



Text Part Number: 78-4538-09

Release Notes for Cisco Cache Engine, Version 1.7.5

April 1999

These release notes are for use with *Using the Cisco Cache Engine Version 1.7* documentation and contain information that was not available for inclusion in that manual. These notes discuss the following topics:

- Resolved Version 1.7.5 Caveats
- Unresolved Version 1.7.5 Caveats
- Cisco Connection Online
- CD-ROM Documentation

Documentation with This Product

The *Using Cisco Cache Engine, Version 1.7* documentation that ships with the Cisco Cache Engine is available on CCO at the following URL:
<http://www.cisco.com/univercd/cc/td/doc/product/iaabu/webcache/ce17/ver17/index.htm>.

Resolved Version 1.7.5 Caveats

- If one or more network time protocol (NTP) servers are configured and all of them are unreachable, the Cache Engine logs an "NTP server(s) not reachable" event. There is no throttling of this message, so if the servers continue to be down, the event will continue to be logged every hour. This could cause the event log to overflow. The workaround is to remove the unreachable servers from the network. [CSCdk29546]
- The pax file includes blank files called *badurl.lst* and *goodurl.lst* that overwrite any file of the same name already placed in the working directory by the customer. The workaround is to remove the blank files from CVS to prevent their inclusion in future pax files. [CSCdk37631]
- The Cache Engine's Monitor section contains a Java applet that does not work with beta versions of Netscape Navigator. [CSCdk42188]
- Server 304 messages should not be cached. [CSCdk49098]

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- CPU, disk, and net usage output numbers may be inaccurate. [CSCdk53053]
- When viewing Report/Monitor on a web GUI with the new Netscape browsers— 4.06, 4.07, 4.5—the browser show nothing. Netscape 4.05 or earlier and MSIE 4.0 work fine. [CSCdk58057]
- ICP minimum retries need to be 0. [CSCdk62259]
- The filesystem synchronizes itself every fifteen minutes. This is too often, as it impedes performance. Synchronization should be changed to 1 hour. [CSCdk69583]
- The HEAD method in HTTP is not working correctly. Instead of replying with the header information, the Cache Engine responds with the “Document Contains No Data” message. This breaks certain web applications. [CSCdk69585]
- If the application receives a content length, there is no verification of how many bytes it is receiving from the server. Also, caching objects with no content length is breaking applications such as Microsoft Front Page. [CSCdk69587]
- The TCP_NODELAY flag needs to be added in the setsocket options. [CSCdk82354]
- There is a 3000-millisecond latency on HTTP misses. To reduce the latency from 3 seconds to 1.5 seconds, care was taken throughout the application to ensure that full size packets are always sent to the client to avoid delayed acknowledgments. Setting TCP_NODELAY ensured that data is sent immediately. Subsequent reductions in latency are expected from changes to the filesystem. [CSCdk83909]
- The filesystem and buffer subsystem are causing the system to be too slow. A few of the problems are that: there are 100 director pools of 1000 elements; the number of Inodes is too high (wasting memory and time tracking them); the buffer subsystem should not use **qsort** but a combination of LRU list and hash table to track buffers. The memory saved from changing the Inode count could increase the buffer block size from 20K to 60K. Tests indicate that system performance greatly improves with this block size. [CSCdk84714]
- The upgrade string needs to reflect the current build. [CSCdk84715]
- “UrlTrackSend()” is being called to do many tasks even when syslog is turned off, resulting in a lower TPS value. It should be smarter. [CSCdk84716]
- ICP has been turned off in the patch. [CSCdk86252]
- The network and disk utilization are wrong. They are generally too high. [CSCdk87111]
- The 1.7.0 version tree stores broken objects in the filesystem. The 1.7.1 version needs to reset the filesystem to insure those objects are gone. This entails changing the filesystem version number. [CSCdk87197]
- The Pax file contains a Java file, which does not follow the 8.3 naming convention, resulting in a file copy failure. [CSCdk87201]
- Quicken and other accounting packages may fail while posting tax information via HTTP. [CSCdk89047]
- The buffer.c code does not correctly check for disk errors. When a disk error occurs, the device logs a critical error and enters pipe-mode, where all objects avoid the disk. [CSCdk89179]
- Some HTML pages show the Cache Engine's address. [CSCdk89596]
- The VxWorks FTP server does not work with some passive FTP implementations. Passive FTP is needed to manage cache engines which are beyond the security of a firewall. [CSCdk89970]
- The disk cannot wrap without getting a disk error and going into Pipe mode. [CSCdk92930]

