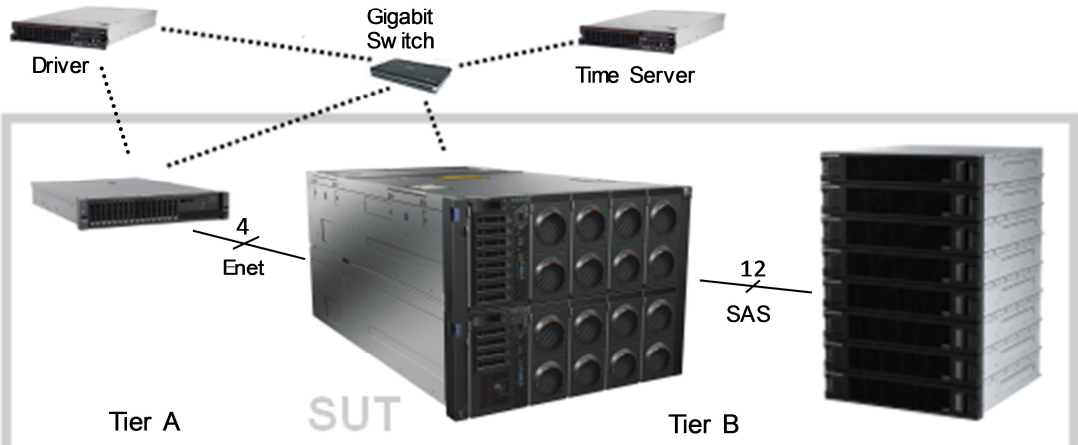
	<b>System x<sup>®</sup> 3950 X6</b> <b>Microsoft<sup>®</sup> SQL Server<sup>®</sup> 2014</b>		<b>TPC-E<sup>™</sup> 1.14.0</b> <b>TPC Pricing 2.0.0</b>
			Report Date: December 17, 2015
			Revision Date: December 17, 2015
TPC-E Throughput <b>11,058.99 tpsE</b>	Price/Performance <b>\$143.91</b> <b>USD per tpsE<sup>™</sup></b>	Availability Date <b>December 17, 2015</b>	Total System Cost <b>\$1,591,485 USD</b>
<b>Database Server Configuration</b>			
Operating System <b>Microsoft Windows Server<sup>®</sup> 2012 R2 Standard Edition</b>	Database Manager <b>Microsoft SQL Server 2014 Enterprise Edition</b>	Processors/Cores/Threads <b>8/144/288</b>	Memory <b>4096GB</b>
			
System x3650 M5, with: - 2 x Intel <sup>®</sup> Xeon <sup>®</sup> Processor E5-2699 v3 2.30GHz (2 Procs/36 Cores/72 Threads) - 64GB Memory - 2 x 300GB SFF SAS (RAID-1) - 1 x ServeRAID M5210 - Onboard Quad Gb Ethernet - 2 x Dual 10Gb-T Ethernet	System x3950 X6, with: - 8 x Intel Xeon Processor E7-8890 v3 2.50GHz - 4096GB Memory - 2 x 900GB 10K SAS (RAID-1) - 6 x 800GB SAS SSD (RAID-10) - 1 x ServeRAID M5210 - 8 x ServeRAID M5225 - 4 x Dual 10Gb-T Ethernet	12 x Lenovo E1024 JBOD Enclosures, with: - 104 x 800GB 2.5" SAS SSD (6 x 17-drive RAID-5) (1 x 2-drive RAID-1)  104 Total External Drives	
Initial Database Size <b>47,222 GB</b>	Redundancy Level: <b>1</b> <b>RAID-10 Log</b> <b>RAID-5 Data</b> <b>RAID-1 tempdb</b>	Storage <b>2 x 900GB 2.5" 10K SAS</b> <b>6 x 800GB 2.5" SAS SSD</b> <b>104 x 800GB 2.5" SAS SSD</b>	



