

# Accelerating Time to Discovery

## Frustration-Free Data Storage For Scientific HPC Workloads

HPC User Forum – Edinburgh, Scotland  
October 10, 2019

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FRUSTRATION-FREE STORAGE

# FOCUS ON WHAT REALLY MATTERS TO YOU

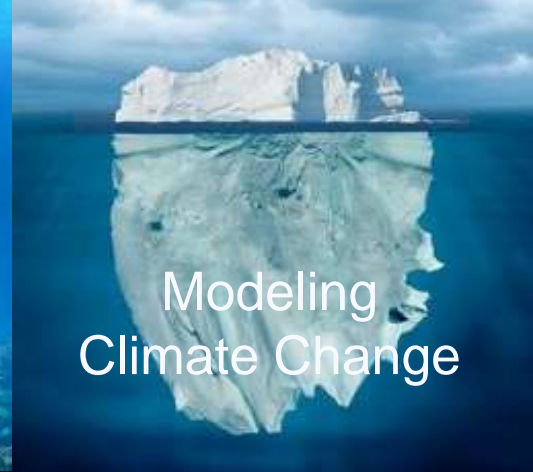
Curing Disease



Resource  
Exploration



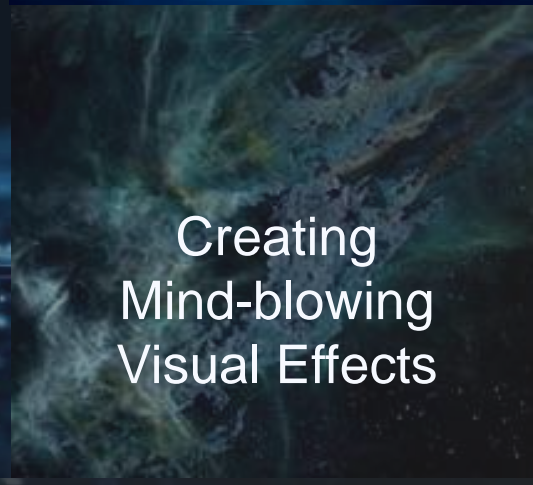
Modeling  
Climate Change



Enabling  
Artificial  
Intelligence



Creating  
Mind-blowing  
Visual Effects



Building the next  
Dreamliner



Winning  
Formula One Races



# Top Decision Factors

## Highest Performance

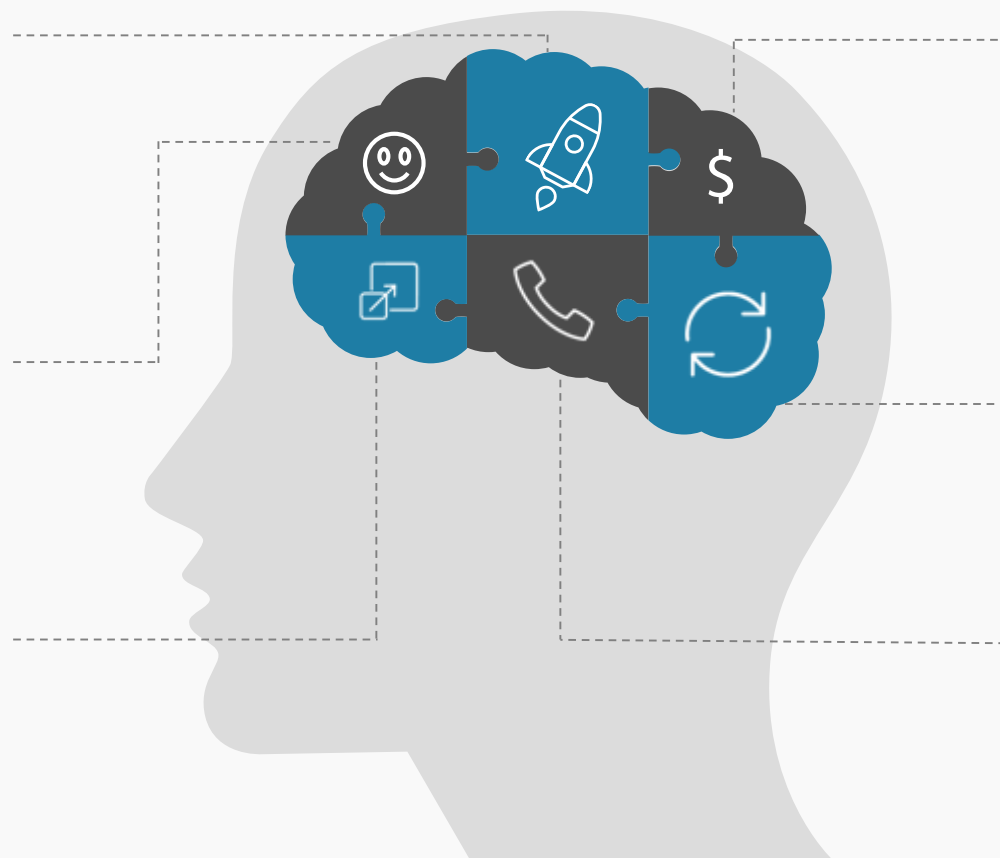
Consistently fast regardless of complexity.

