



## PEOPLESOFT 8 ENTERPRISE PORTAL USING ORACLE8i ON COMPAQ ALPHASERVERS

As a global leader in e-business applications, PeopleSoft is committed to delivering high performance solutions that meet our customers' expectations. Business software must deliver rich functionality with robust performance. This performance must be maintained at volumes that are representative of customer environments.

PeopleSoft benchmarks demonstrate our software's performance characteristics for a range of processing volumes in a specific configuration. Customers and prospects can use this information to determine the software, hardware, and network configurations necessary to support their processing volumes.

The primary objective of our benchmarking effort is to provide as many data points as possible to support this important decision.



### SUMMARY OF RESULTS

Benchmark (English)	PS8, Enterprise Portal	
	Standard Data Volume Model	
	Average Response	Search 1.07 sec, 224 Hits/sec
	Concurrent Users	900
Référéce d'exécution (Français)	PS8, Enterprise Portal	
	Norme modèle de données	
	temps de réponse	Search 1,07 sec, 224 Hits/sec
	Concourants Utilisateurs	900
Benchmark-Test (Deutsch)	PS8, Enterprise Portal	
	Datenbankmodell "Standard"	
	Antwortzeit	Search 1,07 sec, 224 Hits/sec
	Gleichzeitige Benutzer	900
Prueba patrón del funcionamiento (Español)	PS8, Enterprise Portal	
	Volumen Estándar de los datos	
	tiempo de reacción	Search 1,07 sec, 224 Hits/sec
	Simultáneos Utilizadores	900
Marca de nível do desempenho (Portuguese)	PS8, Enterprise Portal	
	Volume Padrão dos dados	
	tempo de resposta	Search 1,07 sec, 224 Hits/sec
	Simultâneos Usuários	900

The benchmark measured the portal hit rate and client response times for 450 and 900 concurrent users. The standard database composition model represents a medium-sized company profile. The testing was conducted in a controlled environment with no other applications running. The tuning changes, if any, were approved by PeopleSoft Development and are generally available. **The goal of this Benchmark was to obtain baseline results and to show application scalability for the PeopleSoft 8 Enterprise Portal Solution with Oracle/Compaq.**

The figure below illustrates average load/search response times for 450 and 900 concurrent users. The number of hits per second is also shown for each level of concurrent users.

PeopleSoft 8 Enterprise Portal using Oracle8i on a Compaq AlphaServer ES40

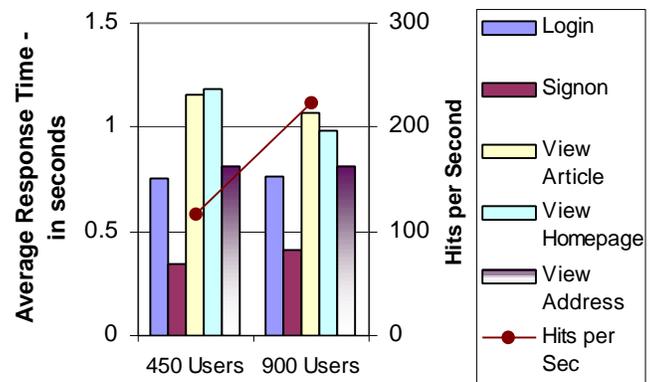


Figure 1: Hit Rate/Average Response Times

### BENCHMARK PROFILE

In June 2001, PeopleSoft conducted a benchmark in Pleasanton, CA to measure the online performance of the PeopleSoft 8 Enterprise Portal using Oracle8i™ on a Compaq® AlphaServer™ ES40 Database Server running Compaq® Tru64™ Unix® Version 5.0a. Two Compaq® AlphaServer™ GS160 servers, each with 8 processors, were used as Portal Application Servers. An AlphaServer GS140 served as the HRMS Application Server.

## METHODOLOGY

Mercury Interactive's LoadRunner® was used as the load driver, simulating concurrent users. It submitted business processes back-to-back from each concurrent user to load up the server functions.

Measurements were recorded when the user load was attained and the environment reached a steady state.

Figure 2 shows this test's 4-tier benchmark configuration.

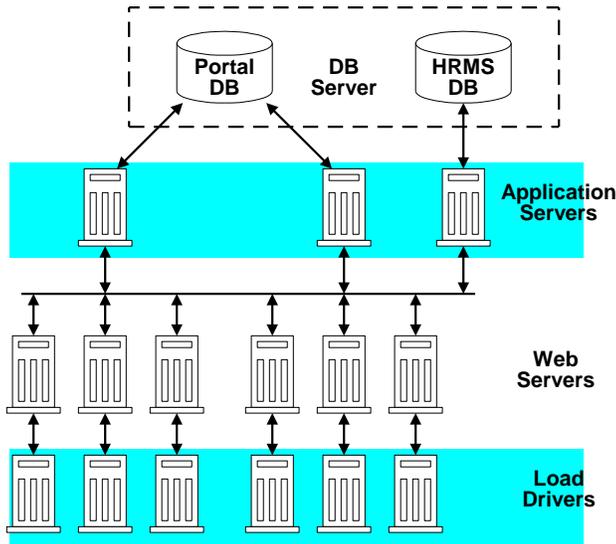


Figure 2: 4-Tier Test Configuration

Load times were measured from the time the user clicks a hyperlink or push button until the new HTML page has been rendered.

## PORTAL TRANSACTIONS

**Login:** User navigates to Guest homepage.

**Signon:** Sign on with Enterprise Portal verification and display of default homepage.

**View News Article:** User clicks on news link to read the full article.

**Return to Homepage:** User clicks back button to return to their homepage.

**View Address Information:** User navigates to HRMS self-service to view the home address/mailling address of record from the database server.

