



# Networking and Computing Technologies Division

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OAK RIDGE NATIONAL LABORATORY  
U. S. DEPARTMENT OF ENERGY

# Networking and Computing Technologies Division

- Provides world-class information technology resources that enhance the ability of ORNL researchers by offering innovative solutions to complex problems for
  - networks,
  - cyber and information security,
  - workstations and desktops, and
  - infrastructure computing applications
- Provides strategies and tools for cyber security assurance
- Provides end-user computing and networking solutions and support for work anywhere, anytime

NETWORKING & COMPUTING  
TECHNOLOGIES



**World Class Resources:**  
90 employees  
25 subcontractors

- Network engineers
- Cyber security experts
- Database and application developers
- Systems and email administrators
- Web developers

# Networking and Computing Technologies Division enables and improves the research and operations of ORNL

*Improving IT*

*ORNL's Laboratory Agenda*

**Provides robust cyber security infrastructure**

- Focus on proactive cyber protection at the desktop and the network perimeter
- Aggressively monitor the infrastructure and quickly takes action when needed to address incidents

**Implementing new site-wide services**

- Negotiating labwide Licenses scientific software
- Implement a terminal server for improved access to business systems for non-Windows users
- Implemented integrated email/calendar/conference room

**Improving voice & data networks**

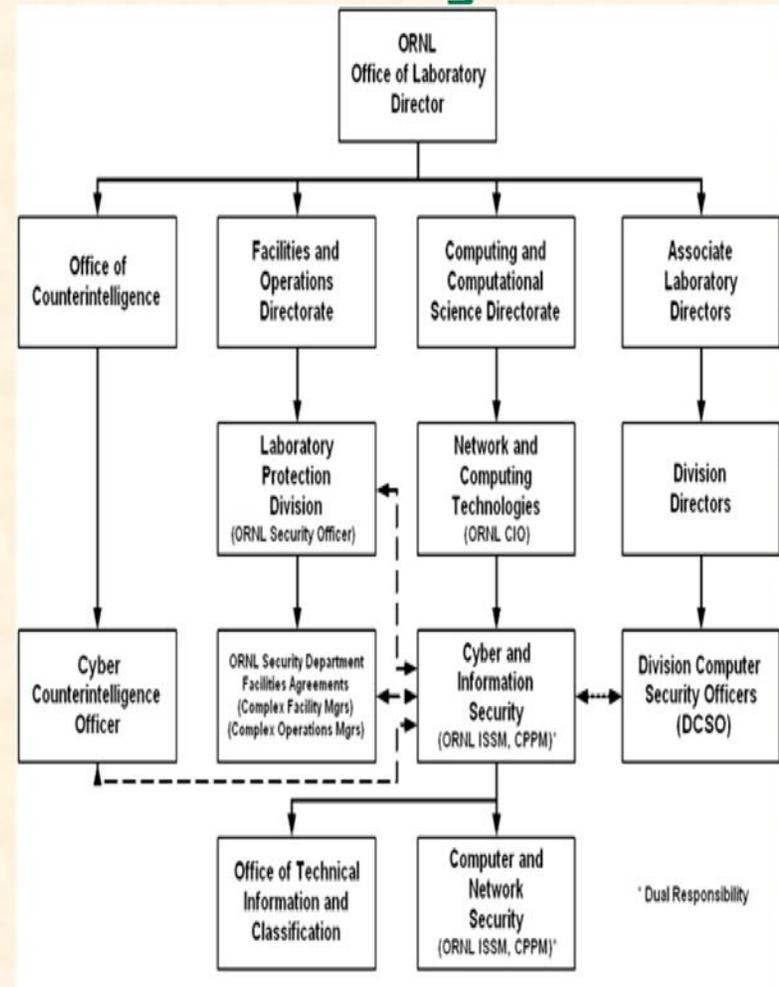
- Improving ORNL's network connectivity throughout the nation
- Improving cellphone coverage
- Recast the wireless network for the entire laboratory and developed user-friendly wireless access for visitors and guests

**Implementing new capabilities for user facilities**

- Developing new tools for user facilities to facilitate collaboration
- Implementing new secure external authentication features

# ORNL has an emphasis on cyber security with a proactive Program which is integrated vertically and horizontally

- **Vertically with Line Management via requirements management (Standards Based Management System), R2A2s, and training**
- **Horizontally with users, staff, and division computer security representatives**
- **Integrated with the Networking, Computing Technologies organization and simultaneous partnering with Security and Counterintelligence**
- **With proactive technical solutions that improve security and access to science**



