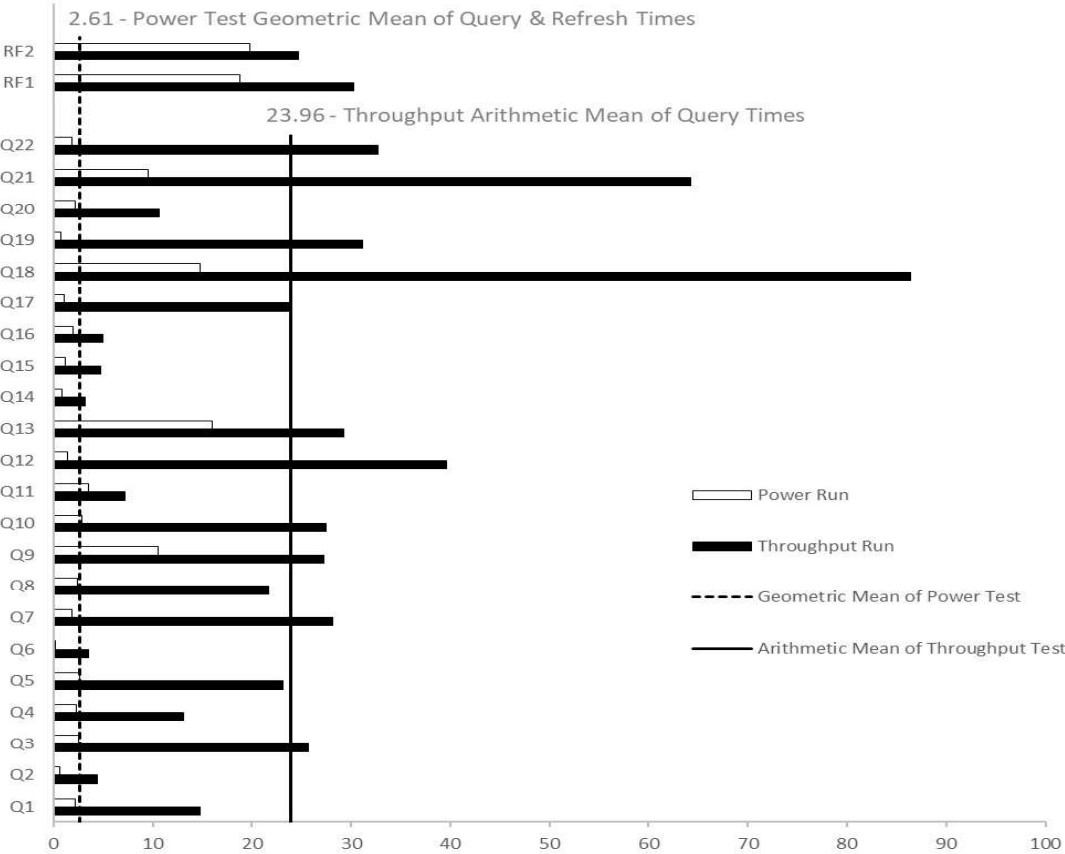


 Hewlett Packard Enterprise		HPE ProLiant DL380 Gen12		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0	
				Report Date: April 25, 2025	
Total System Cost		Composite Query per Hour Rating		Price/Performance	
\$311,596 USD		1,184,211.5 QphH @ 1,000GB		\$263.13 USD \$/ kQphH @ 1,000GB	
Database Size	Database Manager	Operating System	Other Software		Availability Date
1,000GB	Microsoft® SQL Server 2022 Enterprise Edition	Microsoft Windows Server 2025	None		April 25, 2025



Database Load Time = 0d 08h 07m 03s	Storage Redundancy Level	
Load included backup: Y	Base Tables and Auxiliary Data Structures	No RAID
Total Data Storage / Database Size = 12.81	DBMS Temporary Space	No RAID
Memory/Database Size = 51.2%	OS and DBMS Software	RAID 1
System Components System Total Nodes: 1 Intel® Xeon 6724P @ 3.6 GHz: 2 Cores/Threads: 32/64 Memory: 512 GiB 1.6TB NVMe Drives 8 RAID1 Boot Controller with 480GB M.2 NVMe 2 Total Storage: 12,815.00 GiB		

