

# HIMSS<sup>®</sup>16

## Conference & Exhibition

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### TRANSFORMING HEALTH THROUGH IT



# The Internet of Things for Healthcare

## Tuesday, March 1, 2016

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

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# Conflict of Interest

Eric Miller, Ascension Health

Has no real or apparent conflicts of interest to report.

Paul Unbehagen, Avaya

Salaried employee of Avaya.

# Agenda

- Learning Objectives / Value of Health Steps
- Escalating Risks of Healthcare IoT's
- The Speed vs. Security Tradeoff
- A Solution Path

# Learning Objectives

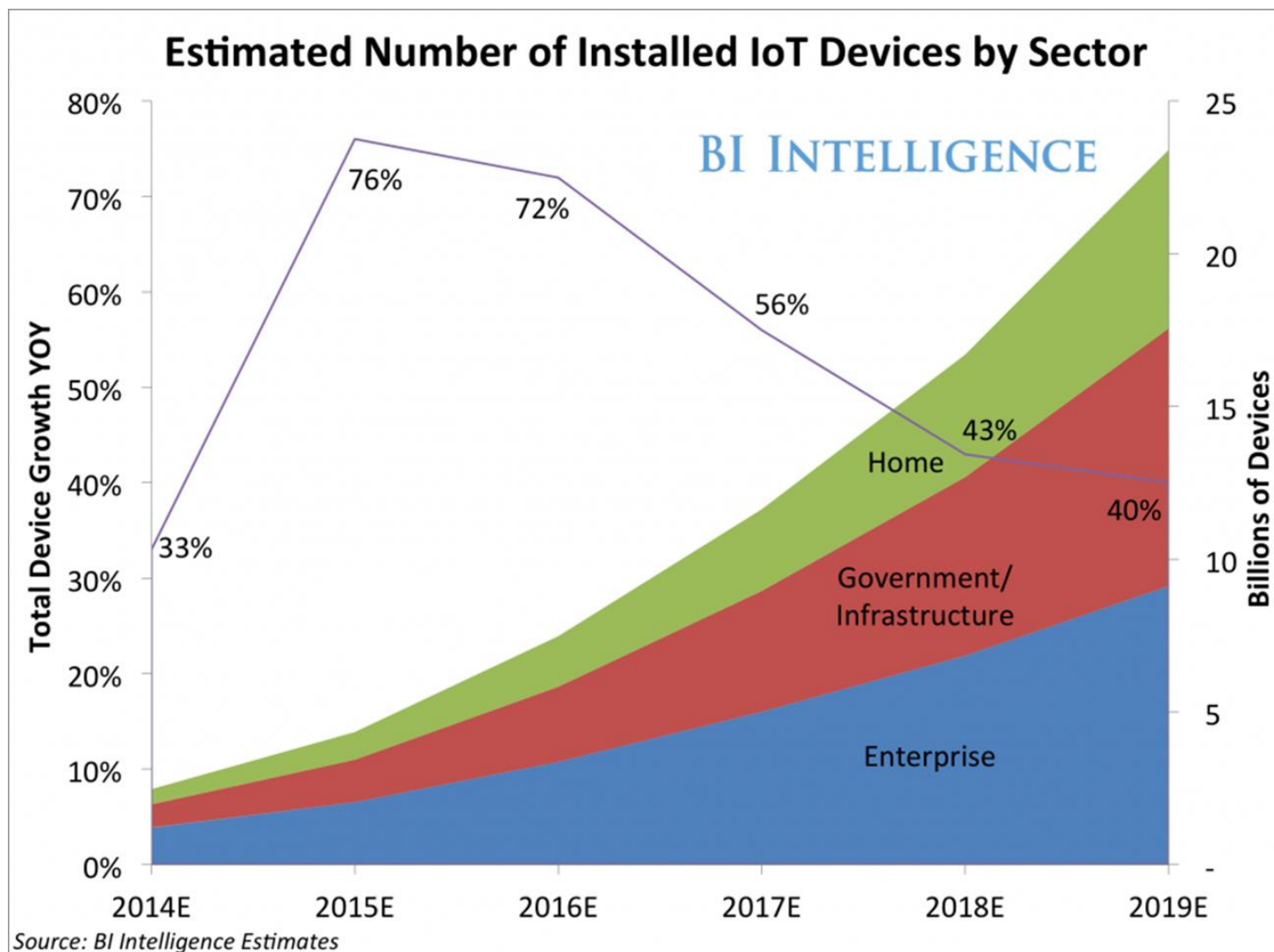
- Discuss ways to classify your “IoHT” devices organization wide
- Determine the importance of risk models to device classifications
- Explain how to employ automatic secure segmentation
- Discuss integrated inventory management
- Describe a plan for implementation

# Benefits for the Value of Health IT

The value steps impacted are:

