



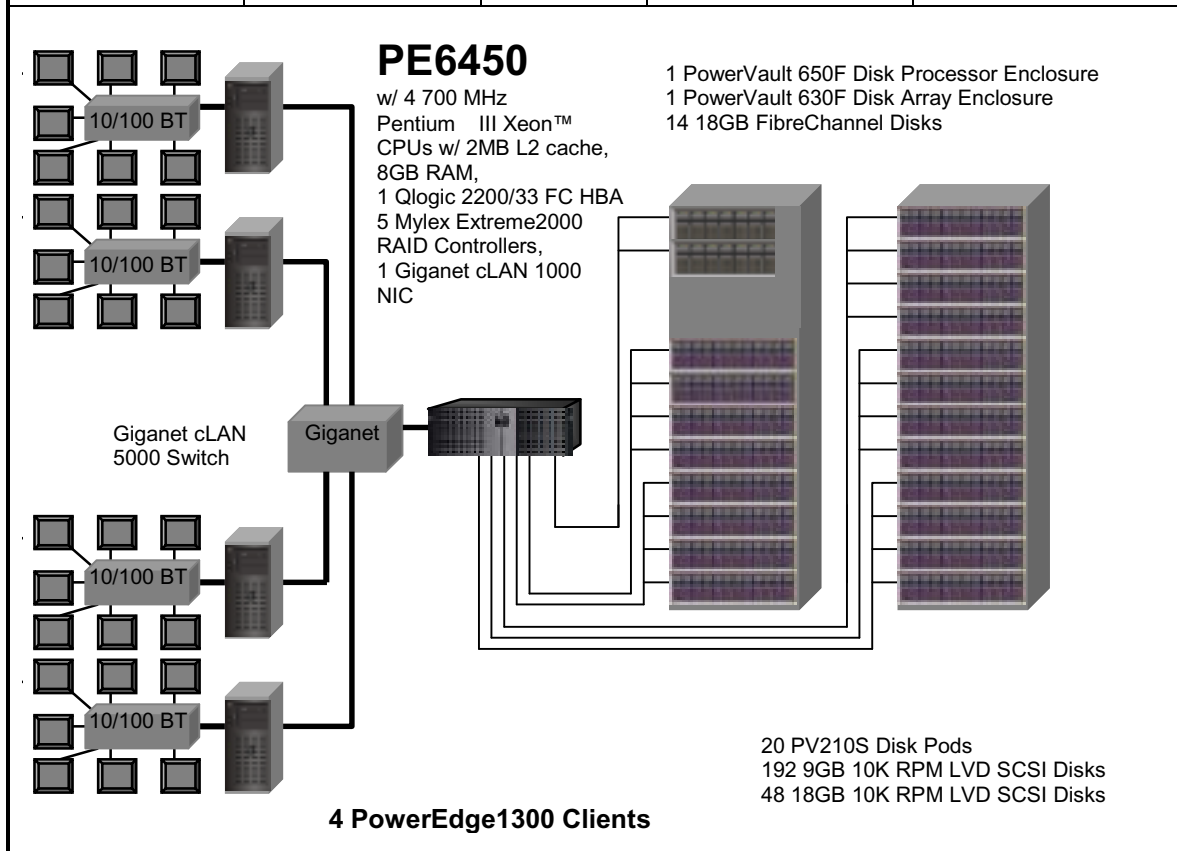
PowerEdge 6450

Client/Server w/4 PE1300 Front Ends

TPC-C Rev 3.5
Report Date
May 26, 2000

| | | | |
|-------------------|-----------------------|----------------------|--------------------|
| Total System Cost | TPC-C Throughput | Price/Performance | Availability Date |
| \$452,211 | 31,187.45 tpmC | \$14.50/ tpmC | Aug 1, 2000 |

| | | | | |
|---|--|--|--|-----------------|
| Processors | Database Manager | OS | Other Software | Number of Users |
| 4 x Pentium III Xeon™ Processors 700 MHz 2MB L2 Cache | Microsoft SQL Server 2000 Enterprise Edition | Microsoft Windows 2000 Advanced Server | Windows 2000 Server w/ COM+ Internet Information Server 5.0 Microsoft Visual C++ | 25,600 |



| System Component | Server | | Each Client | |
|------------------|--------|-------------------------------|-------------|-----------------------------|
| Processors | 4 | Pentium III Xeon™ @ 700MHz | 1 | Pentium III w/ 512 KB L2 |
| Cache | | 2MB | | 2 clients @ 600MHz, 2 @ 550 |
| Memory | | 8192 MB | | 512 MB |
| Disk Controllers | 5 | Mylex ExtremeRAID 2000 | 1 | Adaptec On-Board |
| | 2 | Adaptec On-Board | | |
| Disk Drives | 193 | 9 GB SCSI (8.195 GB useable) | 1 | 9 GB |
| | 48 | 18 GB SCSI (16.758GB useable) | | |
| | 14 | 18 GB FC (16.538 GB useable) | | |
| Total Storage | | 2,618 GB | | 9 GB |
| Other | 1 | QLogic 2200/33 FC HBA | 1 | |
| | 1 | Giganet cLAN 1000 NIC | 1 | |
| | 1 | CD-ROM | 1 | |
| | 1 | External DAT | | |

