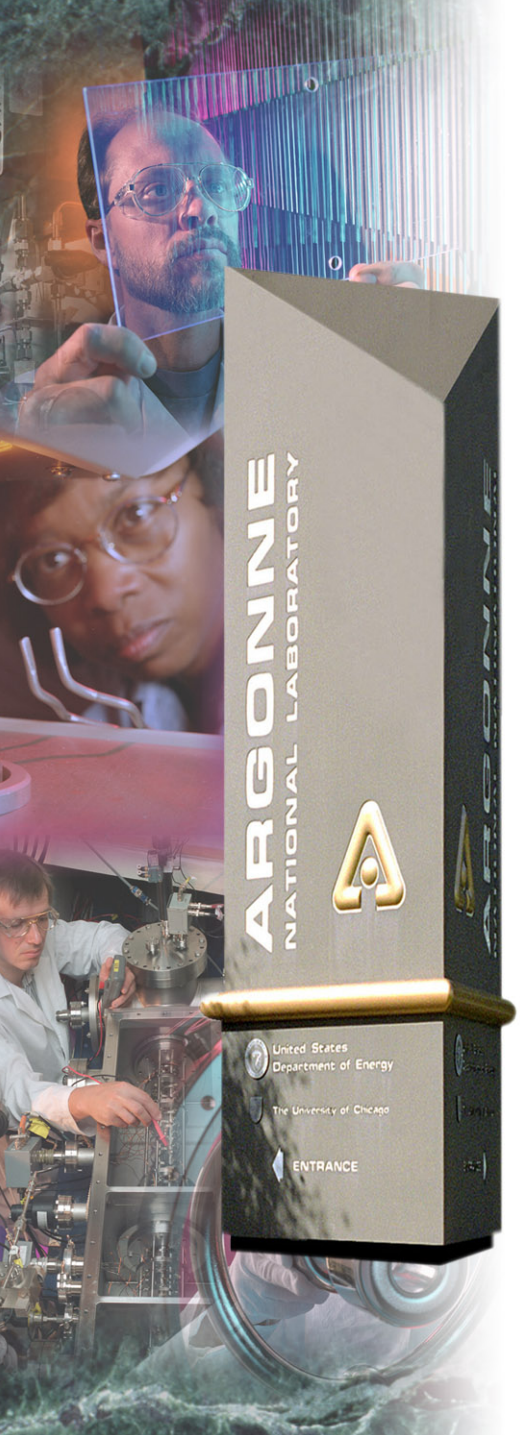

Access to Lab Computing Resources for APS Users

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Argonne National Laboratory

Office of Science
U.S. Department of Energy

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Operated by The University of Chicago

LCRC Pilot Program for APS Users

- **Our Motivation**
- **Available Resources**
- **How to Request Them**
- **How to Get Assistance**

Computational analysis and modeling make essential contributions to successful APS experiments

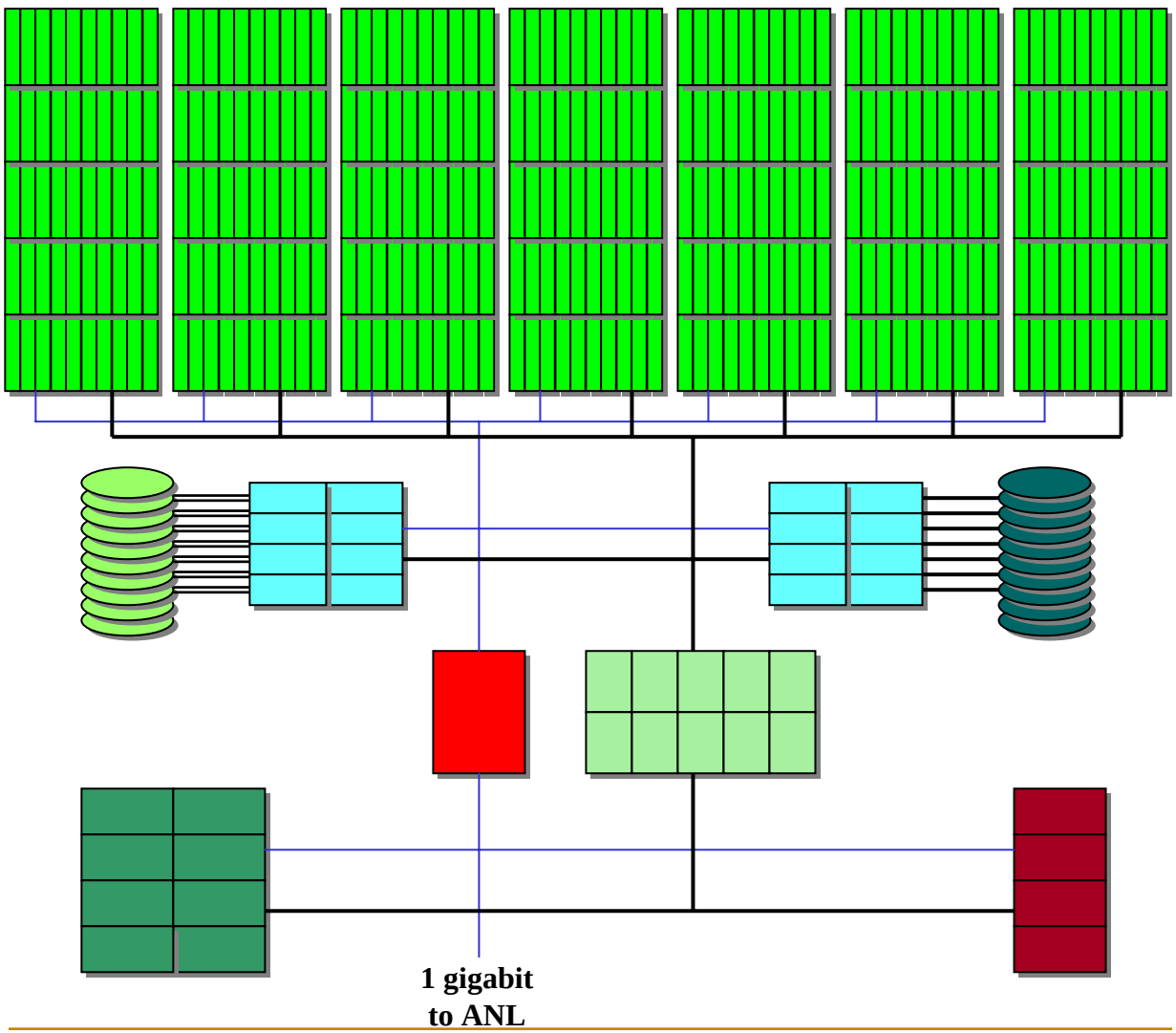
- **What is the unmet need for mid-range computing among APS users?**
- **Can we stretch laboratory computing resources to enable more productive APS science?**
- **Can our existing staff support APS users?**
- **How do we optimize the value to APS?**
- **Beginning a pilot program to make our terascale computing cluster available**

