



NEC Express5800/1320Xc C/S with Express5800/120Re-2

TPC-C Rev.5.1
Reported Date
Feb 20, 2003

Total System Cost

TPC-C Throughput

Price/Performance

Availability Date

\$5,619,528

433,107.77 tpmC

\$12.98 per tpmC

June 30, 2003

Processors

Database Manager

Operating System

Other Software

Number of Users

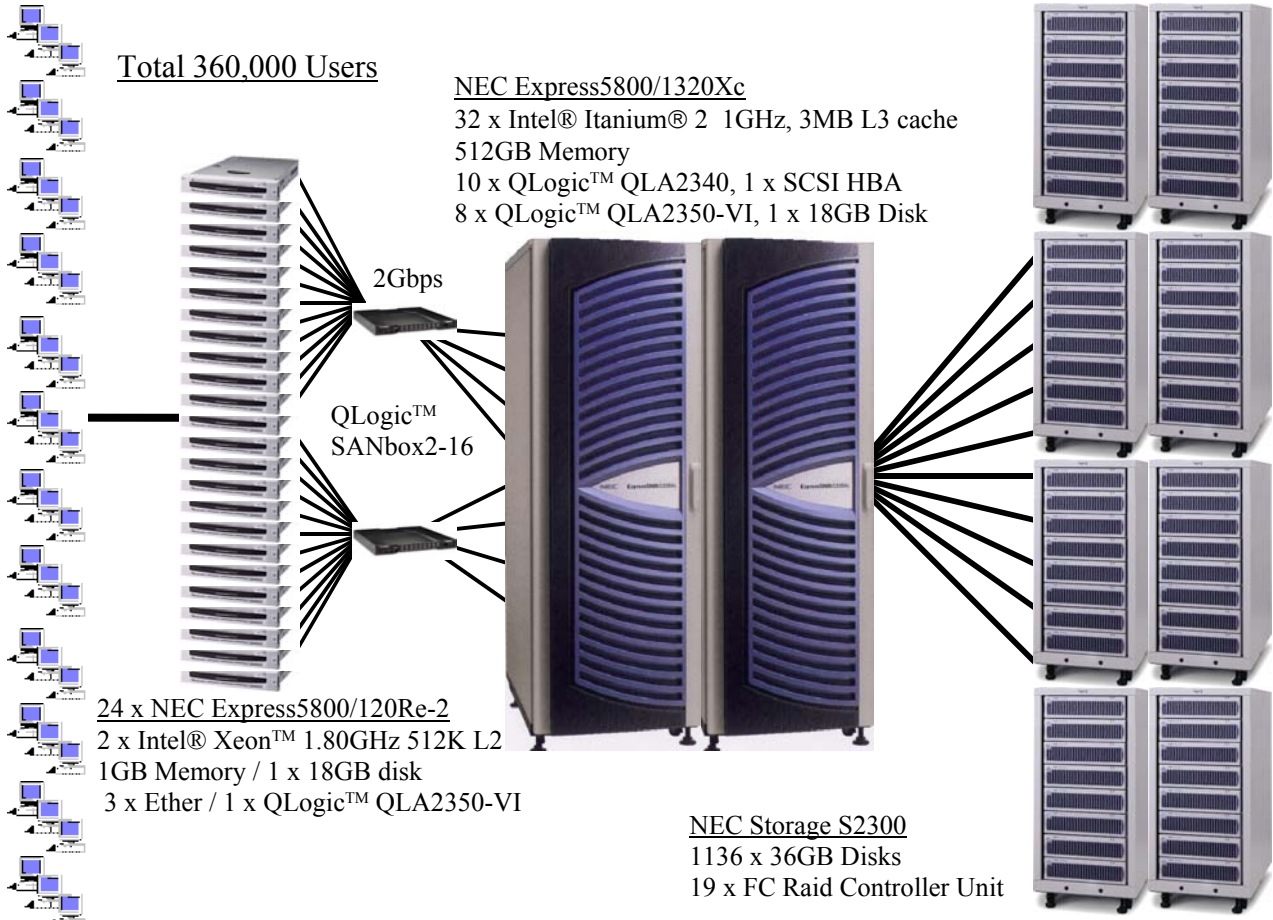
32 Intel® Itanium® 2 1GHz
for Server
46 Intel® Xeon™ 1.80GHz for
Client

Microsoft®
SQL Server™ 2000
Enterprise Edition(64-bit)

Microsoft®
Windows® Server 2003,
Datacenter Edition for 64-bit
Itanium-based Systems

