

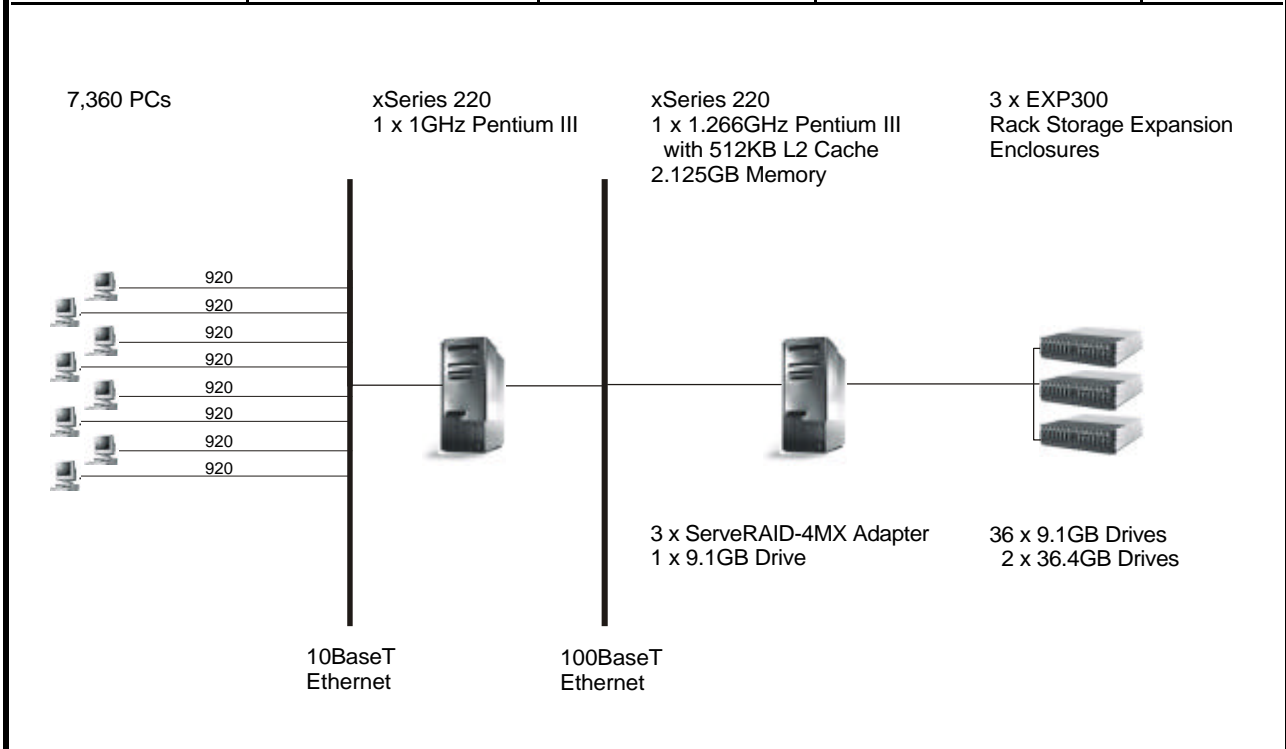
**IBM @server xSeries 220 c/s
with Microsoft SQL Server 2000**

TPC-C Rev. 5.0

Report Date: Oct. 16, 2001

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
\$43,370	9,112.91 tpmC	\$4.76 / tpmC	Oct. 16, 2001

Processors	Database Manager	Operating System	Other Software	Number of Users
1 Database Server 1 Client	Microsoft[®] SQL Server 2000 Standard Edition	Microsoft Windows[®] 2000 Server	Microsoft Visual C++ 6.0 Win32 Microsoft COM+	7,360



System Component	Qty	Server	Qty	Client
Processors	1	1.266GHz Pentium III	1	1GHz Pentium III
Cache		w/512KB L2 Cache		w/256KB L2 Cache
Memory	1	128MB	1	128MB
	2	1GB ECC SDRAM RDIMM	1	256MB
Disk Controllers	3	ServeRAID-4MX	1	Ultra160 SCSI Interface
Disk Drives	37	9.1GB (10000 rpm)	1	9.1GB Hard Disk
	2	36.4GB (10000 rpm)		
Total Storage		346.55GB		
Tape Drive	1	20/40GB SCSI Tape Drive		

