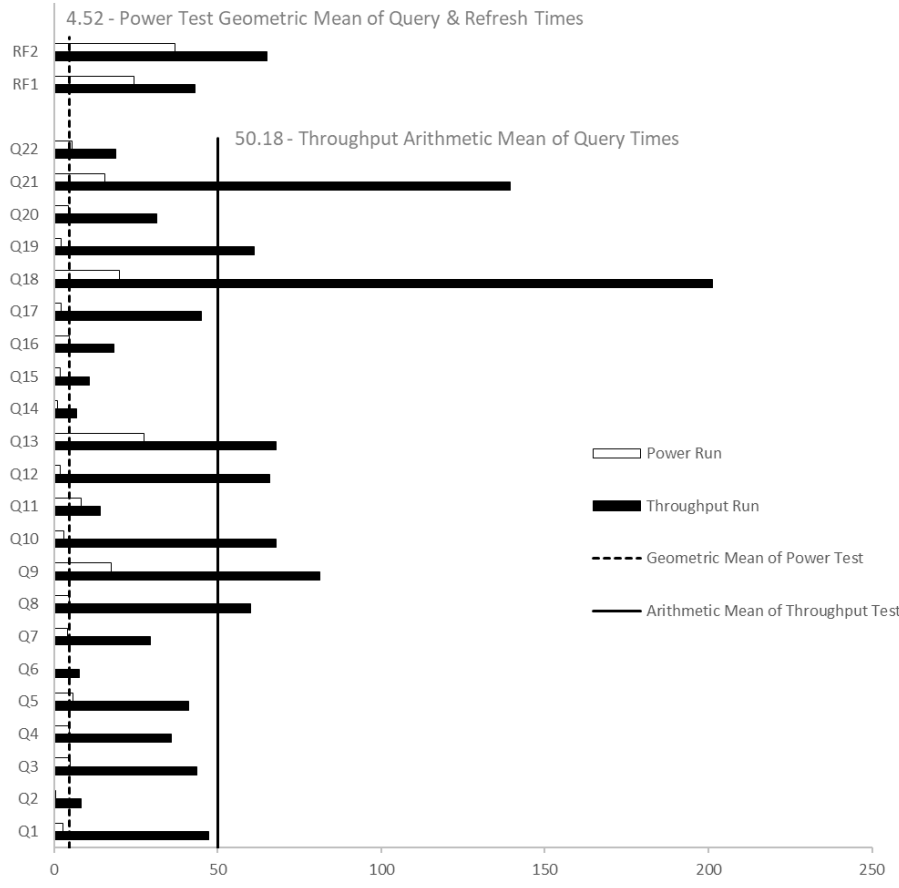


 Hewlett Packard Enterprise		HPE ProLiant DL345 Gen11 (with AMD EPYC 9475F Processor)		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0
Total System Cost		Composite Query per Hour Rating		Report Date: April 25,2025
\$500,029 USD		1,986,679.0 QphH @ 3,000GB		\$251.70 USD \$/ kQphH @ 3,000GB
Database Size	Database Manager	Operating System	Other Software	Availability Date
3,000GB	Microsoft® SQL Server 2022 Enterprise Edition	Microsoft Windows Server 2022	None	April 25,2025



Database Load Time = 0d 1h 14m 46s	Storage Redundancy Level	
Load included backup: Y	Base Tables and Auxiliary Data Structures	No RAID
Total Data Storage / Database Size = 12.22	DBMS Temporary Space and DBMS Software	SW RAID
Memory/Database Size = 51.2%	OS, transaction logs	Hardware RAID 1

System Components	System Total
Nodes:	1
AMD® EPYC 9475F @ 3.65GHz:	1
Cores/Threads:	48/96
Memory:	1536 GiB
3.84TB NVMe Drives	10
RAID1 Boot Controller with 480GB M.2 NVMe	2
Total Storage: 36,656.86 GiB	

