



DistributedDirector Configurable Cache



Note

Effective with Cisco IOS Release 12.4(24)T, this feature is not available in Cisco IOS software.

Feature History

| Release | Modification |
|-----------|------------------------------|
| 12.2(8)T | This feature was introduced. |
| 12.4(24)T | This feature was removed. |

This document describes the DistributedDirector Configurable Cache feature in Cisco IOS Release 12.2(8)T. It includes the following sections:

- [Feature Overview, page 1](#)
- [Supported Platforms, page 2](#)
- [Supported Standards, MIBs, and RFCs, page 3](#)
- [Prerequisites, page 3](#)
- [Configuration Tasks, page 3](#)
- [Configuration Examples, page 5](#)
- [Command Reference, page 6](#)

Feature Overview

DistributedDirector maintains an internal cache of entries that is dynamically configurable. This internal configurable cache consists of sorting events that occur on a per-client basis. Users can configure both the size of this internal cache and the amount of time for which the DistributedDirector system will retain per-client sorting information.



Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

© 2007 Cisco Systems, Inc. All rights reserved.

The DistributedDirector Configurable Cache feature allows users to configure their systems in order to limit the amount of memory that DistributedDirector uses for Domain Name System (DNS) caching. When a query that is a duplicate of a previous query comes from the client within the cache timeout period, the same response can be produced without the use of any Director Response Protocol (DRP) queries or sorting.

The DistributedDirector Cache Auto Refresh feature works in the background to continuously update all entries in the DistributedDirector cache. Once this background refresh feature is initiated, DistributedDirector periodically updates all expired cache entries. The DistributedDirector cache saves the latest answers to all past DNS queries received since cache auto refresh was initiated, and any repeat request is served directly from the cache when caching is enabled.

Benefits

- Use of this feature limits the amount of memory that DistributedDirector uses for DNS caching.
- This feature allows the user to configure how long an entry remains in the cache.

Related Features and Technologies

DistributedDirector Cache Auto Refresh

Related Documents

DistributedDirector Cache Auto Refresh, Cisco IOS Release 12.2(8)T feature module

Supported Platforms

- Cisco 2600 series
- Cisco 3620 series
- Cisco 3640 series
- Cisco 3660 series
- Cisco 3725 series
- Cisco 3745 series
- Cisco 7200 series

Determining Platform Support Through Cisco Feature Navigator

Cisco IOS software is packaged in feature sets that support specific platforms. To get updated information regarding platform support for this feature, access Cisco Feature Navigator. Cisco Feature Navigator dynamically updates the list of supported platforms as new platform support is added for the feature.

Cisco Feature Navigator is a web-based tool that enables you to quickly determine which Cisco IOS software images support a specific set of features and which features are supported in a specific Cisco IOS image. You can search by feature or release. Under the release section, you can compare releases side by side to display both the features unique to each software release and the features in common.

To access Feature Navigator, you must have an account on Cisco.com. If you have forgotten or lost your account information, send a blank e-mail to cco-locksmith@cisco.com. An automatic check will verify that your e-mail address is registered with Cisco.com. If the check is successful, account details with a new random password will be e-mailed to you. Qualified users can establish an account on Cisco.com by following the directions at <http://www.cisco.com/register>.

Cisco Feature Navigator is updated regularly when major Cisco IOS software releases and technology releases occur. For the most current information, go to the Cisco Feature Navigator home page at the following URL: <http://www.cisco.com/go/fn>.

Supported Standards, MIBs, and RFCs

Standards

No new standards are supported by this feature.

MIBs

No new MIBs are supported by this feature.

To obtain lists of supported MIBs by platform and Cisco IOS release, and to download MIB modules, go to the Cisco MIB website on Cisco.com at the following URL:

<http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml>

RFCs

No new RFCs are supported by this feature.

Prerequisites

The sorting cache must be enabled on DistributedDirector. To enable the sorting cache, use the **ip director cache** command.

Configuration Tasks

See the following sections for configuration tasks for this feature. Each task in the list is identified as either required or optional.

