

HPC Overview

Last 15 years

IT-centric

Traditional Analytics

Traditional Applications

Rigid Infrastructure

Internet

Next 15 years

Business-centric

Prescriptive Analytics

Cloud-Native Applications

Agile Infrastructure

Internet of Everything

Dell EMC Blueprints

Any workload. Any environment. Any experience.

Build

Maximum Flexibility

Buy

Turnkey Outcomes, Maximum Agility

Converged Continuum

Dell EMC Blueprints Program

Accelerating IT. Simplifying Build to Buy for Sales.



HPC



DATA
ANALYTICS



BUSINESS
APPLICATIONS



SOFTWARE
DEFINED

Proven outcomes

Global Services

Custom Financing

50%

Industry now accounts for almost half of HPC revenue.¹

HPC is “mainstreaming” into many verticals and converging with big data and Cloud

Yet there are still major challenges to adoption.

45%

45% of IT execs said top priority for technology providers is to enable innovation.²

77%

77% of HPC end users report that data and storage is now the most strategic part of HPC data center.³

18%

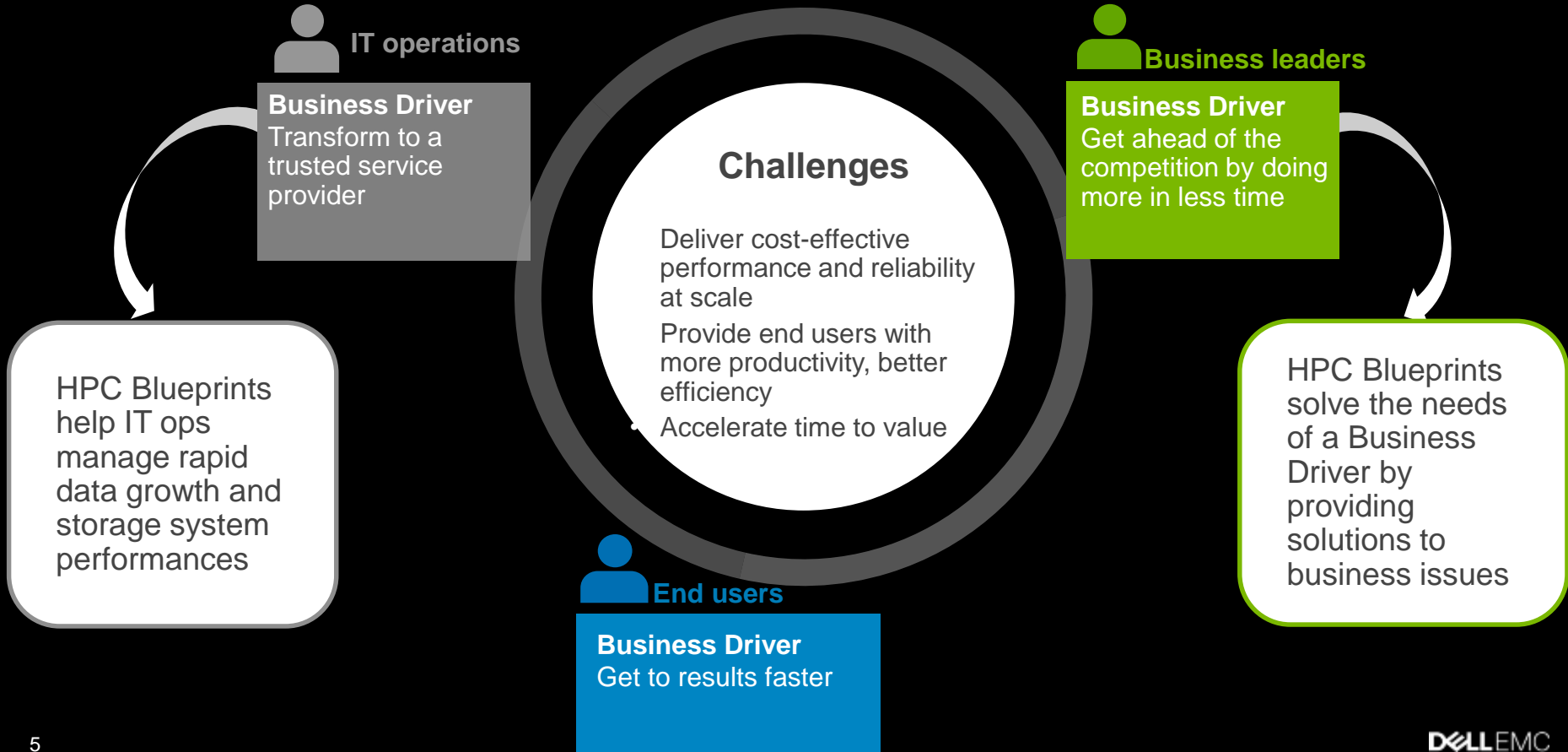
Only 18% of IT organizations were effective in introducing new technologies faster and/or more effectively than competitors.⁴

