and netmask can be configured as follows:

```
ContentEngine# config
ContentEngine(config)# ip default-gateway ipaddress
ContentEngine(config)# interface ethernet 0
ContentEngine(config-if)# ip address ipaddress netmask
ContentEngine(config-if)# exit
ContentEngine(config)# exit
ContentEngine# write memory

Building configuration.... . [OK]
ContentEngine#
```

✎

Note The Content Engine must be rebooted for changed IP parameters to take effect. The **write memory** EXEC command saves the configuration to Flash memory.

Step 8 Access the Content Engine TCL shell and enter **upgrade** to execute the TCL upgrade script.

```
ContentEngine# tcl
tcl% upgrade
```

Step 9 Enter the following information when prompted:

- Server hostname or IP address of the FTP server on which the 2.x.x Flash memory-only image resides.

- Filename and path to the Release 2.x.x Flash memory-only image on the FTP server.

- Filename of the Release 2.x.x Flash memory-only file.

- Username on the FTP server.

- Password on the FTP server.

- **yes** to confirm the FTP configuration.

- **no** to confirm the network parameters.

  If you do not confirm the startup parameters, you must perform a startup configuration when the Content Engine boots with the Flash only image.

- password

- **yes** to begin writing the Flash only image to Flash memory.

✎

Note If the Content Engine being downgraded was previously upgraded from Release 2.x.x to 3.1.1 with the procedures described in the , the Release 2.x system network configuration is still preserved in Flash memory, and may be different than the 3.1.x configuration displayed by the upgrade script. If you type **yes** to confirm the network parameters, it is the former Release 2.x configuration that boots.

```
FTP Server IP Address: 172.16.63.150
Remote Filename :ce590-cache-230.flash
Remote username : my_ftp_username
Remote password : my_ftp_password
Are you sure you want to do this?
  Type YES if you are:YES
upgrade:checking integrity of cookie...
cookie is valid.
upgrade:allocating memory for new image...
upgrade:saving old bootrom (boot by hitting 'D')...
. . . . . . . . BootROM length is 304397
Current Network parameters for this box are:
Ip address = 172.10.13.8
Ip mask = 255.255.255.0
Ip gateway = 172.10.55.2
Host name = CE_590
Those parameters may be saved so that the new version software will
automatically pick them up.  If you choose not to save them now,
you'll need to input them manually later during upgrade process.
Want to save those network parameters now?  Save?[yes]: no
upgrade:initiating FTP download...
upgrade:12713984 bytes transferred
```

```
About to write to flash!  Your old software will
no longer exist on flash.  Are you sure you
want to do this?  Type YES if you are: YES
Ok, initiating flash write
FlashUpgrade:invoked
FlashUpgrade[0]: erasing: .  - programming:
FlashUpgrade[1]: erasing: .  - programming:
FlashUpgrade[2]: erasing: .  - programming:
....
```

Flash memory is now updated with the Release 2.x.x Flash memory-only image.

Step 10   Perform a cold reboot using the following command:

```
tcl% reboot cold
```

The Content Engine begins the autoboot sequence.

Step 11   Change the boot device parameter to boot the Content Engine from Flash Memory.

Perform the following substeps to interrupt the autoboot sequence:

a.   Press the **D** key when you see the following message:

```
Cisco CE Booting From Flash.
```

b.   Press the space bar after you see the following message:

```
Press any key to stop auto-boot...
```

c.   Enter **c** in the `[CE500 Series]:` field.

```
[CE500 Series]:c
```

d.   Enter **flash** as the boot device parameter. Change the other network parameters as necessary.

```
 boot device (flash,net) [               net]:flash
  file name[/somedirectory/ce590-cache-2.x-UPGRADE.bin ]:
        cache IP address [       10.1.16.104]:
         IP network mask [      255.255.254.0]:
       server IP address [      172.16.63.150]:
      gateway IP address [         10.1.16.2]:
  protocol (rcp,ftp,tftp) [              ftp]:
                username [     my_ftp_username]:
                password [     my_ftp_password]:
                   flags [                 0]:
```

Step 12   Enter @ in the `[CE500 Series]:` field to continue the boot sequence.

```
[CE500 Series]: @
    boot device (flash,net) [              flash]:
   file name [/somedirectory/ce590-cache-2.x-upgrade.bin]:
        cache IP address [       10.1.16.104]:
         IP network mask [      255.255.254.0]:
       server IP address [      172.16.63.150]:
      gateway IP address [         10.1.16.1]:
  protocol (rcp,ftp,tftp) [              ftp]:
                username [     my_ftp_username]:
                password [     my_ftp_password]:
                   flags [                 0]:


    Starting at 0x108000...
```

The Content Engine is now running the Release 2.x.x Flash memory only image.

