10:05–10:30 | Enterprise Leadership Council Lightning Keynotes

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Securing a Massive Health Care Network – Managing Millions of IoT Devices

DAN SNYDER

Chief Principal Architect

UPMC
LIFE CHANGING MEDICINE

UPMC by the Numbers

- Global leader in providing patient care, insurance and research
- 40+ Hospitals and 800+ outpatient sites.
- 110,000+ employees
- 4 Million+ health insurance members
- Top 10 in NIH funding programs with University of Pittsburgh

UPMC network overview

- 1800+ Routers
- 7000+ Switches
- 26,000+ Wireless access points
- 400+ Firewalls

UPMC connectivity overview

- 800 Gbps to public cloud
- 400 Gbps to internet
- 1.2 Tbps between primary data centers
- 40+ Compact data centers
- 3 DWDM rings in PA (700km)

Current standard of connectivity for a large site

- 2 or 4 x 100G to the site
- 2x100G uplinks from IDF to MDF
- Access layer connectivity 1|2.5|5|10G
- Wireless 802.11ac to 802.11be
- Sub-second failover

What is the challenge?

- Regulatory compliance
- GDPR/HIPAA/NIST
- BCSI (FGA,NFPA 99, etc)

Shadyside Hospital

- 520 Beds
- Over 1 million sq/ft
- 89k total devices
- 66k devices
- 23k guest devices

What are the device types?

- Guest internet
- IoT
- Voice
- Building systems
- Clinical network
- General network

What is available in the market?

- Research
- Standards
- Vendor solutions

What is the issue?

- OUI says vendor x
- Profiling says vendor x workstation
- Reality PET/CT machine

How are we addressing the issue?

- All devices that are added to the network need an EA review and approval. Lasts 1 year.
- Devices are registered in BioMed DB or CMDB.
- Arp tables
- NAC (802.1x or MAB)

What is needed?

- A better way to identify devices
- Regulatory requirements need updated

Questions?


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