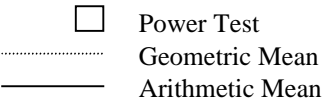
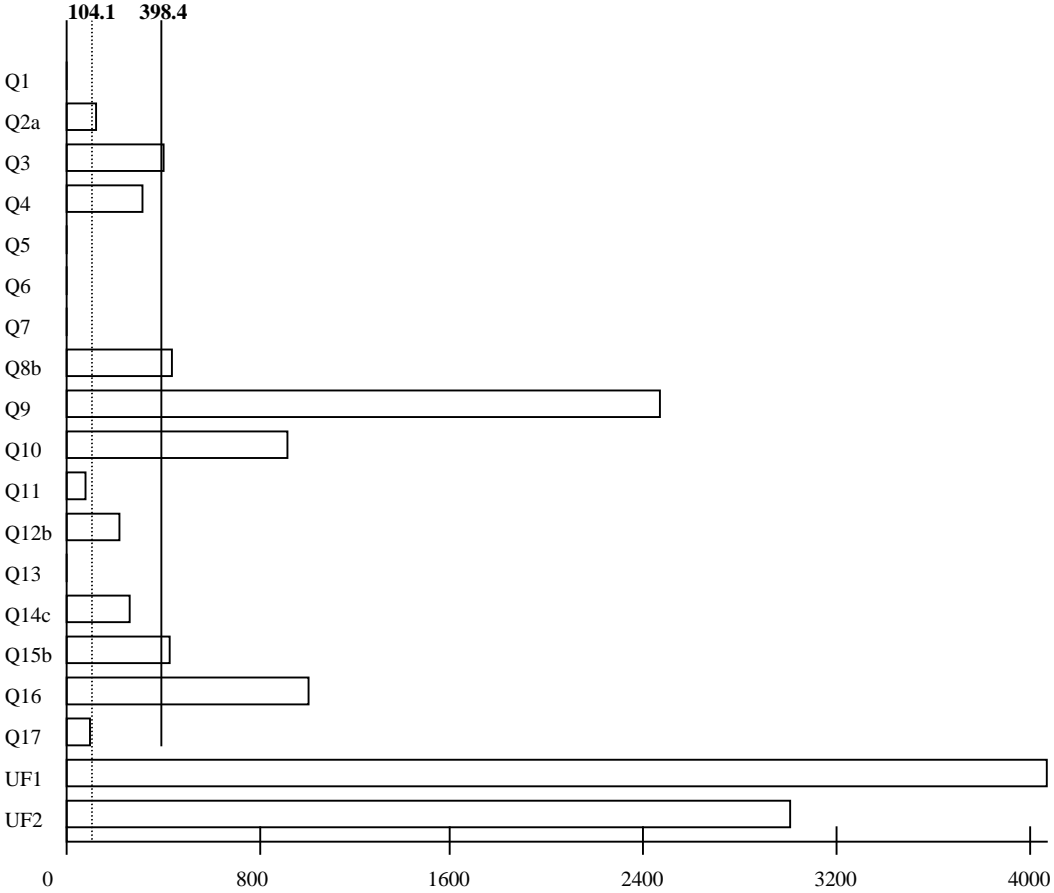
	HP NetServer LXr 8000		TPC-D Rev 1.3.1																																																																																	
			Report Date: 11-Feb-1999																																																																																	
Total System Cost \$531,774	TPC-D Power 8124.3 QppD @ 300 Gbyte	TPC-D Throughput 1324.7 QthD @ 300 Gbyte	Price Performance \$162 QphD @ 300 Gbyte																																																																																	
Database Size 300 Gbyte	Database Manager Oracle8i Enterprise Edition 8.1.5.1	Operating System Microsoft WindowsNT 4.0 Enterprise Edition SP3	Other software Microsoft Visual C++	Availability date 18-May-1999																																																																																
<div style="text-align: center;">  </div>  <table border="1"> <caption>Query Times in Seconds</caption> <thead> <tr> <th>Query</th> <th>Power Test</th> <th>Geometric Mean</th> <th>Arithmetic Mean</th> </tr> </thead> <tbody> <tr><td>Q1</td><td>104.1</td><td></td><td></td></tr> <tr><td>Q2a</td><td>398.4</td><td></td><td></td></tr> <tr><td>Q3</td><td></td><td></td><td></td></tr> <tr><td>Q4</td><td></td><td></td><td></td></tr> <tr><td>Q5</td><td></td><td></td><td></td></tr> <tr><td>Q6</td><td></td><td></td><td></td></tr> <tr><td>Q7</td><td></td><td></td><td></td></tr> <tr><td>Q8b</td><td></td><td></td><td></td></tr> <tr><td>Q9</td><td></td><td></td><td></td></tr> <tr><td>Q10</td><td></td><td></td><td></td></tr> <tr><td>Q11</td><td></td><td></td><td></td></tr> <tr><td>Q12b</td><td></td><td></td><td></td></tr> <tr><td>Q13</td><td></td><td></td><td></td></tr> <tr><td>Q14c</td><td></td><td></td><td></td></tr> <tr><td>Q15b</td><td></td><td></td><td></td></tr> <tr><td>Q16</td><td></td><td></td><td></td></tr> <tr><td>Q17</td><td></td><td></td><td></td></tr> <tr><td>UF1</td><td></td><td></td><td></td></tr> <tr><td>UF2</td><td></td><td></td><td></td></tr> </tbody> </table>					Query	Power Test	Geometric Mean	Arithmetic Mean	Q1	104.1			Q2a	398.4			Q3				Q4				Q5				Q6				Q7				Q8b				Q9				Q10				Q11				Q12b				Q13				Q14c				Q15b				Q16				Q17				UF1				UF2			
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Database Load Time = 168:22:58		Total data storage/database size = 9.75		RAID = Y																																																																																
System Components																																																																																				
Number of nodes	1																																																																																			
Processors	4 Intel Pentium II Xeon 450MHz with 2Mbyte L2 cache																																																																																			
Memory	4 Gbyte																																																																																			
Disk Drives	168 x 17.366 Gbyte and 1 x 8.678 Gbyte																																																																																			
Controllers	7 Mylex DAC1164P-3E-32E-MY																																																																																			
Total Disk Storage	2.93 Tbyte																																																																																			
NIC	1 HP D5013 10/100 TX Network Card																																																																																			
Tape Drives	1 HP SureStore DAT24i																																																																																			
CD ROM	Integrated																																																																																			



