Monitoring & Measuring: Wi-Fi as a Service

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IT Professional Wi-Fi Trek 2015
#wifitrek

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Agenda

- Wireless Trends and Impacts
- How Cloud Wireless Changes Everything
- Case Study
- Summary

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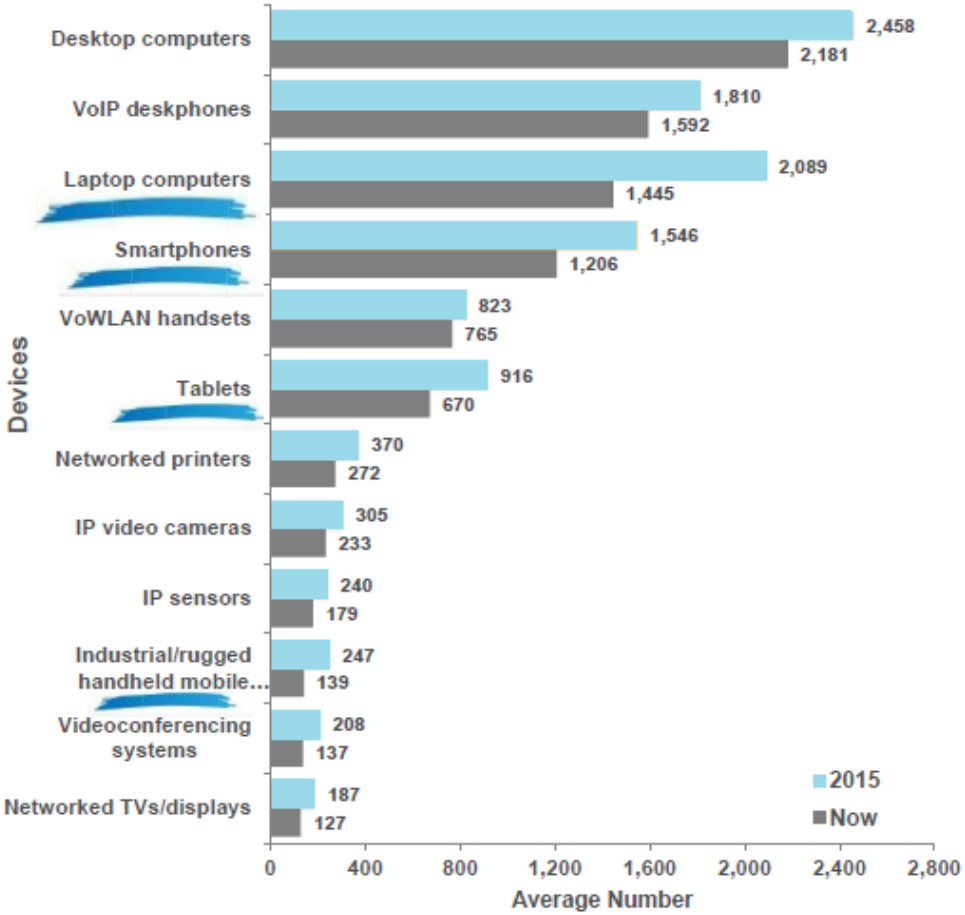
Networks are Changing

Wi-Fi is NOW the preferred method of access



- Number of devices rapidly growing
- New types of devices
- **Mobile devices surpassed wired devices in 2015**
- 2/3 of new devices will be mobile
  - Laptops
  - Tablets
  - Smartphones

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Source: Infonetics, *Wireless LAN Strategies and Vendor Leadership: N. American Enterprise Survey, Oct. 2013*

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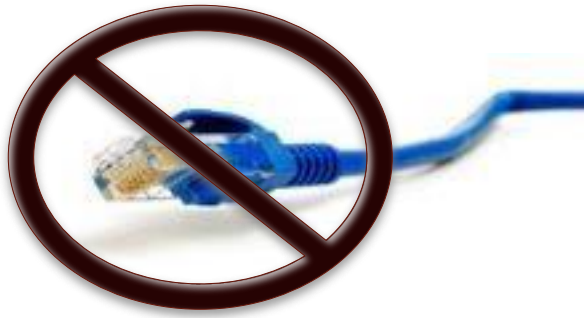
Where's the Ethernet Port?

