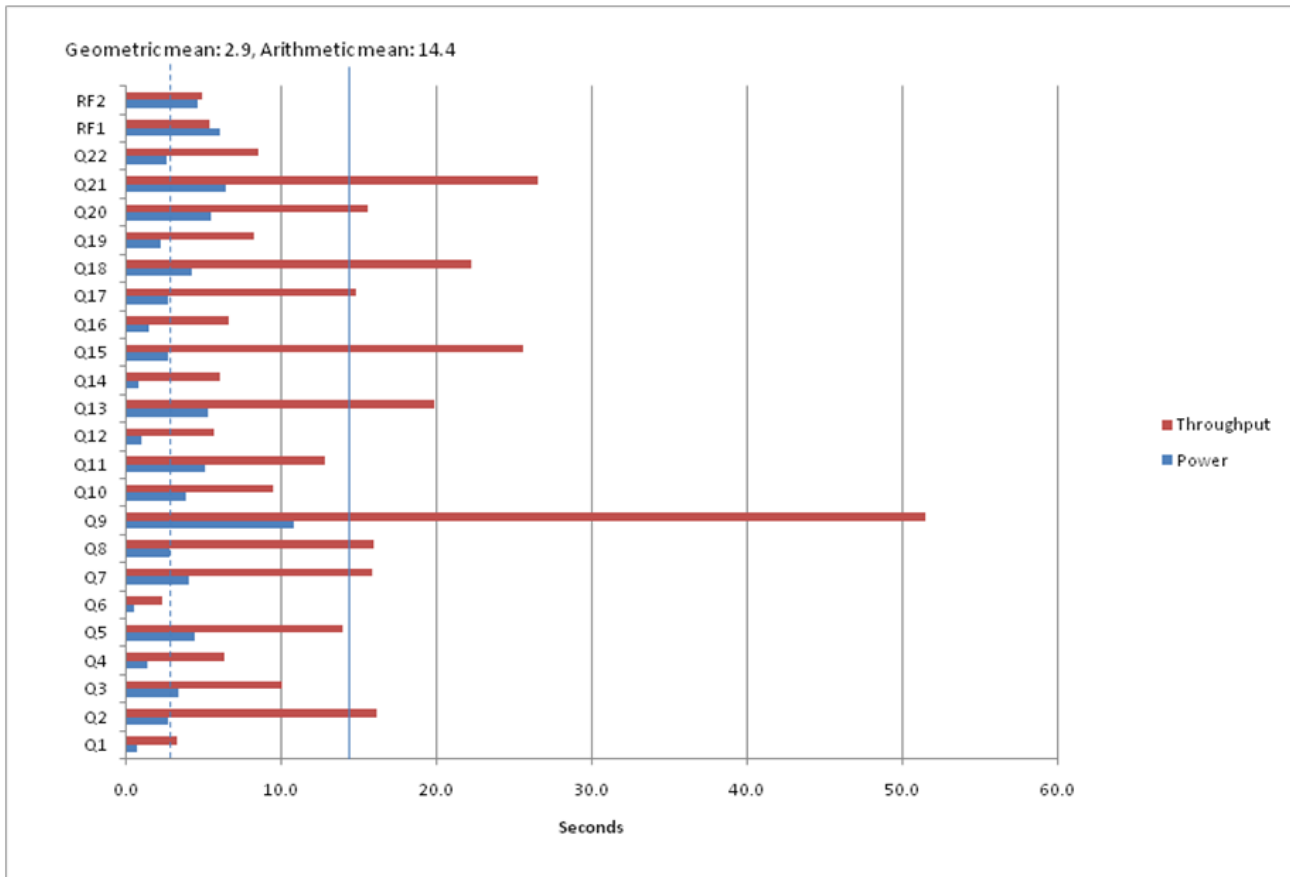




VMware ESXi™ Platform
HP DL380
ParAccel Analytic Database

TPC-H Rev. 2.9.0
TPC Pricing Specification 1.5.0
Report Date: April 11, 2010

Total System Cost		Composite Query per Hour Metric		Price/Performance	
\$ 1,168,311.44 USD		1,316,882.1 QphH@1000GB		\$ 0.89 USD \$/QphH@1000GB	
Database Size	Database Manager	Operating System	Other Software	Availability Date	
1000GB	ParAccel Analytic Database 2.5	ParAccel Standard Linux	VMware ESXi 4.0	June 30, 2010	



Database Load Time = 0:16:23
Load Includes Backup: N
Total Data Storage/Database Size = 89.4
Memory/Database Size (%) = 288.0

