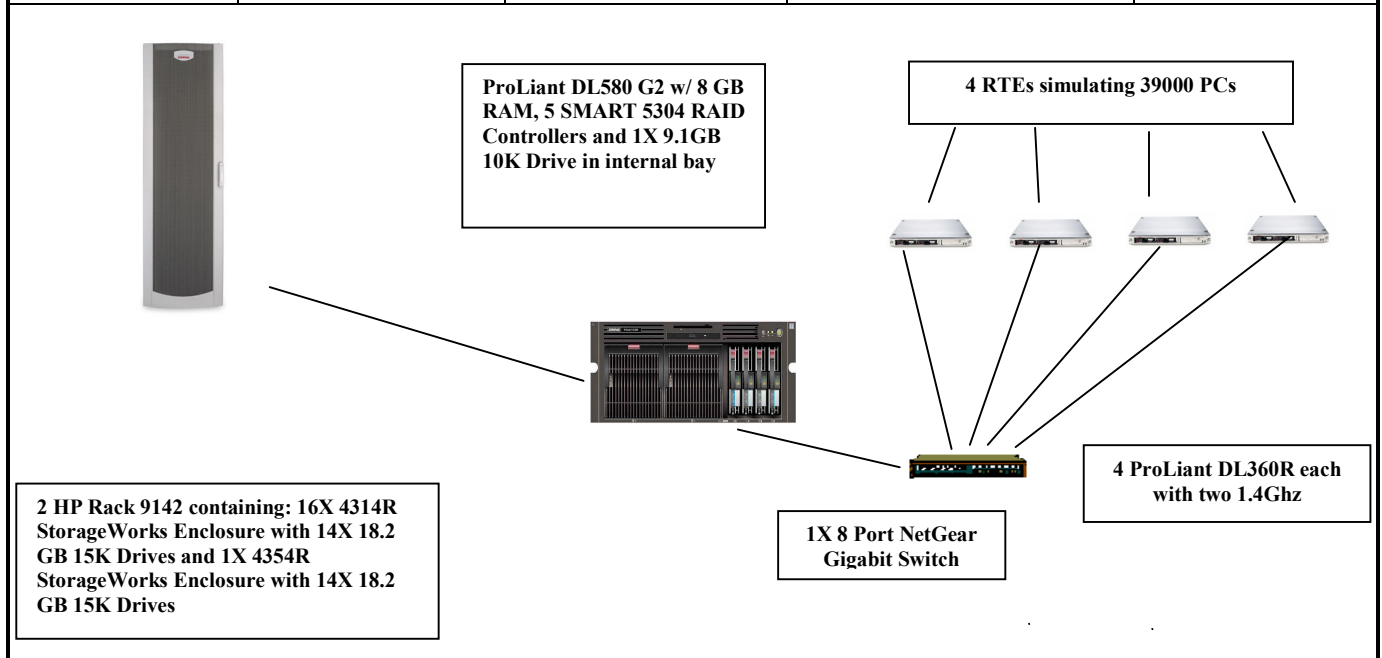


| | | |
|----------------------------|----------------------------|---------------------------|
| Hewlett-Packard Company | ProLiant DL580 G2 | TPC-C Rev. 5.0 |
| | C/S with 4 ProLiant DL360R | Report Date: May 17, 2002 |

| | | | |
|-------------------|------------------|-------------------|---------------------|
| Total System Cost | TPC-C Throughput | Price/Performance | Availability Date |
| \$320,544 | 48,911.83 | \$6.56 | July 2, 2002 |

| | | | | |
|---|--|------------------------------|--|-----------------|
| Processors | Database Manager | Operating System | Other Software | Number of Users |
| 4 Intel Xeon 1.6 GHz – Server 8 Pentium III 1.4 GHz – Clients | Microsoft SQL Server 2000 Enterprise Edition | Windows 2000 Advanced Server | Microsoft Visual C++ Microsoft COM+ | 39000 |



