

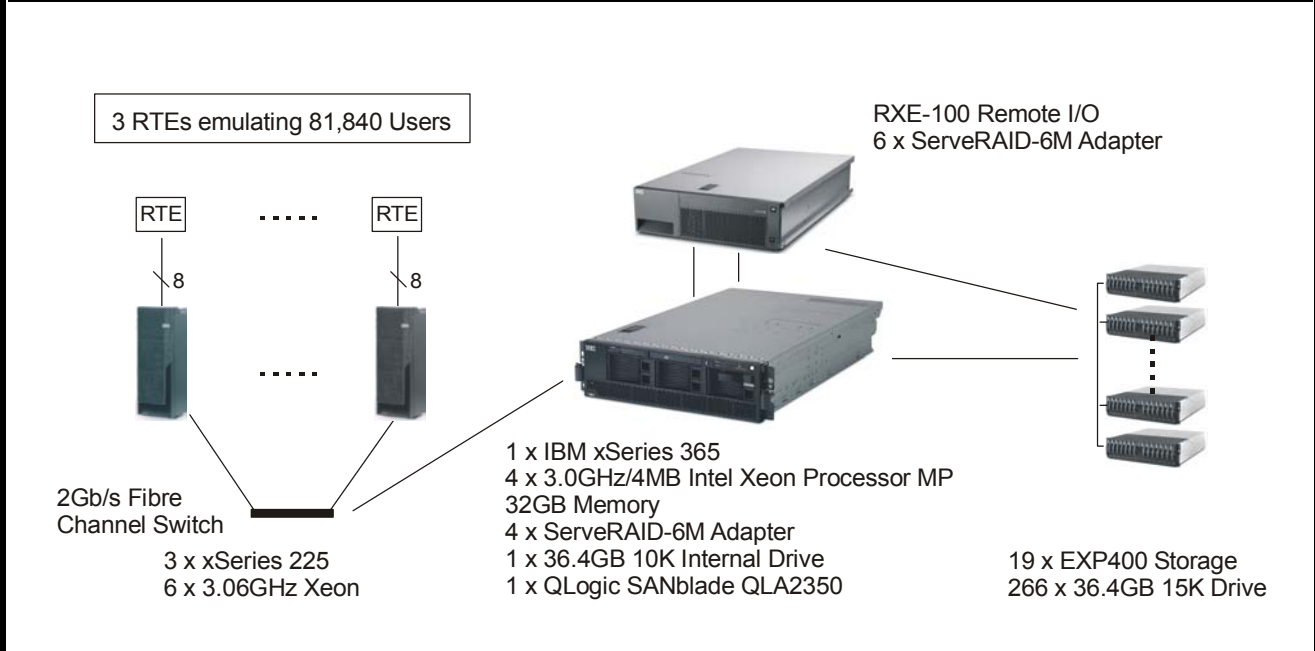
**IBM®@server®xSeries® 365 c/s**  
with  
**Microsoft® SQL Server 2000**

TPC-C Rev. 5.2

Report Date: Mar. 1, 2004

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
<b>\$361,742</b>	<b>102,667.42 tpmC</b>	<b>\$3.52 / tpmC</b>	<b>March 31, 2004</b>

Database Server Processors/Cores/Threads	Database Manager	Operating System	Other Software	Number of Users
<b>4/4/8 Intel® Xeon™ Processor MP 3.0GHz</b>	<b>Microsoft SQL Server 2000 Enterprise Edition SP3 with QFE</b>	<b>Microsoft Windows® Server 2003 Enterprise Edition with QFE KB834628</b>	<b>Microsoft Visual C++ 6.0 Microsoft COM+</b>	<b>81,840</b>



<b>System Component</b>	<b>Qty</b>	<b>Server:</b>	<b>Qty</b>	<b>Each of Three Clients:</b>
<b>Processors/Cores/Threads</b>	<b>4/4/8</b>	<b>3.0GHz Xeon Processor MP</b>	<b>2/2/4</b>	<b>3.06GHz Xeon</b>
<b>Cache</b>		<b>4MB L3 Cache</b>		<b>512KB L2 Cache</b>
<b>Memory</b>	<b>16</b>	<b>2GB ECC RDIMM</b>	<b>4</b>	<b>512MB</b>
<b>Disk Controllers</b>	<b>10</b>	<b>ServeRAID-6M Adapter</b>	<b>1</b>	<b>Ultra320 SCSI Interface</b>
<b>Disk Drives</b>	<b>1</b>	<b>36.4GB (10000 rpm)</b>	<b>1</b>	<b>36.4GB Hard Disk</b>
	<b>266</b>	<b>36.4GB (15000 rpm)</b>		
<b>Total Storage</b>		<b>9051.67GB</b>		
<b>Tape Drive</b>	<b>1</b>	<b>20/40GB SCSI Tape Drive</b>		

