Digital Learning Powered by Mobility

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The Dilemma

The Need: "Students are not being prepared to be competitive in a rapidly changing world, and schools are not changing fast enough to keep up."

Budget: "Schools have been riding a funding roller coaster for most of the last decade and can't expect major new funding sources anytime soon."

Teaching: "Many students do not have access to the best teachers, the best teaching strategies, and enriching learning experiences."

*FCC: http://fcc.us/wOnONu

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Turning to Technology

Computing Devices:

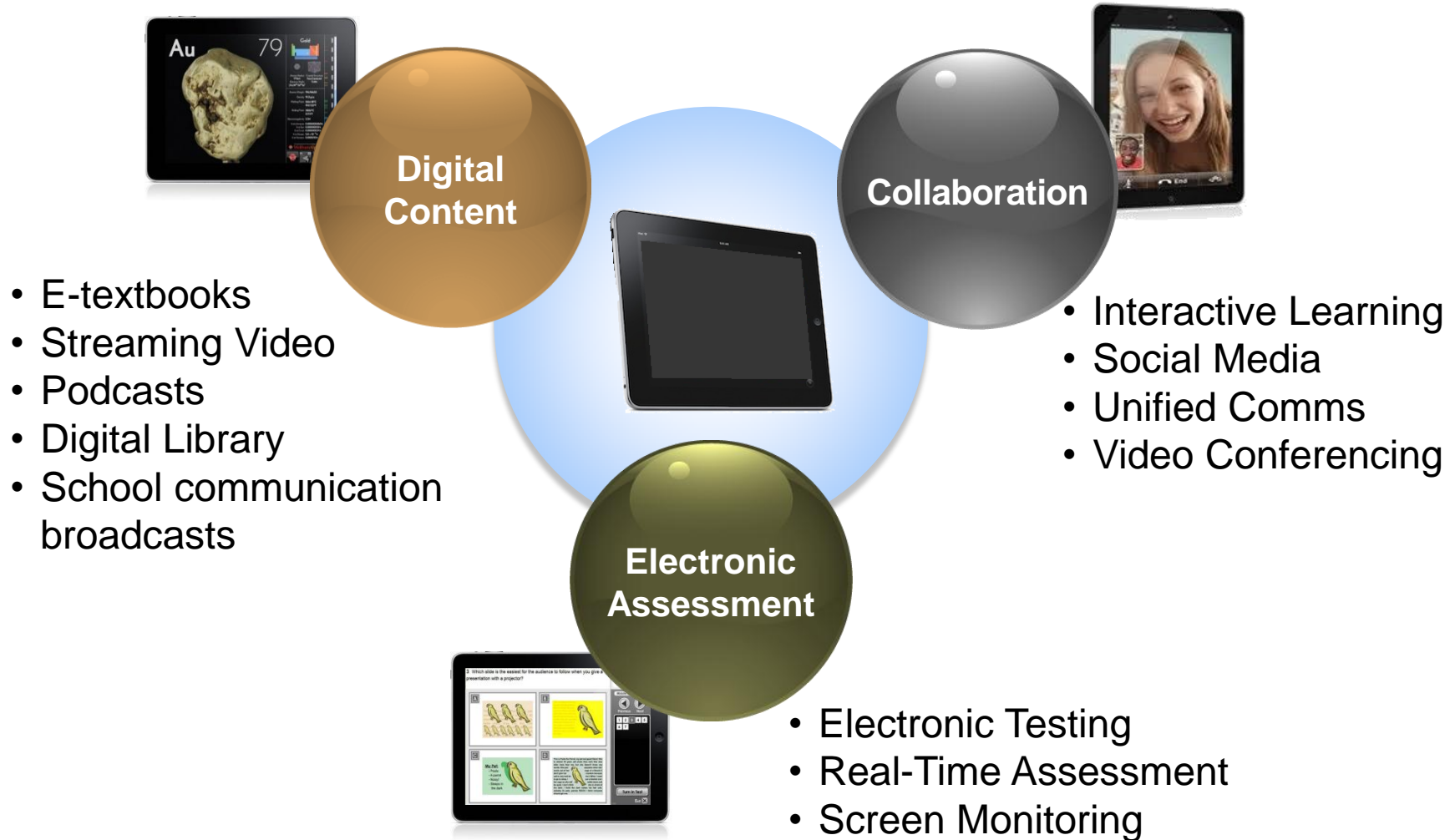*"continuous access to a computing device leads to increased academic achievement"*
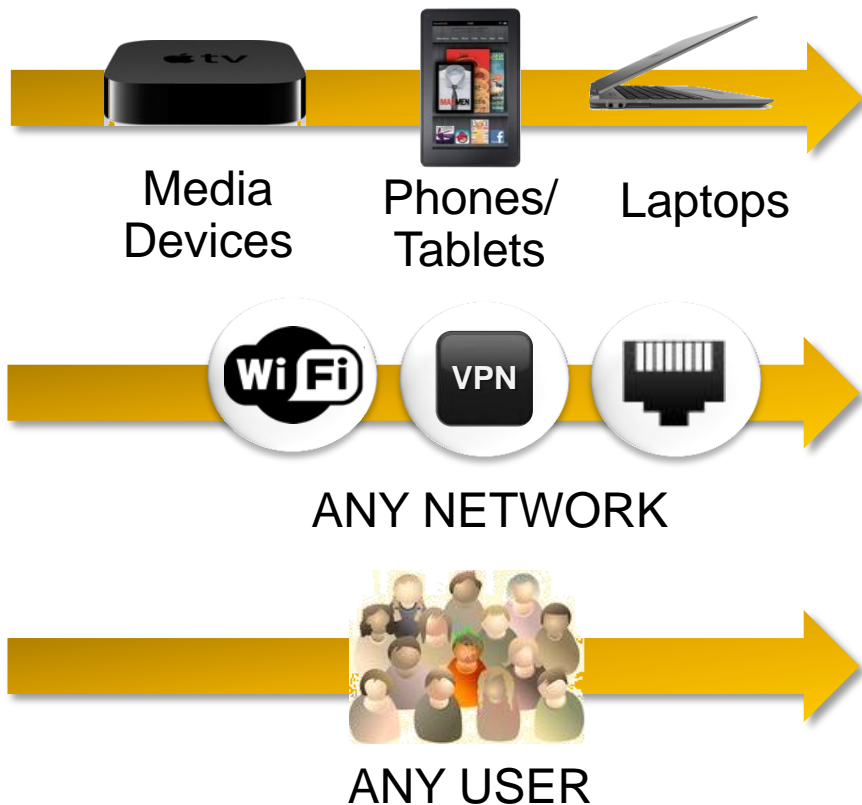
Technology-based instruction:

"can reduce the time students take to learn by 30 to 80 percent"

New Devices Bring New Applications

Digital Content

- E-textbooks
- Streaming Video
- Podcasts
- Digital Library
- School communication broadcasts

Collaboration

- Interactive Learning
- Social Media
- Unified Comms
- Video Conferencing

Electronic Assessment

- Electronic Testing
- Real-Time Assessment
- Screen Monitoring

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The Resulting Challenge

Media Devices **Phones/ Tablets** **Laptops**

ANY NETWORK

ANY USER

How do I keep student data protected?

How do I provide a good experience to students, teachers, staff & guests?

How do I minimize impact to my IT and helpdesk staff?

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Digital Learning at Eanes ISD

Eanes ISD Introduction

- Serves 7,700 students at six elementary, two middle and one high school

- 7 of the 9 campuses have been recognized as U.S. Blue Ribbon Schools

- 99.6% of high school students apply for college

- West Lake High School was ranked #72 in Newsweek magazine "Top Public Schools"

Why iPad for each student?

- Focus on personalized and engaged learning
  - EBC at Apple HQ was key
  - It was clear that every student needed an iPad
- Lots of mobile apps used by students
  - Fuels critical thinking, creativity, collaboration
- Each student has a different learning style
  - iPad helps maximize student learning potential
- LEAP !

Special-ed students were among the first to use iPads. Children who struggled to communicate verbally now have a voice.

WLAN Requirements

- Cost-effectively upgrade the WLAN
- Ensure secure connectivity for all iPads
- Offer pervasive Wi-Fi coverage at all schools
- Guarantee connectivity to high density of iPads

There were a lot of questions from people who had first-hand experience with wireless crashing under significant loads.

iPad Rollout

- Started with 2,000 iPads for juniors, seniors and staff at Westlake High School
    - Day 1 launch: First real test was live
    - Decided to expand to other high school students
    - Looking to expand the program to other grade levels
- Was a smart & courageous move under tough economic conditions

The culture and attitude toward learning changed at the high school from day one.

Best Practices for Deploying iPads

- Understand why you are doing it
  - Pick the device, be aware of strengths & weaknesses
- Figure out what you need to do
  - Not how you "lock down" the devices
- Personalization should not lead to ownership
  - Important to draw the line for students

Rather support 2,000 iPads than 500 laptops because the investment goes much farther.

Best Practices for Deploying iPads

- Give iPads to teachers first for weeks/months
  - Chance for them to learn before they have to teach with it
- How do you deploy apps to make them useful?
  - Eanes ISD uses JAMF Casper for MDM
- Figure out how to track lost/broken devices
  - Laser engrave all iPads to reduce loss
  - Implement insurance policy for students
- Allow for shipping delays
  - Depends on the quantity of the order

Aruba WLAN Deployment

- 1st chapter
  - WLAN coverage
  - Leap of faith
- 2nd chapter
  - Scale
  - Skeptics
- 3rd chapter : In Progress
  - AirPlay with Apple TV
  - Desktop and iPad mirroring to projectors

$1M savings in wired networking as the primary access method becomes the iPad.

Community

- Campus-based dialogues with parents

- Level-based guidelines (Elem, MS, HS)

- Staff training

Professional Learning

- iPad Immersion (8 sessions)

- iPadpalooza (June 19th)

- Eanes Apple Academy (3-day workshop)

- Appy Hours

- Late Start days

Getting Your Wi-Fi Ready for Mobile Apps

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Challenges of Mobile Apps on WLANs

