



Release Notes for Cisco ACNS Software, Release 5.2.3

August 4, 2005

ACNS Build 5.2.3-b9



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.

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Introduction

ACNS software combines the technologies of demand-pull caching and pre-positioning for accelerated delivery of web applications, objects, files, and streaming media; ACNS software runs on Cisco Content Engines, Content Distribution Manager, and Content Router hardware platforms.

These release notes are intended for administrators who will be configuring, monitoring, and managing devices that are running ACNS 5.2.3 software. These release notes describe the new product features, the supported hardware, and the open and resolved caveats regarding ACNS 5.2.3 software.

New and Changed Information

This section describes new and changed features in the ACNS 5.2.3 software. It also lists the supported hardware.

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Changes Related to the TV Output Feature

The TV output service supports the local play back of pre-positioned MPEG content through a hardware decoder. The hardware decoder converts the digital information into an analog TV signal. The TV out service is only functional if the Content Engine is equipped with a supported MPEG hardware decoder. The **tvout enable** global configuration command is used to enable the TV output service on a Content Engine that is registered with a Content Distribution Manager.



Note

Pre-positioned content is only supported on registered Content Engines; it is not supported on standalone Content Engines (that is, Content Engines that are not registered with a Content Distribution Manager and are being managed and monitored with the Content Engine GUI or CLI.). Consequently, the TV out service, which involves pre-positioned content, is not supported on standalone Content Engines.

The changes that are related to the TV output service are as follows:

- In ACNS 5.2.3 software, the ACNS TV-out functionality now works for the CE-510 and CE-565 models equipped with newer Vela II Revision D and Revision E MPEG hardware decoder cards. (In ACNS 5.2.1 software, this functionality did not work for these cards.)
- New driver software was incorporated into ACNS 5.2.3 software. This new driver software supports both the existing Vela II Revision A cards as well as the newer Vela II Revision D and Revision E cards.
- In ACNS 5.2.3 software or later, the output of the **show hardware EXEC** command displays the version of the TV-out hardware that the Content Engine is equipped with. In the following excerpt of the sample output from the **show hardware** command, this particular information is highlighted in bold. The “rev 3” in the command output indicates that the TV-out hardware uses the newer Revision 3 MPEG decoder PCI part. The Vela II Revision D and Revision E cards use the Revision 3 part.

```
Content Engine # show hardware.
.
.
.
Total 1 CPU.
1024 Mbytes of Physical memory.
1 CD ROM drive (CD-224E)
1 AV card (Vela II)
2 GigabitEthernet interfaces
1 Console interface
2 USB interfaces [Not supported in this version of software]

The following PCI cards were found:
PCI-Slot-1 MPEG-Decoder-AV [1105:8476 (Sigma Designs, Inc.) (rev 3)]
PCI-Slot-2 SCSI
Manufactured As: Pre-FCS 565 [867383Z]
.
.
.
```



Note

In order to support the TV out service with a Revision D or Revision E card, the Content Engine must be running the newer driver software, which is included in the ACNS 5.2.3 software, instead of an earlier version of the driver.

- In ACNS 5.0.17 software, ACNS 5.1.11 software, or ACNS 5.2.1 software or later, the output of the **show hardware** EXEC command notifies you if the Content Engine is running a version of the ACNS software that does not support the TV-out hardware contained in the Content Engine. In the following example, you are notified that the Content Engine has a Vela II audio-video (AV) card that is not supported by the version of ACNS software, which is running on the Content Engine. In the following excerpt of the sample output from the **show hardware** command, this particular information is highlighted in bold.

```
Content Engine # show hardware.
.
CPU 0 is GenuineIntel Intel(R) Celeron(R) CPU 1.70GHz (rev 1) running at 1699MHz

.
Total 1 CPU.
1024 Mbytes of Physical memory.
1 CD ROM drive (CD-224E)
1 AV card (Vela II) ***Revision not supported in this version of software***
2 GigabitEthernet interfaces
1 Console interface
2 USB interfaces [Not supported in this version of software]
```

The following PCI cards were found:

```
.
.
.
```

- In ACNS 5.0.17 software, ACNS 5.1.11 software, or ACNS 5.2.1 software or later, the output of the **show tvout** EXEC command also notifies you if the Content Engine is running a version of the ACNS software that does not support the TV-out hardware contained in the Content Engine. In the following excerpt of the sample output from the **show tvout** command, this particular information is highlighted in bold.

```
Content Engine # show tvout
.
.
TV-out model: ce565-002 (sigma)
***Hardware revision level not supported in this version of software***

TV-out service is not enabled
TV-out signal: ntsc

TV-out service is not running
.
.
.
```

Configuring Content Engines to Bypass URL Filtering for Specific HTTP and HTTPS Requests

In ACNS 5.2.3 software, the ability to configure a Content Engine to bypass URL filtering for certain HTTP and HTTPS requests was added. This feature is supported for local list URL filtering (good and bad site lists), as well as Websense, SmartFilter, or N2H2 URL filtering.

For example, if you enable local URL filtering on the Content Engine and enable the bad sites deny feature (for example, the badfile.txt file contains the URLs that should be blocked), if the **rule no-url-filtering** action is a hit (a match), the Content Engine bypasses the URL filtering for that particular request; otherwise, it proceeds with URL filtering and blocks the URL request.

In order to support this new feature, the following CLI changes were made:

- The **rule** global configuration command supports a new action called the **no-url-filtering** action. The **no-url-filtering** action supports the following rule patterns: src-ip, dst-ip, dst-port, domain, group-name, groupname-regex, header-field, url-regex, and username.



Note Patterns can be ANDed or ORed by using the group-type pattern (for example, **rule pattern-list 1 group-type and**). The default is OR.

- The output of the **show run**, **show statistics rule all**, and **clear statistics rule all EXEC** commands now includes information about the new **no-url-filtering** action.
- The **show statistics rule http action no-url-filtering EXEC** command was added to enable you to display statistics for the **no-url-filtering** action.

The following is an example of how you can use this new bypass URL filtering feature with Websense URL filtering. First, the **rule action no-url-filtering** command is specified and then associated with a specific pattern list (pattern list 100). Next, the **domain** pattern type is added to pattern list 100 in order to configure the Content Engine to match requests that have “foo.com” as the domain. In this scenario, Websense URL filtering has already been configured and enabled on the Content Engine.

```
ContentEngine (config)# rule action no-url-filtering pattern-list 100
ContentEngine (config)# rule pattern-list 100 domain .*foo.com
ContentEngine (config)# rule enable
```

When the Content Engine receives an HTTP or HTTPS request that has “foo.com” as the domain, the **rule action no-url-filtering** rule is matched. Consequently, the Content Engine bypasses URL filtering for that particular request (as shown in the partial output of the **debug http proxy** command below).

```
Oct 28 12:25:12 Content Engine 3: Rule action no-url-filtering match - Bypassing
urlfiltering
```

If the **rule action no-url-filtering** rule is matched and SmartFilter URL filtering is being used instead of Websense URL filtering, the output of the **debug http proxy** command would be as follows:

```
Oct 28 12:25:12 Content Engine 3: Rule action no-url-filtering match - Bypassing
SmartFilter processing
```

When the Content Engine receives an HTTP or HTTPS request for websites other than “foo.com” (for requests that have “www.abc.com” as the domain), the **rule action no-url-filtering** rule is not matched. Consequently, the Content Engine proceeds with Websense URL filtering for that particular request (as shown in the partial output of the **debug http proxy** command below).

```
Oct 28 12:28:06 Content Engine 3: Rule action no-url-filtering not hit - Proceed with
urlfiltering
```

If the **rule action no-url-filtering** rule is not matched and SmartFilter URL filtering is being used instead of Websense URL filtering, the output of the **debug http proxy** command would be as follows:

```
Oct 28 12:25:12 Content Engine 3: Rule action no-url-filtering not hit- Proceed with SmartFilter processing
```

Execution Order of Rule Actions

In ACNS 5.2.3 software or later, the order in which the rule actions are executed is as follows:

1. Redirect-url-for-cdn (this action is only applicable for Content Engines that are registered with a Content Distribution Manager and is not applicable for standalone Content Engines)
2. No-auth (before authentication using RADIUS, LDAP, or NTLM)
3. Reset
4. Block
5. Redirect (before cache lookup)
6. Rewrite (before cache lookup)
7. No-url-filtering
8. Refresh (after cache lookup, in the case of cache hit)
9. Freshness-factor (after cache lookup, in the case of a cache hit)
10. Use-server
11. No-proxy
12. Use-proxy-failover
13. Use-proxy
14. Use-dns-server
15. ToS/DSCP server (TOS bits on the connection to the server)
16. ToS/DSCP client (TOS bits on the connection that the server uses to send response to client)
17. DSCP client cache-miss
18. DSCP client cache-hit
19. Insert-no-cache
20. No-cache
21. Cache (when the response is received from the server)
22. Selective-cache (when the response is received from the server)
23. Append-username-header
24. Use-icap-service
25. Use-xforward-clt-ip
26. No-persistent-connection
27. Cache-cookie
28. No-selective-cache
29. Allow

CLI Enhancements for URL-Based Monitoring

In ACNS 5.2.3 software, the ability to configure a Content Engine to monitor the performance of specific URLs was added. In order to support this new feature, the following CLI changes were made:

