Dell EMC Ready Solutions for HPC PixStor Storage

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

Dell EMC Customer Results

31 million calculations in a single second

1.7 petaFLOPS peak performance capacity

15,000 CAT iterations over a weekend

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 EMC engineering-validated design for PixStor storage delivers high performance with limitless scale at lower cost than traditional legacy solutions.

With this PixStor and Dell EMC architecture, 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.

Dell EMC Ready Solutions for HPC Storage

Dell EMC Ready Solutions for HPC Storage are 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 partnering with ArcaStream™, Dell EMC 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.
Together, Dell EMC and ArcaStream help you run HPC workloads more efficiently by simplifying your infrastructure and streamlining technology. Dell EMC 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.

<table>
<thead>
<tr>
<th>Management server</th>
<th>Gateway server</th>
<th>High-demand metadata servers (optional)</th>
<th>System networking</th>
<th>High-demand metadata storage (optional)</th>
<th>Object storage</th>
<th>Software</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerEdge R440 Server</td>
<td>PowerEdge R740 Server</td>
<td>2x PowerEdge R740 Server</td>
<td>PowerSwitch S3048-ON 2x Mellanox® SB7800</td>
<td>Up to 4x PowerVault ME4024</td>
<td>1, 2 or 4x PowerVault ME40484</td>
<td>CentOS® Linux® PixStor</td>
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</tbody>
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**ArcaStream and Dell EMC**

Dell EMC 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 EMC enables organizations to modernize, automate and transform their data center 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.

Learn more [dellemc.com/hpc](http://dellemc.com/hpc)