MOBILITY MATTERS
Mobility Matters
Windows / Intel Market Share Down to 50%

Share of Personal Computing Platforms

- Apple
- Android
- WinTel

Year:
- 1991
- 1993
- 1995
- 1997
- 1999
- 2001
- 2003
- 2005
- 2007
- 2009
- 2011
Causing Abrupt Changes in Device and Network Mgmt

OLD

Desktop Management

NEW

Access Management

Mobile Device/Data Management
The New Normal

Platform selected and supported by user

Apps selected, delivered, run wirelessly

Collaboration happens wirelessly

No separation of work and personal
Companies Allowing Some Form of BYOD

- **80%** Middle East
- **74%** Nordics
- **74%** Benelux
- **70%** Spain
- **69%** UK
- **56%** France
- **48%** Germany

Source: Aruba Networks, BYOD in EMEA Survey 2012
Resulting in Serious Challenges for IT

- Device Onboarding
- Identity & Security
- Application Provisioning

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ClearPass Onboarding
Automate Employee Onboarding

1. Connects to web portal

2. Configures 802.1x, VPN & e-mail and provisions device credentials
Guest Access with Notification
Secure Guest Onboarding

1. Collect visitor information

2. Sponsor prompted to confirm that guest is valid

3. Account enabled, visitor notified via screen, SMS, or email
BYOD is Just the Beginning

Tablets
Many apps / device

Smartphones
Many apps / device

- Mix of personal and corporate applications
- Each with different security & QoS requirements
Emerging World of Mobile Apps

**Controlled by IT**
- Weeks to rollout
- Local maintenance
- Touch user’s device
- Standard apps for all

**Uncontrolled**
- Minutes to rollout
- Auto updates
- Installed by user
- Many apps per user

- Under the same Wi-Fi network
- On the same mobile device
Improve Mobile App Usability & Performance

Unified Comms
- Identify encrypted UC traffic
- Optimize for voice & video

Apple Bonjour/mDNS
- Broadcast traffic optimized
- Self-register new devices
- Advertise per user & location

Virtual Desktop
- Dynamically identify & prioritize
- Optionally block per policy

Malware/Port Scan
- Blacklist mobile device
- Create alert for IT

75% better quality for Voice & Video
Location & user aware AirPrint and AirPlay
Reliable performance for cloud apps
Protect users and Boost network capacity
AirGroup
Challenges with Apple Bonjour / mDNS

1. Designed for home
   - Operates in a single broadcast domain
   - Does not work across VLANs

2. Limited WiFi performance
   - Multicast uses lowest 802.11 rates
   - L3 forwarding increases Wi-Fi waste

3. Prone to end user errors
   - Services do not require authorization
   - Easy to pick the wrong service
### Aruba AirGroup Example: Student Mary

- **Personal AirGroup**
  - “Mary”

- **Devices**
  - Mary’s MacBook
  - Mary’s Apple TV
  - Mary’s iPad
  - Mary’s Friend Mike
  - Mary’s Friend Jen

- **Rooms**
  - Auditorium
    - Printer
      - For teachers only
  - Classroom
    - Apple TV
      - For teachers only
  - Dormitory
    - Printer
  - Library
    - Printer
  - Lab
    - Apple TV
  - Auditorium
    - Printer
      - For teachers only
WLAN Architecture
Build Your WLAN—Step by Step

Select APs

1. Coverage
2. Capacity
3. Density

Add Networking

2. Simplify network deployment and management, increase security
   - Mobility Controller
   - Mobility Access Switch
   - Integrated Power over Ethernet
   - Common wired/wireless policies

Add Management

3. Reporting, location, monitoring
   - AirWave Network Management
   - ClearPass Access Management
   - AAA/RADIUS, BYOD, Guest
Flexible WLAN Architecture – Select APs

Same AP, multiple modes of operation

Campus Mode
- Integrates with high performance controller

Branch Mode
- Instant branch network with IPSec VPN to a central controller

Instant
- APs form instant campus network

Remote Mode
- AP enabled with IPSec VPN connect to a central controller
Instant – Enterprise Class Controller-less Wi-Fi

1. One AP manages all
2. Integrated Firewall & WIPS
3. Survivability for branch Wi-Fi

SSID 1
SSID 2
SSID 3

Data Center
Wiring Closet
Wireless VLANs

Rogue Devices
Instant AP Configuration
Drop Ship APs Anywhere – Zero-Touch Installation with Activate