- The **http monitor url** *url* global configuration command. This command enables you to specify up to 10 URLs that you want the Content Engine to monitor. The Content Engine maintains statistics about the various response characteristics for each of the monitored URLs. (You can use the new **show statistics http monitor** command to view these statistics, as described later in this section.)

```
ContentEngine(config)# http monitor url ?
WORD URL for monitoring
```

The **http monitor url** *url* command has two command options, the **acceptable-delay** and **interval** options. As the following sample output indicates, the **acceptable-delay** option is used to specify the acceptable delay in seconds (the maximum number of seconds that the specified monitored URL should be retrieved within). The default acceptable delay is 60 seconds.

```
Content Engine(config)# http monitor url http://www.abc.com/ ?
acceptable-delay Threshold time in seconds before which the URL should be
retrieved. (default is 60 seconds)
interval Interval in seconds for monitoring the URL. (default is 60 seconds)
<cr>
```

As the following sample command output indicates, the **acceptable-delay** option is used to specify the acceptable delay, which is the maximum number of seconds that the specified URL should be retrieved within.

```
Content Engine(config)# http monitor url http://www.abc.com/ acceptable-delay ?
<1-3600> Acceptable delay in seconds
```



Note If you use the **http monitor url** *url* command to configure the same URL with a different interval or acceptable-delay setting, the most recently configured setting takes precedence and overrides any previously configured settings for that particular URL.

As the following sample command output indicates, the **interval** option specifies the monitoring interval (that is, how frequently the Content Engine should monitor requests for a specific URL). The monitoring interval is specified in seconds. The default monitoring interval is 60 seconds.

```
ContentEngine(config)# http monitor url http://www.abc.com/ acceptable-delay 100
interval ?
<1-3600> Monitor interval in seconds
```

In the following example, the Content Engine is configured to monitor the URL named “http://www.abc.com/” using the default values (an interval of 60 seconds and an acceptable delay of 60 seconds).

```
http monitor url http://www.abccorp.com/
```

In the following example, the Content Engine is configured to monitor the URL named “http://www.abc.com/.” The Content Engine is configured to wait up to 100 seconds for the URL to be retrieved and to monitor requests for this URL every 100 seconds.

```
ContentEngine(config)# http monitor url http://www.abc.com/ acceptable-delay 100
interval 100
```

If it takes more than 100 seconds for the URL to be retrieved, the specified acceptable delay is exceeded. The Content Engine tracks the response time (minimum and maximum delay time) as well as the number of times that the acceptable delay is exceeded for a particular URL. These statistics are shown in the output from the new **show statistics http monitor** EXEC command. (An example of the output from the **show statistics http monitor** EXEC command is provided below.)

- The **show statistics http monitor** EXEC command was added to enable you to display statistics for the monitored URLs. As the following example shows, the following statistics that are reported for each of the monitored URLs:

```
ContentEngine# show statistics http monitor
HTTP Monitor URL statistics
-----

Monitor URL                               = http://www.abc.com/
Total requests                             = 118
Failed requests                            = 30
Requests above acceptable delay            = 37
Minimum response time                      = 8.183 seconds
Maximum response time                      = 210.021 seconds

Monitor URL                               = http://www.abccorp.com/
Total requests                             = 275
Failed requests                            = 44
Requests above acceptable delay            = 26
Minimum response time                      = 0.071 seconds
Maximum response time                      = 164.061 seconds
```

In the command output shown above:

- “Failed requests” are requests that did not succeed (for example, the request failed to resolve the domain name of that URL).
- “Requests above acceptable delay” are the requests that took longer than the specified acceptable delay (the maximum number of seconds specified by the acceptable-delay setting).

- The output of the **show running-configuration** EXEC command now includes information about the URL monitoring configuration. In the following excerpt from the **show running-configuration** command output, this particular information is highlighted in bold.

```
ContentEngine# show running-configuration
! ACNS version 5.2.3
!
!
hostname sust-7320-ce1
!
http persistent-connections timeout 300
http proxy incoming 8080
http proxy outgoing preserve-407
http tcp-keepalive enable
http monitor url http://www.abc.com/ interval 100 acceptable-delay 100
http monitor url http://www.abccorp.com/
!
ftp proxy incoming 8080
!
clock timezone US/Eastern -5 0
!
!
.
```

Only the non-default values are displayed in the output from the **show running-configuration** command. Consequently, because the Content Engine was configured to use the default values to monitor the URL “http://www.abccorp.com,” the above sample output does not display these values for that URL.

- The **show http monitor** EXEC command was added to enable you to display a list of monitored URLs, including the interval and acceptable delay setting for each monitored URL.

```
ContentEngine# show http monitor

Monitor URL: http://www.abc.com/
Monitor Interval: 100
Acceptable Delay: 100

Monitor URL: http://www.abccorp.com/
Monitor Interval: 60
Acceptable Delay: 60
```

Hardware Supported

ACNS 5.2.3 software supports the following hardware platforms. All of the listed platforms also support ACNS 5.1.x software except for the CE-511 and CE-566. The CE-511 and CE-566, which are both new platforms that are supported in the ACNS 5.2.x software, do not support ACNS 5.1.x software.

- NM-CE-BP-SCSI
- NM-CE-BP-80G
- NM-CE-BP-40G
- NM-CE-BP
- CE-565-K9
- CE-565A-72GB-K9
- CE-565A-144GB-K9
- CE-590

- CDM-4630
- CDM-4650
- CE-507
- CE-507AV
- CE-510-K9
- CE-510A-80GB-K9
- CE-510A-160GB-K9
- CE-511
- CE-566-K9
- CE-590-DC
- CE-7320
- CE-7305-K9
- CE-7305A-K9
- CE-7325-K9
- CE-560
- CE-560AV
- CE-7325A-K9
- CR-4430

Important Notes

This section emphasizes important information regarding ACNS 5.2.x software.

- [Media File System Issues When Downgrading to ACNS 5.0 Software, page 11](#)
- [Websense Issues When Downgrading to ACNS 5.0 Software or ACNS 5.1 Software, page 11](#)
- [Changes to WCCP Support, page 11](#)
- [Multicast File Transfer Enhancements, page 14](#)

Media File System Issues When Downgrading to ACNS 5.0 Software

If you have configured the media file system (mediafs) with ACNS 5.1 software or later, and then downgrade to ACNS 5.0 software, the mediafs disk space assignment is lost and it reverts to ACNS network file system (cdnfs) disk space. (The mediafs is used for on-demand content that is fetched through the two streaming protocols [RTSP and WMT]. The cdnfs is used for pre-positioned content in the ACNS network.)

This situation occurs because of a design change that was implemented in ACNS 5.1 software. Because ACNS 5.0 software is not compatible with this change, the disk space becomes assigned to cdnfs instead of mediafs. To work around this problem, follow these steps:

1. After you downgrade to ACNS 5.0 software, use the CLI (**disk config EXEC** command) or the GUI to assign the mediafs disk space.

Use the Content Distribution Manager GUI for Content Engines that are registered with a Content Distribution Manager. Use the Content Engine GUI for standalone Content Engines (that is, Content Engines that are not registered with a Content Distribution Manager and are being managed through the Content Engine GUI or CLI).

2. Reboot the Content Engine for the disk configuration changes to take effect.

Websense Issues When Downgrading to ACNS 5.0 Software or ACNS 5.1 Software

If the local (internal) Websense server is enabled on the Content Engine and you downgrade from the ACNS 5.2.x software to either ACNS 5.0 software or ACNS 5.1 software, the WebsenseEnterprise directory is removed from the Content Engine and the local Websense server stops working. Note that the ACNS 5.2.x software does not generate an error message indicating that the WebsenseEnterprise directory has been removed.

To avoid this problem when downgrading from ACNS 5.2.x software to either ACNS 5.1 software or ACNS 5.0 software, follow these steps:

1. Disable the local (internal) Websense server on the Content Engine.
2. Deactivate the Websense services on the Content Engine.
3. Install the ACNS 5.1 software or ACNS 5.0 software downgrade image on the Content Engine.

Changes to WCCP Support

In ACNS software releases earlier than ACNS 5.2 software, a maximum of eight active WCCP services were supported by a WCCP Version 2-enabled router and a Content Engine. In ACNS 5.2 software, up to 25 active WCCP Version 2 services can be supported. In ACNS 5.2 software, there are currently 17 WCCP Version 2 services that can be configured.

The type of WCCP services supported by a Content Engine and a WCCP-enabled router varies based on whether WCCP Version 1 or Version 2 is used, as indicated in [Table 1](#). All services, except for the standard web-cache service (service 0), require that the router and the Content Engine are running WCCP Version 2 (instead of WCCP Version 1). These services are called “predefined” WCCP services.