| Dell | | PowerEdge 6450 | | | TPC-C REV 3.5 EXECUTIVE SUMMARY PAGE 2 OF 2 | | |
|--|----------------|----------------|----------------|--------|--|--------------------|-----------------|
| | | Client/Server | | | Report Date: 26-May-00 | | |
| Description | Part Number | Third Party | Unit Price | Qty | Extended Price | 5 yr. Maint. Price | |
| Server Hardware | | | | | | | |
| | | Brand | Pricing | | | | |
| Dell PowerEdge 6450 | 220-0660 | | 1 | 10,683 | 1 | 10,683 | 1,999 |
| Pentium III Xeon 700 MHz / 2MB L2 - 4 processors | 311-0834 | | 1 | 21,599 | 1 | 21,599 | 0 |
| 8 GB RAM, 16 x 512MB DIMMS | 311-4118 | | 1 | 34,406 | 1 | 34,406 | 0 |
| 9 GB U160M SCSI 10K RPM Hard Drive | 340-8805 | | 1 | 349 | 1 | 349 | 0 |
| cLAN 1000 NIC, PCI 32/64-bit | 430-0302 | Giganet | 1 | 695 | 1 | 695 | 0 |
| cLAN Giganet 10m Cable | 310-0499 | Giganet | 1 | 150 | 1 | 150 | 0 |
| DLT4000 20/40GB Tape Backup Unit | 340-0611 | | 1 | 1,799 | 1 | 1,799 | 0 |
| Dell 15" Monitor | 320-0077 | | 1 | 199 | 1 | 199 | 0 |
| 2200/33 Fibre Channel Host Bus Adapter | 340-8314 | Qlogic | 1 | 1,199 | 1 | 1,199 | 0 |
| Extreme RAID 2000 PCI SCSI 4 channel RAID controller*** | E2000-4-32NB | Mylex | 3 | 1,872 | 7 | 13,104 | 0 |
| Smart-UPS 3000VA Rackmount *** | 756214 | APC | 1 | 1,933 | 3 | 5,799 | 0 |
| | | | | | Subtotal | 89,982 | 1,999 |
| PowerVault Disk Subsystem | | | | | | | |
| PV210S, ESEM, PS, Rack mount | 220-4099, etc. | | 1 | 2,864 | 20 | 57,280 | 23,280 |
| SCSI Cables | 310-0313 | | 1 | 69 | 20 | 1,380 | 0 |
| 9 GB Ultra-2 LVD SCSI 10K RPM Hard Drive * | 340-1394 | | 1 | 349 | 192 | 67,008 | 0 |
| 18 GB Ultra-2 LVD SCSI 10K RPM Hard Drive * | 340-1395 | | 1 | 549 | 48 | 26,352 | 0 |
| 650F Disk Processor Enclosure w/ 2 SP/ 2 LCC/2 PS/2 | 340-0840 | | 1 | 11,999 | 1 | 11,999 | 2,650 |
| 512 MB RAID Controller Cache | 311-0637 | | 1 | 2,392 | 2 | 4,784 | 0 |
| 630F Disk Array Enclosure w/ 2 LCC/2 PS | 220-0480 | | 1 | 4,747 | 1 | 4,747 | 2,280 |
| 18GB 10K RPM Fibre Channel Hard Drive 10 Pack * | 340-0838 | | 1 | 9,999 | 1 | 9,999 | 0 |
| 18GB 10K RPM Fibre Channel Hard Drive 5 Pack * | 340-0837 | | 1 | 4,999 | 1 | 4,999 | 0 |
| 42U Rack | 220-0605 | | 1 | 1,599 | 3 | 4,797 | 0 |
| | | | | | Subtotal | 193,345 | 28,210 |
| Server Software | | | | | | | |
| SQL Server 2000 Ent Edition, Unlimited Client Licenses ** | | Microsoft | 2 | 28,999 | 1 | 28,999 | 10,475 |
| Windows 2000 Advanced Server, 25 Client Licenses ** | | Microsoft | 2 | 3,919 | 1 | 3,919 | 0 |
| | | | | | Subtotal | 32,918 | 10,475 |
| Client Hardware | | | | | | | |
| Dell PowerEdge 1300, 600 MHz Pentium III w/ 512KB L2 | 220-8789 | | 1 | 1,074 | 2 | 2,148 | 2,670 |
| Dell PowerEdge 1300, 550 MHz Pentium III w/ 512KB L2 | 220-8772 | | 1 | 1,074 | 2 | 2,148 | 2,670 |
| 512MB RAM, 2 DIMMs | 311-0953 | | 1 | 1,370 | 4 | 5,480 | 0 |
| 9GB LVD SCSI Hard Drive, | 340-1466 | | 1 | 299 | 4 | 1,196 | 0 |
| Ether Express PRO 100+ Ethernet Adapter | 430-0222 | Intel | 1 | 59 | 4 | 236 | 0 |
| cLAN 1000 NIC, PCI 32/64-bit | 430-0302 | Giganet | 1 | 695 | 4 | 2,780 | 0 |
| cLAN Giganet 2m Cable | 310-0497 | Giganet | 1 | 99 | 4 | 396 | 0 |
| Dell 15" Monitor | 320-1502 | | 1 | 199 | 4 | 796 | 0 |
| | | | | | Subtotal | 15,180 | 5,340 |
| Client Software | | | | | | | |
| Windows 2000 Server, 5 Client Licenses ** | | Microsoft | 2 | 999 | 4 | 3,996 | 0 |
| Visual C++ Professional 6.0 Win32 ** | | Microsoft | 2 | 549 | 1 | 549 | 0 |
| | | | | | Subtotal | 4,545 | 0 |
| User Connectivity | | | | | | | |
| cLAN Giganet Switch | 220-4191 | Giganet | 1 | 5,848 | 1 | 5,848 | 4,000 |
| 8 Port Ethernet Switch *** | NX-SW8 | Netlux | 4 | 99 | 6 | 594 | 0 |
| 8+1 Port 10BaseT Ethernet Hub *** | HB-1009DX/P | NetCruiser | 5 | 25 | 3,556 | 88,900 | 0 |
| | | | | | Subtotal | 95,342 | 4,000 |
| | | | | | Other Discounts | (\$29,125) | 0 |
| | | | | | Total | \$402,187 | \$50,024 |
| Notes: * Maint. included in PowerVault 210S disk pod or PV650F/630F fibre channel disk pod | | | | | Five-Year Cost of Ownership: \$452,211 | | |
| ** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server | | | | | | | |
| *** 10% or minimum 2 spares are added in place of onsite service (products have a five year return-to-vendor warranty) Pricing: 1 - Dell 2 - Microsoft 3 - Mylex 4 - Netlux 5 - Netcruiser | | | | | tpmC Rating: 31187.45 | | |
| Audited by Tom Sawyer, Performance Metrics Inc. | | | | | \$ / tpmC: 14.50 | | |
| <i>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 items, please inform the TPC at pricing@tpc.org.</i> | | | | | | | |

