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# Oracle WebCenter Content 11gR1 Performance Testing Results

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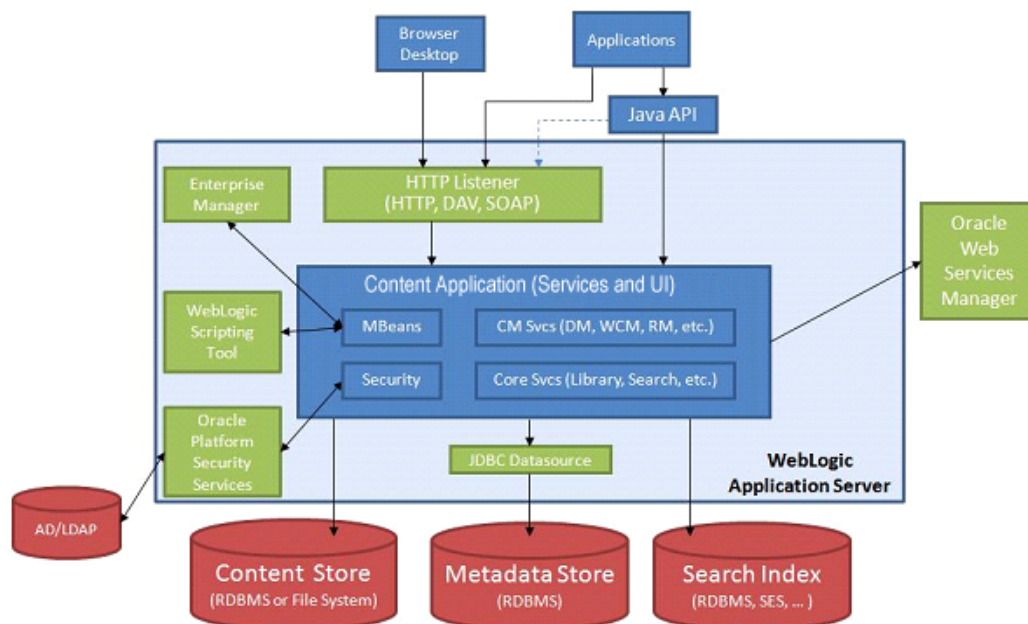
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## Introduction

Oracle WebCenter Content is a highly scalable, high performance enterprise content management system. All components of WebCenter Content, including Document Management, Web Publishing, Imaging and Records Management, run on top of the WebCenter Content repository. The WebCenter Content repository is designed to support a wide range of content management solutions including high ingestion claims processing applications as well as high-consumption Web sites. The 11g version of WebCenter Content was enhanced to enable exceptional performance even when dealing with extremely large volumes of content that would require ingestion rates in the 100 million content items per day range.

## Oracle WebCenter Content Architecture

The following diagram provides a high level view of the Oracle WebCenter Content 11g architecture:



Oracle WebCenter Content 11g is deployed as a managed server in Oracle WebLogic Application Server. WebCenter Content 11g is integrated out-of-the-box with various Oracle Fusion Middleware Technology products such as Oracle Identity Management, Oracle Enterprise Manager and Oracle Web Services Manager. Because of these enterprise integrations, proven scalability, and content management features, WebCenter Content is the ideal strategic repository for all your unstructured content needs.

## High Volume Content & Imaging Application Characteristics

In many large organizations, critical business applications depend on handling large volumes of content. Accounts payable, accounts receivable, and human resources deal with extremely large volumes of paper documents that need to be scanned and contributed to a repository where they can be managed. Very large companies may actually need to manage millions of new documents per day.

In certain industries, such as insurance, you may deal with high volumes of documents even if you are a mid-sized organization. While explanation of benefits, explanations of payments, and claims processing may generate a great deal of content, the number of consumers may be very low (perhaps only a few hundred). Furthermore, content search functionality is streamlined so that content can be quickly retrieved using well known metadata (e.g. claim number, or customer ID) as opposed to ad-hoc keyword and full-text search. In addition, in these high volume imaging applications, content conversion (to HTML or PDF) is not required. Content is natively generated in TIFF or PDF format and is consumed in that format as well.

