

Miami International Airport Management and Upgrades of IT Infrastructure An Airport CIO's Ongoing Challenge

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Fun Fact

What happened on November 24, 2001?



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Agenda

- Network Evolution at MIA
- Planning for Tomorrow
- Maintaining Priorities
- Public Wi-Fi at MIA
- Other Leveraged Initiatives

MIA Today

- Ranked 10th in Total Passengers in US
- Ranked 26th in Total Passengers Worldwide
- Ranked 2nd in International Passengers in US
- Ranked 1st in International Cargo in US
- Employ 36,800 people across Stakeholders and MDAD
- Estimated Annual Economic Impact of \$32.8 Billion
- Just completed \$6.4 Billion Capital Improvement Program (CIP)
- Information Systems Division
 - Full Time Staff 56 (Programmers, Techs, Network and Security Staff)
 - Outsource Staff 10
 - Annual Budget \$32 Million

IT Network – 1st Generation



1987



4/16 Token Ring

IT Network – 2nd Generation



1995



IT Network – 3rd Generation



1999



Ethernet + Token Ring

IT Network – 4th Generation



2003



IT Network – 5th Generation



2014



STS Network Infrastructure Today

- Core Cisco Infrastructure
 - Just completed \$2M upgrade to 10G cores, 1G distribution, 400 switches
 - Planning started 3 years ago, outdated by the time it was installed
 - Already planning \$4M upgrade to 40G cores, 10G distribution, 600 switches
 - 100G cores, 40G distribution will likely be available / needed by the time we get there
- Aruba AP's and Controllers
 - Approx. 600 Total AP's / 400 Public Facing
 - Primarily 802.11n (AP125), 802.11ac upgrade needed to support Free WiFi
- Users
 - 1400 MDAD Employees
 - ~ 200 STS Clients including Airlines, Agencies and Concessionaires
- Applications Supported
 - Centralized applications on virtualization servers
 - MDAD and Stakeholder Operations
 - SITA CUTE/CUPPS, CCTV, Access Control, VoIP, IED Paging.....and
 - Public WiFi

Maintaining Priorities

- Who and What Matters Most?
 - Somedays it depends who you ask 😊
 - Critical Operations must take precedent over Amenities
 - Public Wi-Fi is an Amenity - yet it is important
- Multiple Constituents to Satisfy
 - Several MDAD divisions supporting our 1400 employees
 - Top Five Airline Customers - Passenger Counts (August, 2014)

