

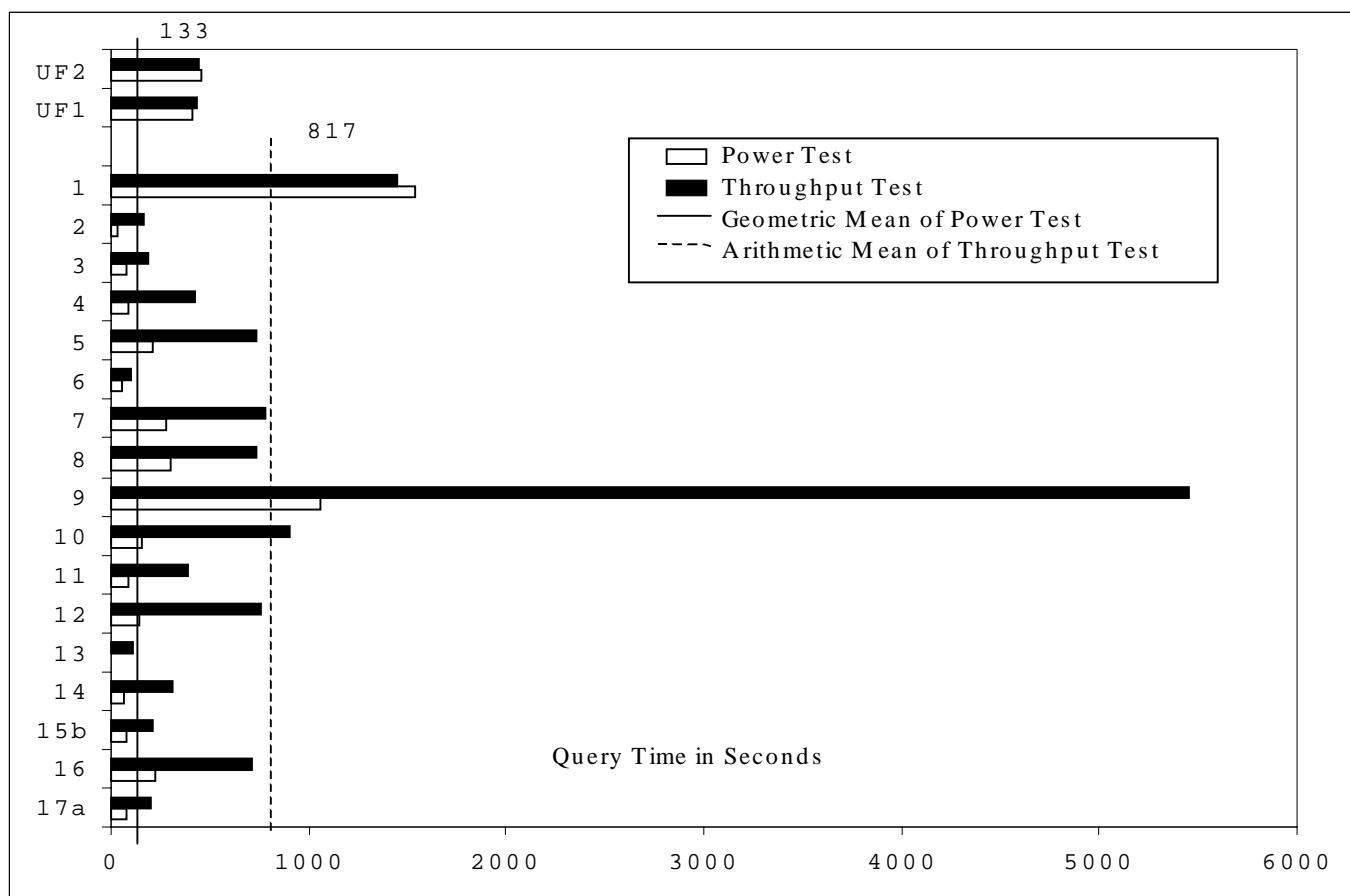


Sun Starfire Ultra Enterprise 10000 with Informix IDS AD/XP

TPC-D Rev. 1.3.1

Report Date:
April 24, 1998

Total System Cost	TPC-D Power	TPC-D Throughput	Price/Performance	
\$7,292,372	8,113.2 QppD@300GB	3,343.9 QthD@300GB	\$1,400 \$ per QphD@300GB	
Database Size	Database Manager	Operating System	Other Software	Availability Date
300GB	INFORMIX Dynamic Server AD/XP 8.21UD1	Solaris 2.6	Sun Enterprise Volume Manager 2.4	June 15, 1998



Database Load Time = 8 hours 23 minutes 57 seconds

Disk Size/Database Size = 8.02

RAID: Y (1)

System Configuration:

- 64 336 Mhz UltraSPARC CPUs each with 4 MB E-Cache
- 28 GB memory
- 4 RSM-214 each with 42, 4.2GB disks
- 56 RSM trays each with 7, 4.2GB disks
- 2 RSM trays each with 3, 9.1GB disks
- One Ethernet controller
- Total of 2406.6 GB of storage



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Description	Part Number	Source	Unit Price	Qty	Disc	Ext. Price	5 Yr. Maint.	
Server Hardware								
E10000 Base Cabinet	E10000-3	2	165,000	1		165,000	466,330	
System Board, unpopulated	2760A	2	48,750	16		780,000	802,299	
CPU, 336MHz, 4MB L2\$	2560A	2	14,250	64		912,000		
Memory Board, unpopulated	7025A	2	7,500	16		120,000		
256 MB for Ex000	7022A	2	2,850	48		136,800		
1GB for Ex000	7023A	2	12,000	16		192,000		
Dual SBus I/O daughter card	2730A	2	5,625	16		90,000		
System Service Proc	2750A	2	7,500	1		7,500	7,286	
AC input module	3875A	2	2,250	4		9,000		
48 volt power supply	9685A	2	3,000	8		24,000		
Power Control Module	9681A	2	750	1		750		
Fan tray	9671A	2	1,500	16		24,000		
Control Board w/ Enet Cable	2720A	2	15,000	1		15,000		
