The OSG Open Facility: An on-ramp for opportunistic scientific computing

Bo Jayatilaka, Tanya Levshina, Chander Sehgal *(Fermilab)*

Rob Gardner *(Chicago)*

Mats Rynge (*ISI/USC*)

Frank Wuerthwein *(UCSD)*

CHEP 2016

San Francisco

October 10, 2016

Outline

- Introduction to the OSG
  - Large computing grid built off of HEP computing resources
  - Now a much larger resource collection serving many other scientific applications
- Over 200M CPU hours used opportunistically in the past year
- The OSG open facility refers to resources that are primarily opportunistic and can be used by any US researcher
  - Over half of all opportunistic hours are used by individual researchers (e.g., economics, medicine, math, biology)
- "Traditional" OSG resources of HEP (primarily ATLAS and CMS) computing sites being joined by university grids and HPCs with opportunistically available resources
- New resource types (supercomputers, GPUs) being added to available OSG resources

Outline

- "Big science" growth on OSG open facility
  - LIGO, AMS, IceCube, sPHENIX, mu2e
  - ATLAS and CMS also exploring use of open facility for peak usage
- Deployment of new technology to ease integration of resources and users on the open facility (HTCondor-BoscoCE, Stashcache)
- Continued deployment of new resources and resource types shows open facility resource availability robust despite LHC Run2 needs