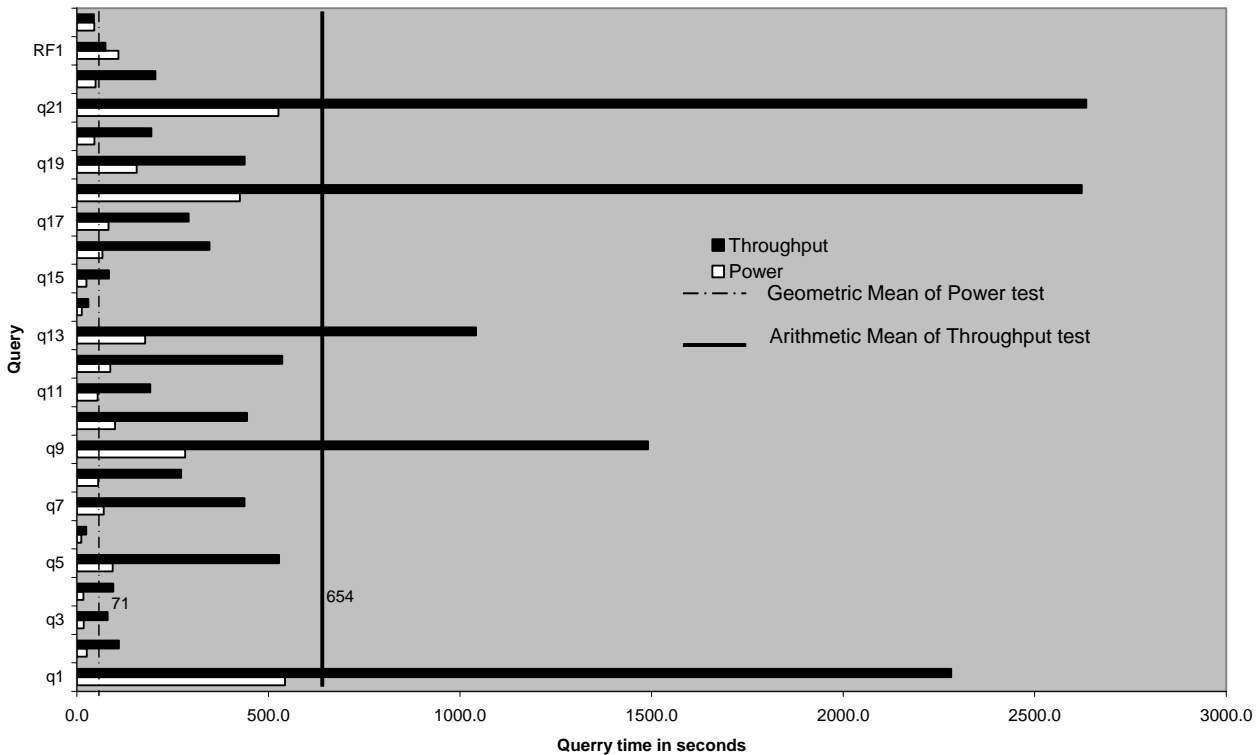
	DELL PowerEdge 6800 with Oracle Database 10g R2	TPC-H Revision 2.1.0
		Report Date: July 08, 2005
Total System Cost \$256,383	TPC-H Composite Query per Hour 11,742.8 QphH@300GB	Price/Performance \$22/QphH@300GB
Database Size 300GB	Database Manager Oracle Database 10g Release 2 Enterprise Edition with RAC and Partitioning	Operating System Red Hat Enterprise Linux Advanced Server v3.0
Other Software		Availability Date January 08, 2006



Database Load Time 4:08:19	Total Disk/Database Size 19.42	Load Includes Backup N
RAID (Base tables only) N	RAID (Base tables and auxiliary data structures) N	RAID (Everything) Y

System Configuration : 2 nodes
Processors (per node) : 4x 3.33GHz/1024KB L2/8MB L3 Intel Xeon MP
Memory: (per node): 16GB RAM
Disk Drives: 172 – 36GB 15k HDD

“Database Size includes only raw data (e.g., no temp, index, redundant storage space, etc.)”

