

ENERGY STAR® Power and Performance Data Sheet

PRIMERGY RX100 S6 E-StarFam2 (Quad-Core CPUs)



System Characteristics

Form Factor	1U Rackmount
Available Processor Sockets	1
Available DIMM Slots / Max Memory Capacity	4 / 32 GB
ECC and/or Fully Buffered DIMMs	ECC / no fully buffered DIMMs
Available Expansion Slots	3 PCIe
Minimum and Maximum # of Hard Drives	0 to 4
Redundant Power Supply Capable?	No
Power Supply Make and Model	Delta, DPS-350YB A
Power Supply Output Rating* (watts)	350W
Minimum and Maximum # of Power Supplies	1
Input Power Range (AC or DC)	100-240V AC
Power Supply Efficiency at Specified Loadings*	79.4%@10%, 87.3%@20%, 90.4%@50%, 89.1@100%
Power Supply Power Factor at Specified Loadings*	0.74@10%, 0.88@20%, 0.97@50%, 0.99@100%
Operating Systems Supported	Microsoft® Windows Server® 2008 Microsoft® Windows Server® 2003 Novell SUSE Linux Enterprise Server 10 ¹⁾ and 11 (incl. XEN) Red Hat Enterprise Linux 5 ¹⁾ (incl. XEN) Microsoft Hyper-V Server 2008
Installed Operating System for Testing	MS Windows Server 2008 R2 Enterprise Edition, Version 6.1 (Build 7600)

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

1) Note: available March, 2010

System Configurations

	Minimum	Typical	Maximum
Configuration ID			
Processor Information	1x Intel® Xeon® X3430 4 Cores, 2.40GHz	1x Intel® Xeon® X3430 4 Cores, 2.40GHz	1x Intel® Xeon® X3430 4 Cores, 2.40GHz
Memory Information	2GB (1x 2GB) DDR3	4GB (2x 2GB) DDR3	32GB (4x 8GB) DDR3
Internal Storage	1x 2.5" SAS HDD 146GB 15000RPM	2x 2.5" SAS HDD 2x 146GB 15000RPM	4x 2.5" SAS HDD 4x 146GB 15000RPM
I/O Devices	1x 1Gbit Ethernet LAN Intel® 82574L 1 active port and 1x 1Gbit Ethernet LAN Intel® 82578DM 1 active port	1x 1Gbit Ethernet LAN Intel® 82574L 1 active port and 1x 1Gbit Ethernet LAN Intel® 82578DM 1 active port	1x 1Gbit Ethernet LAN Intel® 82574L 1 active port and 1x 1Gbit Ethernet LAN Intel® 82578DM 1 active port and 2x 1Gbit Dual Port Ethernet LAN Intel® Pro/1000PT 4 active ports
Power Supply Number and Redundancy Configuration	1	1	1
Management Controller or Service Processor Installed?	Yes	Yes	Yes
Other Hardware Features / Accessories	8 port SAS RAID Controller DVD-RW supermulti	8 port SAS RAID Controller DVD-RW supermult	8 port SAS RAID Controller with iBBU DVD-RW supermulti

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Power Data

	Minimum	Typical	Maximum
Idle Category (1S and 2S only)	Category A: Standard Single Installed Processor (1P) Servers		
ENERGY STAR Idle Power Allowance (1S and 2S only)	55W	63W	143W
Measured Idle Power (watts)	52,6	57,7	74,2
Power at Full Load* (watts)	93,3	99,9	124,8
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)	922 to 1635	1011 to 1750	1300 to 2186
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.SP3c, .Net Multimedia, Double x1		
Avg. Power Measured During Benchmark Run	93,3W	99,9W	124,8W
Benchmark Performance Score	11,15MPixels/s	11,14MPixels/s	11,14MPixels/s
Power Performance Ratio (perf score/avg. power)	0,12MPixels/s / W	0,11MPixels/s / W	0,089MPixels/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		
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?	N/A (no managed server)
Input Air Temp Available & Accuracy?	N/A (no managed server)
Processor Utilization Available?	N/A (no managed server)
Other Data Measurements Available & Accuracy?	
Compatible Protocols for Data Collection	
Averaging method and time period	

Thermal Information *

	Minimum	Typical	Maximum
Total Power Dissipation (watts)	112	122	140
Delta Temperature at Exhaust at Peak Temp. (°C)	13	16	19
Airflow at Maximum Fan Speed (CFM) at Peak Temp.	75m ³ /h	75m ³ /h	75m ³ /h
Airflow at Nominal Fan Speed (CFM) at Nominal Temp.	18m ³ /h	18m ³ /h	18m ³ /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