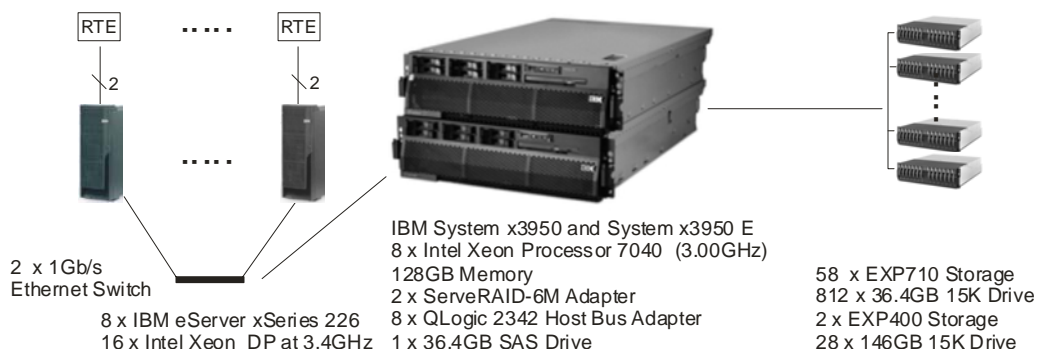


<b>IBM Corporation</b>	<b>IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1)</b>		<b>TPC-C Rev. 5.6</b>	
			<b>Report Date 06/12/06</b>	
<b>Total System Cost</b>	<b>TPC-C Throughput</b>	<b>Price/Performance</b>	<b>Availability Date</b>	
<b>\$1,783,882 USD</b>	<b>340,243 tpmC</b>	<b>\$5.24 USD /tpmC</b>	<b>June 12, 2006</b>	
<b>Database Server Processors/Cores/Threads</b>	<b>Database Manager</b>	<b>Operating System</b>	<b>Other Software</b>	<b>Number Of Users</b>
<b>8/16/32 Intel® Xeon® Processor 7040 3.00GHz</b>	<b>Microsoft SQL Server 2005 Enterprise x64 Edition (SP1)</b>	<b>Microsoft Windows® Server 2003 Enterprise x64 Edition</b>	<b>Microsoft Visual C++ Standard Edition Microsoft COM+</b>	<b>275,200</b>

8 RTEs emulating 275,200 users



<b>System Component</b>	<b>Qty</b>	<b>Server</b>	<b>Qty</b>	<b>Each of 8 Clients</b>
<b>Processors/Cores/Threads</b>	8/16/32	Intel Xeon Processor 7040 3.00GHz	2/2/4	Intel Xeon DP 3.4GHz
<b>Cache</b>		2x2MB L2		2MB L2 Cache
<b>Memory</b>	32	4GB ECC RDIMM	4 2	512MB PC-3200 256MB PC-3200
<b>Disk Controllers</b>	7 8 2	IBM TotalStorage DS4500 QLogic 2342 HBA ServeRAID-6M		Ultra320 SCSI Interface
<b>Disk Drives</b>	812 28 1	36.4GB 15K FC Drive 146GB 15K SCSI Drive 36.4GB 10K SAS Drive	1	36.4GB 15K U320
<b>Total Storage</b>		33681.2GB		

<b>IBM Corporation</b>	<b>IBM® System x3950 c/s</b>	<b>TPC-C Rev. 5.6</b>
	<b>Microsoft® SQL Server 2005 (SP1)</b>	<b>Report Date 06/12/06</b>

