



# PEOPLESOFT ENTERPRISE SERVICE PROCUREMENT 8.8 w/SP 1 USING DB2 FOR HP-UX ON HEWLETT-PACKARD INTEGRITY rx8620 AND rx2600 SERVERS

As the world's leading provider of application software for the Real-Time Enterprise, PeopleSoft delivers high performance solutions that exceed our customers' expectations. Business software must deliver rich functionality with robust performance maintained at volumes representative of customer environments.

PeopleSoft benchmarks demonstrate our software's performance characteristics for a range of processing volumes with a specific platform configuration. Customers and prospects can use this information while planning 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)	PeopleSoft Enterprise Service Procurement 8.8	
	Large Volume Model	
	Average Response	Load 1.12 sec, Save 1.98 sec
	Concurrent Users	750
Référence d'exécution (Français)	PeopleSoft Enterprise Service Procurement 8.8	
	Grand modèle de données	
	temps de réponse	Load 1,12 sec, Save 1,98 sec
	Concourants Utilisateurs	750
Benchmark-Test (Deutsch)	PeopleSoft Enterprise Service Procurement 8.8	
	Datenbankmodell "Large"	
	Antwortzeit	Load 1,12 sek, Save 1,98 sek
	Gleichzeitige Benutzer	750
Patrón de rendimiento (Español)	PeopleSoft Enterprise Service Procurement 8.8	
	Volumen grande de los datos	
	tiempo de reacción	Load 1,12 sec, Save 1,98 sec
	Simultáneos Utilizadores	750

The benchmark measured client response times for 250, 500 and 750 concurrent users using a standard 'large' data composition model. The testing was conducted in a controlled environment with no other applications running. Tuning changes, if any, were approved by PeopleSoft Development and will be available in a future update or release. **The goal of this benchmark was to obtain baseline performance data for PeopleSoft Service Procurement 8.8 Online with DB2 UDB on HP Integrity servers.**

The figure below illustrates average retrieve (load) and update (save) response times for a single user, and for a single user with 250, 500 and 750 concurrent users.

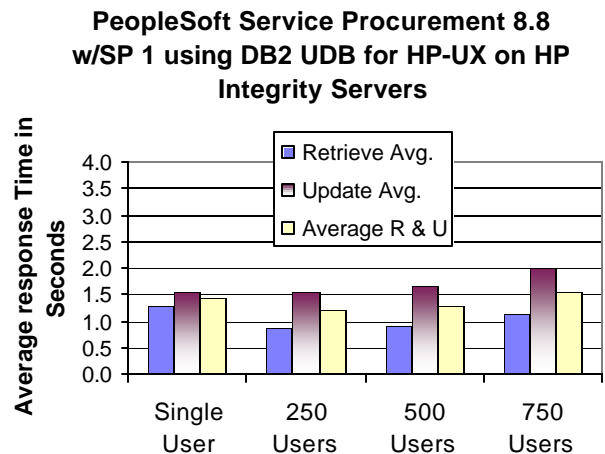


Figure 1: Average Response Times

## BENCHMARK PROFILE

In October 2004, PeopleSoft conducted a benchmark in Pleasanton, CA to measure the online performance of PeopleSoft Enterprise Service Procurement 8.8 with Service Pack 1 using IBM® DB2 Universal Database Enterprise Edition for HP-UX 8.1 w/FP 7 on a 6-way hardware partition (npar) of a Hewlett-Packard® Integrity™ rx8620 database server, running Hewlett-Packard® HP-UX 11.23. An 8-way npar on the Integrity rx8620 was used as the application server and a 2-way HP Integrity rx2600 was used as the web server. Both also ran HP-UX 11.23. An HP StorageWorks XP128 disk array was used for data storage.

\* Results are weighted averages corresponding to the transaction mix specified in the Data Composition model below.

## ONLINE METHODOLOGY

Mercury Interactive’s LoadRunner® was used as the load driver, simulating concurrent users. It submitted a business process at an average rate of one every four minutes for each concurrent user.

Mercury Interactive’s QuickTest® Professional was used to automatically submit transactions and to record the benchmark measurements on the client PC.

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

Load times were measured from the time the user clicks the <OK> button until all the data for the entire business transaction has been retrieved.

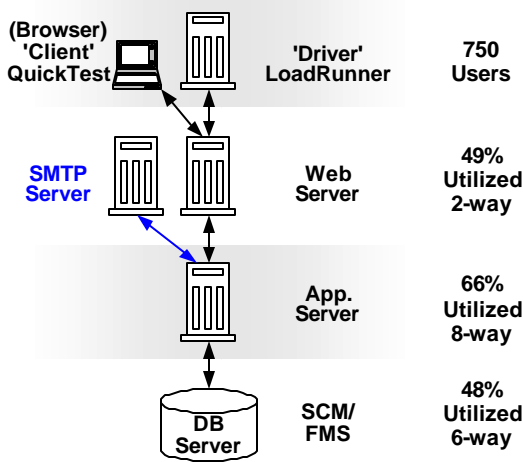


Figure 2: Four-Tier Online Test Implementation

## SELF-SERVICE BUSINESS PROCESSES

PeopleSoft defines a business transaction as a series of HTML pages that guide a user through a business process, such as creating a requisition. Eight business transactions within Service Procurement were tested for this benchmark. They are as follows:

**Service Requisition:** Login as a “Requester” and navigate to ‘Services Procurement’ and to ‘Create Requisition.’ Click on “Continue.” Click on the “Go to Submit Req.” button, then navigate to the ‘Requisition Checkout’ page. Click on the “Save & Submit” button.