Power Cord for System	3850A	2	0	4		0		
12 Meter SCSI cable	979A	2	265	56		14,840		
SBus Fast/Wide SCSI-2 (Diff)	1062A	2	971	58		56,333		
SBus Fibre Channel Host Adapter	1057A	2	1,200	4		4,800		
Symmetra 16kva UPS	SX-SY 16k	1	15,845	1		15,845	329	
Subtotal						2,567,868	1,276,244	
Storage								
SPARCstorage Array 214	6593A	2	87,075	4		348,300	43,718	
Power Cord for SSA214 & Exp Cab	3800A	2	0	11		0		
RSM Tray (3 x 9.1 GB Disk)	6514AR4	2	8,700	2		17,400		
RSM Tray (7 x 4.2 GB Disk)	6508AR4	2	10,538	56		590,100		
IO Expansion Cabinet	956A	2	6,000	7		42,000	103,864	
Subtotal						997,800	147,583	
SunService Discount (10% Volume + 5% yearly prepayment)							(213,574)	
Hardware Subtotal						3,565,668	1,210,252	
Software								
Solaris 2.6 Media	SOLS-2.6MAR98	1	100	1		100		
S/W for SSP Version 3.1	SW-SSP-3.1	1	0	1		0		
S/W for Alt Pathing	SW-AP	1	0	1		0		
SPARC Compiler, Single Usr License	WCC-4.2-S	1	995	1		995	1,126	
Sun Enterprise Vol Mgr. Base Pkg	EVM-2.5-B	1	100	1		100		
RTU for E10000	EVM-2.5-E10-L	1	42,995	1		42,995	62,994	
Informix Dynamic Server AD/XP		3	2,200	640		1,408,000	1,474,400	
Informix license volume discount					33%	(464,640)		
Subtotal						987,550	1,538,520	
SunService Discount (10% Volume + 5% yearly prepayment)							(9,618)	
Software Subtotal						987,550	1,528,902	
Notes (Source):								
1. Sun Microsystems Inc.								
2. CAT Technology Inc								
3. Informix Software Inc.								
						Total	4,553,218	2,739,155
Service for all hardware and software (except for Informix Server) is from Sun Microsystems Inc.						5Yr. cost	\$7,292,372	
						QphD@ 300GB	5,209	
						\$/QphD@ 300GB	\$1,400	

