

HEC FSIO Session 3: Quality of Service Gaps Roadmap

**John Bent and Lee Ward
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2007 QoS Gap Area

Area	Researchers	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12	Rankings
End to End QoS in HEC	Brandt	■	■					 Good research, but much work needed to get a standards based solution.
	Chiueh	■	■	■				
	Ganger	■	■					
Standard API for QoS	SciDAC - PDSI	■	■	■	■	■		 Very partially addressed by proposed HEC POSIX Extensions. Will be driven by above "End to End QoS in HEC".
	POSIX HPC Extensions	■	■	■	■	■	■	
	PVFS	■	■	■	■	■	■	

-  Very Important
-  Greatly Needs Research
-  Greatly Needs Commercialization
-  Medium Importance
-  Needs Research
-  Needs Commercialization
-  Low Importance
-  Does Not Need Research
-  Does Not Need Commercialization
-  Full Calendar Year Funding
-  Partial Calendar Year Funding
-  On-Going Work

Quality of Service Gaps

- End-to-end QoS in HEC
- Standard API for QoS

Relevant Research

- Core focus
 - Brandt - “End-to-End Performance Management for Large Distributed Storage”
 - Chiueh - “QoS Guarantee for Scalable Parallel Storage Systems”
 - Ganger - “Performance Insulation and Predictability for Shared Cluster Storage”
- Peripheral focus
 - Ma and Sivasubramaniam - “Application-adaptive I/O Stack for Data-Intensive Scientific Computing”
 - Reddy - “Active Data Systems”