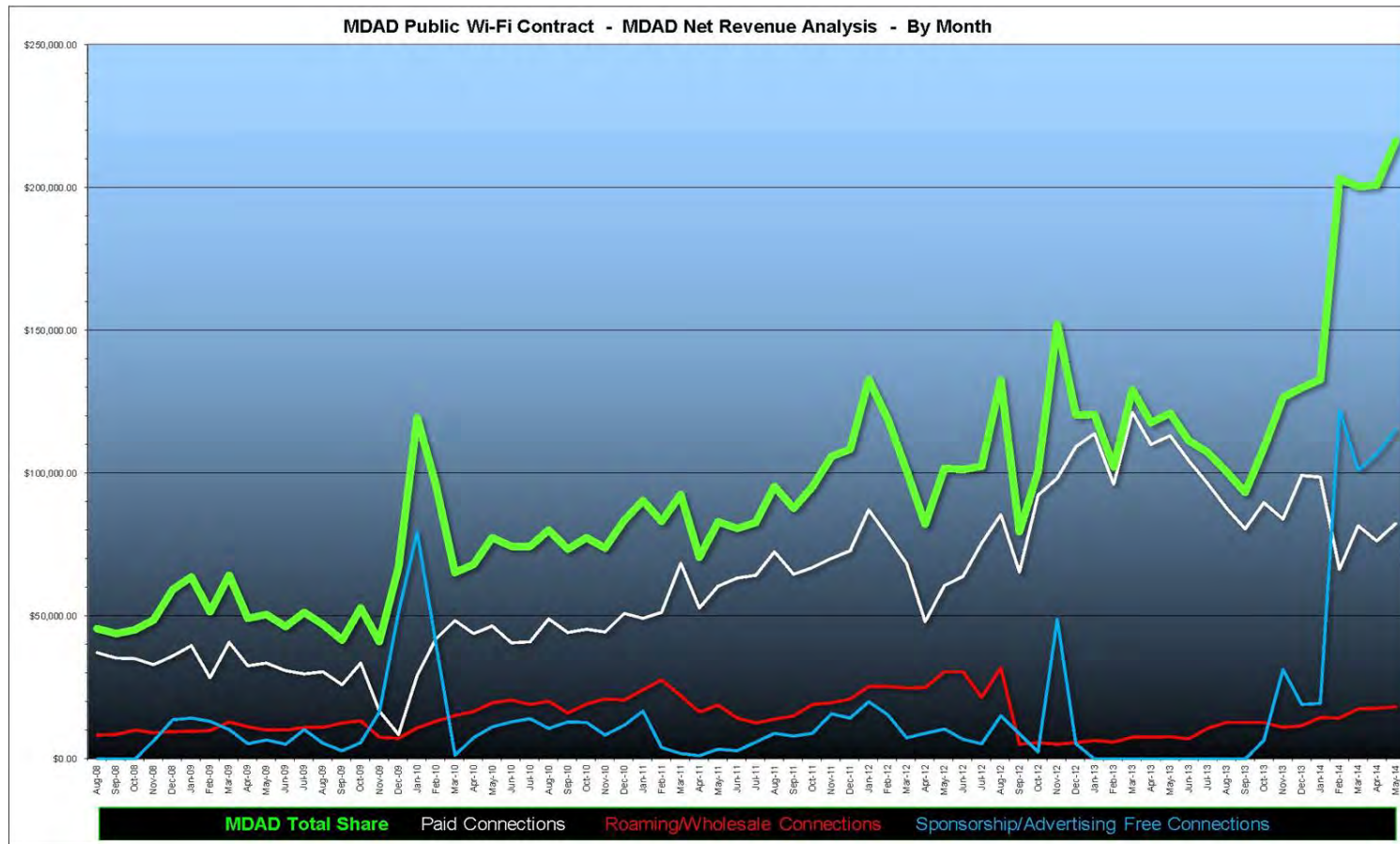
<i>Estimated Total Pax</i>	<i>3,400,000</i>	
• American	1,997,485	59%
• Delta	177,341	5%
• American Eagle	170,951	5%
• United	97,932	3%
• USAir	77,880	3%
 - Airlines leverage network for baggage reconciliation, ticketing, etc.
 - Agencies have critical needs to access security data and video
 - Concessionaires require transaction processing and operational support
 - Public wants Wi-Fi

Complimentary Wi-Fi Challenges

- Reduction in Non-Aeronautical Revenue
 - Counter to MDAD Culture
 - Anticipate \$1M annual reduction in revenue
 - However this is not the biggest obstacle.....
- Impact to the STS Infrastructure
 - Cannot put critical operations at risk
 - Anticipate a major spike in public demand place on network
 - 10-15X Users
 - 30X Bandwidth Consumption
 - Anticipate minimum \$2M CapEx incremental investment prior to conversion
 - Anticipate \$500K increase in annual OpEx
 - Anticipate increased customer support capacity
- Will Free Wi-Fi Come to MIA?
 - MIA is the last man standing..... 😊
 - Working with Boingo to implement SMART Network
 - Targeting transition for 2015

