UNISYS	**Aquanta ES5085R Server** **(8P 550MHz/2MB)**	TPC-C Rev. 3.5
		Report Date: 11-Oct-1999

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
$749,208	**40,670.05 tpmC**	**$18.42 per tpmC**	**31-Dec-1999 ***

Processors	Database Manager	Operating System	Other Software	Number of Users
8 Pentium® III Xeon 550 MHz 2MB L2 cache	Microsoft SQL Server Enterprise Edition 7.0	Microsoft NT Server 4.0 Enterprise Edition	Windows 2000 Server, IIS 5.0 and COM+	**32,550**

32,550 PC's   **5 x NetServer LC3 Clients**   **Aquanta ES5085R Server**   **OSM 3000 Storage**

100 Mbit
Ethernet Switch

10Mbit
Ethernet

1 Inbuilt SCSI
Controller + 1 x 9GB
Hot-Pluggable
Internal SCSI Disk

9 x SCSI RAID
Controllers
1 Uninterruptable
Power Supply

392 x 9GB + 12 x 18GB
Hot-Pluggable
External SCSI Disks
2 x SCSI-SCSI RAID
Controllers
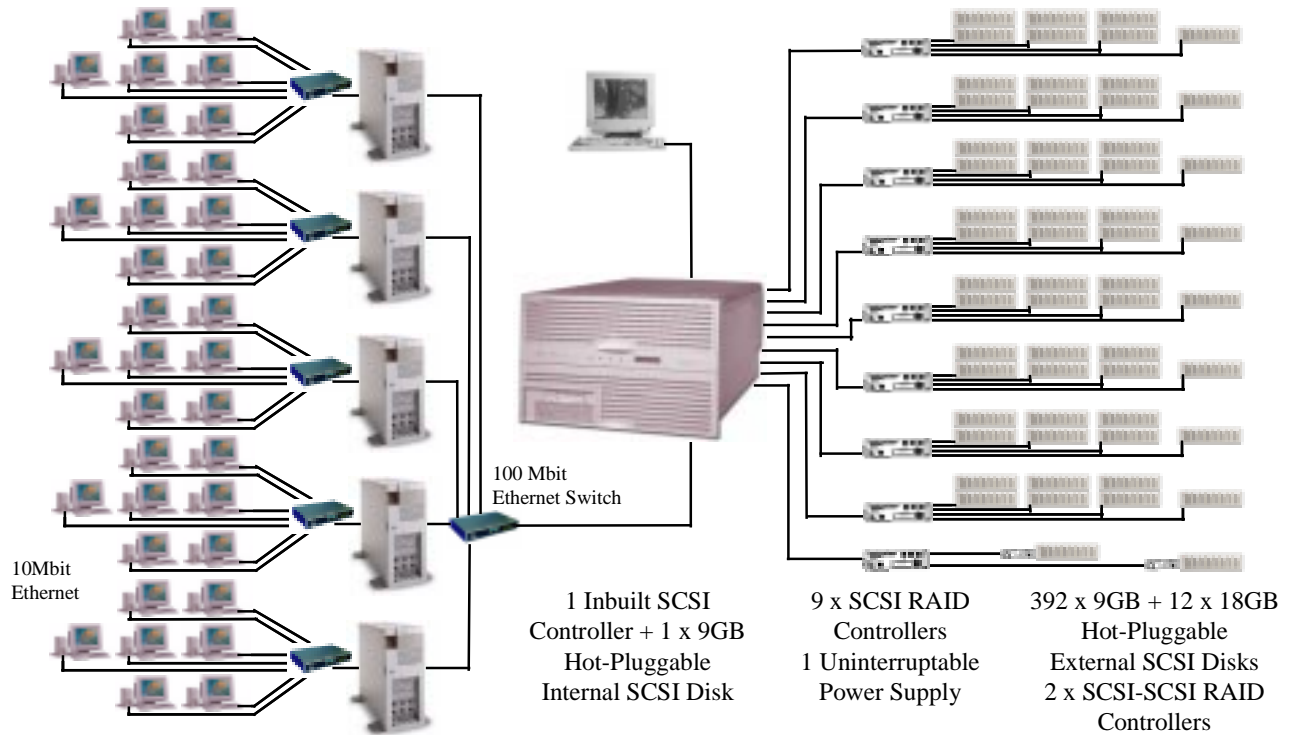
System Components	**Server**		**Clients**	
	Quantity	Type	Quantity	Type
Processors	8	550 MHz Pentium® III Xeon with 2MB Level 2 Cache	5	1 x 500MHz Pentium® III with 512KB Level 2 Cache
Memory	1	4096MB	5	384MB
Disk Controllers	9 + 2 1	SCSI RAID Inbuilt SCSI	5	Inbuilt SCSI
Disk Drives	1 392 12	8.50 GB (boot drive) 8.54 GB 17.09 GB	5	3.97 GB
Total Storage		3561.99 GB		19.85 GB
CD-ROM / Tape	1	SCSI CD-ROM Drive	5	CD-ROM Drive