IBM Corporation	IBM @server xSeries 365 c/s with Microsoft SQL Server 2000				TPC-C Revision 5.2				
	Report Date: March 1, 2004								
Description	Part Number	Brand	Third Party	Pricing	Unit Price	Quantity	Extended Price	3-Yr. Maint. Price	
<b>Server Hardware</b>									
xSeries 365 with:	8862-6RX	IBM			17,159	1	17,159	1,000	
2 x 3.0GHz/4MB Xeon Processor MP									
4 x 512MB PC2100 DDR ECC SDRAM RDIMM									
3.0GHz/4MB Xeon Processor MP Upgrade	73P7075	IBM			6,325	2	12,650		
Memory Upgrade Card	73P9710	IBM			999	1	999		
2GB PC2100 DDR ECC SDRAM RDIMM	33L5040	IBM			2,399	16	38,384		
36.4GB 10K Ultra320 SCSI Hot-Swap Drive	32P0726	IBM			275	1	275		
IBM Preferred Pro Full-Size Keyboard PS/2	31P7415	IBM			29	1	29		
IBM Sleek 2-Button Mouse	28L3673	IBM			15	1	15		
IBM ServeRAID-6M Ultra230 SCSI Adapter	32P0033	IBM			999	10	9,990		
QLLogic SANBlade QLA2350 FC-VI Adapter (2 spares)	QLA2350-BK	QLLogic			1,995	3	5,985		
E54 15" (13.8" Viewable) Color Monitor	633147N	IBM			119	1	119	90	
						<b>Subtotal</b>	<b>85,605</b>	<b>1,090</b>	
<b>Server Storage</b>									
IBM RXE-100 Remote Expansion Enclosure	8684-1RX	IBM			4,569	1	4,569	1,330	
IBM EXP400 Rack Storage Exp. Enclosure	17331RX	IBM			3,099	19	58,881	14,440	
36.4GB 15K Ultra160 SCSI Hot-Swap Drive	32P0734	IBM			495	266	131,670		
Netfinity 4.2M Ultra2 SCSI Cable	03K9311	IBM			105	20	2,100		
NetBAY42S Standard Rack	9306421	IBM			1,439	2	2,878	336	
IBM UPS 500	34L3477	IBM			99	1	99		
IBM NetBAY Tape Enclosure	0034B0X	IBM			849	1	849	120	
20/40GB DDS/4 Tape AutoLoader	00N7991	IBM			699	1	699		
						<b>Subtotal</b>	<b>201,745</b>	<b>16,226</b>	
<b>Server Software</b>									
Microsoft SQL Server 2000 Enterprise Edition	810-00846	Microsoft			16,541	4	66,164		
Database Software Support Package (Includes OS)	PRO-PRORS-16U-01	Microsoft			1,950	3		5,850	
Microsoft Windows Server 2003 Enterprise Edition	P7200264	Microsoft			2,399	1	2,399		
						<b>Subtotal</b>	<b>68,563</b>	<b>5,850</b>	
<b>Client Hardware</b>									
x225 w/3.06GHz/512KB Xeon DP, one 36GB Drive	8647-62X	IBM			1,775	3	5,325	3,000	
3.06GHz/512KB Xeon DP Processor Upgrade	24P8122	IBM			999	3	2,997		
512MB PC2100 ECC SDRAM RDIMM	33L5038	IBM			275	12	3,300		
QLLogic SANblade QLA 2350 FC-VI Adapter	QLA2350-BK	QLLogic			1,995	3	5,985		
NetXtreme 1000T Dual-Port Ethernet Adapter	31P6401	NetXtreme			269	6	1,614		
Adaptec Quartet64 4-Port Adapter	ANA64044	Adaptec			550	3	1,650		
E54 15" (13.8" Viewable) Color Monitor	633147N	IBM			119	3	357	270	
						<b>Subtotal</b>	<b>21,228</b>	<b>3,270</b>	
<b>Client Software</b>									
Microsoft Windows 2000 Server with COM+	C11-00821	Microsoft			738	3	2,214		
Microsoft Visual C++ Professional 6.0	254-00170	Microsoft			109	1	109		
						<b>Subtotal</b>	<b>2,323</b>		
<b>Network Components</b>									
SAN Fibre Channel 8-Port Switch	3534F08	IBM			5,250	1	5,250	2,300	
IBM 5M LC-LC Fibre Channel Cable	19K1248	IBM			129	4	516		
						<b>Subtotal</b>	<b>5,766</b>	<b>2,300</b>	
						<b>Total</b>	<b>385,230</b>	<b>28,736</b>	
Compsat Technology discount.							<b>Discount</b>	52,224	
1 - Compsat Technology; 2 - Microsoft					<b>Three-Year Cost of Ownership:</b>				
					tpmC: \$361,742				
					\$/tpmC: 102,667.42				
Audited by Francois Raab, InfoSizing, Inc.					\$/tpmC: \$3.52				
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 specifications. If you find that stated prices are not available according to these terms, please inform the TPC at <a href="mailto:pricing@tpc.org">pricing@tpc.org</a> .									

## Numerical Quantities Summary

MQTh, Computed Maximum Qualified Throughput: **102,667.42 tpmC**

Response Times (in seconds)	90th Percentile	Average	Maximum
New-Order	0.44	0.29	8.35
Payment	0.39	0.24	5.15
Delivery	0.27	0.16	1.34
Stock Level	1.08	0.82	2.42
Order Status	0.41	0.27	10.15
Delivery (Deferred)	0.18	0.13	3.63
Menu	0.27	0.16	5.82
<b>Response Time Delay Added for Emulated Components: 0.1 Seconds</b>			
Transaction Mix (in percent of total transactions)			Percent
New-Order			44.94
Payment			43.03
Delivery			4.01
Stock-Level			4.01
Order Status			4.01
Keying/Think Times (in seconds)	Minimum	Average	Maximum
New Order	18.00 / 0.00	18.02 / 12.06	18.05 / 120.52
Payment	3.00 / 0.00	3.02 / 12.05	3.05 / 120.52
Delivery	2.00 / 0.00	2.02 / 5.05	2.05 / 50.51
Stock Level	2.00 / 0.00	2.02 / 5.05	2.05 / 50.51
Order Status	2.00 / 0.00	2.02 / 10.06	2.05 / 100.52
<b>Test Duration</b>			
Ramp-up time			51 minutes 40 seconds
Measurement interval			120 minutes
Number of checkpoints			4
Checkpoint interval			30 minutes
Number of transactions (all types) completed in measurement interval			28,515,442