## Frustration-Free

Set it and forget it.

## Flexibility

Dynamically adapts to changing workloads.



## Cost-Effective / Lowest IT Support Cost

Competitive acquisition cost combined with lowest cost of operation.

## Reliability

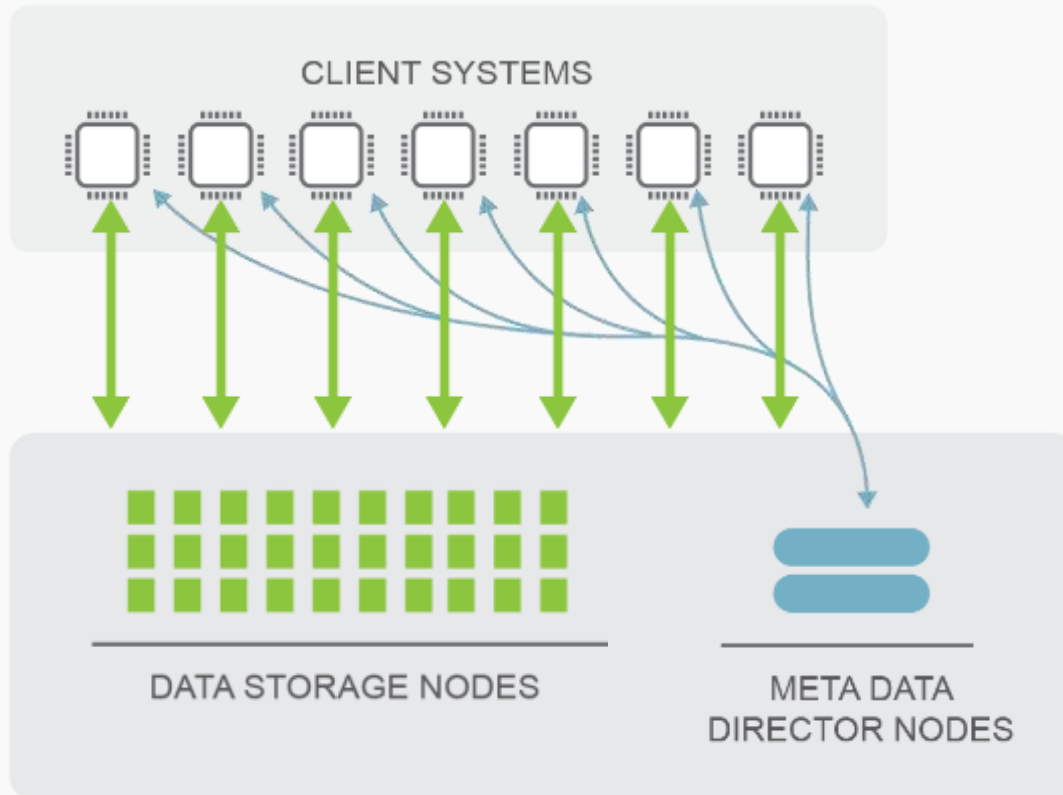
Uninterrupted user experience.

## Timely, Quality Support

Single vendor problem resolution.

