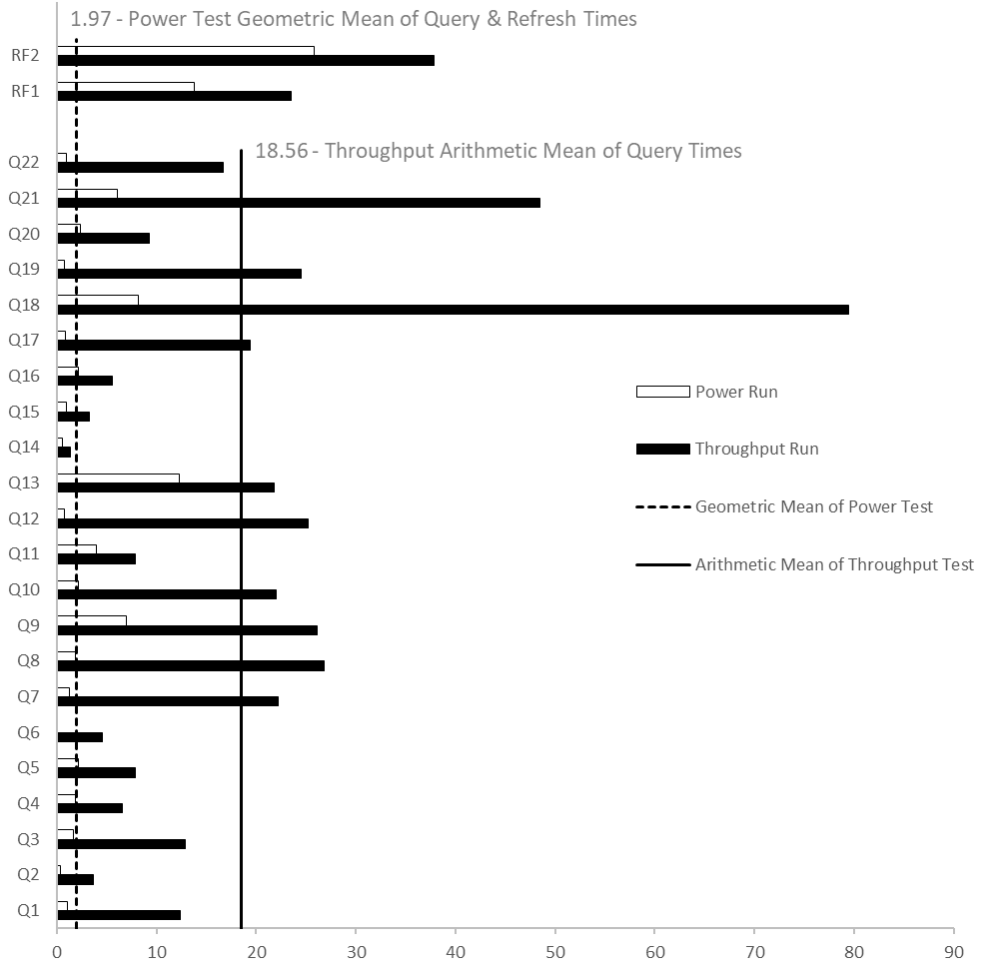


Hewlett Packard Enterprise		HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0
Total System Cost		Composite Query per Hour Rating		Report Date: Sept 15,2025
\$294,511USD		1,531,016.1 QphH @ 1,000GB		\$192.37 USD \$ / kQphH @ 1,000GB
Database Size	Database Manager	Operating System	Other Software	Availability Date
1,000GB	Microsoft® SQL Server 2022 Enterprise Edition	Microsoft Windows Server 2022	None	Sept 15,2025



Database Load Time = 0d 55m 13s	Storage Redundancy Level	
Load included backup: Y	Base Tables and Auxiliary Data Structures	No RAID
Total Data Storage / Database Size = 15.20	DB Root, Transaction log, DB Backup	Software RAID
Memory/Database Size = 76.8 %	OS	Hardware RAID 1

System Components	System Total
Nodes:	1
AMD® EPYC 9375F @ 3.80GHz:	1
Cores/Threads:	32/64
Memory:	768 GiB
1.92TB NVMe Drives	8
RAID1 Boot Controller with 480GB M.2 NVMe	2
Total Storage:	15,199.18 GiB

