

ENERGY STAR® Power and Performance Data Sheet

PRIMERGY RX300 S5; LKN:R3005S0021IN



System Characteristics

Form Factor	2U Rackmount
Available Processor Sockets	2
Available DIMM Slots / Max Memory Capacity	18 / 144GB
ECC and/or Fully Buffered DIMMs	ECC and registered DIMMs
Available Expansion Slots	7 PCIe
Minimum and Maximum # of Hard Drives	0 and 12
Redundant Power Supply Capable?	Yes
Power Supply Make and Model	Delta Electronics, DPS-800GB-3 A
Power Supply Output Rating* (watts)	800W
Minimum and Maximum # of Power Supplies	1 and 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® 2003 Novell SUSE Linux Enterprise Server Red Hat Enterprise Linux Citrix® XenServer™ VMware Infrastructure VMware vSphere 4.0
Installed Operating System for Testing	MS Windows Server 2008 Enterprise Edition, SP2

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

System Configurations

Processor Information	2 x Intel® Xeon® X5550 (4 cores, 2.66GHz)
Memory Information	12GB (6 x 2GB), PC3-10600R DDR3-1333 reg ECC
Internal Storage	1 x 2.5" SATA HDD, 120GB, 5400 RPM
I/O Devices	1 x Intel® 82575EB Dual Port Gigabit Server Adapter
Power Supply Number and Redundancy Configuration	2 installed, (1 redundant)
Management Controller or Service Processor Installed?	Yes
Other Hardware Features / Accessories	8 port SAS RAID Controller with LSI 1068 in PCIe slot

Power Data

Idle Category (1S and 2S only)	Category D: Managed Dual Installed Processor (2P) Servers
ENERGY STAR Idle Power Allowance (1S and 2S only)	186W
Measured Idle Power (watts)	135.3
Power at Full Load* (watts)	262.6
Benchmark / Method Used for Full Load Test	SiSoftware Sandra Engineer 2009.SP3c, .Net Multimedia, Double x1
Test Voltage and Frequency for Idle and Full Load Test	230V / 50Hz
Range of Total Estimated Energy Usage ** (kWh/year)	2370 to 4601
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.).

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Power and Performance for Benchmark #1

Benchmark #1	Benchmark Used and Type of Workload	SiSoftware Sandra Engineer 2009.SP3c, .Net Multimedia, Double x1
	Avg. Power Measured During Benchmark Run	262,6W
	Benchmark Performance Score	51,27Mpixel/s
	Power Performance Ratio (perf score/avg. power)	0.20Mpixel/s / W
	Link to Full Benchmark Report (Where Available)	N/A

Power and Performance for Benchmark #2 (optional)

Benchmark #2	Benchmark Used and Type of Workload	
	Avg. Power Measured During Benchmark Run	
	Benchmark Performance Score	
	Power Performance Ratio (perf score/avg. power)	
	Link to Full Benchmark Report (Where Available)	

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		
Other1:		
Other2:		
Other3:		
Other4:		

Power and Temperature Measurement and Reporting

Input Power Available & Accuracy?	Yes, +10% above 200W and +25% until 200W
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
Reference Configurations		2xX5550; 6x2GB, PC3-10600R; 1x120GB, 5400 RPM SATA; 2x800W PSU	
Total Power Dissipation (watts)		235	
Delta Temperature at Exhaust at Peak Temp. (°C)		11	
Airflow at Maximum Fan Speed (CFM) at Peak Temp.		135m³/h	
Airflow at Nominal Fan Speed (CFM) at Nominal Temp.		70m³/h	

* Thermal information is provided for the minimum, typical and maximum configurations for the model line
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

Notes

1. Benchmark results stated above reflect results published on 08/07/2009.