



**DELL
PowerEdge 6800
with SQL Server 2005
Enterprise (x64) Edition™**

**TPC-H Revision
2.3.0**

**Report Date:
May 18, 2006**

**Total System Cost
\$68,092 USD**

**TPC-H Composite Query per Hour
9,202.4 QphH@100GB**

**Price/Performance
\$7.40 USD/ QphH@100GB**

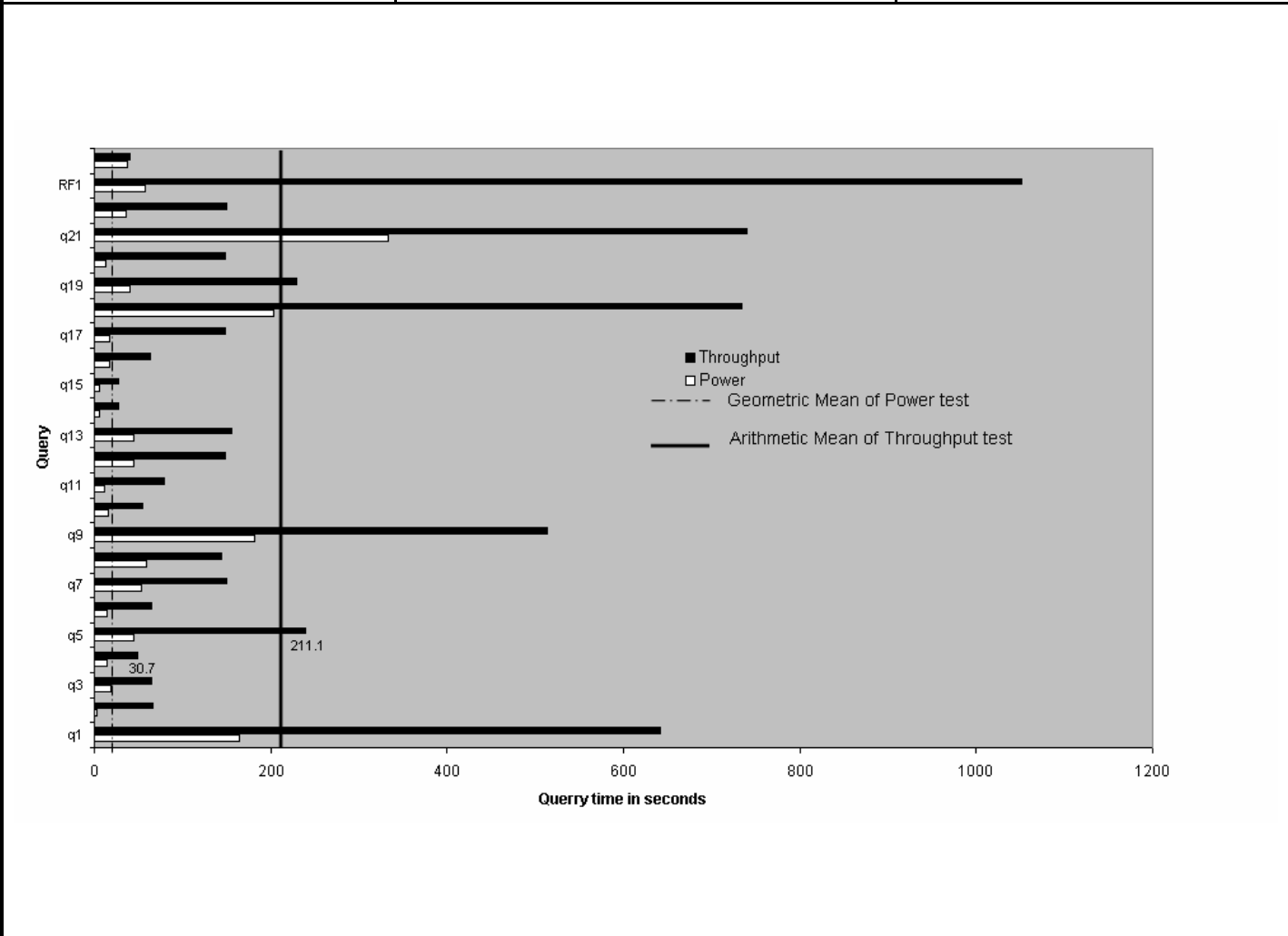
**Database Size
100GB**

**Database Manager
SQL Server 2005 Enterprise (x64)
Edition™**

**Operating System
Microsoft Windows Server
2003 Enterprise x64
Edition™**

Other Software
Visual C++ Standard Edition
Visual Basic 2003 .Net
Professional

**Availability Date
May 18, 2006**



Database Load Time
1:32:39

Total Disk/Database Size
33.9

Load Includes Backup
Y

RAID (Base tables only)
N

RAID (Base tables and auxiliary data structures)
N

RAID (Everything)
N

System Configuration : 1 node
Processors (per node) : 4x Dual-Core Intel® Xeon™ 7041/3.0GHz 2x2MB L2 Cache
Memory: (per node) : 32GB RAM
Disk Drives: 84 – 36GB 15k HDD & 8 – 73GB 10k HDD

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

Dell		PowerEdge PE6800			TPC-H REV 2.3 EXECUTIVE SUMMARY		
		Server			Report Date: 18-May-06		
					Revision Date: 18-May-06		
Description	Part Number	Third Party	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
Server Hardware							
Dell PowerEdge 6800 3.0GHz Dual Core XEON w/2+2MB L2 cache, 667MHZ FSB, 2 onboard Gigabit NICs	222-0685		\$3,519.00	1	\$3,519.00	\$300.00	
3.0GHZ/2+2MB_Dual Core XEON,QUAD PROC	311-6107		\$7,997.00	1	\$7,997.00		
32GB,DDR2,400MHZ(16X2GB),2R	311-4662		\$5,068.00	1	\$5,068.00		
PERC4e/Di 256MB	341-1903		\$299.00	1	\$299.00		
PERC4eDC,128MB,2-EXT CHN	341-1642		\$799.00	3	\$2,397.00		
73GB U320M SCSI 10K RPM Hard Drive (OS+LOG)	341-1287		\$299.00	8	\$2,392.00		
