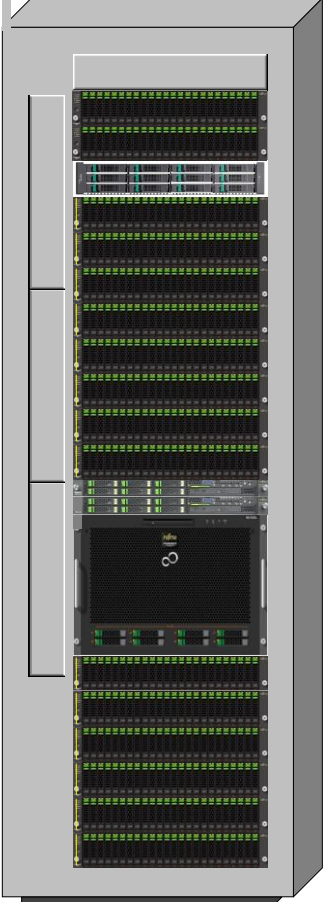
		PRIMERGY RX900 S2			TPC-E 1.12.0 TPC Pricing 1.6.0 TPC-Energy 1.2.1
					Report Date May 6, 2011
TPC-E Throughput 4,555.54 tpsE	Price/Performance \$ 217.27 USD per tpsE	Availability Date July 1, 2011	Total System Cost \$ 989,779	TPC-Energy Metric 1.00 Watts/tpsE	
Database Server Configuration					
Operating System Microsoft Windows Server 2008 R2 Datacenter Edition SP1		Database Manager Microsoft SQL Server 2008 R2 Datacenter Edition		Processors/Cores/Threads 8/80/160	Memory 2048 GB
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="width: 20%;"> <p>SUT</p> </div> <div style="width: 30%; text-align: center;">  </div> <div style="width: 45%; border: 1px solid black; padding: 10px;"> <p>Tier A (2x) PRIMERGY RX200 S6 2x Intel Xeon E5647 2.93 GHz 12 GB Memory 1x 73 GB 15k rpm SAS Drive 2x onboard LAN 1 Gb/s 2x Dual Port LAN 1 Gb/s</p> <p>Tier B PRIMERGY RX900 S2 8x Intel Xeon E7-8870 2.40 GHz 2048 GB Memory 2x 146 GB 10k rpm SAS Drives 6x 450 GB 10k rpm SAS Drives 6x onboard LAN 1 Gb/s 1x onboard SAS RAID Controller 16x SAS RAID Controller</p> <p>Storage 1x PRIMECENTER Rack 16x ETERNUS JX40 384x 64 GB SSD Drives 1x FibreCAT SX40 5x 2 TB 7.2k rpm SATA Drives</p> </div> </div>					
Initial Database Size 19,267 GB		Redundancy Level 1 RAID-5 data and RAID-10 log		Storage 384 x 64 GB SSD 5 x 2 TB 7.2k rpm HDD 6 x 450 GB 10k rpm HDD	



