Cybersecurity Research Acceleration Workshop and Showcase

Organized by the NSF Cybersecurity Center of Excellence and Internet2,
hosted by the Indiana University Center for Applied Cybersecurity Research,
held at the Indiana University – Purdue University – Indianapolis Campus, Indiana

Agenda

8:00-9:00AM	**Breakfast, Registration, and Networking**
9:00-9:15AM	**Welcome & Kickoff**
9:15-10:15AM	**CIO & Industry Perspective**
10:15-10:30AM	**Break**
10:30-11:30AM	**Cybersecurity Research Panel: Internet of Things**
11:30-12:30PM	**Cybersecurity Research Panel: Data Analytics, Security & Privacy**
12:30-1:15PM	**Lunch, Poster Sessions, and Networking**
1:15-1:30PM	**Transitioning to Practice - Leveraging NSF TTP**
1:30-2:30PM	**Cybersecurity Research Panel: TTP Success Stories**
2:30-2:45PM	**Break**
2:45-3:45PM	**Cybersecurity Research Panel: Network Security**
3:45-4:15PM	**Cybersecurity Research Panel: Data Analytics, Security & Privacy**
4:15-4:45PM	**Wrap Up & Next Steps**

INTERNET2 – U.S. National Research & Education Network
Not for Profit, Member-Owned Consortium

**Network Services** – 100 Gigabits per second (Gbps) network

Trust & Identity – Federated Identity Management to allow researchers and educators to securely share data

NET+ Services – 30 cloud services available

Community Engagement – 500+ members in Higher Education, Regional Networks, Industry & Affiliates
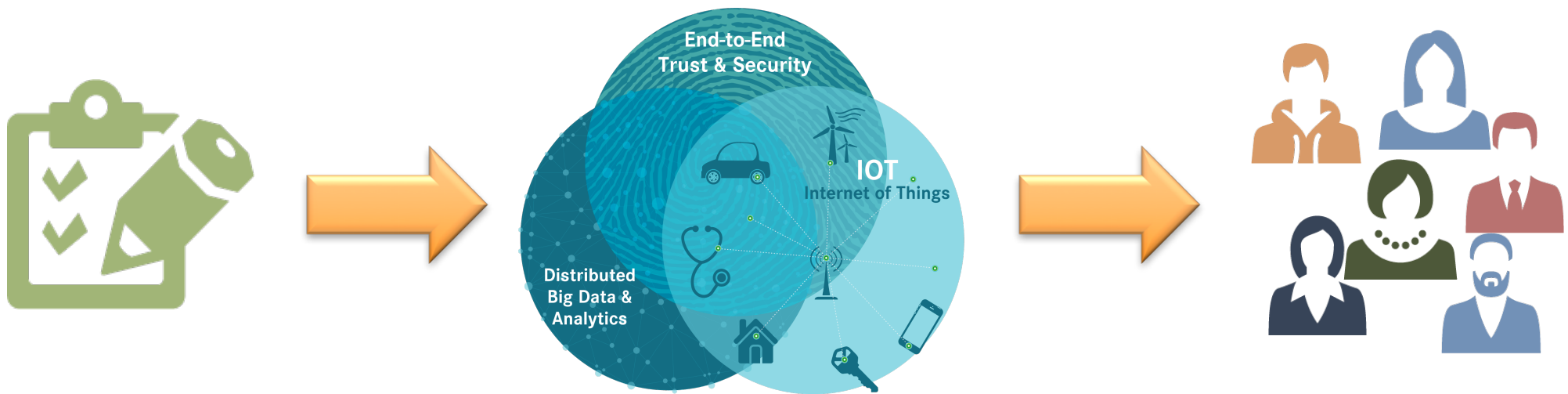
Innovation Office – community-led innovations