## High Performance Web Access / Delivery Characteristics

Many organizations use Oracle WebCenter Content to deliver high-performance Web sites. These sites may have a few contributors (in the case of an internet site) or many contributors (a corporate intranet). They may provide a strictly informational site, or combine that information with structured information as part of a catalog or custom Web application.

High performance public Web sites are characterized by relatively few contributors (tens or hundreds) but lots of viewers (thousands or millions). These sites typically provide strong metadata organization and full text searching capabilities. They tend to require robust content conversion capabilities -- converting images (converting Photoshop images to multiple size renditions in JPEG format) or text (Word documents to HTML for viewing on laptops as well as mobile devices).

Applications	Input Volume	Viewers	Search	Conversion
Imaging / High Volume Ingestion	Extremely high	Few	A few metadata categories	Little to none
Web / High Volume Access	Low to medium	Thousands to millions	Full-text, possibly combined with metadata categories	Extensive

## Content Ingestion Performance Using Commodity Hardware

Oracle conducted tests to measure how much content can be ingested into a single node of a WebCenter Content Server at a time. The tests used configurations similar to what would be expected of a claims processing or accounts payable application, running on commodity hardware:

WebCenter Content server: A single server consisting of a two Intel Xeon 5140 dual core processors running at 2.33GHz and 32GB RAM

WebCenter Content Database server: An 8 core Intel Xeon server CPU running at 2.33GHZ, 16GB RAM, Linux (2.6.9)

The tests were conducted using a variety of file sizes (40 KB to 1MB) and types (Text, MS Office, PDF). The results of these tests were as follows:

FILE SIZE	40 KB	100 KB	200 KB	400 KB	1MB
Content Checked In Per Second	263	215	161	96	41
Content Checked In Per 24 Hours	22,723,200	18,576,000	13,910,400	8,294,400	3,542,400
Content Server CPU Usage (%)	89.71%	80.86%	70.17%	52.23%	34.85%
Database Server CPU Usage (%)	46.10%	47.80%	35.39%	23.51%	14.57%

As the above results table shows, **a single node of an Oracle WebCenter Content 11g** server can ingest anywhere from **3 Million to over 22 million** content items per day on generic server hardware.

One key point to note is that according to the CPU usage percentages, the software could process even higher rates of ingestion with different infrastructure. This is evident because neither the content server nor the database is at 100% CPU utilization rates. These kinds of applications are called I/O limited, which means that overall performance is restricted by the speed of your hard disks, and the bandwidth in your network.

## Content Ingestion Performance with Exalogic & Exadata

In order to take performance to the next level, you will need specialized hardware to address the intensive I/O and compute requirements during the ingestion process. These compute needs can be satisfied by using the Oracle Exalogic & Exadata product lines. The Sun Oracle Exalogic & Exadata hardware family are some of the world's fastest environments for these types of workloads. At the

heart of this system is the Oracle Exalogic application servers and the Exadata Storage Servers. The Exadata server have smart storage software built in. The smart storage software offloads data-intensive query processing from Oracle Database 11g servers and brings it closer to the data.

## Exalogic / Exadata Ingestion Test - Small footprint

Oracle did ingestion performance tests using both Oracle Exalogic & Exadata servers. The tests were performed using 100kb test files and the following small footprint combinations of Exalogic & Exadata servers:

- WebCenter Content Server: Single Compute Node of Exalogic
  - A single server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores each
  - Note: a 1/8 rack of Exalogic would contain 4 Compute Nodes
- Database:
  - For the Exalogic only test, the content server database was hosted on a single server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores each
  - For the Exalogic + Exadata Test, the Exadata server consisted of a quarter rack of Exadata 11.2 consisting of :
    - Two servers with each server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores per processor
    - Three storage cells.