Table 1 Supported WCCP Services with ACNS 5.2 Software

Service Number	Service Name	Type of Service	Service Description
0	web-cache	Predefined	<p>Web-caching service that permits WCCP Version 1 or Version 2-enabled router to redirect HTTP traffic to a single port on the Content Engine. The Content Engine is functioning as a transparent forward proxy server. Only a single WCCP-enabled router is supported with WCCP Version 1. Multiple WCCP-enabled routers (those on the router list) are supported with WCCP Version 2.</p> <p>The Content Engine listens for redirected HTTP requests on the standard HTTP port (default port 80). To enable the Content Engine to listen for WCCP-intercepted HTTP traffic on ports other than the default port, configure the custom-web-cache service or a user-defined WCCP service (services 90 to 97).</p>
53	dns	Predefined	<p>DNS-caching service that permits WCCP Version 2-enabled routers to redirect client requests transparently to a Content Engine for the Content Engine to resolve the DNS name. After the Content Engine resolves the DNS name, it stores the resolved DNS name locally so that it can use the resolved names for future DNS requests.</p>
60	ftp	Predefined	<p>Caching service that permits WCCP Version 2-enabled routers to redirect native FTP requests transparently to a single port on the Content Engine. The Content Engine retrieves the requested FTP content, stores a copy locally, and serves the requested content to the requester.</p>
70	https-cache	Predefined	<p>Caching service that permits WCCP Version 2-enabled routers to intercept port 443 TCP traffic and redirect this HTTPS traffic to the Content Engine (acting as a transparent forward proxy server that is configured for HTTPS transparent caching). The Content Engine retrieves the requested content, stores a copy locally (HTTPS transparent caching), and serves the requested content to the client.</p> <p>In ACNS 5.2 software, another interception mode (the accept-all mode) was added for the WCCP https-cache service. This mode was added to support the filtering of HTTPS traffic. This mode works the same way as the traditional WCCP services (for example, the web-cache service that intercepts all web traffic by default).</p> <p>By default, the Content Engine accepts all HTTPS traffic.</p> <pre>ContentEngine(config)# wccp https-cache ? accept-all Accept all https traffic by default mask Specify mask used for CE assignment router-list-num Router list number</pre> <p>If the wccp https-cache accept-all global configuration command is used, the HTTPS cache (the Content Engine that has the https-cache service configured and enabled) operates in “accept-all” mode (all HTTPS traffic is intercepted by the Content Engine); otherwise, the Content Engine (the HTTPS cache) works in “accept-only” mode, as in ACNS 5.1.x software.</p> <p>The Content Engine listens for redirected HTTPS requests on the standard HTTPS port (default port 443). To intercept HTTPS traffic on ports other than the default port, configure a user-defined WCCP service (services 90 to 97).</p>

Table 1 Supported WCCP Services with ACNS 5.2 Software (Continued)

Service Number	Service Name	Type of Service	Service Description
80	rtsp	Predefined	<p>Media-caching service that permits WCCP Version 2-enabled routers to redirect RTSP client requests transparently to a single port on a Content Engine (RealMedia transparent caching).</p> <p>The Content Engine listens for redirected RTSP requests on the standard RTSP port (default port 554). To intercept RTSP traffic on ports other than the default port (port 554), configure a user-defined WCCP service (services 90 to 97).</p>
81	mmst	Predefined	<p>Media-caching service that permits WCCP Version 2-enabled routers to use MMST redirection to redirect WMT client requests transparently to a single port (port 1755) on a Content Engine (a transparent proxy server that is configured for WMT transparent caching).</p> <p>Note MMST is the Microsoft Media Server protocol with transport over TCP.</p>
82	mmsu	Predefined	<p>Media-caching service that permits WCCP Version 2-enabled routers to use MMSU redirection to redirect WMT client requests transparently to a single port (port 1755) on a Content Engine (a transparent proxy server that is configured for WMT transparent caching).</p> <p>Note MMSU is the Microsoft Media Server protocol with transport over UDP.</p>
90–97	User-configurable	User-defined	<p>Eight user-defined (dynamic) WCCP services that each support multiple ports (up to eight ports per WCCP service). In order to configure these services (services 90 to 97), you must create one port list for each user-defined service that will be used (for example, create port list number 1 for service 90). The port list contains the port numbers on which the WCCP Version 2-enabled router will support WCCP redirection for that particular WCCP service. When configuring these user-defined services, you must specify whether the traffic is to be redirected to the HTTP caching application, HTTPS caching application, or the streaming application on the Content Engine.</p> <p>To configure the Content Engine to cache web traffic using multiple ports, configure a user-defined WCCP service (services 90 to 97) Use these user-defined WCCP services to support WCCP redirection of HTTP, MMS, HTTPS, and RTSP requests on multiple ports (up to eight ports per service) for standard WCCP services (for example, the https-cache, rtsp, mmst, and reverse-proxy services) that ordinarily only support a single port.</p>
98	custom-web-cache	Predefined	<p>Caching service that permits WCCP Version 2-enabled routers to redirect HTTP traffic to a Content Engine on multiple ports other than port 80. The Content Engine is functioning as a transparent forward proxy server. This service allows you to support WCCP redirection of HTTP requests on multiple ports (up to eight ports) without having to configure a user-defined WCCP service (services 90 to 97).</p>
99	reverse-proxy	Predefined	<p>Caching service that permits WCCP Version 2-enabled routers to redirect HTTP reverse proxy traffic to a Content Engine (a transparent reverse proxy server) on a single port (port 80). To intercept reverse proxy traffic on ports other than the default port (port 80), configure a user-defined WCCP service (services 90 to 97).</p>

Multicast File Transfer Enhancements

ACNS 5.2 software supports new multicast file transfer features that enhance the reliability and performance of multicast file distribution in the ACNS 5.2 network. In earlier ACNS software releases (ACNS 5.0 software and ACNS 5.1 software), the file transfer session depended on a window of time to resend the missing packets. The sender had to transmit the packets within this window of time for each retransmission request (NACK) from receiver Content Engines. If a multicast receiver joined the session too late and missed blocks of data that were outside the transmission window, the sender would not resend the missing blocks. The receiver could not receive the entire file, and the transmission failed. The receiver had to wait until a subsequent carousel pass to recover the missed files. The receiver could only receive the entire file or nothing. A slow receiver often failed to receive a large file if the receiving rate lagged behind the sending rate.

The multicast file transfer enhancements in ACNS 5.2 software resolve these issues by eliminating the window of time for file transmissions. This feature is called checkpoint. Checkpoint allows the sender to divide the transferring file into blocks and to retransmit any and all blocks until the transfer session ends. At any time during the transfer session, a receiver can request retransmission of any block that it has missed. Also, receiver Content Engines can receive the blocks of a transfer in any order. Data transmission can occur over a longer period, and receivers can recover missed data blocks to successfully complete the transfer in most situations. Thus, file transfers are much more resistant to loss of data.

This feature also solves the problem of a multicast receiver joining a transfer session late. (In an extreme example, even if a receiver joins so late that the sender has multicast nearly all of a very large file, the receiver can still receive the data. Also, the receiver can request retransmission for all the blocks it has missed.) Even if a receiver goes offline and restarts during a transfer, it can recover missing data without requesting retransmission of the blocks it has already received.



Note

Because of these enhancements, receivers using ACNS 5.2 software *cannot* interact with senders using ACNS 5.0 or 5.1 software. The ACNS 5.2 multicast receiver will ignore files sent from an ACNS 5.0 or 5.1 multicast sender. However, an ACNS 5.2 multicast sender can interoperate with ACNS 5.0 or 5.1 multicast receivers because the software detects the lower software version and disables the checkpoint feature. Therefore, we recommend that you upgrade your multicast sender to ACNS 5.2 software first and then upgrade your receivers to ACNS 5.2 software.

Caveats

This section lists and describes the open and resolved caveats in ACNS 5.2.3 software. Caveats describe unexpected behavior in ACNS 5.2 software. Severity 1 caveats are the most serious; Severity 2 caveats are less serious. Severity 3 caveats are moderate caveats.

Open Caveats—ACNS 5.2.3 Software

This section lists caveats that have not been resolved in ACNS 5.2.3 software. The open caveats are grouped into two categories:

- [Open ACNS-IP/TV 5.2.3 Software Integration Caveats, page 15](#)
- [Other Open ACNS 5.2.3 Software Caveats, page 15](#)

Open ACNS-IP/TV 5.2.3 Software Integration Caveats

This section lists and describes the caveats that are open in ACNS 5.2.3 software, and are related to ACNS-IP/TV software integration.

- CSCec52492

Symptom: Requests for on-demand programs from clients in an ACNS network are sent to IP/TV Program Manager. IP/TV Program Manager treats these requests as standalone IP/TV on-demand program requests and directs them to the IP/TV Broadcast Server that can serve the request. This situation causes bandwidth issues and affects the functioning of IP/TV Server.

Condition: This problem occurs when IP/TV has been integrated in an ACNS network. It occurs when requests for on-demand programs that are exported to the ACNS network reach IP/TV Program Manager instead of being routed to the Content Engine that has the programs. This problem is related to a routing failure or a routing error.

Workaround: Configure routing correctly in ACNS networks so that on-demand requests are directed to the nearest Content Engine that is capable of serving the program. Alternatively, you can change the proximity settings in IP/TV Program Manager so that it does not redirect the on-demand program requests to IP/TV Broadcast Servers. However, the second approach can also affect the serving of standalone on-demand programs.

Other Open ACNS 5.2.3 Software Caveats

This section lists and describes the caveats that are open in ACNS 5.2.3 software and are not related to ACNS-IP/TV software integration.

