Virginia Tech Wireless Services Update

NI&S Advisory Subcommittee
May 6, 2016
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Agenda

- Wireless Infrastructure update
- Wireless usage
- Wireless Service Enhancement project
  - eduroam
  - Guest service

Wireless Infrastructure

- 99% of all academic/administrative buildings
- All residential buildings 'wall to wall'
- 6600 wireless access points deployed
- 70% can support 802.11ac
- Expanding outdoor wireless
- NAT upgrade – 'carrier grade'
  - Up to 40Gbps of traffic
  - Millions of translations

Wireless Traffic Daily Maximums
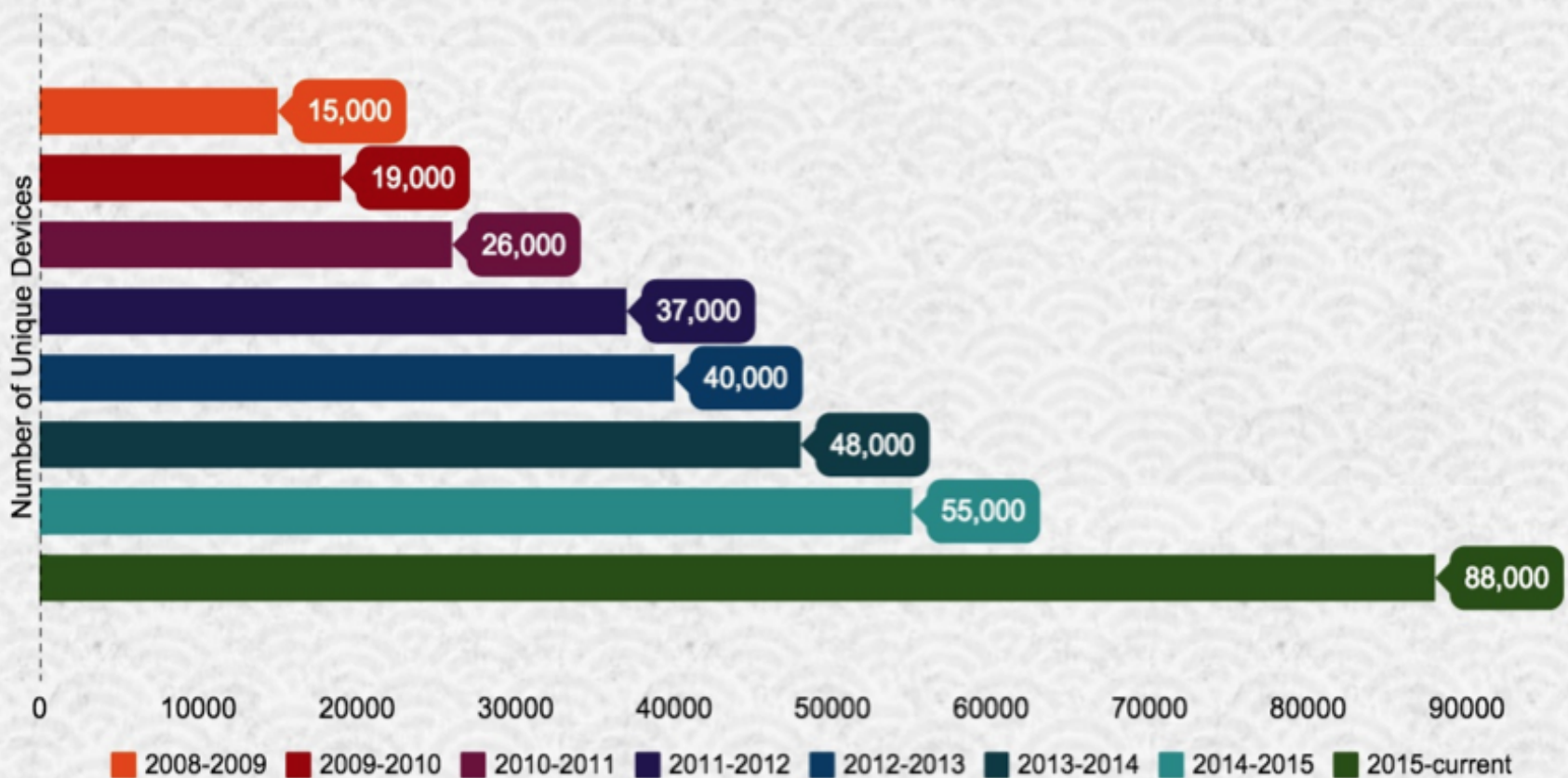

VT Wireless Traffic (by Terabytes)
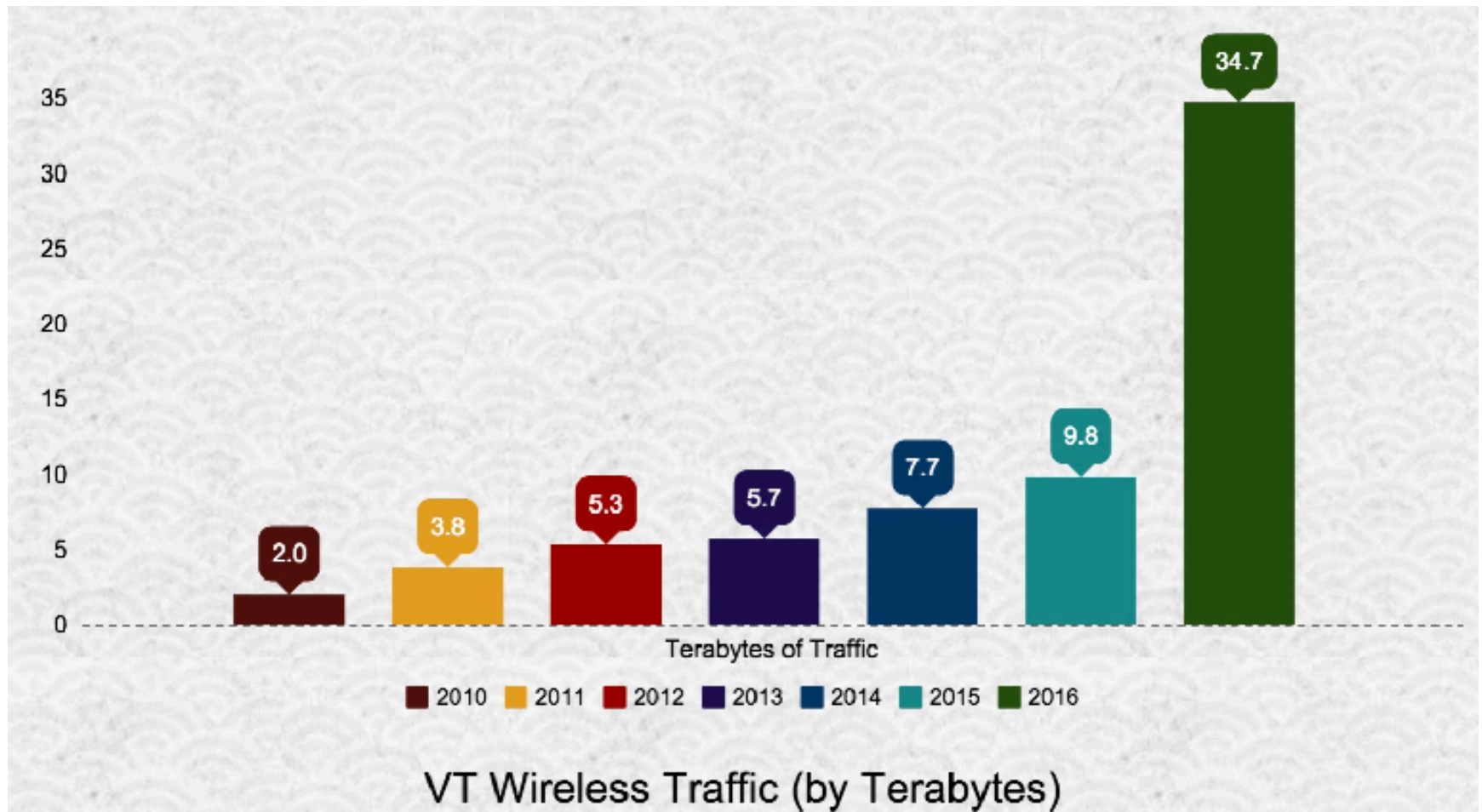
How VT Network Data shows the increase in devices

Peak Number of Simultaneous Devices

Increase in connected devices has increased close to 500% over the 8 year period

Number of Unique Devices (y-axis label)

- 15,000
- 19,000
- 26,000
- 37,000
- 40,000
- 48,000
- 55,000
- 88,000

x-axis: 0, 10000, 20000, 30000, 40000, 50000, 60000, 70000, 80000, 90000

Legend: 2008-2009 | 2009-2010 | 2010-2011 | 2011-2012 | 2012-2013 | 2013-2014 | 2014-2015 | 2015-current

Total Number of Unique Devices

Increase in connected devices has increased close to 500% from 15,000 in 2008-2009 to 88,000 in 2015-current

Wireless Service Enhancement Project

- Simplify and improve the overall wireless service experience
  - Reduce wireless naming confusion
  - Eliminate service redundancy
  - Increase customer satisfaction
  - Improve the guest enrollment experience
 - Meet customer needs

Project Overview

- 4 discrete sub-projects
    1. Promotion of '**eduroam**' as the primary SSID for VT wireless subscribers
    2. Implement SSID '**VirginiaTech**' for client onboarding to eduroam, guest access and web based login
    3. Decommission VT-Wireless, CONNECTtoVT-Wireless
    4. Implement methods for registering and connecting 'commodity' devices

