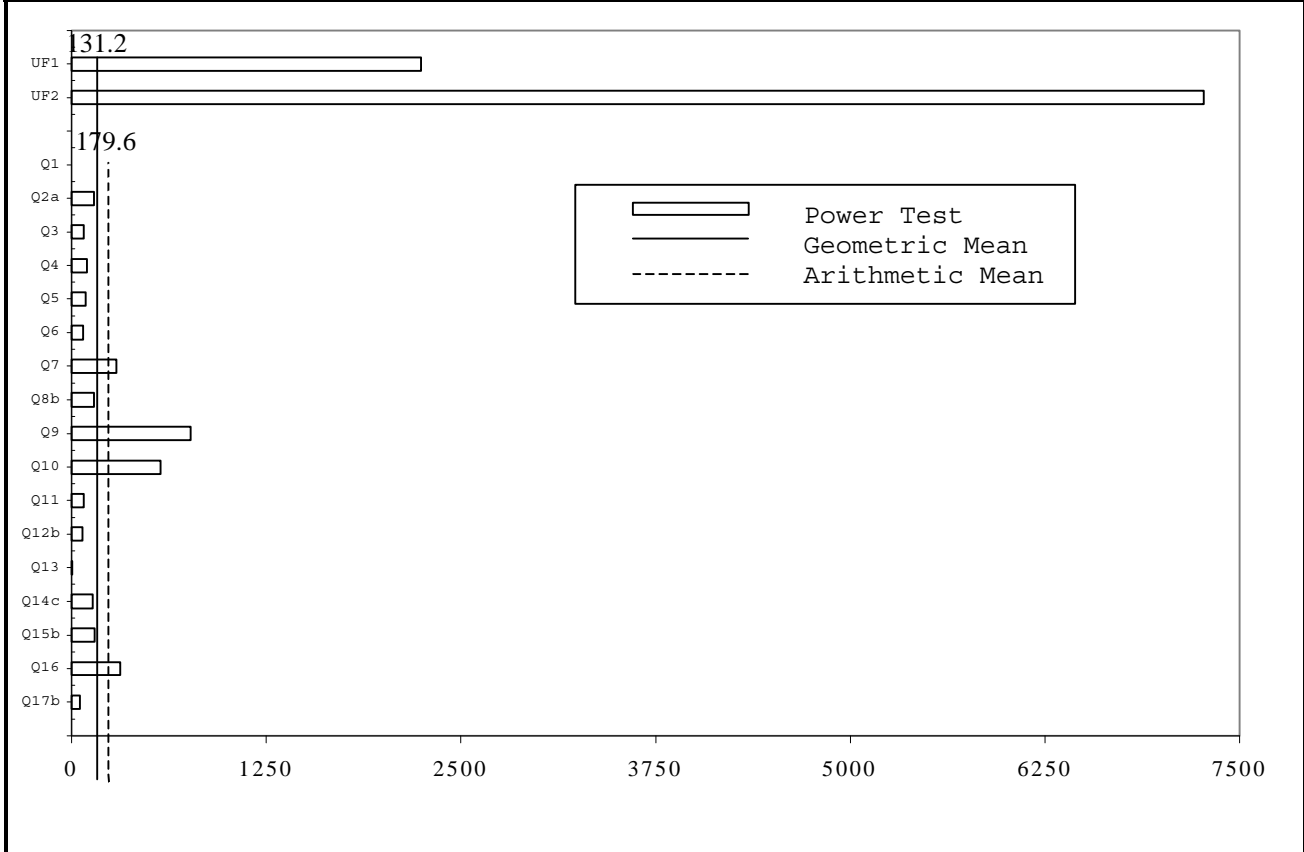


	NUMA-Q 2000 using Oracle8i	TPC-D™ 1.3.1
		REPORT DATE: December 17th 1998

TOTAL SYSTEM COST	TPC-D POWER	TPC-D THROUGHPUT	PRICE/PERFORMANCE	
\$8,744,536	27,441.8 QppD@1000GB	4,870.3 QthD@1000GB	\$756 \$/QphD@1000GB	
DATABASE SIZE	DATABASE MANAGER	OPERATING SYSTEM	OTHER SOFTWARE	AVAILABILITY DATE
1000GB	Oracle8i v8.1.5	DYNIX/ptx 4.4.4	Sequent Volume Manager 2.1.1	June 15th, 1999



DATABASE LOAD TIME = 57 HOURS, 18 MINUTES	DISK SIZE/DATABASE SIZE = 13.75	Raid: Y
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- SYSTEM CONFIGURATION
- 64 405Mhz Intel Xeon Processors with 2MB Cache
 - 32GB Memory
 - 1 4-port Ethernet Controller
 - 9 9GB Disk Drives (8.486 storage capacity)
 - 800 18GB Disk Drives (17.091 storage capacity)
 - Total GB of Storage = 13,749.174GB



