certified
Technology Benchmark

PEOPLESOFT EIM SALES INCENTIVE MANAGEMENT 8.8 USING ORACLE9i ON IBM® pSERIES 630 and 650 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	PeopleSoft Sales Incentive Management 8.8 w/SP 2	
	Medium Volume Model	
(English)	10,000 Payees	3,000,000 Transactions – 8.9 hours
	Transactions/Hour	337,078 per hour
Référence d'exécution	PeopleSoft Sales Incentive Management 8.8 w/SP 2	
	modèle de données de taille moyenne	
(Français)	10.000 Bénéficiaires	3.000.000 Transactions – 8,9 heures
	Transactions/heure	337.078 par heure
Benchmark-Test	PeopleSoft Sales Incentive Management 8.8 w/SP 2	
	Datenbankmodell "Medium"	
(Deutsch)	10.000 Payees	3.000.000 Transactions – 8,9 Stunden
	Anreizen Gerechnet pro Stunde	337.078 pro Stunde
Patrón de rendimiento	PeopleSoft Sales Incentive Management 8.8 w/SP 2	
	Modelo con volumen mediano de datos	
(Español)	10.000 Beneficiarios	3.000.000 Transactions – 8,9 horas
	Transactions/hora	337.078 por hora
Benchmark	Sales Incentive Management 8.8 w/SP 2 do PeopleSoft	
	Modelo de Médio Volume dos dados	
(Português)	10.000 Payees	3.000.000 Transactions – 8,9 horas
	Transactions/hora	337.078 por a hora

BENCHMARK PROFILE

In July 2004, PeopleSoft conducted a benchmark study in Pleasanton, CA to measure the batch performance of PeopleSoft EIM Sales Incentive Management 8.8 w/SP 2 using Oracle9i™ Version 9.2.0.5 [for AIX®] on a 4-way IBM® pSeries® 630 database server, running IBM AIX 5L™ V5.2. An 8-way pSeries 650 batch server also ran IBM AIX 5L V5.2.

The benchmark measured one Sales Incentive Management business process runtime using one data composition model, representing a medium sized organization. The testing was conducted in a controlled environment with no other applications running. The tuning changes were approved by PeopleSoft Development and will be generally available in a future release or update. **The goal of this benchmark test was to obtain baseline PeopleSoft Sales Incentive Management 8.8 performance metrics with Oracle9i on an IBM server.**

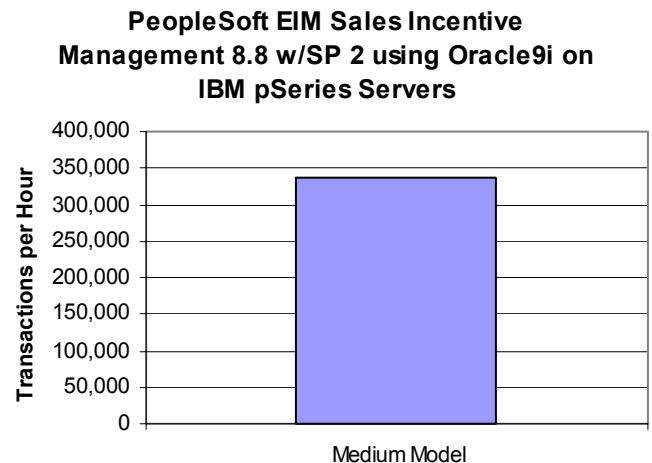The figure below illustrates business process rates for the benchmarked database model.

PeopleSoft EIM Sales Incentive Management 8.8 w/SP 2 using Oracle9i on IBM pSeries Servers

Figure 1: Business Process Rates

Note that the EIM Sales Incentive Management processes were run as a sixteen parallel job streams (except for four brief processes that were run single-stream).

METHODOLOGY

PeopleSoft Enterprise Incentive Management 8.8 batch processes are initiated from a browser. For this benchmark, all jobs were initiated from a browser to initiate the 16 parallel Application Engine spawned jobs.

* Several brief processes were run as single job streams. See Table 1.

Batch processes are background processes, requiring no operator intervention or interactivity. The runtimes were taken directly from the system output for each process.

BUSINESS PROCESSES

The nine business processes tested (actually a single serial process flow), which represent the sales to payout cycle, are as follows:

Pre Allocation: Preparation of data for internal processing

Allocation: The allocation process determines which sales plan participants should be considered for an incentive calculation based on the incoming order or transaction and the sales plan allocation rules.

Post Allocation: Internal processing to set up remainder of jobs.

Credit: The credit process assigns credit for a sale or order to the plan participants per the plan rules.

> [This may be full credit, partial credit, or other. This really does not have to be a monetary amount – but depends on the implementer. Also, this does not consider incentive caps that may be part of one's contract etc - so this does not have any direct mapping to the payment]

Rollup: The rollup process drives the credits up the hierarchy to the senior management levels.