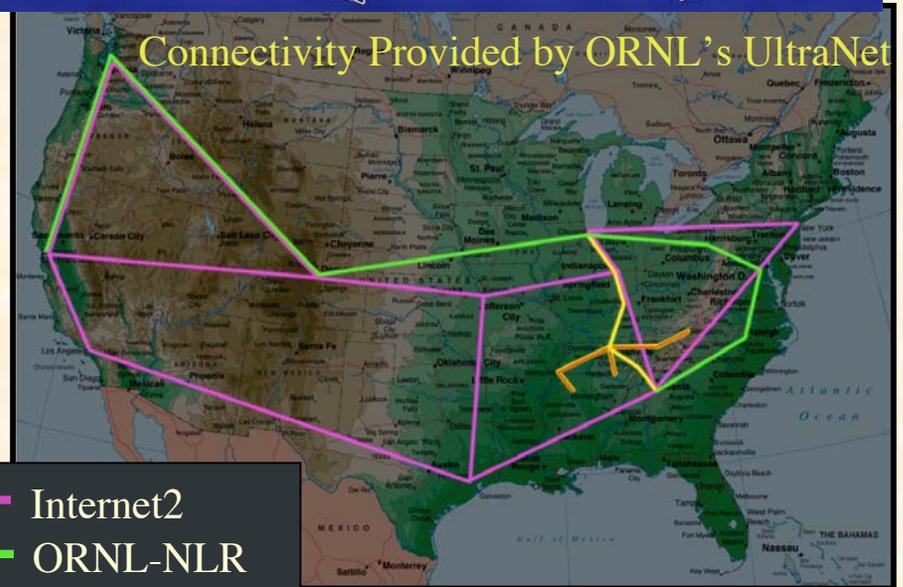
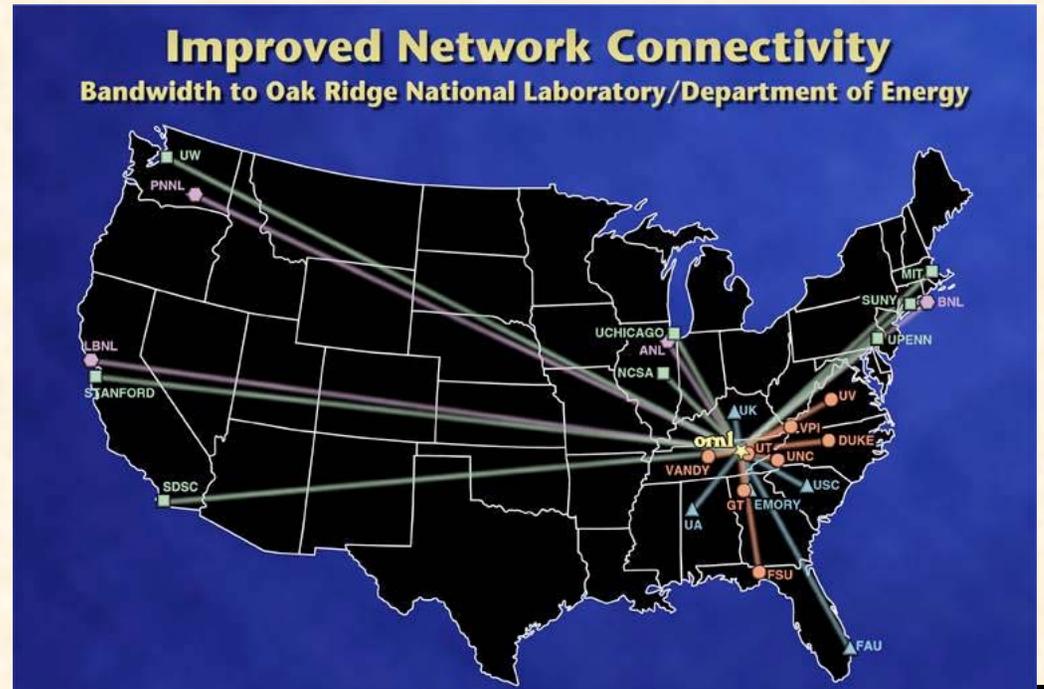
## NCTD provides world class IT infrastructure services

- **Provides >99% system availability for infrastructure systems and networks during prime time**
  - Provides email desktop and backbone infrastructure, online directories, mailing lists, virus scanning, integration with pagers and fax machines
  - Provides Entrust digital certificate issuing service, digital signatures, and encryption
  - Provides server infrastructure administration
- **Provides comprehensive workstation support**
  - Operates anonymous FTP archive providing OS updates, LINUX distributions, UNIX software, etc.
  - Pre-builds recommended and locally-developed software packages for common UNIX platforms
- **Provides comprehensive desktop support**
  - Administers ORNL's onsite helpline and associated desktop support) and Windows infrastructure for client and application authentication, file sharing, and printing



# We provide network services second to none

- **ORNL's network infrastructure consists of:**
  - 13,000 networked devices
  - 2 Class B, several Class C subnets
  - Large wireless networking coverage
  - Internet connection: OC-48 (ESNet) and OC-192 (Internet2)
- **NCTD network staff**
  - Design, manage, and operate inter-/intra-site backbone networks, CATV network, VPN, ISDN, and SLIP/PPP services, and public LANs
  - Design, manage, and operate external connections to ORNL
  - Provide network configuration and access control
  - Provide network architecture design and implementation
  - Deploy network monitoring and management tools



# ORNL Networking and Computing Technologies Division will ...

Provide a mobile computing environment where local and virtual remote access are indistinguishable in ease and capability

Provide a cyber-friendly open campus environment supporting thousands/annually of on-site domestic and foreign visiting scientists and guests

Provide equal world-wide virtual remote and local access to significant ORNL User Facilities



Support a significant “national security” footprint, including best-in-nation classified facilities and computing networks

Support ORNL as a significant contributor to Homeland Defense and National Security cyber initiatives and programs

**Simultaneously support Open Science and ‘closed’ National Security**

**We keep the “IT lights” ON for ORNL!**

