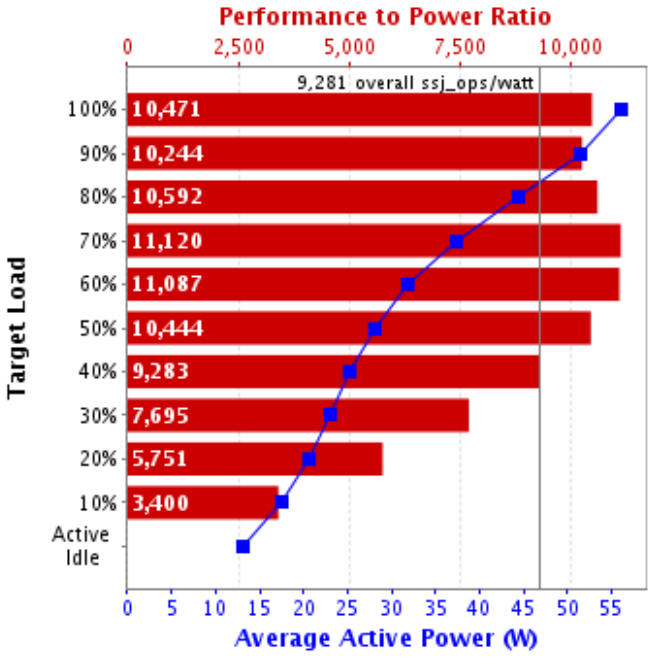
SPECpower_ssj2008

Fujitsu FUJITSU Server PRIMERGY RX1330 M3			SPECpower_ssj2008 = 9,281 overall ssj_ops/watt		
Test Sponsor:	Fujitsu	**SPEC License #:**	19	**Test Method:**	Single Node
Tested By:	Fujitsu	**Test Location:**	Kawasaki, Kanagawa, Japan	**Test Date:**	Mar 8, 2017
Hardware Availability:	May-2017	**Software Availability:**	Jan-2015	**Publication:**	Apr 12, 2017
System Source:	Single Supplier	**System Designation:**	Server	**Power Provisioning:**	Line-powered

Benchmark Results Summary

Performance			Power	Performance to Power Ratio
Target Load	Actual Load	ssj_ops	Average Active Power (W)	
100%	99.6%	586,973	56.1	10,471
90%	89.6%	527,938	51.5	10,244
80%	80.0%	471,368	44.5	10,592
70%	70.3%	414,492	37.3	11,120
60%	60.0%	353,701	31.9	11,087
50%	49.9%	294,232	28.2	10,444
40%	39.9%	235,319	25.4	9,283
30%	30.1%	177,117	23.0	7,695
20%	20.0%	118,070	20.5	5,751
10%	10.1%	59,428	17.5	3,400
Active Idle		0	13.1	0
			∑ssj_ops / ∑power =	**9,281**



System Under Test

Set: 'RX1330 M3'

Set Identifier:	RX1330 M3
Set Description:	System Under Test
# of Identical Nodes:	1
Comment:	Single Node

Hardware	
Hardware Vendor:	Fujitsu
Model:	FUJITSU Server PRIMERGY RX1330 M3
Form Factor:	1U
CPU Name:	Intel Xeon E3-1230 v6
CPU Characteristics:	4-Core, 3.50GHz, 8MB L3 Cache
CPU Frequency (MHz):	3500
CPU(s) Enabled:	4 cores, 1 chip, 4 cores/chip
Hardware Threads:	8 (2 / core)
CPU(s) Orderable:	1 chip
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core