US UCAN – 93,000 community anchor institutions including K-12 schools, hospitals, libraries, state & local government
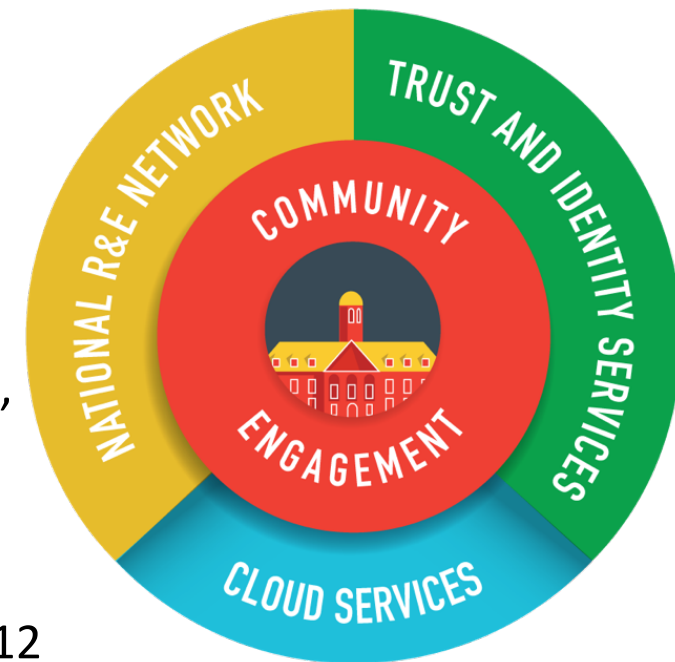
Internet2 Collaborative Innovation Community was created in 2015 based on a member survey of 8,800 individuals identifying their top areas of interest for open, inclusive, collaborative innovation.
End to End Trust & Security was the top area of interest.

End-to-End
Trust & Security

IOT
Internet of Things

Distributed
Big Data &
Analytics

- Three Innovation Working Groups launched at Global Summit in May 2015
- Now, 400+ Collaborative Innovation Community (CINC UP) participants, representing 170+ institutions (as of October 2017)

Internet2 CINC UP combines three member-led innovation working groups, focused on areas brought forward by members, related to our top two priorities of advanced networking plus trust & identity.

E2E Trust & Security (E2ET&S)

