





 Hewlett Packard Enterprise	<h1>HPE DL325 Gen10</h1>		TPCx-HS 2.0.3 TPC Pricing 2.4.0 Report Date Aug. 07, 2019
Availability Date August 26, 2019	TPCx-HS Performance 23.66 HSph@10TB	Price/Performance \$25,057.91 \$ / HSph@10TB	Total System Cost \$592,870 USD
System Under Test Configuration Overview			
Scale Factor 10	Hadoop Software Hortonworks Data Platform, HDP 3.1	Operating System Red Hat Enterprise Linux Server 7.6	Other Software N/A
<div style="text-align: center;">  <p>HPE 1620-24G (JG913A) 24x10/100/1000 Network Switch. Used for iLO.</p>  <p>16x ProLiant HPE DL325 Gen10 Servers (Data Nodes)</p> <ul style="list-style-type: none"> • 1x AMD EPYC 7502P 32-Core Processor • 256 GB (8x 32GB RDIMM 2666MT/s Dual Rank) • 1x 240GB m.2 (O/S) • 1x HPE 631FLR 2-Port 25GbE SFP28 NIC • 3x HPE 1.6TB, NVMe, 2.5 SFF Drive (DataNode storage)  <p>1x HPE ProLiant DL325 Gen10 (Master Node)</p> <ul style="list-style-type: none"> • 1x AMD EPYC 7502P 32-Core Processor • 128 GB (4x 32GB RDIMM 2666MT/s Dual Rank) • 1x 240GB m.2 (O/S) • 1x HPE 631FLR 2-Port 25GbE SFP28 NIC  <p>HPE FlexFabric 5945 (JQ074A) 48x25GbE and 6x100GbE Network Switch.</p> </div>			
Physical Storage/Scale Factor: 8.09		Scale Factor/Physical Memory: 2.42	
Total Number of Servers: Total Processors/Cores/Threads:		17x ProLiant DL325 Gen10 17/544/1,088	
Server Configuration: Processors Memory Storage Controller Storage Device Network		Per ProLiant DL325 Gen10 1x AMD EPYC 7502P 32-Core Processor 256 GiB (128 GiB Mgmt. node) Dual m.2 SATA, NVM Express 1x 240 GB m.2 SATA 3x HPE 1.6 TB NVMe (data nodes) 1x HPE 631FLR 2-Port 25GbE SFP28 NIC	
Connectivity:		HPE FlexFabric 5945 Switch HPE 1620-24G 24x10/100/1000 Network Switch (used for iLO)	
Total Rack Units:		17 (1U) + 1 (1U) + 1 (1U) = 19U	

