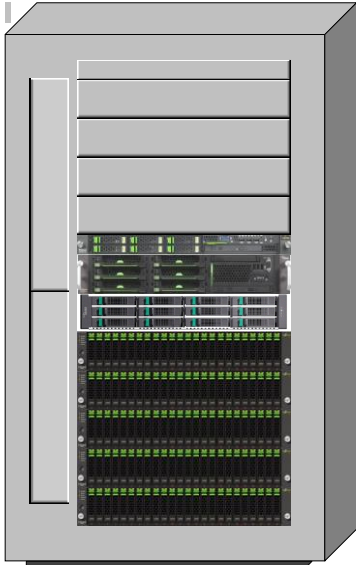
		<b>PRIMERGY RX300 S6 12x2.5</b>			<b>TPC-E 1.12.0</b> <b>TPC Pricing 1.5.0</b> <b>TPC-Energy 1.2.1</b>
					Report Date February 14, 2011
TPC-E Throughput <b>1,268.30 tpsE</b>	Price/Performance <b>\$ 183.94 USD per tpsE</b>	Availability Date <b>March 1, 2011</b>	Total System Cost <b>\$ 233,281</b>	TPC-Energy Metric <b>0.93 Watts/tpsE</b>	
<b>Database Server Configuration</b>					
Operating System <b>Microsoft Windows Server 2008 R2 Enterprise x64 Edition</b>		Database Manager <b>Microsoft SQL Server 2008 R2 Enterprise x64 Edition</b>		Processors/Cores/Threads <b>2/12/24</b>	Memory <b>96 GB</b>
<b>SUT</b>					
			<b>Tier A</b> PRIMERGY RX200 S6 1x Intel Xeon E5640 2.66 GHz 6 GB Memory 1x 73 GB 15k rpm SAS Drive 2x onboard LAN 1 Gb/s 1x Dual Port LAN 1 Gb/s		
			<b>Tier B</b> PRIMERGY RX300 S6 2x Intel Xeon X5690 3.46 GHz 96 GB Memory 2x 73 GB 15k rpm SAS Drives 4x 146 GB 10k rpm SAS Drives 4x 500 GB 7.2k rpm SATA Drives 2x onboard LAN 1 Gb/s 1x onboard SAS RAID Controller 5x SAS RAID Controller		
<b>Storage</b> 1x PRIMECENTER Rack 5x ETERNUS JX40 120x 64 GB SSD Drives					
Initial Database Size <b>5,124 GB</b>		Redundancy Level 1 <b>RAID-5 data and RAID-10 log</b>		Storage <b>120 x 64 GB SSD</b> <b>4 x 500 GB 7.2k rpm HDD</b> <b>4 x 146 GB 10k rpm HDD</b>	