School apps
- Secured access
- IT supported

Built-in apps

AirPlay

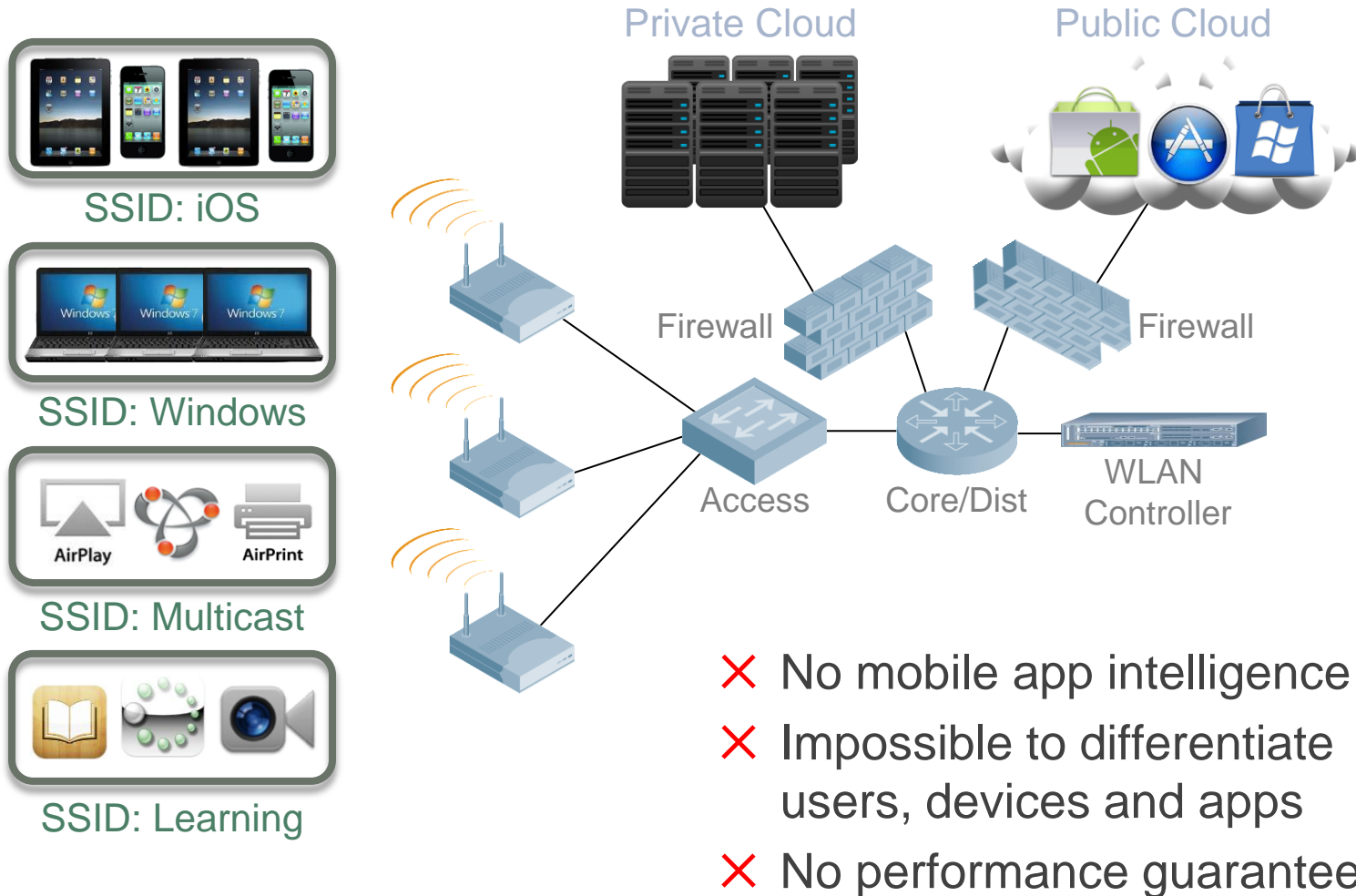- No SSO control
- Plug-n-Play

Personal apps
- Under MDM policy

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o QoS policy differs based on end user expectation

o Not all applications use WMM, requiring an app-aware Wi-Fi

o Bandwidth usage per app depends on device type/OS

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Traditional Wi-Fi Design for Mobile Apps

