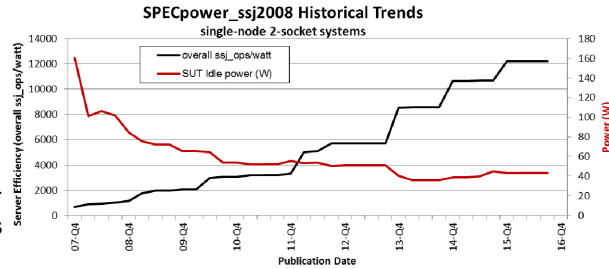# SPECpower_ssj2008

Driving Server Efficiency

- 17x server efficiency gain since release (Q4-2007)
- 698 -> 12,212 overall ssj_ops/watt

Game Changing Innovation

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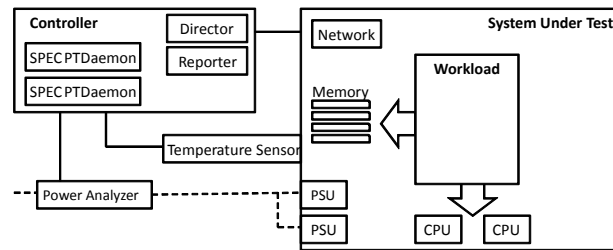

SPECpower_ssj2008 Historical Trends
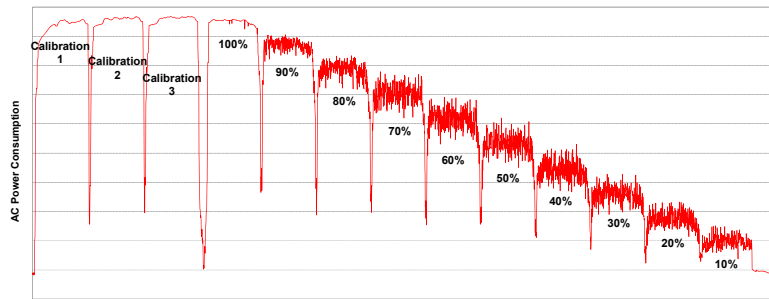single-node 2-socket systems

Benchmark Design

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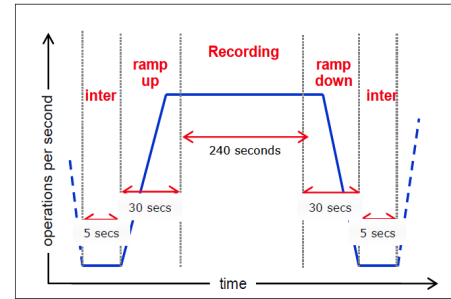- Idle plus 10% increments (10% -100%)

Implementation

- Measures AC power for entire server
- Automated power measurement harness
- Standardized reporting and publication process
- Supports single and multi-node servers

Hardware / Software Overview
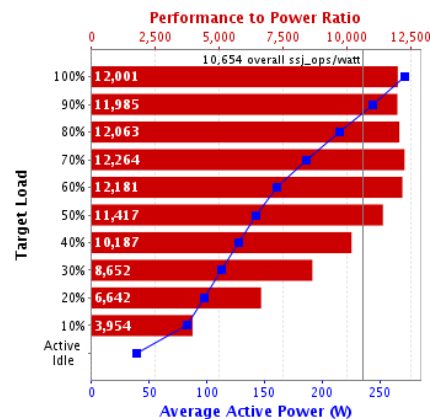

SPECpower_ssj2008 Workload Iteration

Measurement Interval Sequence

Usage & Reporting Examples

	Performance		Power	
Target Load	Actual Load	ssj_ops	Average Active Power (W)	Performance to Power Ratio
100%	100.00%	3,257,627	271	12,001
90%	89.90%	2,929,344	244	11,985
80%	79.80%	2,599,922	216	12,063
70%	70.10%	2,283,039	186	12,264
60%	60.10%	1,957,744	161	12,181
50%	50.10%	1,633,106	143	11,417
40%	40.00%	1,303,216	128	10,187
30%	30.00%	978,558	113	8,652
20%	20.00%	652,175	98.2	6,642
10%	10.00%	326,571	82.6	3,954
	Active Idle	0	39	0
			$\sum$ssj_ops / $\sum$power =	10,654

Performance / Power Results Table

Performance / Power Results Graph