Matching Flash Storage Arrays to Performance Requirements

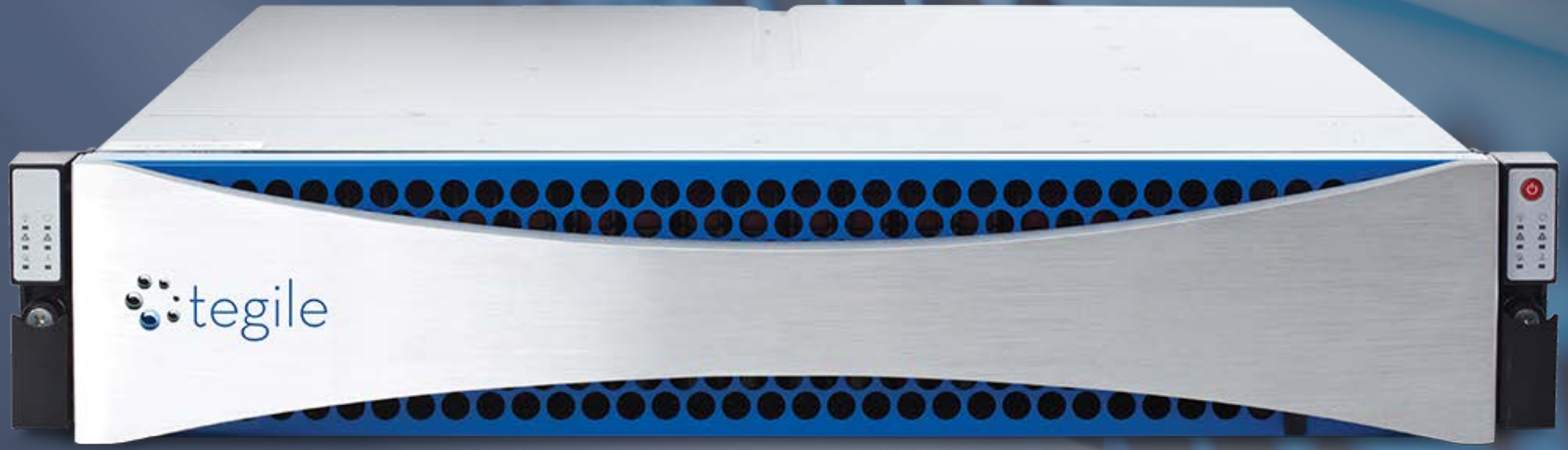
Flash Memory Summit 2015

Chris Tsilipounidakis
Manager, Products

CollabNet®

Tegile Enables PaaS on Flash

5x Performance

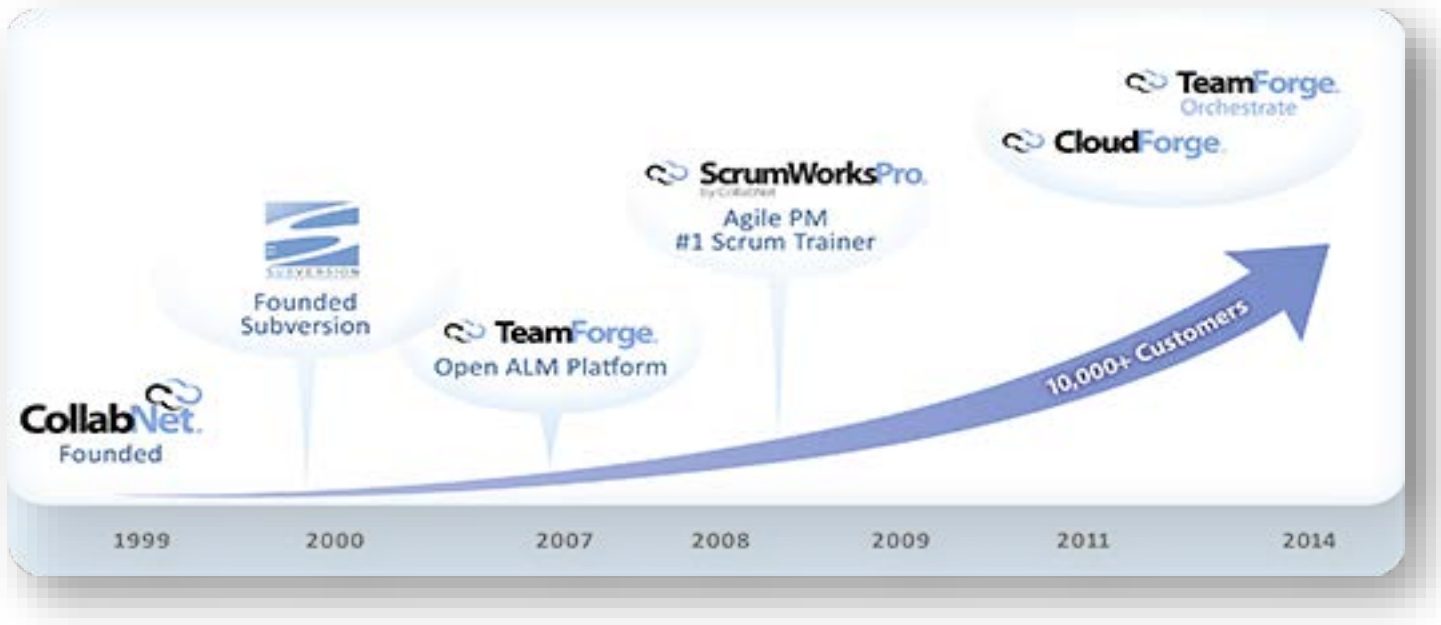


Half The Footprint

About CollabNet

- Leader in software development and application lifecycle management (ALM) tools
