ꙮ *Sun* FUJITSU	**Sun Enterprise 450 C/S w/8 Front-Ends**	TPC-C 3.5
		Report Date: **August 21, 2000**

Total System Cost	TPC-C Throughput	Price/Performance	Availability Date
$541,817	**25,375.03** tpmC	**$21.35**	**October 31, 2000**

Processors	Database Manager	Operating System	Other Software	Number of Users
4 * 480MHz UltraSPARC II	**SymfoWARE Server for Workgroup 2.0.1**	**Solaris 8**	**BEA Tuxedo 6.3**	**21120**

21120 User Connections to 8Clients

Sun Enterprise 450 Server
4 * 480Mhz UltraSPARC CPU
4 GB RAM
16 x 18.2GB Drives

32 * Sun StorEdge MultiPack

8 * Sun Ultra 10 Model 440Server
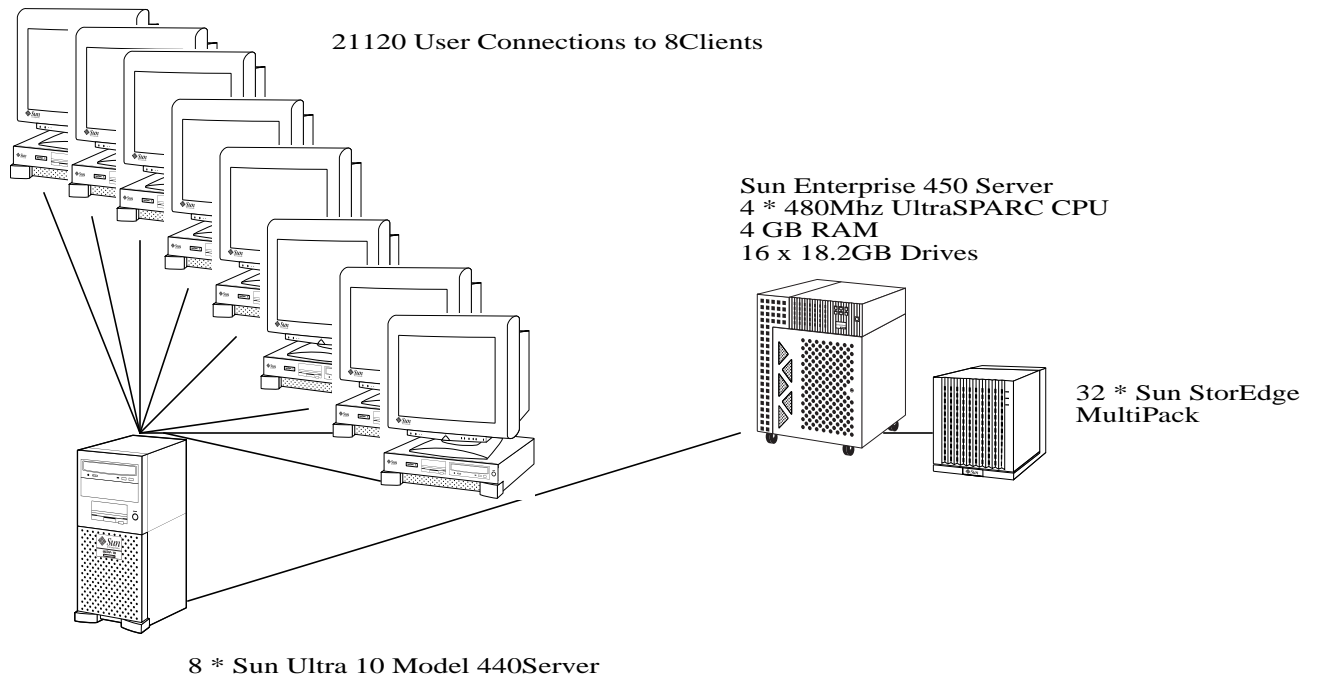
Configuration

	Server System	Front End Systems
Database Nodes:	1 Sun Enterprise E450 Server	8 * Ultra 10 Model 440
Processors	4* 480 MHz UltraSPARC II	1 * 440MHz UltraSPARC II each
Cache memory	32KB (D+I), 8MB external	32KB (D+I), 2MB external, each
Main memory	4 GB	1 GB each
Disk controllers	8x IntraServer PCI/SCSI Controllers 2x PCI UltraSCSI Controllers	1 * SCSI-2 each
Disk Drives	205* 18.2 GB 10K RPM SCSI	1 * 9.1GB 10K RPM SCSI
Total Disk Storage	3731 GB	9.1 GB each
10 BaseT Hub	None	2904 * 9-Port Hubs
100 Base T Hub	1 x 8-port Hub	None