# System x3950 X6 Microsoft SQL Server 2014

**TPC-E 1.14.0**  
**TPC Pricing 2.0.0**

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Description	Part Number	Price Source	Unit Price	Quantity	Extended Price	3-Yr. Maint. Price
<b>Server Hardware</b>						
System x3950 X6 Configure-To-Order, includes:	6241AC2	1	276,329	1	276,329	
x3950 X6 8U Chassis + Midplane	ASMJ, A4A5			1		
X6 DDR4 Compute Book Intel Xeon E7-8890 v3	AS8B, AS91			8		
X6 Primary I/O Book + X6 Storage Book	ASFB, A4A1			2		
X6 Half-length I/O Book	A4A2			4		
4x 2.5" HDD Riser	A4A6			2		
ServeRAID M5210 SAS/SATA Controller	A3YZ			2		
Intel X540 ML2 Dual Port 10GbBaseT Adapter	A40P			1		
Intel X540-T2 Dual Port 10GbBaseT Adapter	A2ED			3		
1400W HE Redundant Power Supply	A54E			8		
800GB 12G SAS 2.5" MLC G3HS Enterprise SSD	AS7G			6		
900GB 10K 6Gbps SAS 2.5" G3HS HDD	A4TN			2		
System x Rail Kit	A4AA			1		
Power Cable	6311			8		
32GB TruDDR4 Memory PC4-17000 CL15 2133MHz LP RDIMM	A5UJ			128		
ServeRAID M5225-2GB SAS/SATA Controller	00AE938	1	899	8	7,192	
ServeRAID M5200 Series Performance Accelerator- FoD	47C8710	1	49	1	49	
Preferred Pro Keyboard USB - US English 103P RoHS v2	00AM600	1	29	1	29	
2-Button Optical Mouse - Black - USB	40K9200	1	19	1	19	
ThinkVision E1922 18.5-inch LED Backlit LCD Monitor	60B8AAR6US	1	100	1	100	
ServicePac for 3-Year 24x7x4 Support (x3950 X6)	67568BU	1	1,500	1		1500
				<b>Subtotal</b>	<b>283,718</b>	<b>1,500</b>
<b>Server Storage</b>						
S2 42U Standard Rack	93074RX	1	1,565	1	1,565	
Lenovo Storage E1024	64111B4	1	2,999	12	35,988	
1.5m SAS Cable (mSAS HD to mSAS)	00MJ163	1	129	12	1,548	
Lenovo Storage 2.5" 800GB SSD (SAS)	00MM715	1	4,999	104	519,896	
ServicePac for 3-Year 24x7x4 Support (E1024)	00WX880	1	1,146	12		13,752
ServicePac for 3-Year 24x7x4 Support (Rack)	41L2760	1	315	1		315
				<b>Subtotal</b>	<b>558,997</b>	<b>14,067</b>
<b>Server Software</b>						
SQL Server 2014 Enterprise Edition	7JQ-00750	2a	13,472.50	72	970,020	
Windows Server 2012 R2 Standard Edition	P73-06284	2b	882	4	3,528	
Microsoft Problem Resolution Services	N/A	2a	259	1		259
				<b>Subtotal</b>	<b>973,548</b>	<b>259</b>
<b>Client Hardware</b>						
System x3650 M5 Configure-To-Order, includes:	5462AC1	1	20,101	1	20,101	
x3650 M5 Base + Planar + Power Paddle Card	A5FD, A5EA, A5FT			1		
750W High Efficiency Platinum AC Power Supply	A5EU			2		
Intel Xeon Processor E5-2699 v3 18C 2.3GHz 45MB 145W	ARYJ, ARYT			2		
x3650 M5 PCIe Risers 1 & 2 + Thermal Kit	A5FQ, A5R6, ASQD			1		
System x Gen-II Universal Slides Kit	A5FW			1		
300GB 10K 6Gbps SAS 2.5" G3HS HDD	A4TL			2		
x3650 M5 8x 2.5" HS HDD Assembly Kit (Single RAID)	A5G6			1		
8GB TruDDR4 Memory PC4-17000 CL15 2133MHz LP RDIMM	A5B8			8		
Power Cable	6311			2		
ServeRAID M5210 SAS/SATA Controller	A3YZ			1		
Intel X540-T2 Dual Port 10GbBaseT Adapter	A2ED			1		
Intel X540 ML2 Dual Port 10GbBaseT Adapter	A40P			1		
x3650 M5 Riser Bracket	A5G5			2		
x3650 M5 Right EIA & EIA Plate	A5V5, A5G1			1		
ServicePac for 3-Year 24x7x4 Support (x3650 M4)	67567XR	1	790	1		790
				<b>Subtotal</b>	<b>20,101</b>	<b>790</b>
<b>Client Software</b>						
Windows Server 2012 R2 Standard Edition	P73-06284	2b	882	1	882	
				<b>Subtotal</b>	<b>882</b>	<b>0</b>
<b>Infrastructure</b>						
10 ft. Cat 6A Network Cable (2 spares)	CAT6A-10S	3	7	6	42	
				<b>Subtotal</b>	<b>42</b>	<b>0</b>
				<b>Total</b>	<b>1,837,288</b>	<b>16,616</b>
Dollar Volume Discount (See Note 1)	29.76%	1			261,684	
Microsoft Open Program Discount Schedule	16.67%	2b			735	
Pricing: 1 - Lenovo 1-877-782-7134; 2 - Microsoft; 3 - Newegg					<b>Three-Year Cost of Ownership USD:</b> \$1,591,485	
Note 1: Discount applies to all line items where Pricing=1; pricing is for these or similar quantities.					<b>TPC-E Throughput:</b> 11,058.99	
Discounts for similarly sized configurations will be similar to what is quoted here, but may vary based on the specific components priced.					<b>\$ USD/tpsE:</b> \$143.91	
Benchmark results and test methodology audited by Doug Johnson for InfoSizing, Inc. (www.sizing.com)						
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 section of the TPC benchmark specifications. If you find that stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.						