  - On-premise and CollabNet hosted as a managed service
  - Check out (update), check in (commit), app release cycles
- Creator of Subversion, cloud-hosted version of CloudForge
- 1st Cloud-based ALM delivery platform solution

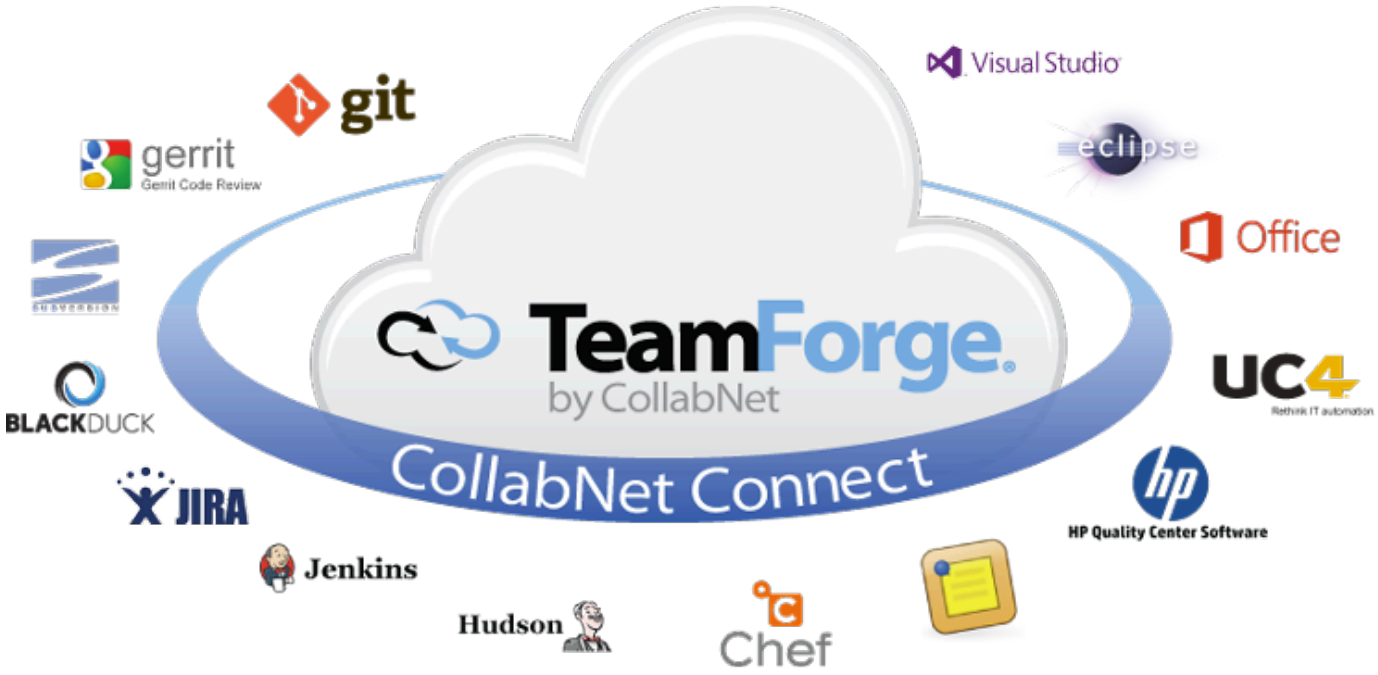
- 10,000+ Customers
- 6M+ users
- 280 Employees



