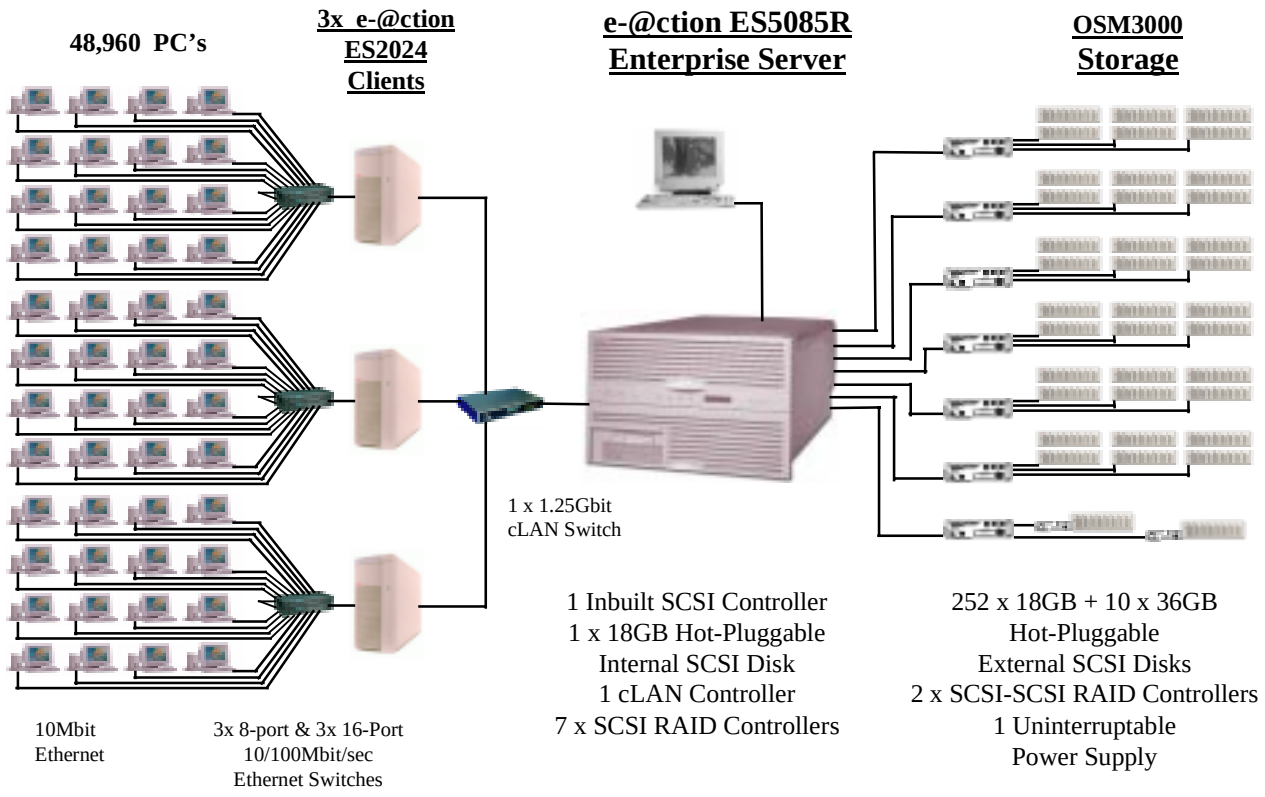
UNISYS

# e-@ction Enterprise Server ES5085R
**(8P 700MHz/2MB)**

TPC-C Rev. 3.5
Report Date: 14-Nov-2000
Revision Date: 18-Jan-2001

| Total System Cost | TPC-C Throughput | Price/Performance | Availability Date |
|---|---|---|---|
| **$858,408** | **61,390.43 tpmC** | **$13.99 per tpmC** | **1-Mar-2001** |