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Price	Server Hardware							HPE DL325 Gen10 8SFF CTO Server	1	P04654-B21	\$1,350	17	\$22,950		HPE DL325 Gen10 8SFF CTO Server, EPYC 1x7502P	1	P16639-L21	\$3,459	17	\$58,803		HPE 32GB 2Rx4 PC4-2933-R	1	P00924-B21	\$1,170	132	\$154,440		HPE 800W CS Platinum Plus AC Power Supply	1	865414-B21	\$379	17	\$6,443		HPE DL325 Gen10 8SFF (NVMe backplane) CTO Server	1	P04662-B21	\$1,699	17	\$28,883		HPE Dual M.2 SSD enablement option DL/ML	1	878783-B21	\$159	17	\$2,703		HPE 240GB m.2 SATA SSD	1	P04556-B21	\$379	17	\$6,443		HPE 1.6 TB NVMe, MO001600KWVNB	1	P10222-B21	\$3,120	48	\$149,760		HPE Ethernet 10/25G Network Adapter 631FLR-SFP28	1	817709-B21	\$749	17	\$12,733		HPE 3Y FC 24x7 DL325 Gen10 SVC	1	HB4G8E	\$1,355	17		\$23,035	HPE iLO Adv incl 3yr TS U E-LTU	1	E6U64ABE	\$469	17		\$7,973	HP V194 18.5" HD 1366x768 LED Monitor (1 + 2 spare)	3	V5E94A6#ABA	\$95	3	\$285		HP PS/2 Keyboard And Mouse Bundle (1 + 2 spare)	3	H3C53AA#ABA	\$30	3	\$90					Subtotal		\$443,533	\$31,008	Network							HPE 1620-24G Switch + 2 spares	1	JG913A	\$299	3	\$897		5ft (1.5m) Cat6 Snagless Unshielded (UTP) PVC CM 17 + 2 spares	2	C6-UTPSGPVCBE	\$2	19	\$38		HPE 5945 48SFP28 8QSFP28 Switch	1	JQ074A	\$30,970	1	\$30,970		HPE 25Gb SFP28 to SFP28 3m DAC 34 + 10% spares	1	844477-B21	\$222	39	\$8,658		HPE 3Y FC 24x7 FF 5945 Switch SVC	1	HB4S3E	\$8,003	1		\$8,003				Subtotal		\$40,563	\$8,003	Rack							HPE 42U 600x1075mm Adv G2 Kit Plt Rack	1	P9K07A	\$1,179	1	\$1,179		HPE 24A High Voltage Core Only Corded PDU + 2 spares	1	252663-D74	\$259	3	\$777					Subtotal		\$1,956	\$0
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Pricing: 1 = HPE; 2 = fs.com; 3 = hp.factoryoutletstore.com * All discounts are based on US list prices and for similar quantities and configurations. A 20% 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. Sales contact: HPE WW Headquarters, 3000 Hanover St., Palo Alto, CA 94304-1185 (650) 857-1501 or HPE: 855-472-5233 Audited by Doug Johnson, InfoSizing	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Three-Year Cost of Ownership:</td> <td style="text-align: right;">\$592,870</td> </tr> <tr> <td style="text-align: right;">HSpH@10TB:</td> <td style="text-align: right;">23.66</td> </tr> <tr> <td style="text-align: right;">\$ / HSpH@10TB:</td> <td style="text-align: right;">\$25,057.91</td> </tr> </table>		Three-Year Cost of Ownership:	\$592,870	HSpH@10TB:	23.66	\$ / HSpH@10TB:	\$25,057.91																																																		
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<p><i>Prices used in TPC benchmarks reflect the actual prices a customer would pay for a one-time purchase of the stated Line Items. 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 Line Items. For complete details, see the pricing section of the TPC Benchmark Standard. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.</i></p>																																																										

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Numerical Quantities	
Performance Run – Run 2	
Scale Factor	10TB
Run Start Time	2019-06-29 21:42:48.000
Run End Time	2019-06-29 22:08:05.000
Run Elapsed Time	1,521.000
HSGen Start Time	2019-06-29 21:42:49.000
HSGen End Time	2019-06-29 21:47:39.000
HSGen Elapsed Time	291.849
HSSort Start Time	2019-06-29 21:47:45.000
HSSort End Time	2019-06-29 22:04:28.000
HSSort Elapsed Time	1,003.856
HSValidate Start Time	2019-06-29 22:04:35.000
HSValidate End Time	2019-06-29 22:08:05.000
HSValidate Elapsed Time	212.256
Repeatability Run – Run 1	
Scale Factor	10TB
Run Start Time	2019-06-29 21:07:58.000
Run End Time	2019-06-29 21:32:41.000
Run Elapsed Time	1,487.000
HSGen Start Time	2019-06-29 21:07:59.000
HSGen End Time	2019-06-29 21:12:51.000
HSGen Elapsed Time	293.497
HSSort Start Time	2019-06-29 21:12:57.000
HSSort End Time	2019-06-29 21:29:07.000
HSSort Elapsed Time	971.217
HSValidate Start Time	2019-06-29 21:29:13.000
HSValidate End Time	2019-06-29 21:32:41.000
HSValidate Elapsed Time	209.960

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Run Reports

Run Report for Performance Run – Run 2

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TPCx-HS Performance Metric (HSph@SF) Report

Test Run 2 Details	Total Time =	1521
	Total Size =	100000000000
	Scale-Factor =	10

TPCx-HS Performance Metric (HSph@SF): 23.6686

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Run Report for Repeatability Run – Run 1


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TPCx-HS Performance Metric (HSph@SF) Report

Test Run 1 Details	Total Time =	1487
	Total Size =	100000000000
	Scale-Factor =	10

TPCx-HS Performance Metric (HSph@SF): 24.2130

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Revision History		
Date	Edition	Description
August 7, 2019	First	Initial Publication