Next gen devices only connect wirelessly



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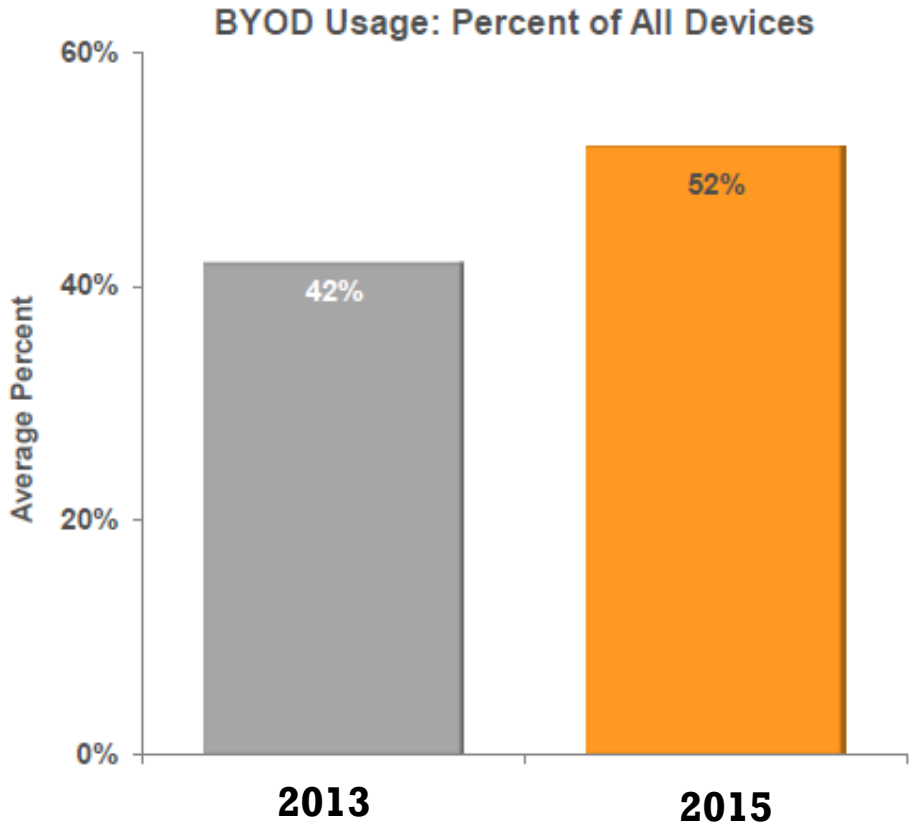
BYOD is Here to Stay

User-owned devices continue to flood the network



- Reduced costs, increased employee productivity, cater to user preferences, experiment with new technology
- **BYOD surpassed corporate-issued devices in 2015**
- Unlike traditional procurement, BYOD has many unknowns:
  - How many devices
  - What kind of devices
  - What apps

Source: Infonetics, *Wireless LAN Strategies and Vendor Leadership: N. American Enterprise Survey, Oct. 2013*