- Savings
- Satisfaction
- Electronic Secure Data





# Internet of Things for Healthcare

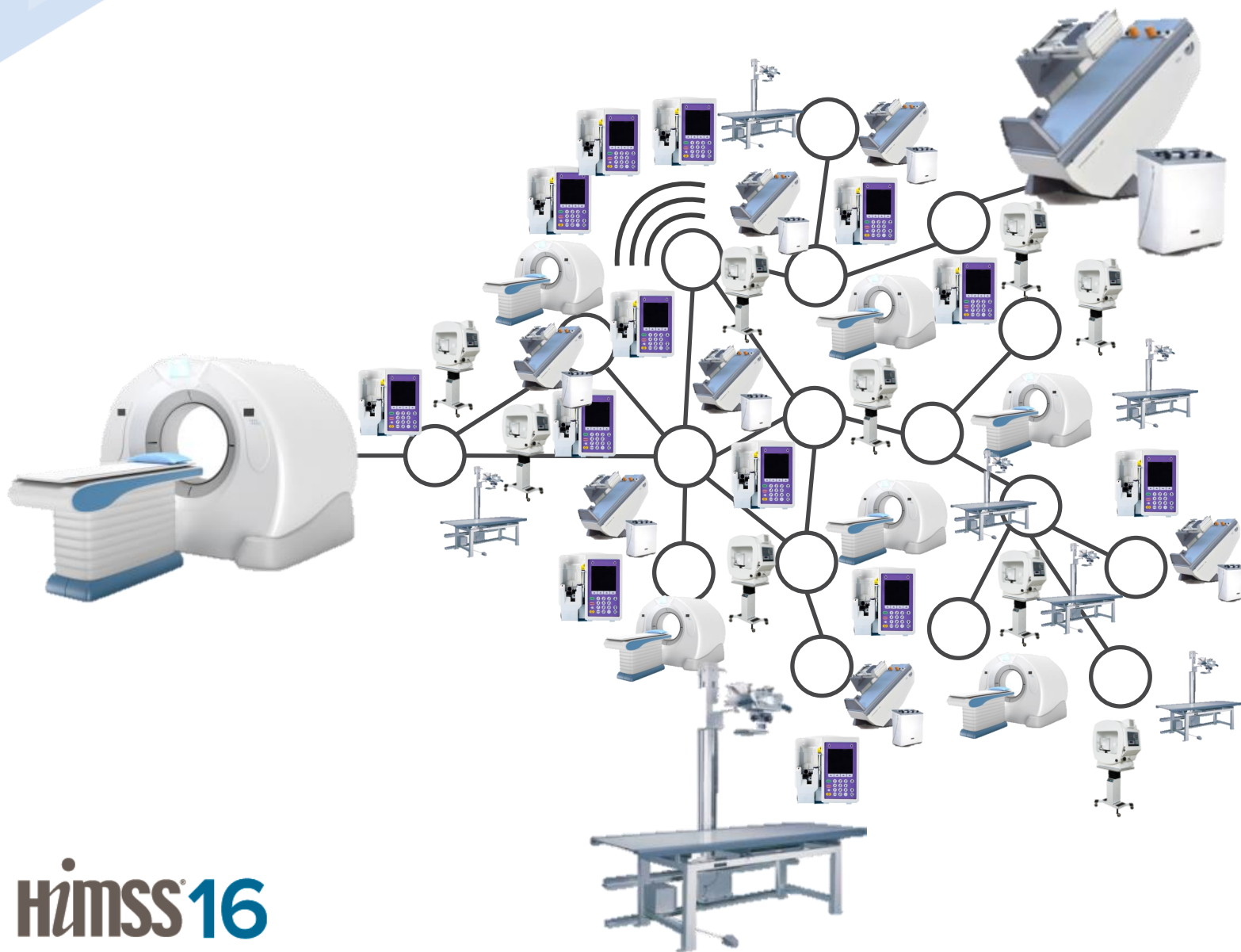
- Safety
- Regulations
- Revenue
- Security
- Management











# Speed Security

## A Solution Path

1. Classify your “IoHT” devices organization wide
2. Apply risk models to device classifications
3. Employ automatic secure segmentation
4. Evaluate and employ integrated inventory management
5. Prepare a plan for implementation