TABLE 3. ORACLE WEBCENTER CONTENT 11G EXALOGIC / EXADATA INGESTION TEST- SMALL FOOTPRINT				
	EXALOGIC AVERAGE	EXALOGIC MAX	EXALOGIC + EXADATA AVERAGE	EXALOGIC + EXADATA MAX
Content Checked In Per Second	320	400	880	960
Content Checked In Per 24 Hours	27,648,000	n/a	76,032,000	n/a
Content Server CPU Usage (%)	16%	n/a	41%	n/a
Database Server CPU Usage (%)	9.5%	n/a	66%	n/a

## Exadata Ingestion Test - Larger Footprint

Additionally , Oracle did ingestion performance tests using a larger footprint WebCenter and Exadata server environment. The tests were performed using 100kb test files and the following servers:

- WebCenter Content Servers :
  - Two servers, each server consisting of a two Intel Xeon® E5540 Quad core Processors (2.53 GHz)
- WebCenter Database Server:
  - For the Quarter Rack Exadata Test, the Exadata 11.2 based server consisted of:
    - 2 Servers
    - Each server consisting of a Two Intel Xeon® E5540 Quad core Processors (2.53 GHz), 72GB RAM
    - 3 storage cells
  - For the Half Rack Exadata Test, the Exadata 11.2 based server consisted of:
    - 4 Servers
    - Each server consisting of a Two Intel Xeon® E5540 Quad core Processors (2.53 GHz), 72GB RAM
    - 7 storage cells

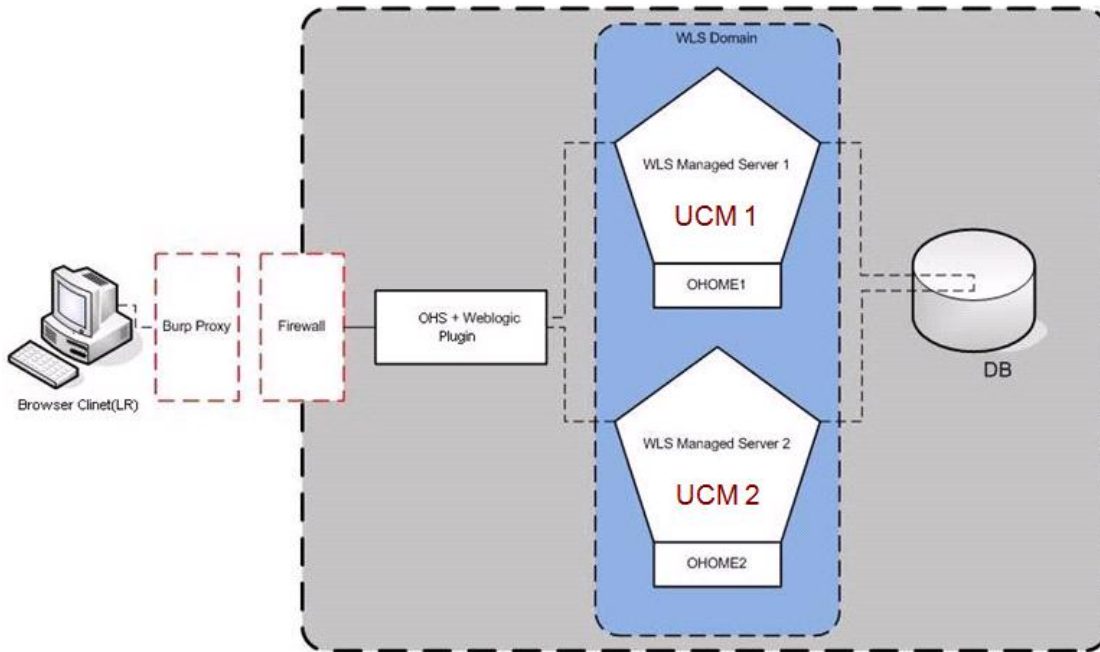
TABLE 4. ORACLE WEBCENTER CONTENT 11g INGESTION TEST WITH LARGER FOOTPRINT EXADATA ENVIRONMENT		
	TWO NODES CONTENT SERVER WITH QUARTER RACK EXADATA	TWO NODES CONTENT SERVER WITH HALF RACK EXADATA
Content Checked In Per Second (Max Throughput)	1030	1900
Exadata CPU usage (%)	<data not available>	66%

As can be seen from the results above, **a two node server environment of Oracle WebCenter Content 11g** can ingest over **1030 files per second** using a quarter rack of Oracle Exadata Hardware (which includes Oracle Database 11g Release 2, leveraging Secure Files and Oracle Exadata Storage Server software), and **1900 files per second** using a half rack of Oracle Exadata Hardware.

