



FUJITSU Server PRIMEQUEST 2800E

TPC-E 1.12.0
TPC Pricing 2.0.0

Report Date
April 14, 2014

TPC-E Throughput
8,582.52 tpsE

Price/Performance
\$ 205.43 USD per tpsE

Availability Date
May 1, 2014

Total System Cost
\$ 1,763,068 USD

Database Server Configuration

Operating System
**Microsoft Windows Server
2012 R2 Standard Edition**

Database Manager
**Microsoft SQL Server
2014 Enterprise
Edition**

Processors/Cores/Threads
8/120/240

Memory
4 TB



Tier A

2x PRIMERGY RX200 S8 (each with)
2x Intel Xeon E5-2667 v2 3.30 GHz
64 GB Memory
2x 250 GB 7.2k rpm SATA Drive
2x onboard LAN 1 Gb/s
1x Dual Port LAN 1 Gb/s

Tier B

PRIMEQUEST 2800E
8x Intel Xeon E7-8890 v2 2.80 GHz
4 TB Memory
2x 300 GB 10k rpm SAS Drives
2x 400 GB SSD Drives
4x onboard LAN 1 Gb/s
14x SAS RAID Controller

Storage

1x PRIMECENTER Rack
13x ETERNUS JX40
166x 400 GB SSD Drives
12x 300 GB 15k rpm SAS Drives