- CSCdy82311

Symptom: Content cannot be acquired using strong authentication from secure origin servers that use certificates from nonstandard certificate authorities (CAs). If strong authentication was chosen for content acquisitions from such a site, the acquirer error statistics will contain a 401 (Unauthorized) error code, and the acquirer error log contains the following error message:

```
Strong Cert Authentication rejects certificate due to error: ssl error code
```

Condition: This problem occurs if the origin server uses a certificate that is not known as a standard certificate to the ACNS software acquirer. For content acquisition from secure sites over HTTPS using strong authentication, only sites with certificates from standard certificate authorities are supported.



Note With strong authentication, if any errors occur during certificate verification by the ACNS acquirer, then content from that site will not be acquired. With weak authentication, certain errors (for example, a certificate has expired, certificate is not yet valid, and a subject issuer mismatch has occurred) are allowed during certificate verification.

Workaround: Use one of these workarounds:

- Use weak authentication.
- On the secure server, use a certificate that was generated by one of the standard certificate authorities. ACNS network administrators should refer to the following information to determine which CA certificate to install on their origin servers. Note that the certificate list differs based on the version of the ACNS software. For the ACNS 5.1.x software and later releases, refer to the certificate list in the *Cisco ACNS Software Upgrade and Maintenance Guide, Release 5.x*.

- CSCea51815

Symptom: When a Content Engine model CE-565 is attached to a Storage Array SA-7 device, if too large a cache file system (cfs) partition is configured, and a combined streaming and caching workload is used, then a lower HTTP performance is observed.

Condition: This problem occurs when the CE-565 has Windows Media Technologies (WMT) enabled, a combined streaming and caching workload is used, and the Content Engine is attached to an SA-7 device.



Note The Storage Array device is used for the cache file system (cfs).

Workaround: Allocate less space to the cfs if a Storage Array is attached to the Content Engine.

- CSCec52221

Symptom: Windows Media Technologies (WMT) is enabled with no media file system (mediafs) after you downgrade from ACNS 5.1b300 software to ACNS 5.0.7b8 software.

Condition: This problem occurs if you upgrade from ACNS 5.0.7b8 to ACNS 5.1bx software, configure the disk, and then downgrade to ACNS 5.0.7b4 software.

Workaround: Reconfigure the disk with a mediafs partition and reload the software.

- CSCec52319

Symptom: Using FTP inside the .meta file to have the Content Engine obtain the .bin file for a Content Distribution Manager GUI-initiated upgrade is unsuccessful if the user's home directory differs from the FTP root.

Condition: Either you receive an error in the Content Distribution Manager GUI when you are creating the definition for the upgrade (when the .bin file does not exist in the user's home directory), or the Content Engine displays an error message on the upgrade (when the .bin file does not exist in the FTP root directory).

Workaround: Copy the .bin file to both the FTP root and the user's home directory, or use a user whose home directory is the FTP root.

- CSCed34718

Symptom: If you edit a file-based scheduled program and the Quality of Service (QoS) feature is configured, the revised program retains the QoS configuration even if you disable the QoS feature.

Condition: This problem occurs only with file-based scheduled programs; it does not occur with live programs.

Workaround: The only known workaround is re-creation. To remove the QoS configuration, delete the program and then re-create the program without configuring the QoS feature.

- CSCed68360

Symptom: A constant stream of bandwidth error messages (one about every 2 seconds) is reported in the syslog. As the following sample messages indicate, these messages are not very useful.

```
Feb 11 13:24:26 webcache01 bandwd: %CE-BANDWD-3-115002: BANDWD: Trying again in two
seconds
Feb 11 13:24:28 webcache01 bandwd: %CE-BANDWD-3-115003: BANDWD: verification
registration failed, err=30
```

Condition: None.

Workaround: There is no known workaround.

- CSCed68727

Symptom: The Content Distribution Manager only checks if coverage zone files refer to invalid Content Engines after there is a fresh import. When there is a configuration change that can cause already imported coverage zone files to refer to invalid Content Engines, the Content Distribution Manager does not check or display the correct error message until the next fresh import.

Conditions: This problem occurs if there is a coverage zone configuration change that causes already-imported coverage zone files to refer to invalid Content Engines.

Workaround: There is no known workaround.
- CSCed77655

Symptom: The Content Engine stops spoofing the client IP address and uses its own IP address to fetch content from the origin server.

Condition: The **http l4-switch spoof-client-ip enable** global configuration command turns on IP spoofing on a Content Engine that is functioning as a caching engine. When a **rule action use-server** global configuration command is used, the Content Engine stops spoofing the client IP address and instead uses its own IP address to fetch the content.

Workaround: There is no known workaround.
- CSCed84227

Symptom: The network management system (NMS) host does not know where SNMP traps are coming from.

Condition: This problem occurs if there are two interfaces and you configure interface redundancy using both interfaces. You must use a dummy address for the physical addresses. You then configure a real address that floats between the two interfaces. If you then configure SNMP traps, the traps are being sourced from the dummy address and not the routable address. Therefore, the NMS host does not know where the trap is coming from.

Workaround: There is no known workaround.
- CSCee17283

Symptom: The **cdnfs** files are turned into directories (which are visible if you enter the **cdnfs browse EXEC** command on the Content Engine).

Conditions: This problem is rare and occurs only when the file system corruption has caused a directory entry that to be a subdirectory when it should have been a file. This occurs only if multiple **cdnfs** entries are being updated and the Content Engine crashes (for example, the Content Engine crashes because of a power failure).

Workaround: Enter the **cdnfs cleanup start EXEC** command on the Content Engine.
- CSCee25042

Symptom: Even though you entered the **url-filter wmt bad-sites-deny** global configuration command on the Content Engine, the Content Engine is not filtering requests for content that is pre-positioned in its **wmt_vod** directory.

Condition: This problem occurs in the following situation:

 - a. You pre-position a file (for example, **file.asf**) on the Content Engine in its **wmt_vod** directory.
 - b. After pre-positioning the file, you configure the bad site list for URL filtering using **mmst://Content Engine IP address/wmt_vod/file.asf**.
 - c. A user makes a content request for this URL (that is, **mmst://Content Engine IP address/wmt_vod/file.asf**).

Workaround: Configure the bad site list using `mmst://127.0.0.1/wmt_vod/file.asf` instead of `mmst://Content Engine IP address/wmt_vod/file.asf`.

- CSCee38190

Symptom: A WMT live stream in a managed live event environment is accessible for a period longer than the scheduled duration.

Condition: This problem occurs only with WMT live programs that have unicast access enabled. In this situation, streams can be accessible for up to 24 hours after the last playtime of the event if “Auto Delete” is set to true or can be accessible indefinitely if “Auto Delete” is set to false.

Workaround: Control the live stream source through the schedule for the event. Typically, this process involves starting and stopping the WMT encoder.

- CSCee40593

Symptom: Syslog messages contain the following text:

```
uns-server: %CE-CDNFS-0-480000: uns_read_meta: WOW! url mismatch: wanted 'URL>', swaw
'^C'
```

Condition: This problem occurs because of file system corruption; the cdnfs metadata files have the wrong content (the content is internally consistent but is in the incorrect file). This problem occurs infrequently. For example, it can occur if the cdnfs content is being updated and a crash occurred because of a kernel panic (which occurs infrequently).

Workaround: Although there is no known workaround to stop the syslog messages shown above, lookups for the target URL (listed in the syslog message) may succeed if the ACNS software has created a new cdnfs entry for the target URL.

You can enter the **cdnfs lookup url EXEC** command to see if the URL is found. If the URL is not found, a way to force it to be replicated is to modify the file on the origin server (for example, by entering the **touch** command on a UNIX-based origin server).

Alternatively, you can enter the **acquisition-distribution database-cleanup start** command on the affected Content Engine; this command queries the cdnfs for all the objects that are supposed to be on the Content Engine. Missing objects should be detected and replicated.

- CSCee49106

Symptom: The content replication status can show an incorrect manifest item count.

Condition: This problem can occur if too many channels share the same content (for example, if over 100 channels share the same 30 files in each channel). Even though all 100 channels should show the 30 files that were acquired and distributed, it takes an extended period (days) before the correct manifest item count is displayed.

Workaround: Reduce the number of channels that share the same contents.

- CSCee56998

Symptom: The CPU usage on the Content Engine hits a peak of 100 percent.

Condition: This problem can occur if the internal (local) Websense server is enabled on the NM-CE-BP models.

Workaround: There is no known workaround.

- CSCee67227

Symptom: If you specify “foo” as a folder URL in the manifest file, and there is a single item redirection from foo to foo/ by the web server, the ACNS acquirer fails to process such redirections and generates a 716 error message. If you are using the quick crawl tool in the Channel Content window, some of the files also report 716 error messages.

Condition: This problem occurs if you are using the quick crawl tool and there is a single item redirect from foo to foo/. However, if foo is a link from a crawl job, single item redirections from foo to foo/ are allowed.

Workaround: Specify foo/ in the manifest file, or specify a crawl job instead of using the quick crawl tool.
- CSCee67330

Symptom: NTLM authentication fails and the pop-up window is displayed again.

Condition: This problem occurs if NTLM authentication is being used and the specified domain name is longer than 50 characters.

Workaround: For NTLM authentication, use a domain controller (DC) that has a domain name shorter than 35 characters.
- CSCee68339

Symptom: Proxy requests to the Content Engine proceed to allow mode (if allow mode is enabled) or are blocked (if allow mode is disabled) when the Websense URL filtering mechanism is configured to use the local Websense server.