## Scalability

As is evident from the data in Table 4 above, Oracle WebCenter Content 11g can scale to handle high volume ingestion extremely well. In the case of the Exadata tests, a scaling of about 85% percent was noted. Oracle also conducted tests on generic hardware to determine scalability margins there. See Table C in Appendix I for test configuration information.

The general setup for these tests is displayed in the following high-level diagram:



Since the goal of the tests was to determine scalability, small files (2-4 KB text files) were used. The results were as follows:

TABLE 5. ORACLE WEBCENTER CONTENT 11g SCALABILITY TEST		
NUMBER OF USERS	10	20
Number of content server Nodes	1	2
Content Checked In Per Second	113	219
Content Checked In Per 24 Hours	9,763,200	18,921,600
Content Server 1 CPU Usage (%)	85	82
% Improvement	94%	

As is evident from the above results, Oracle WebCenter Content 11g is capable of delivering highly scalable solutions even with generic server hardware.



## Oracle WebCenter Content 11g and High Volume Ingestion Content Applications Summary

To summarize Oracle’s performance testing on Oracle WebCenter Content 11g:

- In order to achieve maximum throughput and performance, hardware limitations and bottlenecks need to be reduced.
- Oracle WebCenter Content 11g can scale extremely well given appropriate hardware and network infrastructure.
- Oracle WebCenter Content 11g can be used to support high volume ingestion content applications and can deliver excellent results on both generic server hardware as well as the Oracle Exalogic & Exadata platforms

Figure 1 below summarizes the comparisons of the various 100kb file ingestion tests listed above. As can be seen, WebCenter Content server plus the family of Exadata and Exalogic products can scale to cover a wide range of performance needs.