The Laboratory Computing Resource Center

- **LCRC is an Argonne facility established in 2003**
  - Jazz – a terascale Linux cluster (10^{12} calculations per second).
  - Staff dedicated to supporting Argonne applications.
  - Production class systems support.
  - Lab-wide availability.
- **No charge to ANL employees and projects.**
- **Charter to help as many groups as possible from across the Lab to use the computing facilities.**
- **Community Guidance**
  - Computational Science Advisory Comm.
  - LCRC Allocations Committee
- **See www.lcrc.anl.gov for more information.**
- **Contact consult@lcrc.anl.gov for technical help or information.**

The ANL LCRC Computing Cluster – Jazz

Vendor: Linux Networx



350 computing nodes

- 2.4 GHz Pentium IV
- 50% with 2 GB RAM
- 50% with 1 GB RAM
- 80 GB local scratch disk
- Linux

10 TB global working disk

- 8 dual 2.4 GHz Pentium IV servers
- 10 TB SCSI JBOD disks
- PVFS file system

10 TB home disk

- 8 dual 2.4 GHz Pentium IV servers
- 10 TB Fiber Channel disks
- GFS between servers
- NFS to the nodes

Network

- Myrinet 2000 to all systems
- Fast Ethernet to the nodes
- GigE aggregation

Support

- 4 front end nodes: 2x2.4 GHz
- 8 management systems

New LCRC Projects

- **Startup Projects**
  - 1000 CPU-hours by signing up for an account
  - Get familiar with Jazz and explore the applicability of a code
- **Full Projects**
  - Send information to aps-request@lcrc.anl.gov
  - Joint APS LCRC team approves projects
  - CSAC Allocations Committee sets allocations
- **Other Requirements**
  - Acknowledge Argonne and LCRC in publications
  - Full projects complete a brief annual project report

Full Project Request *Round 1 due August 27*

APS Project Name:

Project PI:

- Name of an active APS user or ANL staff member
- PI Contact Information (phone and e-mail)

CAT and Beamline:

Project Description:

- A brief description of the computations to be carried out and how they impact the successful use of APS.
- Preference will be given to projects with a critical need for computing that lack access to any other resources to carry them out.

Application Description:

- A brief technical description of the application(s) to be run on Jazz.
- Preference will be given to applications that are ready to make effective use of the Jazz system.

Computing Allocation Request:

- An estimate of the number of CPU-hours needed in the next 12 months
- If the usage will not be uniform, tell us when they will be needed.

Getting started on Jazz

- **Getting your Jazz account**
  - https://accounts.lcrc.anl.gov
- **New User's Guide**
  - http://www.lcrc.anl.gov/jazz/Documentation/NewUserGuide
- **Things to learn about**
  - Remote login: ssh jazz.lcrc.anl.gov
  - Setting up your environment
  - Accessing software
  - Copying in your programs and data
  - Development
  - Launching jobs

… all details are on the web and are covered in regularly-scheduled tutorials.

LCRC Personnel

- **LCRC Leadership**
  - Remy Evard
  - Ray Bair
- **LCRC Scientific Application Engineers**
  - Mike Dvorak
  - Katherine Riley
  - Mike Minkoff (50%)
- **LCRC Systems Staff**
  - Susan Coghlan
  - Rick Bradshaw
- **Contact Information**

  evard@mcs.anl.gov

  bair@mcs.anl.gov
- **Scientific Consultants**

  consult@lcrc.anl.gov
- **Systems Administration**

  systems@lcrc.anl.gov