Feb 2017 M bd0e5

Feb 2017 Microsoft Campus Connections Summit

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- Other:
- Michigan is building out a gondola service for student transportation across the river
- Dartmouth doing a lot in the DW space with PowerBI (also Tableau)
- About 124 participants also a global education partner summit going on next door

Tuesday Keynote by Brad Smith:

- Silicon Valley start-ups don't really start in a garage but at a university campus
- Dawn of the next industrial revolution

o 1st industrial revolution - steam engine, factories starting in Britain

o 2nd industrial electricity, combustible engine, starting in US in 1870's

o 3rd industrial 1960-2015, Information Age

o 4th industrial starting NOW. Has several characteristics

- Physical autonomous vehicles, robotics, 3D printing, new materials
- Biological genomic diagnostics, treatment, engineering
- Digital IoT , blockchain, disruptive business models
- This next industrial revolution made possible by cloud, massive data analytics, machine learning, AI, etc.
- Microsoft building a huge datacenter campus in Boydon VA (pop 550)
- Microsoft and Facebook in partnership laying down MAREA a new fiber cable from VA to Spain and Africa (instead of from NJ to UK)
- A cloud for Global Good

o Challenges job disruption, privacy, inequality, accessibility

- Can't leave people behind
- Need to act with shared responsibility

o A Venn diagram has

- Inclusive

- Trusted
- Responsible
- With “a cloud for global good” in the overlap

o Trust Principles

- Privacy
- Security
- Transparency
- Compliance
- Microsoft Privacy principles
- Aligning with EU GDPR
- 7 privacy principles
- Microsoft’s privacy battle w/ the government. Working on providing more transparency to customers if government subpoenas are issued to Microsoft
- Keeping information secure

o 90% of intrusions begin with a phishing email (this stat was shared at yesterday’s RSA keynote)

o Office 365 has an early warning and threat intelligence system on malware coming thru email recommendations on next steps

o Advanced data governance

o Data analytics is helping drive their security choices

- Over 200 billion emails scanned for malware each month

o Microsoft has 3 tiers of security responders

- First response
- Advanced cyber security team
- Digital crimes unit (DCU) using the law to disrupt nation-state attacks, focus on attribution and legal response (this group is pretty unique in the industry)
- Using a sinkhole DNS setup, the DCU has:

♣ Transferred domains in 49 countries to analyze malware

- Cyberwarfare

o Important point nation state launches a cyber-attack and private individuals (industry) are the first responders

o We need a new Geneva Convention to keep private companies, universities, private individuals off-limits from inter-state nation state cyber warfare

o Microsoft wants to be a neutral Digital Switzerland that retains the world's trust will not help 1 country attack another

- Responsible Computing

o Democratizing AI

- IBM builds a big mainframe AI like Watson emphasizes big mainframe and human consulting
- Microsoft distributed AI out to everyone's endpoints w/ cloud computing doing the back-end heavy lifting
- Microsoft Translator app on your phone
- AI for health
- AI for education
- AI for earth
- PowerBI

o Lots of momentum on this as a data warehouse solution

o Jump from Excel to PowerBI isn't that large

- Ethics of Artificial Intelligence

o Major multi-disciplinary effort CompSci, philosophers, Law Schools, etc.

- Job trends

o New technology

o Multiple jobs and careers

o More likely to be an independent contractor

- People's needs are changing

O Digital

o Non-digital

o Soft skills

- A healthy digital economy is a healthily learning economy

o Currently 600k computing jobs in the US, but only 40k compsci degree graduates last year

o Of 37k high schools, only 4300 schools offered AP class in computer science

- Diversity is an imperative

o Only 18% of AP classes taken by women

o Only 11% of AP classes taken by minorities

- Skilled workforce trends

o Jobs held by BA's increased by 107%

o Jobs held by Associate's degree increased by 47%

o Jobs held by high school or less decreased by 13%

- Shared responsibility for creating the workforce of tomorrow

o Create new models to connect workers with skills

o New tech tools

o Technology that helps build an economy that works for everyone

- Note get broadband to more rural economies
- The role of Higher Ed

o World-class research by the research universities

o More capacity in our 4 year institutions (esp compsci)

o Rapid innovation and new partnerships for community colleges

o Focus on next generation of teachers by all

- Improving accessibility and inclusiveness

o 1 out of 8 people on the planet have some form of disability

o Technology can make a huge difference

o Video on OneNote in classroom settings and how it can help students with disabilities

- IoT desperately needs an industry set of security standards before too many devices/ sensors get installed

Introduction to Design Thinking by Simon Tyrell of LiveTiles

- Design Thinking: art of applying creative, user-centered process to business problems.
- Steps

o Understand research is formalized curiosity. It is poking and prying with a purpose

- Everything starts with empathy you have to remove your bias

o Ideate all of us are smarter than one of us.