HP NetServer LXr 8000

TPC-D Rev 1.3.1

Report Date: 11-Feb-1999

Description	Part Number	Brand	Price Key	Unit Price	Qty	Extended Price	5 yr. Maint. Price
Server Hardware							
HP NetServer LXr 8000	D6137A	HP	1,2	16995	1	16995	6466
Intel Pentium II Xeon 450MHz 2Mbyte	D6122A	HP	1	7475	3	22425	
1Gbyte DIMM kit	D6114A	HP	1	4280	4	17120	
Rmkt HP Ultra VGA 1280 17" Display	D2818AR	HP	1	224	1	224	
HP NetServer mini-DIN keyboard and mouse	D4950B/C3751B	HP	1	106	1	106	
HP 9.1 GB 10K HotSwap Wide Ultra2 SCSI Disk	D6107A	HP	1	989	1	989	
HP SureStore DAT24i	C1555C	HP	1	941	1	941	
HP NetServer 10/100TX PCI LAN Adapter	D5013A	HP	1	83	1	83	
HP Keyboard Rack Mount Kit	J1518A	HP	1	294	1	294	
2.0 Meter Rack w/rear door	J1500A	HP	1	1765	3	5295	
HP 19" Plain Shelf, for racks	J1520A	HP	1	134	1	134	
Subtotal						64606	6466
Server Software							
Oracle8i Enterprise Edition 8.1.5.1		Oracle	3	50160	1	50160	66640
Microsoft WindowsNT 4.0 Enterprise Edition SP3	779-00001	MS	1	3196	1	3196	
Microsoft Visual C++ 6.0	716856	MS	1	454	1	454	
Microsoft Windows NT Server Resource Kit		MS	1	92	1	92	
MKS Toolkit for NT	323795	MKS	1	264	1	264	
Subtotal						54166	66640
Storage Devices							
HP NetServer Rack Storage/8 inc. spares	D4902A	HP	1,2,4	2098	24	50352	24615
HP 18.2GB HotSwap Ultra/Wide SCSI Disk inc. spares	D5039A	HP	1	1333	185	246605	
HP 2.5m SCSI Cable with offset connector	D6020A	HP	1	84	21	1764	
Mylex DAC1164P-3E-32E-MY inc. spares		Mylex	1	1840	9	16560	
Subtotal						315281	24615
Total						\$434,053	\$97,721

Notes:

Price key: 1=Software House, 2=HP Corporate Price List, 3=Oracle, 4=Mylex

HP server support is 5 years 24x7 4-hour. HP storage support is next business day with sparing. Mylex support is 4 day replacement with sparing.

Audited by Lorna Livingtree Performance Metrics, Inc.

5-yr Cost of Ownership: \$531,774

QphD @ 300 Gbyte: 3280.6

\$/QphD @ 300 Gbyte: \$ 162

Availability Note: Oracle8i 8.1.5.1 is available May 18, 1999. All other components are available now.

Prices used in TPC benchmarks reflect 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.



HP NetServer LXr 8000

TPC-D Rev 1.3.1

Report Date: 11-Feb-1999

Measurement Results

Scale Factor	=	300
Total data storage/database size	=	9.75
Database load time	=	168:22:58
Query streams for throughput test	=	0
TPC-D Power Metric (QppD @ 300 Gbyte)	=	8124.3
TPC-D Throughput Metric (QthD @ 300 Gbyte)	=	1324.7
Composite Metric (QphD @ 300 Gbyte)	=	3280.6
Total system price over 5 years	=	\$531,774
TPC-D Price Performance Metric (\$/QphD @ 300 Gbyte)	=	\$162

Measurement Intervals

Measurement Interval in Throughput Test (Ts)	=	13,859 seconds
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Duration of stream execution:

Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 00	265429342	2/8/99	9:55:06	2/8/99	13:46:05	3:50:59
UF1		2/8/99	9:55:06	2/8/99	11:03:01	
UF2		2/8/99	12:55:55	2/8/99	13:46:05	

TPC-D timing intervals in seconds

Q1	Q2a	Q3	Q4	Q5	Q6	Q7	Q8b	
0.3	124.4	406.7	315.7	3.0	0.2	5.0	436.4	
Q9	Q10	Q11	Q12b	Q13	Q14c	Q15b	Q16	
2462.1	917.2	81.3	220.3	6.1	262.4	427.0	1004.3	
Q17	UF1	UF2						
100.4	4074.7	3010.3						