

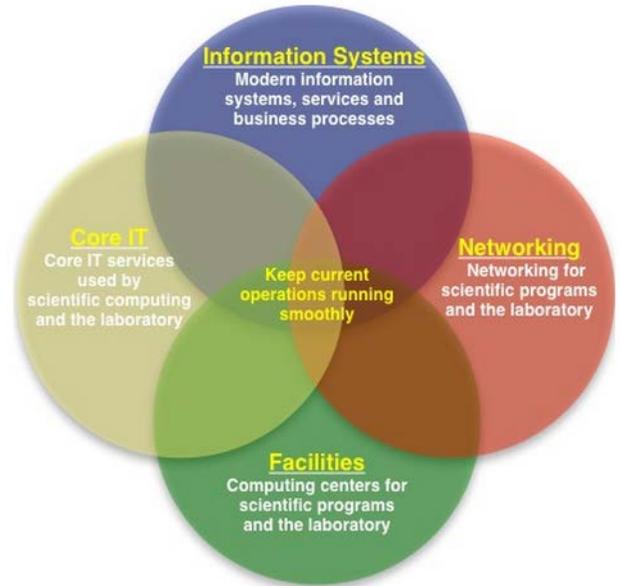
# Core Computing Division

(Jon Bakken, Head; Mark Kaletka, Deputy, Jerry Guglielmo, Assoc.)

Core Computing Division's goal is an efficient and agile division that works in concert with the laboratory to accomplish Fermilab's mission through the application of information technology.

To accomplish this, we will:

- Keep current operations running smoothly;
- Provide reliable and efficient computing centers for scientific programs and the lab;
- Provide the network infrastructure and services for scientific programs and the lab;
- Sustain and improve core IT services used by scientific computing and the lab;
- Modernize the lab's information systems and services and work to improve business processes;



## Facilities

### Facility Operations Department (FO)

(Adam Walters, Head; 7 Staff)

The Facility Operations Department provides safe high-quality operations for mission critical data centers located at:

- Feynman Computing Center (FCC)
- Grid Computing Center (GCC)
- Lattice Computing Center (LCC)

FO has an ongoing commitment to incorporate energy efficiency strategies into the operations of these facilities. GCC has been awarded the Energy Star award three consecutive years, and is the first building onsite to achieve alignment with DOE Guiding Principles for Sustainable Buildings. Core Computing Division is the landlord (building manager) for FCC and GCC and a tenant in LCC.

## Networking

### Network & Communications Services Department (NCS)

(Ray Pasetes, Head; 21 Staff)

The Networking and Communications Services (NCS) provides the site-wide campus network for general-end user voice and data connections, high-speed data center connections for our scientific computing, and a high-speed wide-area network for access to our collaborators outside of Fermilab. NCS also services IP address assignment and resolution, time synchronization, and security services. Communications services include FermiMail, FermiCalendar, FermiChat, mailing lists, telephones (analog, cellular, and VoIP), voicemail, pagers, radio equipment and select audio and video conferencing support services. Radio services include maintaining the twelve primary radio networks used on the campus (e.g. Fire and Security, SEWS, Main Control Room, Taxi/Dispatch) in addition to overseeing all licensing of radio frequencies used at the lab, such as those used by the various remote-controlled cranes onsite.

Network research done in collaboration with Fermilab, ASCR (Advanced Scientific Computing Research) and ESnet (Energy Sciences Network) identifies future HEP networking pain-points and researches ways to address those challenges. Network research proposals are based on issues we believe FNAL will need to address in the near future (~5 year outlook) and aligns them to match the submission guidelines set forth by the DOE. Recently, NCS received a 3-year \$1M grant for their proposal on "Multi-core Aware Data Transfer Middleware" which looks to exploit multicore hardware to enable extreme-scale data movement.

## Core IT

### Cyber Security Services Department (CSS)

(Joe Klemencic, Head; 12 Staff)

The mission of the Cyber Security Services Department is to provide frameworks and services to create a secure computing environment by operating key components of infrastructure such as authentication services, compliance, auditing and oversight.

The Department provides compliance, auditing, risk assessment and oversight services to the Lab's computing systems and processes and manages core active defenses such as the site web proxies, intrusion detection and vulnerability scanning. It works with DOE, Counterintelligence, FBI and local law enforcement to respond to intrusion alerts and other computer security issues.

The Department also operates the central authentication systems which are divided up into tiers that correspond to the nature of the authentication levels appropriate for the computing needs. These include Kerberos and Kerberos-based certificates, Active Directory, and federated authentication services.

### **Enterprise Services Operations Department (ESO)**

(Michael Rosier, Head; 25 Staff)

The mission of the Enterprise Services Operations Department (ESO) is to provide highly reliable, cost-effective enterprise computing services and support for the Laboratory's scientific, technical, and business missions by applying industry best practices and technology standards using commercial and open source computing solutions. ESO delivers some of the lab-wide core services such as file servers, print services, server hosting (physical and virtual), web site hosting, web server certificate management, multi-vendor database hosting, system backup and restore services (physical and virtual), and a common storage and virtual infrastructure that is highly available, redundant, and fault tolerant.

### **Services Operations Support Department (SOS)**

(Eileen Berman, Head; 4 Staff; 23 Managed Services Contractors)

The mission of the Service Operations Support Department (SOS) is to empower and enhance the productivity of our desktop and mobile device users and efficiently resolve daily challenges by providing a customer focused single point of contact for IT services and support.

- Desktop/laptop/mobile device lifecycle with cradle-to-grave support and management of these devices, including: working with users to understand and meet their requirements on hardware, software, and peripherals; support during customer use; and assistance with end-of-life replacement and excessing;
- Desktop/laptop central management services that monitor, reports and provides uniform installation and configuration of Windows and Mac operating systems, software, and security settings;
- Technology Store which evaluates and defines standard computer models, purchases computers and peripherals, and facilitates software purchases;
- Anti-virus services for Windows and Mac environments;
- Managed Print Service which provides a site-wide optimized print service including cradle-to-grave support, consumables management, and device requirement assessment and training;

### **Information Systems**

#### **Information Systems Department (IS)**

(Santo Campione, Head; 29 Staff)

The Information Systems Department (IS) enables Fermilab's core business and administrative support services via information systems, applications and data. Our solutions range from large, enterprise-wide applications to small, niche systems to collaboration portals and dashboards. The primary value delivered is in:

- Modernization of information systems and services to improve the Lab's business processes in areas such as Finance, Human Resources, Asset Management and Cost, Schedule, & Performance Management;
- Providing standard, easy to use and enterprise-level reporting and business intelligence services;
- Centralizing and standardizing to "single" sources of data (e.g., people, organizations, locations, etc.);

#### **Information Resources Department (IRD)**

(Heath O'Connell, Head; 13 Staff)

The mission of the Information Resources Department is to organize and manage information by:

- Providing Fermilab scientists, engineers and other staff with the information they need to perform their work (Library);
- Collecting, organizing, preserving and making available the research output of Fermilab, records documenting the essential business functions of the laboratory and items of lasting historical significance (Records Management & Technical Publications Office and History & Archives Project);
- Supporting the broader information needs of the world-wide high energy physics and astrophysics community through the INSPIRE collaboration;
- Creating and maintaining websites and SharePoint sites for the FESS, Finance and WDRS Sections;