IBM Corporation	IBM @server xSeries 220 c/s with Microsoft SQL Server 2000			TPC-C Rev. 5.0			
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Description	Order Number	Third-Party Brand	Pricing	Unit Price	Qty	Ext. Price	3-Yr. Maint.*
Server Hardware							
xSeries 220 / 1.266GHz/512KB Pentium III	864641X		1	\$1,049	1	\$1,049	\$748
1GB ECC SDRAM RDIMM Memory Kit	33L3152		1	1,239	2	2,478	0
ServeRAID-4MX Ultra160 SCSI Adapter	06P5736		1	999	3	2,997	0
Netfinity 4.2M Ultra2 SCSI Cable	03K9311		1	105	6	630	0
E54 14" (13.8" Viewable) Color Monitor*	6331N2N		1	159	1	159	90
20/40GB Internal SCSI Tape Drive	00N7991		1	769	1	769	0
NetBAY22 Rack*	9306200		1	1,455	1	1,455	300
Storage Hardware							
Netfinity EXP300 Rack Storage Enclosure*	35311RU		1	3,179	3	9,537	600
9.1GB 10K Ultra160 SCSI Drive	37L7204		1	275	37	10,175	0
36.4GB 10K Ultra160 SCSI Drive	37L7206		1	549	2	1,098	0
Subtotal						\$30,347	\$1,738
Server Software							
Microsoft SQL Server 2000 Standard Edition	228-01079	Microsoft	2	4,999	1	\$4,999	\$0
Microsoft Windows 2000 Server	C11-00821	Microsoft	2	738	1	738	0
Three-Year Maintenance for Software		Microsoft	2	2,095	3		6,285
Subtotal						\$5,737	\$6,285
Client Hardware							
xSeries 220 / 1GHz/256KB Pentium III*	864221X		1	849	1	\$849	\$748
256MB 133MHz ECC SDRAM RDIMM	33L3144		1	245	1	245	0
9.1GB 10K Ultra160 SCSI Drive	37L7204		1	275	1	275	0
E54 15" (13.8" Viewable) Color Monitor*	6331N2N		1	159	1	159	90
Subtotal						\$1,528	\$748
Client Software							
Microsoft Windows 2000 Server with COM+	C11-00821	Microsoft	2	738	1	738	0
Microsoft Visual C++ Professional 6.0 Win32	048-00317	Microsoft	2	549	1	549	0
Subtotal						\$1,287	\$0
User Connectivity							
8-Port 10/100Mbps Hub*** (incl. 2 spares)			3	24	3	72	0
Subtotal						\$72	\$0
Total						\$38,971	\$8,861
Large volume discount of 14% on IBM hardware; prices will vary if purchased separately.						(4,463)	\$0
Notes: * The standard 3-year warranties on IBM hardware have been upgraded to 7x24, 4-hour response time coverage. ** Five-year warranty. *** 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 - Microsoft Corp.; 3 - SHI Audited by Bradley J. Askins of InfoSizing, Inc.				Three-Year Cost of Ownership: \$43,370			
				tpmC Rating: 9,112.91			
				\$/tpmC: \$4.76			
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:			9,112.91 tpmC
Response Times (in seconds)	Average	Maximum	90 %-tile
New-Order	0.60	8.63	1.01
Payment	0.50	3.18	0.91
Delivery	0.16	1.36	0.34
Stock Level	0.93	4.17	2.34
Order Status	0.53	9.75	0.94
Delivery (Deferred)	0.99	6.45	1.85
Menu	0.16	1.41	0.35
Transaction Mix (in percent of total transactions)		Total Occurrences	Percent
New-Order		1,093,549	44.86
Payment		1,049,077	43.04
Delivery		98,594	4.04
Stock-Level		98,375	4.04
Order Status		97,968	4.02
Emulation Delay (in seconds)		Response Time	Menu
New-Order		0.1	0.1
Payment		0.1	0.1
Delivery		0.1	0.1
Stock-Level		0.1	0.1
Order Status		0.1	0.1
Keying/Think Times (in seconds)	Average	Minimum	Maximum
New Order	18.01 / 12.05	18.00 / 0.00	18.06 / 120.50
Payment	3.01 / 12.05	3.00 / 0.00	3.06 / 120.50
Delivery	2.01 / 5.07	2.00 / 0.00	2.05 / 50.50
Stock Level	2.01 / 5.05	2.00 / 0.00	2.06 / 50.50
Order Status	2.01 / 10.03	2.00 / 0.00	2.05 / 100.50
Test Duration			
Ramp-up time			25 minutes
Measurement interval			120 minutes
Number of transactions (all types) completed in measurement interval			2,536,155
Ramp-down time			4 minutes
Number of checkpoints in measurement interval			4
Checkpoint interval			30 minutes