* All Hardware Components Are Available Now

UNISYS	Aquanta ES5085R Server						TPC-C Rev 3.5
	(8P 550MHz/2MB)						11-Oct-1999

Description	Style	Third Party Brand	Pricing	Unit Price	Qty.	Extended Price	5 Years Maint.
Server Hardware							
SYS: Aquanta ES5085R, w/ CDRom, 0 Proc, 0MB Mem	ESR508151-GZN		1	$18,196	1	$18,196	$5,136
PROC: 550MHz Pentium III Xeon /2MB Cache & VRMs	XEO3550-2MB		1	$5,893	8	$47,144	$13,248
BRD: Processor Mezzanine Board, 0 Proc.	ESR81-MEZ		1	$1,179	1	$1,179	$312
MEM: 128 MB Memory, SDRAM, Buf 6ns	DIM6168-128		1	$442	32	$14,144	$7,680
BRD: Memory Carrier Board, 0 Mem.	ESR81-MCB		1	$737	1	$737	$192
MEM: Cache Coherency Filter, 4x SRAM	ESR81-CC4		1	$921	2	$1,842	$480
DISK: 9GB, 10K SCSI LVD, SCA	HDL91102-CX1		1	$516	1	$516	$240
ETHERNET: 10/100Mbit/sec, PCI 32-bit	ETH1010052-PCI		1	$100	1	$100	
SYS MGT: ES5080 Value Add Software	ESS508011-N		1	$368	1	$368	$168
MONITOR: 15-inch Color	EVG2100-P		1	$221	1	$221	
KEYBD: 104 Key Spacesaver	PCK104-SKB		1	$26	1	$26	
MOUSE: 2 Button PS2	PWM1-PS2		1	$15	1	$15	
CTRL: MegaRAID, 4-Ch w/ 64MB Mem +10% spares	Enter. 1500-H	AMI	2	$2,200	11	$24,200	$660
					Subtotal	$108,688	$28,116
Storage Hardware							
DISK: 9GB Drive, 10K SCSI LVD, SCA + 10% spares	OSD9205-W45		1	$618	432	$266,976	Spared
DISK: 18GB Drive, 10K SCSI LVD, SCA + 10% spares	OSD18205-W45		1	$1,153	14	$16,142	Spared
CAB: Disk, 8 SCA w/ I/F cards, 0 Disks, 3U	OSM310300-L05		1	$2,118	56	$118,608	$53,760
ACC: Deskside Pedestal	OSM3000-DSK		1	$26	56	$1,456	
CBL: SCSI 68-pin VHD Conn's, 5 meter	CBL134-5		1	$142	34	$4,828	
CBL: SCSI 68-pin VHD Conn's, 0.5 meter	CBL134-CAT		1	$69	24	$1,656	
CAB: Disk, 8 SCA w/ RAID Cntl'r, 0MB, 0 Disks, 3U	OSM311000-LR		1	$4,191	2	$8,382	$4,248
MEM: 32MB OSM cache	OSM1032-MEM		1	$187	2	$374	$216
PWR: 2nd Power Supply Upgrade, OSM	OSM3000-BPF		1	$392	2	$784	$264
PWR:3000 VA UPS, 3U	UPD30001-SXR		1	$1,897	1	$1,897	$936
PWR: Distribution Kit, 220V	SFR220-PWR		1	$42	3	$126	
CAB: Rackmount Kit for Disk Cages	OSM3000-RMK		1	$97	3	$291	
CAB: 36U x 19" x 34" Cabinet, Open	RM361934-OFT		1	$884	1	$884	
DOOR: 36U x 19", Rear	RM3619-RDR		1	$277	1	$277	
PNL: 36U x 34" Side Skins, L&R	RM3634-SDS		1	$221	1	$221	
					Subtotal	$422,902	$59,424
Server Software							
Microsoft NT Server 4.0, Enterprise Edition, incl 25 CALs		Microsoft	3	$3,999	1	$3,999	$0
Microsoft SQL Server 7.0, Enterprise Edtion, unlimited user license		Microsoft	3	$28,999	1	$28,999	$10,475
					Subtotal	$32,998	$10,475
Client Hardware							
SYS: NetServer LC3, w/1 500MHz Proc., 0MB Mem	D7127-AV		1	$2,018	5	$10,090	$8,055
MEM: 64 MB SDRAM Memory Upgrade	D6097-AV		1	$110	10	$1,100	
MEM: 128 MB SDRAM Memory Upgrade	D6098-AV		1	$159	10	$1,590	
DISK: 4GB SCSI 3.5 Internal	D4910-AV		1	$303	5	$1,515	$2,040
ETHERNET: 10/100TX Mbit/sec, PCI 32-bit	D5013-AV		1	$68	10	$680	
MONITOR:15-inch Color	EVG2100-P		1	$221	5	$1,105	
					Subtotal	$16,080	$10,095
Client Software							
Microsoft Windows 2000 Server, incl 25 CALs		Microsoft	3	$809	5	$4,045	$0
Microsoft Visual C++ Professional 6.0		Microsoft	3	$549	1	$549	$0
					Subtotal	$4,594	$0
User Connectivity							
Ethernet Switch, 8-Port 100TX TrueFast + 10% spares	NX-SW8	Netlux	4	$229	8	$1,832	spared
Ethernet Hub, 8-Port 10Base-T (8+1 ports) + 10% spares	Z85094	General	5	$27	4505	$121,635	spared
					Subtotal	$123,467	$0
					Total	$708,729	$108,110
Unisys Service Pre-Pay Discount							($15,284)
Western Micro discount					1	($52,347)	

