Scary Stuff You Need To Know About IoT
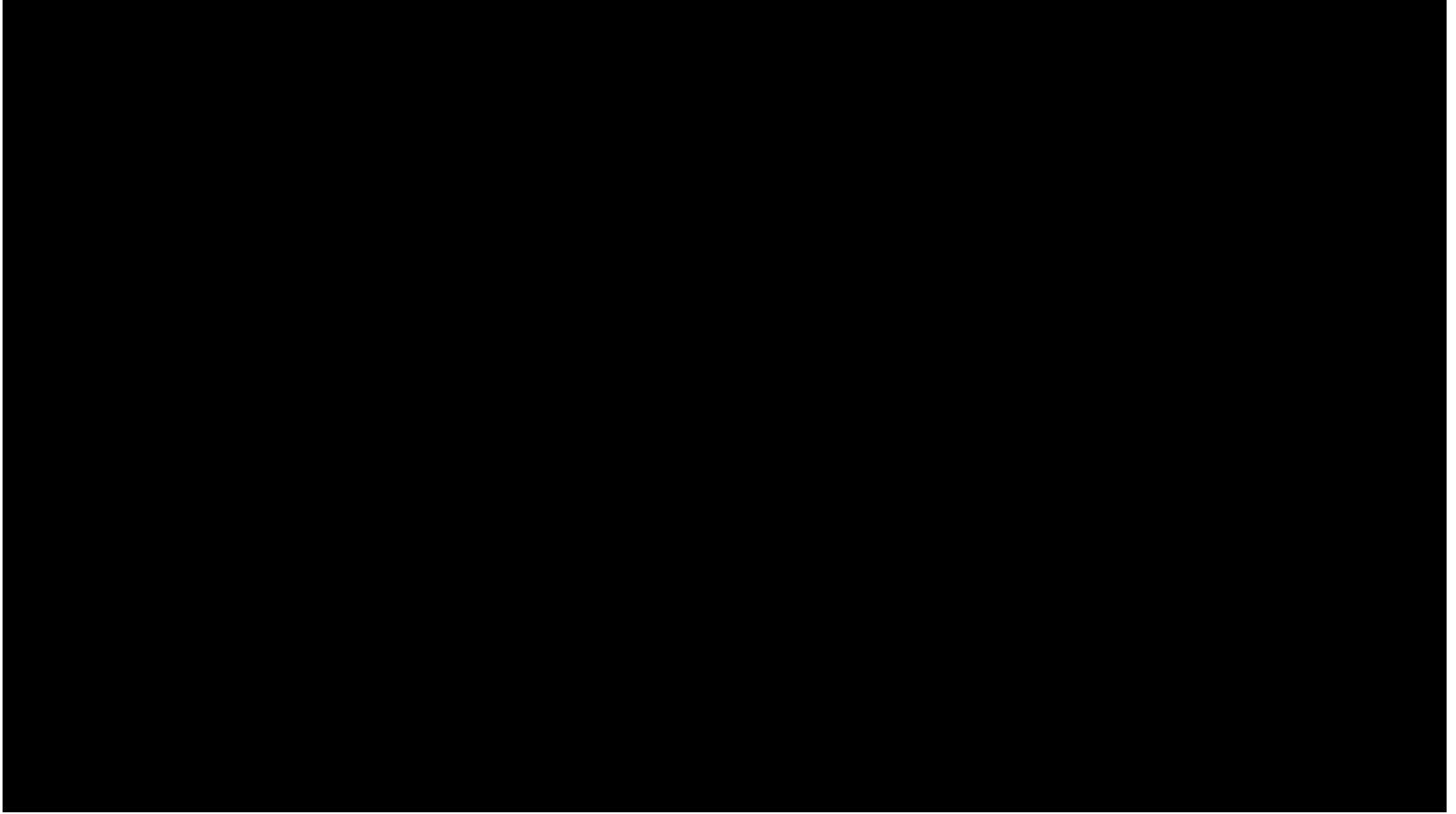
The Internet of Things

What is IoT

- Wiki Definition of The Internet Of Things

"The inter-networking of physical devices, vehicles, buildings and other items embedded with electronics, software, sensors, actuators and network connectivity which enable these objects to collect and exchange data."

What is IoT

Some Stats

- Gartner Study
  - 8.4B connected things in 2017
  - 31% growth in 1 year
  - Expect 34B connected devices by 2020.
  - That's 2-6 devices for every living person
- IoT sensors and devices expected to exceed mobile phones by 2018.
- Wearables >100M shipments in 2016

General Benefits of IoT

- Organizations can speed up and improve processes – efficiency.