SSID changes

Spring 2016	Summer 2016
eduroam	eduroam
VT-Wireless	
CONNECTtoVT-Wireless	VirginiaTech

May 17th
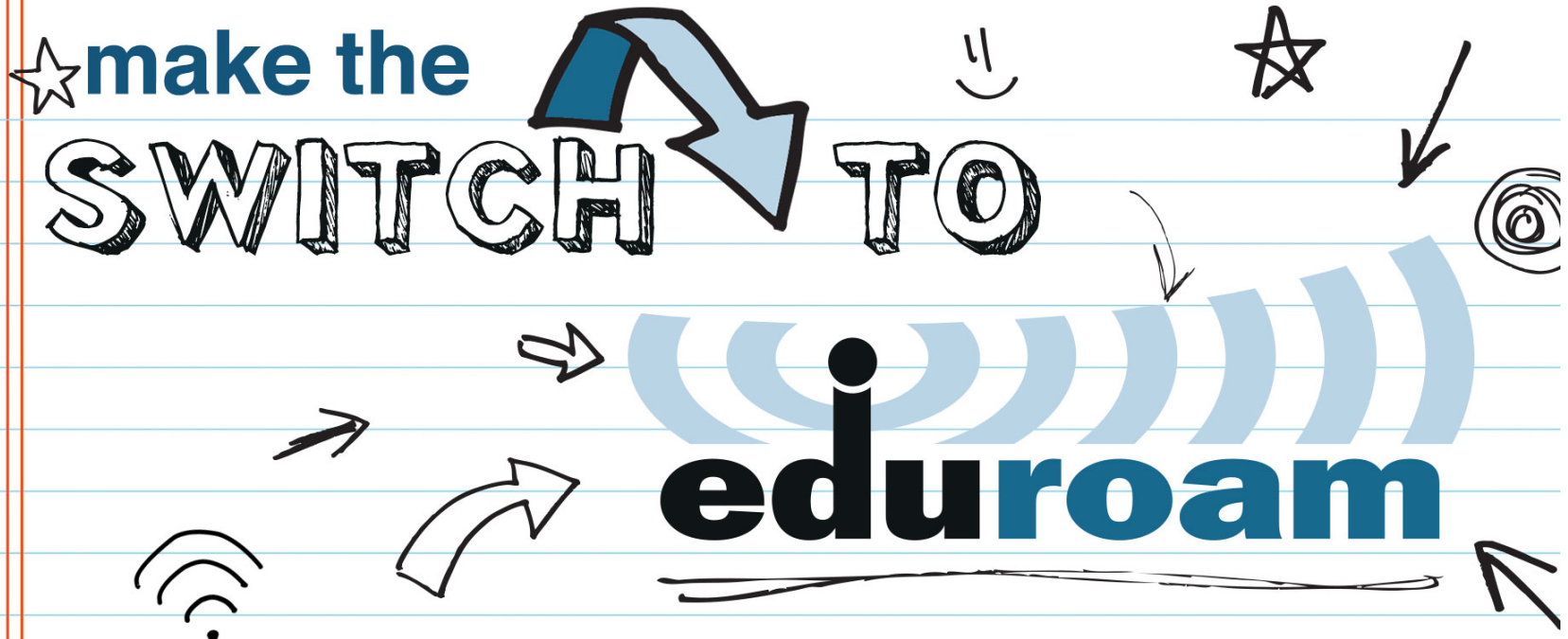
Guest Wireless Services

- 2 services
  - **Sponsored** long-term access
    - 24 hour active accounts
    - Very few if any restrictions
    - Sponsor initiated
  - **Non-sponsored** short-term access
    - 9 hour active accounts
    - Limit to 2 devices
    - Self registration only
- Design for mobile devices
- Design for guest and sponsor simplicity/efficiency

Non-sponsored guests

- Self registration process
- Requires SMS for receiving credentials
  – Otherwise support from VT Information Center or departmental sponsors
- Supported by Virginia Tech Information Center

Sponsored Guests

- Departments create accounts for their guests
  - Single accounts
    - Walk-ins, last minute arrivals
  - Pre-generated accounts
    - Vendors, contractors, expected guests
  - Bulk creation of generic accounts
    - Expecting a lot of people, but do not know who they are
  - Bulk upload of account information
    - Conference attendance lists

Departmental Operators

- Enterprise Directory (ED) groups for each dept
- Departments manage membership
- Who can be an Operator?
  - Customer facing staff
    - Reception
    - Event staff
    - IT staff
    - Whatever makes sense

So, how much will this cost?

- This is NOT free Wi-Fi
- Licensed application based on number of guest devices
- There are operational, licensing and support costs

Business model

- Business model in development
- No per guest transactional costs
- Costs will be at the university or unit/department level
- Service limitations may enabled to deter abuse
- Stay tuned

Questions?