ABSTRACT

The Bio-Information Technology (Bio-IT) Facility of the Biotechnology Resource Center (BRC) provides desktop and network support, LIMS development and support, and software access and licensing support, to the BRC core facilities, to individual investigators and academic units of the university community, and to outside investigators. The facility also provides consultation for bio-IT solutions and offers seminars, educational workshops and training on software tools.

OVERVIEW

Services provided: The facility manages infrastructure and systems for the BRC core, provides desktop and network support, production and management of Laboratory Information Management Systems (LIMS), software licensing management, and specialized bio-IT consulting and services.

Administration: The Bio-IT Facility is part of the Biotechnology Resource Center of the Cornell University Institute of Biotechnology.

Open to all: The resources and services of the facility are open to all investigators at Cornell University and Cornell-affiliated institutions. The facility also provides services to external investigators at both academic institutions and commercial enterprises. In association with the NY State Center for Advanced Technology (C4T) in Life Science Enterprise, NY State companies receive a discount on facility services.

RESOURCES

Server/compute infrastructure:
- Elks, database, business, web and application servers and cloud services
- Identically virtualized environment, leveraging central campus services, resource isolation as a tool to ensure hyperconcurrency and hyperflexibility
- Desktop management and disaster recovery resources, leveraging central campus servers
- Two core facility machines (~50TB – 80TB), access to centralized campus data center for locations
- ~50 TB of storage managed across several terabytes of storage, including both BRC-owned and leased resources
- User authentication and authorization, leveraging central Cornell active directory
- Software license management and monitoring server (via Keyserver)

Campus partnerships:
- Integration with the BRC Bioinformatics Facility’s BioHPC Lab resources for data distribution and management and ongoing collaboration to meet the information technology and infrastructure needs of the research community
- Partnership with the Cornell Center for Advanced Computing (CACC) for access to CAC-managed storage and compute resources and national resources
- Relationships with other campus IT service providers and consultants Libraries, Cornell Institute for Social and economic Research (CISER), Cornell Restricted Access Data center (CRAASC), CISE Data Management Service Group (DMSG) and Cornell Information Technologies (CIT)

Networking:
- Gigabit wired network and wireless coverage, tied to redundant 41 GB campus bandwidth
- High speed internet access between Cornell Ithaca and Weill Cornell Medical campuses in NYC, NY and Elmhurst, QMR
- Campus connectivity to Community internet, Internet 2, and NYSENER via high speed, redundant interconnects

LIMS Database Development and Support

Development, production, deployment and support of Laboratory Information Management Systems (LIMS). LIMS functions include:
- Sample tracking
- Sample submission tracking
- Sample processing tracking
- Data tracking
- Instrument tracking
- Equipment tracking
- Data results distribution
- Billing and invoicing

Services include:
- Full service desktop and network support for the Institute of Biotechnology and BRC plus individual laboratories and academic departments
- Desktop and server configuration and management
- Physical and virtual server co-location, Cloud provisioning and deprovisioning
- Security and information technology policy compliance support
- Server software and application hosting
- Data management solutions and consulting

Online Ordering

Process Tracking and Management

Protocols and Process Status

Data Processing and Backup

Reagents

Instrument Systems

Robots

Data Analysis

Invoices and Billing

Consultation, Workshops and Training

- Consultation for bio-IT tools and applications. We regularly meet research scientists to discuss bio-IT solutions by leveraging close relationships with campus and volunteered partners like Cornell University Technology Transfer Office (CUTO), CISE, CISER, etc.
- Seminars and educational workshops on software tools.
- Coordinated project design consultation and data handling support available with the BRC Bioinformatics, genomics, glycomics, biological proteomics and mass spectrometry, imaging, and advanced technology environments core facilities.

Contact Information

Bio-IT Facility

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