Storage Redundancy Levels:
Base Tables: Level One
Auxiliary Data Structures: N/A
DBMS Temporary Space: Level One
OS and DBMS Software: Level One

System Configuration: 40 x HP DL380 G6 Server, each system with
2 VMware ESXi VMs
2 Xeon x5560 2880 Mhz processors, 8 cores, 8 threads
72GB memory
8 x 300GB disks
Total processors: 80 CPUs, 320 cores, 320 threads
Total memory: 2,880GB
Total Storage: 89,406GB (in this calculation 1GB is defined as 1024*1024*1024 bytes)



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Description	Part Number	Source	Unit Price	Qty	Ext. Price	3 Yr Maint
HP DL380 G6 X5560 PERF	CPR-491315-001	2	\$ 4,889.00	40	\$ 195,560.00	
HP 4GB 2RX4 PC3-10600R-9 KIT	CPR-500658-B21	2	\$ 196.40	720	\$ 141,408.00	
HP 300GB 3G PLUG SAS 10K DP SFF HD	CPR-492620-B21	2	\$ 408.25	320	\$ 130,640.00	
HP NC382T PCIE DP GBIT SVR ADPTR	CPR-458492-B21	2	\$ 176.00	40	\$ 7,040.00	
HP DL380 G6 3 SLOT PCI-E RISER KIT	CPR-500579-B21	2	\$ 85.00	40	\$ 3,400.00	
HPE 3YR 24X7X4 DL380	HPE-U4545E	2	\$ 738.00	40		\$ 29,520.00
CDW HARDWARE INSTALL SERVER	CTS-HWINSTALLSERVER	2	\$ 25.00	40	\$ 1,000.00	
PRIORITY SERVICE FOR INSTALL	CTS-PRIORITY-INSTALL	2	\$ 12.50	40	\$ 500.00	
HP ILO ADV 1 SRV TSU SW	CPR-512485-B21	2	\$ 279.00	40	\$ 11,160.00	
BELKIN 10'CAT5E RJ45M PATCH CAB BLUE	BEL-A3L781-10BL-CDW	2	\$ 2.35	480	\$ 1,128.00	
CISCO CATALYST 3750 48PT 10/100/1000	CIS-WS-C3750G-48TS-S	2	\$ 8,579.00	4	\$ 34,316.00	
CISCO SMARTNET OS 24X7X4	CD1-CON-OSP-3750G48T	2	\$ 1,665.00	12		\$ 19,980.00
BELKIN ENTERPRISE 4 POST RACK 42U 7'	BKN-RK4000	2	\$ 425.00	3	\$ 1,275.00	
APC RACK PDU METERED 2U 30A 208V	AME-AP7811	2	\$ 535.00	5	\$ 2,675.01	
ACER V173 BB 17"	ET.BV3RP.B01	2	\$ 115.00	1	\$ 115.00	
LOGITECH DELUXE 250 DT KB&MOU BLK	967973-0403	2	\$ 19.00	1	\$ 19.00	
RECYCLING FEE	(for Acer)	2	\$ 19.00	1	\$ 19.00	
				SubTotal	\$ 579,755.01	
				Sales tax	\$ 46,264.43	
				Total	\$ 626,019.44	
ParAccel Analytic Database	PADB-V250	3	\$ 400,000.00	1	\$ 400,000.00	
ParAccel Analytic Database 1yr 24/7 Support	PADB-V250-S	3	\$ 96,000.00	3		\$ 288,000.00
				Total	\$ 400,000.00	
		3	System Discount(40%)		(\$ 275,200.00)	
VMware vSphere 4 Standard Edition	VS4-STD-C	1	\$ 795.00	80	\$ 63,600.00	
VMware vSphere 3yr 24/7 support	VS4-STD-3P-SSS-C	1	\$ 823.65	80	\$ 65,892.00	
				Total	\$ 129,492.00	
				Grand Total	\$ 1,168,311.44	
Vendor	Source key					
VMware	1					
CDW	2					
ParAccel	3					

Audited by: Francois Raab, InfoSizing, Inc. (www.sizing.com)

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 at pricing@tpc.org. Thank you.



