OUR VISION: THE GREATEST SCIENTIFIC AND CREATIVE BREAKTHROUGHS ARE MADE POSSIBLE BY INTEL
THE HPC OPPORTUNITY

HPC Market

Est. HPC revenue ~$30B in 2021 at ~7% CAGR

Data Analytics

Server revenue CAGR ~17%; >$4 billion in 2021

Artificial Intelligence

DL in HPC server revenue CAGR ~81%, overall AI-HPC market ~30% CAGR by 2021

Cloud

>65% of HPC workloads are in private-hybrid clouds

HPC Workloads Expanding to Become Pervasive Across Industries

2 Worldwide HPC-based Artificial Intelligence (AI) Market Forecast Update, 2016–2021, July 2017
3 Source: Attributes of the Top National Buyers of HPC Resources for Deep Learning and Machine Learning, 2018
4 Source: Hyperion, Types of Clouds Used for HPC Workloads, 2017
HPC GROWTH VECTORS

- Supercomputers
- New Use Cases
- Cloud
- AI-HPDA-Mod-Sim
- On-Prem/Hybrid
- Exa
THE COMING DELUGE OF DATA

Data explosion challenge

The Life Sciences Data Challenge

Cryo-Electron Microscopy: 25TB/device/day

In 2014, Lead Sequencer: <1TB/device/day, “$1000 genome”
In 2017, Lead Sequencer: 3.6TB/device/day, “$100 genome”

The Worlds Largest Radio Telescope

10 Billion Data Streams

Incoming data: 10 petabytes
Output 3D image: 1 petabyte per image
Storage: 80 petabytes

THE SCIENTIFIC OPPORTUNITY OF BIG DATA: DRIVING INSIGHTS

• Source 1: Intel
PREDICTIVE ANALYTICS BUSINESS IMPACT

80%
Accuracy in predicting likelihood of an RRT (Rapid Response Team) event within 1 hour¹

70%
Accuracy in prediction of prolonged ventilation 48 hours in advance of respiratory failure²

85%
Accuracy in identifying Sepsis cases 30 hours before onset of septic shock³


*Other names and brands may be claimed as the property of others. Nothing herein is intended to express or imply an endorsement of Intel by these companies.
## INTEL’S HPC PORTFOLIO

### Server
- CPUs
- Chipsets
- Ethernet
- Boards/Systems
- FPGA

### Storage
- CPUs
- Flash
- SSDs

### Network
- CPUs
- Accelerators
- Ethernet & Omnipath

### Software
- Lustre File System
- AI Frameworks
- OpenHPC
FROM DATA CENTERS TO THE EDGE
INTEL’S COMMITMENT TO AI & HPC

Major Acquisitions – Strategic Investments

Over 4.5 years, INTEL focus is on AI and HPC

>$30B in Acquisitions & Investments

Source: Intel
>100+ INTEL PARALLEL COMPUTING CENTERS

- Managing 100+ Intel® PCCs working on 150+ SW codes, across 18 different domains with global reach from 17 countries
- 450+ publications for sharing learnings
- 63 codes/frameworks were optimized and released on IA

Source: https://software.intel.com/en-us/ipcc
Intel Parallel Computing Centers Community

Collaborating to accelerate the pace of discovery
Collaborating to accelerate the pace of discovery
INTEL IS DEEPLY INVESTED IN HPC & WE WILL CONTINUE TO PARTNER WITH YOU TO STRENGTHEN AND DRIVE OUR COLLABORATIONS

THANK YOU!
Legal Disclaimer

Intel technologies’ features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. No computer system can be absolutely secure. Check with your system manufacturer or retailer.

Intel and the Intel logo are trademarks of Intel Corporation or its subsidiaries in the U.S. and/or other countries.

*Other names and brands may be claimed as the property of others.

© Intel Corporation