# The Panasas Parallel Architecture

Designed for Linear Performance Scalability



## You Get

- Linear scalability of performance and capacity
- Limitless performance as you scale-out
- Reliability that improves with scale
- Excellent mixed workload performance
- Consistent user experience

## You Avoid

- Bottlenecks and hot spots
- Tuning/re-tuning when workloads change
- Noisy neighbor problems
- Productivity impact from failures
- Frustrated application users

# Panasas ActiveStor Product Evolution

Proprietary Hardware to COTS with PanFS

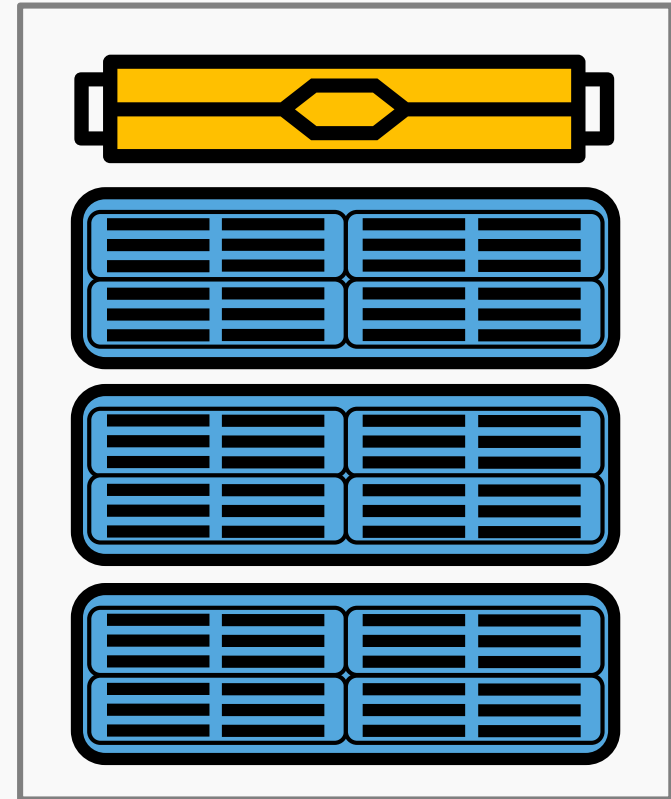
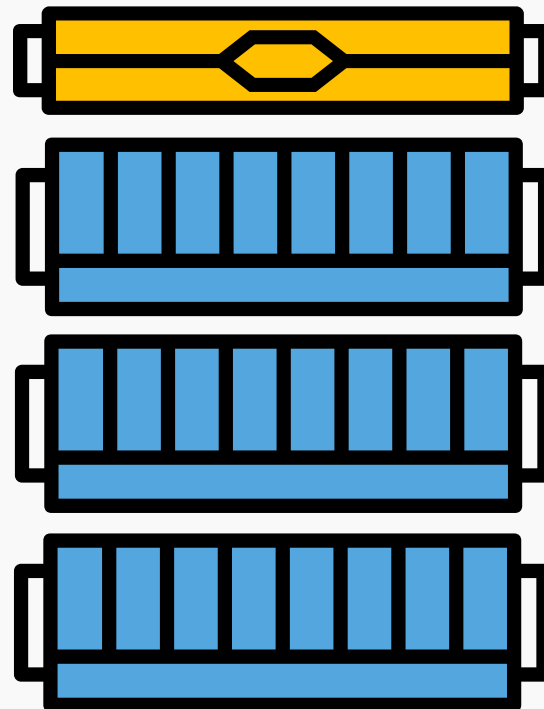
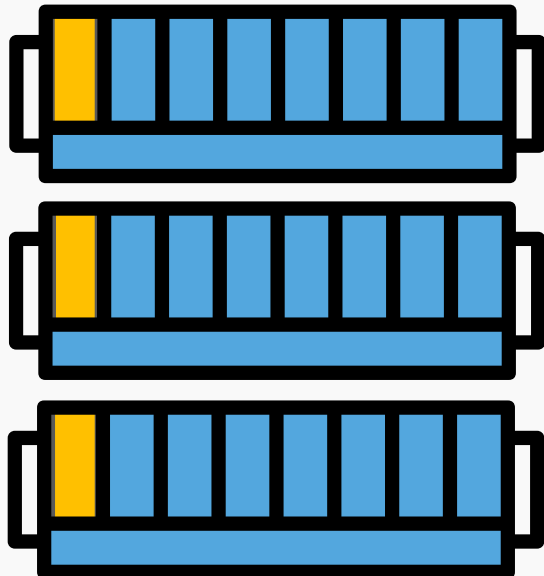
**ActiveStor Classic**  
formerly ActiveStor 18/20