Current Public WiFi Implementation

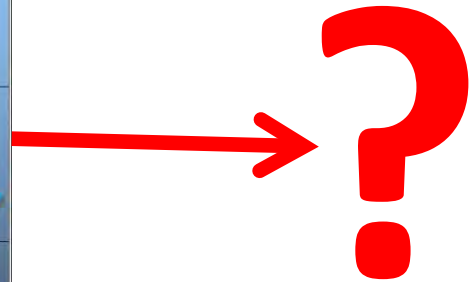
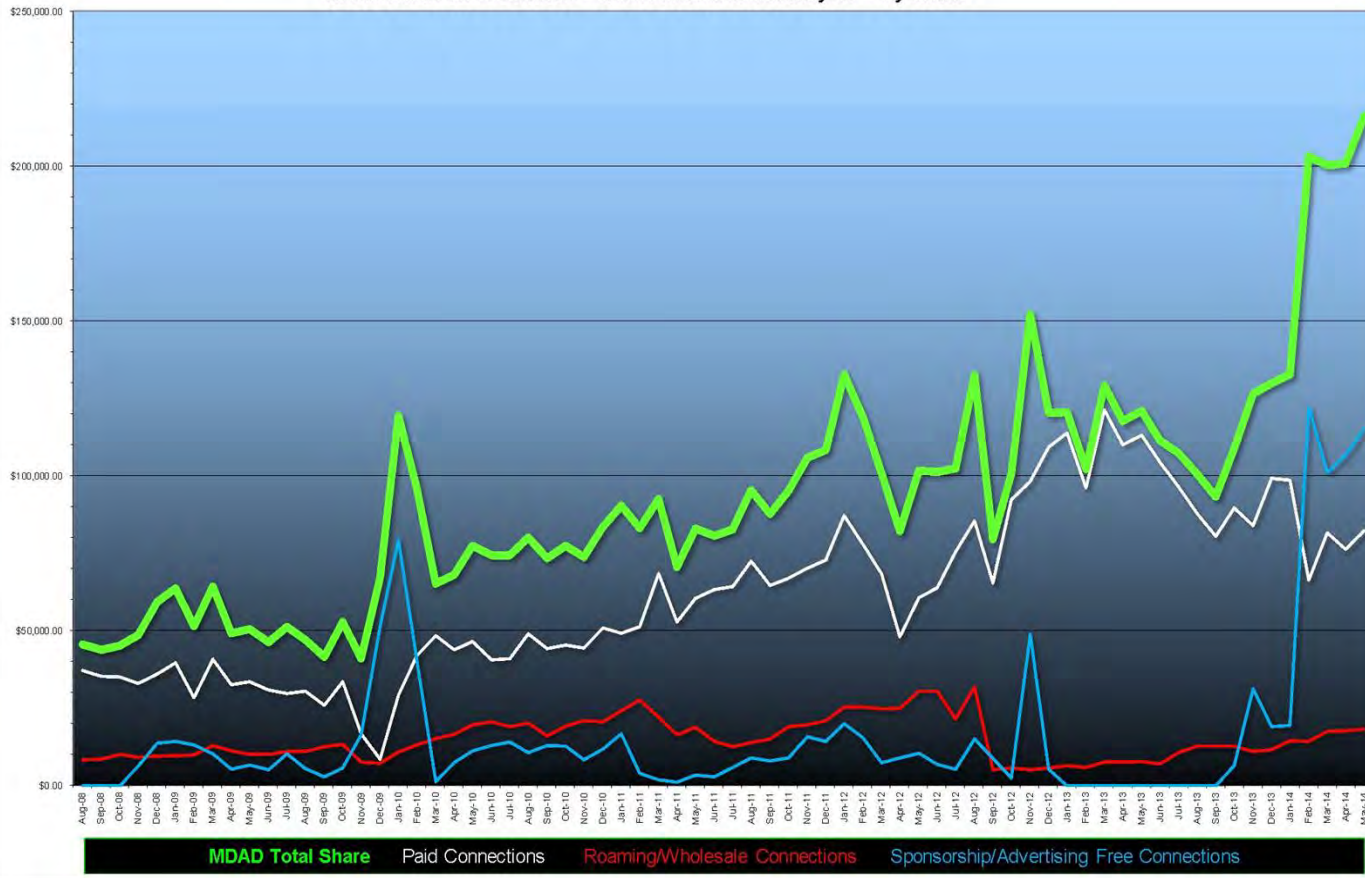
- Paid Model with Free Elements
 - Ad Sponsored Access offered when economics make sense
 - Free access to all stakeholder websites (airlines, hotels, car rentals, etc.)
 - Free live video streaming from CNN in English and Spanish
 - 5Mbps per user session bandwidth
 - MDAD has recognized >\$7M from Public WiFi which continues to rise



Transition to Complimentary Options

- Plan to offer Complimentary Wi-Fi Fulltime in 2015
 - Discussing SMART Network Implementation with Boingo
 - 3 Tier Complimentary + Premium Access Options
 - Free live video streaming from CNN in English and Spanish
 - Revenue will fall.....Costs will rise

MDAD Public Wi-Fi Contract - MDAD Net Revenue Analysis - By Month



Related Leveraged Initiatives

- Location Based Services
 - MDAD directly operates and partners with third parties to provide infrastructure and database and will focus its revenue efforts there
 - MDAD *may* develop it's own app however feels that applications are primarily the responsibility of third parties
 - Airlines, Third Parties (i.e. Google)
 - MDAD is deploying two layers of technology
 - Wi-Fi (Boingo)
 - Bluetooth Beacon (SITA BLE Beacon)
- DAS
 - MDAD has a fully deployed carrier DAS network
 - Planning cross platform Wi-Fi Integration
 - Passpoint seamless handoff (Boingo)

SITA Bluetooth Program



Thank You!