IBM	IBM @server xSeries 370 c/s with DB2 UDB 7.1	TPC-C Rev. 5.0 Upgrade from Rev. 3.5
		Report Date: April 11, 2001 (Original: July 3, 2000)

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
$11,033,029	440,879.95 tpmC	$25.03/tpmC	Dec. 7, 2000

Processors	Database Manager	Operating System	Other Software	Number of Users
128 Intel(R) Pentium(R) III Xeon™ 700MHz 2MB L2 Cache	DB2(R) UDB 7.1	Microsoft(R) Windows(R) 2000 Advanced Server	Microsoft COM+ Microsoft Visual C++ 6.0	368,640

xSeries 370 — Node 1
Giganet cLAN-5300 Switch
xSeries 370 — Node 32
EXP300 Storage
2 x 9.1GB Drives
218 x 18.2GB Drives
Cisco Catalyst 6500 10/100 Ethernet Switch
EXP300 Storage
Client 1 — Netfinity 5100
Client 96 — Netfinity 5100
640 Users per LAN segment

System Component	Qty	Each of 32 Server Nodes	Qty	Each of 96 Clients
Processors	4	700MHz Pentium III Xeon	2	733MHz Pentium III
Cache		w/2MB L2 Cache		w/256KB L2 Cache
Memory	8	512MB SDRAM ECC	4	128MB
Disk Controllers	8	ServeRAID-4H Ultra160 SCSI Adapter	1	Wide Ultra SCSI Onboard
Disk Drives	2	9.1GB (10000 rpm)	1	9.1GB Hard Disk
	218	18.2GB (10000 rpm)		
	1	Giganet cLAN-1000 Adapter		
Total Storage		116TB (59.58TB online)		
Other				
Tape Drive	1	3502-108 DLT Tape Autoloader		
Interconnect	2	Giganet cLAN-5300 Switch		

<table>
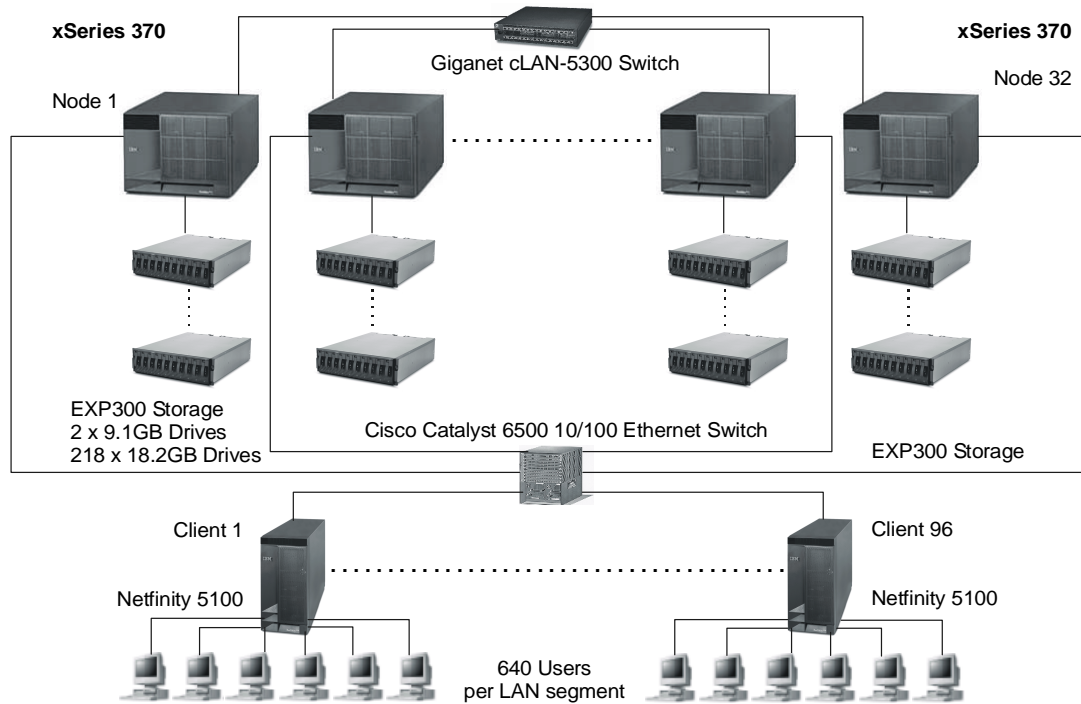<tr><td rowspan="2">IBM Corporation</td><td rowspan="2">IBM @server xSeries 370 c/s with DB2 UDB 7.1</td><td>TPC-C Rev. 5.0
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Description	Order Number	Third-Party Brand	Pricing	Unit Price	Qty	Extended Price	3-Yr. Maint.*
Server Hardware							
xSeries 370 / 700MHz/2MB Pentium III Xeon*	8681-2RX	IBM	1	$16,114	32	$515,648	$79,840
700MHz/2MB L2 Cache Processor Upgrade	10K2166	IBM	1	3,625	96	348,000	0
Memory Expansion Card	28L4454	IBM	1	625	32	20,000	0
>4X Accelerator Filter	10K2335	IBM	1	1,249	32	39,968	0
512MB ECC SDRAM RDIMM Memory Kit	20L0249	IBM	1	1,575	256	403,200	0
ServeRAID-4H Ultra160 SCSI Adapter	37L6889	IBM	1	2,439	256	624,384	0
Ultra2 SCSI 4m Cable	03K9311	IBM	1	105	736	77,280	0
10/100 Ethernet Server Adapter	06P3601	IBM	1	99	32	3,168	0
E54 15" (13.8" Viewable) Color Monitor*	6331N2N	IBM	1	168	32	5,376	2,880
3502-108 DLT Tape Autoloader*	3502108	IBM	1	9,009	1	9,009	1,450
IBM Smart-UPS Model 3000RMB	94G6676	IBM	2	1,905	32	60,960	0
Netfinity Rack*	9306900	IBM	1	1,725	78	134,550	23,400
Side Panel Kit	94G6669	IBM	1	175	12	2,100	0
Giganet cLAN-1000 Host Adapter (incl. 10%)	cLAN-1000	Giganet	3	795	35	27,825	45,000
Giganet cLAN5300 30-Port Switch (incl.10%)	cLAN-5300	Giganet	3	6,250	4	25,000	incl. above
Giganet cLAN-A1011 10M Cable (incl. 10%)	cLAN-A1011	Giganet	3	135	35	4,725	incl. above
Storage Hardware							
Netfinity EXP300 Rack Storage Enclosure*	35301RU	IBM	1	3,179	704	2,238,016	140,800
9.1GB 10K Ultra160 SCSI Drive	37L7204	IBM	1	299	64	19,136	0
18.2GB 10K Ultra160 SCSI Drive	37L7205	IBM	1	467	6,976	3,257,792	0
					Subtotal	$7,816,377	$293,370
Server Software							
DB2 UDB EEE V7.1 Program Pack	11K7641	IBM	1	22,600	1	$22,600	$0
DB2 UDB EEE V7.1 Processor Ent.	11K8164	IBM	1	22,500	127	2,857,500	0
3-Year Maintenance (2.5% discount 1st year)		IBM	1	37,592	1		37,592
Microsoft Windows 2000 Advanced Server	C11-00475	Microsoft	2	2,399	32	76,768	0
3-Year Maintenance for Software		Microsoft	2	2,095	96		201,120
					Subtotal	$2,956,868	$238,712
Client Hardware							
Netfinity 5100 / 733MHz/256KB Pentium III*	8658-2RY	IBM	1	2,052	96	$196,992	$143,520
733MHz/256KB Pentium III Upgrade	00N7943	IBM	1	399	96	38,304	0
9.1GB 10K Ultra160 SCSI Drive	37L7204	IBM	1	299	96	28,704	0
128MB DIMMs	33L3123	IBM	1	185	288	53,280	0
Intel Pro/100+ Dual-Port Ethernet Adapter**	8472	Intel	1	219	288	63,072	0
E54 15" (13.8" Viewable) Color Monitor*	6331N2N	IBM	1	168	96	16,128	8,640
					Subtotal	$396,480	$152,160
Client Software							
Microsoft Windows 2000 Server with COM+	C11-00821	Microsoft	2	738	96	70,848	incl. above
Microsoft Visual C++ Professional 6.0	048-00317	Microsoft	2	549	1	549	incl. above
					Subtotal	$71,397	$0
User Connectivity							
Cisco Catalyst 6500 48-Port 10/100 RJ-45	WSX6348RJ45	Cisco	4	55,399	1	55,399	31,500
					Subtotal	$55,399	$31,500
IBM Software Revenue Discount 34%						(979,234)	
					Total	$11,296,521	$715,742

