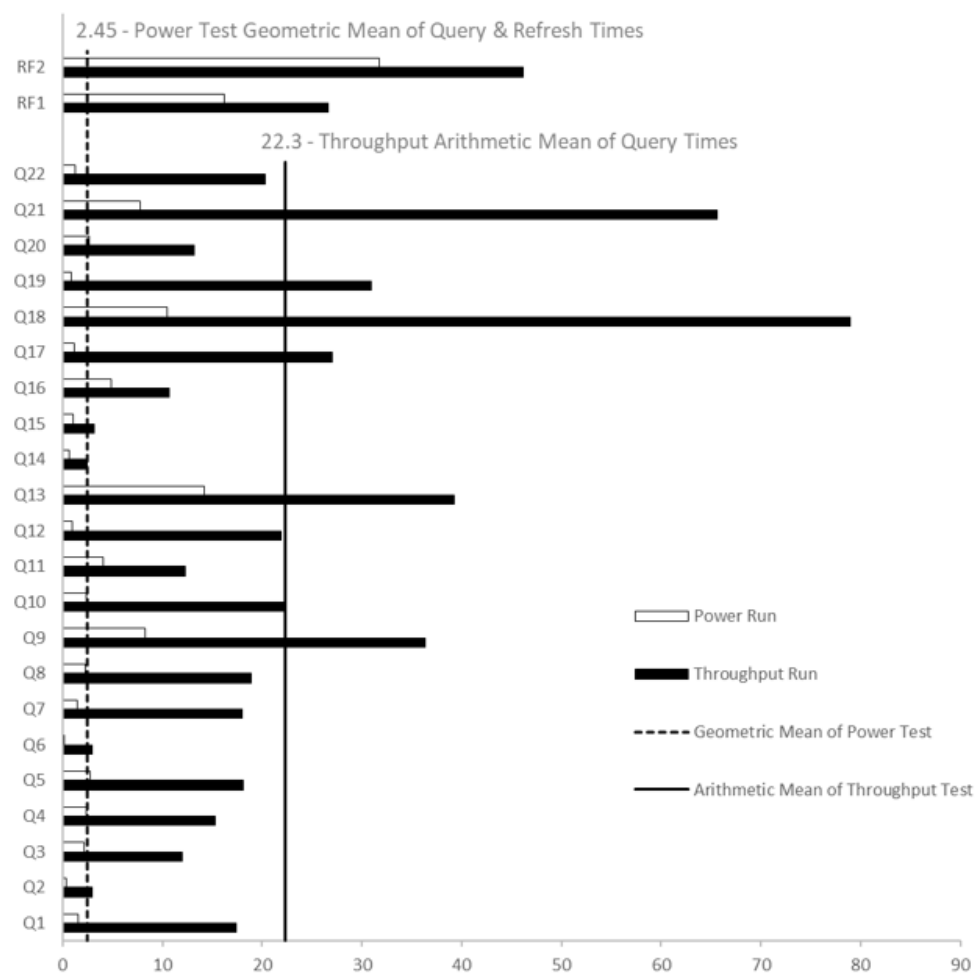




<div><div></div><div>Hewlett Packard Enterprise</div></div>		HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0
Total System Cost		Composite Query per Hour Rating		Report Date: June 20,2025
\$293,732 USD		1,257,628.6 QphH @ 1,000GB		\$233.57 USD \$ / kQphH @ 1,000GB
Database Size	Database Manager	Operating System	Other Software	Availability Date
1,000GB	Microsoft® SQL Server 2022 Enterprise Edition	Microsoft Windows Server 2022	None	June 20,2025



Database Load Time = 0d 51m 07s	Storage Redundancy Level	
Load included backup: Y	Base Tables and Auxiliary Data Structures	No RAID
Total Data Storage / Database Size = 15.20	DBMS Temporary Space and DBMS Software	No RAID
Memory/Database Size = 76.8 %	OS, transaction logs	Software RAID 1
System Components System Total		
Nodes: 1		
AMD® EPYC 9374F @ 3.84GHz: 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		

<div></div> <div>Hewlett Packard Enterprise</div>	HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0			
			Report Date: June 20,2025			
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 9374F CPU for HPE	1	P53710-B21	\$9,330	1	\$9,330	
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 Plt Rack	1	P9K19A	\$3,023	1	\$3,023	
HPE 3Y TC Ess DL345 GEN11 SVC	1	H78X5E	\$3,445	1		\$3,445
Subtotal					\$79,491	\$3,445
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	\$150		\$450	
Subtotal					\$450	\$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					\$349,813	\$3,704
Total Discounts					\$57,891	\$1,894
Price Key: 1 - HPE , 2 – Microsoft, 3 – Hewlett Packard Inc.						
Audited by Doug Johnson of InfoSizing (www.sizing.com)		Grand Total			\$291,922	\$1,810
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:				\$293,732
		QphH @ 1,000GB :				1,257,628.6
		\$ USD/QphH @ 1,000GB				\$233.57
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.						

