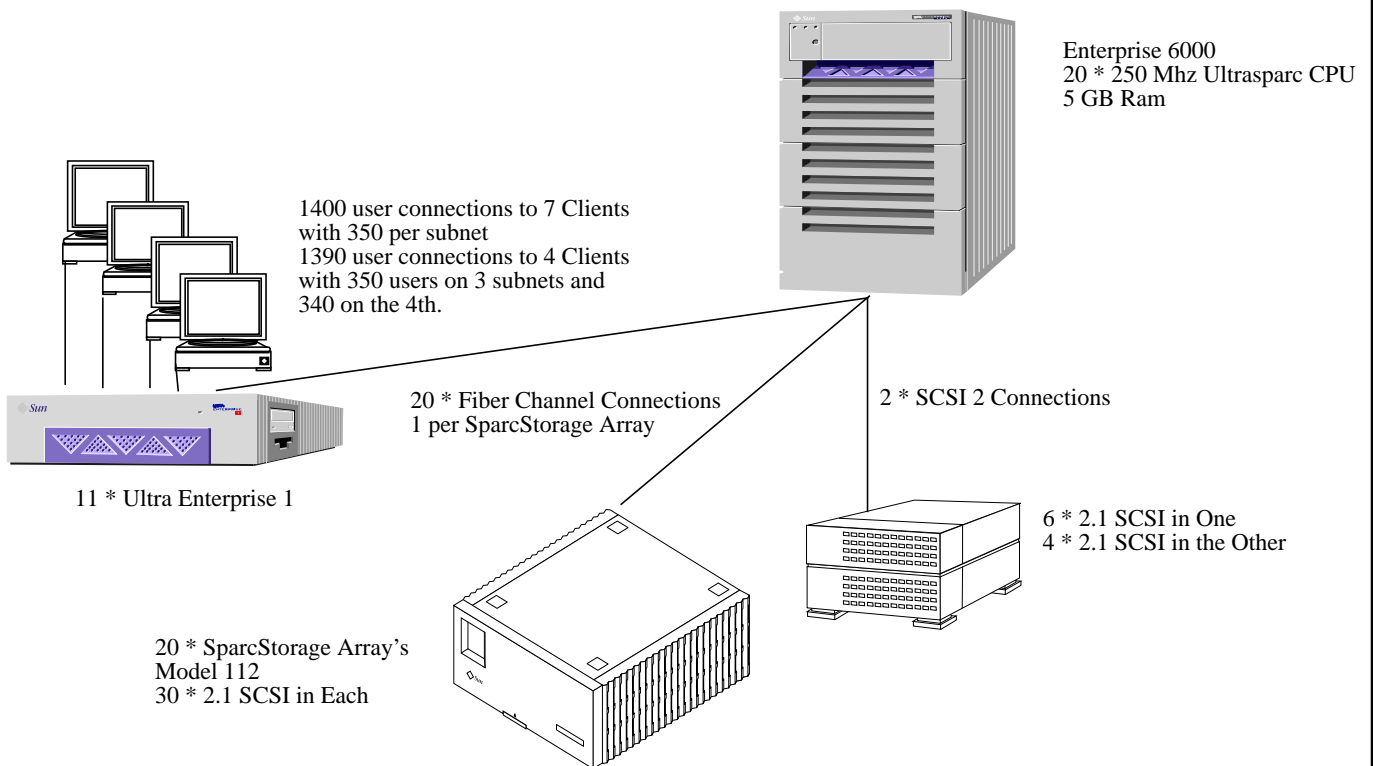


Sun Microsystems		Ultra Enterprise 6000		TPC-C Rev 3.2
Sybase, Inc.		C/S w/11 Front-Ends		Report Date: 12/18/1996
Total System Cost		TPC-C Throughput	Price/Performance	Availability Date
\$2,596,154.24		18438.70 tpmC	\$140.80 per tpmC	June 1, 1997
Processors	Database Manager	Operating System	Other Software	Number of Users
20 * 250 MHz UltraSPARC	Sybase SQL Server 11.0.3 RDBMS	Solaris 2.5.1	BEA Tuxedo CFS 6.1	15360



System Components	Server System	Front End Systems
Database Nodes:	1 Ultra Enterprise 6000	11 * UltraServer 1 Model 170
Processors	20 * 250 MHz UltraSPARC	1 * 167 MHz UltraSPARC each
Cache memory	32KB (D+I), 1MB external	32KB (D+I), 512KB external, each
Main memory	5 GB	512 MB each
Disk controllers	20 * FC25/S & 2 SCSI 2	1 * SCSI-2 each
Disk Drives	610 * 2.1 GB SCSI	2 * 2.1GB SCSI-2 each
Total Disk Storage	1278 GB	4.2 GB each
Terminals	1 Console	1 Console each
10 BaseT Hubs	None	645 x 24-Port Hubs