**Source Requisition:** Login as a “Service Coordinator” and navigate to ‘Services Procurement’ and to ‘Review and Source Requisition.’ Click on “Sourcing Select.” Click on the “Select All” checkbox, then click on the “Submit” button.

**Submit Candidates (Supplier Portal):** Login as the “Service Provider Contact” and navigate to ‘Fulfill Service Requisitions’ and to ‘Review Reqs/Submit Bids.’ Click on the “Contact” icon. Select a candidate with the “Submit Existing Candidate” radio button. Click on the “Save & Submit” button.

**Offer Position:** Login as a “Service Coordinator” and navigate to ‘Services Procurement’ and to ‘Assess and Award Bids.’ Select from the incoming bids, click the “Add” button. Select an “Offer Position” option and click “Submit.”

**Accept Offer (Supplier Portal):** Login as the “Service Provider Contact” and navigate to ‘Fulfill Service Requisitions’ and to ‘Maintain Bids.’ Select from the incoming bids, click the “Add” button. Select “Accept Offer” and click the “Submit” button.

**Fill Requisition:** Login as a “Service Coordinator” and navigate to ‘Services Procurement’ and to ‘Assess and Award Bids.’ Select the ‘accepted’ bid, click on the “Add” button. Select “Fill Requisition” and click the “Submit” button.

**Submit Timesheet (Supplier Portal):** Login as the “Service Provider” and navigate to ‘Maintain Services Time/Expense.’ Select the Period and Work Order ID and click the “Add” button. Enter the hours and click “Save.” Click on “Submit for Approval” and “OK.”

**Approve Timesheet:** Login as “Time Approver” and navigate to ‘Services Procurement’ and to ‘Maintain Services Time/Expense.’ Select the submitted timesheet and click the “Approve Selected Timesheets” button. Click “OK.”

Table 1 shows how the business transactions were weighted for the benchmark. The weightings are intended to simulate a typical user environment.

Business Transaction	% Total	Avg. Pacing
Create Service Requisition	3%	4 min
Source Requisition	3%	4 min
Submit Candidates	35%	4 min
Offer Position	3%	4 min
Accept Offer	3%	4 min
Fill Requisition	3%	4 min
Enter and Submit Timesheets	40%	4 min
Approve Timesheets	10%	5 min
Total	100%	

Table 1: Business Transaction Mix

## ONLINE TRANSACTION RESULTS

Table 2 shows average save and inquiry response times, in seconds, for each business transaction.

	Single User	250 Users	500 Users	750 Users
Service Req. Submit	2.712	2.340	2.383	2.991
Save	1.660	1.326	1.589	1.838
Source Req. Select	1.413	1.161	1.280	1.543
Save	1.602	1.619	1.728	3.033
Submit Candidate	1.101	0.756	0.827	0.982
Save	1.527	1.466	1.608	2.062
Offer Position Search	1.380	0.881	0.958	1.115
Save	1.941	1.963	2.789	2.938
Accept Offer Search	0.914	0.580	0.631	0.682
Save	2.028	2.084	2.411	2.606
Fill Req. Search	1.356	0.823	0.917	1.375
Save	2.805	2.720	3.103	4.043
Submit Timesheet	0.555	0.609	0.561	0.611
Save	2.397	2.420	2.646	3.018
Approve Timesheet	1.428	0.739	0.795	0.949
Save	1.730	1.302	1.461	1.706
<b>Average Search</b>	<b>1.269</b>	<b>0.854</b>	<b>0.924</b>	<b>1.117</b>
<b>Average Save</b>	<b>1.564</b>	<b>1.533</b>	<b>1.672</b>	<b>1.984</b>
Average Search/Save	1.416	1.193	1.298	1.550
Transactions/Min.	n/a	62	125	188

**Table 2: Online Business Transaction Runtimes**

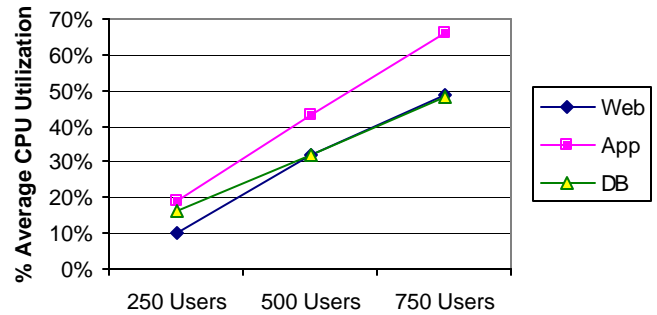
The database and application servers were processing a total of 188 business transactions per minute at the peak load of 750 concurrent users. The estimated transaction rate is calculated by dividing the total number of concurrent users by the average pacing rate.