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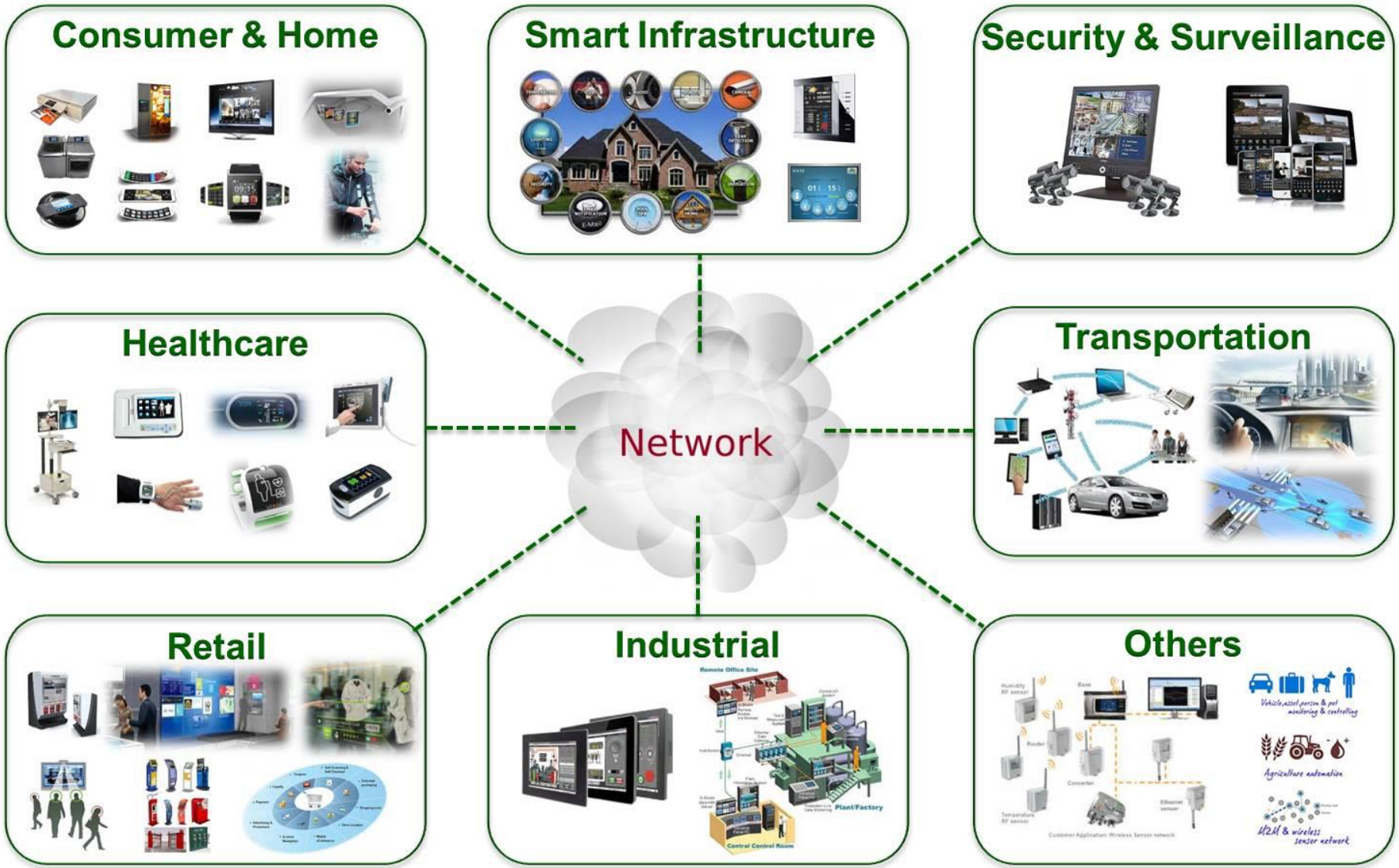
Internet of Things: The Next Frontier



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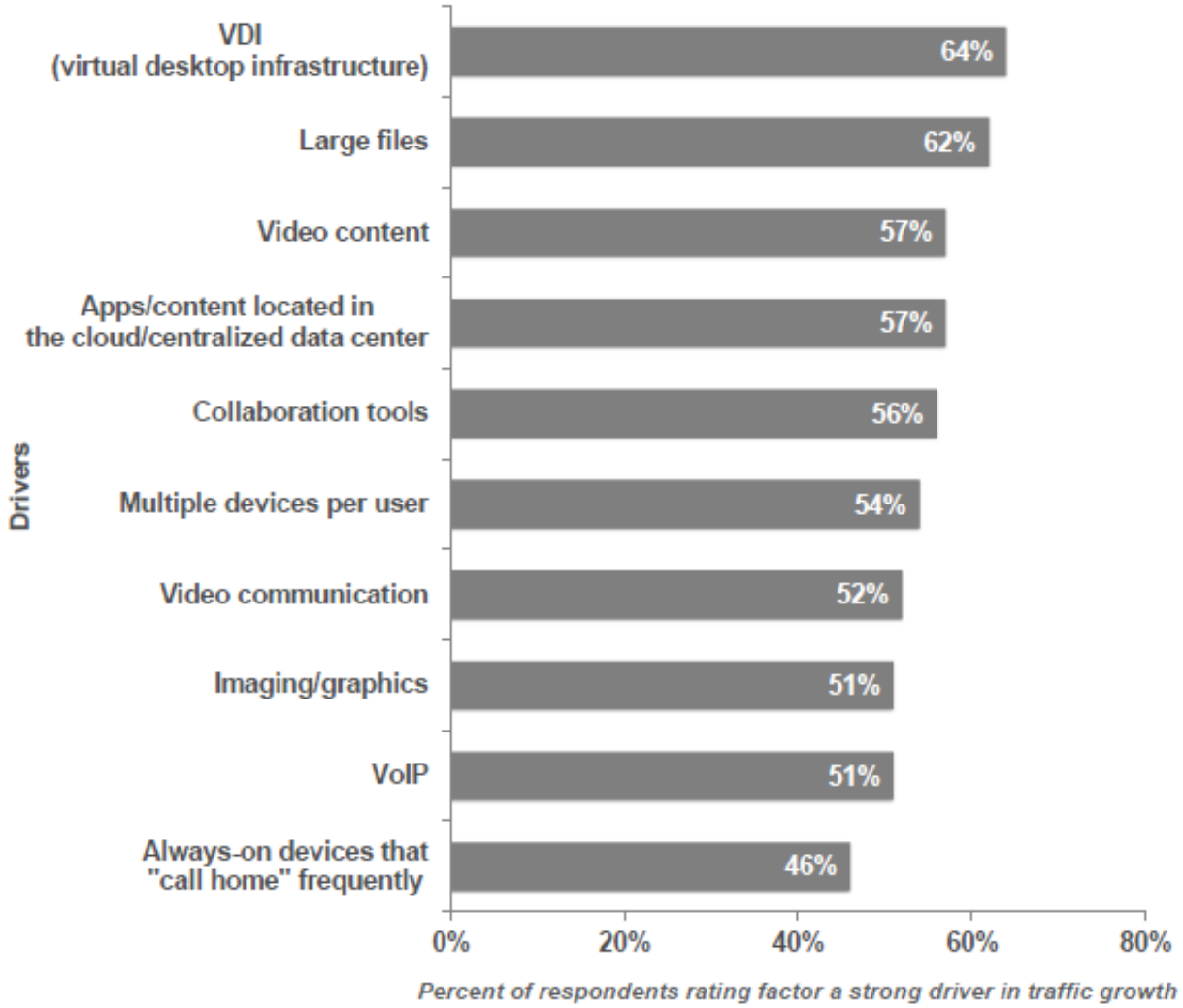
Apps are Moving to the Cloud



