
		FUJITSU Server PRIMERGY RX2540 M5		TPC-E™ 1.14.0 TPC Pricing 2.4.0
				Report Date: Oct 24, 2019 Revision Date: Oct 24, 2019
TPC-E Throughput 6,844.20 tpsE	Price/Performance \$ 85.13 USD per tpsE	Availability Date Oct 24, 2019	Total System Cost \$ 582,623 USD	
Database Server Configuration				
Operating System Microsoft Windows Server 2016 Standard Edition	Database Manager Microsoft SQL Server 2017 Enterprise Edition	Processors/Cores/Threads 2/56/112	Memory 1,536 GB	
SUT				
			<p>Tier A PRIMERGY RX2530 M5 2x Intel Xeon Platinum 8280 2.70 GHz 192 GB Memory 2x 300 GB 10k rpm SAS Drive 1x onboard dual port LAN 10 Gb/s 1x onboard dual port LAN 1 Gb/s 1x SAS RAID controller</p> <p>Tier B PRIMERGY RX2540 M5 2x Intel Xeon Platinum 8280 2.70 GHz 1,536 GB Memory 2x 300 GB 15k rpm SAS Drives 6x 1.6 TB SAS SSD 1x onboard dual port LAN 10 Gb/s 1x onboard dual port LAN 1 Gb/s 6x SAS RAID Controller</p> <p>Storage 1x PRIMECENTER Rack 5x ETERNUS JX40 S2 49x 1.6 TB SSD Drives</p>	
Initial Database Size 33,336 GB	Redundancy Level 1 RAID-5 for data RAID-10 for tempDB and log		Storage 55 x 1.6 TB SSD	



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Description	Part Number	Price Source	Unit Price	Qty	Extended Price	3-yr. Maint. Price
			\$		\$	\$
Database Server (Tier B) Hardware						
PRIMERGY RX2540 M5						
PY RX2540 M5 8x 2.5' expandable	S26361-K1655-V408	1	\$ 1,455.00	1	1,455.00	
Modular PSU 1200W platinum hp	S26113-F616-E10	1	\$ 451.00	2	902.00	
Cable power cord rack, 4m, grey	T26139-Y1968-E100	1	\$ 22.00	2	44.00	
Intel Xeon Platinum 8280 28C/56T 2.70 GHz	S26361-F4082-E380	1	\$ 19,800.00	2	39,600.00	
Cooler Kit 2nd CPU	S26361-F3849-E100	1	\$ 35.00	1	35.00	
64GB (1x64GB) 2Rx4 DDR4-2933 R ECC	S26361-F4083-E364	1	\$ 2,730.00	24	65,520.00	
Independent Mode Installation	S26361-F3694-E10	1	\$ 5.00	2	10.00	
PLAN EM 2x 10Gb T OCP interface Intel	S26361-F3953-E210	1	\$ 685.00	1	685.00	
DVD-RW supermulti ultraslim SATA	S26361-F3778-E1	1	\$ 140.00	1	140.00	
HD SAS 12G 300GB 15K HOT PL 2.5' EP	S26361-F5727-E530	1	\$ 540.00	2	1,080.00	
SSD SAS 12G 1.6TB HOT PL 2.5' EP	S26361-F5713-E160	1	\$ 5,150.00	6	30,900.00	
PRAID EP420i	S26361-F5243-E12	1	\$ 515.00	1	515.00	
PRAID EP540e LP	S26361-F4063-E204	1	\$ 1,145.00	5	5,725.00	
Rack Mount Kit F1 CMA QRL LV	S26361-F2735-E175	1	\$ 105.00	1	105.00	
Mounting of RMK in symmetrical racks	S26361-F4530-E10	1	\$ 2.00	1	2.00	
region-kit America	S26361-F1452-E130	1	\$ 11.00	1	11.00	
PYRX2540 Series during normal business hours, Primergy Installation, Midrange Server, w/o OS, One Time billing	PYR254-N038005-0NA	1	\$ 350.00	1		350.00
PYRX2540 Series Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing	PYR254-U004361-0NA	1	\$ 1,152.00	1		1,152.00
				Subtotal (*)	146,729.00	1,502.00
Storage						
PRIMECENTER RACK						
PRIMECENTER M1 Rack 724S 24U-1050x700	S26361-K827-V220	1	\$ 2,740.00	1	2,740.00	
Dummy panel, plastics, 1U + assembly	S26361-F4530-L131	1	\$ 17.00	3	51.00	
Dummy panel, plastics, 2U + assembly	S26361-F4530-L132	1	\$ 22.00	6	132.00	
Socket strip 2x12 outlets f. USA/CAN	S26361-F2262-L411	1	\$ 650.00	1	650.00	
PYPRIMECENTER during normal business hours, PRIMERGY Installation, Racks, One Time billing	PYPCTR-N076005-0NA	1	\$ 280.00	1		280.00
PYPRIMECENTER Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing	PYPCTR-U004361-0NA	1	\$ 324.00	1		324.00
ETERNUS JX40 S2						
ETERNUS JX40 S2 Enclosure w 1x IOM	FTS:ETJEADU	1	\$ 2,995.00	5	14,975.00	
JX40 S2 TLC SSD 1.6TB	FTS:ETJ4SBHD	1	\$ 5,150.00	49	252,350.00	
MiniSAS-HD cable1.1m	FTS:ETJ4KM11-L	1	\$ 85.00	5	425.00	
ETJX40 Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing	ETJX40-U004361-ABC	1	\$ 826.00	5		4,130.00
ETJX40 during normal business hours, Eternus Installation, One Time billing	ETJX40-N043005-ABC	1	\$ 650.00	5		3,250.00
						0.00
				Subtotal(*)	271,323.00	7,984.00
Database Server (Tier B) Software						
SQL Server 2017 Enterprise Edition 2 Core License	n/a	2	\$ 13,472.50	28	377,230.00	