Development Platform-as-a-Service (dPaaS)

CollabNet's Requirements:

- 99.9% Uptime SLA
- Data protection
- Data security
- Multi-tenant and single-tenant cloud options

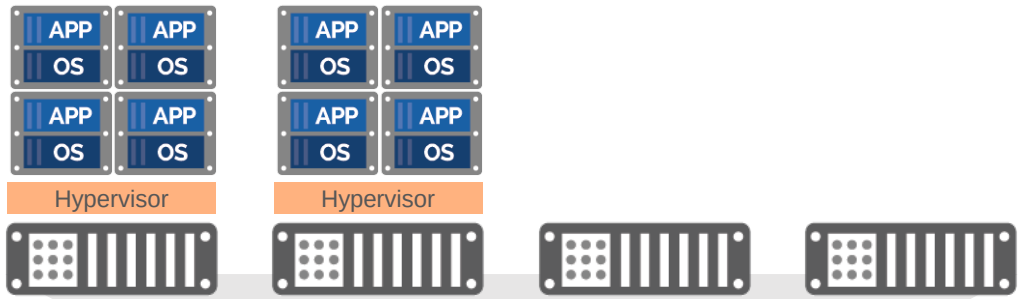


Storage Topology – Before Flash

285RU

40K IOPS

On Disk



2 x NetApp
FAS6000

SnapMirror
Replication

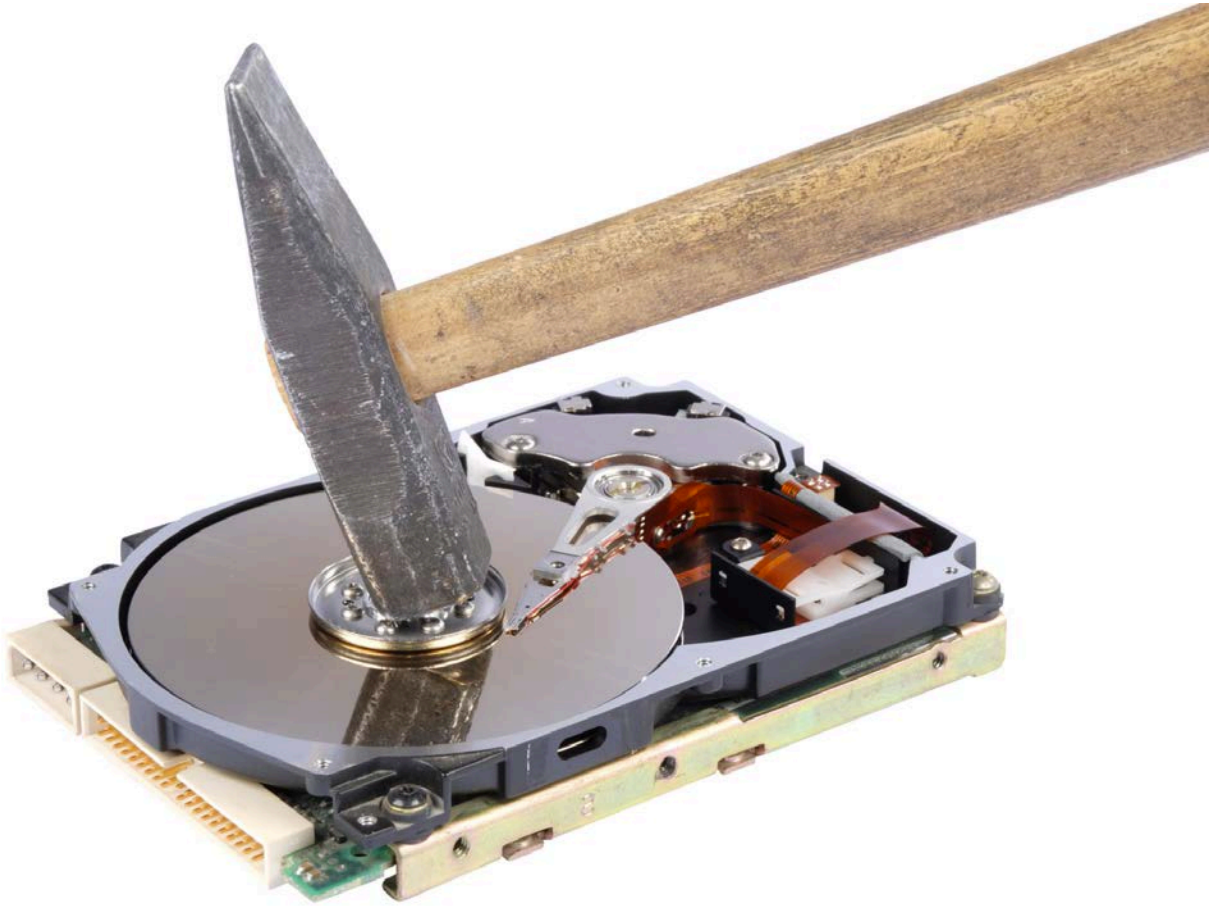
WAN

2 x NetApp
FAS3000

Secondary Location for DR

More of the Same?

- Infrastructure wasn't keeping up with customer performance demands
- Coming up on maintenance renewals
  - Maintenance was going to be costly
- Storage controllers were going EOL and needed to be replaced
  - Keeping existing solution and upgrading would cost ~$1M

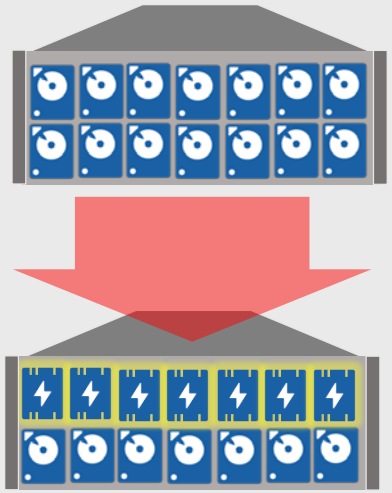


Generational Change

- Protocols/features evolved over time
  - Pre-virtualization workloads

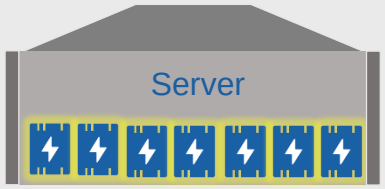
- Built to address IOPS & latency challenges
- Virtualization & analytics workloads