- Changes in IT architecture
- More bandwidth intensive
- Changes in user behavior

Source: Infonetics, *Wireless LAN Strategies and Vendor Leadership: N. American Enterprise Survey*, Oct. 2013

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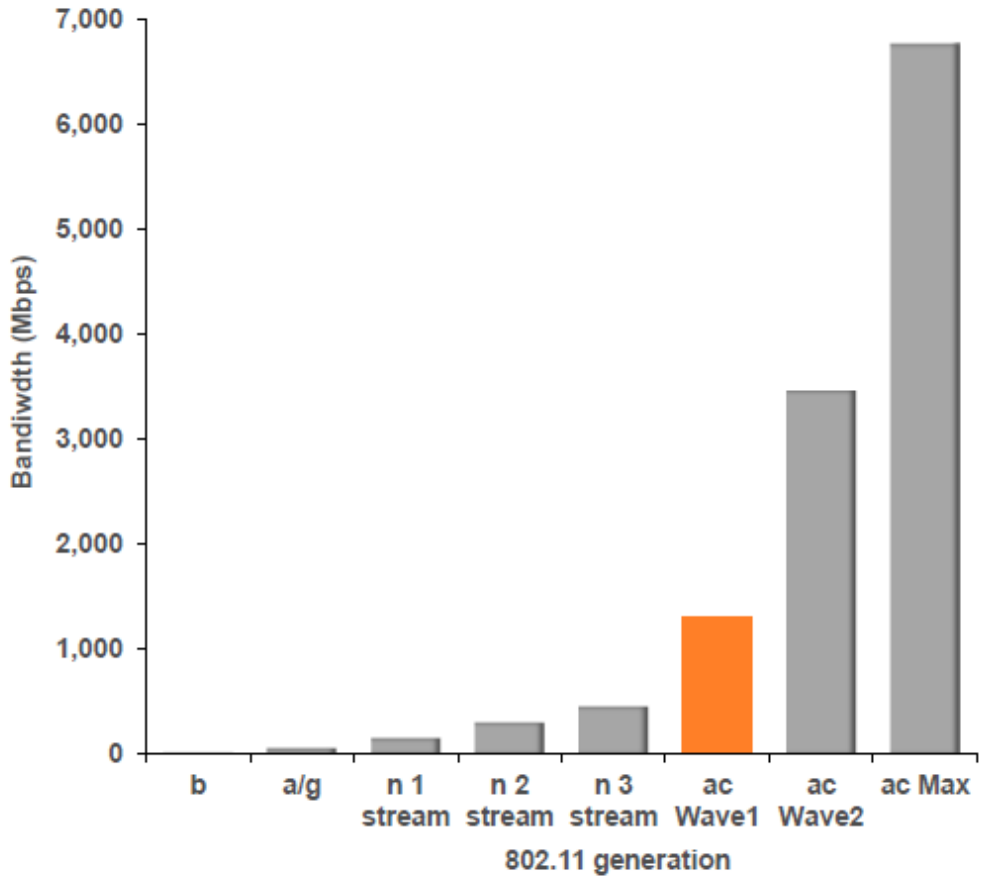
New Faster Standards (802.11ac)