**System x3950 X6  
Microsoft SQL Server 2014**

**TPC-E 1.14.0  
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Numerical Quantities Summary				
<b>Reported Throughput: 11,058.99 tpsE</b>		<b>Configured Customers: 5,750,000</b>		
Response Time (in seconds)	Minimum	Average	90 <sup>th</sup> Percentile	Maximum
Broker-Volume	0.01	0.01	0.03	1.02
Customer-Position	0.01	0.01	0.02	2.96
Market-Feed	0.01	0.01	0.02	2.93
Market-Watch	0.01	0.01	0.02	1.00
Security-Detail	0.01	0.01	0.01	0.82
Trade-Lookup	0.01	0.05	0.08	1.03
Trade-Order	0.01	0.07	0.17	1.26
Trade-Result	0.01	0.01	0.04	0.97
Trade-Status	0.01	0.01	0.01	0.98
Trade-Update	0.01	0.05	0.08	1.05
Data-Maintenance	0.01	0.02	N/A	0.26
Transaction Mix		Transaction Count	Mix %	
Broker-Volume		39,013,149	4.9000%	
Customer-Position		103,504,876	13.0000%	
Market-Feed		7,962,484	1.0000%	
Market-Watch		143,314,195	18.0000%	
Security-Detail		111,466,412	14.0000%	
Trade-Lookup		63,694,909	8.0000%	
Trade-Order		80,414,718	10.1000%	
Trade-Result		79,624,781	10.001%	
Trade-Status		151,275,822	19.0000%	
Trade-Update		15,923,804	2.0000%	
Data-Maintenance		120	N/A	
Test Duration and Timings				
Ramp-up Time (hh:mm:ss)			01:03:58	
Measurement Interval (hh:mm:ss)			02:00:00	
Business Recovery Time (hh:mm:ss)			00:41:16	
Total Number of Transactions Completed in Measurement Interval			796,195,150	