Cornell University
Center for Advanced Computing

Welcome!

Parallel Programming on Ranger and Lonestar

May 23-24, 2011

Center for Advanced Computing (CAC)

- Mission:
  - *To Enable the Success of Cornell Researchers, Collaborators, and Supporters whose Work Demands Advanced-Computing Solutions*

- Organization:
  - Cornell core facility
  - Staff of expert consultants, systems administrators & programmers
  - CAC Director reports to the Vice Provost for Research-
  - CAC has a Faculty Oversight Committee, chaired by VPR
    - Includes leaders in the fields of engineering, life sciences, social sciences, computer science, & business

CAC Services

- Maintenance and support of general-purpose, high-performance computing systems
  - http://www.cac.cornell.edu/services/HPCsystemsList.aspx
  - Faculty and research group assistance in the preparation of proposals
- Research project participation and consulting
  - Parallel code development/optimization/extensive debugging or development
  - Database design, implementation and maintenance
  - Develop pipelines for data intensive research

ranger.tacc.utexas.edu lonestar.tacc.utexas.edu

- Ranger is a open science research TeraGrid resource built and operated by TACC as the first of the NSF Track2 HPC acquisitions.
- Lonestar is a nationally allocated Visualization and Data Analysis (VDA) system funded by the National Science Foundation as part of the eXtremeDigital program in NSF's Office of Cyberinfrastructure.

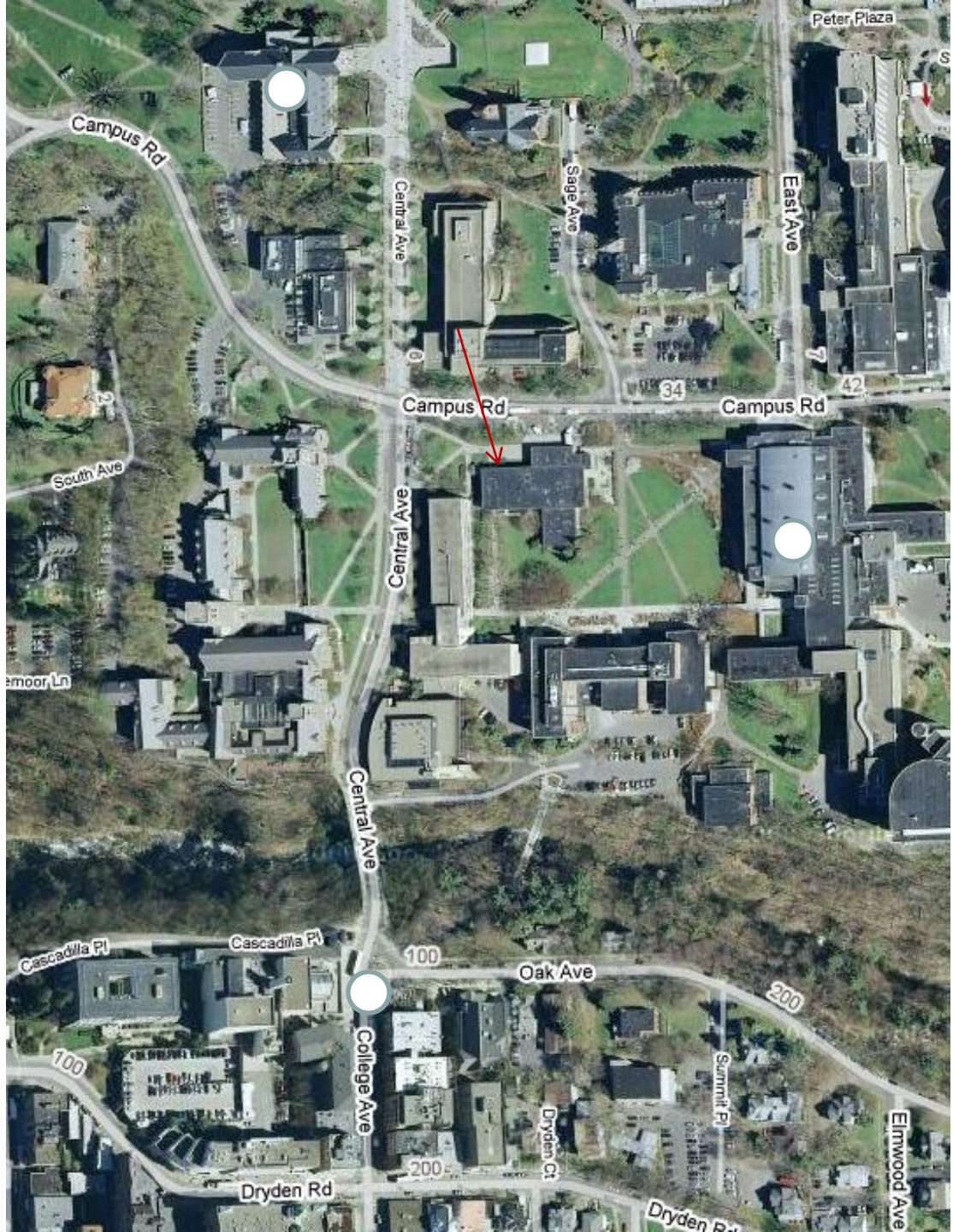|	Ranger	Lonestar
Nodes	3,936	1,888
CPUs/nodes	4 x 4	2 x 6
Total Cores	62,976	22,656
CPUs	2.3 GHz	3.3 GHz
Memory	2GB/core	2GB/core
Interconnect	SDR IB	QDR IB
Disk	1.7 PBLustre(IB)	Lustre(IB)

Computing Accounts

- Workshop/training accounts
    - Access to ranger.tacc.utexas.edu and lonestar.tacc.utexas.edu
    - ssh required
    - Account will be deleted after one week

- TeraGrid Allocations
    - PIs may request Startup, Education, or Research allocations.
    - https://portal.teragrid.org/allocations-overview

- CAC Services
    - PI may set up projects for
        - compute time
        - consulting time
        - Maintenance
        - Storage
    - http://www.cac.cornell.edu/services/

Workshop Logistics

- Refreshments
    - Morning and afternoon breaks provided
    - No food or beverages permitted in training room
    - Lunch on your own

- Restrooms

- Room access

Workshop Web Page

http://www.cac.cornell.edu/education/training/ParallelMay2011.aspx

- Agenda
- Lecture slides
- Participants
- Links