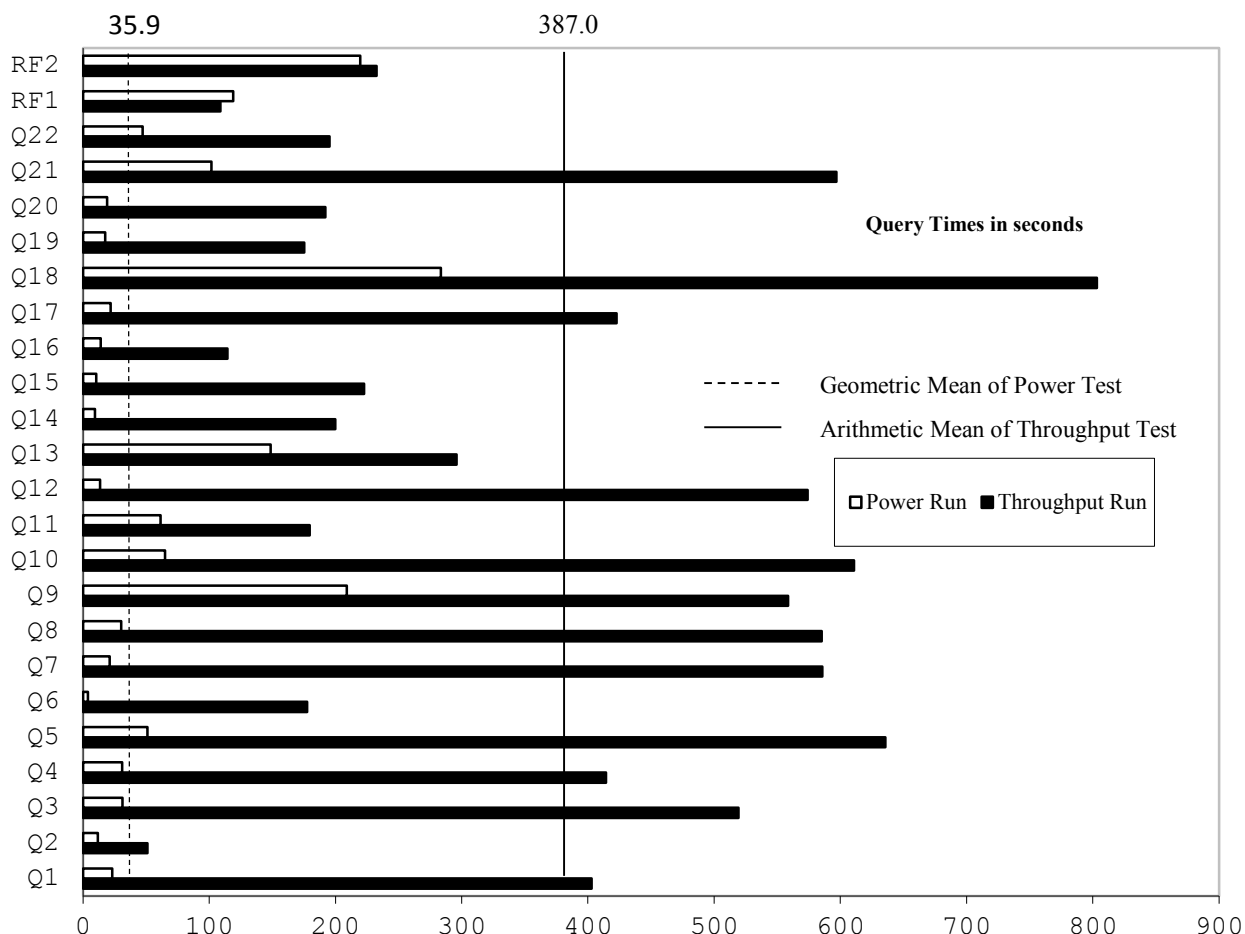


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Hewlett Packard Enterprise		HPE Integrity Superdome X		TPC-H Rev. 2.17.1 TPC Pricing Rev. 1.7.0 Report Date: February 3, 2016		
Description	Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price
Server Hardware						
HPE Superdome X Base Encl (includes Rack & 12 P/S)	1	AT1471	\$39,650	1	\$39,650	
HPE 48A 208V 3PH 12 OTL NA/JP Ipdu Core	1	AF535A	\$2,099	2	\$4,198	
HPE BL920s Gen9 2.5GHz 36c Svr Blade	1	A0R98A	\$46,900	4	\$187,600	
HPE Superdome X Basic Par LTU	1	AT150A	\$950	1	\$950	
HPE 10GbE Ethernet Pass-Thru Module c-Class Blade Sys	1	538113-B21	\$4,999	1	\$4,999	
HPE 6125G Ethernet Blade Switch	1	658147-B21	\$1,999	1	\$1,999	
HPE Superdome X 128GB (4x32) PC3-14900R (DDR3-1866)	1	B9F09A	\$4,450	32	\$142,400	
HPE Ethernet 10Gb 2-port 560 FLB Adapter (Impact)	1	655639-B21	\$649	1	\$649	
HPE QMH2672 16Gb FC HBA	1	710608-B21	\$1,099	8	\$8,792	
HPE Brocade 16Gb/16c PP+Embedded SAN Switch	1	C8S45A	\$9,899	4	\$39,596	
HPE 16Gib GBIC	1	QK724A	\$405	22	\$8,910	
HPE X130 100G SFP+ LC SR 850mm Transceiver	1	JD092B	\$1,367	1	\$1,367	
HPE 3y 4h 24x7 Superdome X HW Support	1	H7J34A3	\$1,274	1		\$1,274
HPE iLO Adv incl 3yr TS U 1-Svr Lic	1	BD505A	\$349	4	\$1,396	
HPE 17" FlatPanel Monitor	1	GV537A8	\$130	1	\$130	
HPE PS/2 Keyboard And Mouse Bundle	1	RC464AA	\$39	1	\$39	
			Subtotal		\$442,675	\$1,274
Storage						
HPE 42U 600x1075mm Enterprise Shock Rack	1	BW904A	\$2,199	2	\$4,398	
HPE 24A High Voltage Core Only Corded PDU	1	252663-D72	\$299	4	\$1,196	
HPE MSA2040 SAN Dual Controller SFF Storage	1	K2R80A	\$11,070	5	\$55,350	
HPE MSA2040 SAN Dual Controller SFF Stora (10% Spares)	1	K2R80A	\$11,070	2	\$22,140	
HPE MSA 2040 16Gb SW FC SFP 4 Pk	1	C8R24A	\$1,600	6	\$9,600	
