

SAP BUSINESS ONE 8.8 PERFORMANCE TESTS RESULTS

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An important objective in the scope of SAP Business One 8.8 was the enhancement of system performance. In order to constantly oversee the progress, we defined scenarios and matched them continuously against the previous Release, SAP Business One 2007 A.

The goal of this document is to provide our partners and customers with more details on the main performance achievements and performance increase in SAP Business One 8.8.

Test environment

As test environment, we took SAP Business One 8.8 and SAP Business One 2007 A. (Same hardware, operating system and MS SQL 2005 used)

Disclaimer:

Please be aware that the measured performance and improvements has been evaluated on SAP labs hardware and can differ from your system setup.

1. Single User Business Scenarios

All scenarios were tested with only one client

You will find below single user test results for a sample of the most typically used scenarios within SAP Business One.

1.1. Core functionality

Scenarios:

- Scenario: Add marketing documents
(Quotation, Order, Delivery, Invoice, each type with 1 to 100 items)
Improvement: 10-30% reduction in execution time¹
- Scenario: Add based Marketing documents
(Delivery based on Order, Invoice based on Delivery; each type with 1 to 100 items)
Improvement: 20-50% reduction in execution time
- Scenario: Choose From List (Quotation, Order, Delivery, Invoice; each type with 1 to 100 items)
Improvement: 10-20% reduction in execution time
- Scenario: Copy From (Quotation, Order, Delivery; each type with 1 to 100 items)
Improvement: 20-40% reduction in execution time¹
- Scenario: Rapid Data Test: Following fields have been entered in the forms:
Item → Quantity → Price → Discount;
(Document types: Sales Quotation, Order, Delivery note and Invoice)
Improvement: Up to 14% reduction in execution time²
- Scenario: Run the followings reports: Balance Sheet, P&L, Trial balance.
(All reports have been previewed on screen)
Improvement: P&L ~20% and the rest of the reports ~ 80%-95%.
For example, a Balance Sheet report that took in our tests 10 seconds with SAP Business One 2007 A, took only 1-2 seconds with SAP Business One 8.8.

Testing environment:

Server: Core 2 Duo 2.66GHz CPU, 2GB RAM; Microsoft® Windows 2003, Microsoft® SQL Server 2005
Client: Pentium 4 3.20GHz CPU, 1GB RAM; Microsoft® Windows XP
Database: See chapter three: Key figures of the database used for this performance tests

¹ Between Release 2005 A SP01 and Release 2007 A, customers typically already experienced a performance improvement of 20-50% for documents with 100-300 items.

² Between Release 2005 A SP01 and Release 2007 A, customers typically already experienced a performance improvement in this area of 20%.

1.2. SAP Add-On:

Scenarios	SAP Business One 2007 A	SAP Business One 8.8	Improvement
Import 5000 assets	More then 400 minutes	15 minutes	96.25%
Import Process – 2500 assets	269 minutes	7 minutes	97.3%
Year Change	80 minutes	15 minutes	81.25%
Depreciation(Without Cost Accounting) - 2500 assets	84 minutes	1 minute	98.8%
Depreciation(With Cost Accounting) - 2500 assets	156 minutes	3 minutes	98%

Testing environment:

Server: Xeon Dual Core 3.2GHz CPU, 4GB RAM; Microsoft® Windows 2003, Microsoft® SQL Server 2005

Client: Pentium 4 3.40GHz CPU, 2GB RAM; Microsoft® Windows XP

Database: See chapter three: Key figures of the database used for this performance tests

1.3. SDK:

Scenarios:

- Scenario: RecordSet (Using the DI API Multiple-Add-on connection, retrieving data from a RecordSet with about 5 columns and 1000 rows)
Improvement: ~50 % reduction in execution time
- Scenario: General DI API operations (Add Order, Add Invoice, Add Warehouse, Add Pricelist etc.)
Improvement: 20%-30% reduction in execution time
- Scenario: General UI API operations (Copy From Document With 100 Lines, Draw Form with data table and grid, ChooseFromList With 100 Items)
Improvement: 15%-25% reduction in execution time
- Scenario: Retrieving data in cell using new matrix interface: GetCellSpecific
Improvement: ~80% reduction in execution time
- Scenario: Add rows to a user matrix (~1000 rows)
Improvement: ~40% reduction in execution time