- Brainstorming is a terrible tool because the loudest voice usually wins

o Prototype how do you know whether your ideas will work if you don't try them?

o Validate quick, informal validation is the best way to start getting feedback on your solution.

- The process we'll be using is based, in part, on:

o Design a Better Business book on amazon

Safety and Security Track Panel Discussion

- University of Arizona Case Study

o Perimeter firewall is an outdated strategy

- More focus on data, endpoints, AD as crown jewels

o Half way through an engagement w/ Microsoft to lockdown and better secure Active Directory

o Active Directory Governance Committee

o Data partitioning, split credentials, federation amongst several AD's

- Princeton Case Study

o Recent, heavy focus on IoT

o Adding facilities/bldg mgmt devices to their asset inventory

o Using NIST

o Devise protection strategies for them

o Campus Services might monitor for availability but not for security

o They have a good story for managing identity for people, but not for devices (like IoT devices, actuators, sensors)

o NOTE there is an Internet2 WG on IoT, IoT Security, and procurement

- Microsoft Physical Security Case Study

o Domain awareness - built out for NYC integrates feeds from video surveillance, license plate readers, bomb detection all goes back to a central command center

o What is a domain?

- A geographic place like a city, a college campus, or an airport
- Zones can overlap (like a college campus in a city)

o Spatial evaluation of a domain includes:

- Hazards
- Vulnerability
- Consequence
- Risk

o All Hazards approach or framework to physical security feeds nicely into FEMA framework

- Active shooter
- Flood
- Suicide
- Cybercrime
- Power outage
- Violence/protest
- Water main break
- Etc

o FEMA Framework

- Recovery
- Prevention and mitigation
- Response
- Preparedness
- Some guy from Microsoft Incident Response

o Your IT environment and the identities in that environment are quite heterogenous and often don’t move through a firewall

o Microsoft security capabilities

- Visibility

♣ Malware

♣ Clients

♣ Email

♣ Web content

♣ Cloud platform

- Context

♣ Trillions of URL’s indexed

♣ Hundreds of billions of authentications and emails scanned

♣ Billions of daily web pages scans, windows devices reporting

♣ Hundreds of millions of reputation lookups

♣ Millions of daily suspicious files detonation

- Something
- Something

o Microsoft has a layered security approach

- Digital Crimes Unit (DCU)
- Cyber Defense Operations Center (CDOC)
- Cyber security services engineering
- Other

♣ Services security architects

♣ Premier incident response and recovery

♣ Etc

- Malware Protection Center
- Hunting Teams
- Security Resposne Center
- Digital Crimes Unit

o Decrease in signature-based approach and more focus on machine learning

o 3 simplified steps from NIST

- Protect
- Detect

- Respond

o 3 main cyber security areas

- Product
- Premier

♣ Reactive

♣ Proactive

♣ Cyber DSE

- Services

o Take a tiered approach to security layers

- Administration forest for administrators
- Tier 0 — control — privileged access, IPSec
- Tier 1 — data and services
- Tier 2 — access
- A few slides on AD and CA security remediation
- Public safety solutions for education — Clyde Ford, DEO of Entegra Analytics

o Campus 2020 — focuses on public safety for campuses

o Mobile phone app that student can activate if worried. As long as student holds button, no alert

o If attacked, she drops phone, and a silent alarm goes off

o A student “safety ally” with the same iPhone app gets the alert and goes to scene and yells, draws attention

o University police also get the same alert to respond

o Suspect runs away

o Data analytics correlating other reports to look for trends

o Use counseling and app to distribute the university sexual awareness “yes means yes” policy

o Empowers students w/ safety tools

o Educate students

o Enablecampus law enforcement to reduce response time

- Microsoft — Scott Montgomery, Program Manager for Digital Platform Patrol Car

o Integrated platform for a smart police car

- Vehicle telemetrics
- Fleet mgmt
- Vehicle diagnostics
- Automatic vehicle location
- Incident response
- Situational awareness
- Computers aided dispatch
- Records management system
- Digital asset mgmt
- Unified justice system
- Handheld controller device
- Bonded wireless (3G_4g_LTE, wifi, Ethernet, microwave)
- Connection to drones/sUAS live video streaming
- GPS breadcrumbs being left
- LPRcamera
- Auto-activation system for gun holster
- Body worn camera
- Dashboard camera
- Armor_vest integrated w_ biometric sensors
- In-vehicle DVR

o Other elements of MS strategy for police work

- File reports digital rather than returning to station
- Equipped w/ technology to act as mobile precinct

♣ Get data from police station

♣ Police station can remotely connect to police car to activate cameras, get situational awareness

#learning/conferences