Driving Energy Efficiency

SPECpower_ssj2008

Developed by the Power Subcommittee
Webpage: **http://www.spec.org/power_ssj2008**

Driving Server Energy Efficiency

- 3x energy efficiency gain since release (Q4-07)
- 698 -> 2098 overall ssj_ops/watt

Game Changing

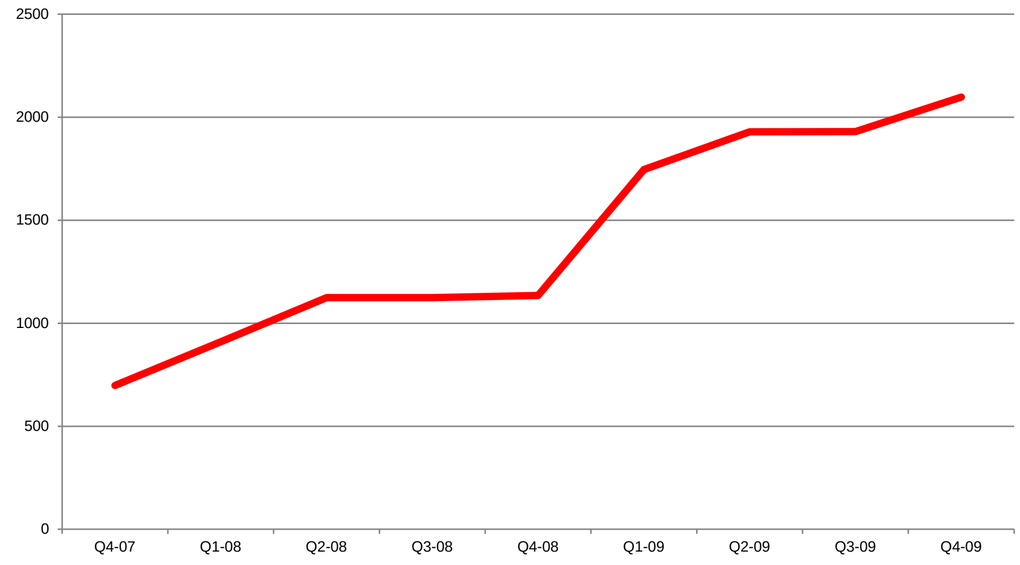
- 1st industry standard benchmark to measure the power and performance characteristics of volume server-class compute-equipment