**ActiveStor Prime**  
formerly ActiveStor Hybrid



**ActiveStor Ultra**

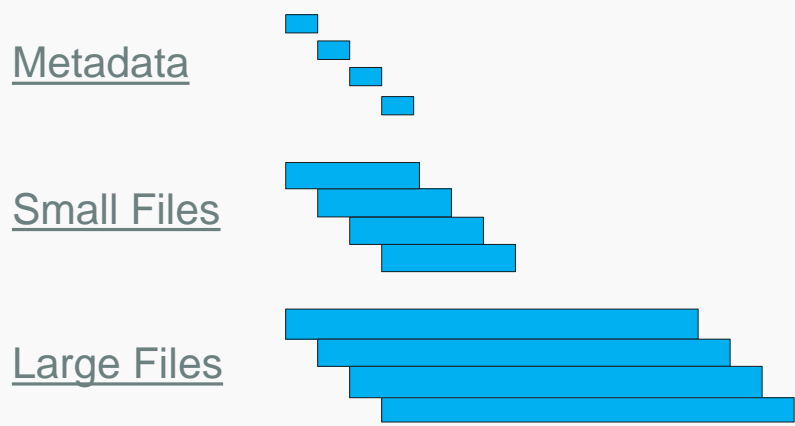


# ActiveStor Ultra

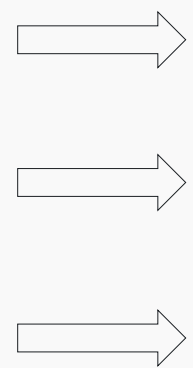
Performance for Mixed and Variable Workloads

- Separation of metadata from files
- Minimise task-by-task tuning
- Fully API compatible with prior generations of OSDs
- Uses a high-performance COTS platform

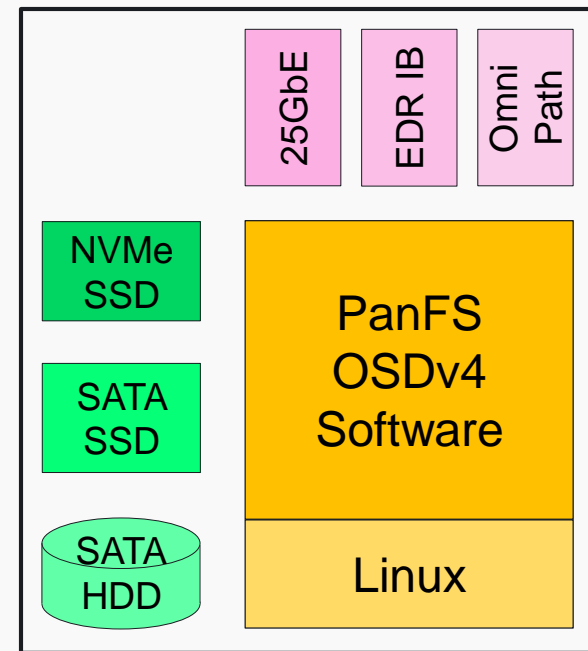
New 3-Tier data placement maps items being stored to the right type of storage device