Because the connections from the Content Engine to the Websense server time out, all requests go to allow mode until all 40 connections are exhausted. (This situation makes it appear as if the Websense server is not responding.) After all 40 connections are attempted, the Content Engine successfully connects to the Websense server and works properly thereafter.

Condition: This problem can occur under the following conditions:

 - The Content Engine is configured to use the local (internal) Websense server for URL filtering.
 - The local Websense server is running on the Content Engine.
 - There are long periods of inactivity.
 - The cache process has difficulty connecting to the local Websense server.

Workaround: Reconfigure Websense URL filtering on the Content Engine so that the Content Engine will attempt to establish new connections to the Websense server.
- CSCee71157

Symptom: Channel routing causes loops for several Content Engines.

Condition: This problem can occur if there are Content Engines that are running ACNS 5.1.x software or earlier, and these Content Engines are registered with a Content Distribution Manager that is running ACNS 5.2.x software.

Workaround: Upgrade the Content Engines to ACNS 5.2.x software. Currently, a Content Distribution Manager that is running ACNS 5.2.x software does not propagate some configuration changes to Content Engines that are running ACNS software earlier than ACNS 5.2.x software. Therefore, Content Engines that are running ACNS 5.1.x software or earlier, may not recognize that the root Content Engine was changed from one Content Engine to another. Consequently, routing loops can develop within the system.

- CSCee78190

Symptom: When a root Content Engine is downgraded from ACNS 5.2.x software to ACNS 5.1 software, some channels are disabled and some content fails to be acquired.

Condition: This problem occurs when the manifest file URL is a Server Message Block (SMB) URL with a uniform naming convention (UNC) path format (for example, \\host\share\file), or when an item or crawl task specified in either the *src* or *start-url* attribute has a UNC path format.

Because ACNS 5.1 software does not support SMB file acquisition, the root Content Engine running ACNS 5.1 software is not able to fetch the manifest file or acquire content from the SMB shares.

Workaround: Either before or after you downgrade the root Content Engine from ACNS 5.2.x software to ACNS 5.1 software, remove the SMB URL from the Manifest URL field in the Channel configuration window of the Content Distribution Manager GUI and use a URL with supported protocols (HTTP, FTP, or HTTPS).



Note From an ACNS 5.1 Content Distribution Manager GUI, choose **Channels > Channels > Edit Channel**.

From an ACNS 5.2.x Content Distribution Manager GUI, choose **Content > Channels > Edit Channel > Channel Content**.

Edit the manifest file by removing content items and crawl tasks that have UNC formatted paths.

Use the **acquirer start-channel EXEC** command to initiate channel acquisition and verify that the workaround is successful.

- CSCee81376

Symptom: The CMS service on the Content Distribution Manager cannot start and fails to create the CMS database backup file.

Condition: This problem can occur if the ACNS network configuration is very large (for example, with 2000 configured Content Engines) and the sysfs partition is 2 GB or less.

Workaround: Create a sysfs partition that is greater than 2 GB.

- CSCee90245

Symptom: NTLM authentication occurs even though you disabled it on the Content Engine.

Condition: This problem occurs very rarely. In very rare situations, even though you entered the **no ntlm server enable** global configuration command to disable NTLM proxy authentication on the Content Engine, NTLM proxy authentication is still not turned off. In such cases, NTLM authentication can still occur, although the output of the **show running EXEC** command shows that the NTLM server is not enabled on the Content Engine.

Workaround: Enter the **no ntlm server enable** global configuration command again on the Content Engine.

- CSCee92250

Symptom: ICAP-related transaction logs appear only for response modification (RESPMOD) transactions and not for request modification (REQMOD) transactions.

Condition: This problem occurs on all Content Engines that are running ACNS 5.0 software or later, which have the ICAP service and ICAP transaction logging enabled.

Workaround: There is no known workaround.

- CSCee92698

Symptom: The ICAP service is enabled on the Content Engine, but the Content Engine is unable to retrieve the content.

Condition: This problem can occur if the Content Engine is running ACNS 5.x software, and you configure two or more ICAP services to subscribe to the same vectoring point (the response modification [RESPMOD] vectoring point).

Workaround: There is no known workaround.
- CSCee92917

Symptom: A cleanup of the sysfs partition removes all pre-positioned RealMedia contents from the /local1/real_vod/ directory on the Content Engine.

Condition: This problem occurs if the sysfs partition is saturated because of the population of content in the real_vod directory.

Workaround: There is no known workaround.
- CSCef11091

Symptom: The WCCP cache farm (that is, a cluster of Content Engines that are running WCCP) is formed using the assignment method even though you specified the **mask-assignment assign-method-strict** option when configuring the WCCP service.

Condition: This problem occurs if the WCCP cache farm is associated with Cisco routers instead of switches.

Workaround: There is no known workaround. Mask assignment was only designed for Catalyst 6500 series switches and is not supported by Cisco routers.
- CSCef16345

Symptom: The stream scheduler in the edge Content Engine retrieves stale Session Description Protocol (SDP) information from its forwarder and stores it in its local1/cse_live/ucast folder if the encoding is modified through IP/TV Program Manager. All further RTSP requests are served with this stale SDP content.

Condition: This problem occurs if the stream scheduler retrieves stale SDP information from its forwarder because the program has been edited and the encoding changed for a program. This situation occurs if the Content Distribution Manager notification at the edge Content Engine triggers the stream scheduler before the same occurs at the root Content Engine. Consequently, the edge Content Engine obtains the SDP content from its forwarder, which is valid content at that moment.

Workaround: Reload the Content Engine.
- CSCef27174

Symptom: After you reload a parent Content Engine in a live split-tree type environment, its children Content Engines lose their RTSP connections to this parent and do not attempt to reestablish these RTSP connections after the parent comes back up.

Condition: This problem occurs only if the Cisco Streaming Engine is restarted on the parent Content Engine (for example, the Content Engine is reloaded, or you enter a **clear statistics EXEC** command on the Cisco Streaming Engine).

Workaround: Initiate the live split again by using the Content Distribution Manager GUI to change one of the program's attributes (for example, its description). The change in the program's attribute is sent to the individual Content Engines, and the program is triggered again.

- CSCef37606

The Content Engine becomes unresponsive, and it takes a long time for commands to be executed.

Condition: This problem occurs when the load that is running on the Content Engine is almost as high as the maximum permissible load for a Content Engine, and you then enable ICAP (especially with request modification [REQMOD] transactions). This situation causes the Content Engine to go into an overload state and not recover easily.

Workaround: The load on the Content Engine with ICAP enabled (for the response modification [RESPMOD] transactions) should be kept to 50 percent of the load that it can handle without ICAP.
- CSCef37947

Symptom: A URL in the Synchronized Multimedia Integration Language (SMIL) file that has the “repeatCount” value set, may not be requested as many times as specified by the “repeatCount” setting.

Condition: This problem occurs only when RealPlayer Version 10 is used. The player exhibits the same behavior whether or not there is a Content Engine between the client and the origin server.

Workaround: Use RealOne player instead of RealPlayer Version 10, or request the SMIL file again. The URL will be played at least once in the player.
- CSCef44709

Symptom: An HTTP 1.0 request that is received by the Content Engine from a client web browser is sent as an HTTP 1.1 request by the Content Engine to the origin server.

Condition: This problem occurs only when the ICAP service is enabled on the Content Engine.

Workaround: There is no known workaround.
- CSCef44726

Symptom: Chunked responses sent by the origin server are received by the client without chunking and without the content length information. Even though this can cause certain browsers not to work properly, the major browsers seem to work properly in this situation.

Condition: This problem occurs only when ICAP is enabled on the Content Engine.

Workaround: There is no known workaround.
- CSCef57641

Symptom: The cache process on the Content Engine restarts.

Condition: This problem occurs if a large volume of HTTPS and FTP traffic is being directed to the Content Engine, which is operating in transparent mode.

Workaround: There is no known workaround.
- CSCef60282

Symptom: Even though you entered a **write memory** command, after an immediate reload, a prompt appears that the configuration has been changed.

Condition: This problem occurs if the following conditions are met:

 - You have enabled Websense on the Content Engine.
 - The IP address of the Content Engine is removed or changed.
 - You enter a **write memory** command on the Content Engine.
 - You reload the Content Engine.

Workaround: Note that ACNS functionality is not affected if this problem occurs. However, if a prompt appears stating that the configuration has been changed, enter **yes** to save configuration.