IBM Corporation	IBM System x3950 c/s with Microsoft SQL Server 2005			TPC-C Revision 5.6 Report Date: June 12, 2006			
Description	Part Number	Third Party Brand	Pricing	List Price	Qty	Extended Price	3-Yr. Maint. Price
<b>Server Hardware</b>							
x3950 with 2 x Intel Xeon Processor 7040 3.00GHz/2x2MB L2	8872-8RU	IBM	1	22,999	1	22,999	
Intel Xeon Processor 7040 3.00GHz/2x2MB L2	40K2523	IBM	1	4,729	6	28,374	
x3950 E (0 Processors, 0 Memory, 2 Memory Cards)	8874-3RU	IBM	1	6,999	1	6,999	
Scalability Cable 2.3.M	13M7414	IBM	1	299	2	598	
8GB (2x4GB) PC2-3200 CL3 2RX4 ECC DDR2 SDRAM RDIMM	30R5145	IBM	1	5,299	16	84,784	
Memory Upgrade Card	41Y5000	IBM	1	499	4	1,996	
IBM 36.4GB 10K 2.5 inch SAS Drive	26K5654	IBM	1	419	1	419	
ServeRAID-6M Ultra320 SCSI Adapter	39R8815	IBM	1	879	2	1,758	
IBM C117 Display	49387NU	IBM	1	149	1	149	
IBM Preferred Pro USB Keyboard	40K9584	IBM	1	29	1	29	
IBM ScrollPoint 800 DPI Optical Mouse - USB & PS/2	90P0742	IBM	1	25	1	25	
ServicePac for 3-Year 24x7x4 Support (x3950)	96P2685	IBM	1	6,840	1		6,840
ServicePac for 3-Year 24x7x4 Support (x3950 E)	96P2685	IBM	1	6,840	1		6,840
ServicePac for 3-Year 24x7x4 Support (Display)	30L9183	IBM	1	90	1		90
Alacritech SEN2002XT Gigabit Accelerator (2 spares)	SEN2002XT	Alacritech	3	1,449	4	5,796	
<b>Subtotal</b>						<b>153,926</b>	<b>13,770</b>
<b>Server Storage</b>							
QLogic 2342 Dual-Port Host Bus Adapter (2 spares)	QLA2342	QLogic	4	1,392	10	13,920	
IBM TotalStorage DS4500 Midrange Disk Subsystem	174290U	IBM	1	49,900	7	349,300	
IBM DS4000 Mini Hub	19K1269	IBM	1	899	14	12,586	
IBM Short Wave SFP Module (4 Pack)	22R0483	IBM	1	550	62	34,100	
IBM 1m LC-LC Fibre Channel Cable	19K1247	IBM	1	79	102	8,058	
IBM 5m LC-LC Fibre Channel Cable	19K1248	IBM	1	129	28	3,612	
IBM TotalStorage DS4000 EXP710 Storage Exp. Unit	1740710	IBM	1	6,000	58	348,000	
2Gbps FC 36.4GB 15K Hot-Swap HDD	06P5772	IBM	1	1,115	812	905,380	
146GB 15K Ultra320 SCSI Hot-Swap HDD	90P1382	IBM	1	649	28	18,172	
IBM EXP400 Rack Storage Exp. Enclosure	17331RU	IBM	1	3,099	2	6,198	
IBM UPS 750TLV	2130R1X	IBM	1	545	1	545	
IBM S2 42U Standard Rack	93074RX	IBM	1	1,489	8	11,912	
2M SCSI cable	03K9310	IBM	1	75	4	300	
ESM for EXP400	59P5018	IBM	1	699	2	1,398	
ServicePac for 3-Year 24x7x4 Support (EXP710)	41L2768	IBM	1	760	58		44,080
ServicePac for 3-Year 24x7x4 Support (DS4500)	96P2062	IBM	1	1,087	7		7,609
ServicePac for 3-Year 24x7x4 Support (EXP400)	41L2768	IBM	1	760	2		1,520
ServicePac for 3-Year 24x7x4 Support (Rack)	41L2760	IBM	1	300	8		2,400
<b>Subtotal</b>						<b>1,713,481</b>	<b>55,609</b>
<b>Server Software</b>							
Microsoft SQL Server 2005 Enterprise Edition	810-03134	Microsoft	2a	23,432	8	187,456	
Microsoft Windows Server 2003 Enterprise x64 Edition	P72-00274	Microsoft	2b	2,334	1	2,334	
Microsoft Problem Resolution Services	N/A	Microsoft	2	245	1		245
<b>Subtotal</b>						<b>189,790</b>	<b>245</b>
<b>Client Hardware</b>							
x226 with 3.4GHz/2MB Xeon DP, 512MB (2x256MB) Memory	8648-6AU	IBM	1	1,499	8	11,992	
3.4GHz/2MB Xeon DP Processor Upgrade	40K2517	IBM	1	799	8	6,392	
1GB (2x512MB) PC-3200 DDR2 ECC SDRAM RDIMM	73P3522	IBM	1	275	16	4,400	
36.4GB 15K Ultra320 SCSI Drive	40K1026	IBM	1	249	8	1,992	
Intel PRO/1000 GT Dual-Port Server Adapter	73P5101	IBM	1	249	16	3,984	
IBM C117 Display	49387NU	IBM	1	149	8	1,192	
ServicePac for 3-Year 24x7x4 Support (x226)	96P2250	IBM	1	586	8		4,688
ServicePac for 3-Year 24x7x4 Support (Display)	30L9183	IBM	1	90	8		720
<b>Subtotal</b>						<b>29,952</b>	<b>5,408</b>
<b>Client Software</b>							
Microsoft Windows Server 2003 with COM+	P73-00295	Microsoft	2c	719	8	5,752	
Microsoft Visual C++ Professional 6.0	254-00170	Microsoft	2	109	1	109	
<b>Subtotal</b>						<b>5,861</b>	
<b>Network Components</b>							
NetGear 8-Port Ethernet Switch (2 spares)	GS-108		5	70	4	280	
Ethernet Cable (2 spares)	CC5E-B14B		5	3	15	45	
<b>Subtotal</b>						<b>325</b>	
<b>Total</b>						<b>2,093,335</b>	<b>75,032</b>
Large Purchase Discount (See Note 1.)						19.69%	
Pricing: 1 - IBM - 1-888-SHOP-IBM, ext. 5821; 2 - Microsoft - 2 - 0%; prices for 2a - 6%, 2b - 42%, and 2c - 28% reflect applied "open-level" discounts; 3 - Alacritech; 4 - cxfs-estore.com; 5 - newegg.com. . . Note 1: Discount based on IBM Direct guidance applies to all line items where Pricing=1.						<b>Three-Year Cost of Ownership USD:</b> \$1,783,882	
						<b>tpmC:</b> 340,243	
						<b>\$ USD/tpmC:</b> \$5.24	
Audited by Francois Raab, InfoSizing, Inc.							
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 pricing@tpc.org.							

