

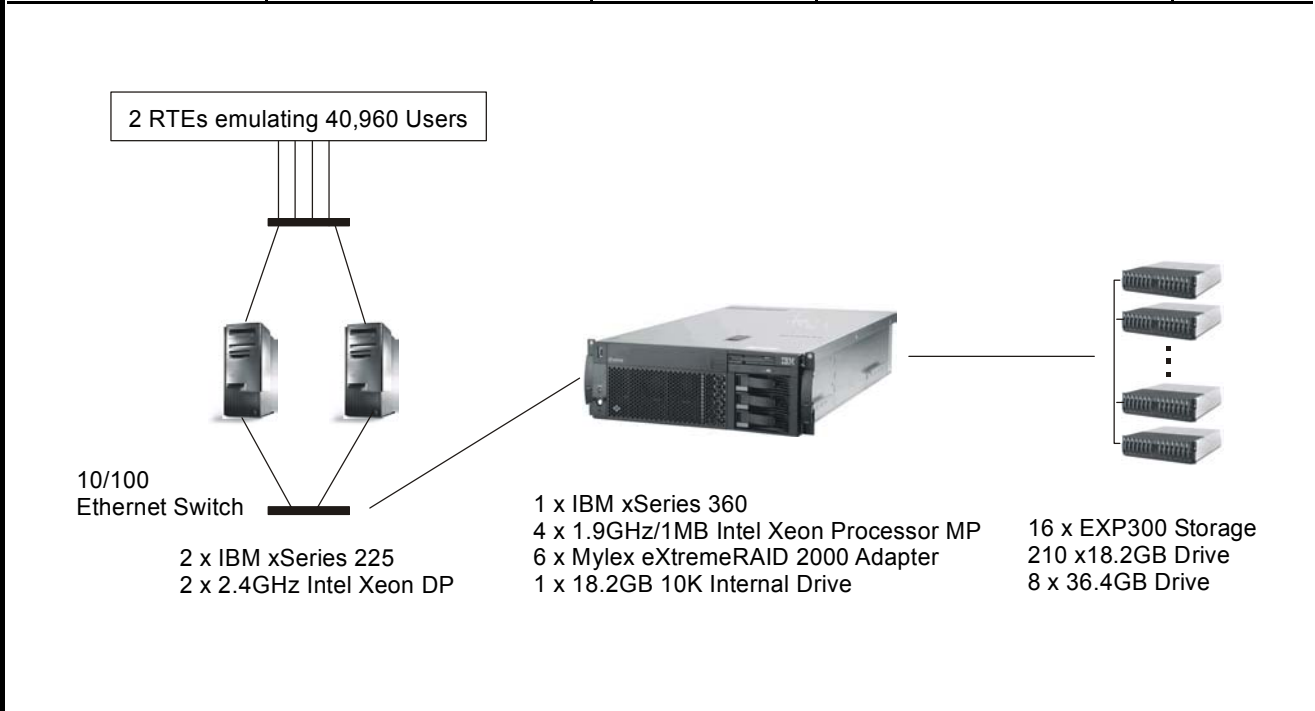
IBM® @server™ xSeries™360 c/s
with
Microsoft® SQL Server 2000

TPC-C Rev. 5.1

Report Date: Feb. 27, 2003

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$216,838	50,666.11 tpmC	\$4.28 / tpmC	April 30, 2003

Processors	Database Manager	Operating System	Other Software	Number of Users
Server: 4 Intel® Xeon™ MP 1.9GHz Clients: 2 Intel Xeon DP 2.4GHz	Microsoft SQL Server 2000 Enterprise Edition	Microsoft Windows® Server 2003 Enterprise Server	Microsoft Visual C++ 6.0 Win32 Microsoft COM+	40,960



System Component	Qty	Server:	Qty	Each of Two Clients:
Processors / Cache	4	1.9GHz Xeon Processor MP w/1MB L3 Cache	1	2.4GHz Xeon Processor DP w/512KB L2 Cache
Memory	8	1GB ECC SDRAM	4	256MB
Disk Controllers	6	Mylex eXtremeRAID 2000 Adapter	1	Dual-Channel Ultra320 SCSI Interface
Disk Drives	210	18.2GB (10000 rpm)	1	18.2GB (10000 rpm)
Total GB of Storage	8	36.4GB (10000 rpm)		
Tape Drive	1	3843GB 20/40GB SCSI Tape Drive		