1. Plug in
2. Activate
3. Auto-Provision

- Cloud based AP provisioning service from Aruba
- Eliminates deployment overhead, Plug and Play
- No Cost
Network Services with Mobility Controller

1. No Data Sent in the Clear
2. Enforcement across Wired, Wireless, Remote
3. One Touch-Point For IPs & VLANs
What makes Aruba different: Adaptive RF

Aruba is the only network to use deep inspection of traffic

- App
- Service
- Threat
- Mobility

To optimize and secure the air

- Reliable
- Fast
- Secure

Mobility matters
Spectrum Analysis
Always-on Spectrum Analysis

Aruba Spectrum Analyzer
- Integrated to all 802.11n APs
- No dedicated HW needed
- No performance impact while serving Wi-Fi clients
- Classifies 20+ RF noise sources (eg. Cordless Phone, Bluetooth, Microwave, etc.)
Airwave
Aruba AirWave Advantages

1. **User, Device Visibility**
   - Wired Access
   - Data Center

2. **Multi-vendor Wired/Wireless**
   - Wireless LAN

3. **RF, spectrum, location views**
Aruba AirWave Network Management

Visibility & Location
- User and device level visibility
- Same appliance for location & RF visuals

Reporting & Compliance
- 500 days of historical data storage
- Same appliance for wireless security

Troubleshooting
- End to end, from device to RF to wired
- Simple enough for anyone in IT to use

- Installation Options
  - virtual appliance
  - hardware appliance
- 5K devices per appliance
ClearPass Product Family

Guest
Visitor/Guest Access Management

OnGuard
Endpoint Health and Posture Collection

Onboard
Device onboarding and provisioning

Policy Manager + Profile
Unprecedented Scale Requirements Coming!

- Devices: 4X
- Apps: 10X
- Traffic: 100X

- WiFi 802.11ac
Phases of 802.11ac – Pre and Post IEEE Ratification

CY 2013/2014: Draft 802.11ac

- Max data rate 1.3Gbps - 4x performance compared to 2x2 802.11n
- 5GHz only
- Up to 3 spatial streams, up to 80MHz wide channels – reduced number of overall channels in 5GHz
- Client devices start shipping mid-2013; Mass adoption early-2014

CY 2014/2015: IEEE ratified 802.11ac

- Max data rate of 6.93Gbps - 50% better range compared to 2x2 802.11n
- Up to 8 spatial streams, up to 160MHz wide channels – even fewer 5GHz channels
- **Multi-User MIMO** - Increased Capacity with simultaneous transmit to multiple receivers
- Mass adoption mid-2015
When to Move to 802.11ac?

Get your network ready first

- PoE+, Gigabit Ethernet for APs
- RF planning when moving from 11abg
- Faster Mobility Controllers

Move from 11abg and continue to invest in 802.11n for now

- 11n is not going away anytime soon
- 11n client devices are here today, 6x the performance of 11abg
- 11n is at the right price point today
Summary: When Mobility Matters, It’s Aruba

- **Unique adaptive RF technology**
  Protects mission critical apps in high density Wi-Fi

- **Integrated role based access**
  Defines and enforces policies for BYOD

- **Flexible WLAN architecture**
  Controllers and controller-less, integrated VPN
About Aruba Networks
Who Is Aruba?

Leading provider of secure mobility for the enterprise

HQ: Sunnyvale, CA

NASDAQ: ARUN

~ $500M in annual revenue

Aruba MOVE Architecture

Industry’s most secure WLAN

Easiest BYOD & Guest Access

Leader in Gartner MQ

Zero-touch remote networking

YOUR NETWORK HAS PICKED YOUR POCKET LONG ENOUGH.
Industry Accolades

7th fastest growing tech company

49% YoY WLAN growth
- The market only grew 32%
- Cisco only grew 21%

WLAN Industry “Leader” for five consecutive years

Forbes

Dell'Oro Group

Gartner
Rapid Customer Growth

>25k Customers

Deployed in over 120 Countries

~$2Billion Shipped

57% YoY Customer Growth (5yr moving avg)
Recognized as one of only three in the leaders quadrant for combined Wired + Wireless MQ

Source: Gartner (June 2012)
WLAN Market Share

Enterprise Switch/Server/Appliance Revenue

- 19.8% - Aruba_Alu
- 57.2% - Cisco
- 3.3% - HP
- 7.1% - Motorola
- 2.4% - Meru
- 0.8% - Juniper
- 2.5% - Ruckus
- 6.9% - Others

Rolling Four-quarter CYQ2'11 through CYQ1'12, ending March 30, 2012. Source: Dell'Oro Research
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Thank You