IBM	**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
$43,769	**9,112.91 tpmC**	**$4.80 / tpmC**	**Oct. 16, 2001**

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

7,360 PCs

xSeries 220
1 x 1GHz Pentium III

xSeries 220
1 x 1.266GHz Pentium III
with 512KB L2 Cache
2.125GB Memory

3 x EXP300
Rack Storage Expansion
Enclosures

920
920
920
920
920
920
920
920

3 x ServeRAID-4MX Adapter
1 x 9.1GB Drive

36 x 9.1GB Drives
2 x 36.4GB Drives

10BaseT
Ethernet

100BaseT
Ethernet
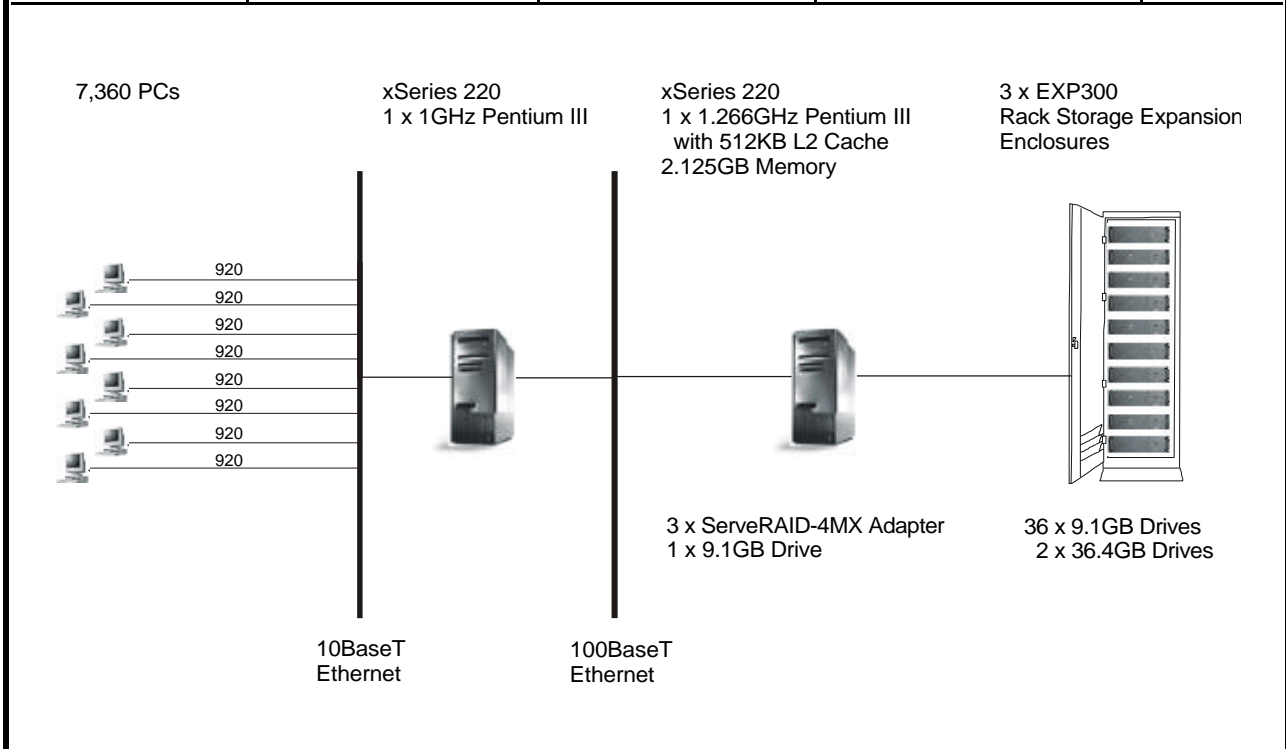
System Component	Qty	Server	Qty	Client
Processors **Cache**	**1**	**1.266GHz Pentium III w/512KB L2 Cache**	**1**	**1GHz Pentium III w/256KB L2 Cache**
Memory	**1**	**128MB**	**1**	**128MB**
	2	**1GB ECC SDRAM RDIMM**	**1**	**256MB**
Disk Controllers	**3**	**ServeRAID-4MX**	**1**	**Ultra160 SCSI Interface**
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**		

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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
Netfinity Rack*	9306900		1	1,725	1	1,725	300
Side Panel Kit	94G6669		1	195	1	195	0
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		$30,812	$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		$39,436	$8,861
Discount on IBM Hardware 14%			1			(4,528)	$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:	$43,769
tpmC Rating:	9,112.91
$ / tpmC:	$4.80

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