Flash Implementations



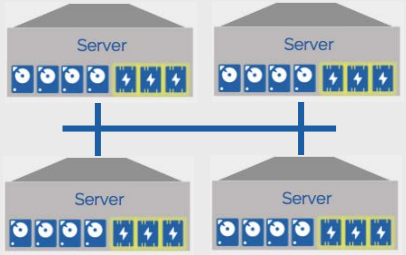
Legacy Approach

- Retrofit legacy arrays with SSDs
- Use tiering software for passive migration
- Expensive and inefficient



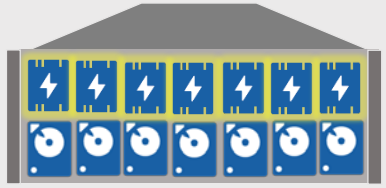
Server-Side Flash

- Flash storage in server
- High performance
- VMs in server islands
- No shared storage
- No high availability



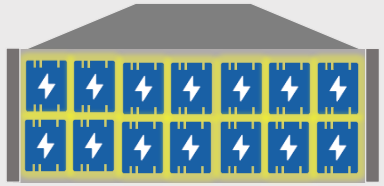
Scale-Out

- Clustered DAS servers
- SSD & HDD DAS
- Inconsistent performance
- CPU and memory shared across apps & storage tasks



Hybrid

- Flash for performance
- Hard disk for affordable capacity
- Balances cost, performance and capacity



All-Flash

- High IOPS
- Low latency
- Cost-prohibitive for non-critical workloads

Flash Vendors

Legacy Storage
- Bolt-on flash
- Expensive & inefficient

All-Flash Arrays
- Low latency applications
- Very high IOPS workloads
- Subset of workloads

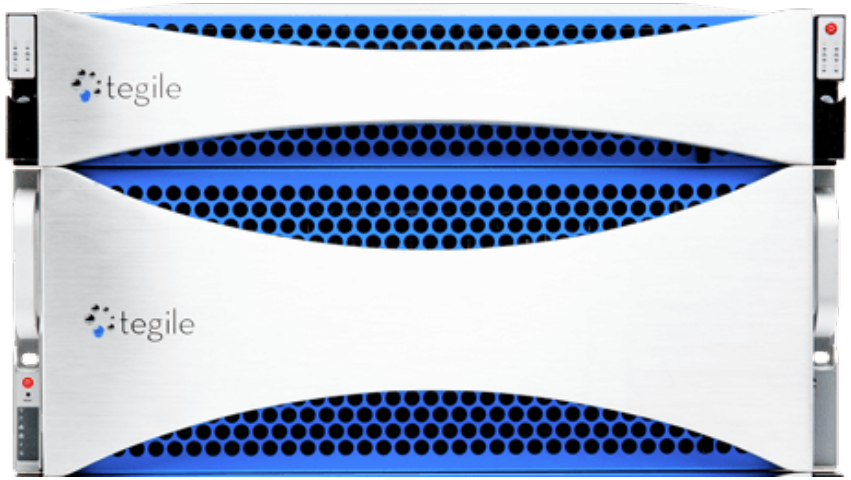
Hybrid Storage
- Intelligent use of flash storage
- Balance performance & cost
- Broad set of workloads