 Hewlett Packard Enterprise	HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0			
			Report Date: Sept 15,2025			
Description	Price Key	Part Number	Unit Price	Qty	Extended Price	3 Yr Maint Price
Server Hardware						
HPE DL345 Gen11 EDSFF CTO Server	1	P54207-B21	\$4,200	1	\$4,200	
AMD EPYC 9375F CPU for HPE	1	P72667-B21	\$10,612	1	\$10,612	
HPE DL3X5 Gen11 Max Perf 2U Heat Sink Kit	1	P58459-B21	\$256	1	\$256	
HPE DL3X5 2U Perf Fan Kit	1	P58465-B21	\$160	1	\$160	
HPE 64GB 4Rx4 PC5-4800B-R 3DS Smart Kit	1	P50312-B21	\$4,960	12	\$59,520	
HPE 1600W FS Plat Ht Plug LH Pwr Sply Kit	1	P38997-B21	\$751	2	\$1,502	
MLX MCX631102AS-ADAT Ethernet 10/25Gb 2-port SFP28 Adptr	1	P42044-B21	\$1,500	1	\$1,500	
HPE 48U 600c1075mm Adv G2 Kit Pllt Rack	1	P9K19A	\$3,023	1	\$3,023	
HPE 3Y TC Ess DL345 GEN11 SVC	1	H78X5E	\$3,962	1		\$3,962
		Subtotal			\$80,773	\$3,962
Storage						
HPE 1.92TB NVMe RI E3S EC1 PM1743 SSD	1	P69234-B21	\$2,700	8	\$21,600	
HPE NS204i-u Gen11 Ht Plg Boot Opt Dev	1	P48183-B21	\$1,994	1	\$1,994	
HPE DL3X5 G11 NS204i-u NVMe Boot Cbl Kit	1	P57013-B21	\$83	1	\$83	
HPE DL345 Gen11 20EDSFF x4 FIO Kit	1	P64383-B21	\$1,192	1	\$1,192	
HPE DL345 Gen11 2SFF x4 TM BC Kit	1	P57110-B21	\$756	1	\$756	
HPE Gen 11 EI Rail Kit	1	P52351-B21	\$141	1	\$141	
HPE DL345G11 Standard Riser	1	standardDL345G11Riser incld		1		
		Subtotal			\$25,766	\$0
Other						
HP Series 5 23.8 inch FHD White Monitor + Wireless Mouse and Keyboard Bundle	3	94C21AA/ 3ML04AA	\$140		\$420	
		Subtotal			\$420	\$0
Software Components						
SQL Server 2022 Enterprise Edition (2 core license)	2	N/A	\$15,123	16	\$241,968	
Microsoft Problem Resolution Services	2	N/A	\$259	1		\$259
Windows Server 2022 Standard Edition (16 cores license)	2	N/A	1,069	2	2,138	
		Subtotal			\$244,106	\$259
		Total Extended Price			\$351,065	\$ 4,221
		Total Discounts			\$58,596	\$2,179
Price Key: 1 - HPE , 2 – Microsoft, 3 – Hewlett Packard Inc.						
Audited by Doug Johnson of InfoSizing (www.sizing.com)		Grand Total				
					\$292,469	\$2,042
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:	\$294,511
					QphH @ 1,000GB :	1,531,016.1
					\$ USD/QphH @ 1,000GB	\$192.37
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: Sept 15,2025		
Numerical Quantities					
Measurement Results					
Database Scale Factor		1,000			
Total Data Storage / Database Size		15.20			
Percentage Memory / Database Size		76.8 %			
Start of Database Load		2025-08-11 06:35:57			
End of Database Load		2025-08-11 07:31:10			
Database Load Time		00d 00h 55m 13s			
Query Streams for Throughput Test		7			
TPC-H Power		1,825,317.7			
TPC-H Throughput		1,284,165.7			
TPC-H Composite Query-per-Hour (QphH@3,000GB)		1,531,016.1			
Total System Price over 3 Years (\$ USD)		\$294,511			
TPC-H Price/Performance Metric (\$ USD / kQphH@3,000GB)		\$192.37			
Measurement Interval					
Measurement Interval in Throughput Test		431.72 seconds			
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
	811073110	2025-08-11 07:42:11	00:01:01	2025-08-11 07:41:55	2025-08-11 07:43:14
		2025-08-11 07:43:12		2025-08-11 07:42:09	2025-08-11 07:43:40
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	811073111	2025-08-11 07:43:39	00:06:46	2025-08-11 07:43:39	2025-08-11 07:44:02
		2025-08-11 07:50:25		2025-08-11 07:44:02	2025-08-11 07:44:40
2	811073112	2025-08-11 07:43:39	00:06:31	2025-08-11 07:44:41	2025-08-11 07:45:03
		2025-08-11 07:50:10		2025-08-11 07:45:03	2025-08-11 07:45:42
3	811073113	2025-08-11 07:43:39	00:06:41	2025-08-11 07:45:42	2025-08-11 07:46:07
		2025-08-11 07:50:20		2025-08-11 07:46:07	2025-08-11 07:46:45
4	811073114	2025-08-11 07:43:39	00:07:02	2025-08-11 07:46:45	2025-08-11 07:47:09
		2025-08-11 07:50:41		2025-08-11 07:47:09	2025-08-11 07:47:48
5	811073115	2025-08-11 07:43:39	00:06:48	2025-08-11 07:47:48	2025-08-11 07:48:12
		2025-08-11 07:50:27		2025-08-11 07:48:12	2025-08-11 07:48:50
6	811073116	2025-08-11 07:43:39	00:07:06	2025-08-11 07:48:50	2025-08-11 07:49:13
		2025-08-11 07:50:45		2025-08-11 07:49:13	2025-08-11 07:49:53
7	811073117	2025-08-11 07:43:39	00:06:50	2025-08-11 07:49:53	2025-08-11 07:50:17
		2025-08-11 07:50:29		2025-08-11 07:50:17	2025-08-11 07:50:51