802.11ac will create even more traffic



- Wave 1 chipsets
  - *Triple 11n (1.3 Gbps)*
- Wave 2 chipsets 2H2015
  - *3.5 Gbps*

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Your WLAN is Under Enormous Pressure

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Take Wi-Fi Management to the Cloud

- Simple centralized management
- Distributed data architecture
- Intelligent APs with firewall
- Seamless scalability for BYOD
- Supports high-density Wi-Fi for large venues
- Multi-tenant support
- Integrated guest access and intrusion detection
- Flexible deployments options (Private, Public or Hybrid)
- Supports variety of access points
  - 802.11n & 802.11ac
  - 2x2, 3x3
  - Indoor & Outdoor

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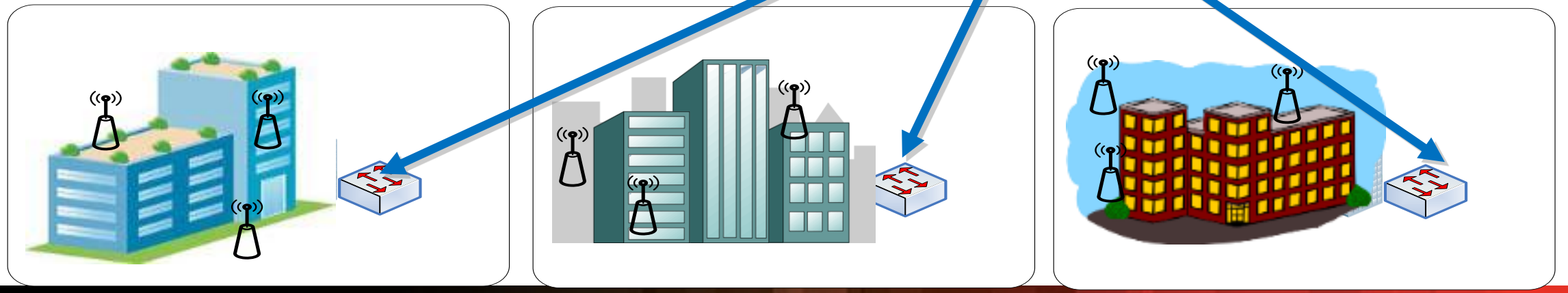
Centralized Cloud Wi-Fi

- No need for physical controllers at each site
- Zero Touch AP Deployment
- All users controlled and all APs managed from Data Center
- Data sessions remain distributed at remote sites
- No special VPN needed
- One unified architecture serving all locations and applications



Cloud Wi-Fi changes scalability

Seamless Scale & High Density

- Cloud-based management and control eliminates scaling constraints. No limits on:
  - Users
  - Access Points
  - Mobility Domains
  - Bandwidth per AP
- Access points anywhere in the world
- # Access Points depends on VM hardware
- BYOD ready
- Upgradable as new hardware is introduced

Description	Single Physical Controller	Single Virtual Controller
# Access Points	150	1500+*
# Users	4000	48,000+*

**Scalability (APs/Users)of the vWLAN Virtual Appliance is based on the VMware server hardware (CPU/Cores, Memory) specifications*

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Cloud Wi-Fi changes security

- Role-based Access
  - Employees and guests are not equal!
  - Roles determine policies enforced by the AP at the edge
- Security enforced at the edge
  - Intelligent access point with built-in stateful firewall
  - Distributed data eliminates concentration of data sessions
  - Hackers not on the network
- Authentication methods
  - 802.1x to RADIUS/LDAP/Local Users
  - Two-factor Authentication
  - MAC-based Authentication
  - Direct role placement