Description	Part Number	Third Party Brand Pricing	Unit Price	Qty	Extended Price	3 yr. Maint. Price
Server Hardware						
Dell PowerEdge 6800	221-8265		6,063	2	12,126	1,400
Intel Xeon MP 3.33GHz / 8MB L3 - 4 processors	311-4931		14,997	2	29,994	-
16 GB,DDR, 16 x 1024MB DIMMS	311-4651		7,498	2	14,996	-
36 GB U320M SCSI 15K RPM Hard Drive	340-1897		299	4	1,196	-
Crossover cable	43-425		2	3	5	-
Dell 15" Monitor	320-2907		135	2	270	-
PERC4-DC 128MB U320 SCSI RAID controller	341-1285		799	6	4,794	0
PERC4e-DC 128MB U320 SCSI RAID controller	341-1913		799	8	6,392	0
Subtotal					69,773	1,400
PowerVault Disk Subsystem						
PV220S, U3 SCSI, PS, Rack mount	220-4476, etc.		1,668	14	23,352	6,986
SCSI Cables	310-0679		99	14	1,386	-
36 GB U320 SCSI 15K RPM Hard Drive *	340-9371		249	168	41,832	-
42U Rack	220-4492		964	2	1,928	-
Subtotal					68,498	6,986
Server Software						
Oracle Database 10g Release 2, Enter. Ed.,Named User Plus, 3yrs			10,000	8	80,000	-
Partitioning, Named User Plus, 3yrs			2,500	8	20,000	-
Real Application Clusters, Named User Plus, 3yrs			5,000	8	40,000	-
Oracle Database server support package for 3yrs, per server			6,000	2	12,000	-
Oracle Mandatory E-Business Discount					(\$22,800)	0
Red Hat Enterprise Linux Advanced Server, 3yrs SUB NFI	420-4250		2,699	2	5,398	0
Subtotal					134,598	0
Other Discounts					(24,872)	-
Total					247,997	8,386

<p>Notes: * Maint. included in PowerVault 220S disk pod or PV650F/630F fibre channel disk pod</p> <p>** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server</p> <p>*** 10% or minimum 2 spares are added in place of onsite service (products have a three year return-to-vendor warranty) Pricing: 1 - Dell 2 - Oracle 3 - Fastcomputerparts</p> <p>**** Discount based upon total system cost as purchased by a regular customer. Pricing may be verified by calling 1-800-BUY-DELL referencing quote numbers 230402082 as complex quotes.</p> <p>Audited by Lorna Livingtree, Performance Metrics Inc.</p>	<p>Three-Year Cost of Ownership: \$256,383</p> <p>QphH Rating: 11742.80</p> <p>\$ / QphH: 22</p>
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Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated components. Individually negotiated



DELL
PowerEdge 6800
w/ Oracle 10g R2 / RHEL v3.0

TPC-H Revision 2.1.0

Report Date:
July 08, 2005

Numerical Quantities Summary

Measurement Results:

Database Scale Factor	300
Total Data Storage/Database Size	19.42
Start of Database Load	06/15/2005 13:42:28
End of Database Load	06/15/2005 17:50:47
Database Load Time	4:08:19
Query Streams for Throughput Test	6
TPC-H Power	15,189.9
TPC-H Throughput	9,077.9
TPC-H Composite Query-per-Hour Metric (QpH@300GB)	11,742.8
Total System Price Over 3 Years	\$256,383
TPC-H Price Performance Metric (\$/QpH@300GB)	\$22

Measurement Interval:

Measurement Interval in Throughput Test (Ts) = 15,704.0 seconds

Duration of stream execution:

	Seed	Start Date/Time	End Date/Time	Duration
Stream00	615174947	6/15/2005 18:12:13	6/15/2005 19:00:56	00:48:43
Stream01	615174948	6/15/2005 19:01:43	6/15/2005 23:11:34	4:09:51
Stream02	615174949	6/15/2005 19:01:43	6/15/2005 23:09:55	4:08:12
Stream03	615174950	6/15/2005 19:01:43	6/15/2005 23:44:33	3:42:50
Stream04	615174951	6/15/2005 19:01:43	6/15/2005 23:55:12	3:53:29
Stream05	615174952	6/15/2005 19:01:43	6/15/2005 23:01:58	4:00:15
Stream06	615174953	6/15/2005 19:01:43	6/15/2005 23:05:00	4:03:17
Refresh00		6/15/2005 18:10:24	6/15/2005 18:12:12	0:01:48
		6/15/2005 19:00:56	6/15/2005 19:01:41	0:00:45
Refresh01		6/15/2005 23:11:34	6/15/2005 23:13:53	0:02:19
Refresh02		6/15/2005 23:13:53	6/15/2005 23:15:52	0:01:59
Refresh03		6/15/2005 23:15:52	6/15/2005 23:17:38	0:01:46
Refresh04		6/15/2005 23:17:38	6/15/2005 23:19:29	0:01:51
Refresh05		6/15/2005 23:19:29	6/15/2005 23:21:21	0:01:52
Refresh06		6/15/2005 23:21:21	6/15/2005 23:23:27	0:02:06



Numerical Quantities Summary

Timing Intervals in Seconds:

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream00	543.2	25.7	18.0	17.0	93.1	11.6	69.9	55.8
Stream01	2551.2	115.7	92.1	19.6	585.7	17.6	412.9	274.1
Stream02	2193.5	117.9	90.7	129.2	535.3	45.1	460.0	318.4
Stream03	1645.3	103.6	81.7	93.7	529.5	20.5	393.8	285.5
Stream04	2547.7	135.0	61.4	119.7	327.7	18.4	240.2	248.0
Stream05	2244.7	97.7	77.2	87.3	610.1	20.2	355.6	265.6
Stream06	2509.4	89.8	79.3	121.8	578.3	25.3	763.4	239.3
Min Qi	1645.3	89.8	61.4	19.6	327.7	17.6	240.2	239.3
Max Qi	2551.2	135.0	92.1	129.2	610.1	45.1	763.4	318.4
Avg Qi	2282.0	110.0	80.4	95.2	527.8	24.5	437.7	271.8
Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream00	282.5	99.2	54.1	87.4	177.9	12.8	24.7	66.7
Stream01	1519.5	616.6	166.9	551.8	1022.3	29.3	94.3	305.2
Stream02	1834.4	390.9	237.0	515.6	1162.7	28.4	91.0	414.6
Stream03	1079.6	440.4	191.2	591.7	1138.4	23.1	61.6	358.9
Stream04	1656.7	605.0	177.4	369.2	754.4	32.2	66.7	424.5
Stream05	983.1	430.1	224.8	489.2	981.7	42.6	72.7	285.6
Stream06	1871.3	182.2	152.2	698.2	1191.1	24.4	115.5	285.4
Min Qi	983.1	182.2	152.2	369.2	754.4	23.1	61.6	285.4
Max Qi	1871.3	616.6	237.0	698.2	1191.1	42.6	115.5	424.5
Avg Qi	1490.7	444.2	191.6	535.9	1041.8	30.0	83.6	345.7
Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream00	82.6	425.0	156.3	45.6	525.6	48.5	108.6	45.4
Stream01	188.2	2260.9	387.3	166.1	3274.0	340.6	84.1	54.4
Stream02	702.3	2534.8	291.6	302.2	2278.5	218.4	77.2	41.6
Stream03	204.5	2439.8	950.7	201.4	2390.5	144.7	68.5	37.4
Stream04	231.1	3155.9	311.9	125.5	2239.2	161.3	67.2	44.5
Stream05	241.9	2959.2	304.5	198.8	3243.9	199.2	70.9	40.4
Stream06	183.2	2387.7	380.2	171.9	2383.2	164.1	78.5	47.6
Min Qi	183.2	2260.9	291.6	125.5	2239.2	144.7	67.2	37.4
Max Qi	702.3	3155.9	950.7	302.2	3274.0	340.6	84.1	54.4
Avg Qi	291.9	2623.0	437.7	194.3	2634.9	204.7	74.4	44.3