HPC is moving mainstream.

1 out of 4

By 2018, HPC will account for nearly 1 in 4 of all servers sold, and \$20B+ in aggregate hardware sales.⁵

Customer Pain Points



Dell EMC High Performance Computing

Transforming the future by expanding HPC at the intersection of Big Data and Cloud



Advancing HPC

Expertise, technology and partnerships advancing the state-of-the-art for HPC solutions from the workgroup to the TOP500



Democratizing HPC

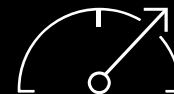
HPC Systems enable small and medium sized enterprises to accelerate their science, engineering and analytics



Optimizing HPC

Robust portfolio of products and services optimized for HPC from a company who will be there for you over the long haul

Portfolio: Blueprint for HPC



BUILD

Maximum flexibility
Validated for use case
Heterogeneity with lower risk
Component lifecycle automation and control

BUY

Fastest time to value
Optimized and tuned for use case
Greatest risk reduction
Solution lifecycle automation

Consumption models

Benefits

STORAGE READY BUNDLES

Dell EMC Ready Bundle for HPC NFS Storage

Scales from a minimum of 48TB to 480TB of raw capacity in a single name space



Dell EMC Ready Bundle for HPC Lustre Storage

Lustre parallel file storage system scales from 120TB to petabytes of data



SYSTEMS FOR A RANGE OF USE CASES

Dell EMC HPC System for Life Sciences

Fully integrated for pharma/biotech applications



Dell EMC HPC System for Manufacturing

Fully integrated for compute-aided engineering (CAE) workloads



Dell EMC HPC System for Research

General purpose compute cluster for multiple research workloads



Solutions

Scale



HPC Cloud Portfolio

Build or scale your cloud, rent cycles, and/or get burst capacity



Management,
Orchestration



Integrated Cloud Services

Pay-as-you-go services can quickly scale up or down to match demand

Suite of Cloud Services

Install your software in the AWS cloud or use pre-configured machine images from the AWS Marketplace

IaaS, Cloud on demand

Customizable burst or short-term HPC capacity served as an operating expense in 24 hour increments

IaaS, Cloud on demand

Dedicated dark-fiber core network for moving large amounts of HPC data

Software Services and Platform

Comprehensive Cloud Native platform for building applications

Rent cycles

Infrastructure as a Service

Cloud Services

On-demand capacity | self-service | pay-as-you-go billing

Additional options: <http://i.dell.com/sites/doccontent/business/solutions/brochures/en/Documents/guide-to-hpc-cloud-based-solutions.pdf>



HPC Innovation Lab World-Class Infrastructure

Dedication to Research and Development:

- 13K sq. ft with 1300+ Servers and ~10PB
- Leverage Expertise in HPC
- Test New Technologies
- Tune your applications for performance and efficiency



Zenith

- Top500 class system based on Intel Scalable Systems Framework (OPA, KNL, Xeon, OpenHPC)
- 256-nodes with dual 2697v4 processors, non-blocking OPA fabric and 270TFlops sustained performance

Rattler

- Research/development system in collaboration with Mellanox and NVIDIA
- 80 nodes configured with Infiniband EDR and 2660v3 processors

Expanding Partnerships for innovation and impact

Expanding Existing Programs

- Texas Advanced Computing Center
- San Diego Supercomputer Center
- University of Illinois (NCSA)

New EMEA Innovation Centers

- University of Cambridge
- University of Pisa
- Center for High Performance Computing, South Africa

New APJ programs

- Institute of Automation, Chinese Academy of Sciences (CASIA)
- Monash University

D  **LEMC**