Hardware	
Tertiary Cache:	8 MB I+D on chip per chip
Other Cache:	None
Memory Amount (GB):	16
# and size of DIMM:	2 x 8192 MB
Memory Details:	8 GB DDR4, unbuffered, ECC, 2400 MHz, PC4-2400T, DIMM, 1Rx8; slots 1A, 1B populated
Power Supply Quantity and Rating (W):	1 x 300
Power Supply Details:	Standard power supply part of base unit S26361-K1600-V101
Disk Drive:	1 x SSD SATA 6G 64GB DOM N H-P, S26361-F5618-E64
Disk Controller:	Integrated SATA Controller
# and type of Network Interface Cards (NICs) Installed:	2 x Intel I210 Gigabit Network Connection (onboard)
NICs Enabled in Firmware / OS / Connected:	1/1/1
Network Speed (Mbit):	1000
Keyboard:	None
Mouse:	None
Monitor:	None
Optical Drives:	No
Other Hardware:	None

Software	
Power Management:	Enabled ("Balanced" power plan in OS)
Operating System (OS):	Microsoft Windows Server 2012 R2 Standard
OS Version:	Version 6.3.9600 Build 9600
Filesystem:	NTFS
JVM Vendor:	Oracle Corporation
JVM Version:	Oracle Java HotSpot(TM) 64-Bit Server VM (build 24.80-b11, mixed mode), version 1.7.0_80)
JVM Command-line Options:	-server -Xmn9500m -Xms11000m -Xmx11000m -XX:SurvivorRatio=1 -XX:TargetSurvivorRatio=99 -XX:AllocatePrefetchDistance=256 -XX:AllocatePrefetchLines=4 -XX:LoopUnrollLimit=45 -XX:InitialTenuringThreshold=12 -XX:MaxTenuringThreshold=15 -XX:ParallelGCThreads=2 -XX:InlineSmallCode=3900 -XX:MaxInlineSize=270 -XX:FreqInlineSize=2500 -XX:+AggressiveOpts -XX:+UseLargePages -XX:+UseParallelOldGC
JVM Affinity:	None
JVM Instances:	1
JVM Initial Heap (MB):	11000
JVM Maximum Heap (MB):	11000
JVM Address Bits:	64
Boot Firmware Version:	R0.92.0
Management Firmware Version:	8.64F
Workload Version:	SSJ 1.2.10
Director Location:	Controller
Other Software:	None

Boot Firmware Settings

- Set "Hardware Prefetcher = Disabled" in BIOS.
- Set "Adjacent Cache Line Prefetch = Disabled" in BIOS.
- Set "DCU Streamer Prefetcher = Disabled" in BIOS.
- Set "ASPM Support = Auto" in BIOS.
- Set "LAN Controller = LAN 1" in BIOS.
- Set "Onboard USB Controllers = Disabled" in BIOS.
- Set "Turbo Mode = Disabled" in BIOS.
- Set "Intel Virtualization Technology = Disabled" in BIOS.
- Set "SATA Port 1 = Disabled" in BIOS.
- Set "SATA Port 2 = Disabled" in BIOS.
- Set "SATA Port 3 = Disabled" in BIOS.
- Set "SATA Port 4 = Disabled" in BIOS.
- Set "SATA Port 5 = Disabled" in BIOS.
- Set "Serial Port = Disabled" in BIOS.
- Set "Management LAN = Disabled" in BIOS.

Management Firmware Settings

None

System Under Test Notes

- Set "Turn off hard disk after = 1 Minute" in OS.
- Set "Turn off display after = 1 Minute" in OS.
- Set "Minimum processor state = 0%" in OS.
- Set "Maximum processor state = 100%" in OS.
- Using the local security settings console, "lock pages in memory" was enabled for the user running the benchmark.
- Benchmark was started via Windows Remote Desktop Connection.
- SPECpower_ssj.props input.load_level.number_warehouses set to 8.