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Description	Part Number	Price Source	Unit Price	Qty	Extended Price	3-yr. Maint. Price
Database Server (Tier B) Hardware						
FSCR800_S26361-K1403-V800						
PY RX900S2	S26361-K1403-V800	1	173,188.42	1	173,188.42	
CPU MEMORY Riser Board	S26361-D3145-E100			4		
Intel Xeon E7-8870 10C/20T 2.40 GHz 30 MB 6.4GT/s(130W)	S26361-F4471-E887			8		
64GB (4x16) LV DDR3	S26361-F4523-E945			32		
DVD-RW supermulti slimline SATA	S26361-F3269-E2			1		
HD SAS 6G 146GB 10K HOT PLUG 2.5" EP	S26361-F4482-E114			2		
HD SAS 6G 450GB 10K HOT PLUG 2.5" EP	S26361-F4482-E145			6		
RAID Ctrl SAS 6G 5/6 512MB (D2616)	S26361-F3554-E512			1		
RAID Ctrl SAS 6G 8Port ex 512MB FH LSI	S26361-F3593-E1			16		
Rack Mount Kit for RX900	S26361-F2735-E109			1		
Cable mgmt. RX900 fr asym. 19" Racks	S26361-F2735-E17			1		
PYRX800 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	PYR800-U004361-ONA	1	3,078.70	1		3,078.70
PYRX800 during normal business hours, Primergy Installation, High-end Server, w/o OS, One Time billing	PYR800-N037005-ONA	1	390.15	1		390.15
				Subtotal	173,188.42	3,468.85
Storage						
FSCPCTR_S26361-K826-V214						
PRIMECENTER Rack 46U, 1100mm deep	S26361-K826-V214	1	2,584.00	1	2,584.00	
Dummy panel, plastics, 2U + assembly	S26361-F2735-E131			4		
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-ONA	1	720.00	1		720.00
				Subtotal	2,741.25	720.00
FSCJX40_FTS:ETJXS11BG						
ETERNUS JX40	FTS:ETJXS11BG	1	2,219.52	16	35,512.32	
PRIMERGY Rackinstallation SX/DX ex works	D:FCSX-INPSR			16		
SSD SATA 3G 64GB SLC HOT PLUG 2.5" EP	S26361-F3298-L64	1	1,013.88	384	389,329.92	
SAS CABLE 1X SFF 8088-1X SFF 8088 2M	D:KBSAS1S-1S-2M	1	66.30	16	1,060.80	
PYJX40 Warranty Uplift, 12 Months, Enhanced Plus Level, 24x7x365 Phone Support (Sev1 - Live Transfer), 24x7x365 Onsite and Parts (Sev1 Resp. Time - 4 Hours), ncl. Holidays, Prepaid billing	PYJX40-U004121-ONA	1	609.00	16		9,744.00
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-ONA	1	1,218.00	16		19,488.00
PYJX40 during normal business hours, Primergy storage installation, One Time billing	PYJX40-N043005-ONA	1	450.00	16		7,200.00
				Subtotal	425,903.04	36,432.00
FSCSX40_S26361-K1122-V200						
FibreCAT SX40 SAS Disk Subsystem	S26361-K1122-V200	1	6,752.60	1	6,752.60	
HD SATA 2000GB hot p 3.5" SX40	S26361-F3245-E200	1		5		
Rack installation ex works, SX10, 1U Nod	S26361-F1647-E302	1		1		
PYSX40 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	PYSX40-U004361-ONA	1	1,827.00	1		1,827.00
PYSX40 during normal business hours, Primergy storage installation, One Time billing	PYSX40-N043005-ONA	1	450.00	1		450.00
SAS CBL EXT 2m 8088-8470	S26361-F3246-L203	1	62.90	1	62.90	
				Subtotal	6,815.50	2,277.00



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Database Server (Tier B) Software						
SQL Server 2008 R2 Datacenter Edition Per Processor License	USD-00445	2	38,376.00	8	307,008.00	
Windows Server 2008 R2 Datacenter Edition Per Processor License	P71-06367	2	2,310.00	8	18,480.00	
Microsoft Problem Resolution Services	n/a	2	259.00	1		259.00
				Subtotal	325,488.00	259.00
Application Server (Tier A) Hardware						
FSCR2S6_S26361-K1342-V101		1	4,414.90	2	8,829.80	
PY RX200 S6, 6HD-bays 2.5"	S26361-K1342-V101			2		
Intel Xeon E56474C/8T 2.93 GHz 12 MB	S26361-F4489-E293			4		
Performance Mode Installation	S26361-F3284-E2			4		
SP 6GB 3x2 DDR3 1333 MHz PC3-10600 rg s	S26361-F3604-E533			4		
CD-RW/DVD slimline SATA	S26361-F3269-E2			2		
HD SAS 6G 73GB 15K HOT PLUG 2.5" EP	S26361-F4006-E573			2		
RAID 0/1 SAS based on LSI MegaRAID 4Port	S26361-F3257-E4			2		
Eth Ctrl 2x1Gbit PCIe x4 D2735 Cu lp	S26361-F3610-E201			4		
RMK-P_1-2U servers (new)	S26361-F2735-E110			2		
Power Supply Module 450W gold hp	S26113-F570-E1					
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	2		1,100.00
PYRX200 S6 during normal business hours, Primergy installation, Low-end Server, w/o OS, One Time billing	PYR2S6-N039005-0NA	1	200.00	2		400.00
				Subtotal	8,829.80	1,500.00
Application Server (Tier A) Software						
Windows Server 2008 R2 Standard x64 Edition	P73-04980	2	711.00	2	1,422.00	
Miscellaneous						
DISPLAY A19-5 ECO (incl. 2 spares)	S26361-K1339-V140	1	176.80	3	530.40	
Infrastructure or Connectivity						
KB SLIM MF USA (incl. 2 spares)	S26381-K370-V510	1	20.40	3	61.20	
Mini Optical Mouse (incl. 2 spares)	S26381-K452-L100	1	10.20	3	30.60	
LAN-CAT 5 Enhanced, l=3m	S26361-F3417-L3	1	18.70	6	112.20	
				Subtotal	2,156.40	0.00
				Total	945,122.41	44,656.85
Notes:			Three-Year Cost of Ownership USD		\$989,779	
Price Source: 1=Fujitsu, 2=Microsoft Corporation			TPC-E Throughput		4,555.54	
			\$ USD/tpsE		\$217.27	

