

Oracle 10g Application Server Load Balancing with Web Cache

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Linux Customers'

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How To use Web Cache as Load Balancer

Since first releases, Web Cache has provided a lightweight load balancing mechanism that allows distributing the client HTTP requests among several origin servers. This never was, though, the main Web Cache feature and few enhancements were done to improve it.

Now, with the Web Cache 10.1.2 phase II release, Oracle Web Cache provides a new and improved load balancing system recommended for all those want to have a cheap and lightweight load balancer in front of their applications.

Specifically, this patch is recommended for all Portal users.

An example of this architecture is:

```
Web Cache LBR ----->
                        Web Cache CACHING1 ---> Origin Server 1
                        Web Cache CACHING2 ---> Origin Server 2
```

Restrictions

Note that you can install Web Cache Load Balancer in front of other Web Cache nodes. This is recommended because Web Cache Load Balancer has these restrictions:

- Doesn't cache anything
- Ignores compression settings
- Doesn't assemble ESI content
- End-user performance monitoring can't be used

In summary, if Web Cache is configured as Load Balancer then most of its features are disabled and you'll need to add more Web Cache nodes if you want some other features like caching or ESI assembly.

Another point to take in consideration is that this deployment makes the OracleAS Web Cache server a single point of failure for your application. You can instead configure a cache cluster with multiple OracleAS Web Cache servers in conjunction with operating system load balancing capabilities. Please check the Web Cache documentation if you want to configure this.

How to configure Web Cache as Load Balancer

- 1.- Be sure you have Oracle Web Cache 10.1.2.0.2 installed
- 2.- Download Patch 4569559 from <http://metalink.oracle.com>

3.- Follow the instructions provided in the Readme for the patch.

4.- Create a backup copy of the internal.xml file. This file is located in the \$ORACLE_HOME/webcache directory on UNIX and ORACLE_HOME\webcache directory on Windows.

5.- Use a text editor to open the internal.xml file.

6.- Locate the CALYPSOINTERNALPARAMS element.

```
<CALYPSOINTERNALPARAMS>
<HEURISTICS CATELMFACTOR="0.0" />
<CACHE />
<SEARCHKEY />
<INVALIDATION />
<MEMORYMANAGER />
<PPC />
<MISCELLANEOUS />
<OEMPERFTOOL />
</CALYPSOINTERNALPARAMS>
```

7.- Add the LOADBALANCE subelement directly after the OEMPERFTOOL subelement as follows:

```
<CALYPSOINTERNALPARAMS>
<HEURISTICS CATELMFACTOR="0.0" />
<CACHE />
<SEARCHKEY />
<INVALIDATION />
<MEMORYMANAGER />
<PPC />
<MISCELLANEOUS />
<OEMPERFTOOL />
<LOADBALANCE ON="YES" />
</CALYPSOINTERNALPARAMS>
```

8.- Save internal.xml.

9.- Restart OracleAS Web Cache with the following command:

```
opmnctl restartproc ias-component=WebCache
```

10.- Verify OracleAS Web Cache is running in the load balancer mode from the OracleAS Web Cache Manager by verifying the following status message displays beneath the Apply Changes and Cancel Changes buttons:

```
Web Cache running in Load Balancer Mode with current configuration
```

Note: Application Server Control Console does not provide an equivalent verification status.

Mapping the Web Cache Load Balancer to the Origin Servers

Logically, is not enough to configure Web Cache as Load Balancer. You must also to map it against the Origin Servers nodes that will server the request. Remember that these Origin Servers can be also other Web Cache nodes doing caching or ESI assembly.

To configure the site-to-server mapping using Oracle EM, follow these steps:

- 1.- On EM main page, click on Web Cache link
- 2.- Click on "Administration"
- 3.- Click on "Origin servers" and add the origin serves. You need to do this step for every origin server you have.
- 4.- Once the Origin Servers are created, go back to the Web Cache administration page
- 5.- Press the link "Sites"
- 6.- If no site exists, press the button "create" to create it
- 7.- By editing the site, map it to the correspondent origin servers by moving them from "Available Origin Servers" box to "Selected Origin Servers" box
- 8.- Apply changes and restart Web Cache

How to check if Web Cache is load balancing correctly

If you want to monitor if Web Cache is balancing correctly, please follow these steps:

- 1.- On Web Cache administration page on EM, click on "Logging"
- 2.- Set the logging level for the file event_log to "DEBUG"
- 3.- Apply changes - No restart is needed
- 4.- Try the load balancing and check the event_log file. You should have entries like these:

```
Request is routed to origin server prod.ohs.com:7778 using load balancing.
```

Check if these log lines are logged for all origin servers. If so, then the load balancing is working fine.