IBM Corporation	IBM @server xSeries 360 c/s with Microsoft SQL Server 2000			TPC-C Rev. 5.1			
				Report Date: Feb. 27, 2003			
Description	Order Number	Brand	Third-Party Pricing	Unit Price	Qty	Ext. Price	3-Yr. Maint.*
Server Hardware							
xSeries 360*	8686-8RX	IBM	1	\$11,199	1	\$11,199	
Two 1.9GHz/1MB Xeon MP Processor Embedded 10/100 Ethernet Interface							
ServicePac for 24x7x4	30L9186	IBM					1,495
1GB ECC DDR SDRAM RDIMM	33L3285	IBM	1	685	8	5,480	0
1.9GHz/1MB Xeon Processor MP	59P6816	IBM	1	2,879	2	5,758	0
Mylex eXtremeRAID 2000 Adapter***	08P3834	Mylex	2	1,217	8	9,736	0
18.2GB 10K Ultra160 SCSI Drive	06P5754	IBM	1	275	1	275	0
Netfinity 4.2M Ultra2 SCSI Cable	03K9311	IBM	1	105	19	1,995	0
IBM UPS 500	33L3477	IBM	1	99	1	99	0
E54 15" (13.8" Viewable) Color Monitor*	633147N	IBM	1	139	1	139	90
20/40GB Internal SCSI Tape Drive	00N7991	IBM	1	769	1	769	0
NetBAY11 Rack Cabinet*	9306110	IBM	1	519	1	519	300
NetBAY42 Standard Rack Cabinet*	9306421	IBM	1	1,439	1	1,439	300
Storage Hardware							
EXP300 Rack Storage Enclosure*	35311RU	IBM	1	3,179	16	50,864	3,200
18.2GB 10K Ultra160 SCSI Drive	06P5754	IBM	1	275	210	57,750	0
36.4GB 10K Ultra160 SCSI Drive	06P5755	IBM	1	299	8	2,392	0
Subtotal						\$148,414	\$5,385
Server Software							
Microsoft SQL Server 2000 EE	810-00846	Microsoft	3	16,541	4	\$66,164	\$0
Microsoft Windows Server 2003 ES	N/A	Microsoft	3	2,699	1	2,699	0
Database Server Support Package - 1 Year	PROPRORS16U01	Microsoft	3	1,950	3		5,850
Subtotal						\$68,863	\$5,850
Client Hardware							
xSeries 225 w/2.4GHz/512KB Xeon DP*	8647-3AX	IBM	1	1,269	2	\$2,538	\$1,496
Two 256MB ECC SDRAM RDIMM Embedded Gigabit Ethernet Interface							
256MB ECC SDRAM RDIMM	33L5037	IBM	1	195	4	780	0
18.2GB 10K Ultra160 SCSI Drive	06P5754	IBM	1	275	2	550	0
IBM 10/100 Dual-Port Server Adapter	22P4901	IBM	1	209	4	836	0
E54 15" (13.8" Viewable) Color Monitor*	633147N	IBM	1	139	2	278	180
Subtotal						\$4,982	\$1,676
Client Software							
Microsoft Windows 2000 Server with COM+	C11-00821	Microsoft	3	738	2	1,476	0
Microsoft Visual C++ Professional 6.0 Win32	254-00170	Microsoft	3	109	1	109	0
Subtotal						\$1,585	\$0
Network Components							
10/100 Ethernet 8-Port Switch	FS108NA		2	65	3	195	0
Subtotal						\$195	\$0
See Microsoft quote for discount details.						Total	\$224,039 \$12,911
Large volume discount of 14% on IBM Hardware; prices will vary if purchased separately.							(20,112) \$0
Notes: * The standard 3-year warranties on IBM hardware have been upgraded to 7x24, 4-hour response time coverage. *** 10% or minimum 2 spares are added in place of on-site service (products have a 5-year return-to-vendor-warranty). Pricing: 1 - IBM Corp.; 2 - Computer Giants; 3 - Microsoft Corp. Audited by Bradley J. Askins of InfoSizing, Inc.				Three-Year Cost of Ownership:		\$216,838	
				tpmC Rating:		50,666.11	
				\$/tpmC:		\$4.28	
Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated discounts are not permitted. Special prices based on assumptions about past or future purchases are not permitted. All discounts reflect standard pricing policies for the listed components. For complete details, see the pricing sections of the TPC benchmark specification. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.							

Numerical Quantities Summary			
MQTh, Computed Maximum Qualified Throughput: 50,666.11 tpmC			
Response Times (in seconds)	90th Percentile	Average	Maximum
New-Order	0.73	0.49	5.60
Payment	0.58	0.35	1.78
Order-Status	0.62	0.39	6.81
Delivery (Interactive)	0.47	0.26	1.50
Delivery (Deferred)	0.55	0.37	1.92
Stock-Level	3.23	2.24	5.18
Menu	0.48	0.26	1.69
Response time delay added for emulated components: 0.1 Seconds			
Transaction Mix (in percent of total transactions)			Percent
New-Order			44.86
Payment			43.02
Order-Status			4.03
Delivery			4.05
Stock-Level			4.04
Keying/Think Times (in seconds)	Minimum	Average	Maximum
New-Order	18.00 / 0.00	18.01 / 12.04	18.04 / 120.51
Payment	3.00 / 0.00	3.01 / 12.03	3.04 / 120.51
Order-Status	2.00 / 0.00	2.01 / 10.02	2.03 / 100.51
Delivery	2.00 / 0.00	2.01 / 5.04	2.04 / 50.50
Stock-Level	2.00 / 0.00	2.01 / 5.03	2.03 / 50.51
Test Duration			
Ramp-up time			32 minutes
Measurement interval			120 minutes
Number of checkpoints			4
Checkpoint interval			30 minutes
Number of transactions (all types) completed in measurement interval			14,101,097