 Hewlett Packard Enterprise	HPE ProLiant DL380 Gen12		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0				
			Report Date: April 25, 2025				
Description		Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price
Server Hardware							
HPE ProLiant Compute DL380 Gen12 8SFF NC CTO Server		1	P73282-B21	\$5,827	1	\$5,827	
Intel Xeon 6724P 16-core processor for HPE		1	P74509-B21	\$9,960	2	\$19,920	
HPE ProLiant DL380 Gen11 Standard Heat Sink Kit		1	P49145-B21	\$160	2	\$319	
HPE ProLiant DL380 Gen11 2U High Perf Fan Kit		1	P48820-B21	\$1,166	1	\$1,166	
HPE 32GB 2Rx8 PC5-6400B-R Smart Kit		1	P69727-B21	\$3,238	16	\$51,802	
HPE 800W FS Plat Ht Plg LH PS Kit		1	P38995-B21	\$629	2	\$1,258	
BCM 57414 10/25GbE 2p SFP28 Adptr		1	P26262-B21	\$1,421	1	\$1,421	
HPE 22U 600x1075mm Adv G2 Shck Rack		1	P9K04A	\$5,640	1	\$5,640	
HPE 3Y Tech Care Essential SVC		1	HU4A6A3	\$8,064	1	\$8,064	\$8,064
Subtotal						\$95,416	\$8,064
Storage							
HPE 1.6TB NVMe MU SFF BC U.3 PM1735a SSD		1	P50227-B21	\$4,830	8	\$38,640	
HPE NS204i-u Ht Plg Boot Opt Dev		1	P78279-B21	\$2,393	1	\$2,393	
HPE MR416i-p Gen11 SPDMM Storage Cntrlr		1	P47777-B21	\$4,746	1	\$4,746	
HPE DL380 Gen12 8SFF x4 Direct Attach Box 2 Cable Kit		1	P76462-B21	\$238	1	\$238	
HPE DL380 Gen12 2SFF x4 PCIe Box 6 Cable Kit		1	P76475-B21	\$116	1	\$116	
HPE DL380 Gen12 NS204i-u Rear Boot Device Enable Kit		1	P74755-B21	\$98	1	\$98	
HPE DL3XX G12 8SFF x4 U.3 Tri-Mode Drive Cage Kit		1	P75741-B21	\$426	1	\$426	
HPE Gen12 EI Rail Kit		1	P52351-B21	\$169	1	\$169	
HPE DL380G12 Standard Riser		1	standardDL380G12Riser		1		
Subtotal						\$46,827	\$0
Other							
HP Series 5 FHD Monitor + Wireless Mouse and Keyboard Bundle		3	94C21AA 3ML04AA	\$149	3	\$447	
Subtotal						\$447	\$0
Software Components							
SQL Server 2022 Enterprise Edition (2 core license)		2	N/A	\$15,123.00	16	\$241,968	
Microsoft Problem Resolution Services		2	N/A	\$259.00	1		\$259.00
MS WS25 16C DC Add Lic WW SW(16 Core license)		1	P77107-B21	\$5,712.00	2	\$11,424	
Subtotal						\$253,392	\$259
Total Extended Price						\$396,083	\$8,323
Total Discounts						\$87,972.00	\$4,838.00
Price Key: 1 - HPE , 2 – Microsoft, 3 – Hewlett Packard Inc.			Grand Total				
Audited by Doug Johnson of InfoSizing (www.sizing.com)			\$308,110.62 \$3,485.00				
All discounts are based on US list prices and for similar quantities and configurations. A 60% discount was based on the overall specific components pricing from vendor 1 except 23% only for Software Component 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: \$311,596.00				
			QphH @ 1,000GB : 1,184,211.5				
			\$ USD/QphH @ 1,000GB \$263.13				
Sales contact: HPE WW Headquarters, 3000 Hanover St., Palo Alto, CA 94304-1185 (855)472-5233 / (800)786-7967 / (888)269-4073 (US)							
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	1,000
Total Data Storage / Database Size	12.81
Percentage Memory / Database Size	51.2%
Start of Database Load	2025-04-11 01:42:34
End of Database Load	2025-04-11 10:07:53
Database Load Time	00d 08h 07m 03s
Query Streams for Throughput Test	7
TPC-H Power	1,377,517.1
TPC-H Throughput	1,018,032.2
TPC-H Composite Query-per-Hour (QphH@1,000GB)	1,184,211.5
Total System Price over 3 Years (\$ USD)	\$311,596
TPC-H Price/Performance Metric (\$ USD / kQphH@1,000GB)	\$263.13

Measurement Interval

Measurement Interval in Throughput Test	544.58 seconds
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Duration of Stream Execution