Windows® 2000 Server
Microsoft® VC++
Microsoft® COM+

360,000



System Component	Server		Each Client	
Processors	32	Intel® Itanium® 2 1GHz	2	Intel® Xeon™ 1.80GHz
Cache		3MB L3 Cache		512KB L2 Cache
Memory		2 GB x 256		512MB x 2
Disk Controllers	10 1	QLogic™ QLA2340 SCSI HBA	1	On-board SCSI
Disk Drives	1 1136	18GB (16.6GB Usable) 36GB (33.2GB Usable)	1	18GB
Total Storage		40,914GB		18GB
Others	1 1 8	DVD-ROM Drive 1Gbps Ether NIC QLogic™ QLA2350-VI 2Gb NIC	1 2 1 1	CD-ROM Drive On-board Ether controller 100Mbps Ether NIC QLogic™ QLA2350-VI 2Gb NIC

NEC	NEC Express5800/1320Xc C/S with Express5800/120Re-2		TPC-C REV 5.1				
	Report Date:		02/20/03				
Description	Part Number	Third Party Brand	Unit Pricing	Price	Qty	Extended Price	3-yr Mnt. Price
Server Hardware							
Express5800/1320Xc system	850200010	NEC	1	2,126,090	1	2,126,090	1,158,910
Base Original 32	Included	NEC	1	-	1	-	-
Cell Card Original	Included	NEC	1	-	8	-	-
CPU(1GHz/3MB)	Included	NEC	1	-	32	-	-
Memory(8GB)	Included	NEC	1	-	64	-	-
Base PCI Box	Included	NEC	1	-	3	-	-
Core PCI Box(Windows Model)	Included	NEC	1	-	1	-	-
PCI Cable(2.5m)	Included	NEC	1	-	6	-	-
PCI Cable(3.0m)	Included	NEC	1	-	2	-	-
Expansion Cabinet	Included	NEC	1	-	1	-	-
18GB 10K rpm HDD	Included	NEC	1	-	1	-	-
Gbit Ether NIC	Included	NEC	1	-	1	-	-
Mouse/Keyboard	Included	NEC	1	-	1	-	-
SCSI HBA with VHDCI cables	Included	NEC	1	-	1	-	-
Windows Server 2003, Datacenter Edition	Included	NEC	1	-	1	-	-
NEC Express5800/120Re-2 (for System Maintenance)							
Base System with 1 x Xeon Processor 1.8GHz/512KB	850162001	NEC	1	2,859	1	2,859	-
1 x Xeon Processor 1.8GHz/512KB BTO Option,	062-02163-000	NEC	1	399	1	399	-
1GB(2 x 512MB) DDR200 SDRAM memory,	062-02168-000	NEC	1	599	1	599	-
1 x 18.2GB 10K rpm Ultra160 HDD,	062-02011-000	NEC	1	329	1	329	-
CD-ROM, 2 x On-board LAN, KB/MS	Included	NEC	1	-	1	-	-
3 years of warranty service to 4-hour response, 7x24	WG-0000-1095-7244	NEC	1	1,399	1	-	1,399
NEC AccuSync50M-BK (15" monitor)	AS50M-BK	NEC	3	128	2	256	-
FC HBA QLA2340 (+2 spares)	QLA2340-CK	QLogic	3	1,319	12	15,833	-
FC Adapter QLA2350 (+2 spares)	QLA2350	QLogic	4	2,095	11	23,045	-
FC Cable 10MLC-LC (+2 spares)	062-02304-000	NEC	1	200	11	2,200	-
					Subtotal	2,171,610	1,160,309
Disk Subsystem							
NEC Storage S2300 Basic Unit	850161002	NEC	1	46,296	19	879,624	-
2 RAID_Cntrl, 1GB Cache, 1DE, 3 x 36GB Drive							
1GB(2 x 512MB) PC133 SDRAM memory	062-02301-000	NEC	1	1,999	2	3,998	-
S2300 DE (+10% spares)	062-02302-000	NEC	1	6,999	63	440,937	-
36GB 15K rpm FC HDD (+10% spares)	062-02303-000	NEC	1	1,099	1187	1,304,513	-
3yr Telephone Upgrade Hdw & Storage	IS-THSU-1095-0724	NEC	1	1499	19	-	28,481
Manager SW Support; 7days/ 24hours per day							
42U Rackframe	050-01790-000	NEC	1	1,799	8	14,392	-
FC Cable 10MLC-LC (+2 spares)	062-02304-000	NEC	1	200	21	4,200	-
					Subtotal	2,647,664	28,481
Server Software							
SQL Server2000 Ent. Edition(64-bit) ,Processor License	810-00560	Microsoft	2	16,541	32	529,312	5,850
					Subtotal	529,312	5,850
Client Hardware							
NEC Express5800/120Re-2							
Base System with 1 x Xeon Processor 1.8GHz/512KB	850162001	NEC	1	2,859	23	65,757	-
1 x Xeon Processor 1.8GHz/512KB BTO Option,	062-02163-000	NEC	1	399	23	9,177	-
1GB(2 x 512MB) DDR200 SDRAM memory,	062-02168-000	NEC	1	599	23	13,777	-
1 x 18.2GB 10K rpm Ultra160 HDD,	062-02011-000	NEC	1	329	23	7,567	-
CD-ROM, 2 x On-board LAN, KB/MS	Included	NEC	1	-	23	-	-
3 years of warranty service to 4-hour response, 7x24	WG-0000-1095-7244	NEC	1	1,399	23	-	32,177
NEC AccuSync50M-BK (15" monitor)	AS50M-BK	NEC	3	128	23	2,942	-
42U Rackframe	050-01790-000	NEC	1	1,799	2	3,598	-
FC Adapter QLA2350 (+10% spares)	QLA2350	QLogic	4	2,095	26	54,470	-
FC Cable 10MLC-LC (+10% spares)	062-02304-000	NEC	1	200	26	5,200	-
Intel PRO/100 S Server Adapter	PILA8470C3	Intel	3	69	1	69	-
Intel PRO/100 S Server Adapter, 5-pack	PILA8470C3PAK5	Intel	3	286	5	1,430	-
Fast Ether Cable 25' RJ45-RJ45 (+10% spares)	C5E-114GY-25FB	AESP	3	11	76	823	-
					Subtotal	164,810	32,177
Client Software							
Windows2000 Server, Server License	C11-00821	Microsoft	2	738	24	17,712	(Included)
Visual C++ Standard	254-00170	Microsoft	2	109	1	109	(Included)
					Subtotal	17,821	
User Connectivity							
SAN BOX2-16 16-ports 2-Gbit FC Switch(+2 spares)	SB2A-16A	QLogic	4	17,995	4	71,980	-
SFP-Shortwave LC Optic / 8 SFPs per package(+2 spares)	SFP2-SW-01	QLogic	4	2,150	5	10,750	-
					Subtotal	82,730	0
TOTAL						5,613,947	1,226,817
NEC brand total(Pricing 1-NEC)						4,885,216	1,220,967
NEC brand Large Purchase Cash Prepay Discount(-20%)						-977,043	-244,193
Notes: Client softw are maintenance is covered by the maintenance costs of Microsoft SQL Server Pricing: 1-NEC 2-Microsoft 3-CDW 4-Qlogic					3-Yr. Cost of Ownership: \$5,619,528 tpmC Rating: 433107.77		
					\$ / tpmC: \$12.98		
Results and methodology audited by Francois Raab of InfoSizing, Inc. (www.sizing.com)							
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 reflects 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