Notes: * The standard 3-year warranty on IBM hardware has been upgraded to 7x24, 4-hour response. ** 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 - Giganet; 4 - Cisco

Audited by Francois Raab of InfoSizing, Inc.

Three-Year Cost of Ownership:	$11,033,029
tpmC Rating:	440,879.95
$ / tpmC:	$25.03

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: % throughput difference, reported and reproducibility runs:			440,879.95 tpmC 0.0099%

Response Times (in seconds)	90%	Average	Maximum
New-Order	2.00	1.25	315.39
Payment	2.64	1.19	787.71
Order-Status	1.07	0.53	126.20
Delivery (Interactive)	0.66	0.25	84.08
Delivery (Deferred)	1.69	0.93	32.44
Stock-Level	1.38	0.80	52.91
Menu	0.67	0.26	262.60

Transaction Mix (in percent of total transactions)	Total Occurrences	Percent
New-Order	8,817,599	44.66
Payment	8,518,739	43.15
Order-Status	800,948	4.06
Delivery	803,890	4.07
Stock-Level	801,588	4.06

Emulation Delay (in seconds)		Response Time	Menu
New-Order		0.1	0.1
Payment		0.1	0.1
Order-Status		0.1	0.1
Delivery		0.1	0.1
Stock-Level		0.1	0.1

Keying/Think Times (in seconds)	Minimum	Average	Maximum
New-Order	18.00 / 0.00	18.01 / 12.04	18.05 / 120.51
Payment	3.00 / 0.00	3.01 / 12.04	3.05 / 120.50
Order Status	2.00 / 0.00	2.01 / 10.04	2.05 / 100.50
Delivery	2.00 / 0.00	2.01 / 5.06	2.05 / 50.50
Stock-Level	2.00 / 0.00	2.01 / 5.05	2.05 / 50.50

Test Duration	
Ramp-up time	65 minutes
Measurement interval	20 minutes
Number of transactions (all types) completed in measurement interval	19,742,764
Ramp-down time	7 minutes
Number of checkpoints in measurement interval	N/A
Checkpoint interval	N/A