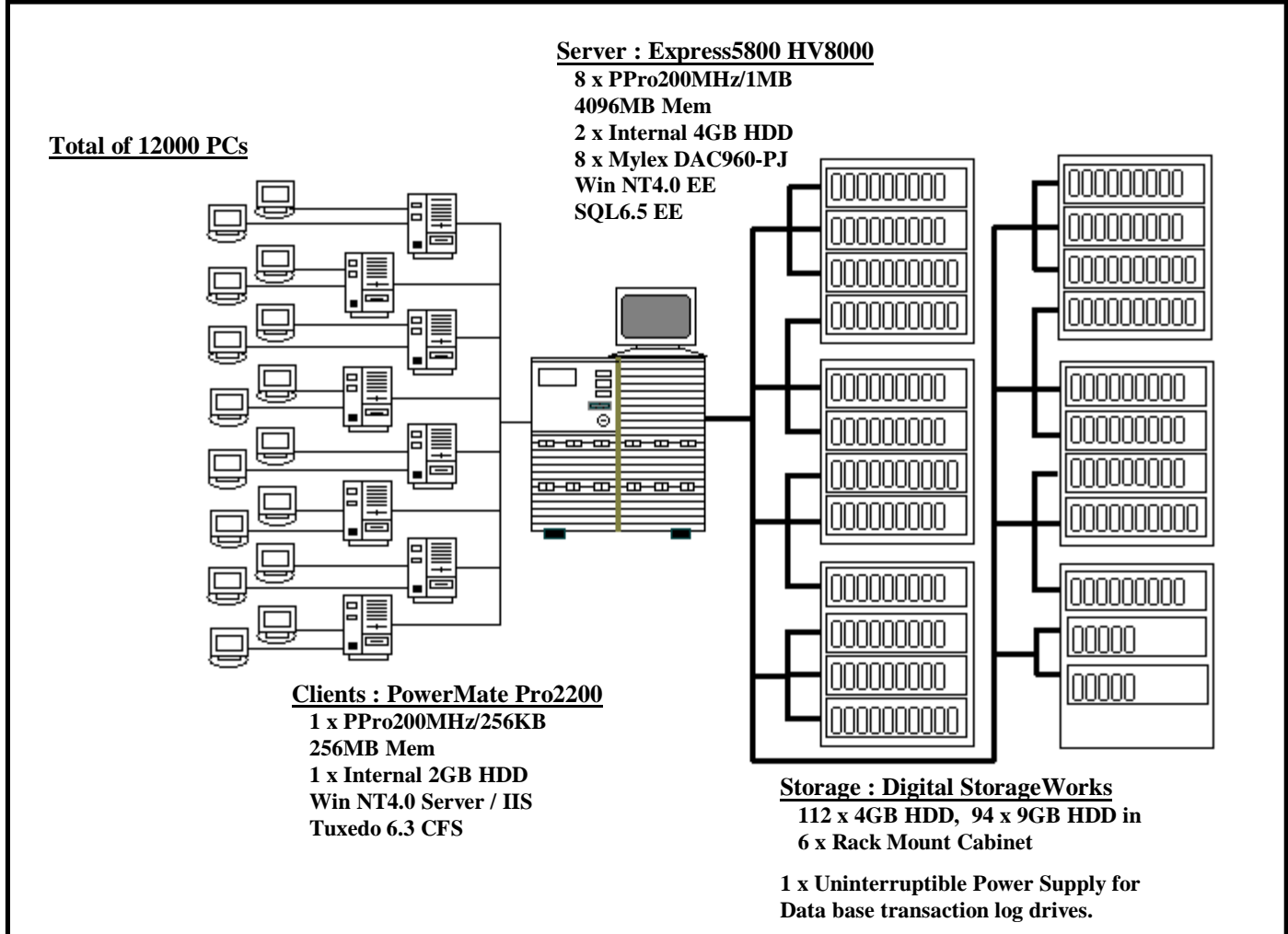



| | | | | |
|---------------------------------------|---------------------------------------------------|---------------------------------------------------|----------------------------------------------------------|----------------------------------------------------|
| NEC | | Express5800 HV8000 C/S | | TPC-C Rev.332 Reported Date December 8, 1997 |
| Total System Cost | | TPC-C Throughput | Price/Performance | Availability Date |
| \$885,842 | | 14900.03 tpmC | \$59.45 per tpmC | February 28,1998 |
| Processors | Database Manager | Operating System | Other Software | Number of Users |
| 8 x PentiumPro 200MHz 1MB cache | Microsoft SQL Server 6.5 Enterprise Edition | Microsoft Windows NT 4.0 Enterprise Edition | Microsoft IIS 3.0 BEA Tuxedo 6.3CFS Microsoft VC++ | 12000 |



| System Component | Server | | Each Client | |
|-------------------------|--------|-----------------------|-------------|----------------------|
| Processors | 8 | Pentium Pro ® 200MHz | 1 | Pentium Pro ® 200MHz |
| Cache | | 1MB | | 256KB |
| Memory | 1 | 4096MB | 1 | 256MB |
| Disk Controllers | 8 | Mylex DAC960-PJ | 1 | Integrated IDE |
| | 1 | Integrated Adaptec | | |
| Disk Drives | 94 | 9GB (8.47GB usable) | 1 | 2GB |
| | 114 | 4GB (3.99GB usable) | | |
| Total Strage | | 1251.0 GB | | 2GB |
| Others | 1 | EISA Ethernet Adapter | 3 | PCI Ethernet Adapter |
| | 1 | CD-ROM Drive | 1 | CD-ROM Drive |
| | 1 | Tape Drive | | |

|  | NEC Express 5800 HV8000 C/S | | | | TPC-C REV 3.3.2 | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------|------------|-----------------------------------------------|-------------------------------|---------------------|---------------|
| | | | | | Report Date: December 8, 1997 | | |
| Description | Part Number | Third Party | Unit Price | Quantity | Extended Price | 5-year Maint. Price | |
| Server Hardware | | Brand | Pricing | | | | |
| Express 5800 HV8000 4 x PentiumPro/200Mhz/1MB CPU 1024MB CD-ROM, Keyboard, Mouse integrated SCSI controller | 850115000 | NEC | 1 | 51,550 | 1 | 51,550 | 12,372 |
| Pentium Pro 200/1M CPU Upgrade Kit 1024MB ECC (4X256MB DIMM) | 203202 | NEC | 1 | 3,500 | 4 | 14,000 | 0 |
| Seagate 4GB HDD | FI-410-34305 | | 1 | 10,199 | 3 | 30,597 | 0 |
| 3com FAST Ether Link NIC (+2spares) | OP-220-76102 | NEC | 1 | 699 | 2 | 1,398 | 0 |