Microsoft Windows Server 2016 Standard Edition 2 Core License	n/a	2	\$ 92.00	28	2,576.00	
Microsoft Problem Resolution Services	n/a	2	\$ 259.00	1		259.00
				Subtotal	379,806.00	259.00



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Application Server (Tier A) Hardware							
PRIMERGY RX2530 M5							
PY RX2530 M5 4x 2.5" expandable	S26361-K1659-V301	1	\$ 1,392.00	1	1,392.00		
Modular PSU 800W platinum hp	S26113-F574-E13	1	\$ 330.00	1	330.00		
Cable power cord rack, 4m, grey	T26139-Y1968-E100	1	\$ 22.00	1	22.00		
Power Supply Dummy	S26113-F574-E99	1	\$ 6.00	1	6.00		
Intel Xeon Platinum 8280 28C/56T 2.70 GHz	S26361-F4082-E380	1	\$ 19,800.00	2	39,600.00		
Cooler Kit 2nd CPU	S26361-F3849-E100	1	\$ 35.00	1	35.00		
16GB (1x16GB) 1Rx4 DDR4-2666 R ECC	S26361-F4083-E316	1	\$ 595.00	12	7,140.00		
Independent Mode Installation	S26361-F3694-E10	1	\$ 5.00	2	10.00		
DVD ROM UltralSlim	S26361-F3718-E2	1	\$ 115.00	1	115.00		
HD SAS 12G 300GB 10K HOT PL 2.5' EP	S26361-F5581-E130	1	\$ 365.00	2	730.00		
PRAID EP400i	S26361-F5243-E11	1	\$ 485.00	1	485.00		
PLAN EM 2x 10Gb T OCP interface Intel	S26361-F3953-E210	1	\$ 685.00	1	685.00		
Rack Mount Kit F1-CMA Slim Line	S26361-F2735-E400	1	\$ 88.00	1	88.00		
Mounting of RMK in symmetrical racks	S26361-F4530-E10	1	\$ 2.00	1	2.00		
region-kit America	S26361-F1452-E130	1	\$ 11.00	1	11.00		
PY RX2530 Series during normal business hours, Primergy Installation, Midrange Server, w/o OS, One Time billing	PYR253-N038005-0NA	1	\$ 350.00	1		350.00	
PYRX2530 Series Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7 4hr Onsite, Prepaid billing	PYR253-U004361-0NA	1	\$ 454.00	1		454.00	
				Subtotal(*)	50,651.00	804.00	
Application Server (Tier A) Software							
Microsoft Windows Server 2016 Standard Edition 2 Core License	n/a	2	\$ 92.00	28	2,576.00		
				Subtotal	2,576.00		
Miscellaneous							
Display E22-8 TS Pro (incl 2spares)	S26361-K1603-V160	1	\$ 149.00	3	447.00		
Infrastructure or Connectivity							
Keyboard KB521 US 104 key (incl 2 spares)	S26381-K521-L110	1	\$ 26.00	3	78.00		
MOUSE M520 BLACK (incl 2 spares)	S26381-K467-L100	1	\$ 15.00	3	45.00		
StarTech.com 7 ft Gray Cat6a Shielded Patch Cable 7ft - gray (incl 2 spares)	C6ASPA7GR	3	\$ 14.99	4	59.96		
				Subtotal(*)	629.96	0.00	
				Total	851,714.96	10,549.00	
Dollar Volume Discount (see Notes)		59%	1		276,476.41		
Support Discount		30%				3,164.70	
Notes: Price Source: 1=FUJITSU, 2=Microsoft Corporation, 3=Insight Discount applies to all subtotal marked with(*) . Pricing is for these or similar quantities. Discounts for similar 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		\$582,623.00	
				TPC-E Throughput		6844.20	
				\$ USD/tpsE		\$85.13	
The benchmark results and test methodology were audited by Doug Johnson, InfoSizing (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:	6,844.20 tpsE	Configured Customers:	4,060,000	
Response Times (in seconds)	Minimum	Average	90th%tile	Maximum
Broker Volume	0.01	0.01	0.02	0.48
Customer Position	0.01	0.01	0.02	0.55
Market Feed	0.01	0.02	0.05	0.72
Market Watch	0.01	0.01	0.02	0.55
Security Detail	0.01	0.01	0.01	0.46
Trade Lookup	0.01	0.04	0.06	0.55
Trade Order	0.01	0.03	0.05	0.78
Trade Result	0.01	0.03	0.05	0.59
Trade Status	0.01	0.01	0.01	0.42
Trade Update	0.01	0.06	0.08	0.53
Data Maintenance	0.01	0.02	N/A	0.04
Transaction Mix		Transaction Count		Mix %
Broker Volume		24,147,999		4.900%
Customer Position		64,065,696		13.000%
Market Feed		4,927,841		1.000%
Market Watch		88,706,888		18.000%
Security Detail		68,994,065		14.000%
Trade Lookup		39,425,269		8.000%
Trade Order		49,774,355		10.100%
Trade Result		49,278,290		9.999%
Trade Status		93,634,893		19.000%
Trade Update		9,856,200		2.000%
Data Maintenance		120		N/A
Test Duration and Timings				
Ramp-up Time (hh:mm:ss)		0:29:11		
Measurement Interval (hh:mm:ss)		2:00:00		
Business Recovery Time (hh:mm:ss)		1:25:31		
Total Number of Transactions Completed in Measurement Interval		492,811,496		