- **TIPPSS for IoT – Trust, Identity, Privacy, Protection, Safety, Security**
- **NSF EAGER Cybersecurity Transition to Practice Acceleration**
- **SDP (Software Defined Perimeter), Network Segmentation for IoT**
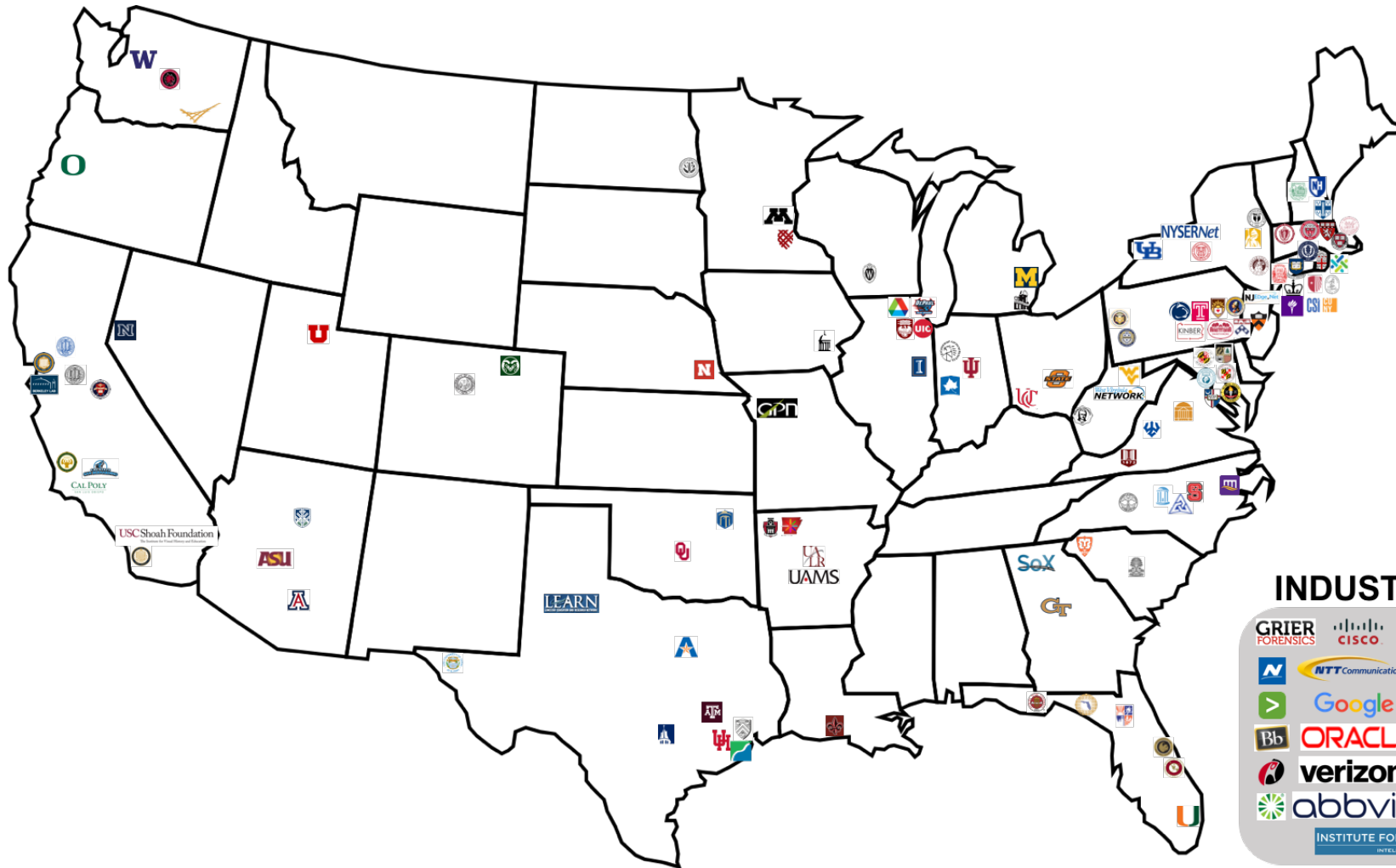
Distributed Big Data & Analytics (DBDA)

- **NSF Big Data Hub Collaboration**
- **Smart Campuses and Cities**
- **Health & Life Sciences / Genomics**
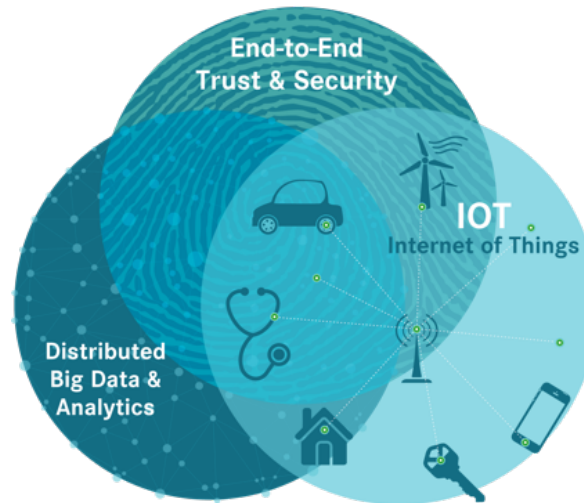
Internet of Things (IoT)