## ONLINE PROCESS RESULTS

The table below shows average retrieval (load) times, in seconds, for each business process. It also shows the corresponding hit rate for the portal server.

Business Process	No. of users	450 Users (1 App)	900 Users (2 Apps)
Login	(Load)	0.753	0.760
Signon	(Load)	0.345	0.412
View Article	(Load)	1.152	1.072
Return to Homepage	(Load)	1.185	0.988
View Address	(Load)	0.808	0.810
Hits per Second		116	224

Table 1: Business Process Runtimes

To demonstrate hardware scalability, another Portal Application Server (with its corresponding trio of Web Servers) was added as the number of concurrent users was doubled. Note that the measured performance held steady as the load was increased.

Performance may vary on other hardware and software platforms and with other data composition models.

## SERVER PERFORMANCE

Table 2 shows the average CPU utilization for each of the servers in this test.

Server	Type	450 Users	900 Users
Database Server	4 x 667 MHz	4.33%	10.61%
HRMS App. Server	8 x 700 MHz	1.79%	3.17%
Portal App. Server 1	8 x 731 MHz	87.31%	74.33%
Web Server 1	2 x 500 MHz	45.50%	47.94%
Web Server 2	4 x 533 MHz	46.83%	49.00%
Web Server 3	8 x 612 MHz	29.13%	28.51%
Portal App. Server 2	8 x 731 MHz		84.79%
Web Server 4	4 x 500 MHz		29.06%
Web Server 5	4 x 533 MHz		52.07%
Web Server 6	4 x 600 MHz		43.37%

Table2: Average Server CPU Utilization

## DATA COMPOSITION DESCRIPTION

The standard database was comprised of:

- 10,000 Employees/Users

## BENCHMARK ENVIRONMENT

### HARDWARE CONFIGURATION

#### **Database Server:**

The Compaq® AlphaServer™ ES40 server was used as the database server. It was equipped with the following:

- 4 × 6/667 Megahertz (21264) Alpha Processors, each with 8 Megabytes of ECC Level-2 Onboard Cache
- 4 Gigabytes of Memory
- 468 Gigabytes of total Disk Space (4 × 9 GB + 24 × 18 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

#### **Application Server(s):**

1 × Compaq® AlphaServer® GS160 server was used as a Portal application server. It was equipped with the following:

- 8 × 6/731 Megahertz (21264A) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 32 Gigabytes of Memory
- 117 Gigabytes of total Disk Space (1 × 9 GB + 6 × 18 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer® GS160 server was used as a Portal application server. It was equipped with the following:

- 8 × 6/731 Megahertz (21264A) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 16 Gigabytes of Memory
- 117 Gigabytes of total Disk Space (1 × 9 GB + 6 × 18 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer® GS140 server was used as the HRMS application server. It was equipped with the following:

- 8 × 6/700 Megahertz (21264A) Alpha Processors, each with 8 Megabytes of ECC Level-2 Onboard Cache
- 16 Gigabytes of Memory
- 36 Gigabytes of total Disk Space (4 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

#### **Web Server(s):**

1 × Compaq® AlphaServer™ DS20 server was used as a web server. It was equipped with the following:

- 2 × 6/500 Megahertz (21264) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 2 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 1 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controller

1 × Compaq® AlphaServer™ 4100 server was used as a web server. It was equipped with the following:

- 4 × 5/533 Megahertz (21164) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 4 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer™ 4100 server was used as a web server. It was equipped with the following:

- 4 × 5/533 Megahertz (21164) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 2 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer™ 4100 server was used as a web server. It was equipped with the following:

- 4 × 5/600 Megahertz (21164) Alpha Processors, each with 8 Megabytes of ECC Level-2 Onboard Cache
- 4 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer™ ES40 server was used as a web server. It was equipped with the following:

- 4 × 6/500 Megahertz (21264) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 8 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

1 × Compaq® AlphaServer™ 8400 server was used as a web server. It was equipped with the following:

- 4 × 5/612 Megahertz (21164) Alpha Processors, each with 4 Megabytes of ECC Level-2 Onboard Cache
- 8 Gigabytes of Memory
- 35 Gigabytes of total Disk Space (5 × 9 GB)
- 2 × Compaq StorageWorks ESA 1200 Fibre Channel Disk Controllers

**Load Simulation Driver(s):**

4 × Compaq® Prioris® model ZX were used as drivers. They were equipped with the following:

- 4 × 200 Megahertz Pentium® Pro® Processors, each with 1 Megabyte of Level-2 Cache
- 2 Gigabytes of Memory

1 × Compaq® ProLiant® model 6400R was used as a driver. It was equipped with the following:

- 4 × 500 Megahertz Pentium® III Xeon™ Processors, each with 1 Megabyte of Level-2 Cache
- 3 Gigabytes of Memory

1 × Compaq® ProLiant® model 6000 was used as a driver. It was equipped with the following:

- 4 × 400 Megahertz Pentium® II Xeon™ Processors, each with 1 Megabytes of Level-2 Cache
- 3 Gigabytes of Memory

**SOFTWARE VERSIONS**

PeopleSoft 8 Enterprise Portal Solution w/SP 2

PeopleSoft 8 HRMS w/SP 1

PTK (ToolKit) n/a

PeopleTools 8.13.14

Oracle8i™ 8.1.6

Compaq® Tru64™ Unix® 5.1 (on the Portal Application Servers)

Compaq® Tru64™ Unix® 5.0a (on the Database server, HRMS Application Server and Web servers)

Microsoft® Windows NT Server 4.0 Build w/SP 6a (on the Drivers)

Mercury Interactive's LoadRunner® 6.5 w/SP 1b

BEA Tuxedo® 6.5 with Jolt 1.2

BEA WebLogic Server™ 5.1.0 w/SP 9



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