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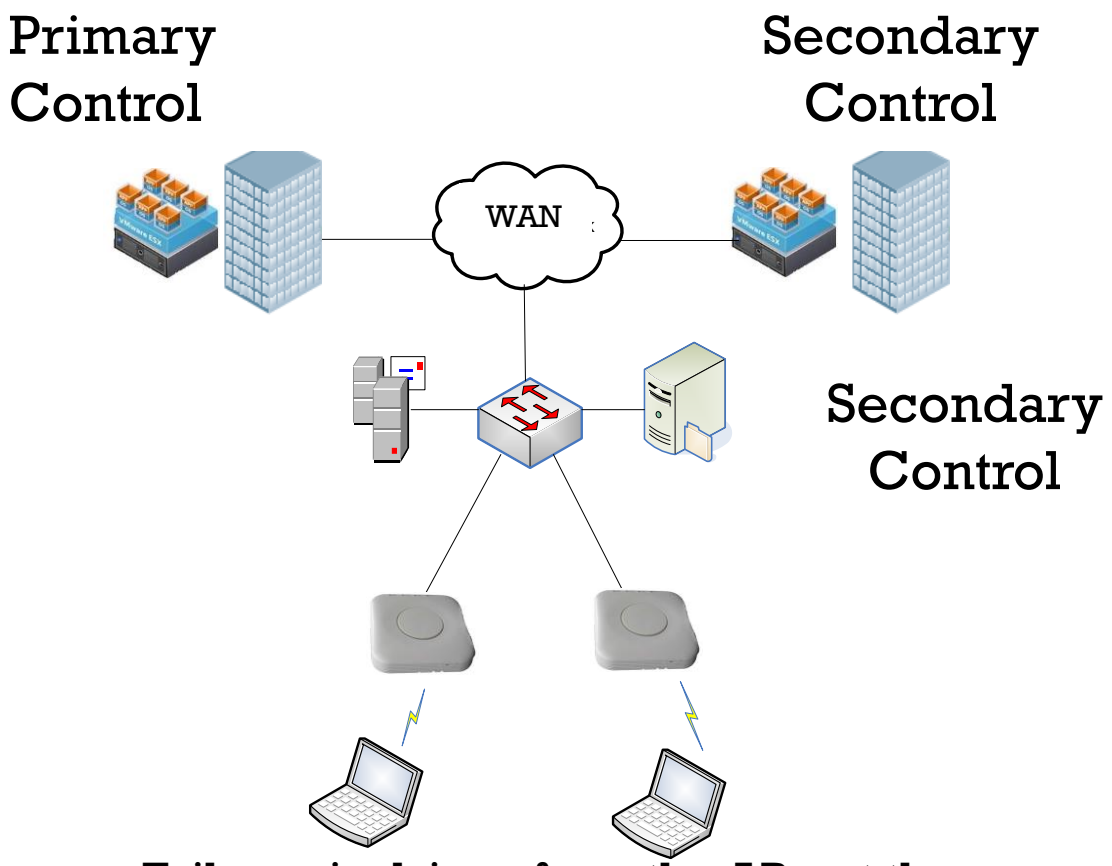
Cloud Wi-Fi changes disaster recovery

High Availability without virtualization means duplicating expensive controller hardware

High Availability is achieved in software with a back up virtual control instance on the access points

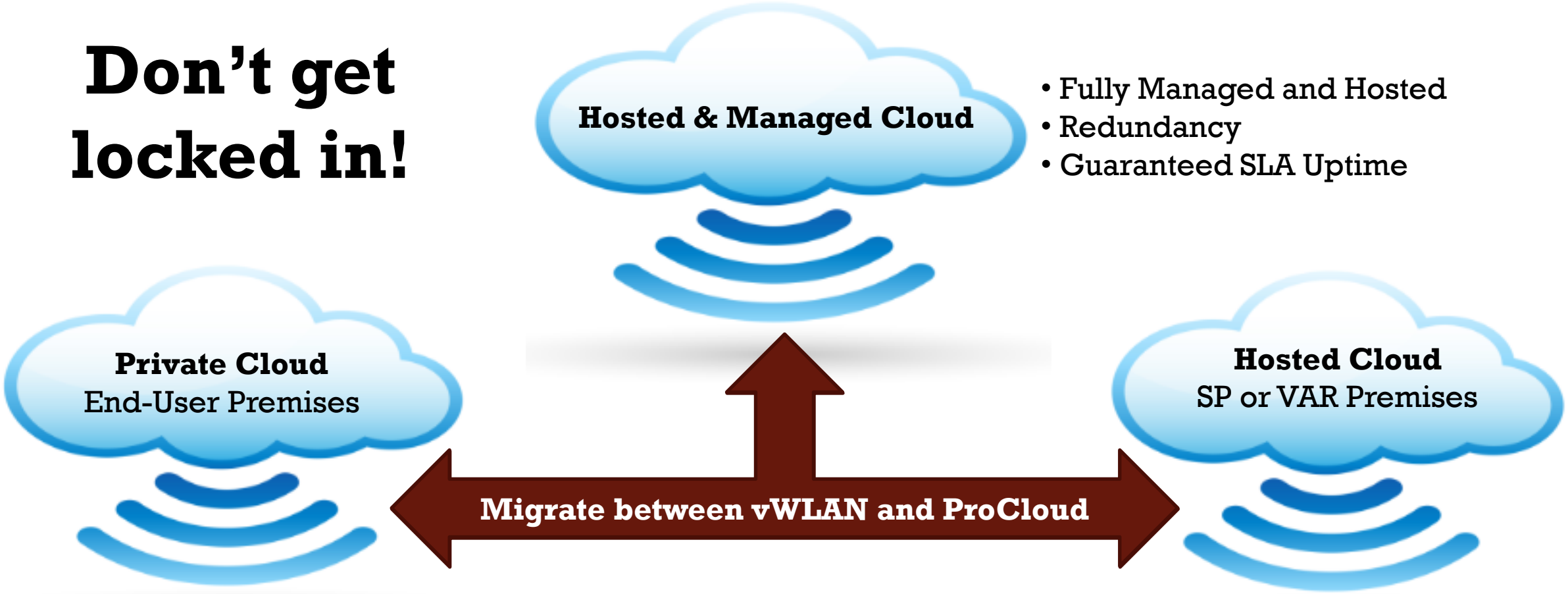
A control plane failover is achieved with zero packet loss.