Dell E773,17 in Gray (16.0 VIS)	320-2907		\$159.00	1	\$159.00		
				Subtotal	\$21,831.00	\$300.00	
PowerVault Disk Subsystem							
PV220S, U3	220-4476		\$2,255.00	6	\$13,530.00	\$2,406.00	
ZEMM,U320,PV22XS,SINGLE	340-9324		\$399.00	6	\$2,394.00		
600W,PWR SPLY,PV22XS	310-0677		\$0.00	6	\$0.00		
600W,PWR SPLY,PV22XS	310-0683		\$89.00	6	\$534.00		
SCSI Cables	310-0679		\$99.00	6	\$594.00		
36GB U320M SCSI 15K RPM Hard Drive *	340-9371		\$249.00	84	\$20,916.00		
RACK-111/24U/Dell	A0213544		\$479.95	1	\$479.95		
				Subtotal	\$38,447.95	\$2,406.00	
Server Software							
SQL Server 2005 Enterprise x64 Edition **	810-04793	Microsoft	1	\$8,487.00	1	\$8,487.00	
SQL Server 2005 Client Licence **	359-01911	Microsoft	1	156	25	\$3,900.00	
Windows Server 2003 Enterprise x64 Server **	P72-00274	Microsoft	1	\$2,334.00	1	\$2,334.00	
Visual C++ Standard Edition **	254-00170	Microsoft	1	\$109.00	1	\$109.00	
Visual Basic 2003 Standard	046-00856	Microsoft	1	\$109.00	1	\$109.00	
Professional Support (1 Incident)		Microsoft	1	\$245.00	1	\$245.00	
				Subtotal	\$14,939.00	\$245.00	
All components from Dell are discounted 16% based on total dollar volume of this configuration.					Other Discounts (16%)	\$10,077.59	
					Total	\$65,140	\$2,951
Notes: * Maint. included in PowerVault 220 disk pod				Three-Year Cost of Ownership:		\$68,092	USD
** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server							
Pricing: 1 = Microsoft, all others are Dell				QphH@100G		9,202.4	
Pricing may be verified by calling 1-800-BUY-DELL and referencing quote # 294831250 as a complex quote.							
Audited by Lorna Livingtree, Performance Metrics Inc.				\$ / QphH@100G:		\$7.40	USD
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 items, please inform the TPC at pricing@tpc.org.							