Audited by: François Raab, Information Paradigm, Inc.

Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the standard 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 that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.



**Sun Starfire Ultra
Enterprise 10000 with
Informix IDS AD/XP**

TPC-D 1.3.1

Report Date:
April 24, 1998

Numerical Quantity Summary

Measurement Results:

Database Scaling Factor (SF/Size)	= 300
Total Data Storage / Database Size	= 8.02
Database Load Time	= 8 hours 23 minutes 57 seconds
Query Streams for Throughput Test	= 3
TPC-D Power Metric (QppD@300GB)	= 8,113.2
TPC-D Throughput Metric (QthD@300GB)	= 3,343.9
Composite QphD@300GB	= 5,208.6
Total System Price Over 5 Years	= \$7,292,372
TPC-D Price/Performance Metric	= \$1,400

Measurement Intervals:

Measurement Interval in Throughput Test (Ts)	= 16,472 seconds
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Duration of Stream Execution:

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 00	4121998	04/15/1998	10:28:36	04/15/1998	11:57:59	5362.40
Stream 01	4121999	04/15/1998	11:58:19	04/15/1998	15:47:46	13767.05
Stream 02	4122000	04/15/1998	11:58:19	04/15/1998	15:48:00	13781.26
Stream 03	4122001	04/15/1998	11:58:19	04/15/1998	15:41:14	13375.16
Update		04/15/1998	11:58:19	04/15/1998	16:32:51	16472.41

TPC-D Timing Intervals (in seconds)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Stream 00	1542.7	36.5	76.3	85.7	217.0	52.9	283.4	300.5	1062.5	151.0
Stream 01	1380.1	134.9	123.1	246.2	553.7	96.6	754.1	870.6	5591.4	1151.6
Stream 02	1470.7	193.1	205.0	168.8	920.3	113.7	1277.5	693.5	5559.7	966.8
Stream 03	1486.3	186.8	235.4	856.5	746.6	102.7	316.5	647.6	5215.7	593.2
Minimum	1380.1	134.9	123.1	168.8	553.7	96.6	316.5	647.6	5215.7	593.2
Average	1445.7	171.6	187.8	423.8	740.2	104.3	782.7	737.2	5455.6	903.9
Maximum	1486.3	193.1	235.4	856.5	920.3	113.7	1277.5	870.6	5591.4	1151.6

	Q11	Q12	Q13	Q14	Q15b	Q16	Q17a	UF1	UF2
Stream 00	85.6	139.7	1.9	66.7	77.2	228.2	77.5	414.8	462.6
Stream 01	328.5	1341.0	2.2	273.8	203.7	527.9	187.6	458.5	444.3
Stream 02	360.0	340.4	323.5	414.1	214.6	377.4	182.3	419.9	453.7
Stream 03	467.2	595.9	8.4	235.3	227.0	1233.4	220.8	440.9	453.7
Minimum	328.5	340.4	2.2	235.3	203.7	377.4	182.3	419.9	444.3
Average	385.2	759.1	111.4	307.7	215.1	712.9	196.9	439.8	450.6
Maximum	467.2	1341.0	323.5	414.1	227.0	1233.4	220.8	458.5	453.7