# Classify Your Healthcare IoT's

## Inventory-Discovery Tools

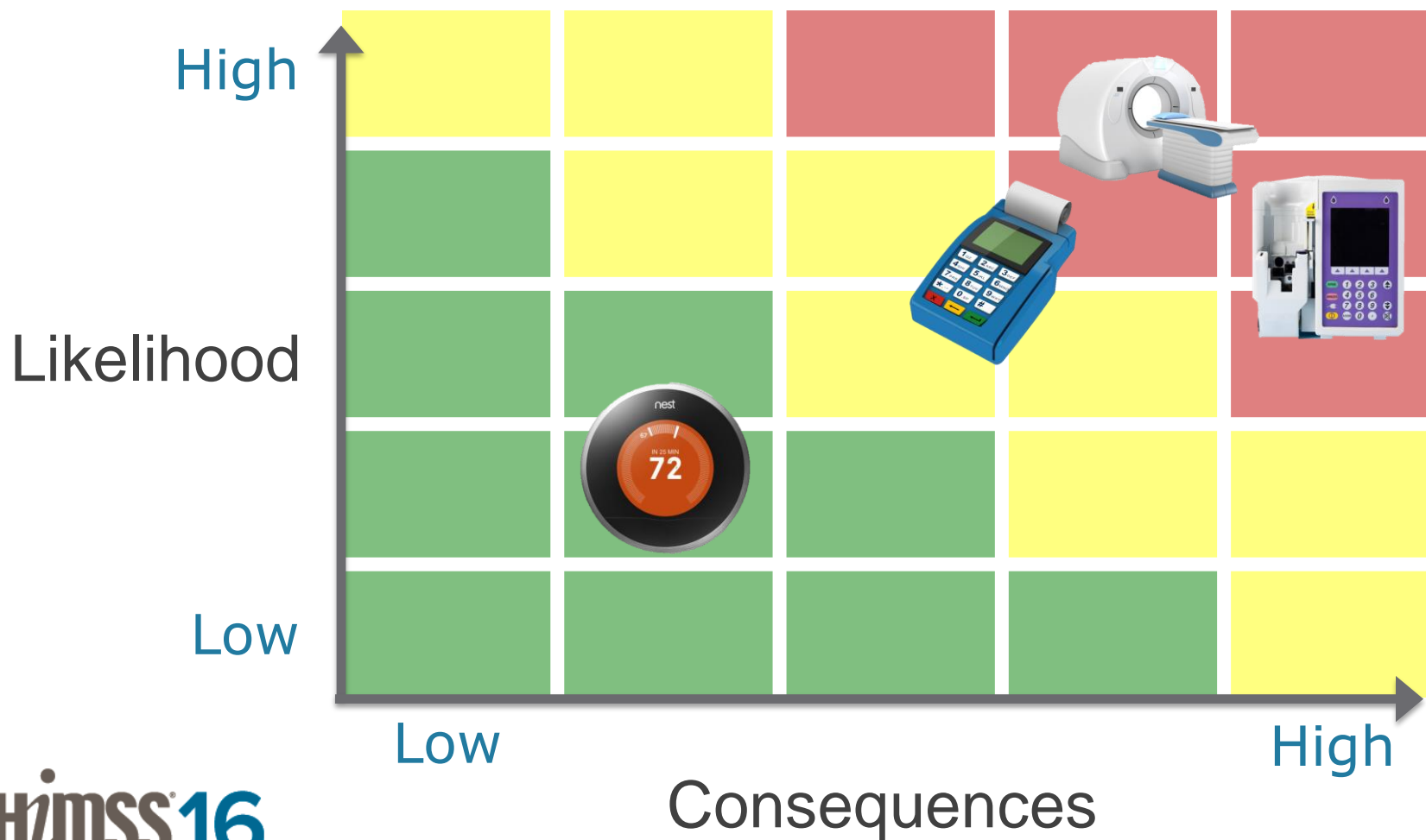
### Open Source

- NMAP
- Netdisco
- GLPi

### Commercial

- Solarwinds
- Infoblox
- ServiceNow

# Apply Risk Models



# Major Technology Eras

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Personal  
Computer



1985

Business  
Applications



1995

Global  
Networks



2005

Personal  
Mobility



Cloud



2015

## Network Requirements:

File sharing and  
broadcast

L2 Security

Global  
connections  
PC moves, adds,  
& changes

L3 security  
PCI / HIPAA  
Instant Secure  
Access

L3 segmentation  
Application  
Optimization  
Network moves,  
adds, and changes

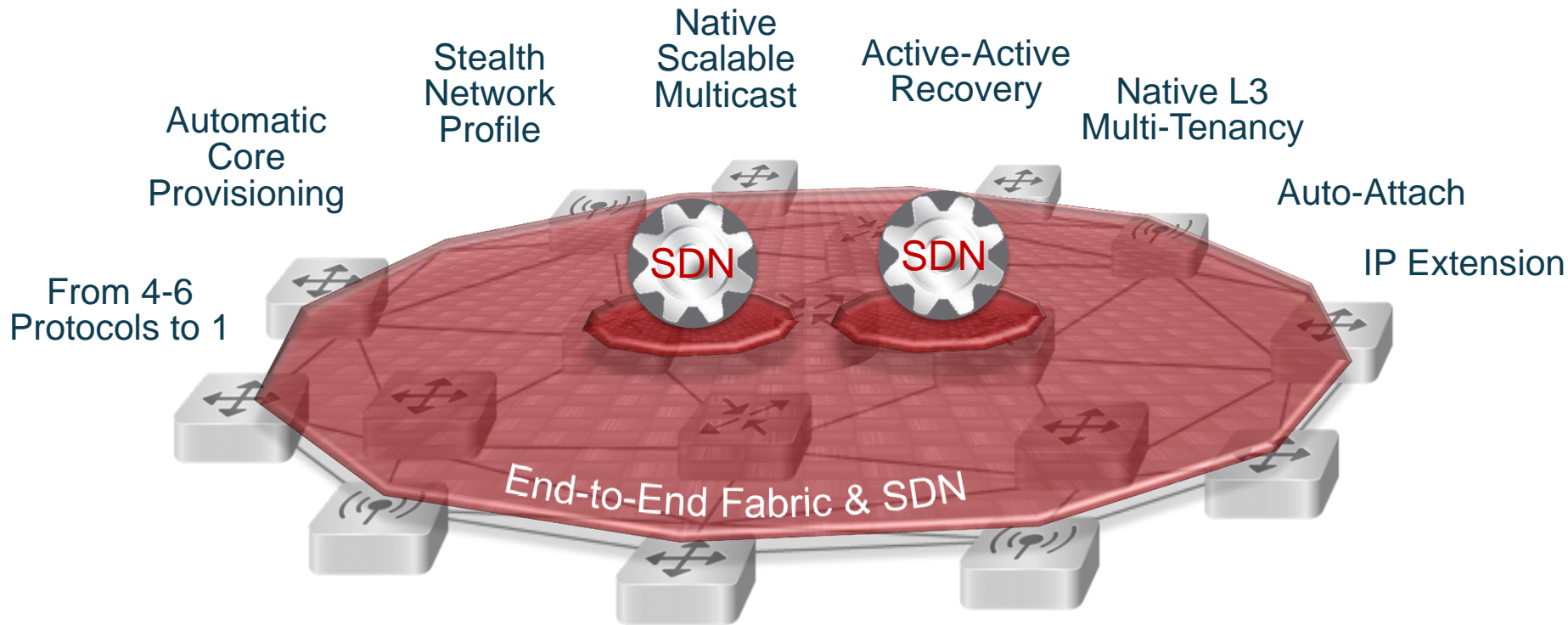
## Network Delivery:

< Ethernet OSPF VLAN's

MPLS / VRF's

Fabrics

# The Power of an End-to-End Fabric



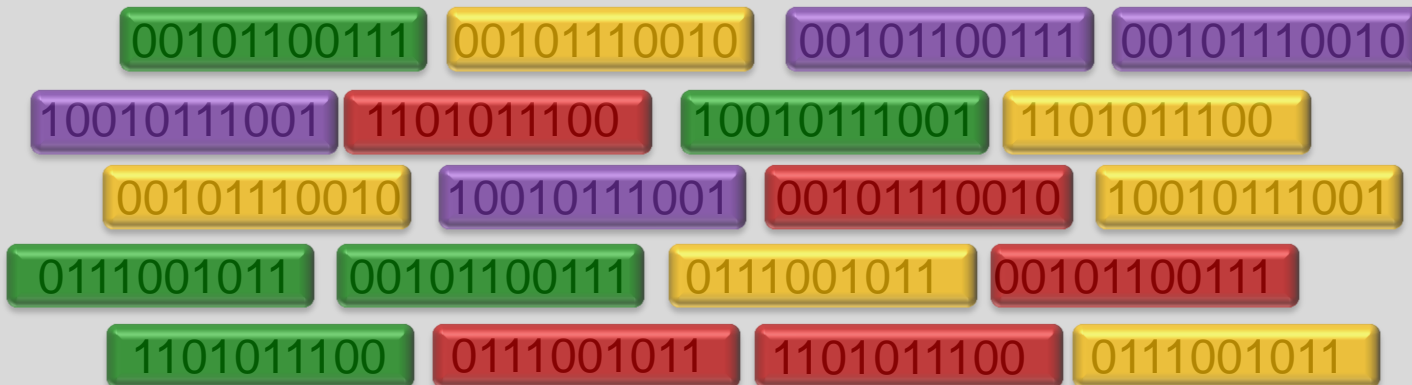


# The Principles of Automation

- Open
