



Some Odds and Ends About Computational Infrastructure

Rob Quick <rquick@iu.edu>
Chief Operations Officer - Open Science Grid
Manager High Throughput Computing





INDIANA UNIVERSITY

Computing Infrastructures



- Local Laptop/Desktop Short jobs with small data
- Local Cluster Larger jobs and larger data but subject to availability
- HPC Prime performance with parallelized code
- HTC Sustained computing over a long period for serialized workflows
- Cloud Need deeper permission on an OS and/or have deeper pockets



Some Examples of Academic Cls Worldwide



HTC

- EGI (formally European Grid Initiative)
- OSG (Open Science Grid)
- ASGI (Asia Pacific Grid Initiative)
- NorduGrid
- Earth System Grid (ESG)
- Many other regional and national infrastructures





Some Examples of Academic Cls Worldwide



HPC

- XSEDE (eXtreme Science and Engineering Discovery Environment)
- PRACE (Partnership for Advanced Computing in Europe)
- Compute Canada
- Greek Research and Technology Network (GRNET)
- Centre for HPC (South Africa)
- Many other national infrastructures





Some Examples of Academic (Cls Worldwide



Cloud

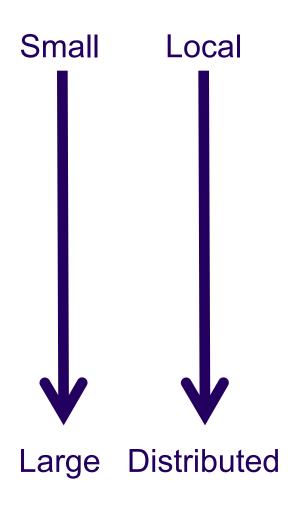
- EGI Federated Cloud
- NeCTaR National eResearch
 Collaboration Tools and Resources
- Jetstream (Part of XSEDE)
- SwissACC (Swiss Academic Computing Cloud)
- Many other national cloud infrastructures





Let's take one step at a time





- Can you run one job on one computer?
- Can you run one job on another computer?
- Can you run 10 jobs on a set of computers?
- Can you run a multiple job workflow?
- How do we put this all together?

This is the path we'll take





What happens when you go home?



- DOSAR: Distributed Organization for Scientific and Academic Research http://www.dosar.org/
- You are welcome to join our bi--weekly video (Vidyo) meetings. Send request to be added to DOSAR email list to Prof. Greenwood: greenw@phys.latech.edu reference you attended the Data Science Summer School in Trieste
- If you want long-term grid access, you can request membership in the DOSAR VO





Questions?



- Questions? Comments?
 - Feel free to ask me questions now or later:
 Rob Quick <u>rquick@iu.edu</u>

