

ENERGY STAR® Power and Performance Data Sheet

PRIMERGY RX300 S6 E-StarFam1 (2x Quad-Core CPUs)



System Characteristics

Form Factor	2U Rackmount
Available Processor Sockets	2
Available DIMM Slots / Max Memory Capacity	18 / 72GB
ECC and/or Fully Buffered DIMMs	ECC / no fully buffered DIMMs
Available Expansion Slots	7 PCIe
Minimum and Maximum # of Hard Drives	0 to 2
Redundant Power Supply Capable?	Yes
Power Supply Make and Model	Delta, DPS-800GB-3 A
Power Supply Output Rating* (watts)	800W
Minimum and Maximum # of Power Supplies	1 or 2
Input Power Range (AC or DC)	100 - 240V AC
Power Supply Efficiency at Specified Loadings*	84.4@10%, 89.6@20%, 92.2@50%, 90.9@100%
Power Supply Power Factor at Specified Loadings*	0.819@10%, 0.921@20%, 0.974@50%, 0.989@100%
Operating Systems Supported	Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2008 R2 Microsoft® Windows Server® 2003 Novell SUSE Linux Enterprise Server 10 and 11 (incl. XEN) Red Hat Enterprise Linux 5 (incl. XEN) Microsoft Hyper-V Server 2008
Installed Operating System for Testing	MS Windows Server 2008 R2 Enterprise Edition, Vers. 6.1 (Build 7600)

* Note: Power supply information is for a single power supply only

System Configurations

	Minimum	Typical	Maximum
Configuration ID			
Processor Information	2x Intel® Xeon® E5620 4 cores, 2.40GHz	2x Intel® Xeon® E5620 4 cores, 2.40GHz	2x Intel® Xeon® E5620 4 cores, 2.40GHz
Memory Information	8GB (2x 4GB) DDR3	24GB (6x 4GB) DDR3	72GB (18x 4GB) DDR3
Internal Storage	1x 3.5" SAS HDD 300GB	2x 3.5" SAS HDD 300GB	2x 3.5" SAS HDD 300GB
I/O Devices	1x 1Gbit Dual Port Ethernet LAN Intel® 82575EB 2 active ports	1x 1Gbit Dual Port Ethernet LAN Intel® 82575EB 2 active ports	1x 1Gbit Dual Port Ethernet LAN Intel® 82575EB 2 active ports 3x 1Gbit Quad Port Ethernet LAN Intel® Pro/1000PT 12 active ports 2x 4Gbit Dual Port Fibre Channel Emulex Lpe 11002 4 active ports 1x 10Gbit Dual Port Ethernet LAN Intel XF SR 2 active ports
Power Supply Number and Redundancy Configuration	1	2 (1 redundancy)	2 (1 redundancy)
Management Controller or Service Processor Installed?	Yes	Yes	Yes
Other Hardware Features / Accessories	8 port SAS Raid Controller DVD RW	8 port SAS Raid Controller DVD RW	8 port SAS Raid Controller DVD RW

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Power Data

	Minimum	Typical	Maximum
Idle Category (1S and 2S only)	Category D: Managed Dual Installed Processor (2P) Servers		
ENERGY STAR Idle Power Allowance (1S and 2S only)	158W	218W	370W
Measured Idle Power (watts)	104,8	137,4	199,0
Power at Full Load* (watts)	184,1	247,4	310,3
Benchmark / Method Used for Full Load Test	SiSoftware Sandra Engineer 2009.SP4, .Net Multimedia, Double x1		
Test Voltage and Frequency for Idle and Full Load Test	230V / 50Hz		
Range of Total Estimated Energy Usage ** (kWh/year)	1836 to 3225	2407 to 4334	3486 to 5436
Link to Detailed Power Calculator (if available)	http://ts.fujitsu.com/products/standard_servers/e_efficient.html		

* Note: Full load power represents the sustained, average power at 100% load of the given workload, and does not necessarily represent the absolute peak power or the highest average, sustained power possible for other workloads.

** Note: Estimated kWh/year gives the absolute range of energy use a user could expect from continuous operation (24x365) and ranges from 100% Idle usage to 100% full load operation. The calculation also includes typical data center overhead at a ratio of 1 watt of overhead to every 1 watt of IT load (corresponding to a PUE of 2.0). Closer approximations may be found by using established power calculators and specific information about the intended operating environment (e.g., average time at Idle, data center PUE, etc.).

Power and Performance for Benchmark #1

	Minimum	Typical	Maximum
Benchmark Used and Type of Workload	SiSoftware Sandra Engineer 2009.SP4, .Net Multimedia, Double x1		
Avg. Power Measured During Benchmark Run	184,1W	247,4W	310,3W
Benchmark Performance Score	35.72MPixel/s	37.57MPixel/s	37.54MPixel/s
Power Performance Ratio (perf score/avg. power)	0,19MPixels/s/W	0,15MPixels/s/W	0,12MPixels/s/W
Link to Full Benchmark Report (Where Available)	N/A	N/A	N/A

Power Saving Features

	Enabled on Shipment	End-User Enabling Required
Processor Dynamic Voltage and Frequency Scaling	X	
Processor or Core Reduced Power States	X	
Power Capping		X
Variable Speed Fan Control Based on Power or Thermal Readings	X	
Low Power Memory States		
Low Power I/O States		
Liquid Cooling Capability		

Power and Temperature Measurement and Reporting

Input Power Available & Accuracy?	Yes, +/- 15% above 160W and +/- 10% above 400W
Input Air Temp Available & Accuracy?	Yes, +/- 3°C
Processor Utilization Available?	Yes
Other Data Measurements Available & Accuracy?	
Compatible Protocols for Data Collection	IPMI
Averaging method and time period	Linear Average calculation / 5 sec.

Thermal Information *

	Minimum	Typical	Maximum
Total Power Dissipation (watts)	203	240	310
Delta Temperature at Exhaust at Peak Temp. (°C)	9	10	12
Airflow at Maximum Fan Speed (CFM) at Peak Temp.	125m³/h	130m³/h	126m³/h
Airflow at Nominal Fan Speed (CFM) at Nominal Temp.	62m³/h	68m³/h	63m³/h

* References: ASHRAE Extended Environmental Envelope Final August 1, 2008
Thermal Guidelines for Data Processing Environments, ASHRAE, 2004, ISBN 1-931862-43-5
Peak temperature is defined as 35 °C, Nominal Temperature is defined as 18 - 27 °C