Storage Workload



Stored On



ActiveStor Ultra with OSDv4

# ActiveStor Ultra

COTS Advantages Without the Headaches

## PanFS 8 ported to COTS hardware

- Continues the legacy of PanFS
- 25/40GbE and InfiniBand options

## Scalable performance and capacity

- 4 GB/s building blocks
- Up to 300TB / 4U

## Flexible

- Designed for multiple workload types

## Simple to Manage

- Low administration overhead
- Single point of support for complete system



# Ongoing Developments

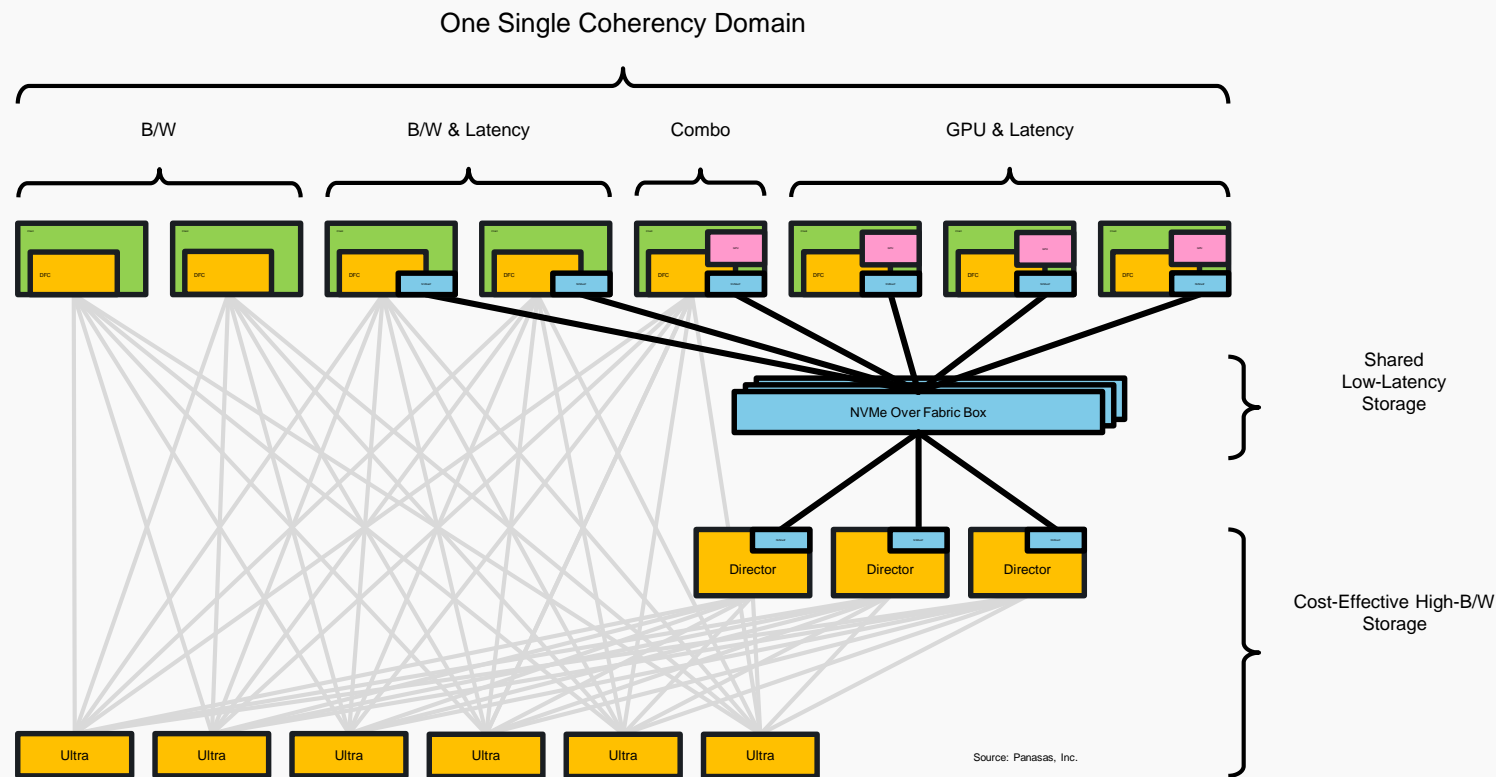
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# PanFS Ludicrous Mode Extreme Acceleration

Adding Support For Latency Sensitive Workloads

- Coherent NVMeoF low latency tier
- Integrated with Panasas environment
- Directors fill/drain NVMeoF boxes of their contents – freeing clients
- Adds a minimalist cluster filesystem to the DirectFlow<sup>®</sup> Client
- Use unmodified COTS NVMeoF hardware
- Hardware administration free



# ActiveStor Ultra **Delivers**

Limitless Performance Scaling and Management Simplicity

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## **FAST**

4GB/s building  
blocks

## **FRUSTRATION FREE**

Simple admin

## **RELIABLE**

Always available

## **COST- EFFECTIVE**

*“Meeting our commitments to researchers requires extremely high computational power that is available 24/7. Panasas lives up to its promise of terrific performance with negligible maintenance and administration time.”*

– Dr. Warren Kaplan, Chief of Informatics, Garvan Institute of Medical Research

Thank you



[www.panasas.com](http://www.panasas.com)