



## UPDATE

# HPC Vendor Updates: HPC User Forum, April 2016, Tucson, Arizona

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## IN THIS UPDATE

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This IDC update provides near-verbatim notes from talks given on HPC vendor updates at the 60th meeting of the HPC User Forum, held on April 11-13, 2016, in Tucson, Arizona.

### "Intel's Machine Learning Strategy," Gary Paek, Intel

- We have a taxonomy: AI is one section, deep learning (DL) is a subset of machine learning (ML), and within DP, we have training.
- Data scientists spend a lot of time on data curation, integration, and labeling the data.
- Why is this important now?
  - Bigger data (especially video, objects)
  - Better hardware/cheaper storage
  - Smarter algorithms, new math, and training techniques
- Example: Netflix uses recommendation algorithms.
- Why is Intel interested? Our starting point is that, if it computes, it works best with Intel. Intel plans to support industry innovation across verticals, to accelerate adoption of ML, to enable/optimize key industry frameworks, to extract maximum performance through libraries, and to enable optimizations of single-node and cluster performance for computation, networking, and storage.
- Intel SSF is designed to support this too.

### "It's Time to ROC," Greg Stoner, Radeon Open Compute, AMD

- We're focusing on the software. Radeon technology presents an open foundation for development, discovery, and education.
- ROCm, Radeon Open Computer Platform; ROcK, Headless Linux 64-bit kernel driver; and ROCr, HAS + runtime.
- The system is optimized for node- and rack-scale multi-GPU compute. Works on open source from the metal up. Our focus is on overall latency to compute.
- We port from CUDA to a common C++ programming model.

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### Related Research

- *Worldwide HPC Server Forecast, 2016-2020* (IDC #US41318216, June 2016)

- *NSCI Update: Rolling Up Its Sleeves and Getting to Work* (IDC #lcUS41072416, March 2016)
- *EU Consortium Gathers Core Capabilities to Build Exascale HPC Prototype* (IDC #lcUS41048816, February 2016)
- *Next Steps for the NSCI: Looking to Ensure a Long and Lively Life Span* (IDC #lcUS40980816, January 2016)
- *IDC Study: U.S. Private Sector Cybersecurity Best Practices* (IDC #US40688815, January 2016)
- *Baidu's Deep Learning Efforts: Notable Progress on Many Fronts* (IDC #lcUS40704215, December 2015)
- *Worldwide HPC Server Forecast Update, 2015-2019* (IDC #259950, November 2015)
- *The U.S. National Strategic Computing Initiative as a "Moonshot": Taking Its First Small Steps* (IDC #259288, September 2015)
- *White House Announces Strategic HPC Plan: A Good Start on a Long Road* (IDC #258194, August 2015)
- *Global HPC Market Dynamics in 2013* (IDC #248137, April 2014)
- *Industrial Partnership Programs and High-Performance Computing: HPC User Forum, April 7-9, 2014, Santa Fe, New Mexico* (IDC #248113, April 2014)
- *International Perspectives on Industrial High-Performance Computing Partnerships: HPC User Forum, April 7-9, 2014, Santa Fe, New Mexico* (IDC #248122, April 2014)
- *Catalyst Supercomputer Heralds Shift to More Balanced Architectures* (IDC #lcUS24437513, November 2013)

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