EXPERIENCE HANDS-ON VIRTUAL LABORATORIES IN IT/SECURITY AND LEARN ABOUT FREE CURRICULUM AND LABS
Developed by National Convergence Technology Center National Science Foundation (NSF) Advanced Technological Education (ATE) Center led by Collin College

- 2004 forward
- Consortium with 40+ 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 cooperation with regional and now national business to ensure employment for graduates
CTC Partners

El Centro College
DALLAS COUNTY COMMUNITY COLLEGE DISTRICT

UNT UNIVERSITY OF NORTH TEXAS
Discover the power of ideas.

COLLIN COLLEGE

University of North Texas
Discover the power of ideas.

State College at Jacksonville

Fox Valley Technical College
Knowledge That Works

GEORGIA SOUTHERN UNIVERSITY

Lansing Community College
Where Success Begins
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
The National Information, Security & Geospatial Technologies Consortium Map
Traditional Labs
Extra $$$ for hardware?
All GOOD reasons for using virtual labs
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

Ethical Hacking

A+
More Lab Pods from NDG

- ISMv2
- ICM
- NetApp
- vSphere 5.5
- XenApp 6.5
- View ICM
Build Custom Labs

Pod Design Guide

Lab Design Guide

General IT Use Pods
Competitions
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
2. Internet of Things example
Free courseware and processes

- Over 100 courses, open source
- Outlines for various activities
  - Mock Interviews
  - Resume – writing
  - Virtual Internship/Externship
  - Many others
- [http://nter.collin.edu](http://nter.collin.edu) for online instance of courses
- [www.skillscommons.org](http://www.skillscommons.org) and search for NISGTC
Free Courseware

http://nter.collin.edu
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
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
abehelel@collin.edu