Flexible

- Supports single node and multi-node servers

Increasing Server Efficiency

Max Overall Ratio (ssj_ops/watt) for Single Node Servers by Quarter

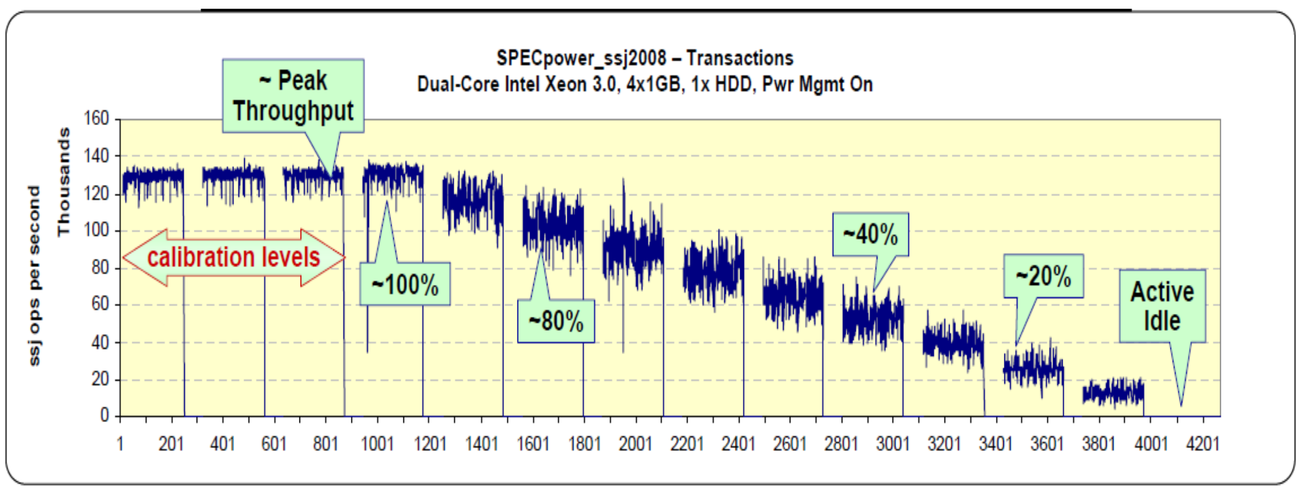


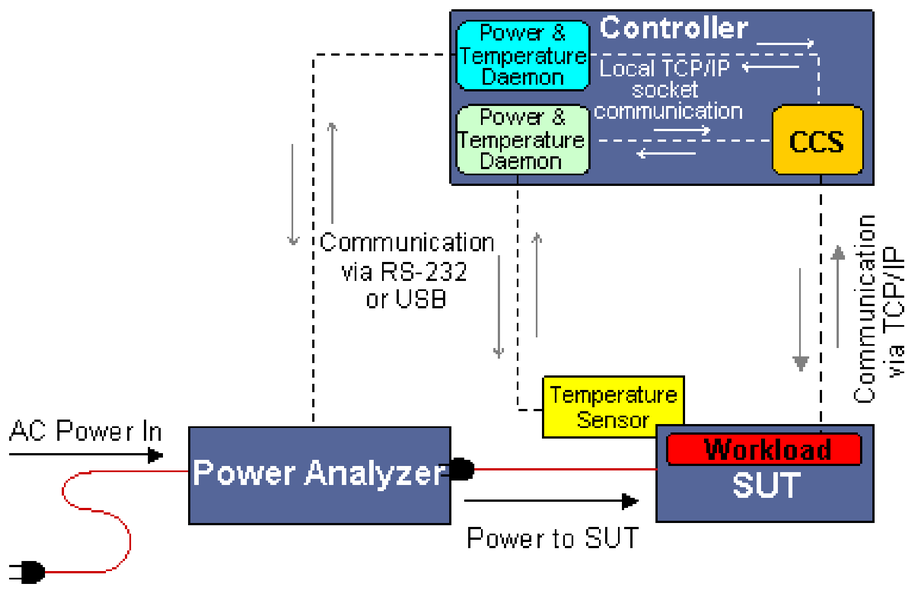
Benchmark design

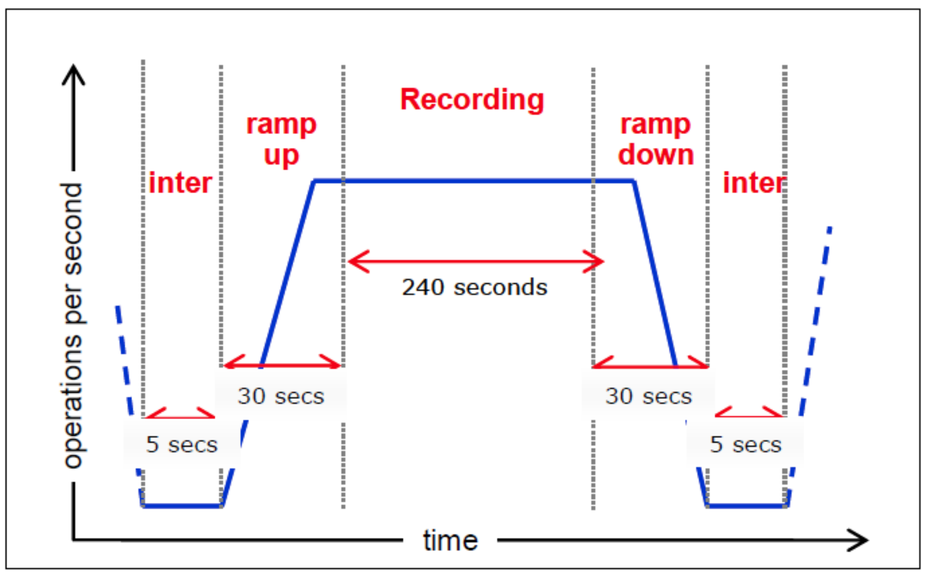
- Java based transactions
- Multiple load levels / measurement intervals
- Idle plus 10% increments (10% -100%)