| | Server | | Each Client | |
|-------------------|----------|-----------------------------------|-------------|--------------------------------------|
| System Components | Quantity | Description | Quantity | Description |
| Processor | 4 | 1.6 GHz Intel Xeon w/ 1M Cache | 2 | 1.4GHz Pentium III w/ 256K cache |
| Memory | 4 | 2 GB DDR (2x1GB) | 4 | 128MB |
| Disk Controllers | 1 | HP Integrated 5i Smart Controller | 1 | Integrated SMART 5i Array Controller |
| | 5 | HP SMART 5304 Array Controller | | |
| Disk Drives | 1 | 9.1GB SCSI Drive | 1 | 9.1GB SCSI Drive |
| | 238 | 18.2 GB SCSI Drive | | |
| Total Storage | | 4030.67 GB | | 9.1 GB |
| Tape Drives | 1 | 12/24 GB DAT | | |

| Hewlett-Packard | | ProLiant DL580G2-4P | | TPC-C Rev. 5.0 | | |
|--|---------------------|----------------------|------------|---|------------------|--------------------|
| Company | | Client/Server | | Report Date: | | 17-May-02 |
| Description | Part Number | Third Party | Unit Price | Qty | Extended Price | 3 yr. Maint. Price |
| Server Hardware | | Brand Pricing | | | | |
| ProLiant DL580 X1600 2P X2GB | 201203-001 | 1 | 22,999 | 1 | 22,999 | |
| 1.6 GHz 1M processor | 226776-B21 | 1 | 6,199 | 2 | 12,398 | |
| 4GB (4x1GB) | 202172-B21 | 1 | 3,776 | 2 | 7,552 | |
| StorageWorks Enclosure Model 4314R | 190209-001 | 1 | 2,955 | 16 | 47,280 | |
| StorageWorks Enclosure Model 4354 | 190211-001 | 1 | 3,523 | 1 | 3,523 | |
| Smart Array 5304/128 Controller | 158939-B21 | 1 | 2,099 | 5 | 10,495 | |
| NC7770 PCI-X Gigabit Server Adapter | 244948-B21 | 1 | 227 | 1 | 227 | |
| V570 Color Monitor - 15 inch CRT - Opal | 228113-001 | 1 | 169 | 1 | 169 | |
| HP Mouse | 170299-B21 | 1 | 23 | 1 | 23 | |
| HP Enhanced Keyboard | 122660-006 | 1 | 44 | 1 | 44 | |
| 12/24-Gigabyte DAT Drive (Internal) | 295513-B22 | 1 | 682 | 1 | 682 | |
| HP Rack Model 9142 (42U - Opal) - Flat Pallet | 120663-B21 | 1 | 1,352 | 2 | 2,704 | |
| HP Rack Sidewall Kit | 120670-B21 | 1 | 212 | 1 | 212 | |
| UPS R3000 XR | 192186-001 | 1 | 1,703 | 1 | 1,703 | |
| 9.1GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive | 336357-B21 | 1 | 431 | 1 | 431 | |
| 18.2-GB Pluggable 1" Universal WideUltra3 15K HDD | 188122-B22 | 1 | 539 | 238 | 128,282 | |
| 18.2-GB Pluggable 1" Universal WideUltra3 15K HDD (10% spares) | 188122-B22 | 1 | 539 | 24 | | 12,936 |
| FM-M1724-36 3YR 24X7 4HR 500 SERIES SVR | 401782-002 | 1 | 1,795 | 1 | | 1,795 |
| FM-4E724-36 3YR 24X7/4HR EMPTY DISK ENCL | 171242-002 | 1 | 157 | 17 | | 2,669 |
| Subtotal | | | | | 238,724 | 17,400 |
| Server Software | | | | | | |
| Microsoft SQL Server 2000 Enterprise Edition(per processor) | 810-00845 Microsoft | 2 | 17,279 | 4 | 69,116 | 5,850 |
| Microsoft Visual C++ 6.0 | 048-00317 Microsoft | 2 | 549 | 1 | 549 | Incl Above |
| Microsoft Windows 2000 Advanced Server | C10-00475 Microsoft | 2 | 2,399 | 1 | 2,399 | Incl Above |
| Subtotal | | | | | 72,064 | 5,850 |
| Client Hardware | | | | | | |
| ProLiant DL360R01 P1.4GHz 512KB 128MB | 233271-001 | 1 | 2,679 | 4 | 10,716 | |
| Dual Integrated Gigabit NIC, Integrated Smart Array Controller | | | | | | |
| 1.40GHz PIII Processor Option Kit (DL360 G2) | 201099-B21 | 1 | 1,099 | 4 | 4,396 | |
| 128 MB 133 DIMM | 128277-B21 | 1 | 149 | 12 | 1,788 | |
| V570 Color Monitor - 15 inch CRT - Opal | 228113-001 | 1 | 169 | 4 | 676 | |
| HP Mouse | 170299-B21 | 1 | 23 | 4 | 92 | |
| HP Enhanced Keyboard | 122660-006 | 1 | 44 | 4 | 176 | |
| 9.1GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive | 336357-B21 | 1 | 431 | 4 | 1,724 | |
| FM-EL724-36 3YR 24X7 4HR ENTRY 300 SVR | 162675-002 | 1 | 750 | 4 | | 3,000 |
| Subtotal | | | | | 19,568 | 3,000 |
| Client Software | | | | | | |
| Microsoft Windows 2000 Server | C11-00821 Microsoft | 2 | 738 | 4 | 2,952 | Incl. Above |
| Subtotal | | | | | 2,952 | 0 |
| User Connectivity | | | | | | |
| GS508T 8 port Copper Gigabit Switch | 1058966 NetGear | 3 | 665 | 3 | 1,994 | |
| Subtotal | | | | | 1,994 | 0 |
| Large Purchase and Cash discount (See Note 1) | 16.0% | 1 | | | (\$38,224) | (\$2,784) |
| Total | | | | | \$297,078 | \$23,466 |
| <p>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 pricing 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.</p> | | | | <p>Three-Year Cost of Ownership: \$320,544</p> <p>tpmC Rating: 48911.83</p> <p>\$ / tpmC: \$6.56</p> | | |
| Pricing: 1=HP Direct 2= Microsoft 3=Ecost.com | | | | | | |
| Note 1 = Discount based on HP Direct guidance and large cash purchase level. | | | | | | |
| Note: The benchmark results and test methodology were audited by Lorna Livingtree of Performance Metrics, Inc. | | | | | | |