- **IoT Sandbox**
- **Smart Campuses and Cities**
- **Smart Grid Testbed**

Internet2 CINC UP in the US has grown to 380+ individuals, from 155+ organizations, representing 31% of Internet2 member institutions.
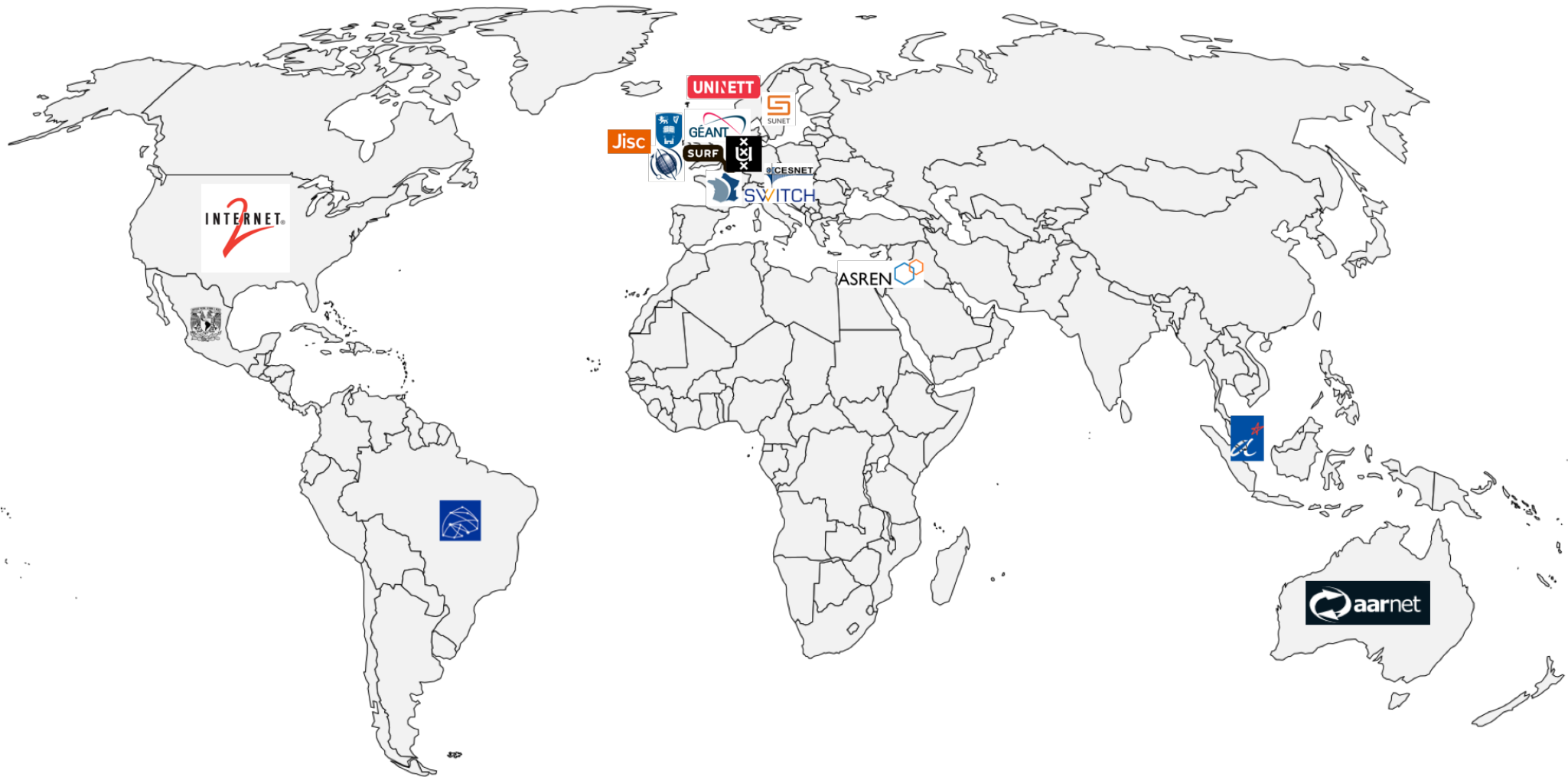

AFFILIATES

INDUSTRY

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October 11, 2017

Globally, the Internet2 Collaborative Innovation Community has grown to 400+ individuals, from 170+ organizations.

