



# Dell HPC Systems: Democratizing HPC

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# Dell HPC Vision to Democratize and Advance HPC

Dell will help more people make **more innovations and discoveries** than any other HPC systems vendor in the world, via a **innovative, cost-effective portfolio of solutions** that integrate **Dell and partner innovations with community standards.**



Michael Dell at CERN

# Continue to drive the expansion of what is HPC

## Traditional High Performance Computing

Computationally-intensive modeling & simulation applications by scientists, engineers and others

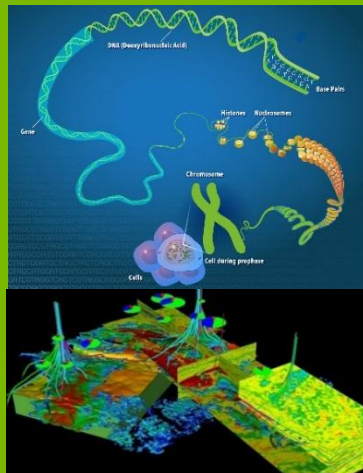
### Traditional modeling and simulation applications:

- Computer-aided design and manufacturing (CAD/CAM/CAE)
- Weather forecasting
- Oil Exploration



## Data-centric HPC applications

- Genomics
- Seismic analysis
- Signal processing



## High Performance Data Analytics (HPDA)

Using HPC technologies to analyze big data for rapid insights, real time results and predictive analytics

### New HPDA applications:

- Personalized medicine
- Fraud detection
- Machine Learning



Private Cloud

Hybrid Cloud

Public Cloud

# Dell HPC Systems Portfolio



Dell HPC System for Research



Dell HPC System for Life Sciences



Dell HPC System for Manufacturing



NFS Storage Solution with HA



Dell Storage for HPC with Intel EE Lustre

Built on industry leading Dell and partner products and services



PowerEdge Servers



Dell Storage



Dell Network



VDI



Processors/Accelerators



Management



DataCenter



Services

Standards-based – Open approach – Modular systems  
Flexible scaling – Modern portfolio – End-to-end solutions

C6320

DSS 7000

Mellanox EDR InfiniBand

NVIDIA and AMD GPUs

Cycle Computing

New! C6320p





# The Dell HPC Innovation Lab

Dedicated to research and development of HPC solutions



Leverage HPC engineering expertise



Test new technologies



Tune your applications for performance and efficiency



- Multi-phase Dell | Intel project to create a ~18PF strategic national resource
- **Providing HPC capabilities for thousands of researchers across the U.S.** as part of XSEDE
- Powering discoveries that change the world



- 1 petaflops in a smaller footprint to drive new research, innovations and national economic benefits
- **15x faster than previous system, Top500 system to perform large-scale simulations that were impossible**
- Spur private sector growth in South Africa





[www.dell.com/hpc](http://www.dell.com/hpc)

The Dell HPC Community  
[www.dellhpc.org](http://www.dellhpc.org)



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