PeopleSoft8

REVISION 2.1

PEOPLESOFT GENERAL LEDGER 8.4 (WITH COMBINATION EDITING) USING DB2 FOR Z/OS ON AN IBM z900 2064-116 (8-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 (English)	PeopleSoft General Ledger 8.4 (with Combo. Editing)	
	Extra-Large Volume Model	
	Edit & Post	5,000,000 lines – 35.58 minutes
	Journal Lines/Hour	8,430,913 per hour
Référence d'exécution (Français)	PeopleSoft Comptabilité Générale et Analytique 8.4 (avec Combination Editing)	
	Grand modèle supplémentaire de données	
	Edit & Post	5.000.000 lignes – 35,58 minutes
	Lignes/heure	8.430.913 par heure
Benchmark-Test (Deutsch)	PeopleSoft Hauptbuch 8.4 (mit Validierung von ChartField-Kombinationen)	
	Datenbankmodell "Extra-Large"	
	Validieren & Buchen	5.000.000 Zeilen – 35,58 Minuten
	Journalzeilen/Stunde	8.430.913 pro Stunde
Patrón de rendimiento (Español)	PeopleSoft Contabilidad General 8.4 (con Combo. Editing)	
	Modelo con volumen superior adicional de datos	
	Edit & Post	5.000.000 líneas – 35,58 minutos
	Líneas/hora	8.430.913 por hora
Benchmark (Português)	Contabilidade 8.4 (com Combo. Editing), do PeopleSoft	
	Modelo de Grande Extra Volume	
	Edit & Post	5.000.000 linhas – 35,58 minutos
	Linhas/hora	8.430.913 por a hora

BENCHMARK PROFILE

In August, 2003; PeopleSoft and IBM conducted a benchmark in San Jose, CA to measure the batch performance of the Edit (with Combination Editing) and Post processes in PeopleSoft General Ledger 8.4, using IBM® DB2 for OS/390™ 7.1 on an IBM® zSeries 900 model 2064-116 (8-way LPAR) database server, running IBM® z/OS version 1.2.

The benchmark measured runtimes for two standard database models representing large and extra-large organizations. Testing was conducted in a controlled environment with no other applications running. The tuning changes, if any, were approved by PeopleSoft Development and will be generally available in a future release or update. **The goal of this performance test was to obtain reference performance results for PeopleSoft General Ledger 8.4 on DB2 for z/OS (OS/390) with an 8-way server.**

Figure 1 shows the resulting throughput with the Combination Editing logic.

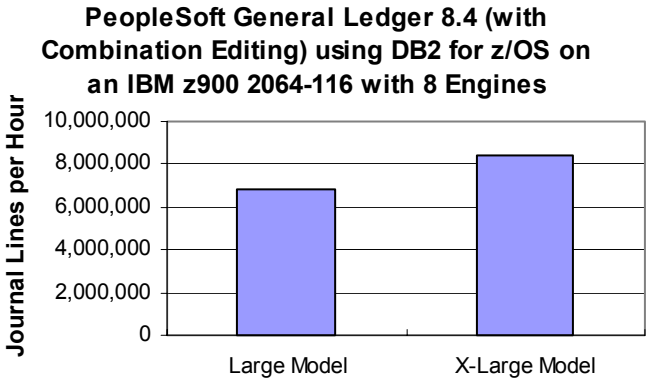

Figure 1: Journal Line Processing Rate

METHODOLOGY

PeopleSoft General Ledger 8.4 batch processes can be initiated either from a browser or on the server. For this benchmark, all jobs were initiated from a browser.

The Edit process was executed in twenty parallel streams and the Post process was executed in twenty parallel streams for this benchmark (Extra-Large Model). In this benchmark, no errors were generated during the Journal Edit process.

Batch processes are background processes, requiring no operator intervention or interactivity. Results of these processes are automatically logged in the database. The runtimes are posted to the Process Request database table where they are stored for subsequent analysis.

PROCESSES

The two General Ledger processes measured in this benchmark are as follows:

Journal Edit (GL_JEDIT): Validates journal entries, including items such as ChartField values, control totals and debit/credit balancing. If a journal is flagged with an error status, it can be corrected using the GL online correction feature. The **Combination Editing** feature/process uses ChartField combination rules to validate ChartField combinations (by 'Account' and 'Department').

Journal Post (GLPPPOST): Summarizes detail line activity and either inserts a new row or updates an existing row in the ledger. There is one ledger row for each unique combination of ChartField values, accounting period, and fiscal year. In this benchmark, the Post step updated 40% of the existing ledger rows with 60% being inserts. This is typical for companies that perform the edit and post functions on a frequent basis.

BATCH RESULTS

The table below contains the actual runtimes, in minutes, for each process. It also shows how many journal lines were executed per minute and, by linear extrapolation, per hour.