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:	4555.54 tpsE	Configured Customers:	2,400,000	
Response Times (in seconds)	Minimum	Average	90th%tile	Maximum
Broker Volume	0.00	0.03	0.06	0.65
Customer Position	0.00	0.02	0.04	1.82
Market Feed	0.00	0.01	0.04	3.78
Market Watch	0.00	0.02	0.05	1.88
Security Detail	0.00	0.01	0.02	1.82
Trade Lookup	0.00	0.10	0.17	2.41
Trade Order	0.00	0.04	0.07	1.89
Trade Result	0.00	0.03	0.07	1.51
Trade Status	0.00	0.01	0.03	1.82
Trade Update	0.01	0.11	0.18	2.14
Data Maintenance	0.00	0.03	N/A	0.21
Transaction Mix	Transaction Count		Mix %	
Broker Volume	16,071,811		4.900%	
Customer Position	42,639,701		13.000%	
Market Feed	3,279,999		1.000%	
Market Watch	59,040,086		18.000%	
Security Detail	45,920,177		14.000%	
Trade Lookup	26,239,501		8.000%	
Trade Order	33,127,572		10.100%	
Trade Result	32,799,933		10.000%	
Trade Status	62,319,957		19.000%	
Trade Update	6,559,743		2.000%	
Data Maintenance	120		N/A	
Test Duration and Timings				
Ramp-up Time (hh:mm:ss)	00:33:21			
Measurement Interval (hh:mm:ss)	02:00:00			
Business Recovery Time (hh:mm:ss)	02:10:45			
Total Number of Transactions Completed	327,998,480			

PRIMERGY RX900 S2	Energy Summary		TPC-E 1.12.0 TPC Pricing 1.6.0 TPC-Energy 1.2.1
			Report Date May 6, 2011
			Availability Date July 1, 2011

TPC-E Throughput 4,555.54 tpsE	Price/Performance \$ 217.27 USD per tpsE	Availability Date July 1, 2011	Total System Cost \$ 989,779	TPC-Energy Metric 1.00 Watts/tpsE
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Numerical Quantities For Reported Energy Configuration:

REC Idle Power: 3,477.73 Watts
Average Power of REC : 4,572.18 Watts

Subsystem Reporting:

	Secondary Metrics	Additional Numerical Quantities			
	watts/tpsE	Full Load Avg Watts	Full Load % of REC	Idle Avg Watts	Idle % of REC
Database Server *)	0.53	2,415.42	52.83%	1,641.41	47.20%
Storage *)	0.37	1,689.77	36.96%	1,623.69	46.69%
Application Server *)	0.10	448.00	9.80%	212.13	6.10%
Miscellaneous *)	0.00	19.00	0.42%	0.50	0.01%
Total REC	1.00	4,572.18	100.00%	3,477.73	100.00%

*) see pricing for list of components

Lowest ambient temperature at air inlet: 21.19 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**