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w/ SQL Server 2005
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Numerical Quantities Summary

Measurement Results:

Database Scale Factor	100
Total Data Storage/Database Size	33.9
Start of Database Load	2006-04-20 07:23:22
End of Database Load	2006-04-20 08:56:01
Database Load Time	1:32:39
Query Streams for Throughput Test	5
TPC-H Power	11,720.9
TPC-H Throughput	7,225.0
TPC-H Composite Query-per-Hour Metric (QphH@300GB)	9,202.4
Total System Price Over 3 Years	\$68,092
TPC-H Price Performance Metric (\$/QphH@300GB)	\$7.40

Measurement Interval:

Measurement Interval in Throughput Test (Ts) = 5,481 seconds

Duration of stream execution:

	Seed	Start Date/Time	End Date/Time	Duration
Stream00	420085601	4/21/06 1:52:56	4/21/06 2:15:20	0:22:23
Stream01	420085602	4/21/06 2:16:00	4/21/06 3:26:02	1:10:02
Stream02	420085603	4/21/06 2:16:00	4/21/06 3:36:14	1:20:14
Stream03	420085604	4/21/06 2:16:00	4/21/06 3:38:40	1:22:39
Stream04	420085605	4/21/06 2:16:00	4/21/06 3:35:26	1:19:26
Stream05	420085606	4/21/06 2:16:01	4/21/06 3:30:38	1:14:37
Refresh00		4/21/06 1:51:58	4/21/06 1:52:56	0:00:58
		4/21/06 2:15:20	4/21/06 2:15:58	0:00:38
Refresh01		4/21/06 2:16:00	4/21/06 3:40:25	1:24:25
Refresh02		4/21/06 3:40:28	4/21/06 3:42:13	0:01:45
Refresh03		4/21/06 3:42:15	4/21/06 3:43:58	0:01:43
Refresh04		4/21/06 3:44:02	4/21/06 3:45:41	0:01:40
Refresh05		4/21/06 3:45:46	4/21/06 3:47:21	0:01:35



Numerical Quantities Summary

Timing Intervals in Seconds:

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream00	164.8	3.1	18.4	14.0	45.4	14.9	53.1	59.6
Stream01	529.7	49.7	62.4	60.0	71.1	45.2	191.3	109.9
Stream02	645.9	163.5	62.7	28.8	107.8	85.1	148.8	197.0
Stream03	714.1	36.0	15.0	58.3	762.0	122.1	108.0	172.9
Stream04	673.0	34.8	113.4	33.6	141.8	29.1	179.0	100.3
Stream05	644.1	44.5	70.4	67.0	115.1	41.7	120.4	141.4
Min Qi	529.7	34.8	15.0	28.8	71.1	29.1	108.0	100.3
Max Qi	714.1	163.5	113.4	67.0	762.0	122.1	191.3	197.0
Avg Qi	641.4	65.7	64.8	49.5	239.6	64.6	149.5	144.3

Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream00	181.3	16.3	11.2	44.6	45.8	5.2	6.2	17.3
Stream01	487.9	67.0	64.2	151.3	192.7	21.3	31.3	71.2
Stream02	409.5	60.2	91.3	140.3	196.1	48.8	28.8	86.1
Stream03	709.6	36.8	74.5	51.0	42.7	20.1	46.4	17.7
Stream04	501.8	59.5	74.5	189.9	162.7	22.1	25.1	65.6
Stream05	458.2	47.4	92.3	207.1	184.7	26.7	23.9	77.1
Min Qi	409.5	36.8	64.2	51.0	42.7	20.1	23.9	17.7
Max Qi	709.6	67.0	92.3	207.1	196.1	48.8	46.4	86.1
Avg Qi	513.4	54.2	79.4	147.9	155.8	27.8	31.1	63.5

Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream00	17.4	203.4	40.4	12.3	332.6	35.9	58.3	38.2
Stream01	49.3	665.5	134.9	132.9	839.8	173.3	5021.6	42.9
Stream02	286.0	675.8	553.4	101.2	571.0	126.0	62.7	40.3
Stream03	75.1	802.1	55.1	150.0	754.0	135.9	61.7	40.5
Stream04	281.1	737.5	248.7	236.8	697.6	157.8	58.7	40.1
Stream05	48.7	791.1	152.9	122.8	839.3	160.5	50.3	41.6
Min Qi	48.7	665.5	55.1	101.2	571.0	126.0	50.3	40.1
Max Qi	286.0	802.1	553.4	236.8	839.8	173.3	5021.6	42.9
Avg Qi	148.0	734.4	229.0	148.7	740.3	150.7	1051.0	41.1