Software upgrades and data center moves supported with no interruption



Flexible Deployment Options

Don't get locked in!



- Fully Managed and Hosted
- Redundancy
- Guaranteed SLA Uptime

- VMware Virtual Appliance or Hardware Appliance

** Scalability of the vWLAN Virtual Appliance (VMware) based on VMware server's hardware (CPU/Cores, Memory, and Disk)*

- Hosted but managed by SP/VAR

Cloud Wi-Fi Management

- Management reports of end user(s) identified during the onboarding / installation
- Health and Inventory
  - Domain Alarms
  - Total AP Count
  - AP Inventory
- Security
  - Adjacent APs
  - Rogue Detection
- Utilization
  - Top APs by Bandwidth and Clients
  - Top Clients by Usage
  - Bandwidth per User per AP
  - SSID Usage
  - User Count by SSID
  - User Count by AP
  - Roaming

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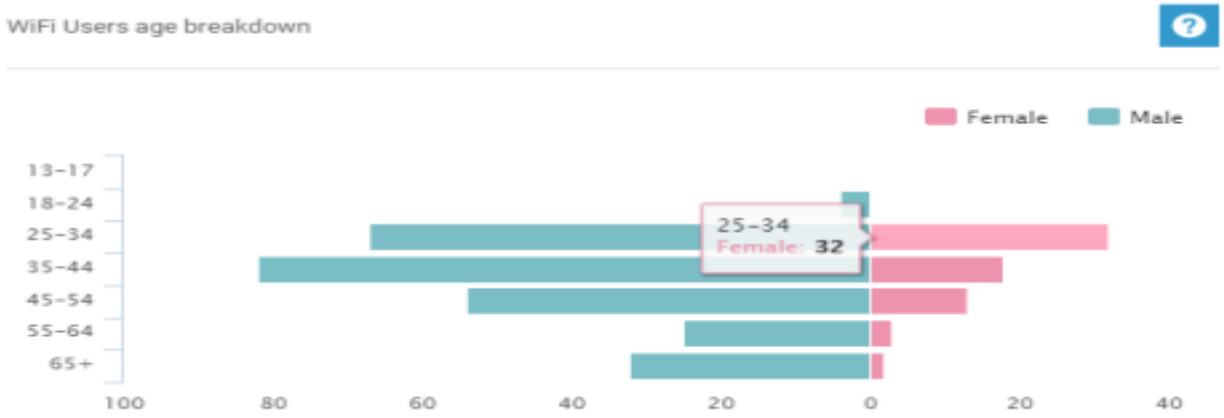
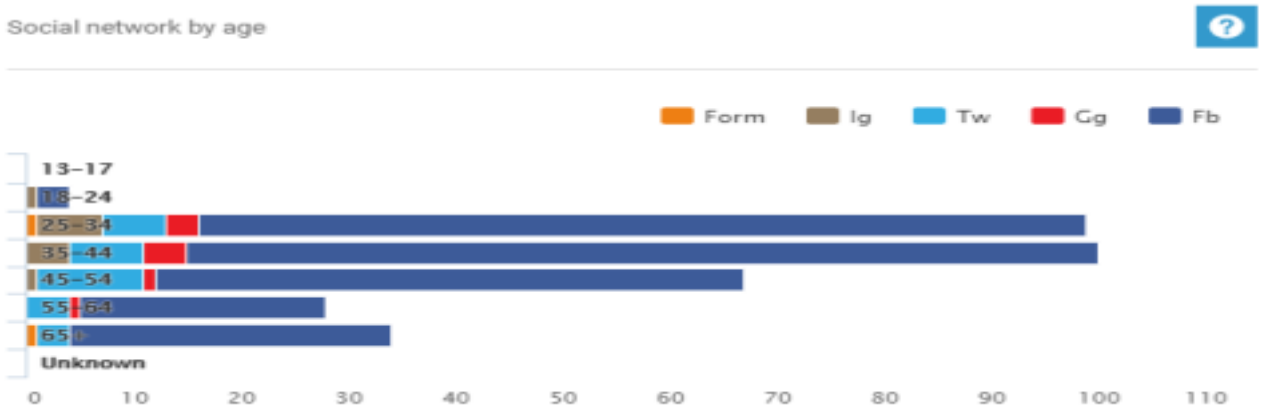
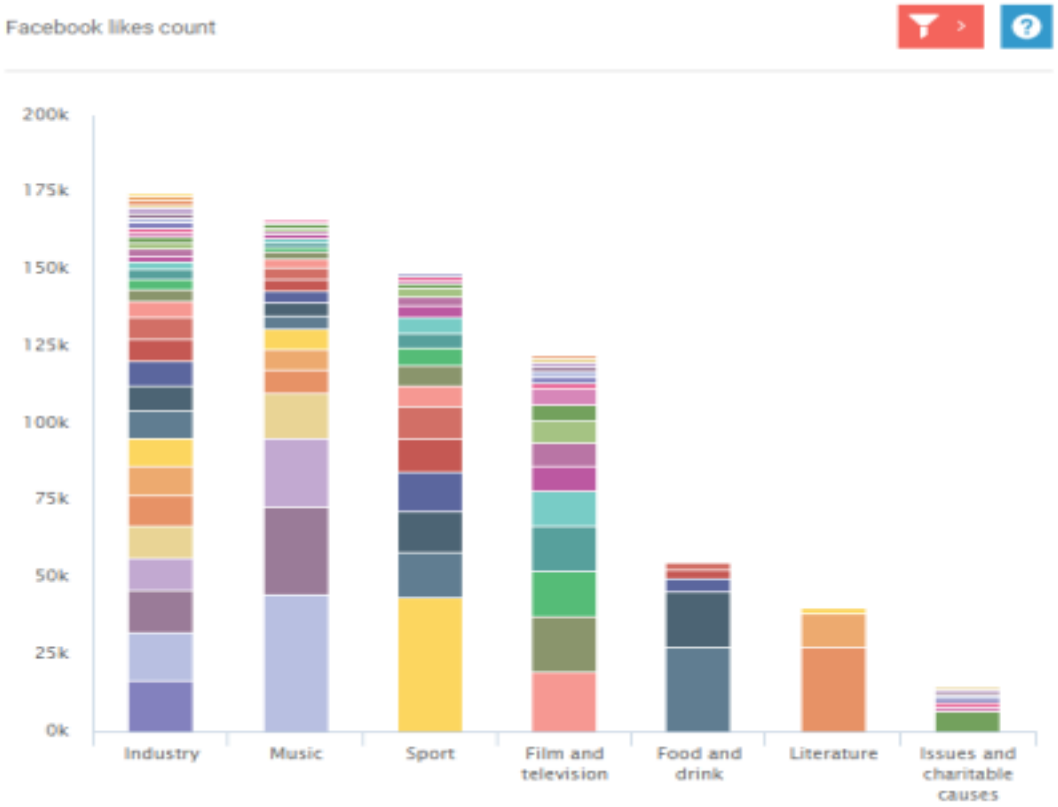
Wi-Fi Analytics

- Over the top cloud services to further monetize Wi-Fi by providing a deep End User understanding







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Case Study: Durham Bulls

- Cloud Managed Wi-Fi installation for American Tobacco Historic District (ATHD)
  - 10k seat baseball stadium
  - Converted Warehouse district
    - Restaurants / Bars, Music Park, American Underground, Apartments
  - ACC baseball tournament home for next 5 years
  - Over 11,000 concurrent Wi-Fi sessions realized
  - Fans login to WiFi using social media
  - Requirements for help desk support
- Fully managed Wi-Fi solution
  - Partnered with Frontier Communications
  - Fully managed Wi-Fi service offloads customer IT burden
  - Services provided: ProStart, ProCloud, ProCloud Analytics, Help Desk, Event Help Desk

Summary

- The need to support a multitude of devices requires a new approach to Wi-Fi
- The ever changing environment of IT requires solutions that can scale, evolve and migrate as needed
- Cloud Wi-Fi offers a “Worry Free” managed Wi-Fi service model that can’t be matched

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Questions?