| Processors | Database Manager | Operating System | Other Software | Number of Users |
|---|---|---|---|---|
| 8 Pentium® III Xeon 700 MHz 2MB L2 cache | Microsoft SQL Server 2000 Enterprise Edition | Microsoft Windows 2000 Datacenter Server | Windows 2000 Server, IIS 5.0 and COM+ | **48,960** |




| System Components | Enterprise Server | | Clients (each of 3) | |
|---|---|---|---|---|
| | Quantity | Type | Quantity | Type |
| Processors | 8 | 700 MHz Pentium® III Xeon with 2MB Level 2 Cache | 2 | 866 MHz Pentium® III with 256KB Level 2 Cache |
| Memory | 1 | 32 GB | 1 | 1024 MB |
| Disk Controllers | 7 + 2<br>1 | SCSI RAID<br>Inbuilt SCSI | 1 | Inbuilt SCSI |
| Disk Drives | 253<br>10 | 17.0 GB<br>34.0 GB | 1 | 16.9 GB |
| Total Storage | | 4640.14 GB | | 16.9 GB |
| CD-ROM / Tape | 1 | SCSI CD-ROM Drive | 1 | CD-ROM Drive |

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**(8P 700MHz/2MB)**

**TPC-C Rev 3.5**
**Revision Date: 18-Jan-2001**

| Description | Style | Third Party Brand | Pricing | Unit Price | Qty. | Extended Price | 5 Years Maint. |
|---|---|---|---|---|---|---|---|
| **Server Hardware** | | | | | | | |
| SYS: ES5085R, 0CPU, 0MB | ESR508152-GZN | | 1 | $13,407 | 1 | $13,407 | $2,184 |
| PROC: 700MHz Pentium III Xeon /2MB Cache | XEO37002-2MB | | 1 | $3,315 | 8 | $26,520 | $9,984 |
| MEM: 1GB Memory, SDRAM, Buf 6ns | DIM6168-1GB | | 1 | $3,094 | 32 | $99,008 | $33,024 |
| BRD: Processor Mezzanine Board, 0 Proc. | ESR82-MEZ | | 1 | $958 | 1 | $958 | $168 |
| BRD: Memory Carrier Board, 0 Mem. | ESR81-MCB | | 1 | $737 | 1 | $737 | $216 |
| MEM: Cache Coherency Filter, 4x SRAM | ESR81-CC4 | | 1 | $774 | 2 | $1,548 | $528 |
| CTRL: RAID, PCI, 4-Ch w/ 0MB Mem | RAD6004-P64 | | 1 | $1,400 | 7 | $9,800 | $3,360 |
| MEM: RAID 32MB Cache & Bat. BU | RAD6324-MEB | | 1 | $479 | 7 | $3,353 | $1,176 |
| CTRL: cLAN, PCI Host Adapter & Cable | PCI10001-CXG | | 1 | $587 | 1 | $587 | $168 |
| DISK: 18GB, 10K SCSI LVD, SCA | HDM18110-CX1 | | 1 | $567 | 1 | $567 | $192 |
| MAINT: 3 Yr. Performance Gold Svc Warranty Upgrade | WI8003-PGS | | 1 | $1,768 | 1 | | $1,768 |
| MONITOR: 15-inch Color | EVG2100-P | | 1 | $221 | 1 | $221 | |
| | | | | | **Subtotal** | **$156,706** | **$52,768** |
| **Storage Hardware** | | | | | | | |
| DISK: 18GB Drive, 15K SCSI LVD, SCA | ESM18308-W45 | | 1 | $737 | 252 | $185,724 | |
| DISK: 18GB Drive, 15K SCSI LVD, SCA 10% spares | ESM18308-W45 | | 1 | $737 | 26 | | $19,162 |
| DISK: 36GB Drive, 10K SCSI LVD, SCA | OSD36209-W45 | | 1 | $1,172 | 10 | $11,720 | |
| DISK: 36GB Drive, 10K SCSI LVD, SCA 10% spares | OSD36209-W45 | | 1 | $1,172 | 2 | | $2,344 |
| CAB: Disk, 8 SCA w/ I/F cards, 0 Disks, 3U | ESM310300-L05 | | 1 | $2,100 | 36 | $75,600 | $38,448 |
| CAB: Disk, 8 SCA w/ RAID Cntl'r, 0MB, 0 Disks, 3U | ESM311000-LR | | 1 | $5,166 | 2 | $10,332 | $4,944 |
| MEM: 32MB OSM cache | OSM1032-MEM | | 1 | $171 | 2 | $342 | $264 |