Step 13   Login as **admin**.

Step 14 Perform the following substeps to partition and format the disk drives of the Content Engine for Release 2.x.x software.

Release 2.x.x software cannot read or write Release 3.x disk partitions.

a. List all the disk drives available to the Content Engine with the **show disk** EXEC command:

```
contentengine# show disks
/c0t0d0  (scsi bus 0, unit 0, lun 0)
/c0t1d0  (scsi bus 0, unit 1, lun 0)
```

b. Partition and format all the disk drives with the **disk manufacture** EXEC command:

```
contentengine# disk manufacture c0t0d0
contentengine# disk manufacture c0t1d0
```

Step 15 Install and reload the 2.x .pax file of your choice according to standard Release 2.x upgrade procedures.

Configuring the RealProxy Software

The Content Engine can be configured to accept transparently redirected RTSP requests, as well as traditional proxy-style RTSP requests from RealPlayer client software. The redirection of RTSP traffic to the media cache is enabled with the Content Engine command-line interface (CLI). The RealProxy software is configured with the RealAdministrator graphical user interface (GUI).

Requirements

- Content Engine running Cache Software Release 3.1.1 or more recent version
- RealProxy software installed with mediafs partitions mounted
- RealMedia license key
- IP addresses of the RealProxy and routers

Note You must purchase a license key in order to activate the RealProxy features in the Cache software.

Procedure to Enable Transparent RTSP Proxy Service

Complete the followings steps to enable transparent redirection of RTSP traffic to the RealProxy:

Step 1 On the WCCP Version 2 routers, configure the outbound interfaces to the Internet.

In the following example the outbound interface is the Ethernet 0 device.

```
router(config)# ip wccp 80
router(config)# interface Ethernet 0
router(interface)# ip wccp 80 redirect out
```

Step 2 Set the WCCP Version 2 parameters on the Content Engine.

In the following example, the WCCP Version 2 enabled routers have the IP addresses 172.16.25.25 and 172.16.25.24.

```
Console(config)# wccp version 2
Console(config)# wccp router-list 1 172.16.25.25 172.16.25.24
```

```
Console(config)# wccp media-cache router-list-num 1
```

Step 3   Set the IP address for the RealProxy.

Make sure the IP address of the RealProxy is visible to the RealPlayers that use it.

```
Console(config)# rtsp proxy media-real ip-address 172.16.16.16
```

Step 4   Enter your RealProxy license number.

```
Console(config)# rtsp proxy media-real license-key mylicense
```

Step 5   Enable the RealProxy.

```
Console(config)# rtsp proxy media-real enable
```

Step 6   Save the new configuration

```
Console# copy running-config startup-config
```

Step 7   Configure the RealProxy parameters with the RealSystem administrator GUI.

A RealProxy page has been added to the management GUI. To access the RealSystem administrator, click the Admin button on the RealProxy page. The Admin button is active when the RealProxy software is installed and enabled.

Step 8   Use the following commands to display RealProxy statistics:

```
Console# show statistics mediacache real requests
Console# show statistics mediacache real savings
```

> **Note**   The **mediacache real** statistics relate only to objects transported over RTSP that were requested by a RealPlayer client. Objects transported over HTTP are counted in the HTTP statistics. Streaming objects requested by other clients or transported over other protocols, bypass the Content Engine.

Procedure to Enable Conventional RTSP Proxy Services

To configure the Content Engine to service RealPlayer to use RealProxy of the Cisco Content Engine, perform the following steps:

Step 1 Set the IP address for the RealProxy.

Make sure the IP address of the RealProxy is visible to the RealPlayers that use it.

```
Console(config)# rtsp proxy media-real ip-address 172.16.16.16
```

Step 2 Enter your RealProxy license number.

```
Console(config)# rtsp proxy media-real license-key mylicense
```

Step 3 Enable the RealProxy.

```
Console(config)# rtsp proxy media-real enable
```

Step 4 Configure the Content Engine to listen for RTSP traffic on a specified port.
The default RTSP port is 554.

```
Console# rtsp proxy incoming 554
```

Step 5 Configure RealPlayer clients to use RealProxy on the Content Engine.

a. Open RealPlayer.

b. Select View then Preferences from the menu bar.

c. Click the Proxy tab.

d. Click the *Use RTSP proxy* checkbox.

e. Enter the IP address of Cisco Content Engine in the *Use RTSP proxy* address field.

f. Specify the port number that you entered with the Cache Software **rtsp proxy** global configuration CLI command.

g. Select **OK**.

The RealPlayer configuration is shown in Figure 1.