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Measurement Results	
Database Scale Factor	1000GB
Total Data Storage / Database Size	89.4
Memory/Database Size (%)	288.0
Start of database load time	21:40:34
End of database load time	21:56:57
Database Load Time	16 min 23 sec
Query Streams for Throughput Test	7
TPC-H Power	1,260,595.1
TPC-H Throughput	1,375,682.4
TPC-H Composite Query-per-Hour Rating (QphH@1000GB)	1,316,882.1
Total System Price Over 3 Years	\$1,168,311.44
TPC-H Price/Performance Metric (\$/QphH@1000GB)	\$0.89
Measurement Intervals	
Measurement Interval in Throughput Test	403 sec

Duration of Stream Execution						
Stream ID	Seed	Start Date	Start Time	End Date	End Time	Duration
Stream 0	322215657	3/22/2010	21:59:36	3/22/2010	22:01:02	0:01:26
Stream 1	322215658	3/22/2010	22:01:02	3/22/2010	22:06:19	0:05:17
Stream 2	322215659	3/22/2010	22:01:02	3/22/2010	22:06:32	0:05:30
Stream 3	322215660	3/22/2010	22:01:02	3/22/2010	22:05:48	0:04:46
Stream 4	322215661	3/22/2010	22:01:02	3/22/2010	22:06:28	0:05:26
Stream 5	322215662	3/22/2010	22:01:02	3/22/2010	22:06:25	0:05:23
Stream 6	322215663	3/22/2010	22:01:02	3/22/2010	22:06:16	0:05:14
Stream 7	322215664	3/22/2010	22:01:02	3/22/2010	22:06:28	0:05:26
Refresh		3/22/2010	22:06:32	3/22/2010	22:07:45	0:01:13

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Stream0	0.8	2.7	3.4	1.4	4.5	0.5	4.1	2.8	10.8	3.8	5.1	1.1
Stream1	3.3	17.1	13.3	3.5	12.2	3.5	21.5	13.9	56.2	6.3	17.9	4.3
Stream2	3.8	20.1	11.8	7.0	9.2	1.5	17.3	21.9	48.4	14.3	13.9	4.7
Stream3	1.8	11.2	9.3	7.1	12.8	1.5	10.0	16.3	44.8	5.2	11.7	6.3
Stream4	4.8	17.4	6.1	5.0	16.6	1.6	20.9	12.8	58.9	9.8	14.9	6.4
Stream5	3.7	10.6	7.1	7.2	17.1	3.5	16.0	20.4	34.6	7.4	10.0	11.6
Stream6	3.2	20.7	8.7	5.4	13.2	1.9	12.6	15.8	61.1	13.9	11.8	4.6
Stream7	2.7	15.8	14.0	9.2	16.7	2.9	12.9	10.3	56.1	9.6	9.8	1.7
Avg	3.3	16.1	10.0	6.3	14.0	2.4	15.9	15.9	51.4	9.5	12.9	5.6
Min	1.8	10.6	6.1	3.5	9.2	1.5	10.0	10.3	34.6	5.2	9.8	1.7
Max	4.8	20.7	14.0	9.2	17.1	3.5	21.5	21.9	61.1	14.3	17.9	11.6

	Q13	Q14	Q15	Q16	Q17	Q18	Q19	Q20	Q21	Q22	RF1	RF2
Stream0	5.3	0.9	2.7	1.5	2.8	4.3	2.2	5.5	6.5	2.7	6.1	4.7
Stream1	15.9	11.4	12.0	5.2	14.7	26.4	8.6	12.7	29.9	7.3	5.5	5.0
Stream2	18.0	6.8	45.5	5.1	14.8	27.2	7.7	15.2	9.0	7.2	5.2	5.1
Stream3	15.4	3.6	19.6	9.6	19.2	9.7	7.6	16.5	34.8	11.9	5.5	4.9
Stream4	24.3	9.6	18.8	7.3	15.0	30.5	7.9	9.0	23.1	5.8	5.4	5.2
Stream5	19.8	3.6	46.5	6.7	11.9	22.1	10.2	16.1	31.0	6.2	5.6	5.1
Stream6	14.0	3.5	20.4	5.6	15.0	15.0	9.2	16.6	27.5	14.3	5.7	5.3
Stream7	31.6	3.8	15.9	6.7	13.3	25.0	6.9	23.4	30.5	7.2	5.0	4.1
Avg	19.8	6.0	25.6	6.6	14.8	22.3	8.3	15.6	26.5	8.6	5.4	5.0
Min	14.0	3.5	12.0	5.1	11.9	9.7	6.9	9.0	9.0	5.8	5.0	4.1
Max	31.6	11.4	46.5	9.6	19.2	30.5	10.2	23.4	34.8	14.3	5.7	5.3