| PWR: 2nd Power Supply Upgrade, OSM | OSM3000-BPF | | 1 | $530 | 2 | $1,060 | $312 |
| PWR:3000 VA UPS, 3U | UPD30001-SXR | | 1 | $1,897 | 1 | $1,897 | $1,260 |
| PWR: Distribution Strip, 220V | SFR9-PWR | | 1 | $111 | 8 | $888 | |
| CBL: SCSI 68-pin VHD Conn's, 5 meter | CBL134-5 | | 1 | $165 | 20 | $3,300 | |
| CBL: SCSI 68-pin VHD Conn's, 0.5 meter | CBL134-CAT | | 1 | $73 | 18 | $1,314 | |
| CAB: Rackmount Kit for Disk Cages | OSM3000-RMK | | 1 | $131 | 38 | $4,978 | |
| CAB: 36U x 19" x 34" Cabinet, Open | RM361934-OFE | | 1 | $810 | 4 | $3,240 | |
| DOOR: 36U x 19", Rear | RM3619-RDR | | 1 | $277 | 4 | $1,108 | |
| PNL: 36U x 34" Side Skins, L&R | RM3634-SDS | | 1 | $221 | 4 | $884 | |
| | | | | | **Subtotal** | **$302,387** | **$66,734** |
| **Server Software** | | | | | | | |
| O/S: Microsoft Windows 2000 Datacenter Server | WSD200008-L | | 1 | $22,100 | 1 | $22,100 | $24,780 |
| O/S: Win2K Datacenter Annual Subscription | DUS200008-L | | 1 | $6,335 | 5 | $31,675 | |
| SYS MGT: ES7000 Value Add Software | ESS508020-N | | 1 | $368 | 1 | $368 | $360 |
| APP: SQL Server 2000, Entrprs Edtn, per Proc. Lcnsng | | Microsoft | 2 | $16,541 | 8 | $132,328 | $10,475 |
| | | | | | **Subtotal** | **$186,471** | **$35,615** |
| **Client Hardware** | | | | | | | |
| SYS: ES2024 Tower, w/ 0 Proc., 0MB Mem | ES202141-GZN | | 1 | $1,547 | 3 | $4,641 | $1,584 |
| PROC:1x866MHz Pentium III/256KB Cache | CPU3866133-256 | | 1 | $368 | 6 | $2,208 | $3,312 |
| ACC: Voltage Regulator | VRM3-83 | | 1 | $29 | 3 | $87 | |
| MEM: 256 MB SDRAM PC133ECC Memory | DIM13368-256 | | 1 | $368 | 12 | $4,416 | $2,880 |
| DISK: 18GB SCSI 3.5 Internal | ES2024-18G | | 1 | $553 | 3 | $1,659 | $576 |
| CTRL: cLAN, PCI Host Adapter & Cable | PCI10001-CXG | | 1 | $586 | 3 | $1,758 | $504 |
| MAINT: 3 Yr. Performance Gold Svc Warranty Upgrade | WI2003-PGS | | 1 | $1,031 | 3 | | $3,093 |
| MONITOR:15-inch Color | EVG2100-P | | 1 | $221 | 3 | $663 | |
| | | | | | **Subtotal** | **$15,432** | **$11,949** |
| **Client Software** | | | | | | | |
| O/S: Microsoft Windows 2000 Server | | Microsoft | 2 | $738 | 3 | $2,214 | Inc. above |
| ACC: Microsoft Visual C++ Professional 6.0 | | Microsoft | 2 | $549 | 1 | $549 | Inc. above |
| | | | | | **Subtotal** | **$2,763** | **$0** |
| **User Connectivity** | | | | | | | |
| SWITCH: cLAN, 8-port, 1.25Gbit | SWT50082-CXG | | 1 | $5,157 | 1 | $5,157 | $1,704 |
| SWITCH: Ethernet, 8-Port 100TX TrueFast + 10% spares | D-Link DSS-8+ | Netlux | 3 | $69 | 5 | $345 | spared |
| SWITCH: Ethernet, 16-Port 10/100TX Fast | ETH410-T16 | | 1 | $884 | 3 | $2,652 | $1,044 |
| HUB: Ethernet,17-Port 10Base-T + 10% spares | CT1017D1 | ArkPC | 4 | $31 | 3380 | $104,780 | spared |
| | | | | | **Subtotal** | **$112,934** | **$2,748** |
| | | | | | **Total** | **$776,693** | **$169,814** |
| Unisys Service Pre-Pay Discount | | | | | | | **($31,815)** |
| Comark discount | | | 1 | | | **($56,284)** | |