| NEC 15" Multisync Monitor | 3C597-TX | 3com | 6 | 229 | 3 | 687 | 0 |
| 4/8GB SCSI Connor 4mm DAT Drive | JC15W1VMA | | 1 | 313 | 1 | 313 | 75 |
| DEC PCI Bridge Card (+2spares) | FI-230-34001 | NEC | 1 | 749 | 1 | 749 | 0 |
| | 21A52-02 | DEC | 5 | 495 | 3 | 1,485 | 0 |
| Disk Subsystem | | | | | | | |
| Mylex DAC960PJ 3channel w/ 8MB EDO (+2 spares) | DACPJ-3-8E-MY1 | Mylex | 4 | 1,995 | 10 | 19,950 | 500 |
| Mylex Intelligent Battery Backup Unit (+2 spares) | DBBPG-MYL | Mylex | 4 | 345 | 3 | 1,035 | 0 |
| DEC Storage Works system | | | | | | | |
| 4.3GB W-Use Seagate Disk | DS-RZ1CB-VW | DEC | 5 | 1,449 | 112 | 162,288 | 1,204 |
| 9GB W-Use Seagate Disk | DS-RZ1DB-VW | DEC | 5 | 2,559 | 94 | 240,546 | 2,407 |
| Shelf (HA702WUHC single Bus) | DS-BA356-SD | DEC | 5 | 999 | 44 | 43,956 | 743 |
| 180W Power Supply SBB | DS-BA35X-HH | DEC | 5 | 559 | 44 | 24,596 | 372 |
| ULTRA 68VHD TRI-LINK | H8861-AA | DEC | 5 | 176 | 21 | 3,696 | 0 |
| ULTRA 68VHD 0.5M SCSI Cable ASSBLY | BN37A-0E | DEC | 5 | 140 | 21 | 2,940 | 0 |
| ULTRA 68VHD 3M SCSI Cable ASSBLY | BN37A-03 | DEC | 5 | 140 | 23 | 3,220 | 0 |
| ULTRA 68VHD Converter Cable | BN38E-0B | DEC | 5 | 140 | 7 | 980 | 0 |
| SW600 Rack | DS-SW600-AA | DEC | 5 | 5,109 | 6 | 30,654 | 372 |
| Rack mount Kit | BA35X-RD | DEC | 5 | 113 | 44 | 4,972 | 0 |
| APC Smart UPS (+2 spares) | SU700NET | APC | 6 | 289 | 3 | 867 | 0 |
| | | | | | Subtotal | 640,479 | 18,045 |
| Server Software | | | | | | | |
| Microsoft Windows NT 4.0 Enterprise Edition | | Microsoft | 2 | 3,999 | 1 | 3,999 | 0 |
| Microsoft SQL Server 6.5 Enterprise Edition Unlimited | | Microsoft | 2 | 28,999 | 1 | 28,999 | 10,475 |
| | | | | | Subtotal | 32,998 | 10,475 |
| Client Hardware | | | | | | | |
| PowerMate Pro 2200 PentiumPro200Mhz, 16MB, 2GB HDD, CD-ROM, KB, Mouse | MT-1790-24853C | | 1 | 1,894 | 8 | 15,152 | 3,636 |
| 64MB EDO memory | OP-410-25501 | | 1 | 210 | 32 | 6,720 | 0 |
| EtherExpress Pro/100B NIC 20 pack (including spares) | PILA8465B | Intel | 6 | 1,179 | 2 | 2,358 | 0 |
| NEC 15" Multisync Monitor | JC15W1VMA | | 1 | 313 | 8 | 2,504 | 75 |
| | | | | | Subtotal | 26,734 | 3,712 |
| Client Software | | | | | | | |
| Microsoft Windows NT Server V. 4.0 w/5 cal | | Microsoft | 2 | 809 | 8 | 6,472 | 0 |
