



Express5800 HX4100

C/S

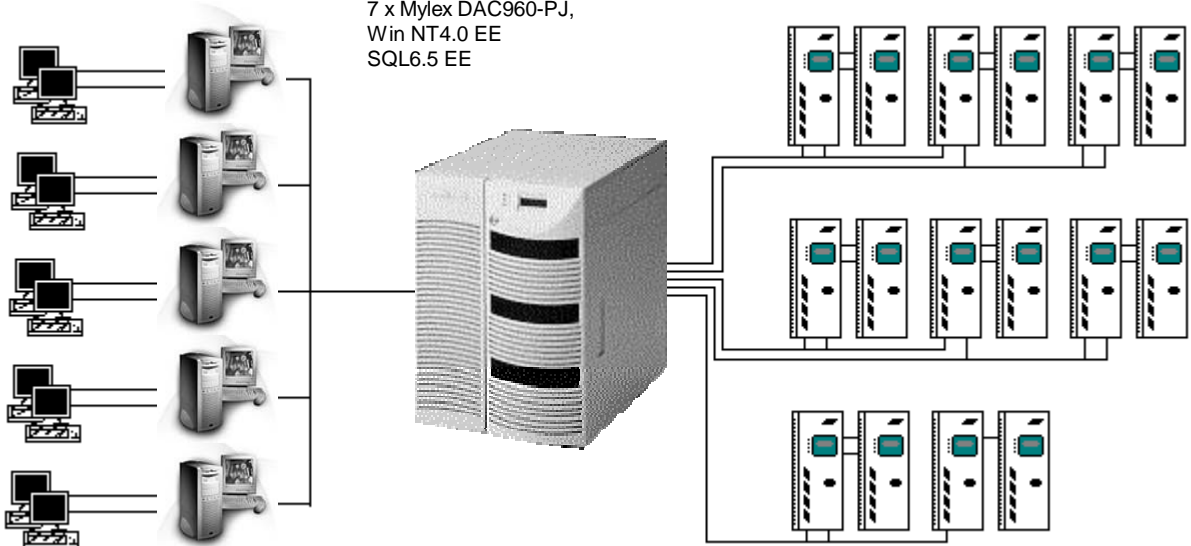
TPC-C Rev. 3.3.2
Reported Date
March 18, 1998

Total System Cost	TPC-C Throughput	Price/Performance	Availability
\$396,588	12,105.53 tpmC	\$32.76 per tpmC	April 15, 1998
Processors	Database Manager	Operating System	Other Software
4 x PentiumPro 200MHz 1MB cache	Microsoft SQL Server 6.5 Enterprise Edition	Microsoft Windows NT4.0 Enterprise Edition	Microsoft IIS 3.0 BEA Tuxedo 6.3CFS Microsoft VC++
Number of Users			
9,800			

Total of 9,800 PCs

Server : Express5800 HX4100

4 x PPro200MHz/1MB,
 4096MB Mem,
 1 x Internal 4GB disk + 8 x 9GB disk,
 1 x Integrated SCSI ,
 7 x Mylex DAC960-PJ,
 Win NT4.0 EE
 SQL6.5 EE



5 x PowerMate Enterprise 8000-233

Storage: DiskExpansion Box
 72 x 9GB disks
 18 x 4GB disks

System Component	Server		Each Client	
Processors	4	Pentium Pro ® 200MHz	1	Pentium ® II 233MHz
Cache		1MB L2		512KB
Memory	1	4096MB	1	256MB
Disk Controllers	7 1	Mylex DAC960-PJ Integrated Adaptec	1	Integrated IDE
Disk Drives	80 19	9GB (8.47GB usable) 4GB (4.24 GB usable)	1	3.2GB
Total Storage		758.16MB		3.2GB
Others	1 1	CD-ROM Drive DAT Drive	1	CD-ROM Drive