Notes:

1. HW Maintenance - First 36 months that are included in Unisys warranty are 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 = Western Micro, 2 = AMI, 3 = Microsoft, 4 = Netlux, 5 = Software House Int'l

Five Year Cost of Ownership	**$749,208**
TPC-C Throughput	**40,670.05**
$/tpmC	**$18.42**

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 Aquanta ES5085R Server

MQTh, Computed Maximum Qualified Throughput: **40,670.05**

% throughput difference, reported & reproducibility runs: 0.14%

Transaction Mix

New Order	44.88%
Payment	43.02%
Delivery	4.01%
Stock-Level	4.01%
Order-Status	4.05%

Response Times

Transaction	Average	Maximum	90th %ile
New-Order	0.44	4.84	0.58
Payment	0.28	4.98	0.41
Delivery	0.14	0.84	0.17
Stock-Level	2.21	4.12	2.63
Order Status	0.31	2.72	0.43
Menu	0.14	3.46	0.17
Delivery (Deferred)	0.62	3.11	0.87

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	18/12.03	18.98/120.3
Payment	3.00/0	3/12.01	4.33/120.3
Delivery	2.00/0	2/5.07	2.84/50.6
Stock-Level	2.00/0	2/5.05	3.11/50.6
Order-Status	2.00/0	2/10.03	3.18/100.71

Test Duration

Ramp up time	62 minutes
Measurement interval (M)	20 minutes
Transactions (all types) completed during measurement interval	1,812,125
Ramp-down time	15 minutes

Checkpointing:

Number of checkpoints	1
Checkpoint interval	20 minutes