- Organizations gain real time insights into customer habits, experiences, preferences, etc.

- Wearables can alert providers if a patient's vital signs exceed set parameters.

- Sensors help manufacturers manage equipment.
  - Musco Sports Lighting

- Smart buildings – cut energy costs and improve experience

Indirect Benefits of IoT Growth

- Greater number of smaller, more convenient devices (equipment costs decrease 33%/yr.)

- Power advances

- Ubiquitous and varied wireless

- Better broadband (costs decrease 25%/yr.)

- Satellite and ground base locating improvements

- More / Better Artificial Intelligence

Healthcare IoT Examples

- OpenAPS – closed loop insulin delivery

- Medidata Patient Cloud ePRO

- Propeller Breezhaler device

- Proteus Digital Health - ingestible sensor

- Alcon – Google Smart Contacts

- Depression fighting Apple Watch (Takeda)

- Roche – Bluetooth Coagulation testing

Some Fun IoT

- Top 10 Amazon Dash Buttons
- RollScout
- Egg Minder tray
- 24eight smart diaper
- Thermos Connected Hydration
- Parrot Flower Power
- ICPooch

Challenges of IoT Growth

- Interoperability – Clinician & Physician's view

- Data ownership and personal privacy

- Data overload and complexity

- Safety

- Security

Roomba's Dirty Secret

Securing IoT

- 90% of health care orgs – breach, loss or data theft in past 2 years.

- 10% or less of IT budgets go to security

- "Securing the Internet of Things has become a matter of homeland security" – DHS Secretary

- Connected devices are infinitely less secure than typical business desktop

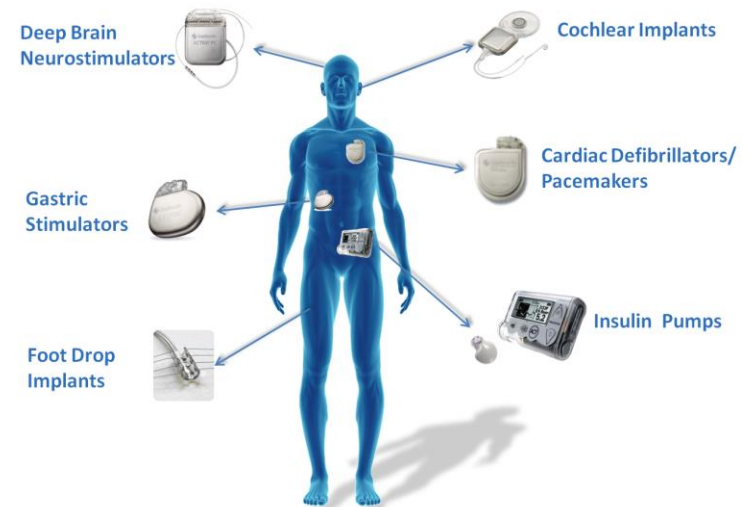- 80% US consumers have connected devices but only 30% change the password

Jeep Cherokee – Lost Its Mind

Healthcare Risks

- Hacking Implantables
- Infusion Pumps
- Hijacked prescriptions
- DNA manipulation
- Stolen identity

Two Men & A Bear

- 3 Critical Concepts – SPEED TO ACTION
  - Starts with modernized approach to IT Management
  - Security tech is only as good as the management and oversight
  - Recovery team/time – damage limit is the new metric

Ugh! Right?

Practical Actions

- IT Management 2.0
  - Move to the Cloud
  - Leverage Shared Services = fractional expertise
  - Stop buying tech and start subscribing to it
  - Local staff focused on Healthcare projects, not tech. management

- Benefits of Approach
  - Shifts risk
  - Saves money
  - Broadens expertise
  - Restores focus on patients / healthcare
  - Sustainable model
  - Predictable expense
  - End user happiness
  - IT advancing business
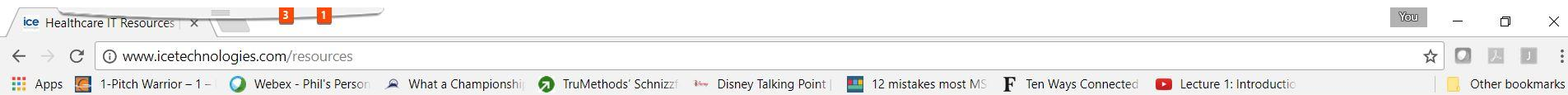
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