Power Run	Seed	Query Start Time	Total Time	RF1 Start Time	RF2 Start Time
		Query End Time	(hh:mm:ss)	RF1 End Time	RF2 End Time
		2025-04-11 10:09:47	00:01:25	2025-04-11 10:09:28	2025-04-11 10:11:12
	411100753	2025-04-11 10:11:12		2025-04-11 10:09:47	2025-04-11 10:11:32
Throughput Stream	Seed	Query Start Time	Total Time	RF1 Start Time	RF2 Start Time
		Query End Time	(hh:mm:ss)	RF1 End Time	RF2 End Time
		2025-04-11 10:11:31	00:08:42	2025-04-11 10:11:31	2025-04-11 10:12:02
1	411100754	2025-04-11 10:20:13		2025-04-11 10:12:02	2025-04-11 10:12:23
2	411100755	2025-04-11 10:11:31	00:08:08	2025-04-11 10:12:23	2025-04-11 10:12:53
		2025-04-11 10:19:39		2025-04-11 10:12:53	2025-04-11 10:13:13
3	411100756	2025-04-11 10:11:31	00:09:05	2025-04-11 10:13:13	2025-04-11 10:13:44
		2025-04-11 10:20:36		2025-04-11 10:13:44	2025-04-11 10:14:12
4	411100757	2025-04-11 10:11:31	00:08:52	2025-04-11 10:14:12	2025-04-11 10:14:43
		2025-04-11 10:20:23		2025-04-11 10:14:43	2025-04-11 10:15:06
5	411100758	2025-04-11 10:11:31	00:09:05	2025-04-11 10:15:06	2025-04-11 10:15:36
		2025-04-11 10:20:36		2025-04-11 10:15:36	2025-04-11 10:16:05
6	411100759	2025-04-11 10:11:31	00:08:47	2025-04-11 10:16:05	2025-04-11 10:16:33
		2025-04-11 10:20:18		2025-04-11 10:16:33	2025-04-11 10:17:04
7	411100760	2025-04-11 10:11:31	00:08:56	2025-04-11 10:17:05	2025-04-11 10:17:35
		2025-04-11 10:20:27		2025-04-11 10:17:35	2025-04-11 10:17:57



TPC-H Timing Intervals (in seconds):

Stream ID	0	1	2	3	4	5	6	7	Min Qi	Avg. Qi	Max. Qi
Q1	2.20	18.95	14.50	24.73	7.86	3.78	19.73	13.64	2.20	13.17	24.73
Q2	0.66	6.48	4.12	5.55	4.02	2.78	4.05	4.23	0.66	3.99	6.48
Q3	2.56	20.49	22.87	8.89	20.39	43.12	18.77	45.29	2.56	22.80	45.29
Q4	2.30	6.01	22.08	10.98	9.62	5.55	12.94	24.62	2.30	11.76	24.62
Q5	2.62	28.17	9.23	6.98	26.11	31.90	24.31	35.18	2.62	20.56	35.18
Q6	0.14	2.66	0.77	5.17	2.78	6.42	0.66	6.51	0.14	3.14	6.51
Q7	1.84	11.87	37.43	30.31	30.06	44.91	10.11	32.07	1.84	24.83	44.91
Q8	2.44	43.13	22.37	27.66	10.04	11.72	19.20	17.50	2.44	19.26	43.13
Q9	10.59	16.48	26.37	42.11	30.76	11.36	39.40	24.53	10.59	25.20	42.11
Q10	2.91	29.88	14.15	44.43	40.96	4.59	37.47	21.01	2.91	24.43	44.43
Q11	3.55	7.44	5.01	9.00	6.25	7.97	6.56	7.87	3.55	6.71	9.00
Q12	1.39	54.96	21.62	16.81	47.11	54.88	58.74	23.49	1.39	34.88	58.74
Q13	15.98	30.81	27.82	21.39	24.99	49.82	23.60	26.01	15.98	27.55	49.82
Q14	0.81	2.83	2.31	2.02	2.03	7.20	3.25	2.42	0.81	2.86	7.20
Q15	1.19	4.09	5.09	8.06	7.47	2.52	3.19	2.75	1.19	4.30	8.06
Q16	1.98	5.00	4.22	5.61	5.17	4.47	4.14	6.17	1.98	4.60	6.17
Q17	1.05	17.86	30.60	41.15	34.44	3.89	29.90	9.90	1.05	21.10	41.15
Q18	14.78	71.42	84.42	71.42	100.62	85.51	103.54	87.91	14.78	77.45	103.54
Q19	0.70	30.46	45.25	24.10	28.96	29.37	23.29	36.52	0.70	27.33	45.25
Q20	2.20	14.36	8.89	12.79	5.26	11.36	7.50	14.15	2.20	9.56	14.36
Q21	9.50	75.72	36.84	92.46	57.53	79.80	41.19	66.19	9.50	57.40	92.46
Q22	1.87	22.18	41.26	32.80	29.18	41.58	35.02	27.10	1.87	28.87	41.58
RF1	18.75	30.71	30.08	30.91	30.88	30.24	28.68	30.09	18.75	28.79	30.91
RF2	19.82	20.19	20.25	28.04	22.28	28.63	30.93	22.52	19.82	24.08	30.93