Oklahoma Science, Technology, Engineering, and Mathematics (STEM) Mentorship Program
What is the OITMP?

- The Oklahoma STEM Mentorship Program is an educational outreach connecting networking professionals from OU, OneNet, and other institutions with students in the technology field.

- It is part of an NSF grant to enhance Oklahoma’s educational and research capability through network improvements.

http://www.oscer.ou.edu/ostemmp.php
Job Shadowing

- The goal:

**IDENTIFY, DEVELOP and RECRUIT Talent**

- Activities include:
  - Presentations to students throughout OK
  - Job shadowing opportunities (on-site & virtual)

http://www.oscer.ou.edu/ostemmp.php
Job Shadowing

- **On-Site**
  - Schedule a time with us to see what we do!

- **Virtual**
  - e-mail us at network@ou.edu (OU IT Network Team)
  - Facebook: oknetworkmentor@groups.facebook.com

http://www.oscer.ou.edu/ostemmp.php
Other Opportunities/Resources

- Jobs at OU
  - http://jobs.ou.edu

- Jobs at OneNet
  - http://www.okhighered.org/job-opportunities/
About This Presentation

- What do I do in the IT field?
- Lessons learned for getting this job.
- Recommendations for keeping the job.
- Being successful in this field.

http://www.oscer.ou.edu/ostemmp.php
(But not this time…)

[Cyber Security]
Things that keep me awake at night...

http://www.oscer.ou.edu/ostemmp.php
The Users...

http://www.oscer.ou.edu/ostemmp.php
The Users...

http://www.oscer.ou.edu/ostemmp.php
The Users...

Too intimidated to ask questions

- Only has a computer because a grandchild gave it to him
- Assumes all e-mails are legitimate
- Typically a member of several botnets

http://www.oscer.ou.edu/ostemmp.php
The Users...

Too intimidated to ask questions

http://www.oscer.ou.edu/ostemmp.php
The Users...

Fluent in at least three languages, including Klingon, Gallifreyan, and the binary language of moisture vaporators.

Devorkian keyboard layout.

Member of a local Cyber Security club.

Calls Help Desks to let them know what is wrong.

http://www.oscer.ou.edu/ostemmp.php
The Users...

Too intimidated to ask questions

 Calls Help Desks to let them know what is wrong

http://www.oscer.ou.edu/ostemmp.php
The Users...

Too intimidated to ask questions

The rest of us...

Calls Help Desks to let them know what is wrong

http://www.oscer.ou.edu/ostemmp.php
Number 5…

The Users…

Too intimidated to ask questions

The rest of us…

Calls Help Desks to let them know what is wrong

AKA: “ID10T”

“Loose nut between keyboard and chair”

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User education is important!!!
Number 5…

User education is important!!!

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“Expectation” vs. “Reality”

Example: The “firewall”...

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The “Firewall”... (or: “User Expectations”)

Users assume that there is a “firewall” between them and the Internet.

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The “Firewall”... (or: “User Expectations”)

EXPECTATION: This “firewall” is a “morality filter” that separates the “good” from the “bad”.

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The “Firewall”... (or: “User Expectations”)

REALITY: IT knows that firewalls are just a “screen door”.

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“Expectation” vs. “Reality”

Firewall is just one example...

IT is watching everything that I do...

Wireless is available everywhere for free...

My antivirus software can clean up anything...

What works at home should work in the corporation...

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Governance and “Big Data”
Governance and “Big Data”

Active Directory

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Governance and “Big Data”

Active Directory

NetFlow Data

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Governance and “Big Data”

Active Directory

MAC Address Database

NetFlow Data

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Governance and “Big Data”

Active Directory

MAC Address Database

Syslog Data

NetFlow Data

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Governance and “Big Data”

Active Directory

Wireless Location

Syslog Data

NetFlow Data

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Governance and “Big Data”

Independent, these are “benign”.

Tie them together, and you may create privacy concerns!

Worse yet, who watches the watchmen?

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Next Generation Networking

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Next Generation Networking

IPv6

Circuit-Based Networking

Cloud Computing

SDN

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Next Generation Networking

B.Y.O.D. (Bring Your Own Device)

Cloud Computing

SDN

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Next Generation Networking

Security Policies have yet to be developed!

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Internet of “things”...

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Networks used to be simple:

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Number 1…

Now everything is network attached:

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But what about the “protocols” used?

http://www.oscer.ou.edu/ostemmp.php
But what about the “protocols” used?

http://www.oscer.ou.edu/ostemmp.php
But what about the “protocols” used?

Over-the-air transmission

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But what about the “protocols” used?

http://www.oscer.ou.edu/ostemmp.php
But what about the “protocols” used?

http://www.oscer.ou.edu/ostemmp.php
Number 1…

But what about the “protocols” used?

Users assume that the devices that they connect to are both KNOWN and TRUSTWORTHY!

http://www.oscer.ou.edu/ostemmp.php
If you got ‘em, ask ‘em!
Please take a moment to fill out the evaluations… or NOT! The evaluations are completely optional!

No personal or personally identifiable data is collected.

Data is used by the grant providers to gauge success.
The End (about time too…) (and now for Chris Mallow...)