NEC Express 5800 HX4100
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Description	Part Number	Third Party		Unit Price	Qty	Extended Price	5-year Maint. Price
		Brand	Pricing				
Server Hardware							
HX4100 base mmodel, 1x200/1M PPro, 0MEM, 0HDD, CD-ROM, Keyboard, mouse, dual wide ultra SCSI	850116022	NEC	1	8,369	1	8,369	2,009
200/1M Ppro CPU	203229	NEC	1	4,339	3	13,017	3,124
512MB ECC Memory (2x256MB)	203328	NEC	1	4,606	8	36,848	0
420W hot plug power supply	203234	NEC	1	1,099	1	1,099	0
4 bay hot swap disk cage	203236	NEC	1	499	2	998	0
10/100 NIC	203121	NEC	1	79	1	79	0
12/24GB SCSI DDS-3 4mm DAT Drive	203117	NEC	1	1,099	1	1,099	0
4GB 7,200 HDD	203235	NEC	1	599	1	599	0
NEC 15" Multisync Monitor	JC-1576VMA	NEC	1	299	1	299	72
Disk Subsystem							
Mylex DAC960-PJ 3 channel w/ 8MB EDO (+2spares)	DACPJ-3-8E-MY1	Mylex	4	1,845	9	16,605	450
Mylex Intelligent Battery Backup Unit (+2spares)	DBBPG-MYL	Mylex	4	345	4	1,380	0
ST8000 DEU Tower Model	203269	NEC	1	3,099	16	49,584	11,900
9GB Hard Disk Drives	203283	NEC	1	899	80	71,920	0
4GB Hard Disk Drives	203281	NEC	1	599	18	10,782	0
VHD SCSI-3 14-inch Jumper cable	203291	NEC	1	199	15	2,985	0
3-meter 68-pin VHD SCSI-3 data cable	203277	NEC	1	199	10	1,990	0
3-meter 68-pin WIDE SCSI to VHD SCSI-3 data cable	203273	NEC	1	199	5	995	0
Subtotal						218,648	17,555
Server Software							
Microsoft Windows NT Server, Enterprise Edition 4.0		Microsoft	2	3,999	1	3,999	0
Microsoft SQL Server, Enterprise Edition 6.5 Unlimited		Microsoft	2	28,999	1	28,999	10,475
Subtotal						32,998	10,475
Client Hardware							
PowerMate Enterprise 8000-233 Pentium II 233MHz, 32MB, 3.2GB HDD CD-ROM, KB, Mouse, integrated Intel Pro 100	P8001T2HT	NEC	1	1,499	5	7,495	1,799
128MB DIMM	238-00205	NEC	1	900	10	9,000	0
EtherExpress Pro/100B NIC 20 pack (including spares)	PILA8465B	Intel	5	1,289	1	1,289	0
NEC 15" Multisync Monitor	JC-1576VMA	NEC	1	299	5	1,495	72
Subtotal						19,279	1,871
Client Software							
Microsoft Windows NT Server 4.0 w/5 cal		Microsoft	2	809	5	4,045	0
Microsoft Visual C++ 32-bit edition(subscription)		Microsoft	2	499	1	499	0
Microsoft SQL Workstation(includes program's toolkit)		Microsoft	2	499	1	499	0
Tuxedo 6.3 Core functionality Services for NT		BEA	3	3,000	5	15,000	11,250
Subtotal						20,043	11,250
User Connectivity							
Linksys 16-port 100Mbps HUB (+2 spares)	FEHUB16W	Linksys	5	289	3	867	0
Linksys 20-prt 10Mbps HUB (+10% spares)	EW20HUB	Linksys	5	118	539	63,602	0
Subtotal						64,469	0
TOTAL						355,437	41,151

Notes:

All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server
Pricing: 1-NEC 2-Microsoft 3-BEA 4-Mylex 5-CDW
Intel offers a lifetime warranty free of charge:
Linksys offers standard with 5-year warranty

Audited by Francois Raab of Information Paradigm, Inc

Five-Year Cost of Ownership: **\$396,588**
tpmC Rating: **12105.53**
\$ / tpmC: 32.76

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 specifications. If you find that the 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		12105.53 tpmC	
%throughput difference ,reported & reproducibility runs		0.01%	
<u>Response Times(in seconds)</u>	<u>90%</u>	<u>Average</u>	<u>Maximum</u>
New-Order	0.70	0.51	39.22
Payment	0.53	0.37	39.19
Stock-Level	3.80	2.26	19.02
Delivery(interactive portion)	0.30	0.30	1.20
Delivery(deferred portion)	0.98	0.65	84.20
Order-status	1.66	0.98	35.80
Menu	0.31	0.20	•1.38
Response time delay added for emulated components		0.1	
<u>Transaction Mix , in percent of total transaction</u>			
New-Order		44.82%	
Payment		43.04%	
Order-status		4.06%	
Delivery		4.06%	
Stock-level		4.02%	
<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>	<u>Average</u>	<u>Max</u>
New-Order	18.01 0.00	18.01 12.07	18.03 120.71
Payment	3.00 0.00	3.01 12.07	3.03 120.71
Stock-Level	2.00 0.00	2.01 5.12	2.03 50.70
Delivery	2.00 0.00	2.01 5.06	2.02 49.65
Order-status	2.00 0.00	2.01 10.01	2.02 100.70
<u>Test Duration</u>			
Ramp-up time		33 minutes	
Measurement interval		30 minutes	
Number of checkpoints		1	
Checkpoint interval		30 minutes	
Number of transactions (all types) completed in measurement interval		810,214	