Making Innovation Real
Dell EMC Update
Hyperion HPC User Forum

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Dell EMC HPC market leadership

#1 In Servers
In Storage (IDC)

HPC solutions program officially launches

Industry's 1st HPC Solution Bundle

1st HPC cluster

1999

2001

2004

First systems with DCLC (OSC) and HDR (U. Michigan)

Dell EMC AI solutions announced

Dell EMC merger — Isilon joins HPC portfolio

Zenith System launched at Dell EMC HPC Innovation Lab

Dell EMC AI solutions announced

2015

2016

2017

2018

2019

2008

2005

2004

2001

1999

Tungsten

Thunderbird

C-series joins PowerEdge

Frontera

Great Lakes

Stampede

#4

#6

#7

Pitzer
Making Innovation Real with HPC

Dell EMC’s unique approach achieves faster results, enables discovery and drives design with optimized HPC, Data Analytics and AI solutions for better value through:

1. **Advancing HPC** – Trusted Advisors, from the workgroup to the TOP500
2. **Democratizing HPC** – Accelerating science, engineering, analytics and AI
3. **Optimizing HPC** – Optimized products, solutions and services for HPC
Making Innovation Real with HPC

Dell EMC’s unique approach achieves **faster results**, enables **discovery** and drives design with **optimized HPC, Data Analytics and AI solutions** for better **value** through:

### Advancing HPC
- Continued expansion of the HPC & AI Innovation Lab
- New HPC Center for Excellence: CSIRO

### Democratizing HPC
- New/Updated Ready Solutions for HPC and AI
- New Ready Solution for Lustre & NFS based on PowerVault ME4
- Solutions in collaboration with U. Cambridge “Data Accelerator”

### Optimizing HPC
- First systems delivered with DCLC and with HDR IB
- New upcoming systems
New systems…

UNIVERSITY OF MICHIGAN
Great Lakes

UNIVERSITY OF CAMBRIDGE
Cumulus - UK Science Cloud

Ohio Supercomputer Center
Pitzer

SUPERCOMPUTING WALES
Hawk & Sunbird

Frontera
The Spirit of Collaboration

World-class Dell EMC HPC Centers of Excellence

San Diego Supercomputer Center

Texas Advanced Computing Center (TACC)

Dell EMC HPC & AI Innovation Lab

Centre for High Performance Computing in South Africa

Cambridge Solution Center

University of Pisa

Institute of Automation, Chinese Academy of Sciences

Monash University

NEW! CSIRO

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Vision for HPC Storage

Dell EMC Data Accelerator
NVMe dense PowerEdge servers, with parallel file system for check pointing and burst buffer workloads

(D Later this year)

Ready Solution for HPC Lustre Storage
Scale out performance and capacity with additional OSS pairs

Ready Solution for HPC NFS Storage
High availability storage system with up to 1008 TB of raw storage capacity using Red Hat HA software stack

Isilon
Scale-out NAS storage to store, protect and analyze unstructured data

Elastic Cloud Storage (ECS)
All the benefits of a public cloud while keeping cost under control

Fast Scratch
Project
Archive
The Data Accelerator Platform
Sponsored by Dell EMC and Intel

- Each DAC uses an internal SSD for the MGS, should it be elected to run a file system.
- NVMeS then have an MDS or OSS applied. This arrangement can be changed as required.
- Integration with SLURM via flexible storage orchestrator

- 24 Dell EMC PowerEdge R740xd
- Each with 12 Intel SSD P4600
- 2 Intel Omni-Path Adaptors
- 2 Intel Xeon Scalable Processors
- ½PB of Total Available Space

https://www.hpc.cam.ac.uk/research/data-acc
This is an intermediate list based on corrected calculations for the IO-500 ranked list from November 2018 (from SC 2018). Please see also the 10 node challenge ranked list.

The list shows the best result for a given combination of system/institution/filesystem.

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<th>system</th>
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<th>filesystem type</th>
<th>client nodes</th>
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<th>score</th>
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The Spirit of Community: The Dell EMC HPC Community

11th Meeting: March 25-28, 2019 in Austin

Save the dates!

12th Meeting: June 16, 2019 at ISC19
13th Meeting: November 18, 2019 at SC19

Follow the Community at www.dellhpc.org