- [Configuring the Size of the Cache](#) (optional)
- [Configuring How Long the System Retains Sorting Information](#) (optional)

Configuring the Size of the Cache

To configure the variable size of the DistributedDirector cache, use the following commands in global configuration mode:

| | Command | Purpose |
|--------|--|---|
| Step 1 | Router(config)# ip director cache | Enables the sorting cache on DistributedDirector. |
| Step 2 | Router(config)# ip director cache size 1500 | Configures the maximum number of cache entries, where <i>entries</i> equals 1500. |

Configuring How Long the System Retains Sorting Information

To configure how long the DistributedDirector system will retain per-client sorting information, use the following command in global configuration mode:

| | Command | Purpose |
|--------|---|---|
| Step 1 | Router(config)# ip director cache | Enables the sorting cache on DistributedDirector. |
| Step 2 | Router(config)# ip director cache time 100 | Configures how long the DistributedDirector system will retain per-client sorting information, where <i>seconds</i> equals 100. |

Verifying DistributedDirector Cache Information

To show DistributedDirector cache information, use the **show ip director cache** command.

```
Router# show ip director cache
```

```
Director cache is on
Cache current size = 2 maximum size = 2000
Cache time for sort cache entries:60 secs
Director sort cache hits = 8
Entries:
www.myserver.org:for client 172.17.2.78, used 3 times, valid for:
00:00:42
server 172.21.34.10, rank 0, priority 0
    random incomplete:0
    DRP route lookup external to AS incomplete:0
    administrative preference incomplete:0
    DRP route lookup internal to AS complete:40
    DRP distance to associated server incomplete:0
    portion incomplete:0
    Round-trip time from DRP to client incomplete:0
    DFP originated weight incomplete:0
    Route-map evaluation incomplete:0
    Boomerang evaluation incomplete:0
server 172.21.34.10, rank 0, priority 0, best
    random incomplete:0
    DRP route lookup external to AS incomplete:0
    administrative preference incomplete:0
    DRP route lookup internal to AS complete:30
    DRP distance to associated server incomplete:0
    portion incomplete:0
    Round-trip time from DRP to client incomplete:0
```

```

DFP originated weight incomplete:0
Route-map evaluation incomplete:0
Boomerang evaluation incomplete:0
www.boom1.com:for client 172.17.2.78, used 5 times, valid for:00:00:13
server 172.21.34.10, rank 0, priority 0
    random incomplete:0
    DRP route lookup external to AS incomplete:0
    administrative preference incomplete:0
    DRP route lookup internal to AS complete:40
    DRP distance to associated server incomplete:0
    portion incomplete:0
    Round-trip time from DRP to client incomplete:0
    DFP originated weight incomplete:0
    Route-map evaluation incomplete:0
    Boomerang evaluation incomplete:0
server 172.21.34.10, rank 0, priority 0, best
    random incomplete:0
    DRP route lookup external to AS incomplete:0
    administrative preference incomplete:0
    DRP route lookup internal to AS complete:30
    DRP distance to associated server incomplete:0
    portion incomplete:0
    Round-trip time from DRP to client incomplete:0
    DFP originated weight incomplete:0
    Route-map evaluation incomplete:0
    Boomerang evaluation incomplete:0

```

Configuration Examples

This section provides the following configuration examples:

- [Configuring the Size of the Cache Example](#)
- [Configuring How Long the System Retains Sorting Information Example](#)

Configuring the Size of the Cache Example

The following example configures the maximum number of cache entries:

```

Router(config)# ip director cache size 1500

Cache size shrunk to 1500

Router# show running-config

ip host myhost 172.18.18.10 172.18.18.20 172.18.18.30
.
.
.
ip director host myhost
ip dns primary myhost soa myhost myhost@com
no ip director drp synchronized
ip director cache size 1500

```

Configuring How Long the System Retains Sorting Information Example

The following example configures how long the DistributedDirector system will retain per-client sorting information:

```
Router(config)# ip director cache time 100

Router# show running-config

ip host myhost 172.18.18.10 172.18.18.20 172.18.18.30
.
.
.
ip director host myhost
ip dns primary myhost soa myhost myhost@com
no ip director drp synchronized
ip director cache time 100
```

Command Reference

The following new commands are pertinent to this feature. To see the command pages for these commands and other commands used with this feature, go to the *Cisco IOS Master Commands List*, Release 12.4, at <http://www.cisco.com/univercd/cc/td/doc/product/software/ios124/124mindx/124index.htm>.

- **ip director cache size**
- **ip director cache time**

CCVP, the Cisco logo, and Welcome to the Human Network are trademarks of Cisco Systems, Inc.; Changing the Way We Work, Live, Play, and Learn is a service mark of Cisco Systems, Inc.; and Access Registrar, Aironet, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, CCSP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Enterprise/Solver, EtherChannel, EtherFast, EtherSwitch, Fast Step, Follow Me Browsing, FormShare, GigaDrive, HomeLink, Internet Quotient, IOS, iPhone, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, iQuick Study, LightStream, Linksys, MeetingPlace, MGX, Networkers, Networking Academy, Network Registrar, PIX, ProConnect, ScriptShare, SMARTnet, StackWise, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0711R)

Any Internet Protocol (IP) addresses used in this document are not intended to be actual addresses. Any examples, command display output, and figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses in illustrative content is unintentional and coincidental.

© 2007 Cisco Systems, Inc. All rights reserved.