## PRIMERGY RX300 S6 12x2.5

**TPC-E 1.12.0  
TPC Pricing 1.5.0  
TPC-Energy 1.2.1**

Report Date  
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March 1, 2011

Description	Part Number	Price Source	Unit Price USD	Qty	Extended Price USD	3-yr. Maint. Price USD
<b>Database Server (Tier B) Hardware</b>						
<b>FSCR3S6_S26361-K1344-V301_111384-01</b>						
PY RX300S6 12x2.5 gold PSU	S26361-K1344-V301			1	11,514.10	
Intel Xeon X5690 6C/12T 3.46 GHz 12 MB	S26361-F3619-E346			2		
8 GB DDR3 1333 MHz PC3-10600 rg d	S26361-F3604-E515			12		
DVD-RW supermulti slimline SATA	S26361-F3269-E2			1		
HD SAS 6G 146GB 10K HOT PL 2.5" EP	S26361-F4482-E114			4		
HD SAS 6G 73GB 15K HOT PL 2.5" EP	S26361-F4482-E573			2		
HD SATA 3G 500GB 7.2K HOT PLUG 2.5" BC	S26361-F3601-E500			4		
RAID Ctrl SAS 6G 5/6 512MB (D2616)	S26361-F3554-E512			1		
Cable mgmt. for 19" DC- PC- Rack	S26361-F2735-E7			1		
RMK-F1_1-2U Server	S26361-F2735-E101			1		
RAID Ctrl SAS 6G 8Port ex 512M FH/LP LSI	S26361-F3593-L501	1	529.55	5	2,647.75	
PYRX300 S6 Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), Incl. Holidays, Prepaid billing	PYR3S6-U004361-0NA	1	949.00	1		949.00
PYRX300 S6 during normal business hours, Primergy installation, Low-end Server, w/o OS, One Time billing	PYR3S6-N039005-0NA	1	350.00	1		350.00
				<b>Subtotal</b>	<b>14,161.85</b>	<b>1,299.00</b>
<b>Storage</b>						
<b>FSCPCTR_S26361-K826-V102_109065-01</b>						
PRIMECENTER Rack 24 U, 1000 deep	S26361-K826-V102	1	1,899.75	1	1,899.75	
Dummy panel, plastics, 1U + assembly	S26361-F2735-E130			1		
Dummy panel, plastics, 2U + assembly	S26361-F2735-E131			6		
Socket strip 3phase 3x 8 sockets	S26361-F2262-L31	1	157.25	1	157.25	
PYPCTR Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), Incl. Holidays, Prepaid billing	PYPCTR-U004361-0NA	1	720.00	1		720.00
<b>FSCJX40_FTS:ETJXS11BG_106605-02</b>						
ETERNUS JX40	FTS:ETJXS11BG	1	2,611.20	5	13,056.00	
PRIMERGY Rackinstallation SX/DX ex works	D:FCSX-INPSR			5		
SSD SATA 3G 64GB SLC HOT PLUG 2.5" EP	S26361-F3298-L64	1	1,131.35	120	135,762.00	
PYJX40 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	609.00	5		3,045.00
PYJX40 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	5		6,090.00
PYJX40 during normal business hours, Primergy storage installation, One Time billing	PYJX40-N043005-0NA	1	450.00	5		2,250.00
SAS Cable 6Gb 1x SFF 8088-1x SFF 8088 2m	D:KBSAS6G-1S-1S-2M	1	85.00	5	425.00	
				<b>Subtotal</b>	<b>151,300.00</b>	<b>12,105.00</b>



## PRIMERGY RX300 S6 12x2.5

**TPC-E 1.12.0  
TPC Pricing 1.5.0  
TPC-Energy 1.2.1**

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Database Server (Tier B) Software						
SQL Server 2008 R2 Enterprise Edition Per Processor License	810-08529	2	23,370.00	2	46,740.00	
Windows Server 2008 R2 Enterprise Edition	P72-04219	2	2,320.00	1	2,320.00	
Microsoft Problem Resolution Services	n/a	2	259.00	1		259.00
				<b>Subtotal</b>	<b>49,060.00</b>	<b>259.00</b>
Application Server (Tier A) Hardware						
<b>FSCR2S6_S26361-K1342-V101_109116-01</b>		1	2,981.80	1	2,981.80	
PY RX200 S6, 6HD-bays 2.5"	S26361-K1342-V101			1		
Intel Xeon E5640 4C/8T 2.66 GHz 12 MB	S26361-F4419-E266			1		
Performance Mode Installation	S26361-F3284-E2			1		
SP 6GB 3x2 DDR3 1333 MHz PC3-10600 rg s	S26361-F3604-E533			1		
DVD-RW supermulti slimline SATA	S26361-F3269-E2			1		
HD SAS 6G 73GB 15K HOT PLUG 2.5" EP	S26361-F4006-E573			1		
RAID 0/1 SAS based on LSI MegaRAID 4Port	S26361-F3257-E4			1		
Eth Ctrl 2x1Gbit PCIe x4 D2735 Cu lp	S26361-F3610-E201			1		
RMK-P_1-2U servers (new)	S26361-F2735-E110			1		
Power Supply Module 450W gold hp	S26113-F570-E1			1		
PYRX200 S6 Warranty Uplift, 36 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), Incl. Holidays, Prepaid billing	PYR2S6-U004361-0NA	1	550.00	1		550.00
PYRX200 S6 during normal business hours, Primergy installation, Low-end Server, w/o OS, One Time billing	PYR2S6-N039005-0NA	1	200.00	1		200.00
				<b>Subtotal</b>	<b>2,981.80</b>	<b>750.00</b>
Application Server (Tier A) Software						
Windows Server 2008 R2 Standard Edition	P73-00352	2	870.00	1	870.00	
Miscellaneous						
DISPLAY A19-5 ECO (incl. 2 spares)	S26361-K1339-V140	1	125.80	3	377.40	
Infrastructure or Connectivity						
KB400 USB US (incl. 2 spares)	S26381-K550-L402	1	15.30	3	45.90	
Mini Optical Mouse (incl. 2 spares)	S26381-K452-L100	1	11.05	3	33.15	
LAN-CAT 5 Enhanced, l=3m	S26361-F3417-L3	1	18.70	2	37.40	
				<b>Subtotal</b>	<b>1,363.85</b>	<b>0.00</b>
				<b>Total</b>	<b>216,219.75</b>	<b>17,060.75</b>
Notes:			<b>Three-Year Cost of Ownership USD</b>		<b>\$233,281</b>	
Price Source: 1=Fujitsu 1-408-746-7802 <a href="http://www.fujitsu.com/us/">http://www.fujitsu.com/us/</a> , 2=Microsoft Corporation			<b>TPC-E Throughput</b>		<b>1,268.30</b>	
			<b>\$ USD/tpsE</b>		<b>\$183.94</b>	

