Cybersecurity for the Research and Education Community: Collaboration and Shared Services

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Our Context

• Higher Education Contribution to Cybersecurity
  – Educate and train next generation of cybersecurity workforce
  – Discover and develop solutions to difficulty cybersecurity challenges
  – Own and operate powerful computer systems and networks
• Higher Education Sector Cybersecurity Initiatives
  – Higher Education Information Security Security Council (2006-present)
  – Research & Education Networking ISAC (REN-ISAC) (2003-present)
  – Internet2 and Indiana University Announce Initiative (Spring 2013)
• What’s Changed?
  – Investment has increased
  – Threats and vulnerabilities have grown
  – Reliance and dependence on IT has intensified
  – IT Environments have become more complex (BYOD, cloud, wireless, etc.)
  – Pressure on college affordability combined with declines in state funding
FIGURE 6. The Marketecture Matrix

- **Buying Clubs**: Internet2 Net+, HathiTrust or Kuali
- **Collaborative Communities**: Interdependence
- **Solo Contracts**: Dependence, Each University
- **Cooperative Communities**: Dependence, Open-Source Software

Influence: LOWER to HIGHER
Authority: LOWER to HIGHER
Our Community

How would you describe the culture of the Research and Education Community?
Our Approach

How does the Research and Education Community approach efforts to defend our critical infrastructure?
Our Challenge

What are the greatest barriers to change in how colleges and universities operate with respect to cybersecurity?
Our Opportunity

Why is now the right time for some type of collaborative community effort?
Our Options

How can we best leverage commercial, community, and government solutions?
Our Shared Services

PEOPLE

• Awareness Content and Training
• Executive Awareness and Engagement
• Technical Training and Certifications
• Facilitation of Clearances with DHS
• Managed Security Services (e.g., “CISO in a box”)
• Security Staffing Search Services
Our Shared Services

PROCESS

• Information Security Program Assessments/Reviews
• CSIRT or CERT for Sector
• Incident Handling and Response
• Compliance Programs
• Enterprise Site Licensing
• Technology Incubator for New Products/Services
• Validation of Security of IT Products and Services
Our Shared Services

TECHNOLOGY

• Forensics Analysis
• Malware Analysis
• Network Monitoring (e.g., IDS Sensors)
• Network Scans
• Penetration Testing
• Scanning of Web Applications
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Our Next Steps

• Environmental Scan and Benchmarking
• Prioritize Ideas
• Seek External Funding and Support
• Recruit Contributors and Investors
• Explore Business Models
• Solicit Participation
• Develop Measures of Success
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