An Overview of Argonne's Computing and Information Systems

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9 Feb 2005

Argonne National Laboratory

Three "Computing" Organizations at ANL

Mathematics and Computer Science (MCS)

A basic research division.

High-performance computing, computational modeling and simulation, grids, biocomputing, …

Decision and Information Sciences (DIS)

An applied research and engineering division.

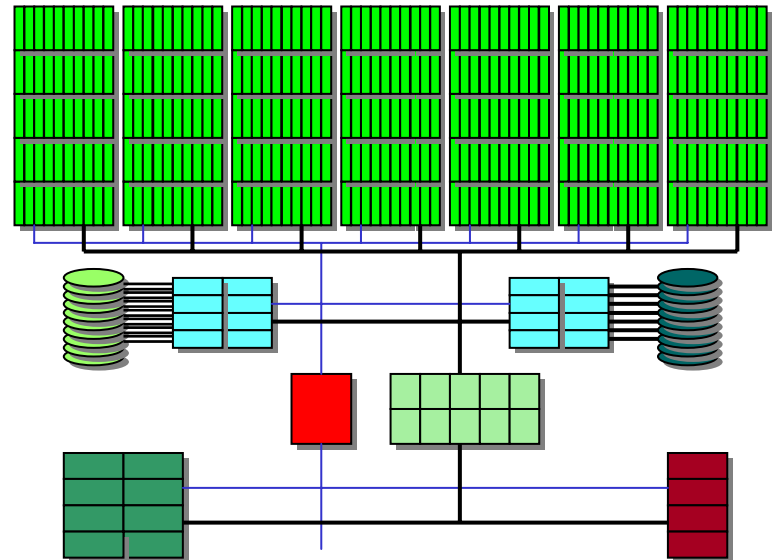Research and solutions in infrastructure, national security, decision systems, …

Computing and Information Systems (CIS)
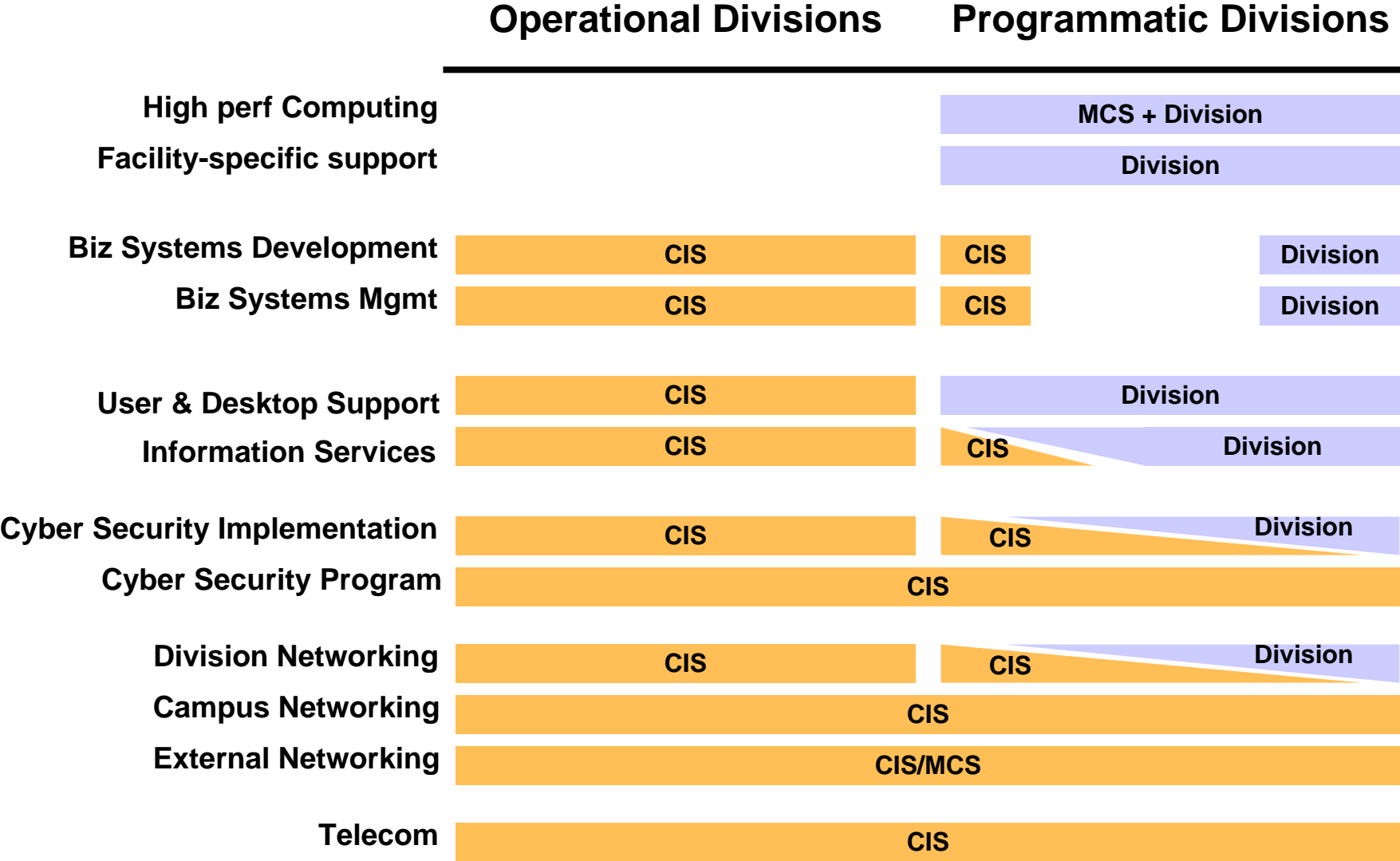
A service organization.