433,107.77 tpmC

<u>Response Times(in seconds)</u>	<u>90%</u>	<u>Average</u>	<u>Maximum</u>
New-Order	2.17	1.29	12.15
Payment	2.14	1.26	12.32
Stock-Level	2.22	1.31	10.42
Delivery(interactive portion)	0.11	0.10	0.98
Delivery(deferred portion)	0.16	0.11	2.23
Order-status	2.19	1.28	10.42
Menu	0.11	0.10	1.30

Response time delay added for emulated components

0.1

Transaction Mix , in percent of total transaction

New-Order	44.93%
Payment	43.04%
Order-Status	4.02%
Delivery	4.01%
Stock-Level	4.00%

<u>Keying/Think Times (in seconds)</u>	<u>Min.</u>		<u>Average</u>		<u>Max</u>	
New-Order	18.00	0.00	18.02	12.07	18.06	120.72
Payment	3.00	0.00	3.02	12.07	3.06	120.71
Order-Status	2.00	0.00	2.02	10.07	2.06	100.71
Delivery	2.00	0.00	2.02	5.08	2.06	50.71
Stock-Level	2.00	0.00	2.02	5.07	2.06	50.71

Test Duration

Ramp-up time	90 minutes
Measurement interval	120 minutes
Number of checkpoints	4
Checkpoint interval	30 minutes
Number of transactions (all types) completed in measurement interval	120,376,111