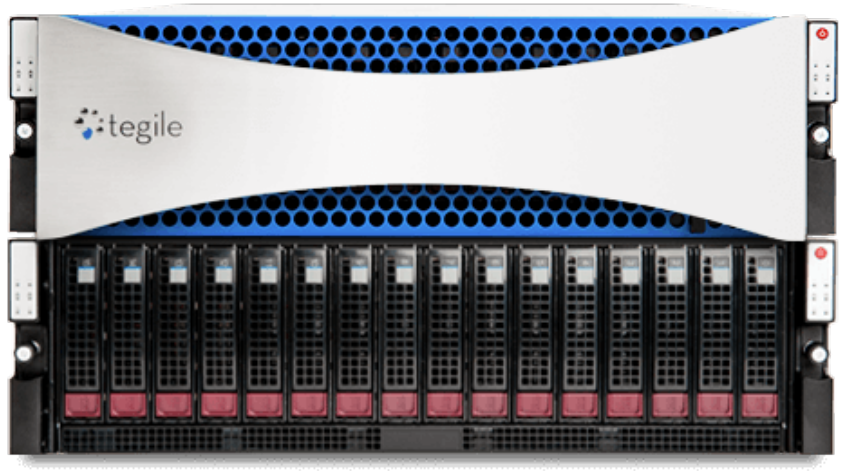
Converged Systems
- Combined servers & storage
- Scale-out architecture
- Inconsistent performance
- Branch office solution