- CSCef61845
Symptom: Unicast access to a live program does not work.
Condition: This problem occurs only when you use special characters (“?” and “#”) in the unicast reference URL.
Workaround: To publish a live event, use URLs that do not contain special characters.
- CSCef62968
Symptom: The Content Engine reboots suddenly when you are performing database maintenance.
Condition: The problem can occur because of a platform issue in the power supply of the device.
Workaround: Properly trim the power supply of the Content Engine.
- CSCef65567
Symptom: You are not able to download the control list or apply a policy (for example, the policies that controls when the SmartFilter subscription or control list expire) to the SmartFilter 3.x plug-in.
Condition: This problem occurs if you use the SmartFilter 4.0 Administrator Console to define the SmartFilter 3.x plug-ins as part of a plug-in group.
Workaround: Use the SmartFilter 4.0 Administrator Console to define the SmartFilter 3.x plug-ins as individual plug-ins.
- CSCef67938
Symptom: When using the quick start tool in the Content Distribution Manager GUI, if you repeatedly click the **Add-Router to List** button before the window completely loads in your browser, the following message appears in your browser:

```
The system had trouble processing your last request.
```


This situation can occur under the following circumstances:
 - You click the **BACK** or **REFRESH** browser buttons.
 - Multiple browser windows from the same client machine are accessing the Content Distribution Manager GUI.
 - Another user deletes the item that you are working with in the Content Distribution Manager GUI.
Condition: This problem occurs only when there is a slow connection between the Content Distribution Manager and your browser and you perform any of the unsupported actions described above.
Workaround: Return to the Content Distribution Manager GUI and wait until the window is completely loaded in your browser before you click the **Add-Router to List** button.
- CSCef70012
Symptom: The crond process generates a core file on devices that are running ACNS 5.2.x software.
Conditions: This problem can occur occasionally in random situations. This problem is known to occur when a device boots after you have upgraded the image on the device.
Workaround: A workaround is not necessary because the crond is restarted automatically by the system, and functionality is not affected.

- CSCef96069

Symptom: The output of the **show tech-support EXEC** command displays the following warning message in the “system log info” section (the kernel log):

```
Warning - running *really* short on DMA buffers
```

Condition: This problem can occur under situations such as the following:

- You have performed a software upgrade, and you reboot the ACNS software.
- Other conditions, which involve substantial disk I/O shortly after startup, have occurred.

Note that the above message does not indicate that the ACNS software is not functioning properly. Typically, the system recovers and no actual problems occur.

Workaround: There is no known workaround.

- CSCeg09991

Symptom: On certain Content Engines (the NM-CE models that are running ACNS 5.2.1.7 software or later, and that have 256 MB of RAM and large disk partitions), memory is allocated in such a way that third-party applications (for example, SmartFilter software) cannot start.

Condition: This problem can occur if the sysfs partition on the Content Engine is greater than 3 GB, and the cache file system (cfs) partition is greater than 10 GB.

Workaround: When you boot up a Content Engine, it allocates memory to support the different disk partitions. Smaller disk partitions do not use as much memory. Consequently, either increase the amount of memory on the NM-CE, or create smaller disk partitions. If the CFS partition size is larger than 18 GB, use the following the recovery procedure:

- Configure a size that is less than 18 GB for the CFS partition.
- Reload the Content Engine for the disk re-configuration to take effect.
- Download the SmartFilter control list file again.

- CSCei62672

Symptom: When you click links from the table of contents or the index of the ACNS Content Distribution Manager online help, the links open in the same pane, that is, the left pane, which contains the table of contents and the index, instead of opening in the right pane, which contains the help topics.

Condition: This problem occurs after you install Microsoft security update MS05-026. This security patch disables cross-frame navigation features that are based on HTML Help ActiveX control (HHCTRL).

Workaround: To reenabte cross-frame navigation features that are based on HHCTRL, modify your Windows registry as explained in Microsoft Knowledge Base article 896905, which is available at this URL:

<http://support.microsoft.com/kb/896905/>

- CSCin54434

Symptom: Websense Manager cannot connect to the local Websense server (the Websense server runs as a separate process on the Content Engine instead of running on a separate system).

Condition: This problem occurs if an external IP address is used from Websense Manager to connect to the local Websense server (Version 5.0.1) that is running on the Content Engine.

Workaround: There is no known workaround.

- CSCin58464

Symptom: The Websense policy server and user server generate core files.

Condition: This problem occurs when the Websense server is running on ACNS 5.1.x software with a version of the Websense Manager that is earlier than Version 5.0.1 build 20030722. This problem does not exist when the Websense server is running on ACNS 5.0.3 software.

Workaround: Download Websense Manager Version 5.0.1 build 20030722.

- CSCin59462

Symptom: An FTP client application stops receiving data for a data transfer operation such as a directory listing (ls) or file transfer (GET). The same symptom can occur for FTP-over-HTTP data transfers from the FTP server to the Content Engine.

Condition: For FTP client applications, the Content Engine must be using the FTP proxy through WCCP redirection, configured for following the FTP client's mode for establishing a data connection. The FTP client application must have also been set to use active mode to the FTP server.

```
ContentEngine(config)# wccp ftp router-list-num number
ContentEngine(config)# wccp version 2
ContentEngine(config)# ftp proxy active-mode enable
```

For FTP-over-HTTP data transfers, the Content Engine must be configured for an FTP incoming proxy and configured to use active mode to the FTP server. The client browser must be configured to use the Content Engine FTP proxy for FTP URLs.

```
ContentEngine(config)# ftp proxy incoming port
ContentEngine(config)# ftp proxy active-mode enable
```

The symptoms can occur with the configurations described above and when the FTP server starts sending data packets that are received out of order by the Content Engine before the Content Engine sends the TCP connection establishment SYN-ACK packet to the FTP server.

Workaround: Remove the Content Engine active mode configuration by entering the following global configuration command:

```
ContentEngine(config)# no ftp proxy active-mode enable
```

When this symptom occurs on an FTP client application, press **Ctrl-C** simultaneously to stop the partial data transfer operation.

When this symptom occurs on a browser configured for FTP-over-HTTP, click the **STOP** button to stop the partial data transfer operation.

- CSCin59781

Symptom: The cache process crashes while passing traffic for both predefined and user-defined HTTPS services.

Condition: This problem can occur when heavy HTTPS traffic is passing through the Content Engine. Using predefined and user-defined WCCP services and having the debug function enabled when HTTPS traffic is heavy may contribute to this problem.

Workaround: There is no known workaround. However, the cache process will restart and work normally after such a crash.

- CSCin60029

Symptom: When a rule with the **redirect** action is configured with a URL of 0 and with a matching pattern (no replacing pattern), the cache process crashes if the request matches the pattern.

Condition: This problem occurs when you configure a numeric value of 0 for the redirected URL (for example, if *www.yahoo.com* is redirected to 0). If you want the Content Engine to redirect URL *x* to URL *y*, then you can configure the **rule redirect** action. While doing so, you must configure URL *x* and URL *y*.

Workaround: There is no known workaround.
- CSCin65344

Symptom: When MPEG-2 is specified as the preferred format in a channel, programs cannot be created in that channel.

Condition: This problem occurs only if MPEG-2 is the preferred format.

Workaround: When MPEG-2 is chosen as the preferred format for a channel-based program, the default bandwidth is set to 1150 (the default for non-MPEG-2 programs). The default bandwidth for MPEG-2-based programs should be 2000 for MPEG-2 half duplex, and 3000 for MPEG-2 full duplex. Manually set the bandwidth while creating the program as follows:

 - If the preferred format is MPEG-2 half duplex, set the bandwidth to 2000.
 - If the preferred format is MPEG-2 full duplex, set the bandwidth to 3000.
- CSCin67818

Symptom: The manifest validator fails to fetch the XML file if the source is authenticated.

Condition: This problem occurs only if the file is located at an authenticated location.

Workaround: Put a copy of the manifest file in a nonauthenticated location to use the manifest validator.

Resolved Caveats—ACNS 5.2.3 Software

This section lists the caveats that have been resolved in ACNS 5.2.3 software. The resolved caveats are grouped into the following categories:

- [ACNS-IP/TV Software Integration Resolved Caveats, page 27](#)
- [Acquisition and Distribution Resolved Caveats, page 27](#)
- [DNS Resolved Caveats, page 27](#)
- [ICAP Resolved Caveats, page 27](#)
- [Management Resolved Caveats, page 28](#)
- [Media and Streaming Resolved Caveats, page 28](#)
- [Rules Resolved Caveats, page 30](#)
- [Upgrade Resolved Caveats, page 30](#)
- [Other Resolved Caveats, page 31](#)

ACNS-IP/TV Software Integration Resolved Caveats

- CSCef77273

The live streaming page of a Cisco Streaming Engine live program, which was created through the APIs and involves a backup IP/TV Broadcast server, cannot be displayed.

Acquisition and Distribution Resolved Caveats

- CSCeg09997

After you have upgraded the ACNS software, content is acquired and distributed again when it should not be.

DNS Resolved Caveats

- CSCef08175

If a LANMAN DOS PC protocol stack is being used, WCCP DNS cache redirection fails. This problem occurs if the DNS response contains eight or less resource records, which causes the ACNS software to pad the response packet to 554 bytes. The DOS client is unable to ping any website if both of the following conditions exist: (1) the DNS response is 554 bytes long, and (2) a WCCP-enabled router intercepts the DNS query, and redirects it to a Content Engine that is running ACNS 5.1.x software or ACNS 5.2.1 software.

- CSCef93513

When an WMT HTTP outgoing proxy is configured, the Content Engine still attempts to perform a DNS lookup. This DNS lookup can fail if the Content Engine is inside the corporate firewall and cannot perform a DNS lookup for Internet host lookups. This problem occurs only with WMT-over-HTTP requests, and if the Content Engine has a limited view of DNS lookup. If the Content Engine is configured to use a DNS server that can serve all DNS lookups, this problem will not occur.