HPE 400GB 12G SAS ME 2.5in SC EM SSD	1	J9F37A	\$3,099	145	\$449,355	
HPE 400GB 12G SAS ME 2.5in SC EM SSD (10% Spares)	1	J9F37A	\$3,099	15	\$46,485	
HPE 300GB 6G SAS 15K 2.5-inch DP Ent 3-yr warr	1	652611-B21	\$545	102	\$55,590	
HPE 300GB 6G SAS 15K 2.5-inch DP Ent (10% Spares)	1	652611-B21	\$545	11	\$5,995	
HPE StorageWorks D2700 Disk Enclosure	1	AJ941A	\$3,399	9	\$30,591	
HPE StorageWorks D2700 Disk Enclosure (10% Spares)	1	AJ941A	\$3,399	2	\$6,798	
HPE 2m Multi-mode OM3 LD/LC FC Cable	1	AJ835A	\$75	22	\$1,650	
			Subtotal		\$689,148	\$0
Server Software						
SQL Server 2014 Enterprise Edition (2 core license, 36 cores)	2	7JQ-00750	\$13,472.50	72	\$970,020	
Windows Server 2012 R2 Standard Edition (2p license)	2	P73-06284	\$735	4	\$2,940	
Windows Server 2012 R2 Client Access License	2	R18-04280	\$24.36	90	\$2,193	
Microsoft Problem Resolution Services	2	N/A	\$259	1		\$259
			Subtotal		\$975,153	\$259
			Total Extended Price		\$2,106,976	\$1,533
			Total Discounts		\$339,546	\$382
Price Key: 1 - HPE , 2 - Microsoft Audited by Francois Raab of InfoSizing, Inc. (www.sizing.com)		Grand Total			\$1,767,430	\$1,151
All discounts are based on US list prices and for similar quantities and configurations. A 28% discount was based on the overall specific components pricing from vendor 1 in this single quotation. Discounts for similarly sized configurations will be similar to those quoted here, but may vary based on the components in the configuration.		3 year cost of ownership USD:			\$1,768,581	
		QphH @ 10000GB:			780,346.9	
		\$ USD/QphH @ 10000GB			\$2.27	
Sales contact: HPE WW Headquarters, 3000 Hanover St., Palo Alto, CA 94304-1185 (650) 857-1501 or H-P direct: 800-203-6748 Microsoft Corporation, One Microsoft Way, Redmond, WA 98052-6399 (425) 882 8080						
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.						



