



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

**TPC-H Revision
2.3.0**

**Report Date:
January 12, 2006**

**Total System Cost
\$169,952 USD**

**TPC-H Composite Query per Hour
10,704.1 QphH@100GB**

**Price/Performance
\$15.88 USD/ QphH@100GB**

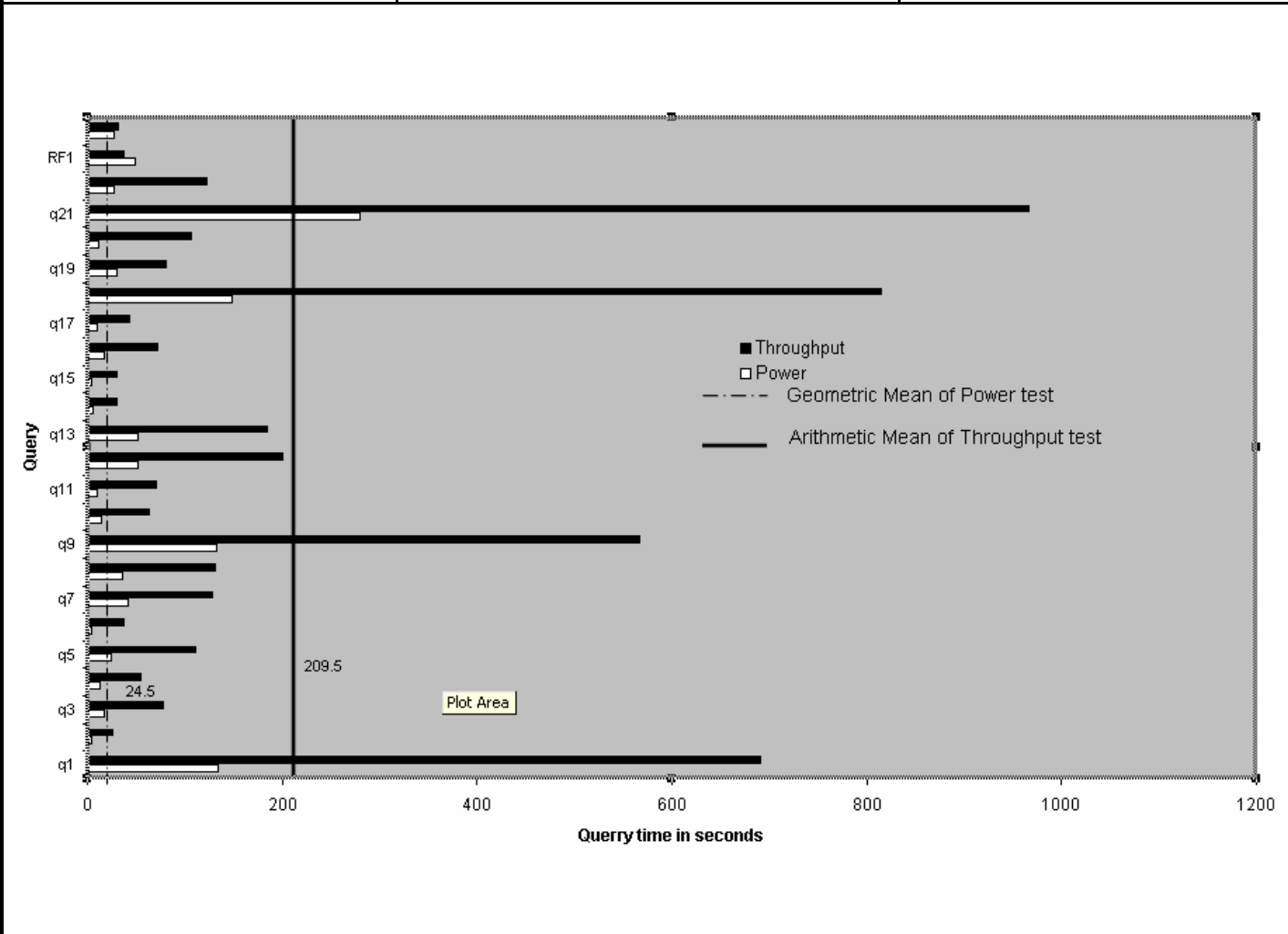
**Database Size
100GB**

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

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

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

**Availability Date
January 12, 2006**



Database Load Time
1:34:15

Total Disk/Database Size
40.66

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™ 7040/3.0GHz 2x2MB L2 Cache
Memory: (per node) : 64GB RAM
Disk Drives: 112 – 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 PAGE 2 OF 2		
		Server			Report Date: 12-January-06		
Description	Part Number	Third Party		Unit Price	Qty	Extended Price	3 yr. Maint. Price
		Brand	Pricing				
Server Hardware							
Dell PowerEdge 6800 3.0GHz Dual Core XEON w/2+2MB L2 cache, 800MHZ FSB, 2 onboard Gigabit NICs	222-1046			\$6,584.00	1	\$6,584.00	\$300.00
3.0GHZ/2+2MB,Dual Core XEON,QUAD PROC	311-5643			\$10,897.00	1	\$10,897.00	
64GB,DDR2,400MHZ(16X4GB),2R	311-5706			\$107,199.00	1	\$107,199.00	
PERC4eDC,128MB,2-EXT CHN	341-1642			\$799.00	4	\$3,196.00	
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	\$130,427.00	\$300.00
PowerVault Disk Subsystem							
PV220S, U3	220-4476			\$2,156.00	8	\$17,248.00	\$3,208.00
ZEMM,U320,PV22XS,SINGLE	340-9324			\$399.00	8	\$3,192.00	
600V,PWR SPLY,PV22XS	310-0677			\$0.00	8	\$0.00	
600V,PWR SPLY,PV22XS	310-0683			\$89.00	8	\$712.00	
SCSI Cables	310-0679			\$99.00	8	\$792.00	
36GB U320M SCSI 15K RPM Hard Drive *	340-9371			\$249.00	112	\$27,888.00	
RACK-111/24U/Dell	A0213544			\$479.95	1	\$479.95	
					Subtotal	\$50,311.95	\$3,208.00
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%)		\$29,479.51	
					Total	\$166,198	\$3,753
Notes: * Maint. included in PowerVault 220 disk pod					Three-Year Cost of Ownership	\$169,952	USD
** All Microsoft maintenance is covered by the maintenance costs of Microsoft SQL Server							
Pricing: 1 = Microsoft, all others are Dell					QphH@100G	10,703.70	
Pricing may be verified by calling 1-800-BUY-DELL and referencing quote # 267803220 as a complex quote.							
Audited by Lorna Livingtree, Performance Metrics Inc.					\$ / QphH@100G:	\$15.88	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	40.66
Start of Database Load	11/23/2005 07:20:34
End of Database Load	11/23/2005 08:54:48
Database Load Time	1:34:15
Query Streams for Throughput Test	5
TPC-H Power	14,675.1
TPC-H Throughput	7,807.6
TPC-H Composite Query-per-Hour Metric (QpH@300GB)	10,704.1