SSID: iOS

SSID: Windows

SSID: Multicast

AirPlay   AirPrint

SSID: Learning

Private Cloud

Public Cloud

Firewall

Firewall

Access

Core/Dist

WLAN
Controller

✗ No mobile app intelligence

✗ Impossible to differentiate users, devices and apps

✗ No performance guarantee

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Mobile Apps on Aruba Wi-Fi

SSID: School

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DMZ

Access

Core/Dist

Aruba Instant APs

Aruba Mobility Controller
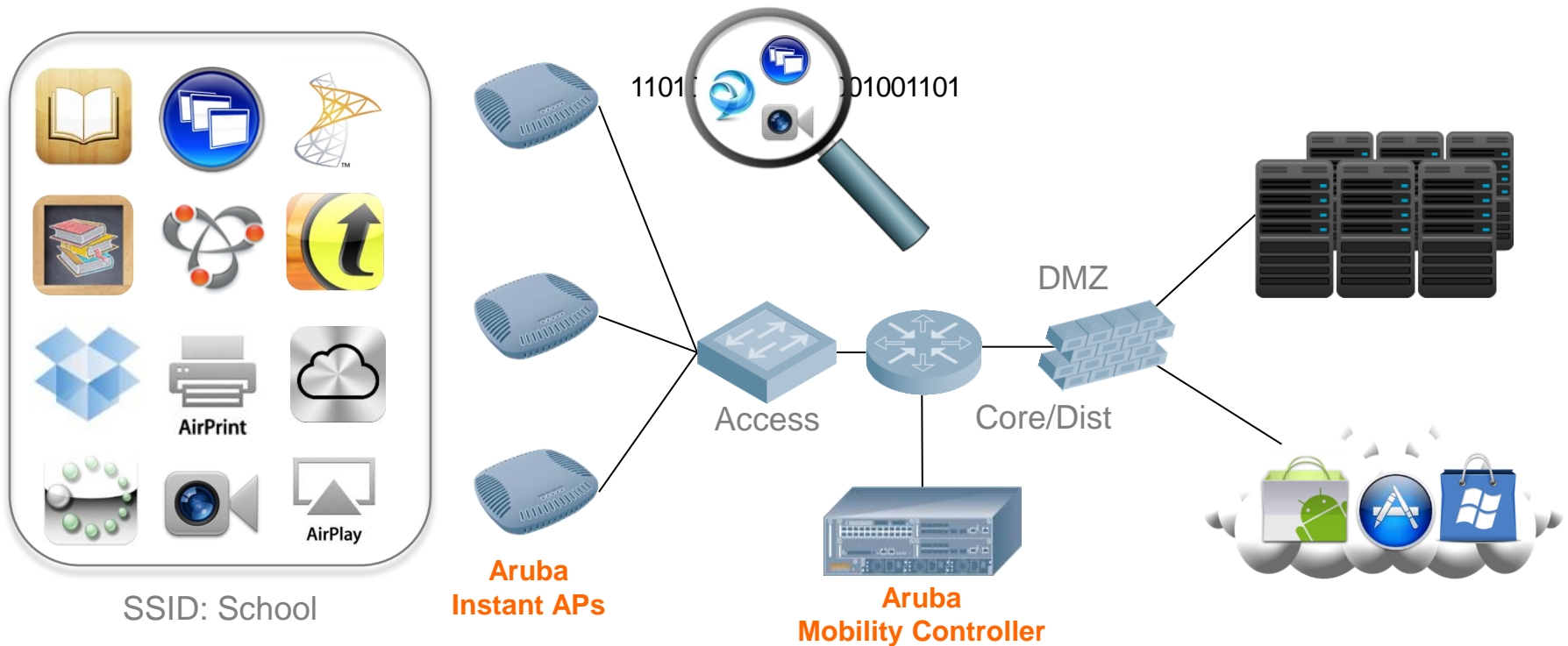
- ✓ Single SSID Wi-Fi network
- ✓ QoS management per app
- ✓ Optimized Wi-Fi per app

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Aruba AirGroup
Personal, Shared, Local Plug-n-Play Services

Personal AirGroup "Principal"

Printer in Principal's office

Teacher Macbook

Laptop in close proximity

Shared AirGroup "Teachers"

AppleTV in the classroom

Aruba Access Network

Local AirGroup "Printers"

