



Panasas[®] ActiveStor[®] 16

HYBRID SCALE-OUT NAS WITHOUT COMPROMISE:
PERFORMANCE + MANAGEABILITY + RELIABILITY AT SCALE

PANASAS

ActiveStor Appliance



- Powered by PanFS storage operating system
- **New:** 122.4TB per shelf → scales to 12PB
- 1.5GB/s per shelf → scales to 150GB/s

Director Blade



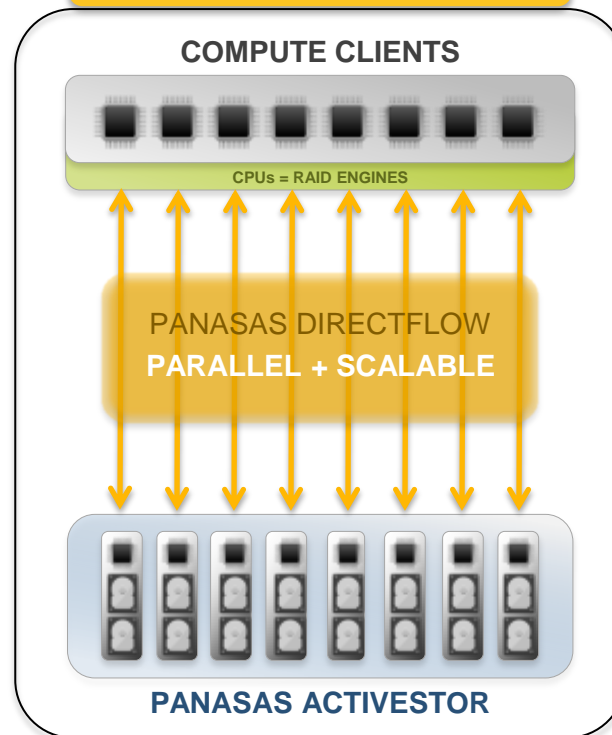
- Metadata access
- System management
- NFS & CIFS access

Storage Blade



- Parallel data access
- Advanced caching

Panasas Architecture



- Single global namespace
- Single system to manage
- Seamless scaling with no downtime
- Pay as you grow
- Linear performance scaling



ActiveStor 16

- **On June 10, announcing ActiveStor 16 and PanFS 6.0**
 - New hybrid scale-out NAS appliance
 - RAID 6+ triple parity protection
 - Extended File System Availability (EFSA) Ensures Business Continuity

- **ActiveStor 16: Platform for PanFS 6.0**
 - 50% higher density, leveraging HGST UltraStar® He⁶ 6TB drives
 - Faster director blade speeds RAID rebuilds
 - Flash sized for RAID 6+
- **PanFS 6.0: RAID 6+ Triple Parity Protection**
 - Per-file, distributed RAID 6+ overcomes limitations of traditional RAID
 - Reliability increases with scale, not decreases
 - Quickly restore specific files for disaster recovery, not whole file system



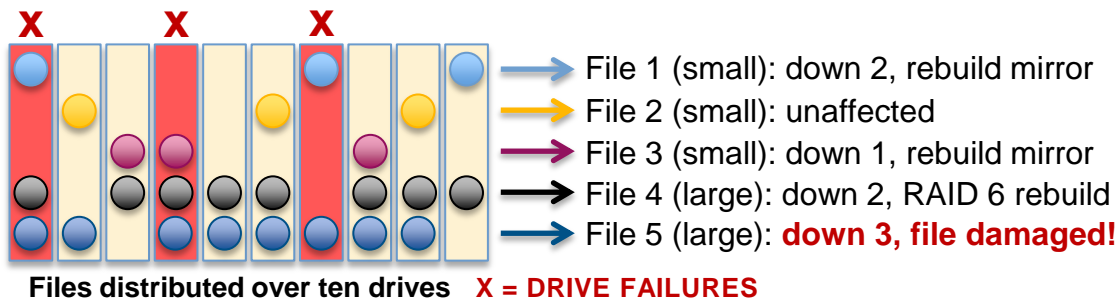
ActiveStor 16



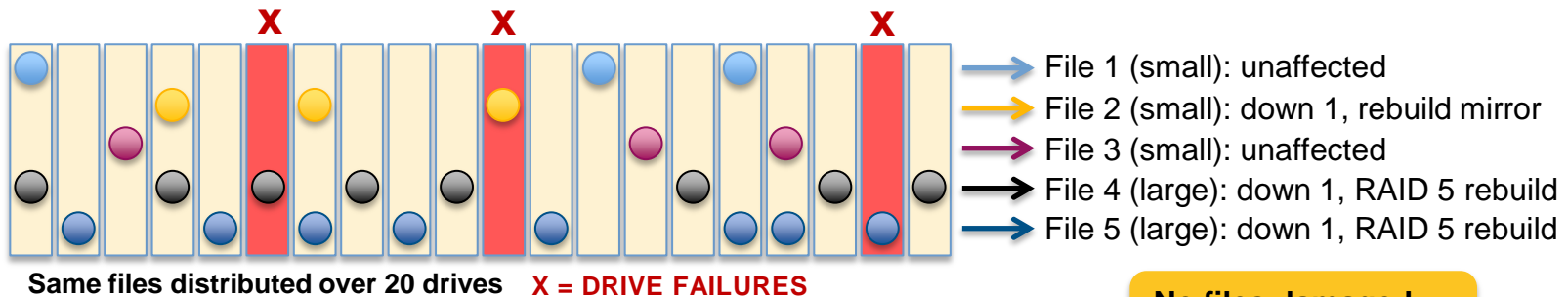
HGST UltraStar® He⁶
6TB Drive

■ Per-file Distribution Reduces Risk at Scale

- Small files are triple mirrored, large files are striped
- With more and more drives, three drive failures (exceeding fault tolerance) are less and less likely to affect any given file



**One file damaged;
Only need to restore File 5**



**No files damaged;
Can rebuild all data**

- **Extended File System Availability (EFSA) Ensures Business Continuity**
 - File system remains available when other systems would be down (even after one-too-many drive failures)
 - Directory structure stays navigable and all unaffected files can be accessed normally
 - Only a small number of affected files will be unavailable until restored from backup


- **Replaces “All Up/All Down” Model of the Past**
 - Targets an “always on” architecture

THANK YOU!

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 <http://twitter.com/#!/panasas>

 <http://www.youtube.com/PanasasHPC>