Total System Price Over 3 Years	\$169,952
TPC-H Price Performance Metric (\$/QpH@300GB)	\$15.88

Measurement Interval:

Measurement Interval in Throughput Test (Ts) = 5072 seconds

Duration of stream execution:

	Seed	Start Date/Time	End Date/Time	Duration
Stream00	1123085448	2005-11-23 12:03:24	2005-11-23 12:21:07	00:17:43
Stream01	1123085449	2005-11-23 12:21:35	2005-11-23 13:37:50	1:16:14
Stream02	1123085450	2005-11-23 12:21:36	2005-11-23 13:40:14	1:18:39
Stream03	1123085451	2005-11-23 12:21:36	2005-11-23 13:35:18	1:13:42
Stream04	1123085452	2005-11-23 12:21:36	2005-11-23 13:39:14	1:17:38
Stream05	1123085453	2005-11-23 12:21:36	2005-11-23 13:39:29	1:17:53
Refresh00		2005-11-23 12:02:35	2005-11-23 12:03:24	0:00:49
		2005-11-23 12:21:07	2005-11-23 12:21:35	0:00:27
Refresh01		2005-11-23 12:31:35	2005-11-23 13:41:29	1:19:54
Refresh02		2005-11-23 13:41:30	2005-11-23 13:42:37	0:01:07
Refresh03		2005-11-23 13:42:39	2005-11-23 13:43:48	0:01:10
Refresh04		2005-11-23 13:43:50	2005-11-23 13:44:58	0:01:08
Refresh05		2005-11-23 13:44:59	2005-11-23 13:46:08	0:01:08



Numerical Quantities Summary

Timing Intervals in Seconds:

Query	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Stream00	134.1	4.3	16.7	13.4	24.7	4.6	41.3	36.5
Stream01	683.8	15.2	88.7	49.9	111.4	27.8	126.0	131.3
Stream02	707.8	47.6	65.6	52.2	93.1	20.5	97.4	122.9
Stream03	652.4	17.6	81.3	71.4	136.3	47.8	183.5	174.4
Stream04	692.5	17.9	75.8	50.2	110.6	58.0	119.4	117.4
Stream05	720.0	29.7	81.0	50.8	100.6	31.1	118.9	113.0
Min Qi	683.8	15.2	81	49.9	100.6	27.8	118.9	113
Max Qi	720	47.6	88.7	71.4	136.3	58	183.5	174.4
Avg Qi	701.9	22.45	84.85	50.35	106	29.45	122.45	122.1

Query	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
Stream00	132.8	15.0	9.5	52.3	42.1	5.6	4.8	16.9
Stream01	429.7	44.0	96.5	209.3	164.4	22.9	28.7	71.1
Stream02	599.3	87.4	60.5	200.9	145.0	33.6	30.1	69.3
Stream03	607.9	61.0	50.8	214.1	173.0	39.0	25.3	71.7
Stream04	749.5	67.0	65.6	150.4	200.3	25.3	32.8	68.6
Stream05	445.4	59.2	79.4	230.2	237.7	27.1	32.1	77.5
Min Qi	429.7	44	79.4	209.3	164.4	22.9	28.7	71.1
Max Qi	749.5	87.4	96.5	230.2	237.7	39	32.8	77.5
Avg Qi	437.55	51.6	87.95	219.75	201.05	25	30.4	74.3

Query	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream00	10.5	148.8	30.3	11.0	279.9	27.4	49.1	27.5
Stream01	38.6	709.7	57.4	246.0	1106.5	115.5	4763.3	30.2
Stream02	60.2	1141.2	91.1	131.8	741.4	119.8	35.2	31.4
Stream03	44.4	745.5	43.1	54.5	788.1	139.3	38.1	31.1
Stream04	29.7	725.5	68.8	44.7	1090.2	98.0	36.0	31.2
Stream05	42.5	752.1	140.0	59.5	1104.7	140.3	35.8	31.8
Min Qi	38.6	709.7	57.4	59.5	1104.7	115.5	35.8	30.2
Max Qi	60.2	1141.2	140	246	1106.5	140.3	4763.3	31.8
Avg Qi	40.55	730.9	98.7	152.75	1105.6	127.9	2399.55	31