The benchmark results and test methodology were audited by Francois Raab for InfoSizing Inc. ([www.sizing.com](http://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](mailto:pricing@tpc.org). Thank you.



**PRIMERGY RX300 S6  
12x2.5**

**TPC-E 1.12.0  
TPC Pricing 1.5.0  
TPC-Energy 1.2.1**

Report Date  
February 14, 2011

Availability Date  
March 1, 2011

**Numerical Quantities Summary**

<b>Reported Throughput:</b>	<b>1,268.30 tpsE</b>	<b>Configured Customers:</b>	<b>640,000</b>	
<b>Response Times (in seconds)</b>	<b>Minimum</b>	<b>Average</b>	<b>90th%tile</b>	<b>Maximum</b>
Broker Volume	0.00	0.04	0.06	2.43
Customer Position	0.00	0.05	0.07	2.30
Market Feed	0.00	0.04	0.08	7.96
Market Watch	0.00	0.03	0.06	1.81
Security Detail	0.00	0.02	0.04	1.43
Trade Lookup	0.00	0.13	0.17	2.22
Trade Order	0.00	0.11	0.15	3.36
Trade Result	0.00	0.13	0.18	2.57
Trade Status	0.00	0.03	0.05	2.38
Trade Update	0.02	0.15	0.18	1.55
Data Maintenance	0.02	0.13	N/A	1.96
<b>Transaction Mix</b>	<b>Transaction Count</b>		<b>Mix %</b>	
Broker Volume	4,474,811		4.900%	
Customer Position	11,871,511		13.000%	
Market Feed	913,195		1.000%	
Market Watch	16,437,301		18.000%	
Security Detail	12,784,339		14.000%	
Trade Lookup	7,305,295		8.000%	
Trade Order	9,222,980		10.100%	
Trade Result	9,131,801		10.000%	
Trade Status	17,350,870		19.000%	
Trade Update	1,826,336		2.000%	
Data Maintenance	120		N/A	
<b>Test Duration and Timings</b>				
Ramp-up Time (hh:mm:ss)	00:22:41			
Measurement Interval (hh:mm:ss)	02:00:00			
Business Recovery Time (hh:mm:ss)	00:21:16			
Total Number of Transactions Completed in Measurement Interval	91,318,439			

<b>PRIMERGY RX300 S6 12x2.5</b>	<b>Energy Summary</b>			<b>TPC-E 1.12.0 TPC Pricing 1.5.0 TPC-Energy 1.2.1</b>
				Report Date February 14, 2011
				Availability Date March 1, 2011

TPC-E Throughput <b>1,268.30 tpsE</b>	Price/Performance <b>\$ 183.94 USD per tpsE</b>	Availability Date <b>March 1, 2011</b>	Total System Cost <b>\$ 233,281</b>	TPC-Energy Metric <b>0.93 Watts/tpsE</b>
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**Numerical Quantities For Reported Energy Configuration:**

**REC Idle Power: 781.93 Watts**  
**Average Power of REC : 1,181.44 Watts**

**Subsystem Reporting:**

	Secondary Metrics	Additional Numerical Quantities			
	watts/tpsE	Full Load Avg Watts	Full Load % of REC	Idle Avg Watts	Idle % of REC
<b>Database Server</b>	0.42	533.38	45.15%	230.72	29.51%
<b>Storage</b>	0.38	486.06	41.14%	465.45	59.53%
<b>Application Server</b>	0.11	143.00	12.10%	85.26	10.90%
<b>Miscellaneous</b>	0.01	19.00	1.61%	0.50	0.06%
<b>Total REC</b>	0.93	1181.44	100.00%	781.93	100.00%

**Lowest ambient temperature at air inlet: 20.81 Degrees Celsius**

**Items in Priced Configuration not in the Reported Energy Configuration**  
**None**

**Items in the Reported Energy Configuration not in the Measured Energy Configuration**  
**Fujitsu Display A19-5 ECO**