



# PowerEdge™ T710 Server

**TPC-E 1.10.0  
TPC Pricing 1.5**

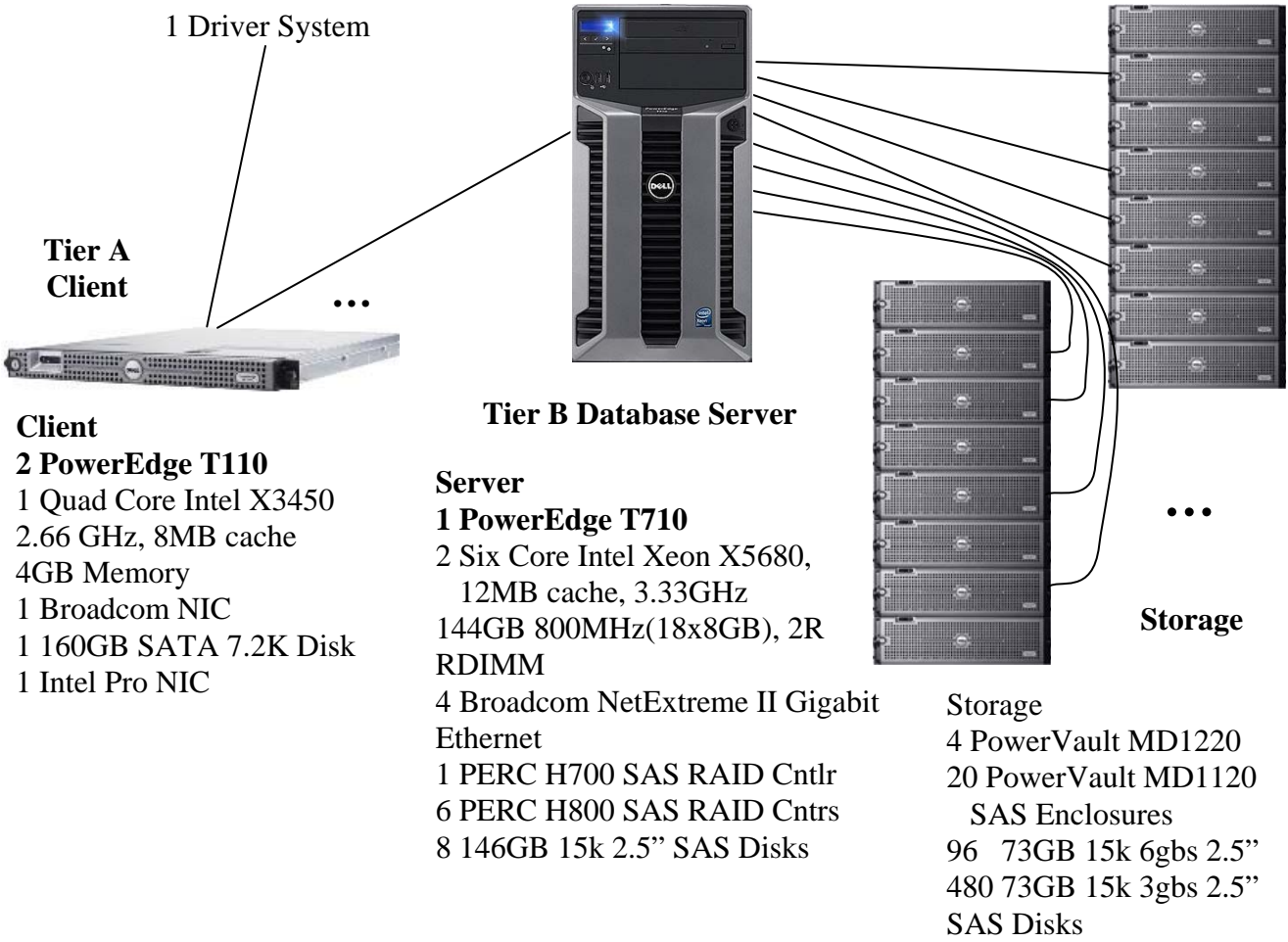
Report Date:  
June 21, 2010

Revision Date:  
June 21, 2010

TPC-E Throughput	Price/Performance	Availability Date	Total System Cost
<b>1074.14 tpsE</b>	<b>264.32 USD per tpsE</b>	<b>June 21, 2010</b>	<b>\$283,914 USD</b>