<b>IBM Corporation</b>	<b>IBM® System x3950 c/s Microsoft® SQL Server 2005 (SP1)</b>	TPC-C Rev. 5.6
		Report Date 06/12/06

### Numerical Quantities Summary

**MQTh, Computed Maximum Qualified Throughput: 340,243 tpmC**

Response Times (in seconds)	90 <sup>th</sup> Percentile	Average	Maximum
New Order	1.14	0.67	5.92
Payment	1.10	0.64	4.66
Delivery	0.18	0.13	1.13
Stock Level	1.52	0.99	2.58
Order Status	1.14	0.66	5.88
Delivery (Deferred)	0.15	0.11	5.17
Menu	0.16	0.13	1.16

**Response Time Delay Added for Emulated Components: 0.1 Seconds**

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	18.00 / 12.06	18.02 / 120.50
Payment	3.00 / 0.00	3.00 / 12.06	3.02 / 120.50
Delivery	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Stock Level	2.00 / 0.00	2.00 / 5.05	2.02 / 50.50
Order Status	2.00 / 0.00	2.00 / 10.06	2.02 / 100.50

**Test Duration**

<b>Ramp-up Time</b>	53 minutes 46 seconds
<b>Measurement Interval</b>	120 minutes
<b>Number of Checkpoints</b>	4
<b>Checkpoint Interval</b>	30 minutes
<b>Number of transactions (all types) completed in measurement interval</b>	90,847,698