As of October 6, 2017

Cybersecurity Research Acceleration Workshop and Showcase, Indianapolis, IN
*October 11, 2017*

NSF EArly-concept Grant for Exploratory Research (EAGER): Cybersecurity Transition To Practice (TTP) Acceleration

Challenge

- **Accelerate Transition To Practice (TTP)** of NSF-funded later-stage cybersecurity research into **Research & Education environments**

Solution

- Identify & assess NSF cybersecurity research **inventory**

- **Interview** researchers & practitioners for cybersecurity TTP needs, gaps and best practices

- **Leverage Internet2 community** to enable "matchmaking"

- Deploy webinars, portal, in-person **events for researcher/IT matchmaking**
  - IUPUI, Indy, Oct 11, 8am-5pm
  - San Francisco, Oct 18,12:30-5:30pm

Cybersecurity Research Assets:
- NDN
- CILogon 2.0
- CipherLocker
- …
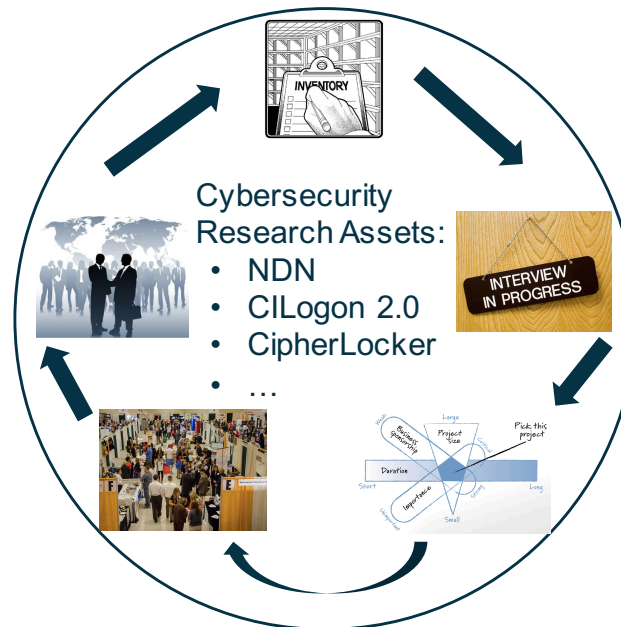
Award Number: 1650445
Internet2
August 2016 – August 2018
PI: Florence Hudson, SVP/Chief Innovation Officer
Team: Emily Nichols, Giselle Trent, Bruce Maas

Scientific Impact

- **Increase awareness** of cybersecurity research & capabilities

- **Accelerate cybersecurity TTP** to make cyberspace safer

- **Identify cybersecurity needs** to inform future research

Broader Impact

- Enable **partnership for NSF TTP with other Federal agency programs** to accelerate & streamline TTP pipeline

- **Enable more diverse R&E pipeline** partnering with Society of Women Engineers and others

- We need you in cybersecurity

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SME Interview insights regarding TTP acceleration informed the EAGER project plan

Cybersecurity Researchers
- Key needs for TTP identified: Funding from NSF and others, **early user feedback**
- **User feedback from pilot deployments** critical to accelerate TTP
- Opportunity for acceleration of the TTP process at multiple steps
- Researchers like opportunity to leverage NSF TTP, DHS TTP, I-CORPS **multiple agency support**
- TTP not a priority for some researchers – looking to solve complex problems, not start a business

Practitioners for Pilot Deployments
- Practitioners **need to know operational requirements** for pilot use of TTP assets
- All size universities and regional networks interested in potential to test out / pilot cyber research early
- Smaller universities requested to participate in TTP as they have simpler approval processes
- Some universities unwilling to deploy unproven, non-production tested cybersecurity code

Agencies
- Interested in **cross-agency collaboration** opportunities, e.g., NSF, DHS, NIH, to accelerate cyber TTP

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Survey Tools to Collect Feedback

Workshop Overall:
http://bit.ly/ttpindyws

Researcher Assets:
http://bit.ly/ttpindyresearch