## Database Server Configuration

Operating System	Database Manager	Processors/Cores/ Threads	Memory
<b>Microsoft Windows Server 2008 R2 Enterprise x64 Edition™</b>	<b>SQL Server 2008 R2 Enterprise x64 Edition™</b>	<b>2/12/24</b>	<b>144GB</b>



**Client**  
**2 PowerEdge T110**  
 1 Quad Core Intel X3450  
 2.66 GHz, 8MB cache  
 4GB Memory  
 1 Broadcom NIC  
 1 160GB SATA 7.2K Disk  
 1 Intel Pro NIC

**Tier B Database Server**  
**Server**  
**1 PowerEdge T710**  
 2 Six Core Intel Xeon X5680,  
 12MB cache, 3.33GHz  
 144GB 800MHz(18x8GB), 2R  
 RDIMM  
 4 Broadcom NetExtreme II Gigabit  
 Ethernet  
 1 PERC H700 SAS RAID Cntrlr  
 6 PERC H800 SAS RAID Cntrs  
 8 146GB 15k 2.5" SAS Disks

**Storage**  
 4 PowerVault MD1220  
 20 PowerVault MD1120  
 SAS Enclosures  
 96 73GB 15k 6gbs 2.5"  
 480 73GB 15k 3gbs 2.5"  
 SAS Disks

Initial Database Size <b>4,457.21GB</b>	Redundancy Level: 1 <b>RAID10 Log Data</b>	Storage <b>8 x 146GB, 576 x 73GB</b>
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## PowerEdge T710

### TPC-E 1.10.0 TPC Pricing 1.5

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Description	Part Number	Price Source	Unit Price	Qty	Extended Price	3 yr. Maint. Price	
<b>Server Hardware</b>							
T710 Tower Chassis for up to 16 2.5" HDs 6gbs	224-9716	1	\$672.00	1	\$672.00	\$540.00	
Intel Xeon X5680, 3.33Ghz, 12M Cache, Turbo, HT	317-4104	1	\$2,299.00	1	\$2,299.00		
2nd Intel Xeon X5680, 3.33Ghz, 12M Cache, Turbo, HT	317-4116	1	\$2,299.00	1	\$2,299.00		
1100 Watt Non-Redundant Power Supply	330-4330	1	\$299.00	1	\$299.00		
144GB Memory (18x8GB) 800 MHz Dual Ranked RDIMMs	317-0243	1	\$8,352.00	1	\$8,352.00		
PERC H700 Integrated RAID Controller, 512MB Cache	342-0738	1	\$499.00	1	\$499.00		
PERC H800 RAID Adapter for External JBOD, 512MB	341-9869	1	\$649.00	6	\$3,894.00		
146GB,SAS,2.5-inch,15K RPM HD	341-9157	1	\$479.00	8	\$3,832.00		
DELL E157FP,15 IN,15.0 VIS	320-5090	1	\$189.00	1	\$189.00		
				<b>Subtotal</b>	<b>\$22,335.00</b>	<b>\$540.00</b>	
<b>Server Storage</b>							
PV MD1220,RACK,2U,24 BAY,LBZL	224-7093	1	\$2,794.00	4	\$11,176.00		
PV MD1220,RACK,2U,24 BAY,LBZL	224-7093	1s	\$2,794.00	20	\$55,880.00		
PV MD1120,RACK,2U,24 BAY,LBZL (10% Spares)	224-7093	1s	\$2,794.00	3		\$8,382.00	
Enclosure Management Modules, PowerVault MD1220	330-6058	1	\$0.00	4	\$0.00		
Enclosure Management Modules, PowerVault MD1220	330-6058	1s	\$0.00	20	\$0.00		
EM Modules, PowerVault MD1120 (10% Spares)	330-6058	1s	\$0.00	3		\$0.00	
73GB,SAS,2.5-inch,15K RPM HD	341-4727	1	\$329.00	96	\$31,584.00		
73GB,SAS,2.5-inch,15K RPM HD	341-4727	1s	\$329.00	480	\$157,920.00		
73GB,SAS,2.5-inch,15K RPM HD (10% Spares)	341-4727	1s	\$329.00	58		\$19,082.00	
RACK-42U, CUST	340-4896	1	\$239.99	1	\$239.99		
				<b>Subtotal</b>	<b>\$256,799.99</b>	<b>\$27,464.00</b>	
<b>Server Software</b>							
SQL Server 2008 Enterprise x64 Edition **	N/A	2	\$23,358.00	2	\$46,716.00		
Windows Server 2008 Enterprise Edition (x64) **	P72-03868	2	\$2,320.00	1	\$2,320.00		
Professional Support (1 Incident)	N/A		\$259.00	1		\$259.00	
				<b>Subtotal</b>	<b>\$49,036.00</b>	<b>\$259.00</b>	
<b>Client Hardware</b>							
Dell PowerEdge T110 Chasis	224-6816	1	\$108.00	2	\$216.00	\$984.00	
X3450 Xeon Proc, 2.66 GHz 8M Cache, Turbo, HT	317-2042	1	\$450.00	2	\$900.00		
4GB,1033MHz,(2X2GB),2R,UDIMM	317-2042	1	\$187.00	2	\$374.00		
160G 7K SATA2,3G,3.5,HP	341-6084	1	\$99.00	2	\$198.00		
Intel Gigabit ET NIC PCI-e	430-0643	1	\$199.00	2	\$398.00		
				<b>Subtotal</b>	<b>\$2,086.00</b>	<b>\$984.00</b>	
<b>Client Software</b>							
Windows Server 2008 Standard Edition (x64) **	P73-04754	2	\$711.00	2	\$1,422.00		
				<b>Subtotal</b>	<b>\$1,422.00</b>	<b>\$0.00</b>	
<b>Infrastructure</b>							
1M SAS Cable, MDXX00	310-6061	1	\$30.00	24	\$720.00		
				<b>Subtotal</b>	<b>\$720.00</b>	<b>\$0.00</b>	
				<b>Other Discounts*</b>	<b>(\$70,485.25)</b>	<b>(\$7,247.00)</b>	
<b>Notes:</b>					<b>Total</b>	<b>\$261,913.74</b>	<b>\$22,000.00</b>
None of the components of the measured configuration have been substituted in the Priced Configuration. See the FDR for details.							
*All hardware from Dell(1) is discounted 25% based on total dollar volume of this config.					<b>Three-Year Cost of Ownership:</b>	<b>\$283,914</b>	<b>USD</b>
** All Microsoft maintenance is covered by the maint. costs of Microsoft SQL Server							
Price Source: 1=Dell, 2=Microsoft, NIO = Not Immediately Orderable					<b>TPC-E Throughput:</b>	<b>1,074.14</b>	<b>tpsE</b>
Pricing may be verified by calling 1-800-BUY-DELL and referencing quote # 546153287 as a complex quote.					<b>Price/Performance:</b>	<b>\$264.32</b>	<b>tpsE/USD</b>
<b>Audited by Lorna Livingtree, Performance Metrics Inc.</b>							
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 items, please inform the TPC at <a href="mailto:pricing@tpc.org">pricing@tpc.org</a> .							

