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|----------------------------|-------------------------|---------------------------|--|
| Hewlett-Packard Company | HP ProLiant ML350G3T-1P | TPC-C Rev. 5.0 | |
| | | Report Date: Aug 13, 2002 | |

| | | | |
|-------------------|------------------|-------------------|---------------------|
| Total System Cost | TPC-C Throughput | Price/Performance | Availability Date |
| \$36,214 | 10,089.76 | \$3.59 | Dec 31, 2002 |

| | | | | |
|----------------------------------|------------------------------------------------|--------------------|----------------------------------------|-----------------|
| Processors | Database Manager | Operating System | Other Software | Number of Users |
| 1 Intel Xeon 2.2 GHz – Server | Microsoft SQL Server 2000 Standard Edition SP3 | Windows.NET Server | Microsoft Visual C++ Microsoft COM+ | 8200 |

2X HP ProLiant StorageWorks Enclosures
Enclosing 20 X 18.2 GB 15K Pluggable Drives

HP ProLiant ML350G3T
2GB RAM and 2 SMART 5302
RAID Controllers
4x36GB drives and 1x18.2GB drive internal



1 RTE simulating 8200 PCs

| | | Server | |
|-------------------|----------|----------------------------------|--|
| System Components | Quantity | Description | |
| Processor | 1 | 2.2 GHz Intel Xeon w/ 512K Cache | |
| Memory | 1 | 2 GB DDR (4x512MB) | |
| Disk Controllers | 2 | SMART 5302 Array Controller | |
| Disk Drives | 21 | 18.2GB SCSI Drive | |
| | 4 | 36 GB SCSI Drive | |
| Total Storage | | 490.58 GB | |
| Tape Drives | 1 | 10/20 GB DAT | |

| Hewlett-Packard Company | HP ProLiant ML350-G3 1P | | TPC-C Rev. 5.0 | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------|----------------|--------------|-----------------------------------------------|--------------------|----------------|
| | | | | Report Date: | 13-Aug-02 | | |
| Description | Part Number | Third Party | Unit Price | Qty | Extended Price | 3 yr. Maint. Price | |
| Server Hardware | | | | | | | |
| Brand Pricing | | | | | | | |
| HP ProLiant ML350T03 2.2-512K 256MB | 267120-001 | 1 | 2,213 | 1 | 2,213 | | |
| 1 Intel Xeon 2.2GHz 512K cache | | | | | | | |
| integrated NC7760 10/100/1000 NIC, keyboard, mouse | | | | | | | |
| 2GB (4x512MB) DDR ECC 200MHz Memory | 202171-B21 | 1 | 1,470 | 1 | 1,470 | | |
| StorageWorks Enclosure Model 4314T | 190210-001 | 1 | 3,182 | 2 | 6,364 | | |
| Smart Array 5302 Controller | 124992-B21 | 1 | 1,399 | 2 | 2,798 | | |
| V570 Color Monitor - 15 inch CRT - Opal | 228113-001 | 1 | 169 | 1 | 169 | | |
| TR5 10/20-Gigabyte Tape Drive - Carbon | 294243-B22 | 1 | 299 | 1 | 299 | | |
| Pro UPS 500 (500VA/300 Watts; 110-127 VAC, 60Hz) | 136386-001 | 1 | 150 | 1 | 150 | | |
| NC3123 Fast Ethernet NIC PCI 10/100 Wake on LAN | 174830-B21 | 1 | 98 | 1 | 98 | | |
| 18GB Pluggable Wide Ultra SCSI 3 Universal 15K Drive | 188122-B22 | 1 | 459 | 20 | 9,180 | | |
| 36GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive | 176496-B22 | 1 | 534 | 4 | 2,136 | | |
| 18GB Pluggable Wide Ultra SCSI 3 Universal 10K Drive | 142674-B21 | 1 | 319 | 1 | 319 | | |
| CarePaq Service - Entry 300 WG Servers 3Yr,7x24,4hr (FM-EL724- | 162675-002 | 1 | 750 | 1 | | 750 | |
| CarePaq Service - 3YR 24X7/4HR EMPTY DISK EN. (FM-4E724-36 | 171242-002 | 1 | 157 | 2 | | 314 | |
| 18GB 15K Drives (Spare for external drives only) | 188122-B22 | | 459 | 2 | | 918 | |
| | | | | | Subtotal | 25,196 | 1,982 |
| Server Software | | | | | | | |
| Microsoft SQL Server 2000 Standard (per processor) | 228-01079 | Microsoft | 2 | 4,999 | 1 | 4,999 | 5,850 |
| Microsoft Visual C++ 6.0 | 048-00317 | Microsoft | 2 | 549 | 1 | 549 | Incl Above |
| Microsoft Windows.NET Standard Server | N/A | Microsoft | 2 | 899 | 1 | 899 | Incl Above |
| | | | | | Subtotal | 6,447 | 5,850 |
| Large Purchase and Cash discount (See Note 1) | 12.0% | | 1 | | | (\$3,024) | (\$238) |
| | | | | | Total | \$28,619 | \$7,594 |
| 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. | | | | | Three-Year Cost of Ownership: \$36,214 | | |
| | | | | | tpmC Rating: 10089.76 | | |
| | | | | | \$ / tpmC: \$3.59 | | |
| Pricing: 1=HP Direct 2= Microsoft | | | | | | | |
| 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

10089.76tpmC

| Response Times (in seconds) | Average | 90% | Maximum |
|------------------------------------|----------------|------------|----------------|
| New-Order | 0.53 | 0.77 | 6.62 |
| Payment | 0.26 | 0.41 | 5.95 |
| Order-Status | 0.41 | 0.61 | 4.88 |
| Delivery (interactive portion) | 0.13 | 0.17 | 3.36 |
| Delivery (deferred portion) | 1.09 | 1.83 | 4.19 |
| Stock-Level | 3.57 | 5.28 | 8.27 |
| Menu | 0.13 | 0.17 | 5.49 |

Transaction Mix, in percent of total transaction

| | |
|--------------|--------|
| New-Order | 44.90% |
| Payment | 43.01% |
| Order-Status | 4.04% |
| Delivery | 4.02% |
| Stock-Level | 4.03% |

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 | 18.01/12.28 | 18.02/122.91 |
| Payment | 3.00/0.00 | 3.01/12.27 | 3.02/122.91 |
| Order-Status | 2.00/0.00 | 2.01/10.25 | 2.02/102.50 |
| Delivery (interactive) | 2.00/0.00 | 2.01/5.15 | 2.02/50.65 |
| Stock-Level | 2.00/0.00 | 2.01/5.15 | 2.02/51.49 |

Test Duration

| | |
|----------------------------------------------------------------|-------------|
| Ramp-up time | 40 minutes |
| Measurement interval | 120 minutes |
| Transactions (all types) completed during measurement interval | 2,792,277 |
| Ramp down time | 47 minutes |

Checkpointing

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