Figure 1   RealPlayer Configured to Use Content Engine as Traditional Proxy for RTSP Traffic
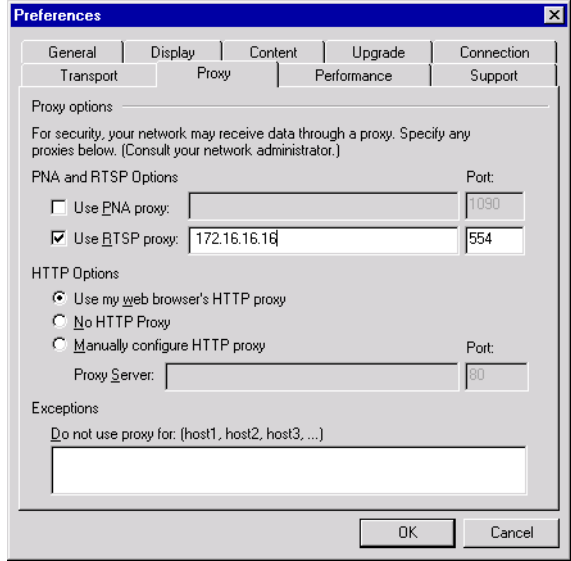
RealPlayer is now able to use the Cisco Content Engine's RealProxy to fetch streaming objects.

For more information on setting up the Real Player, please see the RealProxy 'readme'- 'Setting Up Real Server' and 'Setting Up RealPlayer' at the following URL:

http://service.real.com/help/library/guides/proxy/readme.htm#5

Step 6   Save the Content Engine configuration to Flash memory.

```
Console# copy running-config startup-config
```

Step 7   Use the following commands to display RealProxy statistics:

```
Console# show statistics mediacache real requests
Console# show statistics mediacache real savings
```

> **Note**   The **mediacache real** statistics relate only to objects transported over RTSP that were requested by a RealPlayer client. Objects transported over HTTP are counted in the HTTP statistics. Streaming objects requested by other clients or transported over other protocols, bypass the Content Engine.

Caveats

Caveats describe unexpected behavior of Cisco Cache Software, Release 3.1.1. 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 in this section. The following caveats are still open (unresolved) at the printing of these release notes.

Open Caveats - Software Release 3.1.1

- CSCdu17894

  Symptom: DNS names are not accepted in the cache software management graphical user interface (GUI). Only IP addresses are accepted.

  Workaround: Configure DNS names with the command-line interface (CLI).

- CSCdu09195

  Symptom: On CE5xx platforms, which do not have Gigabit Ethernet interfaces, you can enter interface configuration mode with the **interface gigabitEthernet** command in global configuration mode. However, when interface configuration mode is entered in this way, commands are not accepted.

  Workaround: Use the **interface fastethernet** command to enter interface configuration mode.

- CSCdu24596

  Symptom: The **logging disk recycle** *filesize* command is not currently supported. You can specify a file size limit beyond which the log file should be recycled (by default, the maximum size is set to 50000000B). However, the file size limitation (through user configuration or default value) is not enforced and the logging file keeps growing regardless of the file size limitation.

  Workaround: You can manually clean up the log file on the disk by following the steps below:

  1. Disable logging to disk.

     ```
     Console# config
     Console(config)# no logging disk enable
     Console(config)# exit
     ```

  2. Go to the directory that contains the log file.

  3. Remove the log file and create an empty new file.

     ```
     Console# delfile syslog.txt
     Console# mkfile syslog.txt
     ```

  4. Enable logging to disk.

     ```
     Console# config
     Console(config)# logging disk enable
     Console(config)# exit
     ```

- CSCdt97130

  Symptom: When WCCP is run on a Cisco Catalyst 6000 with MSFC board, bypassed packets can be dropped due to an IOS bug. (There is no bug number associated with this IOS bug yet.)

  Workaround: There is no known workaround. This will be fixed in a future IOS release, and a workaround will be put in a future Cache software release.

- CSCdu05311

  Symptom: With multiple Content Engines in a farm and the lead Content Engine configured with zero weight, disabling and quickly re-enabling WCCP on any Content Engine other than the lead can result in a zero percent hash allocation for that Content Engine.

  Workaround: To correct this, disable WCCP for about 30 seconds and re-enable it again on the Content Engine that does not have any hash allocation.

- CSCdu27134

  Symptom: Some default values of TCP configuration parameters do not take effect.

Workaround: To correct this, explicitly configure these default TCP configuration values in the command-line interface (CLI) after each reboot.

Note This applies only to default values. Any value that is configured as a non-default value will always take effect.