Initial Database Size
36,951 GB

Redundancy Level 1
**RAID-5 data and RAID-10 log
RAID-1 tempdb**

Storage
**166 x 400 GB SSD
12 x 300 GB 15k rpm HDD
2 x 400 GB SSD tempdb**



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Description	Part Number	Price Source	Unit Price	Qty	Extended Price	3-yr. Maint. Price
Database Server (Tier B) Hardware						
PRIMEQUEST 2800E						
Base Unit PQ2800E	MCF3AC111	1	47,900.00	1	47,900.00	
PQ 2x00E Management Board_1	MC-5HMM21	1	4,270.00	2	8,540.00	
Power Supply 2.880W platinum hp	MC-5HPS41	1	1,240.00	4	4,960.00	
Power Cord IEC320 C19 -> US NEMA L6-20p	S26361-F3151-E500	1	60.00	4	240.00	
Fan Unit	MC-5HFA41	1	325.00	2	650.00	
System Board PQ2800E	MC-3HSB51	1	43,000.00	4	172,000.00	
Memory Extension Board PQ2800E	MC-3HMB11	1	1,400.00	4	5,600.00	
Intel Xeon E7-8890 v2 15C/30T 2.80 GHz 37MB	MC-3BCA11	1	15,370.00	8	122,960.00	
64GB (2x32GB) 4Rx4 L DDR3-1600 LR ECC	MC-3CC711	1	2,600.00	64	166,400.00	
Memory Mode standard Installation	MC-0PMM1	1	7.00	4	28.00	
RAID Ctrl SAS 6G 1GB (D3116C)	MC-0JSR31	1	520.00	1	520.00	
HD SAS 6G 300GB 10K HOT PL 2.5' EP	MC-5DS741	1	310.00	2	620.00	
I/O Unit (1GbE) PQ2800E	MC-3HUX31	1	5,610.00	4	22,440.00	
RAID Ctrl SAS 6G 8Port ex 1GB LP LSI V3	MC-0JSR41	1	950.00	13	12,350.00	
JX40 SSD SAS 12G 400GB MLC 2.5" (tempdb)	FTS:JX40-SSD400	1	3,706.00	2	7,412.00	
Rack Mount Kit F1-C S7 LV	S26361-F2735-E175	1	144.00	1	144.00	
Rack Cable Arm 2U	S26361-F2735-E82	1	40.00	1	40.00	
Mounting in symmetrical Racks	S26361-F4530-E10	1	126.00	1	126.00	
Region-Kit APAC/America/EMEA/Indien	S26361-F1452-E100	1	13.00	1	13.00	
PRIMEQUEST PQ2800E Installation, normal business hours	PQ280B-N046005-000	1	2,800.00	1		2,800.00
PQ2800E Series Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing	PQ280B-U004361-001	1	6,048.00	1		6,048.00
Subtotal (*)					572,943.00	8,848.00
Storage						
PRIMECENTER RACK						
PRIMECENTER M1 Rack 724S 24U-1050x700	S26361-K827-V220	1	2,400.00	1	2,400.00	
Dummy panel, plastics, 1U + assembly	S26361-F4530-L131	1	12.00	4	48.00	
Dummy panel, plastics, 2U + assembly	S26361-F4530-L132	1	12	2	24.00	
Socket strip 3phase 3x 8 sockets	S26361-F2262-L31	1	240.00	2	480.00	
PY PRIMECENTER during normal business hours, PRIMERGY Installation, Racks, One Time billing	PYPCTR-N076005-0NA	1	280.00	1		280.00
PY PRIMECENTER Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing (PYPCTR-U004361-0NA)	PYPCTR-U004361-0NA	1	750.00	1		750.00
ETERNUS JX40						
ETERNUS JX40	FTS:ETJXS11BG		3,232.00	13	42,016.00	
JX40 SAS 6G Disk 300GB 15k 2.5"	FTS:ETJSA3HBG	1	372.00	12	4,464.00	
JX40 SSD SAS 12G 400GB MLC 2.5" (configured)	FTS:JX40-SSD400	1	3,706.00	120	444,720.00	
JX40 SSD SAS 12G 400GB MLC 2.5" (priced)	FTS:JX40-SSD400	1S	3,706.00	46	170,476.00	
SAS Cable 6Gb 1x SFF 8088-1x SFF 8088 2m	D:KBSAS6G-1S-1S-2M	1	73.00	13	949.00	
PY JX40 Warranty Uplift, 12 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), Incl. Holidays, Prepaid billing	PYJX40-U004121-0NA	1	639.00	13		8,307.00
PY JX40 Post Warranty, 24 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), Incl. Holidays, Prepaid billing	PYJX40-P004241-0NA	1	1,218.00	13		15,834.00
PY JX40 during normal business hours, Primergy storage installation, One Time billing	PYJX40-N043005-0NA	1	450.00	13		5,850.00
Subtotal(*)					665,577.00	31,021.00