- The listen queue SOMAXCONN is too short for busy sites with hundreds of potential TCP connections. [CSCdm01025]
- Cache Engine does not work with broken web servers like Microsoft Network (MSN). [CSCdm01026]
- Pipe mode turns on after only one disk error. [CSCdm01343]
- Upgrade version bump. [CSCdm01456]
- There is a new diagnostic tool to establish if a packet was generated by the Cache Engine, allowing the system to separate traffic coming from a remote server and the Cache Engine when looking at a network trace. [CSCdm01515]
- There is an unneeded qsort in filesystem.c. In buffer.c the mutexes are too wide and prevent better multithreading. [CSCdm03254]
- A Cisco 7200 router running Cache Engine 1.7.3 and IOS Release 11.2.12a (P) , the cache seems to hang every few days. This does not seem to happen with Cache Engine 1.7.0. [CSCdm06395]
- The wrong page comes up for the site. This error seems to be unreproducible. [CSCdm09212]
- The number of directory entries are very low. [CSCdm09847]
- There is an HTTP parser logic error in ParseA for header fields that begin with the letter "A". This is due to using the assignment operator "=" instead of the logical comparison operator "==" when comparing if the characters following the leading "A" are equal to "cc". The code tries to check for the fields beginning with "Accept". There is no damage to the logic error for legal headers "Age" or those that begin with "Accept". However, for other headers that start with "A," the actual value of the header that would be stored in the response buffer would incorrectly start with "Acc." [CSCdm15036]
- The Cache Engine appends the Carriage Return and LineFeed (CR/LF) characters (0x0d0a) to the content of the POST request that is sent to the server. This is not required by the HTTP specification and can cause problems if the server cannot handle the CR/LF. One example of this is the Quicken application function "One Step Update" to do a "Portfolio Export". Running with "TeeDebugOn" changes the timing so that a race condition happens. This occurs when the server receives the unexpected CR/LF and sends a TCP RST to close the connection. Now, the Cache Engine cannot send all the data because the server has closed the connection. So the Quicken operation fails. The Release 2.0 HTTP parser does not append the CR/LF to the posted data (build cepro_194b9). [CSCdm16900]
- The mutex deadlocks with a disk error. When the system has this error, it attempts to write an event to the event log. Prior to doing this it acquires the diagmutex. The EventSend routine also acquires this mutex, causing the deadlock. [CSCdm19004]

Unresolved Version 1.7.5 Caveats

- After powercycling a Cache Engine, you may see a bad disk label error message, and the system will fail to boot. This can persist for up to three powercycles. If the problem continues, contact TAC. [CSCdj66667]
- The information collected by the Address Resolution Protocol (ARP) requests is overwritten by subsequent responses. This problem occurs when a routing entry is created using an invalid subnet mask. This entry makes the Cache Engine to contact the ARP for the MAC addresses of hosts that are not connected directly to the network on which the Cache Engine resides. However, the routers answer the ARP requests, acting as a proxy agent. In configurations where more than one router is attached to the network on which the Cache Engine resides, multiple proxy ARP replies may be received. This causes subsequent replies to overwrite the initial reply message.

When this occurs, an error message is generated by the Cache Engine that includes the phrase “(tNetTask): arp info overwritten for.” This problem will be corrected in future releases. For now, ignore the error messages generated in these scenarios. [CSCdj76551]

- Since the Cache Engine has one million slots in its table, and it uses a hashing with CRC32 on the URL, distribution should be excellent. Instead, a collision occurs about 1/63,000 because the directory code uses a CRC32 hash for fast lookups. Although CRC32 is excellent at hashing dissimilar strings, it is less effective at hashing similar strings. Because many URLs are very similar, there are more hash collisions than one might expect. An improved hash algorithm will be used in future releases. [CSCdj80214]
- If you issue the **ping** command when using the Recovery floppy diskette, the system defaults into an infinite loop. To stop the infinite loop, you must reboot the Cache Engine. The workaround for this problem is to use a count variable with the **ping** command. For example, the site, www.domain.com, will be pinged 3 times. [CSCdj92645]
- “Uptime” is not a reliable measure if the Time/Date is modified after you boot the Cache Engine. This is because the time is stamped during boot up and then compared with the current time to measure how long the Cache Engine has been up. The Monitor section contains a Java applet that may not function with some Beta versions of Netscape Navigator. [CSCdk10829]
- Using any unsupported **VxWorks** commands on the Cache Engine’s command line may cause the Cache Engine to fail. Supported **VxWorks** commands are described in two locations:

1. Appendix B of the *Using Cisco Cache Engine Version 1.7* documentation.

2. On the web at

<http://www.cisco.com/univercd/cc/td/doc/product/iaabu/webcache/ce17/ver17/wc17cli.htm>

Using unsupported **VxWorks** commands on the Cache Engine command line may cause unrecoverable damage to your Cache Engine. For example, if you use the **diskInit** command, you will lose access to all DOS partitions on your Cache Engine. Subsequent attempts to boot the Cache Engine will fail because the boot files have been deleted. The only workaround is to contact the TAC. [CSCdk11957]

- If two Internet Cache Protocol (ICP) hosts are misconfigured as each other’s parent cache, an infinite loop results. [CSCdk17264]
- If the following (example) sites are listed in a badurl.lst file, you cannot browse to these (example) locations separately:

<http://www.gm.com/>

<http://www.gm.com/tools>

However, you can browse to the <http://www.gm.com/vehicles> site, but you should not be allowed to browse there due to the <http://www.gm.com/> entry in the badurl.lst file. Furthermore, rather than blocking a non-functioning gm.com URL starting with a letter after “v”, such as <http://www.gm.com/zzz>, the Cache Engine looks for it and returns an “object-not-found” error. Mixed results occur when you combine two different badurl.lst files: at times all of one file is blocked, and other times it is not blocked. If the badurl.lst file includes only <http://www.gm.com/> and <http://www.netking.com/>, all subdirectories are blocked. [CSCdk23156]

- The Cache Engine fails to automatically detect 10-MB/sec. full-duplex network connections. The connections register as half-duplex because the line-speed autosense detection on the network adapter card does not determine this setting correctly.

The workaround for this problem is to use the **EthernetConfig** command on the Cache Engine’s command line interface to verify your Ethernet link works properly. Connect your Cache Engine to its hub, switch, or router, then use one of the commands below to ping your system:

- **EthernetConfig(100, “full”)**
- **EthernetConfig(100, “half”)**
- **EthernetConfig(10, “full”)**
- **EthernetConfig(10, “half”)**

You must also attach a console to the Cache Engine to initially configure the engine. This can be a normal VT100-style console, or a laptop or desktop computer that can attach to the engine's serial port. Once you have completed the basic configuration, you can manage the Cache Engine using a web browser from any machine. [CSCdk24099]

- It is difficult to force the Cache Engine to be bypassed using the Microsoft Internet Explorer web browser version 4.0, because IE does not send pragma:no cache HTTP headers in transparent mode. The workaround is to use the Netscape Navigator web browser and press Shift and Reload. [CSCdk40032]
- Some sites report that large file transfers are interrupted during very slow network conditions. Adjust the TCP settings (click Tuning and select the TCP option) from the web graphical user interface (GUI) if you experience this problem. See Chapter 3, “Managing the Cache Engine” and the section “Working with Tuning Options” in *Using Cisco Cache Engine, Version 1.7* document for a description of the TCP tuning options. [CSCdk49101]
- Some sites report that they receive an incorrect personal customized home page at select web sites. If you encounter this problem, disable cookie caching (click Tuning and select the Freshness option) by selecting “No” on the Freshness web GUI page. See Chapter 3, “Managing the Cache Engine” and the subsection “Changing How Objects are Cached Using Freshness” under the section “Working with Tuning Options” in *Using Cisco Cache Engine, Version 1.7* document to view the Freshness page options. [CSCdk83298]
- Receive connection options must be set before connecting. [CSCdm07978]
- The IOS software does not have a configuration mode to allow a user to switch between WCCP 1 and 2 without switching IOS images and without rebooting. [CSCdm09288]
- The cache does not work with an HTTP 0.9 request with a single `\r\n`. [CSCdm19911]
- URL blocking needs to support 20,000 bad sites. [CSCdm19889]
- Disk errors (both read and write) sometimes appear. These errors are detected and handled. If they become too frequent, the web cache communications protocol (WCCP) is shut off and an event is logged. [CSCdm21659]

Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet

e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: <http://www.cisco.com>
- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>
- Telnet: cco.cisco.com
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

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CD-ROM Documentation

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

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