Numerical Quantities

Measurement Results

Database Scale Factor	10,000
Total Data Storage / Database Size	8.25
Percentage Memory / Database Size	40.96
Start of Database Load	2016-01-19 16:40:04
End of Database Load	2016-01-21 20:42:13
Database Load Time	01d 15h 51m 11s
Query Streams for Throughput Test	9
TPC-H Power	1,003,881.7
TPC-H Throughput	606,586.7
TPC-H Composite Query-per-Hour (QphH@10000GB)	780,346.9
Total System Price over 3 Years (\$ USD)	\$1,768,581
TPC-H Price/Performance Metric (\$ USD / QphH@10000GB)	\$2.27

Measurement Interval

Measurement Interval in Throughput Test	11,751 seconds
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Duration of Stream Execution

Power Run	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
	121204213	2016-01-22 05:28:38	1,228	2016-01-22 05:26:39	2016-01-22 05:49:06
		2016-01-22 05:49:06		2016-01-22 05:28:38	2016-01-22 05:52:45
Throughput Stream	Seed	Query Start Time	Duration (sec)	RF1 Start Time	RF2 Start Time
		Query End Time		RF1 End Time	RF2 End Time
1	121204214	2016-01-22 05:52:45	8,656	2016-01-22 08:17:18	2016-01-22 08:19:13
		2016-01-22 08:17:01		2016-01-22 08:19:12	2016-01-22 08:22:56
2	121204215	2016-01-22 05:52:45	8,516	2016-01-22 08:22:57	2016-01-22 08:24:55
		2016-01-22 08:14:41		2016-01-22 08:24:55	2016-01-22 08:28:42
3	121204216	2016-01-22 05:52:45	8,673	2016-01-22 08:28:43	2016-01-22 08:30:36
		2016-01-22 08:17:18		2016-01-22 08:30:36	2016-01-22 08:34:29
4	121204217	2016-01-22 05:52:45	8,207	2016-01-22 08:34:30	2016-01-22 08:36:17
		2016-01-22 08:09:32		2016-01-22 08:36:17	2016-01-22 08:39:56
5	121204218	2016-01-22 05:52:45	8,424	2016-01-22 08:39:56	2016-01-22 08:41:44
		2016-01-22 08:13:09		2016-01-22 08:41:44	2016-01-22 08:45:24
6	121204219	2016-01-22 05:52:45	8,657	2016-01-22 08:45:25	2016-01-22 08:47:08
		2016-01-22 08:17:02		2016-01-22 08:47:07	2016-01-22 08:50:57
7	121204220	2016-01-22 05:52:45	8,522	2016-01-22 08:50:57	2016-01-22 08:52:46
		2016-01-22 08:14:47		2016-01-22 08:52:46	2016-01-22 08:56:56
8	121204221	2016-01-22 05:52:45	8,529	2016-01-22 08:56:56	2016-01-22 08:58:42
		2016-01-22 08:14:54		2016-01-22 08:58:42	2016-01-22 09:02:29
9	121204222	2016-01-22 05:52:45	8,445	2016-01-22 09:02:29	2016-01-22 09:04:12
		2016-01-22 08:13:30		2016-01-22 09:04:12	2016-01-22 09:08:36