Part Number	Description	Qty	Unit Price	Extended Price	Maintenance per Month	5 Yr. Total Maintainance
Server Hardware						
<i>Pricing from CAT Technology, Inc.</i>						
E6001	Enterprise Server 6000	1	131250.00	131,250.00	2,448.00	117,504.00
2600A	CPU/Memory Board	10	6,750.00	67,500.00	153.00	73,440.00
2530A	UltraSPARC 250Mhz 1MB cache	20	13,500.00	270,000.00		0.00
954A	Power Cooling Module	6	1,350.00	8,100.00		0.00
7022A	256MB for Ex000	20	3,562.50	71,250.00		0.00
2610A	SBus I/O Board	3	4,875.00	14,625.00		0.00
1058A	Quad Ethernet Controller	2	746.25	1,492.50		0.00
1057A	Fibre Channel SBus Card	7	1200.00	8,400.00		0.00
595A	Fibre Channel Module	13	450.00	5,850.00		0.00
792A	SSA112 with 30 x 2.1GB Drives	20	34,275.00	685,500.00	122.00	131,760.00
X5512A	6 x 2.1GB Disk MultiPack	1	5,475.00	5,475.00		0.00
X5511A	2 x 2.1GB Disk MultiPack	1	2,325.00	2,325.00		0.00
X5153A	2.1 GB Disk	2	787.50	1,575.00		0.00
6104A	0.25" 2.5GB Tape	1	675.00	675.00		0.00

Ultra Enterprise 6000 Subtotal: 1,274,017.50 322,704.00

Client Hardwaer

Pricing from CAT Technology, Inc.

A11-UBA1-9S-128EB	UltraServer 1 Model 170	11	11,246.25	123,708.75	86.00	51,084.00
X1058A	Quad Ethernet Controler	11	746.25	8,208.75		
X7003A	2*64 Mb Simm for UltraServer	33	2,025.00	66,825.00		

UltraServer 1 Subtotal: 198,742.50 51,084.00

User Connectivity

Terminal Pricing from SunExpress, Hubs from DataComm, Inc.

SX-WY35-G-G35	Wyse35 Terminal	12	295.00	3,540.00		
DEH1487	24 Port 10Base-T Hub W/AUI+BNC	710	302.00	214,420.00		
	Shipping and Handling with 10% spares			1,245.00		

Terminals & Connectivity Subtotal: 219,205.00

ALL HARDWARE SUBTOTALS: 1,691,965.00 373,788.00

Server and Client Software

Sun Software Pricing from Sun

SOLS-C	Solaris Software on CD-ROM	1	100.00	100.00	8.00	456.00
CC-P	SPARC Compiler Single Usr. License	1	695.00	695.00	20.00	1,140.00

Sun Software Subtotal: 795.00 1,596.00

Sybase Pricing from Sybase Inc.

SQL System 11	Sybase SQL Server License	1	304,600.00	304,600.00	48,736.00	243,680.00
	Open Client for Unix	1	795.00	795.00	127.20	636.00

Sybase Software Subtotal: 305,395.00 48,863.20 244,316.00

Client Software

Tuxedo Pricing from BEA Systems, Inc.

	Tuxedo CFS Runtime	11	3,000.00	33,000.00	4,950.00	24,750.00
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Tuxedo Software Subtotal: 33,000.00 24,750.00

ALL SOFTWARE SUBTOTALS: 339,190.00 270,662.00

Discount

Sun 3 year Maintenance Contract Discount (Hardware)	12%	-31,812.48
Yearly prepayment Discount	5%	-17,098.78
Sybase Volume Discount	10%	-30,539.50

TOTAL HARDWARE & SOFTWARE COST (5YR) 2,596,154.24
PRICE PER TPMC 140.80

Sun hardware has 1-year warranty bundled.
During the warranty period, maintenance is discounted 50%
for parts that require an upgrade to their standard warranty
Maintenance prices for Sybase and Tuxedo are yearly rates.

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 terms, please inform the TPC at pricing@tpc.org. Thank you.

Numerical Quantities Summary for the Ultra Enterprise 6000

MQTH, Computed Maximum Qualified Throughput **18438.70 tpmC**
% throughput difference, reported & reproducibility runs < 1%

Response Times (in secs)	90th Percentile	Average	Maximum
Menu	0.25	0.20	0.32
New-Order	1.00	0.50	26.05
Payment	0.80	0.46	14.79
Order-Status	1.60	0.84	4.01
Delivery(interactive)	0.71	0.51	9.63
Delivery(deferred)	3.00	1.44	14.00
Stock-level	7.00	3.12	32.86

Transaction Mix, in percent of total transactions

New-Order	44.48%
Payment	43.19%
Order-Status	4.07%
Delivery	4.14%
Stock-level	4.11%

Keying/Think Times (in secs)	Average.	Min.	Maximum
New-Order	18.02/12.51	18.0/0	18.10/125.00
Payment	3.02/12.50	3.0/0	3.13/125.00
Order-Status	2.02/10.40	2.0/0	2.08/105.0
Delivery	2.02/5.52	2.0/0	2.10/55.00
Stock-level	2.02/5.52	2.0/0	2.07/55.00

Test Duration

Ramp-up time	25 minutes
Measurement Interval	30 minutes
Number of checkpoints	1
Checkpoint Interval	30 minutes
Number of transactions (all types) completed in measurement interval	937996