<div></div> <div>Hewlett Packard Enterprise</div>	HPE ProLiant DL345 Gen11		TPC-H Rev. 3.0.1 TPC Pricing Rev. 2.9.0	
			Report Date: June 20,2025	

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

2025-05-29 06:52:53

End of Database Load

2025-05-29 07:47:12

Database Load Time

00d 00h 51m 07s

Query Streams for Throughput Test

7

TPC-H Power

1,469,683.1

TPC-H Throughput

1,076,170.5

TPC-H Composite Query-per-Hour (QphH@3,000GB)

1,257,628.6

Total System Price over 3 Years (\$ USD)

\$293,732

TPC-H Price/Performance Metric (\$ USD / kQphH@3,000GB)

\$233.57

Measurement Interval

Measurement Interval in Throughput Test

515.16 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
	529074712	2025-05-29 08:00:09	00:01:15	2025-05-29 07:59:50	2025-05-29 08:01:26
		2025-05-29 08:01:24		2025-05-29 08:00:07	2025-05-29 08:01:58
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	529074713	2025-05-29 08:01:57	00:08:10	2025-05-29 08:01:57	2025-05-29 08:02:23
		2025-05-29 08:10:07		2025-05-29 08:02:23	2025-05-29 08:03:10
2	529074714	2025-05-29 08:01:57	00:07:21	2025-05-29 08:03:10	2025-05-29 08:03:36
		2025-05-29 08:09:18		2025-05-29 08:03:36	2025-05-29 08:04:22
3	529074715	2025-05-29 08:01:57	00:08:17	2025-05-29 08:04:22	2025-05-29 08:04:49
		2025-05-29 08:10:14		2025-05-29 08:04:49	2025-05-29 08:05:35
4	529074716	2025-05-29 08:01:57	00:08:24	2025-05-29 08:05:35	2025-05-29 08:06:04
		2025-05-29 08:10:21		2025-05-29 08:06:04	2025-05-29 08:06:49
5	529074717	2025-05-29 08:01:57	00:08:36	2025-05-29 08:06:49	2025-05-29 08:07:15
		2025-05-29 08:10:33		2025-05-29 08:07:15	2025-05-29 08:08:02
6	529074718	2025-05-29 08:01:57	00:08:17	2025-05-29 08:08:02	2025-05-29 08:08:29
		2025-05-29 08:10:14		2025-05-29 08:08:29	2025-05-29 08:09:17
7	529074719	2025-05-29 08:01:57	00:08:14	2025-05-29 08:09:18	2025-05-29 08:09:45
		2025-05-29 08:10:11		2025-05-29 08:09:45	2025-05-29 08:10:29



**Hewlett Packard
Enterprise**

HPE ProLiant DL345 Gen11

TPC-H Rev. 3.0.1
TPC Pricing Rev. 2.9.0

Report Date:
June 20,2025

TPC-H Timing Intervals (in seconds):

Stream ID	0	1	2	3	4	5	6	7	QI Min	QI Avg	QI Max
Q1	1.55	3.00	31.07	6.94	29.66	9.66	28.77	12.88	1.55	15.44	31.07
Q2	0.39	3.47	2.86	7.17	1.25	2.95	1.86	1.23	0.39	2.65	7.17
Q3	2.17	18.19	9.25	13.28	13.22	15.14	4.81	9.99	2.17	10.76	18.19
Q4	2.41	14.30	34.33	4.30	21.77	5.76	5.78	21.22	2.41	13.73	34.33
Q5	2.78	19.86	18.75	5.74	13.42	7.94	34.93	25.99	2.78	16.18	34.93
Q6	0.13	8.02	0.20	0.39	4.78	4.50	2.42	0.41	0.13	2.61	8.02
Q7	1.44	7.91	13.09	15.36	7.24	38.88	21.45	21.85	1.44	15.90	38.88
Q8	2.23	12.33	4.75	23.94	19.92	16.06	15.08	40.15	2.23	16.81	40.15
Q9	8.31	51.83	28.46	35.99	35.49	15.05	36.08	52.00	8.31	32.90	52.00
Q10	2.39	15.13	38.43	39.53	6.31	18.06	32.53	6.63	2.39	19.88	39.53
Q11	4.08	6.55	6.74	21.14	7.27	18.97	5.99	19.64	4.08	11.30	21.14
Q12	1.00	14.85	26.25	22.72	30.21	55.00	1.69	2.81	1.00	19.32	55.00
Q13	14.22	57.69	21.41	47.41	34.63	55.71	29.10	29.16	14.22	36.17	57.69
Q14	0.63	1.75	1.75	4.23	2.38	1.81	1.34	4.13	0.63	2.25	4.23
Q15	1.09	2.75	2.22	5.80	3.47	2.95	2.22	2.73	1.09	2.90	5.80
Q16	4.89	10.83	10.11	12.74	10.77	11.97	6.39	12.35	4.89	10.01	12.74
Q17	1.20	39.30	26.10	27.77	23.78	16.39	21.42	34.75	1.20	23.84	39.30
Q18	10.49	64.46	33.58	71.95	115.32	85.97	95.40	85.85	10.49	70.38	115.32
Q19	0.89	34.22	40.94	28.88	37.32	17.77	26.19	31.41	0.89	27.20	40.94
Q20	2.64	16.92	8.99	22.94	6.67	15.61	11.35	9.97	2.64	11.89	22.94
Q21	7.75	75.41	69.10	49.03	62.00	75.38	81.19	47.68	7.75	58.44	81.19
Q22	1.30	10.95	12.36	29.16	16.16	23.49	30.14	19.88	1.30	17.93	30.14
RF1	16.20	25.58	26.11	26.61	28.69	26.13	26.52	26.85	16.20	25.34	28.69
RF2	31.77	46.22	45.93	46.25	44.63	46.75	48.86	44.50	31.77	44.36	48.86