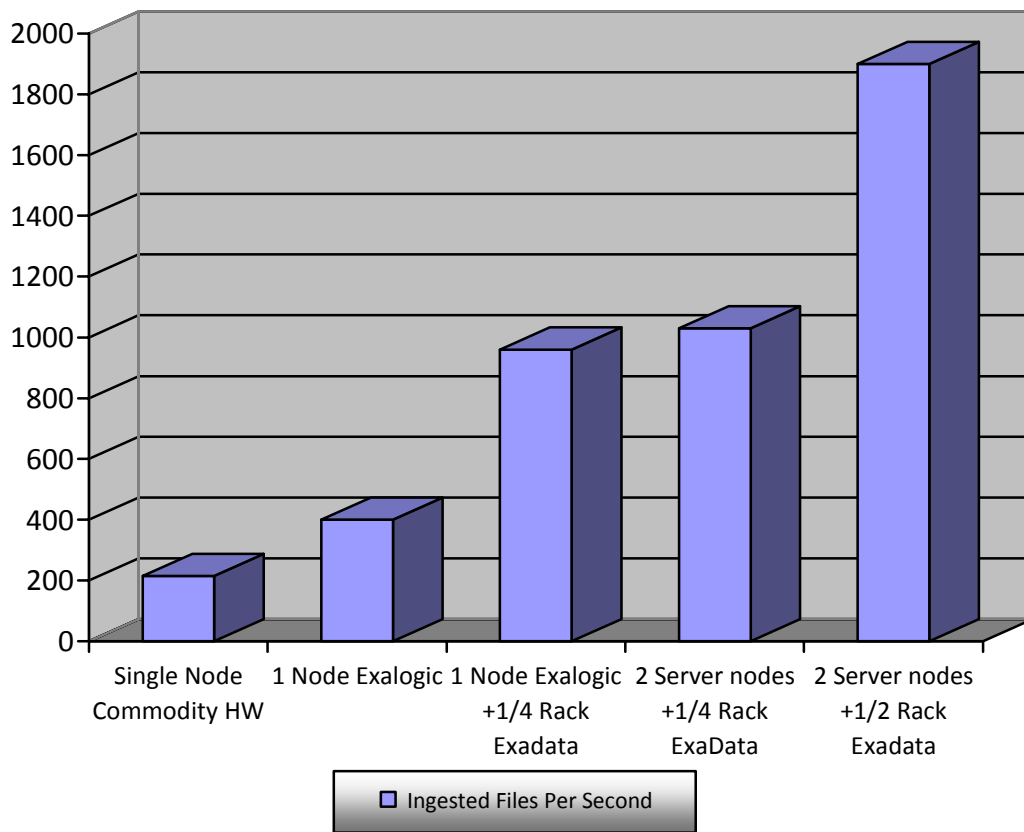


Figure 1. WebCenter Content Ingestion Rates Tests Summary – 100 KB Files

## Performance Results for High Volume Usage Applications

As described earlier in this whitepaper, enterprise content management is often used for applications that cater to a large user base. These types of applications offer, in relative terms, smaller volumes of content vs. imaging-based applications. For example, a popular public facing entertainment Web site may attract millions of visitors a week but may only be delivering few thousand content items. Other examples of such applications include a partner extranet or an employee portal. Such applications serve an important function in large organizations, especially where information exchange and transfer is a crucial part of the business function. Such applications require content to be accessible in multiple formats and without delay. Features such as full-text indexing, search (by metadata and keywords), content conversion (e.g. convert to HTML or PDF), and dynamic Web delivery are crucial for successful deployment and functioning of such applications.

### Full-text Indexing Performance

When delivering content to a broad set of users, search capabilities become a key part of the solution. From a functionality and performance perspective, this involves indexing both the contents within a document, spreadsheet, or presentation as well as its metadata (structured information that helps to categorize content). To ensure end-user adoption and satisfaction, it is important for the content management system to index these files in a fast and efficient manner. Additionally, while on a day to day basis end users typically upload content to the system one or two at a time, often times content is added in batches (e.g. as a result an acquisition, content migration, import from enterprise or custom applications, etc.) which requires the system to index the new content in larger volumes than usual.

Oracle WebCenter Content works with a variety of search engines for full text and metadata indexing. With the 11g release, we added in additional capabilities designed to support high-speed indexing using Oracle Text 11g (part of Oracle Database 11g) and Oracle Secure Enterprise Search 11g for the system's internal search index.

Tests were performed to determine the indexing speed of Oracle WebCenter Content 11g. See Table D in Appendix I for test configuration information.

The following results were observed:

TABLE 6. ORACLE WEBCENTER CONTENT 11g FULL-TEXT INDEXING PERFORMANCE	
Number of Content Items	5 Million
Number of Content Server Nodes	1
Average Number of Items Indexed per Second (Full-Text)	14.77
Average Number of Items Indexed in 24 hours	1,276,128

As you can see, with just a single content server node, Oracle can full-text index content at a rate of over a million items a day for high volume usage applications, such as Web sites, extranets, portals, etc. For high volume ingestion applications, content items can be configured to by-pass the full text indexing step, and made immediately available for searching by metadata from applications, like Imaging and Process Management.

## Search Performance

How quickly end-users can perform a search and get back results is crucial for broad user adoption as well. Tests were conducted against WebCenter Content 11g to determine search performance for full-text (i.e. keyword searches). See Table E in Appendix I for test configuration information.

The following results were observed:

<b>TABLE 7. ORACLE WEBCENTER CONTENT 11g FULL-TEXT SEARCH PERFORMANCE (1 HOUR STEADY STATE)</b>		
<b>NUMBER OF CONTENT ITEMS</b>	<b>6 MILLION</b>	
Number of Users	1	5
Avg. Response Time for Full-Text Search (milliseconds)	49	81
Avg. Response Time for Search with Full-Text and 5 Metadata Fields (milliseconds)	29	52

As can be seen from the results above, Oracle WebCenter Content 11g can handle standard full-text searches as well as complex metadata & full-text search combinations in high volume repositories in fast millisecond response times.

## Content Conversion Performance

Content Conversion from native formats such as Microsoft Word, Excel, Visio and Project to PDF and HTML, is an important feature for content applications catered to a wide audience who may have different desktop applications and versions installed. Especially in applications such as Web sites and extranets, converting to standard consumption formats is critical for efficient information distribution.

Oracle WebCenter Content 11g offers high quality content conversion features that enable native content formats to be converted to PDF, HTML and other image formats (e.g. TIFF, GIF thumbnail, etc.).