- CSCef93531

When the Content Engine is configured as a transparent proxy, the WMT server can deny WMT-over-HTTP requests if these requests are destined to another WMT proxy. This problem occurs only if the Content Engine cannot resolve the DNS hostname that is specified within the client request.

ICAP Resolved Caveats

- CSCeg24600

If a file is larger than 4 KB, the Respmod *Error Responses* is not correctly returned.

Management Resolved Caveats

- CSCef88224
The network interfaces that are displayed in the Content Distribution Manager GUI are missing the IP address and netmask of the external interface. This problem occurs with the NM-CE-BP-40G and NM-CE-BP-80G models, which are being managed by a Content Distribution Manager that is running ACNS 5.2.1 software.
- CSCef90022
In ACNS 5.2.1 software or earlier, you must have configured the outgoing proxy feature before you can configure the deny and allow ports for the HTTPS proxy through the Content Distribution Manager GUI. In ACNS 5.2.3 software, the Content Distribution Manager GUI now allows you to configure these ports when you are only running an incoming HTTPS proxy.
- CSCef93522
The Content Distribution Manager overrides the external interface bandwidth setting for the NM-CE-BP-40G and NM-CE-BP-80G models. These incorrect bandwidth settings can cause these Content Engine models to go offline.
- CSCef96103
The Content Distribution Manager does not allow you to import a coverage zone file that is larger than 500 KB.
- CSCef97186
When a large coverage zone file is being imported, the Content Distribution Manager GUI displays the incorrect status for a few minutes.
- CSCeg06944
You cannot log in to the Content Distribution Manager GUI and the CMS service does not start. This problem occurs because the available disk space on the Content Distribution Manager is being consumed by the SysMessage table.
- CSCeg11468
When you attempt to use the Content Distribution Manager GUI to update the filesystem settings for a Content Engine in a Device Group, the new settings are not propagated to the Content Engine. (When you enter the **show disk configured** EXEC command on the Content Engine, the new filesystem settings are not shown in the command output.)

Media and Streaming Resolved Caveats

- CSCef56500
The ACNS TV-out functionality does not work on newer properly equipped CE-510 and CE-565 models because a newer revision of the audio video (AV) hardware is used. This problem has been fixed. For more information, see the [“Changes Related to the TV Output Feature”](#) section on page 3 of these release notes.
- CSCef84080
When you are using the Windows Media player for a WMT rebroadcast, the Windows Media player only plays the first two files and does not play the third file even though the root Content Engine is sending out multicast packets. After playing the second file, the Windows Media player stops playing and displays the following error message, “The streaming media description is no longer current.”

- CSCeg00331
When you are using Windows Media Player Version 10, control events (for example, the pause, seek, fast forward, and reverse operations) do not work for the HTTP protocol.
- CSCeg02760
The contents of a playlist could freeze on the user's TV monitor if you disable the TV-out feature (that is, you enter the **no tvout enable** global configuration command) while a playlist is being actively played. This problem was fixed in ACNS 5.2.3 software. In ACNS 5.2.3 software or later, when you enter a **no tvout enable** command during a video playback, the user's video screen is cleanly blanked.
- CSCeg06631
When the the TV out feature is enabled and a playlist is scheduled for the device to "loop playback continuously" (LPC), the CPU usage can be high and there can be excessive TV out logs.
- CSCeg13439
A WMT program is not accessible after the encoder is changed or the encoder is stopped and restarted.
- CSCeg18113
From a Cisco Streaming Engine, you cannot create an RTSP broadcast station using an Axis camera as the RTSP source. This problem occurred if the Session Description Protocol (SDP) parser on the Content Engine fails to parse the Axis SDP information.
- CSCeg29337
The following syslog message is being generated frequently and is filling up the external syslog host:

```
MCM: Plugin MC_REAL_STATSPLUGIN: setting watch on 'proxy'  
MCM: Plugin MC_REAL_STATSPLUGIN: AddedProp: failed to get prop name of '505'
```


In ACNS 5.2.3 software, this problem was fixed by changing the priority of this syslog message from error to informational.

Proxy and Caching Resolved Caveats

- CSCef17666
After you reload the NM-CE-BP-40G and NM-CE-BP-80 models, the local (internal) Websense server is disabled.
- CSCef35485
Persistent server and client HTTP connections are terminated prematurely. This problem occurs if the server responds to an HTTP revalidation request (If-modified-since) with a 304 Not modified message, and the server does not provide the length of the object.
- CSCef35559
The Citrix client application does not launch when a Content Engine is being used. This problem occurs when the HTTP request must be authenticated by a remote server.
- CSCef65579
When HTTP authentication is enabled on the Content Engine, the syslog.txt file fills up with error messages that report that the servers are dead. This problem can occur if an LDAP or TACACS+ server is being used to authenticate the HTTP requests.

- CSCef77411
When a Content Engine is configured to use LDAP authentication with group-based authorization, authorization will fail for users if anonymous binding is disabled on the LDAP server.
- CSCef93451
When the sysfs partition reaches a certain capacity, the system begins to free up space on this partition by deleting files. The syslog.txt file is one of the files that is deleted from the directory.
- CSCeg14001
With certain types of web servers, chunked HTTP data transfers can cause the caching application on the Content Engine to fail.
- CSCeg15643
Even though you have configured the rule to use the x-forwarded-for header, SmartFilter IP-based filtering does not work. This problem occurs if the clients (end users requesting content) are behind the downstream proxy, and filtering is being performed at the upstream proxy.
- CSCeg24021
The proxy cache application stops processing requests and fails to respond to such CLI **show** commands as the **show statistics http EXEC** command. This problem occurs only with Content Engines that have multiple processors (for example, the CE-7320).

Rules Resolved Caveats

- CSCeg18044
Even though you have configured the rule to use the x-forwarded-for header, the rule is not appending the x-forwarded-for header to the HTTP header of a CONNECT request, which is being passed from one Content Engine to another.
- CSCef75401
If you use the Content Distribution Manager GUI to enter rule actions or patterns for a device group and you include extra spaces or use shorthand in the Rule Parameters field, the CLI will appear slightly differently in running-config. Because of the local/central management feature of ACNS, this will cause two equivalent rules to be reflected in the Content Distribution Manager GUI for each device in the group. The first reflects the rule exactly as entered in the device group. As a device group rule, it is displayed as read-only in the Device window of the Content Distribution Manager GUI. The second reflects the rule as shown in running-config. As a device rule, it is displayed as read-write in the Device window. (If you see an edit icon next to the rule, it is read-write. If you see an eyeglasses icon next to the rule, it is read-only.)

Upgrade Resolved Caveats

- CSCeg05797
If you upgrade or downgrade between ACNS 5.2 software and ACNS 5.1 software, the multicast distribution does not retain the customized pgm configuration file for multicast expert mode.

Other Resolved Caveats

- CSCef01817
A Content Engine, which has dual CPUs, sends a syslog message similar to the following message under normal operating conditions:

```
%CE-SYS-4-900000: Freeing page, acns_subsystem: x, pte_count = x
```

You can ignore such messages because the only side effect is that the application memory usage summary in the output of the **show memory** EXEC command might be incorrect.
- CSCef26685
The Type of Service (ToS) value for IP packets is not available to the ACNS software.
- CSCeg07819
Under rare conditions, a Content Engine may crash and enter into kernel debug (KDB) mode if KDB has been enabled (by entering the **kernel kdb** global configuration command), or the Content Engine automatically reboots if the **kernel kdb** command has not been issued. (In ACNS 5.1 software and later, KDB is disabled by default and you must enter the **kernel kdb** command to enable KDB. Once KDB is enabled, it is automatically activated when kernel problems occur.) This problem can occur with Content Engines (for example, the CE-510 or the NM-CE models) that have failed Integrated Drive Electronics (IDE) disks.
- CSCeg22409
After you reboot the CE-7325 model, it loses its duplex and bandwidth configuration settings on the Gigabit Ethernet network interface. This problem occurs if you configured the EtherChannel by assigning both interfaces to a port-channel.

Documentation Updates

This section describes documentation updates.

- [ACNS 5.2.x TV-Out Changes, page 32](#)
- [Bypassing URL Filtering for Certain HTTP and HTTPS Requests, page 32](#)
- [Configuring URL-Based Monitoring, page 32](#)
- [Downgrading ACNS 5.x Software, page 33](#)

ACNS 5.2.x TV-Out Changes

This documentation update applies to the following two ACNS 5.2 software guides:

- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Command Reference, Release 5.2*

In ACNS 5.2.1 software or later, the output of the **show hardware** EXEC command notifies you if the Content Engine has TV-out hardware that is not supported by the version of the ACNS software that is running on the Content Engine.

In ACNS 5.2.1 software or later, the output of the **show tvout** EXEC command also notifies you if the Content Engine has TV-out hardware that is not supported by the ACNS software that is currently running on the Content Engine.

In ACNS 5.2.3 software or later, the output of the **show hardware** EXEC command displays the version of the TV-out hardware that the Content Engine is equipped with.

For more information, see the [“Changes Related to the TV Output Feature”](#) section on page 3 of these release notes.

