

IBM Netfinity and DB2 Set Performance Record for SAP R/3 Two-Tier SD Benchmark on a Four-Way Intel-Based Server

The IBM Netfinity* 7000 M10 has demonstrated leadership performance running the SAP** R/3 Two-Tier Centralized Sales and Distribution (SD) Benchmark on a four-way, Intel-based server. The IBM Netfinity 7000 M10 server achieved 225 SD Benchmark users with 1.94 seconds average dialog response time on DB2 Universal Database V6.1 and Microsoft Windows NT Server 4.0. The measured throughput of 68,000 dialog steps per hour represents 22,670 fully processed order line items per hour. This is a new record for a four-way results using the Intel** 500MHz/2MB Pentium** III Xeon** processor.

The Benchmark Environment

The hardware configuration for the 225 SD benchmark user run consisted of one database server, an IBM Netfinity 7000 M10 server with four 500MHz Pentium III Xeon processors with 2MB L2 cache, 4GB of main memory, and 640GB of total disk space running Windows NT Server 4.0 with Service Pack 3, DB2 UDB V6.1 and SAP's R/3 SD Benchmark, Release 4.0 B. The measured throughput was 68,000 dialog steps per hour with an average CPU utilization of 97 percent for the central server. The central installation server ran Microsoft Windows NT Server 4.0 with Service Pack 3.

This benchmark fully complies with SAP's issued benchmark regulations and has been audited and certified by SAP. Details can be obtained from IBM and SAP AG. The benchmark was performed at IBM's Performance Laboratory in Research Toronto, Canada, by IBM engineers.

1. General Information about Benchmark Environment

Certification Number	1999020
Hardware Partner	International Business Machines Corporation
Contact Name/Tel./Mail ID	Phil Horwitz / horwitzp@us.ibm.com
R/3 Release	4.0 B
DBMS Version	DB2 UDB V6.1
Date	July 23, 1999
Location	Research Triangle Park, NC, USA
Lead Engineers	IBM: Russ Stocker, Steve Schormann
Published	Yes

2. Detailed Hardware and System Software Configuration

Central Server			
System Name / Model	IBM Netfinity 7000 M10		
Processor Type / Clock Rate / Number of Processors	Intel Pentium III Xeon 500MHz / 4		
Cache Size / Level	2MB / Level 2		
Memory	4GB		
Operating System	Windows NT Server 4.0 with Service Pack 3		
Database System	DB2 UDB V6.1		
Number of Disks	80 External, Total Disk Space: 640GB		
I/O Subsystem			
Controller Number	Number of Disk Drives	RAID Level	Contents
1st ServeRAID-3H Ch. 1	10 x 9.1GB External Drives	0	SAPDATA
1st ServeRAID-3H Ch. 2	10 x 9.1GB External Drives	0	SAPDATA
1st ServeRAID-3H Ch. 3	10 x 9.1GB External Drives	0	SAPDATA
2nd ServeRAID-3H Ch. 1	10 x 9.1GB External Drives	1	Logs
2nd ServeRAID-3H Ch. 2	10 x 9.1GB External Drives	1	Logs
3rd ServeRAID-3H Ch. 1	10 x 9.1GB External Drives	0	SAPDATA
3rd ServeRAID-3H Ch. 2	10 x 9.1GB External Drives	0	SAPDATA
3rd ServeRAID-3H Ch. 3	10 x 9.1GB External Drives	0	SAPDATA

Benchmark Driver (1)	
System Name / Model	IBM RS/6000* PowerPC* Model F50
Processor Type / Clock Rate / Number of Processors	IBM PowerPC 166MHz / 4
Memory	3072MB
Operating System	AIX*
Number of Disks	4

Network Configuration	
Type	100Mbps Switched Ethernet
Number of Segments	1 Segment Attached to a Switched Hub
Speed	100Mbps Full-Duplex Ethernet

3. Detailed R/3 Configuration

SAP R/3 Configuration	
SAP R/3 Version (Application)	SAP R/3 4.0 B
SAP R/3 Version (Kernel)	SAP R/3 4.0 B
Number of benchmark clients used	225