- Simplified
- Programmable



# The Power of Segmentation

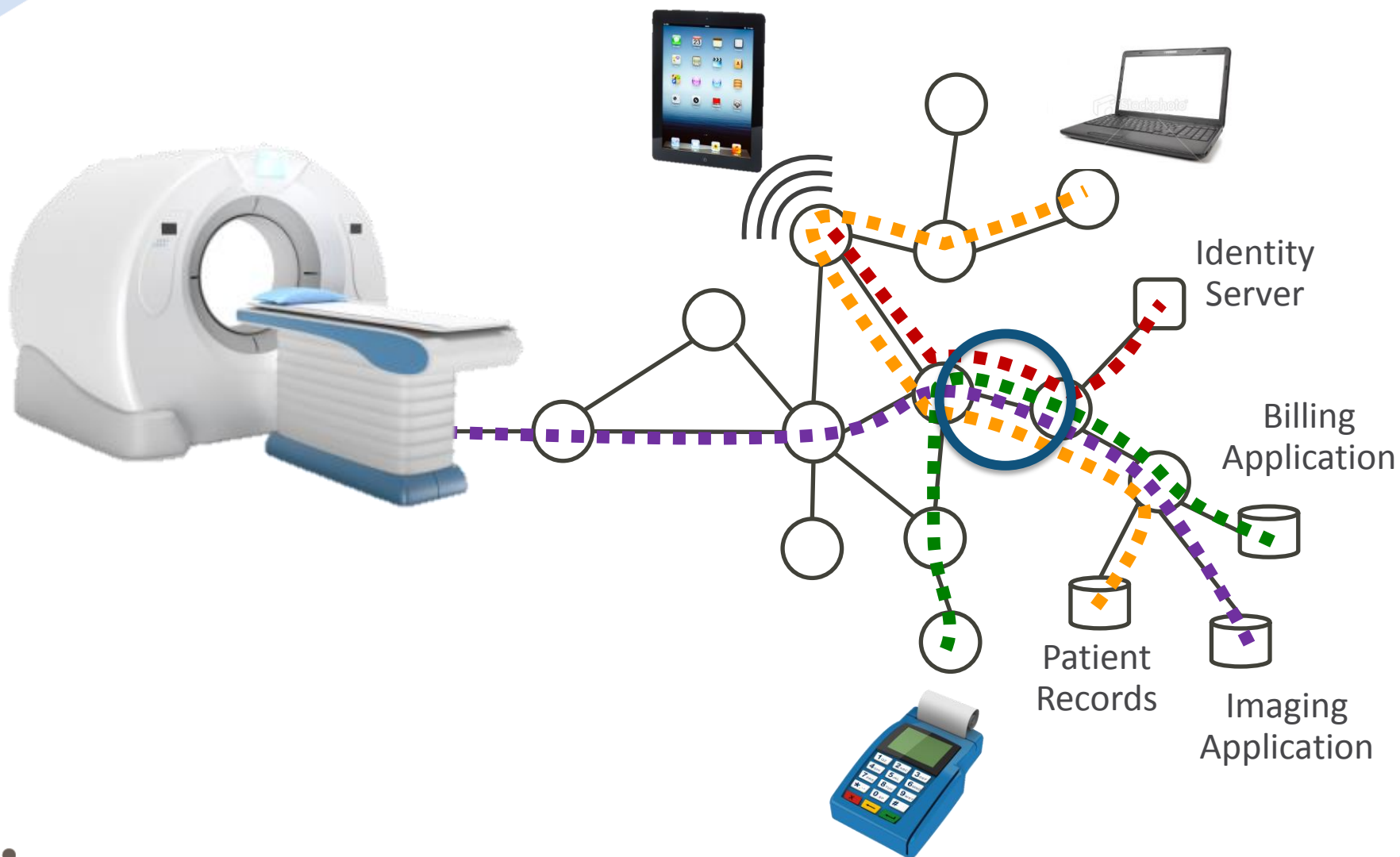


Records

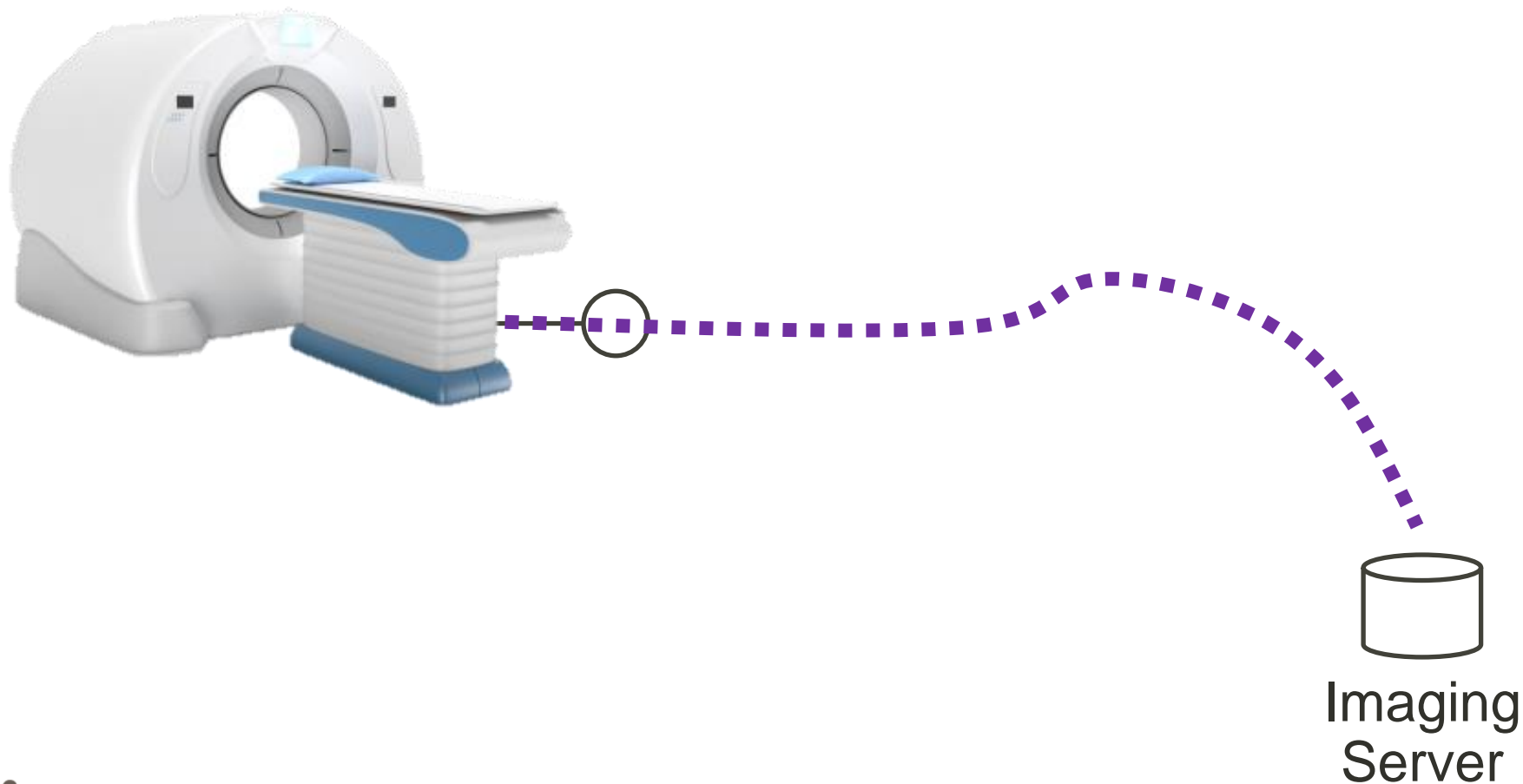