Bypassing URL Filtering for Certain HTTP and HTTPS Requests

This documentation update applies to the following three ACNS 5.2 software guides:

- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Configuration Guide for Locally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Command Reference, Release 5.2*

In ACNS 5.2.3 software, the ability to configure a Content Engine to bypass URL filtering for certain HTTP and HTTPS requests was added. For more information, see the [“Configuring Content Engines to Bypass URL Filtering for Specific HTTP and HTTPS Requests”](#) section on page 5 of these release notes.

Configuring URL-Based Monitoring

This documentation update applies to the following three ACNS 5.2 software guides:

- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Configuration Guide for Locally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Command Reference, Release 5.2*

In ACNS 5.2.3 software, the ability to configure a Content Engine for URL monitoring was added. For more information, see the [“CLI Enhancements for URL-Based Monitoring”](#) section on page 7.

Downgrading ACNS 5.x Software

This documentation update applies to the following three ACNS 5.2 software guides:

- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Configuration Guide for Locally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Command Reference, Release 5.2*

If you have configured the mediafs with ACNS 5.1 software or later, and then downgrade to ACNS 5.0 software, the mediafs disk space assignment is lost and it reverts to cdnfs disk space. For more information, see the [“Media File System Issues When Downgrading to ACNS 5.0 Software”](#) section on page 11.

If the local (internal) Websense server is enabled on the Content Engine and you downgrade from the ACNS 5.2.x software to either ACNS 5.0 software or ACNS 5.1 software, the WebsenseEnterprise directory is removed from the Content Engine and the local Websense server stops working. For more information, see the [“Websense Issues When Downgrading to ACNS 5.0 Software or ACNS 5.1 Software”](#) section on page 11.

Related Documentation

Your product shipped with a minimal set of printed documentation. The printed documentation provides enough information for you to install and initially configure your product.

Product Documentation Set

In addition to these release notes, the product documentation set includes:

- *Documentation Guide*
- *Regulatory Compliance and Safety Information for the Cisco Content Networking Product Series*

Refer to the *Documentation Guide* for a complete documentation roadmap and URL documentation links for this product.

Hardware Documentation

- *Cisco Content Engine 7305 and 7325 Hardware Installation Guide*
- *Cisco Content Engine 511 and 566 Hardware Installation Guide*
- *Cisco Content Engine 510 and 565 Hardware Installation Guide*
- *Cisco Content Engine 500 Series Hardware Installation Guide*
- *Cisco Content Distribution Manager 4630 Hardware Installation Guide*
- *Cisco Content Router 4430 Hardware Installation Guide*
- *Cisco Content Networking Hardware Installation Guide for the Seven-Rack Unit Chassis*

Software Documentation

- *Documentation Guide and License and Warranty for Cisco ACNS Software, Release 5.2*
- *Cisco ACNS Software Configuration Guide for Centrally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Configuration Guide for Locally Managed Deployments, Release 5.2*
- *Cisco ACNS Software Command Reference, Release 5.2*
- *Cisco ACNS Software API Guide, Release 5.2*
- *Cisco IP/TV Release 5.2 Addendum*
- *Cisco ACNS Software Program Manager for IP/TV User Guide, Release 5.1*
- *Release Notes for Cisco IP/TV, Release 5.2*
- *Release Notes for Cisco ACNS Software, Release 5.2.3* (the release notes you are reading now)

Online Help

- Content Distribution Manager GUI online help system for centrally managed ACNS networks
- Content Engine GUI online help system for locally deployed Content Engines

**Note**

The term “locally deployed Content Engine” refers to a Content Engine that was initially configured with the autoregistration feature turned off so that the Content Engine would not automatically register with the Content Distribution Manager. Because the Content Engine did not register with the Content Distribution Manager, it can be individually managed through the Content Engine CLI or GUI as a locally deployed device. The Content Engine GUI allows you to remotely configure, manage, and monitor locally deployed Content Engines through your browser.

The Content Distribution Manager GUI and the Content Engine GUI both have context-sensitive online help that can be accessed by clicking the **HELP** button.

Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. Cisco also provides several ways to obtain technical assistance and other technical resources. These sections explain how to obtain technical information from Cisco Systems.

Cisco.com

You can access the most current Cisco documentation at this URL:

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

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

http://www.cisco.com/public/countries_languages.shtml

Product Documentation DVD

Cisco documentation and additional literature are available in the Product Documentation DVD package, which may have shipped with your product. The Product Documentation DVD is updated regularly and may be more current than printed documentation.

The Product Documentation DVD is a comprehensive library of technical product documentation on portable media. The DVD enables you to access multiple versions of hardware and software installation, configuration, and command guides for Cisco products and to view technical documentation in HTML. With the DVD, you have access to the same documentation that is found on the Cisco website without being connected to the Internet. Certain products also have .pdf versions of the documentation available.

The Product Documentation DVD is available as a single unit or as a subscription. Registered Cisco.com users (Cisco direct customers) can order a Product Documentation DVD (product number DOC-DOCDVD=) from the Ordering tool or Cisco Marketplace.

Cisco Ordering tool:

<http://www.cisco.com/en/US/partner/ordering/>

Cisco Marketplace:

<http://www.cisco.com/go/marketplace/>

Ordering Documentation

Beginning June 30, 2005, registered Cisco.com users may order Cisco documentation at the Product Documentation Store in the Cisco Marketplace at this URL:

<http://www.cisco.com/go/marketplace/>

Cisco will continue to support documentation orders using the Ordering tool:

- Registered Cisco.com users (Cisco direct customers) can order documentation from the Ordering tool:
<http://www.cisco.com/en/US/partner/ordering/>
- Instructions for ordering documentation using the Ordering tool are at this URL:
http://www.cisco.com/univercd/cc/td/doc/es_inpck/pdi.htm
- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 1 800 553-NETS (6387).

Documentation Feedback

You can rate and provide feedback about Cisco technical documents by completing the online feedback form that appears with the technical documents on Cisco.com.

You can send comments about Cisco documentation to bug-doc@cisco.com.

You can submit comments by using the response card (if present) behind the front cover of your document or by writing to the following address:

Cisco Systems
Attn: Customer Document Ordering
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html

From this site, you can perform these tasks:

- Report security vulnerabilities in Cisco products.
- Obtain assistance with security incidents that involve Cisco products.
- Register to receive security information from Cisco.

A current list of security advisories and notices for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

If you prefer to see advisories and notices as they are updated in real time, you can access a Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed from this URL:

http://www.cisco.com/en/US/products/products_psirt_rss_feed.html

Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you might have identified a vulnerability in a Cisco product, contact PSIRT:

- Emergencies—security-alert@cisco.com

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- Nonemergencies—psirt@cisco.com

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532

**Tip**

We encourage you to use Pretty Good Privacy (PGP) or a compatible product to encrypt any sensitive information that you send to Cisco. PSIRT can work from encrypted information that is compatible with PGP versions 2.x through 8.x.

Never use a revoked or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

http://www.cisco.com/en/US/products/products_security_vulnerability_policy.htm

The link on this page has the current PGP key ID in use.

Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Technical Support & Documentation website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

Cisco Technical Support & Documentation Website

The Cisco Technical Support & Documentation website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day, at this URL:

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

Access to all tools on the Cisco Technical Support & Documentation website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

**Note**

Use the Cisco Product Identification (CPI) tool to locate your product serial number before submitting a web or phone request for service. You can access the CPI tool from the Cisco Technical Support & Documentation website by clicking the **Tools & Resources** link under Documentation & Tools. Choose **Cisco Product Identification Tool** from the Alphabetical Index drop-down list, or click the **Cisco Product Identification Tool** link under Alerts & RMAs. The CPI tool offers three search options: by product ID or model name; by tree view; or for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.

Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411 (Australia: 1 800 805 227)

EMEA: +32 2 704 55 55

USA: 1 800 553-2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

Severity 1 (S1)—Your network is “down,” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

Severity 2 (S2)—Operation of an existing network is severely degraded, or significant aspects of your business operation are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

Severity 3 (S3)—Operational performance of your network is impaired, but most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

Severity 4 (S4)—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

<http://www.cisco.com/go/marketplace/>

- *Cisco Press* publishes a wide range of general networking, training and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Packet* magazine is the Cisco Systems technical user magazine for maximizing Internet and networking investments. Each quarter, Packet delivers coverage of the latest industry trends, technology breakthroughs, and Cisco products and solutions, as well as network deployment and troubleshooting tips, configuration examples, customer case studies, certification and training information, and links to scores of in-depth online resources. You can access Packet magazine at this URL:

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

- *iQ Magazine* is the quarterly publication from Cisco Systems designed to help growing companies learn how they can use technology to increase revenue, streamline their business, and expand services. The publication identifies the challenges facing these companies and the technologies to help solve them, using real-world case studies and business strategies to help readers make sound technology investment decisions. You can access iQ Magazine at this URL:

<http://www.cisco.com/go/iqmagazine>

or view the digital edition at this URL:

<http://ciscoiq.texterity.com/ciscoiq/sample/>

- *Internet Protocol Journal* is a quarterly journal published by Cisco Systems for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the Internet Protocol Journal at this URL:

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

- Networking products offered by Cisco Systems, as well as customer support services, can be obtained at this URL:

<http://www.cisco.com/en/US/products/index.html>

- Networking Professionals Connection is an interactive website for networking professionals to share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

<http://www.cisco.com/discuss/networking>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

<http://www.cisco.com/en/US/learning/index.html>

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