

VLDB 2015

Workshop on Big Data Open Source Software

Panel on
Exascale and Big Data

Panelists

Peter Baumann, Jacobs University

Paul Brown, SciDB

Michael Carey, UC Irvine

Guy Lohman, IBM Almaden

Volker Markl, TU-Berlin

Arie Shoshani, Lawrence Berkeley Labs

Moderator: Chaitan Baru, National Science Foundation

Motivation

The **National Strategic Computing Initiative** – recently announced in the US by the Obama Administration

“Accelerating delivery of a capable exascale computing system that integrates hardware and software capability to deliver approximately 100 times the performance of current 10 petaflop systems across a range of applications representing government needs”

With *“increasing coherence between the technology base used for modeling and simulation and that used for data analytic computing.”*

A multi-agency strategic vision and Federal investment strategy

In collaboration with industry and academia

Jointly led by NSF, Dept of Energy, Dept of Defense

Background

Big Data and Extreme Scale Computing (BDEC) workshops,
<http://www.exascale.org/bdec/>

Organized by US DOE and NSF

February 2014 workshop in Fukuoka, Japan identified opportunity to run workshops at HPC and Database conference venues

In 2015: At VLDB and Supercomputing 2015

Issues

Large-scale simulation data

Large-scale observational data

Real-time *interaction* between simulation and observational datasets

- Steering computations
- Controlling experimental systems

Data mining / machine learning of large-scale data

- Post facto processing of large simulation data

Fault tolerance, Resilient Computing, Approximate Computing

Integration of heterogeneous data

....

Companion Panel at Supercomputing 2015

Title: **Supercomputing and Big Data: From Collision to Convergence**

Panelists:

David Bader, Georgia Tech

George Biros, UT Austin

Randy Bryant, White House OSTP

Ian Foster, U.Chicago

Bruce Hendrickson, Sandia National Labs

Andrew Moore, CMU

Nov 15-20, Austin, TX