Process	Large Model	Extra-Large Model
Edit Journal	7	25.78
Post Journal	1.83	9.80
Total	8.83	35.58
Journal Lines /Min	113,207	140,515
Journal Lines /Hr	6,792,453	8,430,913

Table 1: Process Runtimes

The testing was conducted in a controlled environment with no other applications running. Performance may vary on other hardware and software platforms and with other data composition models.

SERVER PERFORMANCE

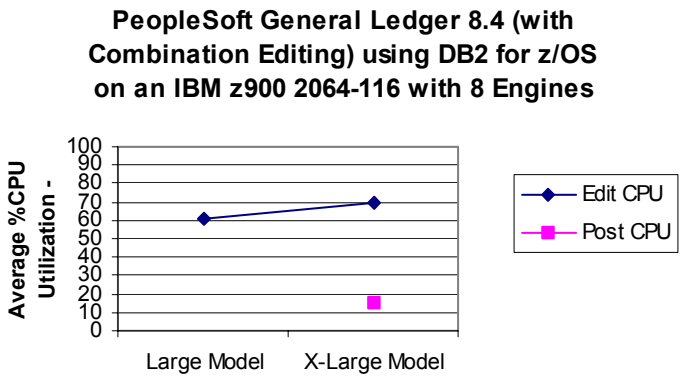

Figure 2: CPU Utilization

The % CPU Utilization is the average across the eight processors for the duration of each batch process. Note that the 'Large Model' "Post" process was too short to gather statistically useful metrics.

DATA COMPOSITION DESCRIPTION

The table below describes the standard data composition models for the database sizes tested in this benchmark. 60% (600,000 or 3,000,000) of the transactions are in a single business unit.

Number of			Large	Extra Large
Business Units			33	33
Ledger Rows (2 years)*			14,100,000	70,920,000
Existing Journal Rows (2 Runs)			2,000,000	10,000,000
Journal Transactions per Run			1,000,000	5,000,000
Journal Lines per Header	Total for all Accounts	100%	500	10,000
	Revenue (-)	30%	150	3000
	Expense (+)	60%	300	6000
	Asset (+)	6%	30	600
	Liability (-)	2%	10	200
	Equity (-)	2%	10	200
Journal Headers			2,000	500
Unique ChartFields Combinations			200,000	1,000,000
New Unique ChartFields Combinations			100,000	500,000
Number of Concurrent Processes			14	28
Number of Journal Headers per Concurrent Process			200	25
Ratio of first business Unit versus Number of Concurrent Processes**			**6:14**	**12:28**
Steps per Group			6	6

Table 2: Data Composition

LEDGER COMPOSITION

The number of ledger rows represents the base level of the ledgers prior to transaction processing. This base level includes 3 ledgers (Local, Budgets and Forecast), where Budget rows are equivalent to Local rows; **Forecast rows are equivalent to Local rows**. However, the journal transactions were posted to a single Local ledger. The number of ChartFields remained constant throughout the testing. The ledger rows were distributed into two years of 12 periods for each year 1997 and 1998.

Assume Local represents 1/3 of the total ledger rows and the remaining 2/3 are within the Budget and Forecast ledger. For example, in a total of 9,000,000 ledger rows 3,000,000 would be Local, 3,000,000 would be Budgets, and 3,000,000 rows in a Forecast ledger.

JOURNAL COMPOSITION

The number of journal rows to be processed represents the base level prior to transaction processing. The number of journal transactions processed is representative of a typical company within each category. The number of journal lines per header determines the ratio of detail journal lines per header. For example, 50,000 transactions would consist of 500 unique journals' headers with 100 detail lines each. **Existing historical data for Journals consisted of data spread evenly over 2 days (12-05-98 to 12-06-98). Journals to be processed during the benchmark Edit/Post process are for the periods of 12-07-98 through 12-08-98.**

PERFORMANCE TOOLKIT ENVIRONMENT

HARDWARE CONFIGURATION

The IBM® zSeries 900 model 2064-116 was used as the database server. It was equipped with the following:

- 8 × IBM® z900 Gen1 Processors (~1,612 MIPS* for 8 engines – * per IBM Large Systems Performance Reference [LSPR])
- 10 Gigabytes of Memory
- ~610 Gigabytes of Storage (as 244 × 2.5 GB Logical)

The IBM® zSeries 900 was attached to:

- One IBM® Enterprise Storage Server, 2105-E20, 36.4 GB disk size, 2.4 Terabytes of total Disk Space, with 1.2 Terabytes available

SOFTWARE VERSIONS

PeopleSoft General Ledger w/Combination Editing 8.4

PeopleTools 8.42.02

IBM® DB2 for z/OS 7.1 (April 2003 level)

IBM® z/OS version 1.2 PUT0210+ (on the Database server)

Merant™ Server Express™ (COBOL) 2.0

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