Tests were performed to measure conversion performance. See Table F in Appendix I for test configuration information.

The following results were observed:

TABLE 8. ORACLE WEBCENTER CONTENT 11g CONTENT CONVERSION PERFORMANCE		
File Type and Size: Microsoft Word Documents (100KB); all text no images / charts		
CONVERSION TYPE	AVG. DOCUMENTS CONVERTED PER HOUR	CONVERSION SERVER (INBOUND REFINERY) CPU USAGE (%)
Conversion from Word to PDF	2628	80

## Web Content Access / Delivery Performance

With Oracle WebCenter Content 11g, Oracle builds upon its “open Web content management” strategy with the availability of Site Studio for External Applications, built in smart caching and new tag libraries. Oracle’s Enterprise Web content management solution uses a dynamic page assembly mechanism where a given Web page is actually comprised of a collection of regions, images, style sheets, etc. which can all be managed and secured independently. This offers a great deal of flexibility in content and template reuse as well as a simplified Web content creation process.

The consumption performance metrics are likewise impressive on commodity hardware (see Table G in Appendix 1 for test configuration information):

TABLE 9. ORACLE WEBCENTER CONTENT 11g WEB CONTENT MANAGEMENT PAGE ACCESS / DELIVERY PERFORMANCE	
Page Access Per Second	124
Page Access Per Hour	446,400
Content Server CPU Usage (%)	89%

One key point to note is that according to the CPU usage percentages, the software could process even higher rates of consumption with different infrastructure. This is evident because the content server does not have a 100% CPU utilization rate. Similar to what we were seeing with high volume content ingestion, the application is I/O limited, which means that overall performance is restricted by the speed of your hard disks, and the bandwidth in your network. To increase Web page delivery performance, organizations often focus on tuning tricks such as reducing the number of size of images and graphics, leveraging CSS Sprites and image maps, minimizing the number of database calls or dynamic queries, or adding in a Content Delivery Network (CDN) to the Web site architecture.

## Conclusion

Oracle provides the most complete, open, and unified enterprise content management (ECM) platform – that enables you to build in a single repository both high volume imaging applications such as accounts payable and claims processes as well as high performance delivery applications, such as consumer-based Web sites. The solution is simple, smart and highly scalable -- offering organizations extreme content ingestion in the tens of millions per day and only stopping at hardware limitations. Combined with Oracle's Exalogic and Exadata platforms, the world's fastest for any type of applications & database workload, Oracle WebCenter Content can scales into the regions of hundreds of millions of items per day.

## Appendix 1 – Test Configuration Information

Table A. Configuration for high volume ingestion test

TABLE A. CONFIGURATION FOR HIGH VOLUME INGESTION TEST	
Content Server	WebCenter Content 11.1.1.6.0 (PS5) deployed on a Single Node consisting of a two Intel Xeon 5140 dual core processors running at 2.33GHz and 32GB RAM Linux RH(2.6.9)
Content Database Server	Oracle 11.2; An 8 core Intel Xeon server CPU running at 2.33GHZ, 16GB RAM, Linux (2.6.9)
Content Storage Configuration	Oracle Secure Files storage for native files, no content conversion,
Content Indexing	Metadata only
Content Conversion	Disabled
JVM for Content Server	jrockit-jdk1.6.0_29-R28.2.0-4.0.1-linux-x64.bin; Set with -Xms 2048m -Xms 2048m (2 GB RAM allocated to JVM)

Table B. Configuration for Oracle WebCenter Content 11g ingestion tests using Oracle Exalogic and Exadata Storage Servers