Quantities Summary				
<b>Reported Throughput: 1074.14 tpsE</b>		<b>Configured Customers: 550,000</b>		
<b>Response Times (in seconds)</b>	<b>Minimum</b>	<b>Average</b>	<b>90<sup>th</sup>%tile</b>	<b>Maximum</b>
Broker-Volume	0.00	0.04	0.06	1.74
Customer-Position	0.00	0.04	0.06	2.86
Market-Feed	0.00	0.04	0.10	3.90
Market-Watch	0.00	0.02	0.05	2.60
Security-Detail	0.00	0.02	0.03	2.75
Trade-Lookup	0.00	0.62	0.80	3.88
Trade-Order	0.00	0.09	0.15	2.83
Trade-Result	0.00	0.10	0.16	4.06
Trade-Status	0.00	0.03	0.05	2.91
Trade-Update	0.01	0.69	0.81	3.79
Data-Maintenance	0.01	0.09		0.52
<b>Transaction Mix</b>		<b>Transaction Count</b>		<b>Mix %</b>
Broker-Volume		3,789,441		4.900%
Customer-Position		10,053,088		13.000%
Market-Feed		773,389		1.000%
Market-Watch		13,920,209		18.000%
Security-Detail		10,826,289		14.000%
Trade-Lookup		6,186,193		7.999%
Trade-Order		7,810,858		10.100%
Trade-Result		7,733,824		10.001%
Trade-Status		14,692,781		18.999%
Trade-Update		1,546,419		2.000%
Data-Maintenance		120		
<b>Test Duration and Timings</b>				
Ramp-up Time (hh:mm:ss)		00:12:13		
Measurement Interval (hh:mm:ss)		02:00:00		
Business Recovery Time (hh:mm:ss)		05:04:41		
Total number of Transactions Completed in Measurement Interval		77,332,491		