 Hewlett Packard Enterprise	HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0				
			Report Date: April 25,2025				
Description	PriceKey	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price	
Server Hardware							
HPE DL345 Gen11 8SFF CTO Server	1	P54207-B21	\$5,040	1	\$5,040		
AMD EPYC 9475F CPU for HPE	1	P72666-B21	\$18,221	1	\$18,221		
HPE DL3X5 Gen11 Max Perf 2U Heat Sink Kit	1	P58459-B21	\$307	1	\$307		
HPE DL3X5 2Y Perf FAN KIT	1	P58465-B21	\$192	1	\$192		
HPE 128GB 4Rx4 PC5-6400B-R 3DS Smart Kit	1	P69730-B21	\$14,011	12	\$168,134		
HPE 1600W FS Plat Ht Plug LH PS Kit	1	P38997-B21	\$901	2	\$1,802		
HPE USB US Keyboard/Mouse Kit	1	631341-B21	\$38	3	\$115		
MLX MCX6314 10/25GbE 2p QSFP56 Adptr	1	P25960-B21	\$5,248	1	\$5,248		
Add to Rack 48U 600mmx1075mm G2 Advanced Pallet	1	P9K19A	\$3,023	1	\$3,023		
HPE 3 Year Total Care Essential for DL345 Gen11	1	H78X5E	\$3,962	1		\$3,962	
Subtotal					\$202,083	\$3,962	
Storage							
HPE 3.84TB NVMe R1E3S EC1 PM1743 SSD	1	P57799-B21	\$8,460	10	\$84,600		
NS204i-u Gen11 OS Boot, RAID 1	1	P48183-B21	\$2,393	1	\$2,393		
HPE DL3X5 Gen11 Ht Pg Boot Opt Dev	1	P57013-B21	\$100	1	\$100		
HPE DL345 Gen11 20EDSFF x4 FIO Kit	1	P64383-B21	\$1,430	1	\$1,430		
HPE DL345 Gen11 2SFF x4 TM BC Kit	1	P57110-B21	\$907	1	\$907		
HPE Gen 11 EI Rail Kit	1	P52351-B21	\$169	1	\$169		
HPE DL345G11 Standard Riser	1	standardDL345G11Riser		1			
Subtotal					\$89,599	\$0	
Other							
HP V22v G5 FHD Monitor	3	94C17AA	\$190	3	\$570		
Subtotal					\$570	\$0	
Software Components							
SQL Server 2022 Enterprise Edition (2 core license)	2	N/A	\$15,123	24	\$362,952		
Microsoft Problem Resolution Services	2	N/A	\$259	1		\$259	
Windows Server 2022 Standard Edition (16 core license)	2	N/A	1,069	3	3,207		
Subtotal					\$366,159	\$259	
Total Extended Price					\$658,411	\$4,221	
Total Discounts					\$160,424	\$2,179.00	
Price Key: 1 - HPE , 2 – Microsoft, 3 – Hewlett Packard Inc.		Grand Total					
Audited by Doug Johnson of InfoSizing (www.sizing.com)						\$497,986.80	\$2,042.00
All discounts are based on US list prices and for similar quantities and configurations. A 55% 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:				\$500,029.00	
		QphH @ 3,000GB :				1,986,679.0	
		\$ USD/QphH @ 3,000GB				\$251.70	
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.							

 Hewlett Packard Enterprise	HPE ProLiant DL345 Gen11	TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0
		Report Date: April 25,2025

Numerical Quantities

Measurement Results

Database Scale Factor	3,000
Total Data Storage / Database Size	12.22
Percentage Memory / Database Size	51.2%
Start of Database Load	2025-03-28 06:51:43
End of Database Load	2025-03-28 08:12:20
Database Load Time	00d 01h 14m 46s
Query Streams for Throughput Test	8
TPC-H Power	2,389,440.2
TPC-H Throughput	1,651,806.7
TPC-H Composite Query-per-Hour (QphH@3,000GB)	1,986,679.0
Total System Price over 3 Years (\$ USD)	\$500,029
TPC-H Price/Performance Metric (\$ USD / kQphH@3,000GB)	\$251.70

Measurement Interval

Measurement Interval in Throughput Test	1,150.74 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
	328081220	2025-03-28 08:37:59	00:02:24	2025-03-28 08:37:33	2025-03-28 08:40:25
		2025-03-28 08:40:23		2025-03-28 08:37:57	2025-03-28 08:41:02
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
1	328081221	2025-03-28 08:41:01	00:18:32	2025-03-28 08:41:01	2025-03-28 08:41:46
		2025-03-28 08:59:33		2025-03-28 08:41:46	2025-03-28 08:42:47
2	328081222	2025-03-28 08:41:01	00:17:20	2025-03-28 08:42:47	2025-03-28 08:43:31
		2025-03-28 08:58:21		2025-03-28 08:43:31	2025-03-28 08:44:39
3	328081223	2025-03-28 08:41:01	00:18:15	2025-03-28 08:44:39	2025-03-28 08:45:24
		2025-03-28 08:59:16		2025-03-28 08:45:24	2025-03-28 08:46:29
4	328081224	2025-03-28 08:41:01	00:19:03	2025-03-28 08:46:29	2025-03-28 08:47:13
		2025-03-28 09:00:04		2025-03-28 08:47:13	2025-03-28 08:48:14
5	328081225	2025-03-28 08:41:01	00:19:05	2025-03-28 08:48:14	2025-03-28 08:48:59
		2025-03-28 09:00:06		2025-03-28 08:48:59	2025-03-28 08:50:09
6	328081226	2025-03-28 08:41:02	00:18:24	2025-03-28 08:50:10	2025-03-28 08:50:51
		2025-03-28 08:59:26		2025-03-28 08:50:51	2025-03-28 08:51:52
7	328081227	2025-03-28 08:41:02	00:17:31	2025-03-28 08:51:52	2025-03-28 08:52:33
		2025-03-28 08:58:33		2025-03-28 08:52:33	2025-03-28 08:53:43
8	328081228	2025-03-28 08:41:02	00:19:11	2025-03-28 08:53:44	2025-03-28 08:54:26
		2025-03-28 09:00:13		2025-03-28 08:54:26	2025-03-28 08:55:31