TABLE B. CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g INGESTION TESTS USING ORACLE EXALOGIC & EXADATA SERVERS	
Content Server	<p>WebCenter Content Version 11.1.1.5 running on 1 node of Exalogic composed of: A single server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores each</p> <p>OFED version: BXOFED-1.5.1-1.3.6-5(MT)</p> <p>OS version: OOL :2.6.32-100.22.1.el5</p>
Database Server	<p>For the Exalogic only test</p> <ul style="list-style-type: none"> <li>Content server database was hosted on a single server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores each</li> </ul> <p>For the Exalogic + Exadata Test</p> <ul style="list-style-type: none"> <li>Exadata server consisted of a 1/4 Rack of Exadata 11.2 consisting of : <ul style="list-style-type: none"> <li>Two servers with each server consisting of two Intel Xeon 5670 (Westmere) processors running @ 2.93GHz with 6 hyper threaded cores per processor</li> <li>Three storage cells.</li> </ul> </li> </ul>
Content Server Storage Configuration	<p>Oracle Secure Files storage for native files, no content conversion, Indexer Autoupdate disabled, FastCheckin enabled</p> <p>Components enabled: CheckSCSHealth,ContentAccess-linux, FileStoreProvider, JpsUserProvider, NativeOsUtils, OracleQueryOptimizer, ServletPlugin, YahooUserInterfaceLibrary</p> <p>DB connection pool – Max Capacity set to 100</p>
Content Indexing	Metadata only, Disable Auto Indexer Update
Content Conversion	Disabled
JVM for Content Server	JRockit R27.6.4; Set with -Xms 2048m -Xms 2048m (2 GB RAM allocated to JVM)
Network Infrastructure	<p>For the Exalogic only tests: Gigabit Ethernet</p> <p>For the Exalogic + Exadata Tests: Infiniband between DB and Content Server and between Content Server and Load Generator using : 2 x 36 port QDR (40 Gb/sec) InfiniBand switches</p>

Table C. Configuration for Oracle WebCenter Content 11g ingestion test using Oracle Exadata Storage Servers

TABLE C. CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g INGESTION TEST USING ORACLE EXADATA STORAGE SERVERS	
Content Server	<p>WebCenter Content Version: 11gR1-11.1.1.3.0</p> <p>Two server nodes , each server consisting of a two Intel Xeon® E5540 Quad core Processors (2.53 GHz)</p>
Database Server	<p>For the Quarter Rack Exadata Test, the Exadata 11.2 based server consisted of:</p> <ul style="list-style-type: none"> <li>○ 2 Servers</li> <li>○ Each server consisting of a Two Intel Xeon® E5540 Quad core Processors (2.53 GHz), 72GB RAM</li> <li>○ 3 storage cells</li> </ul> <p>For the Half Rack Exadata Test, the Exadata 11.2 based server consisted of:</p> <ul style="list-style-type: none"> <li>○ 4 Servers</li> <li>○ Each server consisting of a Two Intel Xeon® E5540 Quad core Processors (2.53 GHz), 72GB RAM</li> <li>○ 7 storage cells with 12 x 2TB SATA Disks</li> </ul>
Content Server Storage Configuration	<p>Oracle Secure Files storage for native files, no content conversion,</p> <p>Components enabled: CheckSCSHealth,ContentAccess-linux, FileStoreProvider, JpsUserProvider, NativeOsUtils, OracleQueryOptimizer, ServletPlugin, YahooUserInterfaceLibrary</p> <p>Use FastCheckin Enabled.</p>
Content Indexing	Metadata only, Disable Auto Indexer Update
Content Conversion	Disabled
JVM for Content Server	JRockit R27.6.4; Set with -Xms 2048m -Xms 2048m (2 GB RAM allocated to JVM)
Network Infrastructure	Infiniband between DB and Content Server and between Content Server and Load Generator using : 2 x 36 port QDR (40 Gb/sec) InfiniBand switches



Table D. Configuration for Oracle WebCenter Content 11g scalability tests

TABLE D. TEST CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g SCALABILITY TESTS	
Content Server	2 Nodes , each running on 2 CPU 2.33 GHz Xeon dual core processors with 16 GB RAM running Oracle Enterprise Linux 4.
Database Server	Oracle 11.2; Single Database Server running on 2P4C 2.33 (E5410 Harpertown) processors with 16 GB RAM running Oracle Enterprise Linux 4
Content Server Storage Configuration	Oracle Secure Files storage for native files, no content conversion
Content Indexing	Metadata only
Content Conversion	Disabled
JVM for Content Server	JRockit R27.6.4; Set with <code>-Xms 2048m -Xms 2048m</code> (2 GB RAM allocated to JVM)