Controller System

Hardware	
Hardware Vendor:	Fujitsu
Model:	PRIMERGY RX1330 M1
CPU Description:	Intel Xeon E3-1220 v3
Memory amount (GB):	32

Software	
Operating System (OS):	Microsoft Windows Server 2012 R2 Standard
JVM Vendor:	Oracle Corporation
JVM Version:	Oracle Java HotSpot(TM) 64-Bit Server VM (build 20.0-b11, mixed mode)
CCS Version:	1.2.6

Measurement Devices

Power Analyzer pwr1	
Hardware Vendor:	Hioki
Model:	Hioki3336
Serial Number:	170121768
Connectivity:	RS-232
Input Connection:	Default
Metrology Institute:	NICT (National Institute of Information and Communications Technology)
Accredited by:	HIOKI E.E. CORPORATION
Calibration Label:	2017H010225
Date of Calibration:	20-Jan-2017
PTDaemon Host System:	same as CCS
PTDaemon Host OS:	same as CCS
PTDaemon Version:	1.8.0-efc0c004-20160120

Power Analyzer pwr1	
Setup Description:	Connected to PSU 1

Temperature Sensor temp1	
Hardware Vendor:	Digi International Inc.
Model:	Watchport/H
Driver Version:	Watchport Virtual Port 5.10.26.0
Connectivity:	USB
PTDaemon Host System:	same as CCS
PTDaemon Host OS:	same as CCS
Setup Description:	5 mm in front of SUT main air intake

Notes

- None

Aggregate Electrical and Environmental Data

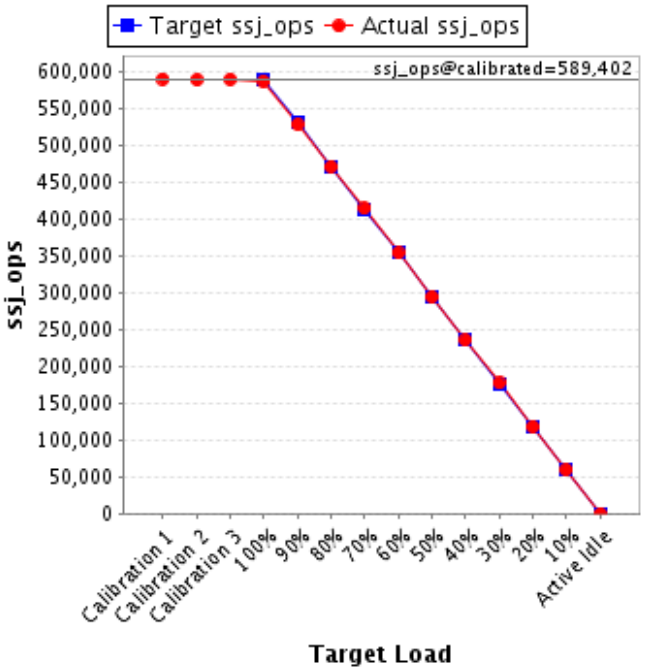
Target Load	Average Active Power (W)	Minimum Ambient Temperature (°C)
100%	56.1	20.9
90%	51.5	20.9
80%	44.5	20.9
70%	37.3	20.9
60%	31.9	20.9
50%	28.2	20.9
40%	25.4	20.8
30%	23.0	20.8
20%	20.5	20.8
10%	17.5	20.8
Active Idle	13.1	20.8

Line Standard	Minimum Temperature (°C)	Elevation (m)
200V / 50 Hz / 1 phase / 2 wires	20.8	11

See the Power/Temperature Details Report for additional details.

Aggregate Performance Data

Target Load	Actual Load	ssj_ops	
		Target	Actual
Calibration 1			590,052
Calibration 2			588,871
Calibration 3			589,933
ssj_ops@calibrated=589,402			
100%	99.6%	589,402	586,973
90%	89.6%	530,462	527,938
80%	80.0%	471,522	471,368
70%	70.3%	412,582	414,492
60%	60.0%	353,641	353,701
50%	49.9%	294,701	294,232
40%	39.9%	235,761	235,319
30%	30.1%	176,821	177,117
20%	20.0%	117,880	118,070
10%	10.1%	58,940	59,428
Active Idle		0	0



See the JVM Instance Performance Report for additional details.