Optimizing the IT/Server Ecosystem for Cloud Computing

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Tomorrow’s Cloud Isn’t Yesterday’s Data Center

Essential Elements of Success:

- Virtualized server for high performance environments
  - Efficient and multi-purpose environment
  - Scalable and adaptable
- Predictable and sustainable performance during peak times
- Cost effective and easy to maintain
  - Reliability and data integrity
  - Green IT
Critical Questions for Cloud Storage Solutions:

- How much information does it hold?
- How much work does it do?
- Does it meet my ‘response time’ requirements?
- Does it scale to meet my changing requirements?
- How much value is provided?
SIMPLISTIC:
- Customers only care about $/GB

CIO REALITY:
- Yes, $/GB is an important metric, but at the system level
- Provide the most cost effective solution
- Emerging Hybrid systems (SSD+HDD) lower the system level $/GB
SIMPLISTIC:
- Peak performance requires more drives
- Scalability requires more drives

CIO VIEW:
- 90/10 Rule is True
- 90/10 can also be 80/20 or 95/5
- SSDs can offer increased output without adding additional drives
Workload Under Stress = Saturation Curve

Saturation Curve for 8KB Enterprise Profile - Multiple Threads (QD=1)

Based on internal testing; performance may be lower depending upon host device, OS and application.
SIMPLISTIC:

- SSD are only for Tier 0

CIO VIEW:

- Tiers exist with HDDs today
- SSDs simply add additional performance tiers
- SLC and MLC will be tiered to optimize performance and $/GB
- Not all SSDs are created equal
OLTP Benchmark Test
Increased Maximum Performance

The accelerated system delivered more than 2x TPS, supporting nearly double the number of concurrent clients.

Within a 3-second SLA, the accelerated system supported more than 3x the number of concurrent users.

The accelerated system would have shown even greater performance, but was constrained by CPU saturation.

Source: Independent third-party testing commissioned and performance numbers provided by FlashSoft.
OLTP Moderate Read at a Queue Depth of 128

Average Response Time is in milliseconds (ms).

Lightning Enterprise Flash Drives

Do MORE For Less

ESSENTIAL ELEMENT IN THE CLOUD!

- More Performance = Lower Cost
- More Reliability = Lower TCO
- No Changes Required = Easy Adoption
- OEM Tested and Approved
ANY QUESTIONS?

Thank you!

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