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Database Server (Tier B) Software					
SQL Server 2014 Enterprise Edition 2 Core License	7JQ-00750	2	13,472.50	60	808,350.00
Microsoft Windows Server 2012 R2 Standard Edition 2 Processor License	P72-06284	2	735.00	4	2,940.00
Microsoft Problem Resolution Services	n/a	2	259.00	1	259.00
				Subtotal	811,290.00 259.00
Application Server (Tier A) Hardware					
PRIMERGY RX200 S8					
PY RX200 S8, 4x2.5	S26361-K1455-V101	1	1,100.00	2	2,200.00
Modulare SV 450W platin hp Power Supply Dummy	S26113-F575-E12	1	275.00	2	550.00
	S26113-F574-E99	1	4.00	2	8.00
Intel Xeon E5-2667v2 8C/16T 3.30GHz 25MB	S26361-F3803-E300	1	3,490.00	4	13,960.00
Fan upgrade kit 2nd CPU	S26361-F1386-E120	1	61.00	2	122.00
8GB (1x8GB) 2Rx8 DDR3-1866 R ECC	S26361-F3793-E515	1	237.00	16	3,792.00
Independent Mode Installation	S26361-F3694-E10	1	7.00	4	28.00
DVD-RW supermulti slimline SATA	S26361-F3269-E2	1	106.00	2	212.00
HD SATA 6G 250GB 7.2K HOT PL 2.5" BC	S26361-F3708-E250	1	280.00	4	1,120.00
PLAN CP 2x1Gbit Cu Intel I350-T2 LP	S26361-F4610-E202	1	225.00	2	450.00
Rack Mount Kit F1-C S7 LV	S26361-F2735-E175	1	145.00	2	290.00
Cable powercord rack, 4m, grey	T26139-Y1968-E100	1	12.00	2	24.00
Mounting in symmetrical Racks	S26361-F4530-E10	1	7.00	2	14.00
Region-Kit APAC/America/EMEA/Indien	S26361-F1452-E100	1	7.00	2	14.00
PRIMERGY RX200S8 Installation, normal business hours	PYR200-N038005-ONA	1	200.00	2	400.00
PY RX200 Series Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing (PYR200-U004361-ONA)	PYR200-U004361-ONA	1	600.00	2	1,200.00
				Subtotal(*)	22,784.00 1,600.00
Application Server (Tier A) Software					
Microsoft Windows Server 2012 Standard Edition 2 Processor License	P73-05761	2	735.00	2	1,470.00
				Subtotal	1,470.00
Miscellaneous					
DISPLAY E20T-6 LED (incl 2spares)	S26361-K1432-V160	1	165.00	3	495.00
Infrastructure or Connectivity					
KB410 USB Black US English 104 key (incl 2 spares)	S26381-K511-L410	1	16.00	3	48.00
MouseM510 Black (incl 2 spares)	S26381-K457-L100	1	13.00	3	39.00
LAN-CAT 5 Enhanced, l=3m (incl 2 spares)	T26139-Y2425-M3	1	5.00	6	30.00
				Subtotal(*)	612.00 0.00
				Total	2,074,676.00 41,728.00
Dollar Volume Discount (see Notes)		28%	1		353,336.48
					1,721,339.52

Notes: Price Source: 1=FUJITSU, 2=Microsoft Corporation, 1S=Component of the measured configuration that has been substituted in the priced configuration. See the FDR for details. Discount applies to all subtotal marked with (*). Pricing is for these or similar quantities. Discounts for similiary sized configurations will be similar to what is quoted here, but may vary based on the specific components priced.	Three-Year Cost of Ownership USD	\$1,763,068
	TPC-E Throughput	8,582.52
	\$ USD/tpsE	\$205.43

The benchmark results and test methodology were 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 pricing specifications. If you find that the stated prices are not available according to these terms, please inform the TPC at pricing@tpc.org. Thank you.



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Numerical Quantities Summary

Reported Throughput:	8,582.52 tpsE	Configured Customers:	4,500,000	
Response Times (in seconds)	Minimum	Average	90th%tile	Maximum
Broker Volume	0.00	0.02	0.03	0.16
Customer Position	0.00	0.01	0.02	4.42
Market Feed	0.00	0.01	0.02	4.40
Market Watch	0.00	0.01	0.02	0.37
Security Detail	0.00	0.00	0.01	0.36
Trade Lookup	0.00	0.05	0.09	0.42
Trade Order	0.00	0.04	0.14	0.61
Trade Result	0.00	0.02	0.04	0.47
Trade Status	0.00	0.01	0.01	0.34
Trade Update	0.01	0.06	0.09	0.56
Data Maintenance	0.00	0.01	N/A	0.06
Transaction Mix	Transaction Count		Mix %	
Broker Volume	30,281,445		4.900%	
Customer Position	80,338,437		13.000%	
Market Feed	6,179,428		1.000%	
Market Watch	111,237,696		18.000%	
Security Detail	86,518,430		14.000%	
Trade Lookup	49,438,616		8.000%	
Trade Order	62,416,756		10.100%	
Trade Result	61,794,211		9.999%	
Trade Status	117,418,204		19.000%	
Trade Update	12,359,532		2.000%	
Data Maintenance	120		N/A	
Test Duration and Timings				
Ramp-up Time (hh:mm:ss)	00:20:32			
Measurement Interval (hh:mm:ss)	02:00:00			
Business Recovery Time (hh:mm:ss)	00:38:08			
Total Number of Transactions Completed	617,982,755			