



PEOPLESOFT ENTERPRISE RECEIVABLES 8.8 USING DB2 FOR Z/OS ON AN IBM z990 2084-B16 with 313 Feature [6-way LPAR]

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 Enterprise Receivables 8.8		
	Large Volume Model		
(English)	Total Processes	Business	Total Run Time – 34.97 minutes
Référence d'exécution	PeopleSoft Comptabilité Clients 8.8		
	Grand modèle de données		
(Français)	Total Processes	Business	Temps d'exécution total – 34,97 minutes
Benchmark-Test	PeopleSoft Debitorenbuchhaltung 8.8		
	Datenbankmodell "Large"		
(Deutsch)	Total Processes	Business	Gesamtdurchlauf-Zeit – 34,97 Minuten
Patrón de rendimiento	PeopleSoft Cuentas a Cobrar 8.8		
	Modelo con volumen superior de datos		
(Español)	Total Processes	Business	Tiempo de pasada total – 34,97 minutos
Benchmark	Contas a Receber 8.8 do PeopleSoft		
	Modelo de Grande Volume		
(Português)	Total Processes	Business	Tempo do funcionamento do total – 34,97 minutos

The benchmark measured six Receivables business process runtimes using two database models representing medium and large-sized company profiles. 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 for PeopleSoft Enterprise Receivables 8.8 using DB2 for the z/OS.**

The figure below illustrates processing rates for the tested models.

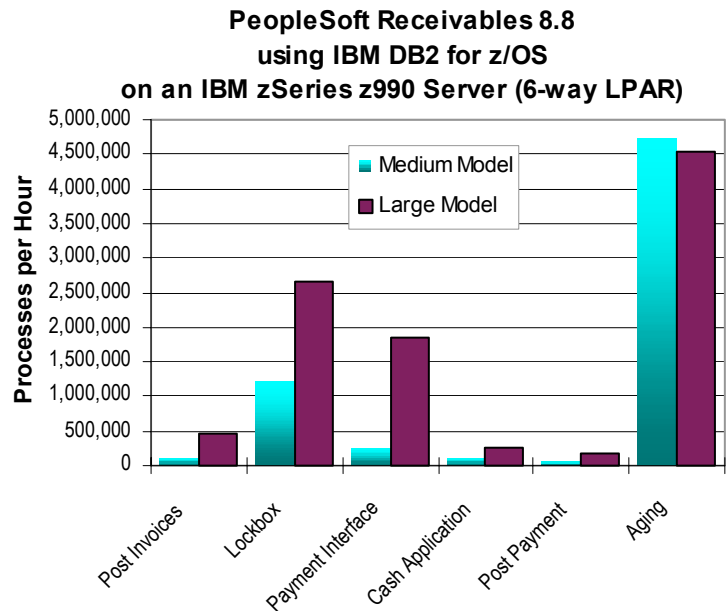


Figure 1: Business Process Rates

BENCHMARK PROFILE

In July 2004, PeopleSoft conducted a benchmark in Pleasanton, CA to measure the batch performance of six key processes in PeopleSoft Enterprise Receivables 8.8 using IBM® DB2 for z/OS™ 7.1 on a 6-way IBM zSeries™ 990 model 2084-B16 with 313 Feature database server, running IBM z/OS version 1.2. The 7 Terabyte (~2.4 TB available, <100 GB used) IBM Enterprise Storage Server (ESS SHARK) was used for storage.

METHODOLOGY

PeopleSoft Receivables business processes can be initiated from a browser. For this benchmark, all Application Engine or SQR processes were initiated from a browser. Parallel jobs were initiated for those business processes as noted in the batch-results chart.

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

BUSINESS PROCESSES

The six processes tested in this benchmark represent the typical business processes run on a nightly basis for processing receivables transactions. They are as follows:

Post Invoices: Bring pending items into PeopleSoft Receivables through a batch interface from a billing system. This process edits the items, creates the associated accounting entries, and updates each customer’s items and balance. (AE)

Process Lockbox Files: Read the two lockbox files representing two payment groups. The payment interface staging tables are updated to reflect the incoming payments. (SQR)

Payment Interface: Execute the Payment Interface job, which updates the payment tables to reflect the incoming payments. (AE)

Cash Application (Payment Predictor): Automatically match payments to open items based on Customer ID, and either the item reference number, or the MICR ID. Payment Predictor Algorithms match payments to invoices based on invoice reference numbers and customer balances. (AE)

Post Payments: Update each customer’s balance after the payments have been applied, and create the associated accounting entries. (AE)

Aging: All open items are categorized into pre-determined aging categories based on item basis date (e.g., due date). (AE)

BATCH RESULTS

Table 1 contains the actual runtimes, in minutes, for the benchmark business processes. Performance may vary on other hardware and software platforms and with other data composition models.

