NEW, FREE, VIRTUAL LABS IN IT/SECURITY
National CTC

National Science Foundation (NSF) Advanced Technological Education (ATE) Center led by Collin College:

• 2004 forward, first as a regional, now just renewed as national
• Community of Practice with 60+ college and university partners
• Primarily in the area of networking infrastructure/mobility/data communications
• Developed to address the downturn in IT in the early 2000’s
• Designed with lock-step with regional and now national business to ensure employment for graduates
• Sponsors major professional development events
CTC Partners

El Centro College
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

UNT UNIVERSITY OF NORTH TEXAS
Discover the power of ideas.
Virtual Laboratories, Equipment and Software

National Information Security and Geospatial Technologies DOL TAACCCT consortium (Round 1)

Four IT specialties:
• Programming/Mobile App Development
• Networking/Data Communications
• Cyber security
• Geospatial Technologies

Based on BILT analysis and endorsement

Being distributed and supported through the NSF ATE Convergence Technology Center
Traditional Labs
Some Issues With Traditional Labs

- Limited Access and Repetition
- Configuration for multiple classes
- Complex labs can be difficult to configure and then re-configure
- Expense of hardware and support
Collin College uses NDG’s NETLAB+ to provide virtual labs for its students.

Many labs created through NISGTC DOL grant
NETLAB+ requires one set of high-end hardware
Lab Pods Available

- Forensics
- Cyber Security
- Security+
- Geospatial Technologies
- Linux+
- Network
- A+
- Ethical Hacking
More Lab Pods from NDG

ISMv2

ICM

XenApp 6.5

vSphere 5.5

View ICM
Build Custom Labs

Pod Design Guide  Lab Design Guide

General IT Use Pods
Benefits

**For Students:**

- Access from Any Where at Any Time
- Unlimited practice and patience
- More classes can be offered
- Most labs can be reset with little effort
- Participation in Competitions
Benefits

• For Administration:
  - Reduced support for devices in classrooms
  - No imaging necessary for classroom PCs
  - Classrooms no longer dedicated to networking
  - Reduced expense for hardware
  - Highly scalable in a very stable environment
  - Sandbox approach protects network from damage by students
Benefits

• **For Instructors:**
  - Better control over labs in classroom & online
  - Easier setup of complex labs
  - Ability to help students solve problems
  - Faculty development at their convenience
  - Hands-on exams and/or case studies can be added to class
1. Microsoft Labs being developed by INoVATE-X grant
Hands-On IoT Labs – Bill Saichek

2. Internet of Things example
Collin is lead for the National Center of Excellence for Convergence Technology (NSF sponsored)

The Convergence College Network is open to institutions that want to share in a Community of Practice to further IT and Communications Technician Education

Access is provided to basic IT labs to CCN colleges

For more information look under Education Resources: http://www.connectedtech.org
More Help – for BILT and Other Needs

Collin is lead for the Centers Collaborative for Technical Assistance (NSF sponsored)

Webinars, best practices, and convenings are provided for DOL and NSF grantees and others leading workforce programs

For more information:
http://www.atecenters.org/ccta
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