R/3 Module	Simulated Benchmark Users	Dialog Step / Hour	Average Response Time	Average** CPU Utilization of Database Server	Average DB Response Time	Response Time Distribution
SD	225	68,000	1.94	97%	d: 0.080 sec u: 0.203 sec	52% under 2 seconds

** as in SAP Operating System Monitor

*** as in SAP Workload Monitor

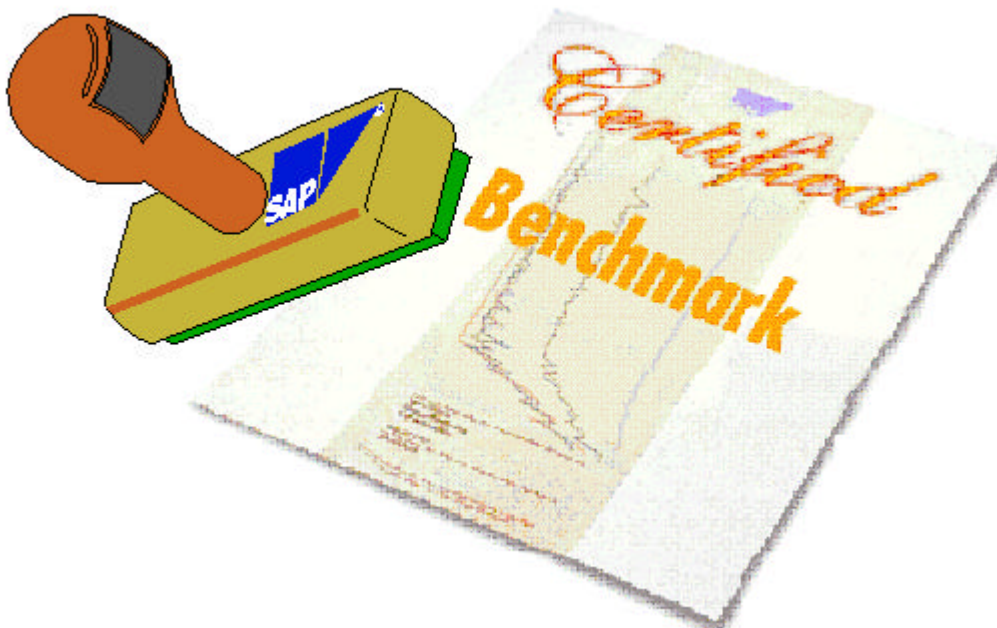
Hardware Disclosure		
Quantity	Part Number	Description
Database Servers (1)		
1	8680-8RY	IBM Netfinity 7000 M10
4	28L4735	IBM Netfinity 500MHz/2MB L2 Cache Processor
4	94G7385	IBM Netfinity 1024MB Memory Expansion Kit
3	01K7207	IBM ServeRAID-3H Ultra2 SCSI Adapter
1	34L0901	Ethernet 10/100 PCI Adapter
8	3520-2RU	IBM Netfinity EXP15 Rack Storage Enclosure with Redundant Power
80	01K8499	IBM EXP10 9.1GB 10K Wide Ultra SCSI Hard Disk Drive
1	9306900	IBM Netfinity Rack
1	94G6669	Side Panel Kit

The SAP standard application benchmark performed on July 23, 1999, by **IBM** in Toronto, Canada, was certified on July 30, 1999 with the following data:

Number of benchmark users:	225 SD (Sales & Distribution)
Average dialog response time:	1.94 seconds
Throughput:	1,130 SAPS (68,000 dialog steps/h)
Equivalent to (line items / hour):	22,670 processed order line items
Average DB request time (seconds):	0.080 (dialog) / 0.203 (update)
CPU utilization central server:	97%
Operating System central server:	Windows NT 4.0
RDBMS:	DB2 UDB V6.1
R/3 Release:	4.0 B
Total disk space:	640 GB

Configuration:

1 Central Server: IBM Netfinity 7000 M10, 4 processors SMP, Pentium III Xeon 500 MHz, 2 MB Second Level Cache, 4 GB main memory



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