TPC-H Timing Intervals (in seconds):

Quer	Strm 0	Strm 1	Strm 2	Strm 3	Strm 4	Strm 5	Strm 6	Strm 7	Strm 8	Strm 9	Min Qi	Max Qi	Avg. Qi
Q1	23.2	255.6	103.7	664.1	549.3	214.9	97.0	223.0	584.9	934.7	23.2	934.7	365.0
Q2	11.8	84.9	29.7	38.1	48.9	46.4	59.9	37.3	67.3	47.5	11.8	84.9	47.2
Q3	31.3	467.8	527.4	772.3	387.0	322.0	1038.2	321.4	521.2	317.3	31.3	1038.2	470.6
Q4	30.9	607.9	492.9	259.6	357.4	255.7	521.4	415.6	347.7	470.9	30.9	607.9	376.0
Q5	51.1	574.3	638.5	975.2	111.3	847.9	565.9	1217.9	263.7	527.2	51.1	1217.9	577.3
Q6	3.9	196.9	33.2	113.8	199.9	96.7	236.4	259.4	219.8	241.9	3.9	259.4	160.2
Q7	21.1	755.2	491.2	518.7	472.6	747.4	798.9	304.0	441.1	742.7	21.1	798.9	529.3
Q8	30.3	532.8	586.0	136.3	461.0	876.3	717.7	646.4	809.4	500.3	30.3	876.3	529.7
Q9	209.1	574.5	780.8	500.0	926.5	550.3	445.3	449.1	367.8	434.9	209.1	926.5	523.8
Q10	65.1	1187.5	376.6	904.7	514.1	362.5	153.9	515.9	888.3	593.4	65.1	1187.5	556.2
Q11	61.5	105.1	142.8	329.1	137.5	220.7	133.5	205.6	256.6	85.2	61.5	329.1	167.8
Q12	13.6	262.6	464.9	327.9	706.0	483.0	889.2	712.0	931.0	390.0	13.6	931.0	518.0
Q13	148.6	200.1	174.8	269.2	292.6	379.3	242.1	268.7	375.8	461.2	148.6	461.2	281.2
Q14	9.4	231.6	231.5	63.3	213.6	266.7	242.7	135.4	240.8	173.3	9.4	266.7	180.8
Q15	10.5	201.6	271.3	317.8	130.0	371.2	112.2	127.2	366.1	106.1	10.5	371.2	201.4
Q16	14.0	48.5	88.7	154.7	68.3	187.8	137.1	57.5	101.8	186.6	14.0	187.8	104.5
Q17	21.9	339.5	630.1	714.9	40.3	457.3	507.7	915.4	152.7	45.6	21.9	915.4	382.5
Q18	283.5	593.9	1375.3	580.7	1251.6	549.2	906.0	542.9	646.6	783.0	283.5	1375.3	751.3
Q19	17.5	257.1	65.0	173.6	104.0	173.8	234.4	237.5	20.8	310.2	17.5	310.2	159.4
Q20	19.0	313.2	199.6	165.0	288.7	147.8	112.0	118.0	183.0	200.6	19.0	313.2	174.7
Q21	101.7	805.7	617.0	505.6	696.1	574.7	252.5	690.2	518.6	711.9	101.7	805.7	547.4
Q22	47.3	59.3	194.6	188.2	249.5	291.3	252.6	120.7	223.0	179.6	47.3	291.3	180.6
RF1	118.9	113.8	118.3	113.0	107.5	107.6	102.8	108.3	105.7	102.2	102.2	118.9	109.8
RF2	219.6	223.7	227.4	233.5	218.3	220.5	229.5	250.2	226.9	263.7	218.3	263.7	231.3