Responsible for lab-wide networking, cyber security, telecom, MIS, and some aspects of information technology support.

The Laboratory Computing Resource Center

- (Note, this is not part of CIS, but it is available to APS users.)
- 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.

A Simplified View of ANL's IT Support Model

	Operational Divisions	Programmatic Divisions
High perf Computing		MCS + Division
Facility-specific support		Division
Biz Systems Development	CIS	CIS / Division
Biz Systems Mgmt	CIS	CIS / Division
User & Desktop Support	CIS	Division
Information Services	CIS	CIS / Division
Cyber Security Implementation	CIS	CIS / Division
Cyber Security Program	CIS	
Division Networking	CIS	CIS / Division
Campus Networking	CIS	
External Networking	CIS/MCS	
Telecom	CIS	

Summary of Recent CIS Reviews

ANL Internal reviews, Fall '04	Overall	Strong points	Needing improvement
Networking and Network Services	Commendable	Excellent operations in very limited budget Monitoring Good divisional support Netflow management	Long-range planning Wireless Video conferencing Identity management
Business Systems Development and Support	Many needed improvements	Responsiveness Initial designs Individual staff dedication	Accountability Make vs. buy decisions Long-term planning Stretched too thin Decision processes Large set of incompatible legacy systems
Windows Support and Architecture	Many needed improvements	Server consolidation PC Standards Individual staff Process and tech improvements	Help desk effectiveness and model Cross-training (stretched too thin) Communication Training Metrics

DOE Review of Cyber Security program, 04	Satisfactory		No findings

Relevant Activities and Initiatives

- Organizational and perspective changes
    - Many internal actions to provide better service
    - Working more on facilitating IT coordination across the lab
    - More focus on what the research divisions and facilities need

- Lab IT Environment
    - Shift to web interfaces for most lab business processes
    - Stellent Content Management for documents, forms, and web management
    - Project management / EVMS
    - Better support for Linux and Macs
    - Better lab-wide software license coordination
    - Adding redundancy to the network backbone
    - Improve external network connectivity
    - Collaboration tool support - video, AG, and other

- Support model
    - Addressing issues for desktop and business support of Operation divisions
    - Improving support of scientific divisions where appropriate

- Cyber Security Defense

- New Lab phone switch, to be complete in July.

- See my December memo to the Lab and CIS Memos pages for more.

Questions for you

- Computing/IT
  - Data transfer - how do you get data from your CAT to your users or home institutions? Is network transfer feasible? Where are the bottlenecks?
  - Collaboration tools - what are you using, what works for you, would you be interested in more coordination, information sharing, support?
  - Are there services (e.g. mail hosting) that you would use if they didn't cost any more?

- Interacting with the lab
  - Argonne business systems - any issues?
  - Argonne web space - what are your priorities for fixes?

- Problems we need to solve?

- Sites we should talk to?
  - Home institutions that we can work with to solve network/security/data issues?
  - Other DOE facilities that do good things?
  - Other central IT organizations we should learn from?