**Hewlett Packard
Enterprise**

HPE ProLiant DL345 Gen11

TPC-H Rev. 3.0.1
TPC Pricing Rev. 2.9.0

Report Date:
Sept 15,2025

TPC-H Timing Intervals (in seconds):

Stream ID	0	1	2	3	4	5	6	7	QI Min	QI Avg	QI Max
Q1	1.11	3.33	7.08	18.20	20.00	1.95	26.75	9.36	1.11	10.97	26.75
Q2	0.33	3.16	1.67	1.88	12.64	1.80	1.48	3.11	0.33	3.26	12.64
Q3	1.70	10.24	23.39	8.77	6.09	20.83	5.75	15.47	1.70	11.53	23.39
Q4	1.91	3.34	11.47	11.88	9.47	3.03	3.55	3.61	1.91	6.03	11.88
Q5	2.19	10.17	5.31	6.11	13.70	7.25	7.00	6.06	2.19	7.22	13.70
Q6	0.11	6.95	1.55	2.56	5.42	4.30	4.97	6.22	0.11	4.01	6.95
Q7	1.30	11.95	14.50	24.27	19.38	33.39	23.94	28.47	1.30	19.65	33.39
Q8	1.86	37.00	16.30	20.55	22.75	46.13	14.55	30.24	1.86	23.67	46.13
Q9	7.03	33.17	20.28	17.16	29.50	15.91	25.44	41.63	7.03	23.77	41.63
Q10	2.14	14.22	28.92	30.22	30.38	12.58	20.56	17.49	2.14	19.56	30.38
Q11	3.97	9.24	5.94	13.22	7.08	7.39	6.17	6.30	3.97	7.41	13.22
Q12	0.75	5.77	16.89	32.03	33.89	31.30	34.78	21.97	0.75	22.17	34.78
Q13	12.33	31.41	25.00	17.89	21.24	18.24	21.42	17.44	12.33	20.62	31.41
Q14	0.53	1.61	1.03	1.33	1.41	1.69	0.95	1.64	0.53	1.27	1.69
Q15	0.95	5.72	2.28	4.77	3.08	1.89	2.52	3.02	0.95	3.03	5.72
Q16	2.16	5.25	8.06	6.33	5.45	4.22	3.31	6.30	2.16	5.14	8.06
Q17	0.92	26.33	20.42	16.42	15.95	17.38	16.47	22.83	0.92	17.09	26.33
Q18	8.22	60.60	78.11	67.19	75.58	67.33	125.41	82.24	8.22	70.59	125.41
Q19	0.74	18.39	26.03	14.83	31.72	20.31	37.38	22.94	0.74	21.54	37.38
Q20	2.38	13.74	7.83	4.59	3.53	8.00	16.13	10.95	2.38	8.39	16.13
Q21	6.06	63.61	65.35	49.19	50.22	65.13	21.39	24.46	6.06	43.18	65.35
Q22	1.00	30.53	2.66	31.32	2.41	17.16	5.55	27.05	1.00	14.71	31.32
RF1	13.83	22.11	22.85	25.24	24.06	23.60	23.44	23.75	13.83	22.36	25.24
RF2	25.83	38.55	38.08	37.85	38.74	37.99	39.33	34.47	25.83	36.36	39.33