Server-Side Flash
- Extreme IOPS workloads
- Expensive
- Niche solution

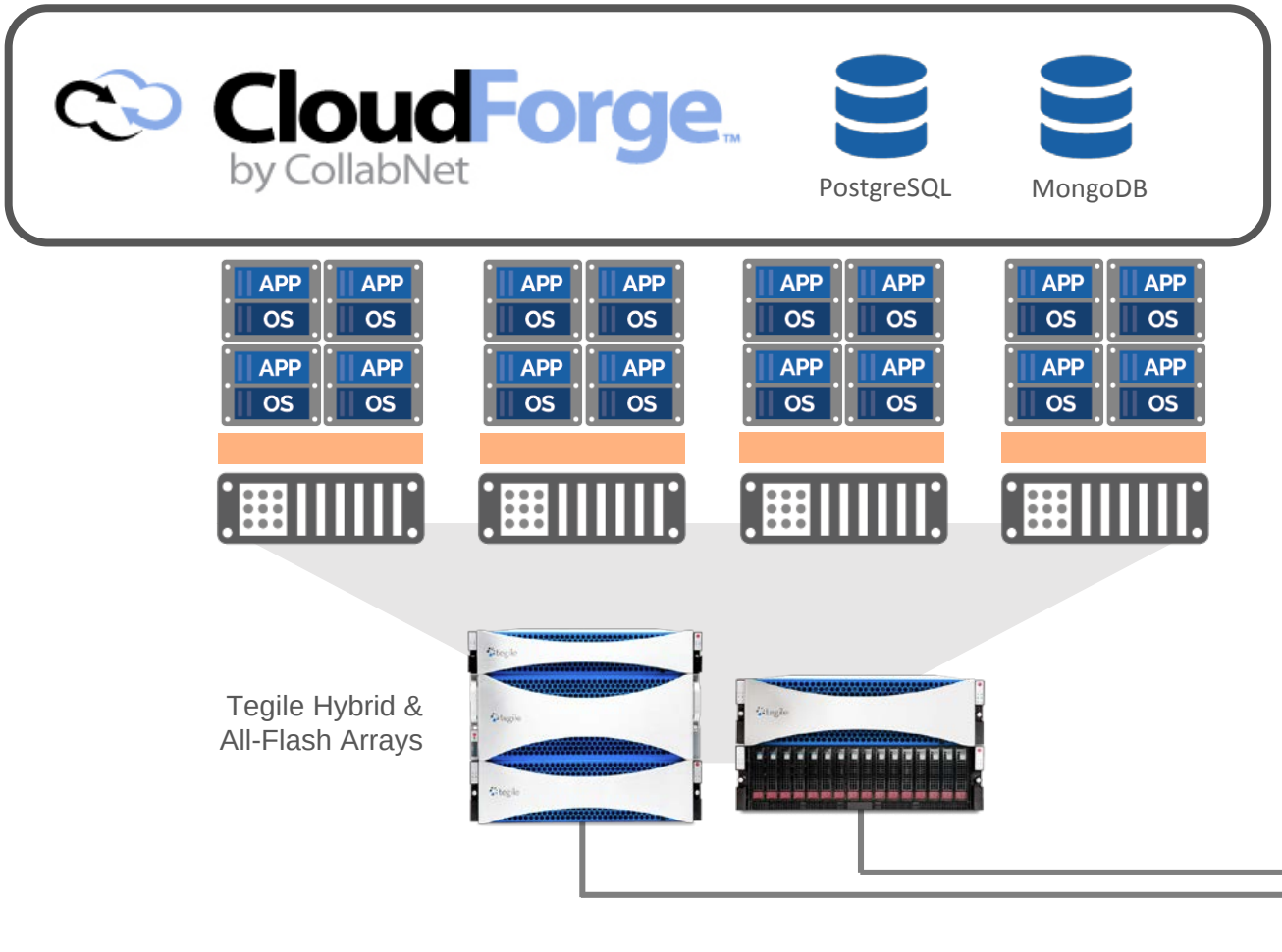
CollabNet: Benefits of Flash Storage

- Performance
  - Application runs noticeably faster
  - Subversion CloudForge had been hosted externally – brought in-house, control, etc.
- Cost
  - Significant data-center footprint reduction
  - OPEX cut in half
  - Flat Maintenance & Support
- Continue using multiple protocols (iSCSI and NFS)
- Disaster Recovery
  - Replicate between All-Flash and Hybrid arrays
- Easier to Manage
  - Eliminated need to manage massive amount of disks
- Data Security
  - Healthcare and financial services customers require encryption to comply with industry and gov't regulations





Storage Topology – After Flash



~~285RU / 40K IOPS~~

~~On Disk~~

135RU

200K IOPS

On Flash

How Is Tegile Different?