| Microsoft Visual C++ Professional Edition | | 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 | 8 | 24,000 | 18,000 |
| | | | | | Subtotal | 31,470 | 18,000 |
| User Connectivity | | | | | | | |
| Linksys 16-port 100Mbps HUB (+2 spares) | EXHUB12S | Linksys | 6 | 524 | 3 | 1,572 | 0 |
| Linksys 20-prt 10Mbps HUB (+10% spares) | EW20HUB | Linksys | 6 | 153 | 669 | 102,357 | 0 |
| | | | | | Subtotal | 103,929 | 0 |
| | | | | | TOTAL | 835,610 | 50,232 |
| Notes: | | | | | | | |
| All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server | | | | Five-Year Cost of Ownership: \$885,842 | | | |
| Pricing: 1-NEC 2-Microsoft 3-BEA 4-Mylex 5-DEC 6-CDW | | | | tpmC Rating: 14900.03 | | | |
| Intel and 3Com offer a lifetime warranty free of charge: | | | | | | | |
| Linksys offers standard with 5-year warranty | | | | | | | |
| Audited by Francois Raab of Information Paradigm, Inc | | | | \$ / tpmC: 59.45 | | | |
| 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 | | | | 14900.03 tpmC |
| %throughput difference ,reported & reproducibility runs | | | | 0.12% |
| <u>Response Times(in seconds)</u> | <u>90%</u> | <u>Average</u> | <u>Maximum</u> | |
| New-Order | 0.52 | 0.39 | 34.97 | |
| Payment | 0.33 | 0.24 | 33.81 | |
| Order-status | 1.00 | 0.68 | 23.23 | |
| Delivery(interactive portion) | 0.30 | 0.29 | 0.70 | |
| Delivery(deferred portion) | 0.76 | 0.52 | 3.83 | |
| Stock-Level | 3.50 | 2.19 | 12.21 | |
| Menu | 0.30 | 0.19 | 0.93 | |
| Response time delay added for emulated components | | | | 0.1 |
| <u>Transaction Mix , in percent of total transaction</u> | | | | |
| New-Order | | | | 44.70 % |
| Payment | | | | 43.21 % |
| Order-status | | | | 4.01 % |
| Delivery | | | | 4.05 % |
| Stock-level | | | | 4.03 % |
| <u>Keying/Think Times (in seconds)</u> | <u>Min.</u> | <u>Average</u> | <u>Max</u> | |
| New-Order | 18.01 0.0 | 18.01 12.05 | 18.03 120.70 | |
| Payment | 3.00 0.0 | 3.01 12.04 | 3.03 120.71 | |
| Order-Status | 2.00 0.0 | 2.01 10.06 | 2.03 100.70 | |
| Delivery | 2.00 0.0 | 2.01 5.03 | 2.03 40.23 | |
| Stock-Level | 2.00 0.0 | 2.01 5.24 | 2.02 50.70 | |
| <u>Test Duration</u> | | | | |
| Ramp-up time | | | | 58 minutes |
| Measurement interval | | | | 30 minutes |
| Number of checkpoints | | | | 1 |
| Checkpoint interval | | | | 30 minutes |
| Number of transactions (all types) completed in measurement interval | | | | 1,000,062 |