MQTh, computed Maximum Qualified Throughput 31187.45
 tpmC
 % throughput difference, reported & reproducibility runs 0.35%

| Response Times (in seconds) | Average | 90th | Max |
|------------------------------------|---------|------|------|
| - Neworder | 0.77 | 1.55 | 5.08 |
| - Payment | 0.68 | 1.45 | 4.86 |
| - Order Status | 0.70 | 1.45 | 4.82 |
| - Delivery (interactive portion) | 0.28 | 0.71 | 2.30 |
| - Delivery (deferred portion) | 0.54 | 1.10 | 3.78 |
| - Stock-Level | 1.66 | 2.66 | 5.82 |
| - Menu | 0.29 | 0.75 | 2.32 |

Response time delay added for emulated components Menu 0.1
 Resp 0.1

Transaction Mix, in percent of total transactions

| | |
|----------------|---------|
| - New-Order | 44.86 % |
| - Payment | 43.03 % |
| - Order-Status | 4.04 % |
| - Delivery | 4.04 % |
| - Stock-Level | 4.02 % |

| Keying/Think Times (in seconds), | Min | | Average | | Max | |
|---|-------|-----|---------|-------|-------|--------|
| - New-Order | 18.01 | 0.0 | 18.03 | 12.05 | 18.08 | 120.42 |
| - Payment | 3.01 | 0.0 | 3.03 | 12.07 | 3.08 | 120.42 |
| - Order-Status | 2.01 | 0.0 | 2.03 | 10.03 | 2.07 | 100.41 |
| - Delivery | 2.01 | 0.0 | 2.03 | 5.05 | 2.07 | 50.41 |
| - Stock-Level | 2.01 | 0.0 | 2.03 | 5.04 | 2.07 | 50.42 |

Test Duration

| | |
|---|------------|
| - Ramp-up time | 48 minutes |
| - Measurement interval | 20 minutes |
| - Number of checkpoints | 1 |
| - Checkpoint interval | 20 minutes |
| - Number of transactions (all types) completed in measurement interval | 1,446,721 |