Principal's iPad

Printer in the copy room

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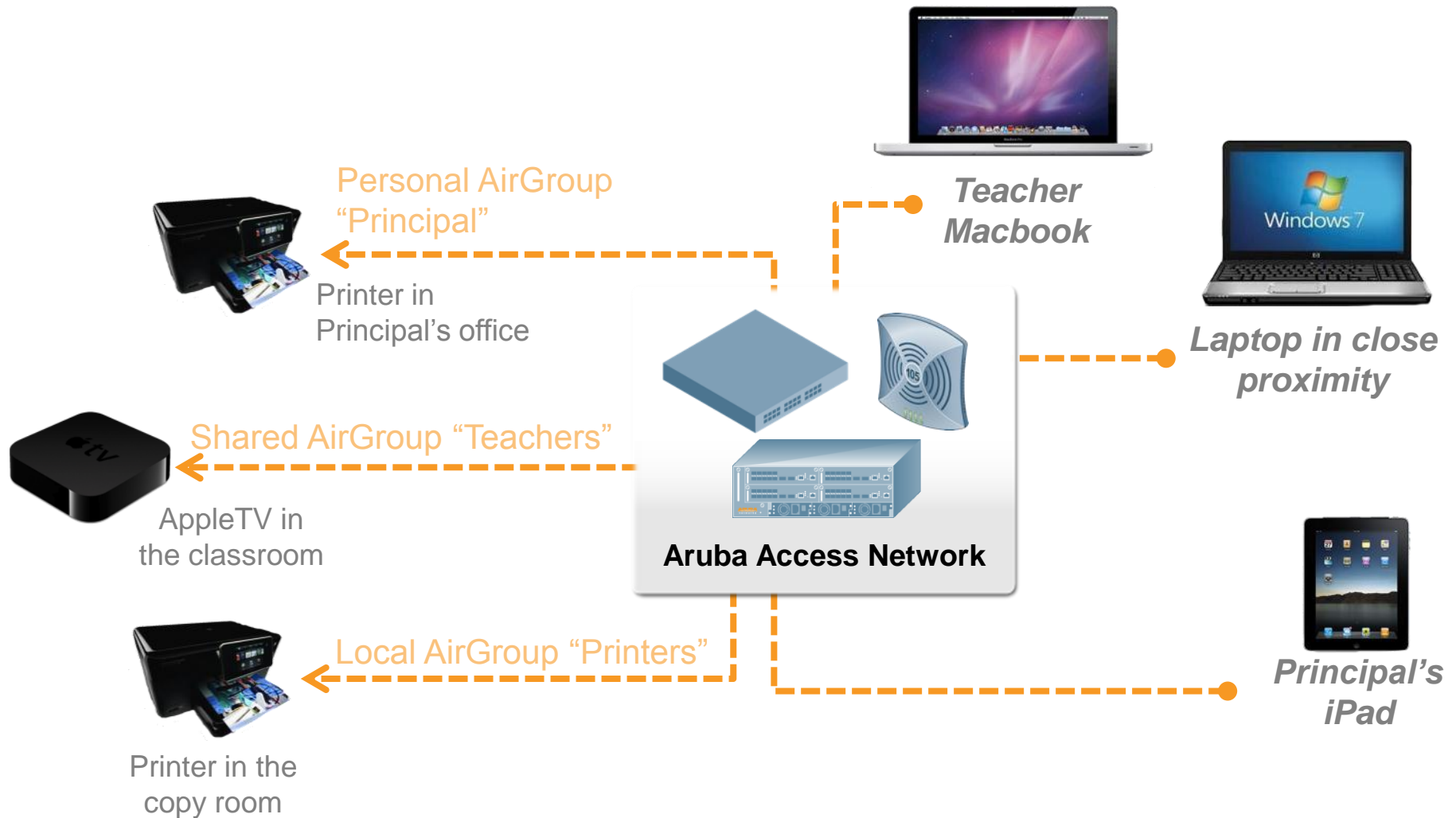
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7 of the Big Ten schools

K-12

Calgary Board of Education

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Northside Independent School District

round rock i s d

Klein — A Recognized District

fairfax county public schools

SPRING ISD

WC West Chester Area School District

Irvine Unified School District

NYC Department of Education

Aurora Public Schools

New South Wales Government — Department of Education and Training

Los Angeles County Office of Education

Spring Branch Independent School District

Austin Independent School District

JEFFCO PUBLIC SCHOOLS

Q&A