Testing environment:

Server: Pentium 4 3.20GHz CPU, 2GB RAM; Microsoft® Windows 2003, Microsoft® SQL Server 2005

Client: Pentium 4 3.20GHz CPU, 2GB RAM; Microsoft® Windows XP

Database: See chapter three: Key figures of the database used for this performance tests

2. Multiple Users Core functionality

You will find below test results of multi user scenarios for 5 users working simultaneously in the system, on the typical sales and purchase scenarios.

Scenarios:

1. Sales Scenario: Create Order with 100 lines → Delivery (using copy from) → Invoice (using copy from)
2. Purchase Scenario: Create Order with 100 lines → Goods Receipt PO (using copy from) → Invoice (using copy from)

These scenarios were tested with three sales clients and two purchase clients running simultaneously.

The measured parameter was the number of transactions per hour.

(1 transaction means 1 full business process from Order → Delivery/Goods Receipt PO → Invoice)

Results vary depending on the size of database

(for setup with larger databases more RAM on DB server hardware will accelerate execution time)

Results on a small database:

1 Server / 5 Clients (simultaneously)	Number of Sales scenarios completed in 1 hour (3 Clients)	Number of Purchase scenarios completed in 1 hour (2 Clients)	Total number of scenarios completed in 1 hour
SAP Business One 2007 A	68	66	134
SAP Business One 8.8	135	105	240
Improvement	99%	59%	79%

Testing Environment:

Server: Pentium 4 3.4GHz CPU, 2GB RAM; Microsoft® Windows 2003, Microsoft® SQL Server 2005

Client: Pentium 4 3.2GHz CPU, 2GB RAM; Microsoft® Windows XP

Results on a large database (for details see chapter three):

1 Server / 5 Clients (simultaneously)	Number of Sales scenarios completed in 1 hour (3 Clients)	Number of Purchase scenarios completed in 1 hour (2 Clients)	Total number of scenarios completed in 1 hour
SAP Business One 2007 A	92	68	160
SAP Business One 8.8	115	86	201
Improvement	25%	26%	26%

Testing Environment:

Server: Xeon CPU E3110 3.00GHz, 4GB RAM; Microsoft® Windows 2003, Microsoft® SQL Server 2005

Client: Xeon CPU E3110 3.00GHz, 4GB RAM; Microsoft® Windows XP

3. Key figures of the 16 gigabyte database used for this performance tests

Object	Amount
Masterdata	
Warehouses	5
Items	15,000
Price lists	50
Accounts	500
Business Partners	15,000
Marketing Data	
Orders	45,000
Delivery	45,000
Invoice	60,000
Financial Data	
Journal entry	225,000
Payments	6,000
Production Data	
Production Order	6,000
Production Issue	4,500
BOM	1,500

Technical improvements and impact:

A number of technical improvements were made in SAP Business One 8.8 to facilitate improved performance. You will find below a list of the most important improvements.

1. Introduction of transactional caching and statement pooling mechanism.
Optimization of the frequently used SQL queries.
 - a. As a result, the total transaction time is reduced by 10%~50% depending on the scenario.
 - b. The time in which the transaction is holding an exclusive lock on the numbering object is shortened.
2. Enhancement of the locking on the numbering table; range lock was changed to row lock.
For multiple users in the system, if they are using different series, as of Release 8.8, they can work concurrently, which was not possible in former releases. This will increase the level of concurrent use. The enhancement does not apply for shared numbering system (Belgium-style numbering).
3. Enhancements in Grid line insertion and progress bar refresh reduce the financial reports running time to 50% or less.
4. By loading the DI API metadata on demand, the memory usage, as well as the start up time consumption will be reduced

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