Numerical Quantities Summary

MQTH, Computed Maximum Qualified Throughput

48911.83 tpmC

| Response Times (in seconds) | Average | 90% | Maximum |
|------------------------------------|----------------|------------|----------------|
| New-Order | 0.36 | 0.58 | 6.96 |
| Payment | 0.27 | 0.47 | 5.59 |
| Order-Status | 0.29 | 0.49 | 5.34 |
| Delivery (interactive portion) | 0.10 | 0.11 | 0.93 |
| Delivery (deferred portion) | 0.24 | 0.40 | 1.08 |
| Stock-Level | 1.54 | 1.99 | 5.77 |
| Menu | 0.10 | 0.11 | 1.07 |

Transaction Mix, in percent of total transaction

| | |
|--------------|--------|
| New-Order | 44.97% |
| Payment | 43.00% |
| Order-Status | 4.00% |
| Delivery | 4.02% |
| Stock-Level | 4.00% |

Emulation Delay (in seconds)

| | Resp.Time | Menu |
|------------------------|------------------|-------------|
| New-Order | 0.10 | 0.10 |
| Payment | 0.10 | 0.10 |
| Order-Status | 0.10 | 0.10 |
| Delivery (interactive) | 0.10 | 0.10 |
| Stock-Level | 0.10 | 0.10 |

Keying/Think Times (in seconds)

| | Min. | Average | Max. |
|------------------------|-------------|----------------|--------------|
| New-Order | 18.00/0.00 | 18.02/12.05 | 18.08/120.61 |
| Payment | 3.00/0.00 | 3.02/12.05 | 3.08/120.61 |
| Order-Status | 2.00/0.00 | 2.02/10.05 | 2.05/100.61 |
| Delivery (interactive) | 2.00/0.00 | 2.02/5.06 | 2.06/50.61 |
| Stock-Level | 2.00/0.00 | 2.02/5.06 | 2.04/50.61 |

Test Duration

| | |
|--|-------------|
| Ramp-up time | 30 minutes |
| Measurement interval | 120 minutes |
| Transactions (all types) completed during measurement interval | 18,055,489 |
| Ramp down time | 5 minutes |

Checkpointing

| | |
|-----------------------|------------|
| Number of checkpoints | 4 |
| Checkpoint interval | 30 minutes |