



# Power Efficiency of QLogic 8Gb HBAs

## QLogic's 8Gb Adapters Demonstrate Highest Performance per Watt

### Industry Challenges

Technology advancements such as multi-core processors and the transition to high-density servers (blade servers) allow significantly more processing power in a much smaller space. However, these advancements have created new challenges for IT managers, who now need to provide adequate energy and cooling for the compact data center. Going "Green" and reducing power consumption is critical to data centers, but not at the cost of reduced performance. Host bus adapter (HBA) manufacturers must contribute to the solution by reducing power consumption and increasing the performance-to-power ratios.

### QLogic 2500 Series 8Gb HBA Advantage

- QLogic single and dual port HBAs require "No Airflow"  
The QLogic 2500 Series 8Gb FC HBA offers "Cool HBA™" technology requiring "no airflow" and "no heatsink".
- QLogic 8Gb adapters utilize 20 percent to 30 percent less power than Emulex
  - QLE2560, Single Port: 5.5 Watts
  - QLE2562, Dual Port: 6.2 Watts
- QLogic 8Gb adapters provide "Dynamic Power Management", saving an additional 1.3 Watts per HBA
- QLogic 8Gb adapters provide up to 70 percent higher IOPS per watt than Emulex
  - QLogic has a 27 percent to 35 percent advantage without Dynamic Power Management
  - QLogic has a 66 percent to 70 percent improvement over Emulex with Dynamic Power Management

	QLogic IOPS/W	Emulex IOPS/W	QLogic Advantage
8Gb Single Port HBA	38K/W	30K/W	27%
8Gb Dual Port HBA	50K/W	37K/W	35%

### *IOPS' per Watt Without Dynamic Power Management*

	QLogic IOPS/W	Emulex IOPS/W	QLogic Advantage
8Gb Single Port HBA	50K/W	30K/W	66%
8Gb Dual Port HBA	63K/W	37K/W	70%

### *IOPS' per Watt With Dynamic Power Management*

### Competitive Shortfalls

- Emulex 8Gb HBAs (LPe1200x product family) consume up to 42 percent more power than QLogic 8Gb HBAs
  - LPe12000 Single Port: 6.9 Watts
  - LPe12002 Dual Port: 8.8 Watts
- Emulex single and dual port 8Gb HBAs require up to 150LFM airflow  
Higher power consumption results in higher heat generation and increased cooling requirements in the server ecosystem.
- Emulex requires a heat-sink to keep the 8Gb LPe1200x family cool  
In addition to the 150LFM, the Emulex 8Gb HBAs require a heat-sink to reduce the temperature and achieve the same reliability as QLogic 8Gb adapters.
- Emulex's 8Gb HBAs have an up to 70 percent IOPS performance disadvantage per watt

<sup>1</sup> Benchmarks performed with Quad-Core Intel® Xeon®, Windows Server® 2003 R2, and IOmeter at 4KB read/write block size

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