Guest

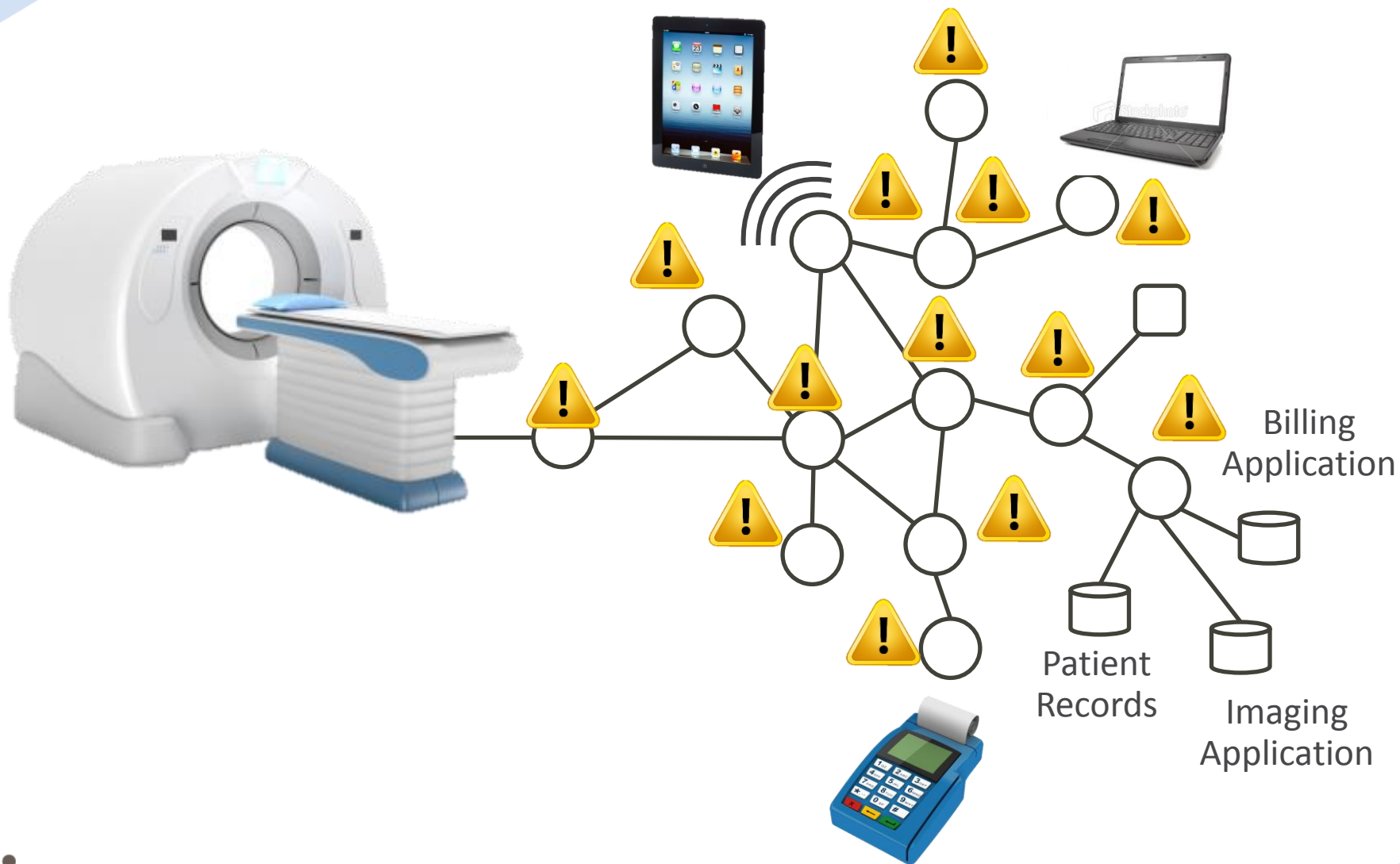
Imaging

PCI



# What IP Scanning Tools See...



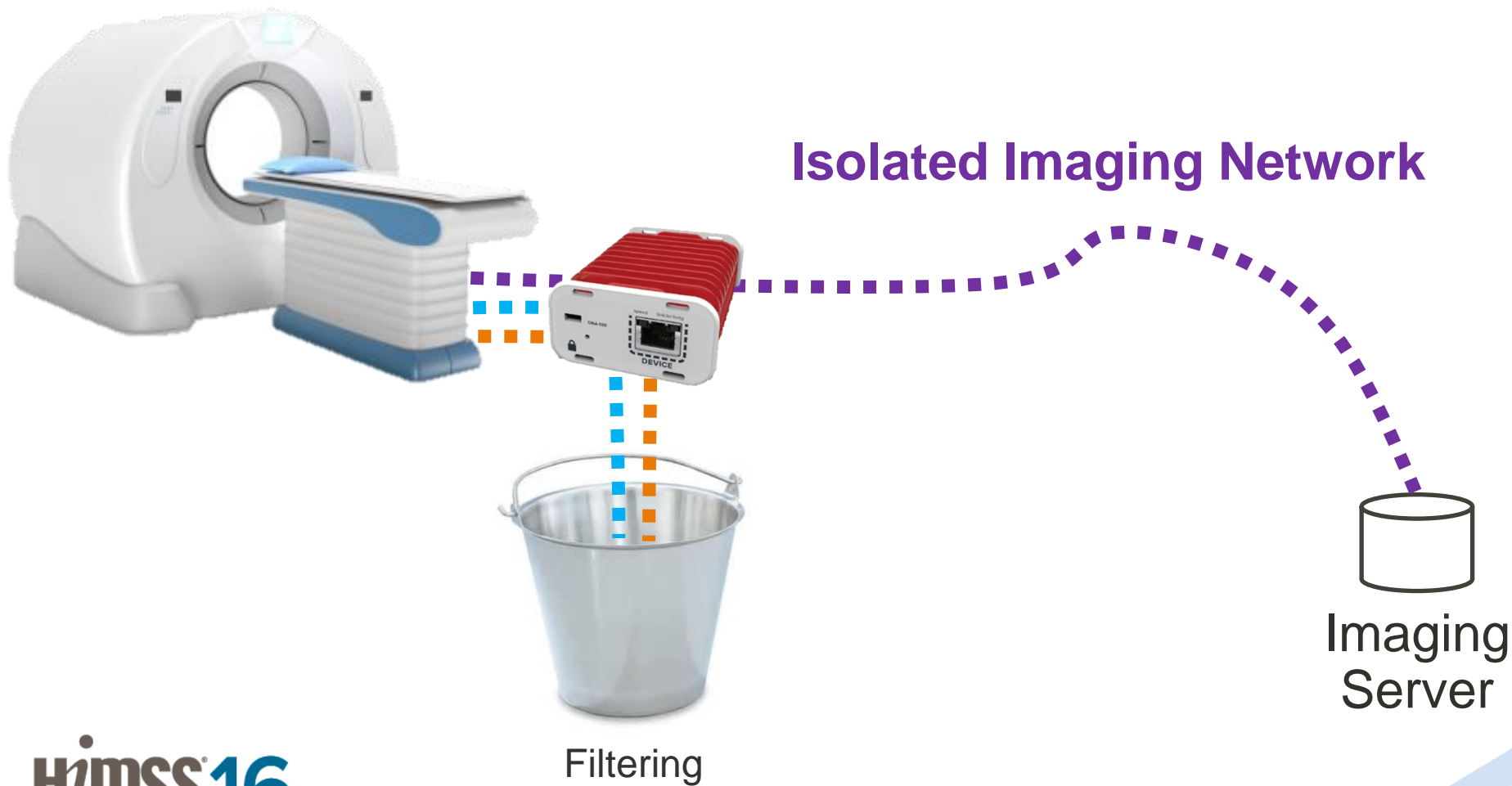


