HP-CAST
HPC & AI Storage for HPE

1. E-Series: Success in HPC
2. E-Series Midrange Hybrid and All Flash Array: Key building block for HPC, AI and NVMe
3. Extending leadership with New Technologies

Tim Belcher
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NetApp booth #605
NetApp E/EF-Series Leadership

1M systems shipped

20+ years of OS hardening

200+ patents

85,000 items in current interoperability matrix

#1 NetApp® SANtricity® is the #1 SAN OS

*Based on NetApp plus OEM sales

“…the EF570 blows away everything we've seen.”

-StorageReview.com
## NetApp® E-Series

### Key building block for HPC, AI and NVMe

**Fast, Easy, Reliable block storage**

<table>
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<tr>
<th>Model</th>
<th>Features</th>
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| **Midrange Hybrid** (E5700) | - 480 drives  
- FC, SAS, iSCSI, IB, NVMe-oF  
- 21Gb/sec (Reads)  
- 2U24, 4U60 |
| **Midrange AFA** (EF570) | - Best performance and world’s leading price/performance  
- Ideal for enterprise customers running data analytics and performance databases |
| **Entry Hybrid** (E2800) | - 180 drives  
- FC, SAS, iSCSI  
- 10Gb/sec (Reads)  
- 2U12, 2U24, 4U60 |
| **Entry AFA** (EF280) | - Affordable performance  
- Ideal for midsize customers and remote offices streaming media and running data analytics |

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**Industries leading Performance, RAS & Latency Leadership in key HPC, AI & Technical Computing**

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NetApp E-Series Differentiators

- IB, SAS, FC, iSCSI interfaces
  - IB interface - a big plus in HPC deployments
- Broad Implementation of NVMe
- Dense disk trays (60 Drives in 4U)
- RAID: 0, 1, 3, 5, 6, 10, DDP
- Inclusive licensing
  - Lower Total Cost of Ownership
- High performance systems
  - Price/performance record SPC-1 benchmark with EF570
  - Excellent small file random I/O
  - E-Series is in the worlds most demanding HPC workloads
- T10PI over IB using ISER
  - NetApp is a Data Assurance leader
- Maximize choices of implementation: Broad range of Drives available.
  - Qualified and introduced early in life cycle
  - Capacities to support large files and performance
- Success with clustered filesystems
  - Lustre, GPFS, BeeGFS, XFS
  - 3rd Party support available
  - Soon: HPExFS
- DMF successes
- Write caching maintained during failover
- Nearly 1 million units sold
Adoption of NVMe Technologies

NVMe Industry Trends

G2M Research Releases
2017 NVM Express Market Sizing Report

- NVMe Market Sizing Report, the 2017 edition provides market overviews and forecasts for NVMe products in a variety of categories.
  - NVMe Servers: More than 50% of enterprise servers will have U.2 NVMe bays by 2019.
  - NVMe-based All-flash Arrays (AFAs): More than 70% of AFAs will be NVMe-based by 2020.
  - NVMe Storage Appliances: Over 70% of storage appliances will be NVMe-based by 2021.
  - NVMe Solid-state Drives (SSDs): The market for NVMe SSDs (U.2, M.2, and PCI AOCs) will reach $9B by 2021.

Suggest: NVMe-ready Storage NOW

NetApp NVMe Leader & Innovator

Experts and customers alike rank NetApp AFF a leader in all-flash

NVMe Performance for Your Data Center
The AFF A800 supports the industry’s first end-to-end nonvolatile memory express (NVMe) architecture. It combines NVMe solid-state drives with NVMe over Fabrics (NVMe-oF) to deliver lightning-fast response times for traditional data center workloads. It also supports more I/O performance than ever before. What can you gain? How about the ability to run 60% more workloads on a single system with data access up to 50% faster than Fibre Channel Protocol.

CRN Products of the Year
The NVMe-ready AFF A800s awarded the Product of the Year award for Enterprise Storage from CRN.

IT Brand Pulse presented NetApp with a 2017 Innovation Leader Award for its All Flash NAS array.
Summary

1. Success and Long heritage in HPC
2. E-Series: Key building block for HPC, AI and NVMe
3. Extending leadership with New Technologies

- NetApp booth #605

Thank You

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