Flying in Cloud. Streamlined Airport Operations powered with Cisco Unified Architecture

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AGENDA
Flying with Cisco in Clouds. Unified Architecture using Cisco Technologies

Agenda

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- Former solution and challenges
- Business Requirements
- Selection process: strong points with Cisco and Crescendo (Local Partner)
- Unified infrastructure solution components
- Technical and business results
- PRACTICAL DEMO
ABOUT US
About US

Henri Coandă International Airport

- Bucharest Airports National Company (CNAB) formed by merging Henri Coanda (BHCIA) and Baneasa Aurel Vlaicu Airports (BBIA-AV), started its activity in February 2010
- The company, with its two airports, processes 70% of Romania’s total air traffic. In 2012, 7.55 million passengers have benefited from the services of either one of the two airports
- 1300 direct employees
- 5000 people work at the terminal
- over 100 service companies and airlines
- over 18,000 passengers a day transit the airport
FORMER SOLUTION AND CHALLENGES
Former solution and challenges

Brief description

- Internal Network Architecture based on:
  - non-Cisco LAN switches with FastEthernet and GigabitEthernet single uplink
  - Partial-mesh architecture
  - Wired LAN for employees and isolated public wireless access for guests

- Internet Access based on:
  - Linux Proxy server with all in one features (DNS, eMail, etc.)
  - Basic open source anti-spam, anti-virus and IP tables firewall protection

- Voice communication based on:
  - classic TDM PBX
  - Analog and digital
Former solution and challenges

Layer 1 and Layer 2 network diagram

Non-Cisco switches

LAN interconnection based on GigabitEthernet and FastEthernet links with isolated and minimal redundancy capability
Operational systems instability: from booking to check-in, several systems were unavailable and the airport authority was facing claims and penalties

Network downtime was becoming more frequent and our previous vendor was increasingly unable to provide the right level of support

Security assured by not permitting remote connections, resulting in long time restoration process in case of minimal failure

Performance issues caused by FastEthernet interconnection links

Lack of monitoring, control and problem mitigation capabilities

Lack of high availability capabilities through single point of failure network devices
BUSINESS REQUIREMENTS
Business requirements

Required solution overview – RFP

- Providing existing client devices with optimum access to information resources for both passengers and staff
- Reliable customer service, based on a network with built-in redundancy and 99 percent availability
- Ready for future developments such as interconnecting all airport assets including vehicles, baggage handling systems, and planes
- Improve customer experience across the airport
- Raise staff mobility and productivity
SELECTION PROCESS: STRONG POINTS WITH CISCO AND CRESCENDO (LOCAL PARTNER)
Selection process: strong points with Crescendo

Local Partner

- Cisco Cloud Builder and Professional Services Provider
- Cisco ATP Partner (Unified Contact Center & ISE)
- Advanced Architecture Specializations (Borderless, Collaboration and Data Center)
- Multi-technology and multi-vendor specialized Integrator
- 400+ active clients, world-wide
- 1000+ successful complex projects
- Partnership with over 50 international companies, during the last 20 years
- Industry-Leading Certified Experts
UNIFIED INFRASTRUCTURE SOLUTION COMPONENTS
Unified infrastructure solution components

Brief description

- Network traffic partitioning (as VLANs) required by a multi-tenant environment using Cisco Nexus® 7000, Catalyst® 6500, 4500, 3750X and 2960S Series Switches

- Security is achieved with Cisco ASA 5500 Series Next Generation Firewalls and Cisco IronPort® Web and email security appliances

- Mobility using Cisco wireless network comprising Cisco Aironet® 1140 and 3500 Series Access Points and Cisco 5500 Series Wireless Controllers

- Collaboration using Cisco Jabber™, Cisco Unified IP Phones with video capabilities and softphones with click-to-dial features

- Virtualized Cisco Unified Computing System™(UCS®) 200M3 Blade Servers for enhanced resilience and ease of management
Unified infrastructure solution components

Layer 1 network diagram

Backbone Architecture
Zone based architecture with multi-10G uplinks and STAR architecture inside zones, with multi-site controller redundancy for wireless services and clients
Unified infrastructure solution components

Layer 2 and Layer 3 network diagram

VRF

VRF based logical architecture with inter-VRF security policies and central services
TECHNICAL AND BUSINESS RESULTS
Selection process: strong points with Cisco

Technical and business key points

- Cisco aligned closest to our vision
- Right expertise and best management tools for voice, video, data, and wireless
- Customer focused team and strong partners alliance offering the best services on entire acquisition process
- Unified architecture at core level (Unified Data Center solution)
- Best-in class Internet security solution based on Email & Web Security
- Unified Collaboration Architecture (Voice and Video) improving airport activity and operational teams interoperability
- Unified Wireless Solution provides a secure and reliable network foundation, allowing airport to confidently deploy mobile applications and services
Technical and business results

Business requirements mapping

- The airport has accelerated application performance and achieved a tenfold increase in data transfer speeds compared to the previous network.
- Crucial information and communications are more widely available and easier to access.
- Staff productivity improved from the first moment the Cisco Solution went live.
- The availability of services has dramatically increased and the network now operates at the desired 99 percent availability.
- Airport operations are more efficient and productive.
- Management is also much easier (using Smart Phone or tablet).
Technical and business results

Technical requirements mapping

- Entire network and services are more stable and secure using unified architecture comprised of Cisco Nexus 7000 Switches by delivering exceptional availability and outstanding scalability.

- Increasing mobility on geographically vast and dispersed airport operations using Cisco Wireless network solution.

- Optimized internet access using Email Security Appliance providing high availability for existing services based on redundant architecture.

- Secured and easy Internet access based on transparent authentication (WCCP) and anti-virus/anti-malware Web Security Appliance.

- Using Cisco Wireless and Cisco Jabber, particularly on mobile devices, increases our speed of communication and user satisfaction.
Info - case study and company sites

- AppStore: “Cisco Customer Success Stories”
- Bucharest Airports: www.bucharestairports.ro
- Crescendo International: www.crescendo.ro