# Open Networking Adapter



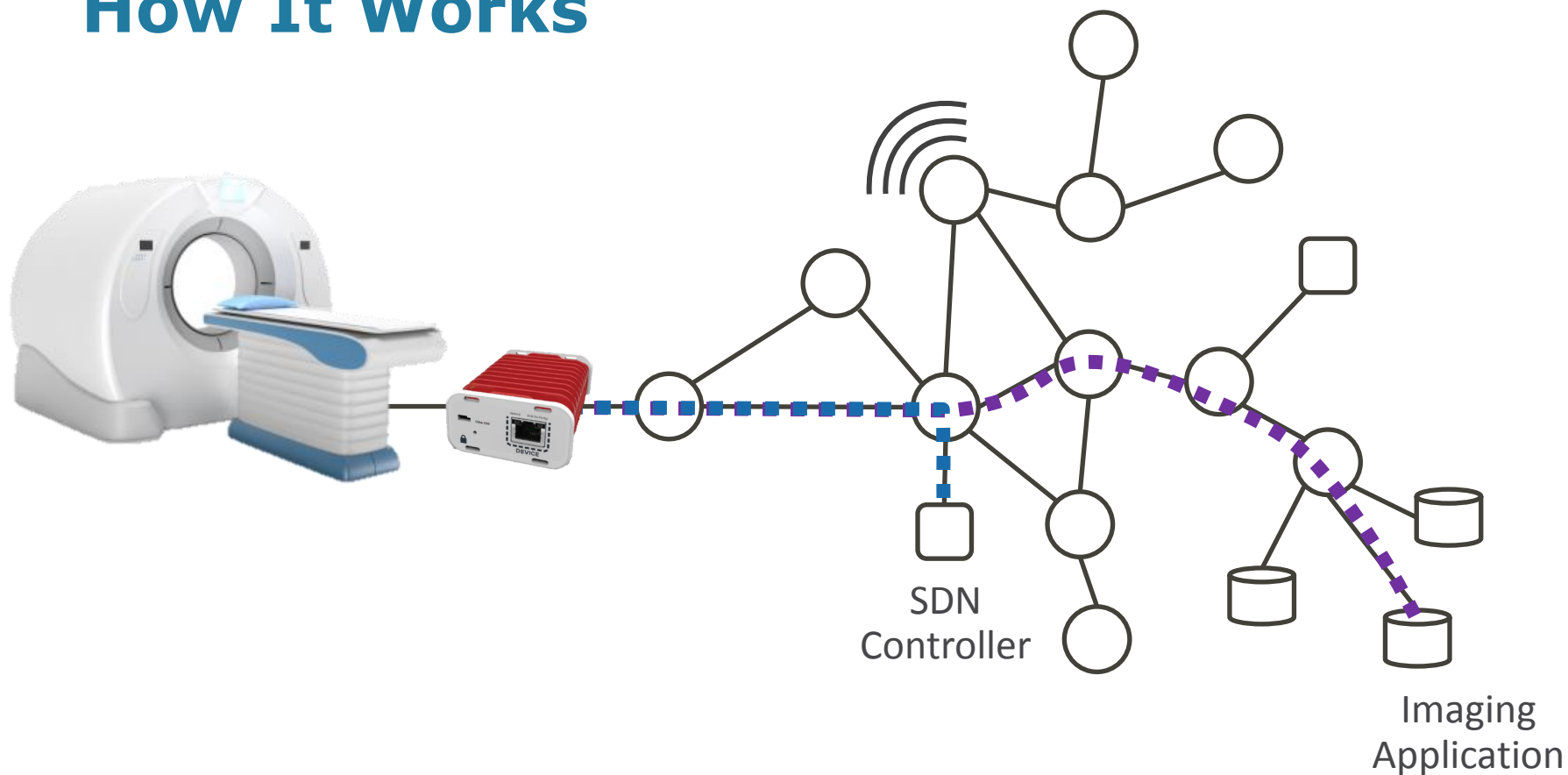
- Open vSwitch
- OpenDaylight
- OpenFlow
- OVSDB
- IEEE Protocol:  
802.1Qcj