**Hewlett Packard
Enterprise**

HPE ProLiant DL345 Gen11

TPC-H Rev. 3.0.1
TPC Pricing Rev. 2.9.0

Report Date:
April 25, 2025

TPC-H Timing Intervals (in seconds):

Stream ID	0	1	2	3	4	5	6	7	8	QI Min	QI Avg	QI Max
Q1	2.77	84.86	53.30	49.89	34.08	64.46	61.52	23.80	6.47	2.77	42.35	84.86
Q2	0.58	7.16	18.45	3.88	7.92	7.39	8.16	11.89	1.67	0.58	7.46	18.45
Q3	4.81	22.38	29.42	85.25	11.25	75.96	51.94	39.98	31.88	4.81	39.21	85.25
Q4	4.77	12.75	35.42	34.73	37.30	61.63	14.36	18.99	72.19	4.77	32.46	72.19
Q5	5.64	33.61	17.09	12.84	23.81	47.09	75.28	76.44	43.53	5.64	37.26	76.44
Q6	0.19	9.30	6.44	7.17	6.61	1.80	6.44	9.02	14.64	0.19	6.85	14.64
Q7	4.09	34.11	39.02	38.16	13.00	32.94	15.45	27.20	36.29	4.09	26.70	39.02
Q8	4.75	73.86	49.94	45.95	65.34	63.97	44.31	51.97	85.11	4.75	53.91	85.11
Q9	17.41	48.47	102.99	78.20	89.97	25.69	87.48	101.81	115.92	17.41	74.22	115.92
Q10	3.11	72.24	55.77	72.13	97.11	5.53	61.05	61.11	118.13	3.11	60.69	118.13
Q11	8.37	12.70	12.59	14.05	23.30	8.53	13.67	17.37	11.30	8.37	13.54	23.30
Q12	1.94	27.59	50.17	61.34	106.34	69.49	77.28	67.20	68.22	1.94	58.84	106.34
Q13	27.44	65.72	75.60	49.66	47.91	62.34	86.33	88.86	65.88	27.44	63.30	88.86
Q14	1.11	6.97	3.20	7.39	7.16	5.48	5.02	4.17	15.19	1.11	6.19	15.19
Q15	1.91	6.44	10.81	10.51	17.93	11.41	14.83	8.70	6.22	1.91	9.86	17.93
Q16	4.69	20.00	11.75	12.67	21.61	21.42	26.13	14.47	18.38	4.69	16.79	26.13
Q17	2.03	67.16	53.42	10.41	60.06	60.22	26.30	42.65	39.74	2.03	40.22	67.16
Q18	20.11	208.84	247.22	177.42	233.22	235.24	248.16	112.19	148.83	20.11	181.25	248.16
Q19	2.13	61.44	34.58	50.72	82.22	82.06	43.25	75.88	58.36	2.13	54.52	82.22
Q20	4.36	68.56	32.34	24.00	14.99	31.96	27.77	31.39	21.05	4.36	28.49	68.56
Q21	15.47	151.39	79.38	213.14	127.83	149.55	97.83	148.27	148.78	15.47	125.74	213.14
Q22	5.42	14.95	19.47	33.86	12.36	18.94	11.38	17.45	22.77	5.42	17.40	33.86
RF1	24.47	43.44	44.20	44.86	43.47	44.25	41.86	40.61	42.70	24.47	41.10	44.86
RF2	36.91	61.05	67.67	65.11	61.31	70.66	60.64	70.41	64.15	36.91	61.99	70.66