Pricing Summary

Description	Part Number	Source	Unit Price	Qty	Ext. Price	5 Yr. Maint.
Server Hardware						
Sun Enterprise E450 Server Base	A25-CA	2	9,984	1	9,984	13,993
480MHz/8MB UltraSPARC II	X2248A	2	6,156	4	24,622	
512-Mbyte Memory Expansion	7005A	2	3,080	8	24,640	
Expansion kit for Internal Storage	6601A	2	999	2	1,998	
IntraServer PCI/SCSI Controller*	ITI-6200U2-S	6	463	10	4,625	
nternal 18.2-Gbyte, 10K RPM Disk	5237A	2	915	21	19,219	
36.4-Gbyte StorEdge MultiPack	SG-XDSK020C-36G	2	3106	2	6,213	
109.2-Gbyte StorEdge MultiPack	SG-XDSK060C-109G	2	6089.6	30	182,688	
4mm DDS-3 Tape Drive	6286A	2	986	1	986	
Wyse55 General Purpose Terminal	901237-01	2	500	1	500	
Cable-68/68pin SCSI W/PWR CRD	X3856A	2	40	16	634	
Cable, SCSI3/VHDCI	530-2453	2	108	16	1,728	
North American/Asia PWR CRD	X311L	2	0	16	0	
Server Hardware Subtotal					**277,836**	**13,993**
*Qty includes 2 for spares						
Server Software						
Solaris Server Software	SOLMS-26ZW9999	1	100	1	100	
SPARC Compiler C/C++ 5.0	WCCIS-500-T999	1	995	1	995	1,080
Fujitsu COBOL Standard Edition		3	2500	1	2,500	2,500
SymfoWARE Server for Workgroup 2.0		3	34790	1	34,790	17,395
Server Software Subtotal					**38,385**	**20,975**
Client Hardware						
Ultra 10 Server Model 440	A22UKC1Z9S-B512CP	2	4,528	8	36,221	34,445
North American/Asia PWR CRD	X311L	2	0	8	0	
512MB Memory for Ultra 10	7039A	2	1,580	8	12,637	
PCI QFE Card	1034A	2	1,292	8	10,339	
Color Monitor	x7143A	2	286	8	2,288	
Client Hardware Subtotal			7,686		**61,485**	**34,445**
Client Software						
BEA Tuxedo CFS 6.3		4	3,000	8	24,000	19,200
Client Software Subtotal					**24,000**	**19,200**
User Connectivity						
8-Port 10/100Mbps Ethernet Hub	Z222667	5	114	3	342	
9-port 10Mbps Ethernet Hub	Z222666	5	23	2904	66,792	
User Connectivity Subtotal					**67,134**	
Sun Enterprise Services discounts						**(15,636)**
			Total		468,840	72,977
			5Yr. cost		541,817	
			tpmC Rating		25,375	
			$/tpmC		$21.35	

Service for all Sun products is from Sun Microsystems, Inc.

Notes:

1. Sun Microsystems Inc. 2. CAT Technology Inc 3. Fujitsu 4. BEA Systems, Inc. 5. Software House Int 6. IntraServer

Audited by: Bradley J. Askins, Infosizing 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 assumptions about past or future purchase 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 the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.

Numerical Quantity Summary

MQTH, Computed Maximum Qualified Throughput   **= 25,375.03 tpmC**

% throughput difference, reported & reproducibility runs   = < 0.1%

Response Times (in secs)	90th Percentile	Average	Maximum
Menu	0.50	0.246	0.373
New-Order	2.00	.910	42.822
Payment	2.20	1.081	43.808
Order-Status	1.80	.960	14.304
Delivery(interactive)	0.310	0.285	4.958
Delivery(deferred)	3.00	.951	7.000
Stock-level	2.00	.845	6.954

Transaction Mix, in percent of total transactions

New-Order	44.83%
Payment	43.04%
Order-Status	4.04%
Delivery	4.02%
Stock-level	4.07%

Keying/Think Times (in secs)	Average.	Min.	Maximum
New-Order	18.02/12.19	18.01/0	18.14/122.00
Payment	3.02/12.20	3.01/0	3.18/122.00
Order-Status	2.02/10.21	2.01/0	2.08/102.50
Delivery	2.02/5.18	2.01/0	2.08/52.00
Stock-level	2.02/5.20	2.01/0	2.09/52.00

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	1698058