Business Process	Medium Model		Large Model	
	Parallel Jobs	Runtime	Parallel Jobs	Runtime
Post Invoices (Pending Invoice Items)	5	2.03	10	5.07
Lockbox (Payments)	1	0.10	1	0.45
Payment Interface (Payments)	1	0.47	1	0.65
Cash Application (Payment Items)	5	1.28	10	5.78
Post Payments (Payment Items)	5	2.85	10	9.25
Aging (Open Items + Pending Invoice Items)	1	1.32	1	13.77
Totals	n/a	8.05 min	n/a	34.97 min

Table 1: Business Process Runtimes

SERVER PERFORMANCE

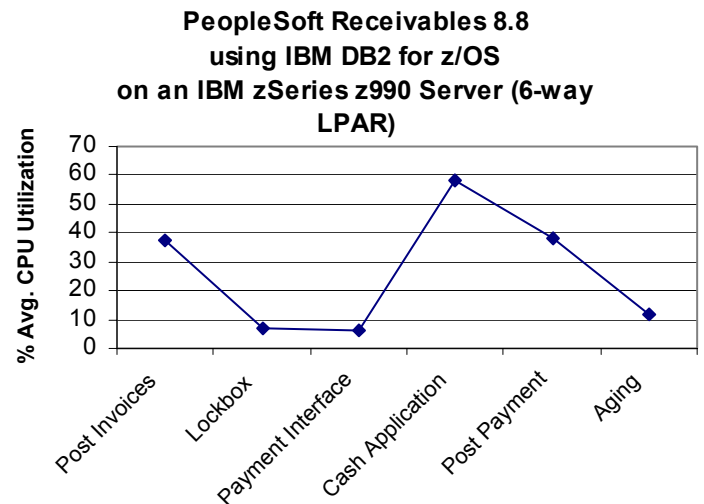


Figure 2: Average CPU Utilization (Large Model)

The CPU utilization shown above is the average for the duration of each of the processes run. Only one of the six available engines was used for the single job-stream processes run.

I/O PERFORMANCE

The 2.4 Terabyte (allocated) IBM® Enterprise Storage Server (ESS SHARK) was used for storage. I/O performance is crucial to batch performance and is summarized as follows:

	Avg I/Os per Sec	Peak I/Os per Sec	Avg. I/O Response
Large Model	628	3,199	2.86 msec

Table 2: I/O Performance

DATA COMPOSITION DESCRIPTION

The table below shows the standard data composition of the medium and large sized company models used in this benchmark. The data composition reflects the transaction activity for a typical business day.

Data Composition	Medium Model	Large Model
Business Units	5	10
Customers Processed	2,000	20,000
Total Customers	20,000	200,000
Pending Invoice Items	3,900	39,000
Payments	2,000	20,000
Payments Applied / Needing Review	1,250 200	12,500 2,000
Payment Items	2,500	25,000
Open Items	100,000	1,000,000
Closed Items	1,000,000	10,000,000

Table 3: Data Composition

CUSTOMERS

To simulate a production environment, the number of customers processed represent a subset of the total number of customers in the database affected by new transactions in a given business day.

PENDING INVOICE ITEMS

Pending invoice items represent the invoice activity coming from a billing application for a typical business day.

PAYMENTS

To better simulate a real-world scenario, a number of underpayments, erroneous and hard-to-identify payments were introduced in the initial database.

Payments applied refer to those payments that were successfully matched to invoices during the automatic cash application process. Payments needing review represent those payments that were automatically matched to items, but were tagged as needing manual review before they can be posted.

A payment item is generated for each invoice that is closed as a result of the automatic payment application process (Payment Predictor). Payment items represent the payment transaction activity that is used to update customer balances.

OPEN / CLOSED ITEMS

To reflect a production-sized database environment, a number of pre-existing open items and closed items were populated in the database. The closed items represent approximately a year's worth of closed items in Receivables.

BENCHMARK ENVIRONMENT

HARDWARE CONFIGURATION

The IBM zSeries 990, model 2084-B16 with 313 Feature was used as the database server. It was equipped with the following:

- 6 × IBM z990 Gen1 Processors (13 Processors populated, but only 6 available for this testing) 4392 MIPS total for 13 engines, 2027 MIPS for 6 engines
- 32 Gigabytes of Memory (3 GB available for this test)

The IBM zSeries 990 was attached to:

- One IBM Enterprise Storage Server, 2105-800 Turbo, 72.8 GB disk size, ~7 Terabytes of total Disk Space, with 2.4 Terabytes available (<100 GB used)

SOFTWARE VERSIONS

PeopleSoft Receivables 8.8

PeopleTools 8.44

IBM® DB2 for z/OS 7.1 PUT0402

IBM® z/OS version 1.2 (on the Database server)

Related ICE Tracking: 705581000



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