Commission: The commission process calculates what the payments will be, based on the credits and the calculation rules.

Payout: The payout step processes the calculated commissions to prepare the actual payouts for publishing.

Post Monthly Ledger: This step publishes the payout amounts calculated above for payroll or accounts payable.

Bulk Replication: This step copies the published payout amounts to the ledger for auditing and reporting.

BATCH PROCESS RESULTS

The table below contains the actual runtimes, in minutes, for the benchmark business processes.

Business Process	Medium Model
Enterprise Incentive Context	1 min
Pre Allocation *	3 min
Allocation	113 min
Post Allocation *	1 min
Credit	35 min
Rollup	119 min
Commission	140 min
Payout	78 min
Post Monthly Ledger *	19 min
Bulk Replication *	25 min
Total	534 min (8.9 hr)
Total Transactions	3,000,000
Transactions / Hour	**337,078**

Table 1: Business Process Runtimes

10,000 payees ran 100 transactions each with two levels of sales management (commission hierarchy) resulting in 3,000,000 transactions processed.

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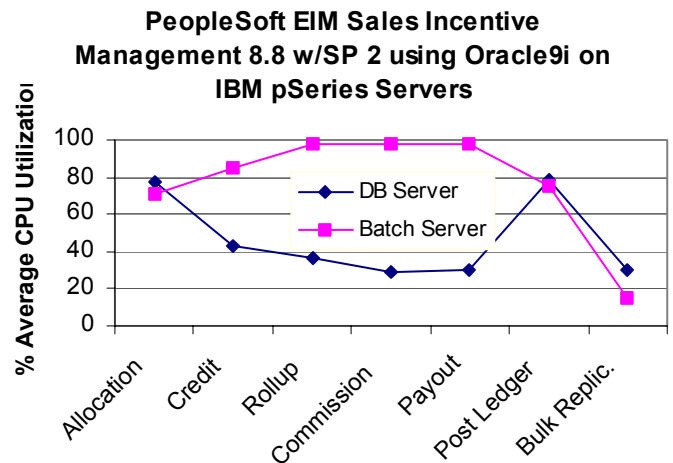
SERVER PERFORMANCE

Figure 2: Average CPU Utilization

The CPU Utilization above represents the average across all of the processors in each server. Data are only plotted for processes lasting about twenty minutes, or more.

I/O Performance

An IBM TotalStorage® FAStT900 with six EXP700 drawers with 14 × 36.4 GB (15K) disks set up in RAID 5 configuration was used for the benchmark. I/O performance is crucial to system performance and is summarized in the following table.

Model Size	DB Server	Read MB/Sec	Write MB/Sec	Disk Transfer MB/Sec
Medium	Average	0.1789	3.70	452.8
	Peak	1.866	14.052	1357.6

Table 2: I/O Performance

DATA COMPOSITION DESCRIPTION

This testing used expanded data with the characteristics outlined in the following table.

	Medium Model
Participants	10,000
Managers/Directors	110
Cities (10 per State)	1,000
States (10 per Territory)	100
Territories	10

Table 3: Data Composition

PERFORMANCE TOOLKIT ENVIRONMENT

HARDWARE CONFIGURATION

Database Server:

The IBM pSeries 630 (7028-6C4) server was used as the database server. It was equipped with the following:

- 4 × 1.45 GHz IBM Power4™ processors, each with 32 Kilobytes of Level-1 Data Cache and 64 Kilobytes of Level-1 Instruction Cache, 0.768 Megabytes of Level-2 Cache, with an average of 4 Megabytes of Level 3 Cache
- 16 Gigabytes of Memory
- ~720 Gigabytes of total Disk Space (11 × 66 GB)
- 3 Disk Controllers (1 × SCSI, 2 × 1 Gbit Fibre Channel)

  The IBM pSeries 630 was attached to:

- One IBM TotalStorage FAStT900 Storage Server

Batch Server:

The IBM pSeries 650 (7038-6M2) server was used as the batch server. It was equipped with the following:

- 8 × 1.45 GHz POWER4 Processors, each with 32 Kilobytes of Level-1 Data Cache and 64 Kilobytes of Level-1 Instruction Cache, 0.75 Megabytes of Level-2 Cache, with an average of 16 Megabytes of Level 3 Cache
- 32 Gigabytes of Memory
- ~70 Gigabytes of total Disk Space (2×36.4 GB SCSI)
- 1 Disk Controllers (1 × SCSI)

SOFTWARE VERSIONS

PeopleSoft EIM Sales Incentive Management 8.8 w/SP 2

PeopleTools 8.44 w/Bundle 3 (HotFix 1)

Oracle9i 9.2.0.5 (64-bit)

IBM AIX 5L V5.2 ML3 (64-bit)

BEA Tuxedo® 8.1

ICE/APRDs: **645569000**

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