Table E. Configuration for Oracle WebCenter Content 11g full-text indexing performance tests

TABLE E. TEST CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g FULL-TEXT INDEXING PERFORMANCE TESTS	
Content Server	Single Node running on 2 CPU 2.8 GHz Xeon dual core processors with 6 GB RAM running Oracle Enterprise Linux 4.
Database Server	Oracle 11.1.0.7; Single Database Server running on 2P4C 2.33 (E5410 Harpertown) processors with 16 GB RAM running Oracle Enterprise Linux 4
Content Indexing	Metadata and full-text
Content Conversion	Disabled (native file is indexed)
JVM for Content Server	JRockit R27.6.4; Set with <code>-Xms 2048m -Xms 2048m</code> (2 GB RAM allocated to JVM)
Additional Search Settings	<ul style="list-style-type: none"> <li>• <code>SearchEngineIndexerName=OracleTextSearch</code></li> <li>• Database storing search collection is not the SystemDatabase (separate provider is used)</li> <li>• <code>OracleTextDisableSearchSnippet=true</code></li> </ul>

Table F. Configuration for Oracle WebCenter Content 11g full-text search performance tests

TABLE F. TEST CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g FULL-TEXT SEARCH PERFORMANCE TESTS (1 HOUR STEADY STATE)	
Content Server	Single Node running on 2 CPU 2.8 GHz Xeon processors with 6 GB RAM running Oracle Enterprise Linux 4.
Database Server	Oracle 11.1.0.7; Single Database Server running on 2P4C 2.33 GHz (E5410 Harpertown) processors with 16 GB RAM running Oracle Enterprise Linux 4
Content Server Storage Configuration	Oracle Secure Files storage for native files, no content conversion
Content Indexing	Metadata and full-text
Content Conversion	Disabled (native file is indexed)
JVM for Content Server	JRockit R27.6.4; Set with <code>-Xms 2048m -Xmx 2048m</code> (2 GB RAM allocated to JVM)
Additional Search Settings	<ul style="list-style-type: none"> <li>• <code>SearchEngineIndexerName=OracleTextSearch</code></li> <li>• Database storing search collection is not the SystemDatabase (separate provider is used)</li> </ul>

Table G. Configuration for Oracle WebCenter Content 11g content conversion performance tests

TABLE G. TEST CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g CONTENT CONVERSION PERFORMANCE TESTS	
Content Server	Single Node running on 2 CPU 2.8 GHz Xeon processors with 6 GB RAM running Oracle Enterprise Linux 4.
Content Server for Conversion (Inbound Refinery)	Single conversion engine running on 4 CPU 3.3 GHz server with 16 GB RAM running Oracle Enterprise Linux 4.
Database Server	Oracle 11.1.0.7; Single Database Server running on 2P4C 2.33 GHz (E5410 Harpertown) processors with 16 GB RAM running Oracle Enterprise Linux 4
JVM for Content Server	JRockit R27.6.4; Set with <code>-Xms 2048m -Xmx 2048m</code> (2 GB RAM allocated to JVM)

Table H. Configuration for Oracle WebCenter Content 11g Web content management page access / delivery performance

TABLE H. TEST CONFIGURATION FOR ORACLE WEBCENTER CONTENT 11g WEB CONTENT MANAGEMENT PAGE ACCESS / DELIVERY PERFORMANCE	
Content Server	Single Node running on 2 CPU 2.8 GHz Xeon processors with 6 GB RAM running Oracle Enterprise Linux 4.
Database Server	Oracle 11.1.0.7; Single Database Server running on 2P4C 2.33 GHz (E5410 Harpertown) processors with 16 GB RAM running Oracle Enterprise Linux 4
JVM for Content Server	JRockit R27.6.4; Set with -Xms 2048m -Xmx 2048m (2 GB RAM allocated to JVM)
Web Content Caching	Enabled
Test Data	Web site contents: 200+ pages with 5 editable content regions with 5 elements in each region (i.e. 25 editable snippets); various pages include embedded search queries for dynamic lists.



Oracle WebCenter 11gR1 Performance Testing  
Results  
August 2012  
Author: Marcus Diaz  
Contributing Authors: Vijay Ramanathan

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200  
oracle.com



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