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

## SERVER PERFORMANCE

Figure 3 shows the average CPU utilization for each of the servers in this test. The CPU utilization is the average across all of the CPUs in each server.

**PeopleSoft Service Procurement 8.8 w/SP 1 using DB2 UDB for HP-UX on HP Integrity Servers**



**Figure 3: Average Server CPU Utilization**

## DATA COMPOSITION DESCRIPTION

The database was based on our standard “extra-large” data model as described below:

Service Procurement Model Size	Large Model
# of Permission Lists	700
# of Service Procurement BU's	100
# of Roles	200
# of Service Types	15
# of Service Vendors	500
# of Service Vendors per BU	20
# of Service Vendors per Region	100
# of Service Vendors per Service Type	100
# of Service Vendors per Region and Service Type	100
# of Service Requisitions per month	250
- Lines per Requisition	5
# of Sourced Suppliers per Requisition line	10
- Candidate Submittals per Line	20
- Communications per submittal	5
# Work Orders per month	750
- Time sheets per Work Order	26
# Invoices per Month	250
- Lines per Invoice	78

**Table 3: Data Composition**

Twenty-four months of historical data was created for requisitions and sourcing.

## BENCHMARK ENVIRONMENT

### HARDWARE CONFIGURATION

#### **Database Server:**

A 6-way hardware partition of a Hewlett-Packard® Integrity™ rx8620 was used as the batch/database server. It was equipped with the following:

- 6 × 1.5 GHz Intel® Itanium®2 Processors, each with 32 Kilobytes of Level-1 Cache, 256 Kilobytes of Level-2 Cache, 6 Megabytes of Level-3 Cache
- 8 Gigabytes of Memory
- 1 SAN-Connected HP StorageWorks XP128 disk array with 2 fibre-channel connections
- ~4.6 Terabytes of total Disk Space available (64 × 73 GB + 2 × 73 GB internal disk drives), approximately 460 GB of RAID 0+1 storage used for this benchmark
- 2 × Hewlett-Packard® Tachyon™ Fibre Channel Host Bus Adapters connected via two HP 2Gb Fibre Channel 16B switches

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

An 8-way hardware partition of a Hewlett-Packard® Integrity™ rx8620 was used as the application server. It was equipped with the following:

- 8 × 1.5 GHz Intel® Itanium®2 Processors, each with 32 Kilobytes of Level-1 Cache, 256 Kilobytes of Level-2 Cache, 6 Megabytes of Level-3 Cache
- 12 Gigabytes of Memory
- ~146 Gigabytes of total Disk Space (2 × 73 GB)

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

A Hewlett-Packard® Integrity™ rx2600 was used as the web server. It was equipped with the following:

- 2 × 900 MHz Intel® Itanium®2 Processors, each with 32 Kilobytes of Level-1 Cache, 256 Kilobytes of Level-2 Cache, 1.5 Megabytes of Level-3 Cache
- 4 Gigabytes of Memory
- ~73 Gigabytes of total Disk Space (1 × 73 GB)

#### **Load Simulation Driver:**

1 × Hewlett-Packard® NetServer® 1000r was used as the driver/controller. It was equipped with the following:

- 2 × 1.4 Gigahertz Intel® Xeon™ Processors, each with 512 Kilobytes of Level-2 Cache and 1 Megabyte of Level-3 Cache
- 4 Gigabytes of Memory

#### **SMTP Server:**

1 × Hewlett-Packard® NetServer® 1000r was used as the driver/controller. It was equipped with the following:

- 2 × 1.0 Gigahertz Intel® Xeon™ Processors, each with 512 Kilobytes of Level-2 Cache and 1 Megabyte of Level-3 Cache
- 2 Gigabytes of Memory

#### **Client PC:**

Hewlett-Packard® d530C workstation with the following:

- 1 × 2.66 Gigahertz Intel® Pentium® 4 Processor, with 512 kilobytes of Level-2 Cache
- 1 Gigabyte of Memory

### SOFTWARE VERSIONS

PeopleSoft Enterprise Service Procurement 8.8 w/SP 1

PeopleTools 8.45

IBM DB2 Universal Database Enterprise Edition for HP-UX 8.1 with FP7 (64-Bit)

Hewlett-Packard® HP-UX® 11i v.2 (11.23) (on the database server, application server and web server)

Microsoft® Windows 2000 Advanced Server 5.0 Build 2195 w/SP 4 (on the driver and client)

Mercury Interactive's LoadRunner® 8.0 with patch "LoadRunner\_80\_Web\_Update\_2004\_06\_21.exe"

Mercury Interactive's QuickTest® Professional 6.5 with PeopleSoft Addition

BEA Tuxedo® 8.1 RP89 with Jolt 8.1

BEA WebLogic Server™ 8.10 w/SP 2 with JRE 1.4.2.02

Merant™ (Micro Focus) Server Express™ 1.1

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