All-Flash & Hybrid

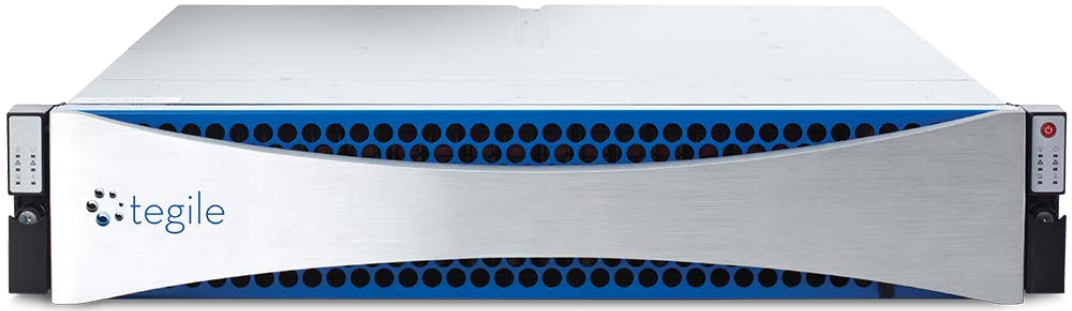
Dial up performance AND capacity to accommodate your future needs

Multi-Protocol Support

Native support for block AND file protocols (iSCSI, FC, NFS, CIFS/SMB 3.0)

Superior Data Reduction

Inline compression AND deduplication



Simple Administration

Intuitive web UI, app integration AND cloud analytics

Enterprise Resiliency

Fully redundant hardware AND active/active controllers

Affordable Disaster Recovery

Replicate between all-flash AND hybrid configurations

IntelliCare™

Cloud Analytics & Support

Intelligent Flash Arrays

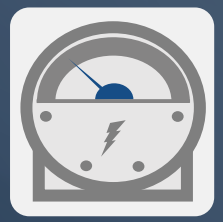
Powered by IntelliFlash™

IntelliStack™

Converged Infrastructure Solutions

IntelliCare™

Flash 5 Guarantee



Tegile Agility™

Utility-Based Pricing


One Flash Platform. Any Workload.
Thank you!
tegile
#compromisenothing