- CSCdt24130

    Symptom: If WCCP versions are switched between version 1 and version 2 rapidly, a transient error can show up, which looks like this:

    ```
    Verifier didn't respond. Need to re-register verifier. when setting
    cfg/gl/cache/wccp/service_data_base (Error number: 64)
    ```

    Workaround: This problem is automatically resolved when WCCP registers itself again as a verifier.

- CSCdt87891

    Symptom: RealProxy restarts when the number of clients reaches approximately 250 or more.

    Workaround: Free up some memory by unmounting the cfs partition. Note that with very high loads, this problem may still occur.

- CSCdu03404

    Symptoms:

    - On the Content Engine, there is an unexpected high percentage of VOD traffic showing pass-through even when the content itself is cacheable and already in the cache.

    - The RealProxy process may restart if there is a network configuration problem. RealProxy service resumes automatically within a few minutes.

    - The Content Engine sometimes freezes. This occurs when a memory leak in the Real Proxy process is causing the whole system to run out of memory. In this case, the Content Engine needs to be power-cycled.

    Probable cause: This problem appears very rarely. RealProxy sends out a DESCRIBE message (RTSP protocol) to the server and expects a response from the server. However, network misconfiguration causes RealProxy to receive no response before timeout happens. In this case, RealProxy forces this request to be passed through. This fail-to-pass-through scenario leads the RealProxy to go through a particular code path which has memory leak.

    Workaround: To avoid this problem, make sure the Content Engine has the correct network configuration, especially the correct network interface configuration. At the same time, confirm the correct configuration for the hub or switch to which the Content Engine connects.

    If possible, try to manually make sure that the network interface's duplex/speed on both the Content Engine and Switch match each other.

    To determine whether this problem is happening or not, use the command **show stat mediacache real request**. If there is an unexpected high percentage (above 10%) VOD pass-through while content is cacheable, this problem is probably occurring.

- CSCdt61559

    Symptom: The RealProxy graphical user interface (GUI) becomes less responsive at high loads. In extreme cases it can crash the RealProxy.

Workaround: It is highly recommended that RealProxy configuration changes be carried out only when the load on the Content Engine is very low. Also note that some changes made with the RealProxy GUI may require a restart. The GUI tells you when a restart is required. To restart RealProxy, enter the following commands in global configuration mode:

```
Console(config)# no rtsp proxy media-real enable
Console(config)# rtsp proxy media-real enable
```

- CSCdu15002

  Symptom: The HIT counter displayed by the **show statistics media-cache real request** command shows a decrease.

  Cause: The HIT is calculated from values reported by a plug-in. Sometimes, due to network conditions (a timeout on the server side), or occasionally due to the file type (smil), the numbers reported by this plug-in are not correct. This may cause the HIT counter to decrease.

  Workaround: There is no known workaround. However, the problem is very minimal because the hit number reported is not far from the accurate number, and it is always on the conservative side. Also, this is only a statistics reporting error and it does not affect the actual performance.

- CSCdu31408

  Symptom: The install process overwrites the SecureAdmin realm, resetting it to the default admin username/password, thereby exposing a security vulnerability until the admin logs in and changes the password.

  Cause: RealProxy's configuration file, admin realm database, and connect realm database are not preserved during upgrades and downgrades. The admin password is kept in the RealProxy configuration file. As this file is not preserved during upgrades and downgrades there is no way in the current release to maintain the admin password after an upgrade or downgrade. The default configuration file is used by the RealProxy after upgrades or downgrades.

  Workaround: Record the RealProxy configuration, including the administrator password. After the upgrade or downgrade, reconfigure the RealProxy parameters in order to return them to their original state.

- CSCdu30520

  Symptom: Changing the admin password from the CLI does not change the RealProxy admin password.

  Cause: The admin password is not synchronized from the dataserver for RealProxy.

  Workaround: The administrator should change the default password for the RealProxy from the RealProxy graphical user interface (GUI).

Important Notes

MIB Change

The Cisco Content Engine management information base (MIB) has changed since the 2.x version of the MIB.

You can access the Cisco Content Engine MIB here:

ftp://ftp.cisco.com/pub/mibs/v2/CISCO-CONTENT-ENGINE-MIB.my

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ld.so
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http://www.cisco.com/univercd/cc/td/doc/es_inpck/cetrans.htm

Related Documentation

Cisco Cache Software Command Reference, Release 2.3.0

Cisco Cache Software Command Reference, Release 3.1.1

Cisco Cache Software Configuration Guide, Release 2.x.x

Cisco Cache Software Configuration Guide, Release 3.1.1

See also any associated Release Notes and any hardware documentation associated with the Content Engine you are using.

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

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com 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.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

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

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides 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 registered users, additional troubleshooting tools are available from the TAC website.

Cisco.com

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.

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Customers and partners can self-register on 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, 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.