**Notes:**

1. HW Maintenance - Unisys 36 month warranty is upgraded to service level: Standard Performance-Gold. Last 24 months are also at service level: Standard Performance-Gold.
2. All Microsoft maintenance is covered by the maintenance cost of Microsoft SQL Server.
3. 10% or minimum 2 spares are added in place of onsite service (products have a five year return-to-vendor warranty)
4. Pricing: 1 = Comark, 2 = Microsoft, 3 = Netlux, 4 = ArkPC

| | |
|---|---|
| **Five Year Cost of Ownership** | **$858,408** |
| **TPC-C Throughput** | **61,390.43** |
| **$/tpmC** | **$13.99** |

**The benchmark results and test methodology were audited by Tom Sawyer of Performance Metrics, Inc.**

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 assumption 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 benchmarks 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
**for**
## Unisys e-@ction Enterprise Server ES5085R

**MQTh, Computed Maximum Qualified Throughput:** **61,390.43**
% throughput difference, reported & reproducibility runs: 0.04%

**Transaction Mix**

| | |
|---|---|
| New Order | 44.86% |
| Payment | 43.05% |
| Delivery | 4.02% |
| Stock-Level | 4.03% |
| Order-Status | 4.00% |

**Response Times**

| Transaction | Average | Maximum | 90th %ile |
|---|---|---|---|
| New-Order | 0.32 | 4.61 | 0.61 |
| Payment | 0.28 | 4.64 | 0.57 |
| Delivery | 0.17 | 1.15 | 0.31 |
| Stock-Level | 0.56 | 2.35 | 0.87 |
| Order Status | 0.28 | 3.31 | 0.57 |
| Menu | 0.17 | 1.15 | 0.31 |
| Delivery (Deferred) | 0.20 | 1.13 | 0.31 |

**Response time delay added for emulated components (seconds)**

| | |
|---|---|
| RT Response time | 0.1 |
| Menu Response time | 0.1 |

**Keying/Think Time Times (seconds)**

| Transaction | Minimum | Average | Maximum |
|---|---|---|---|
| New-Order | 18.00/0 | 18/12.02 | 18.04/120.3 |
| Payment | 3.00/0 | 3/12.03 | 3.03/120.3 |
| Delivery | 2.00/0 | 2/5.05 | 2.02/50.6 |
| Stock-Level | 2.00/0 | 2/5.07 | 2.03/50.6 |
| Order-Status | 2.00/0 | 2/10.04 | 2.02/100.71 |

**Test Duration**

| | |
|---|---|
| Ramp up time | 46 minutes |
| Measurement interval (M) | 30 minutes |
| Transactions (all types) completed during measurement interval | 4,104,646 |
| Ramp-down time | 114 minutes |

**Checkpointing:**

| | |
|---|---|
| Number of checkpoints | 1 |
| Checkpoint interval | 30 minutes |