# The Power of Auto-Segmentation





# How It Works



X-Ray

Dialysis

HVAC  
Systems

MRI

Cardiac  
Monitor

Ventilator

Hyperbaric  
Chamber

Ultra Sound

MD Laptop

RN Tablet

Glucose  
Meter

Surveillance  
Cameras

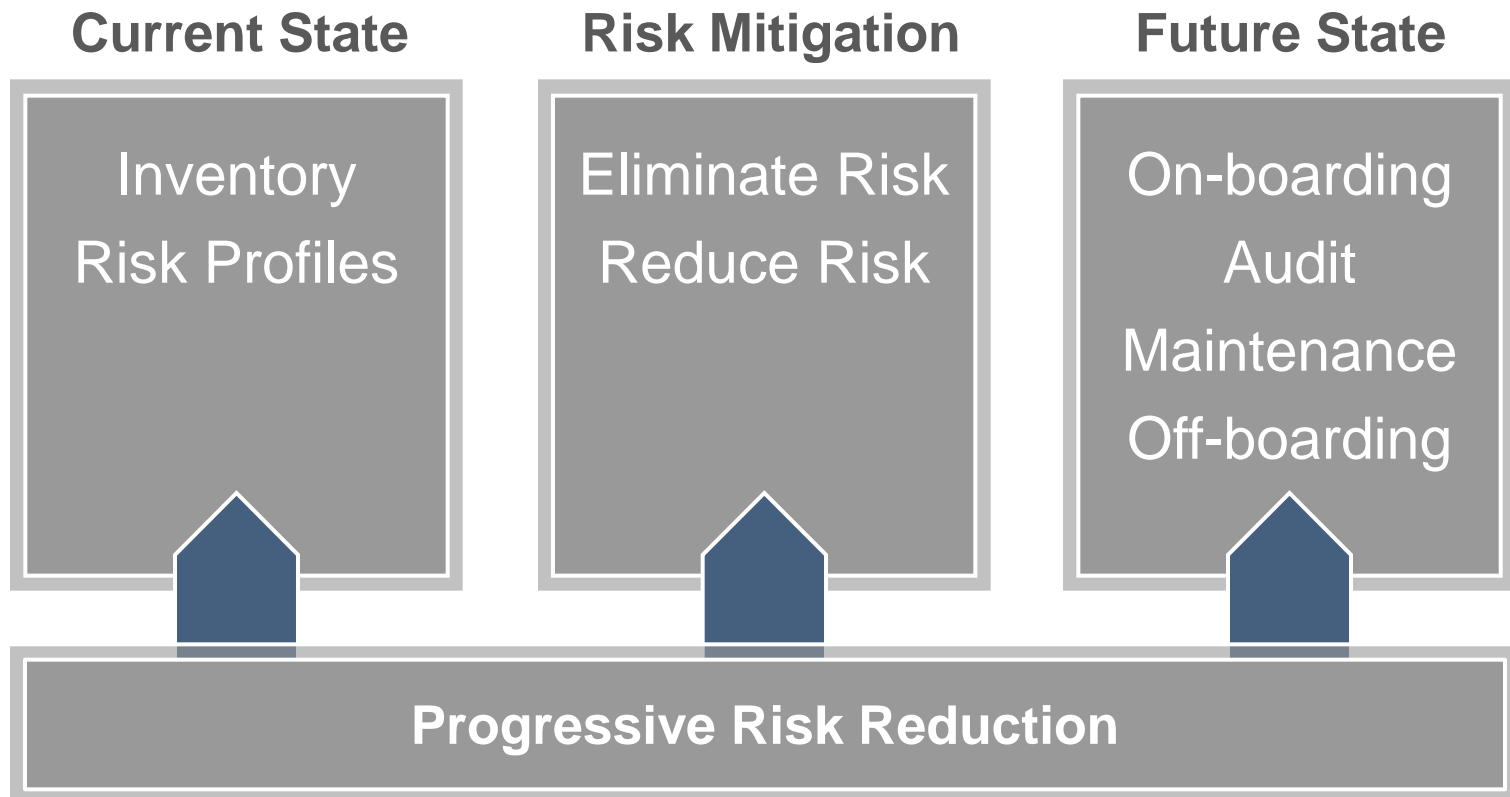
Badge  
Readers

# Evaluate Inventory Models

- Safety
- Positive Device Identification
- On / Off Boarding
- Real-time Network Location
- Open Application Program Interface
- Profiling / Grouping



# Prepare Your Plan



# A Summary of How Benefits Were Realized for the Value of Health IT

- Savings:
  - 30% capital replacement savings
  - 60% maintenance reduction
- Satisfaction
  - Reduced request fulfillment time
  - Improved reliability
- Electronic Secure Data
  - Method to quantify risk
  - Process to reduce risk



# Questions



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