

Customer Results

40+ petabytes

of data¹

38.7 petaFLOPS

peak performance capacity²

15,000 CAT

iterations over a weekend³

HPC PixStor Storage

High performance, scalable parallel file system
with data tiering and simplified management

As data pours in from an increasing array of sources, IT departments are challenged to deal with vast quantities of data, as well as with IT budgets that demand doing more with less. Many have found the answer in high performance computing (HPC) — leveraging powerful computing systems designed to handle big data analytics, artificial intelligence (AI) and other advanced computing workloads.

In every industry, delivering data-driven insights requires storage that can handle massive data growth with security, reliability and performance. Accelerating data growth makes the economics of processing, accessing and storing data on some Fibre Channel and scale-out network-attached storage unsustainable. That's where PixStor™ comes in.

PixStor is high performance, highly scalable, enterprise-class software-defined storage that empowers you to search, manage, securely isolate and protect your data, collaborate and share across distances, and run in the cloud. The Dell Technologies engineering-validated design for PixStor storage delivers high performance with limitless scale at lower cost than traditional legacy solutions.

With PixStor on Dell EMC infrastructure, data moves seamlessly through many storage tiers — from fast flash and disk tiers to cost-effective, high-capacity object storage, all the way to the cloud — backed by a policy and event engine that puts all data at your fingertips. This allows you to accelerate workloads and store valuable assets safely and economically.

Validated Designs for HPC Storage

Dell Technologies Validated Designs for HPC Storage are engineering-tested and validated solutions that allow you to deploy large-capacity storage systems more easily and with less risk, while preserving resources and budget for higher-value activities. They also give you the power to quickly and easily scale storage capacity as computing needs grow.

By collaborating with ArcaStream™, Dell Technologies is able to offer tested and tuned systems that speed adoption of high performance, scalable HPC storage systems with simplified installation, configuration and management features.

¹ [Texas Advanced Computing Center \(TACC\)](#) Corral, accessed October 2021

² Dell Technologies Case Study, "[Unlocking the Secrets of Earthquakes](#)," April 2021.

³ Dell Technologies Video Case Study, "[High Performance Computing Drives Cummins' Industry Leading Engine Design and Development](#)," accessed October 2021.

Together, Dell Technologies and ArcaStream help you run HPC storage workloads more efficiently by simplifying your infrastructure and streamlining technology. Dell Technologies HPC and AI experts are available to help you design a solution for your specific needs. [Services](#) — from consulting and education to deployment and support — are available when and where you need them.

| Management server | Gateway server | High-demand metadata servers (optional) | System networking | High-demand metadata storage (optional) | Object storage | Software |
|-------------------|-----------------------------------|---|---|---|-------------------------------|--|
| PowerEdge R650 | PowerEdge R750 or PowerEdge R7525 | 2x PowerEdge R750 or R7525 | PowerSwitch S3048-ON 2x Mellanox® SB7800 EDR or QM8700 HDR | Up to 4x PowerVault ME4024 | 1, 2 or 4x PowerVault ME40484 | CentOS® Linux® or Red Hat® Enterprise Linux PixStor™ |

Resources

- See the [Validated Design](#)
- Learn about the [Dell Technologies HPC & AI Innovation Lab](#).
- Join the Dell Technologies HPC Community at dellhpc.org.

Learn more

[delltechnologies.com/
referencearchitectures](http://delltechnologies.com/referencearchitectures)
delltechnologies.com/hpc

ArcaStream and Dell Technologies

Dell Technologies and ArcaStream work together to deliver limitless performance, scale and control.

ArcaStream provides high performance, data aware, software-defined storage and networking solutions specifically designed to accelerate the world's most challenging scientific data workflows. ArcaStream high performance storage combines flash, disk, tape and cloud storage in a multi-protocol, single namespace, unified system that's higher performing, limitless in scale, easier to manage, far better supported and lower cost than alternative solutions.

Dell Technologies enables organizations to modernize, automate and transform their data centers using industry-leading converged infrastructure, servers, storage and data protection technologies. Businesses get a trusted foundation to transform their IT and develop new and better ways to work through hybrid cloud, big data solutions and the creation of cloud-native applications.

