All-Flash Arrays Require Scalable, Cost-Efficient Software-Defined Architectures

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Flash is Fast
Flash Benefits are Way Beyond Performance

- Operational Expenses
- IT Productivity
- Lower Power/Cooling and Rack-Space

- Business Decision Support
- Compliance
- Performance Consistency
Is it affordable?

What are the Primary obstacles prevent you from deploying storage acceleration solutions?

77% of the costumers mentioned “budget constrains” as the main reason in 2013
Dropped to 58% in 2015

Study by Taneja Group
Some Flash Technology Trends

SSD Capacity/cost improves faster than Moore’s law
  – Driven by 3D NAND and TLC
  – Comes with lower endurance

Efficient adoption of these high density SSDs is the future of all-flash arrays

Source: SanDisk
AFA Efficiency in practice

Customer requirements

- Overprovisioned capacity (Need 2nd system)
- Overprovisioned performance

Scale up

Scale out

Capacity vs. Performance
Modern Software Defined AFA Architecture improves SSD endurance by 4-8x
97% of the customers write the capacity less than once per day

Translates to 0.15 write per day
Dynamic and scalable AFA architecture

- Scale According to Datacenter Needs
- Mix and Match Controllers and SSDs
- Decommission When Needed
- Scale-Out Cluster is Online Forever
Kaminario’s Mission

We enable our customers to scale their business easily and cost-efficiently.
What Is Unique About Kaminario K2

**Flexi-Scale**
- General purpose storage
- Scale-out
- Scale-up

**Easy**
- Consistency
- Easy to scale – NDU everything
- HealthShield

**Cost-Efficiency**
- Lower cost than Hybrid arrays
- Guaranteed capacity
- Inline compression and deduplication
- Get more from same HW
  - Highest utilization

**Safe**
- Resiliency for multiple simultaneous failures
- Enterprise features
Evolution of All-Flash Arrays

- Solving **single** application
- Flash technology SLC
- Legacy architecture with SSD

- Solving **Multiple** applications
- Flash technology MLC
- Scale-out or scale-up

- General Purpose storage
- Flash technology 3D MLC/TLC
- Scale-out and Scale-up
Kaminario is Making the All-Flash Datacenter a Reality
Questions?