Implementation

- Measures AC power for entire server
- Automated power measurement harness
- Standardized reporting and publication process

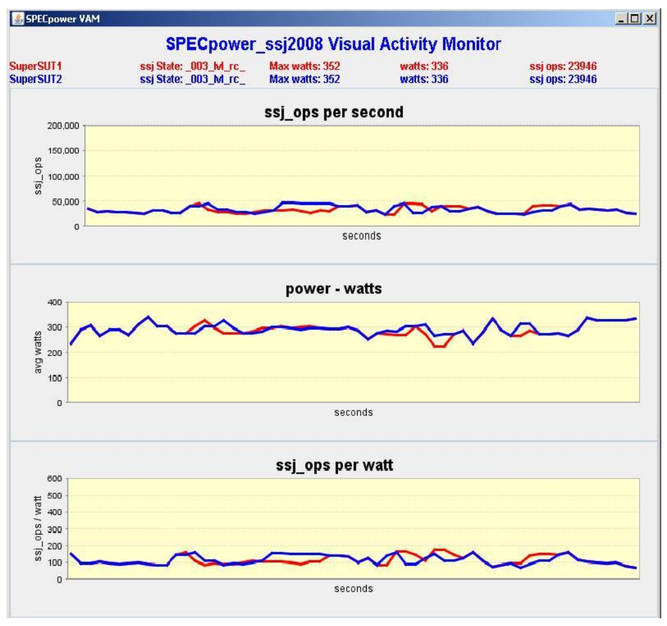






Measurement Interval Sequence

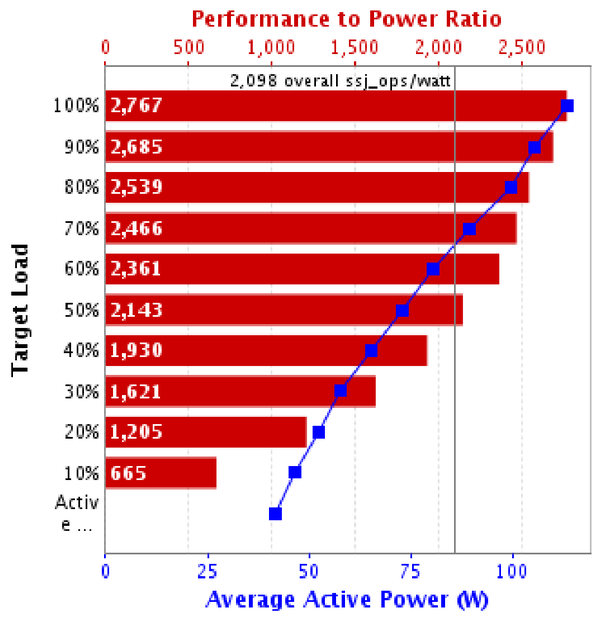
Usage & Reporting Examples



Visual Activity Monitor

Performance			Power	
Target Load	Actual Load	ssj_ops	Average Active Power (W)	Performance to Power Ratio
100%	99.6%	313,804	113	2,767
90%	89.9%	283,126	105	2,685
80%	80.3%	252,911	99.6	2,539
70%	70.1%	220,822	89.5	2,466
60%	60.5%	190,454	80.7	2,361
50%	49.7%	156,517	73.0	2,143
40%	40.0%	126,143	65.4	1,930
30%	29.8%	93,818	57.9	1,621
20%	20.0%	62,958	52.3	1,205
10%	9.8%	31,024	46.7	665
	Active Idle	0	41.6	0
			∑ssj_ops / ∑power =	2,098

Performance / Power Results Table



Results Graph

Contact: Name
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