NUMA-Q 2000 using Oracle8i

TPC-D™ 1.3.1

REPORT DATE:
December 17th 1998

Hardware and Software Pricing

Description	Part Number	Source	Cost	Qty	Disc	Extended Price	Maint. Cost
Console							
NUMA-Q 200 Console	CON-0000	Sequent	6,500	1		6,500	
Server Hardware							
Enterprise NUMA Cabinet	CABE-0000-00	Sequent	6,500	4		26,000	
Boot PBAY	EXP-PBAY-04	Sequent	3,900	1		3,900	
9GB Disks	DSK-1800-00	Sequent	1,690	9		15,210	
SCSI PBAY Cable	CBL-0300-RL	Sequent	55	1		55	
XEON Quad, IQ LINK 405MHz, 2MB Cache	QUAD-0301	Sequent	159,250	16		2,548,000	
IQ PLUS Interconnect cable	CBL-PLUS-03	Sequent	455	16		7,280	
8GB Add-On memory for Xeon quad	MEM-8100-00	Sequent	127,400	2		254,800	
4-Port Ethernet Adapter	COM-0040-50	Sequent	975	1		975	
Fiber Channel Host Adapter	IOC-0210-54	Sequent	2,610	64		167,040	
CD-ROM	CDR-0004-01	Sequent	2,080	1		2,080	
PCI SCSI Controller for Boot PBAY	IOC-0120-51	Sequent	500	1		500	
Storage Subsystem							
48 x 18GB disk Storage unit: Includes 1 FC Bridge, 4 PBAYs, Cables, Cabinet	DSK-1848-40	Sequent	123,500	16		1,976,000	
Fiber Channel Bridge	FCB-1000-02	Sequent	11,405	24		273,720	
18GB Add-on disk drive	DSK-1800-33	Sequent	1,995	32		63,840	
Add-on PBAY	EXP-PBAY-04	Sequent	3,900	16		62,400	
Fibre Channel Switch	FCS-0016-02	Sequent	32,435	8		259,480	
Server Hardware Total						5,667,780	1,133,556*
Server Software							
Dynix/ptx V4.4.4 CD-ROM Media (NAO), includes ptx/TPC-IP, ptx/LAN, ptx/SYNC, ptx/WINDOWS	PTX-C444-00	Sequent	0	1		0	
Sequent Volume Manager, Base Quad	SVM-4100-001	Sequent	3,750	1		3,750	
Sequent Volume Manager, Add. Quads	SVM-4100-ADD	Sequent	3,750	15		56,250	
Ptx/EFS	EFS-0000-00	Sequent	2,000	1		2,000	
Server Software Total						62,000	12,400*
Oracle Server License		Oracle	802,560	1		802,560	1,066,240
Total						6,532,340	2,212,196
5 Year Cost of ownership						\$8,744,536	
QphD@1000GB						11,560.7	
\$/QphD@1000GB						\$756	


Audited by: Francois Raab, Information Paradigm, Inc.

* Includes 1 year warranty and annual pre-pay discount

Notes::

- Hardware and Software are available June 15, 1999.
- Oracle available February 28, 1999.

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.

	NUMA-Q 2000 using Oracle8i	TPC-D™ 1.3.1
		REPORT DATE: December 17th 1998

Measurement Results:

Database Scaling (SF/Size)	=	1000
Total Data Storage/Database Size	=	13.75
Database Load Time	=	57 Hours, 18 Minutes
Query Streams for Throughput Test (S)	=	0
TPC-D Power Metric (QppD@1000GB)	=	27,441.8
TPC-D Throughput Metric (QthD@1000GB)	=	4,870.3
Composite (QphD@1000GB)	=	11,560.7
Total System Price Over five years	=	\$8,744,536
TPC-D Price/Performance Metric (\$/QphD@1000GB)	=	\$756

Measurement Intervals:

Measurement interval in Performance Test (TS)	12,566 seconds
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Duration of Stream Execution:

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Total Time
Stream 00	1390607479	12/17/98	07:23:25	12/17/98	10:52:52	12,566
UF1		12/17/98	07:23:25	12/17/98	08:00:48	2242.7
UF2		12/17/98	08:51:42	12/17/98	10:52:52	7269.3

TPC-D Timing Intervals (in seconds):

Q1	Q2a	Q3	Q4	Q5	Q6	Q7	Q8b	Q9
0.9	143.1	78.3	97.5	90.3	73	289.8	142.2	764.9

Q10	Q11	Q12b	Q13	Q14c	Q15b	Q16	Q17b	UF1	UF2
570.8	77.2	69.6	4.9	135.2	146.6	313.3	55.9	2242.7	7269.3