

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

Vasile Darla - CIO, CN Bucharest Airports

Dan Agache - CCIE#15473, Crescendo International



AGENDA

Flying with Cisco in Clouds. Unified Architecture using Cisco Technologies

Agenda

- About Us
- 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

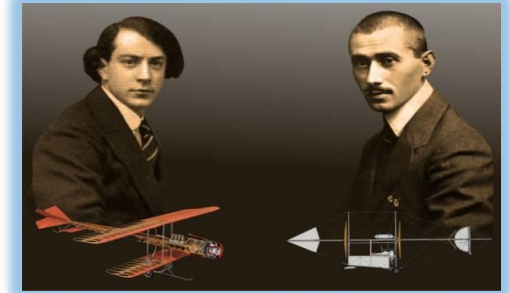


ABOUT US

About US

Henri Coandă International Airport

- Bucharest Airports National Company (CNAB) formed by merging Henri Coanda (BHICIA) 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

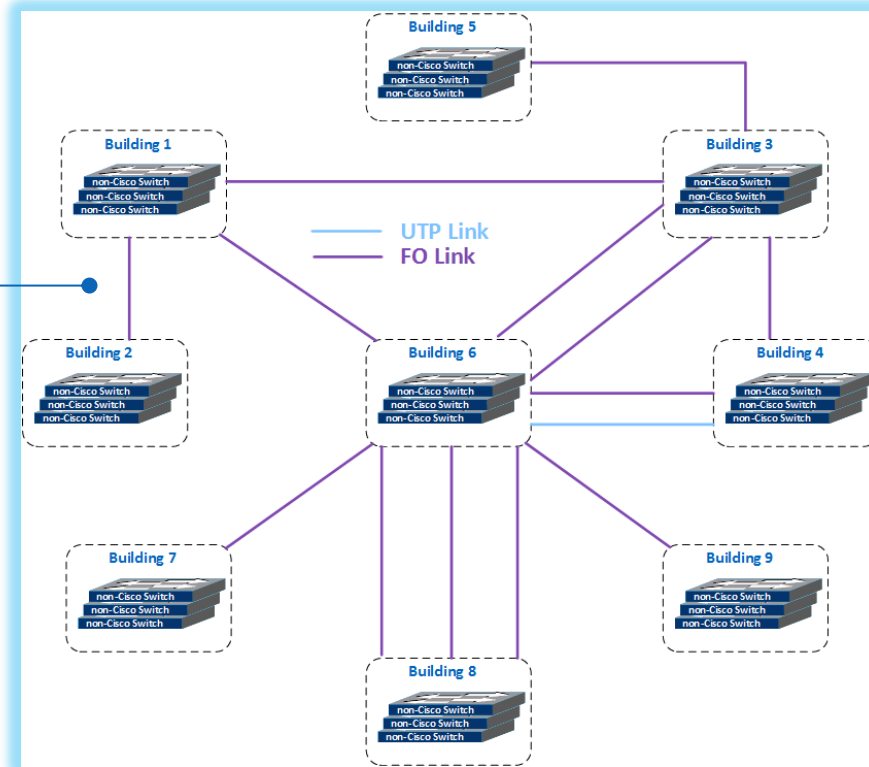
- Internal Network Architecture based on:
 - non-Cisco LAN switches with FastEthernet and GigabitEthernet single uplink
 - Partial-mesh architecture
 - Wired LAN for employees and isolated public wireless access for guests
- Internet Access based on:
 - Linux Proxy server with all in one features (DNS, 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



Former solution and challenges

Requirements and challenges

- 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

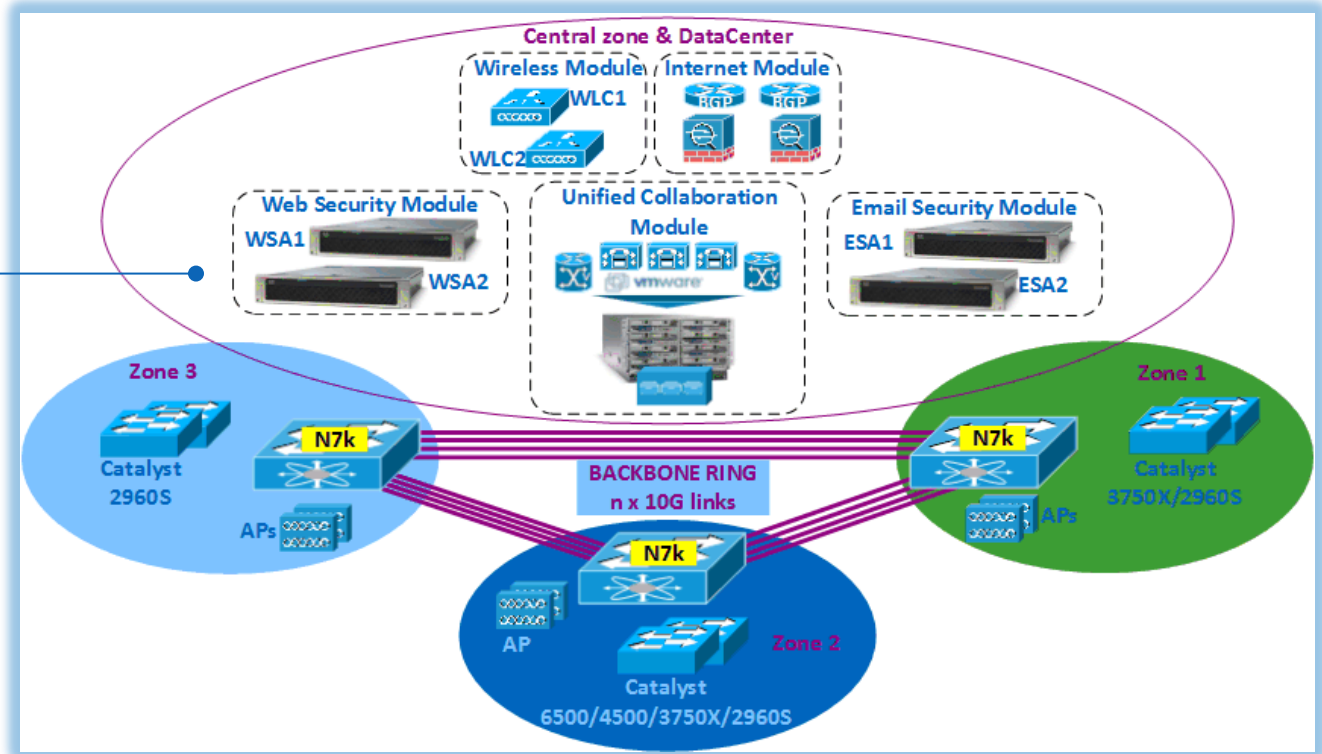
- Network traffic partitioning (as VLANs) required by a multi-tenant environment using Cisco Nexus® 7000, Catalyst® 6500, 4500, 3750X and 2960S Series Switches
- Security is achieved with Cisco ASA 5500 Series Next Generation Firewalls and Cisco IronPort® Web and email security appliances
- Mobility 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

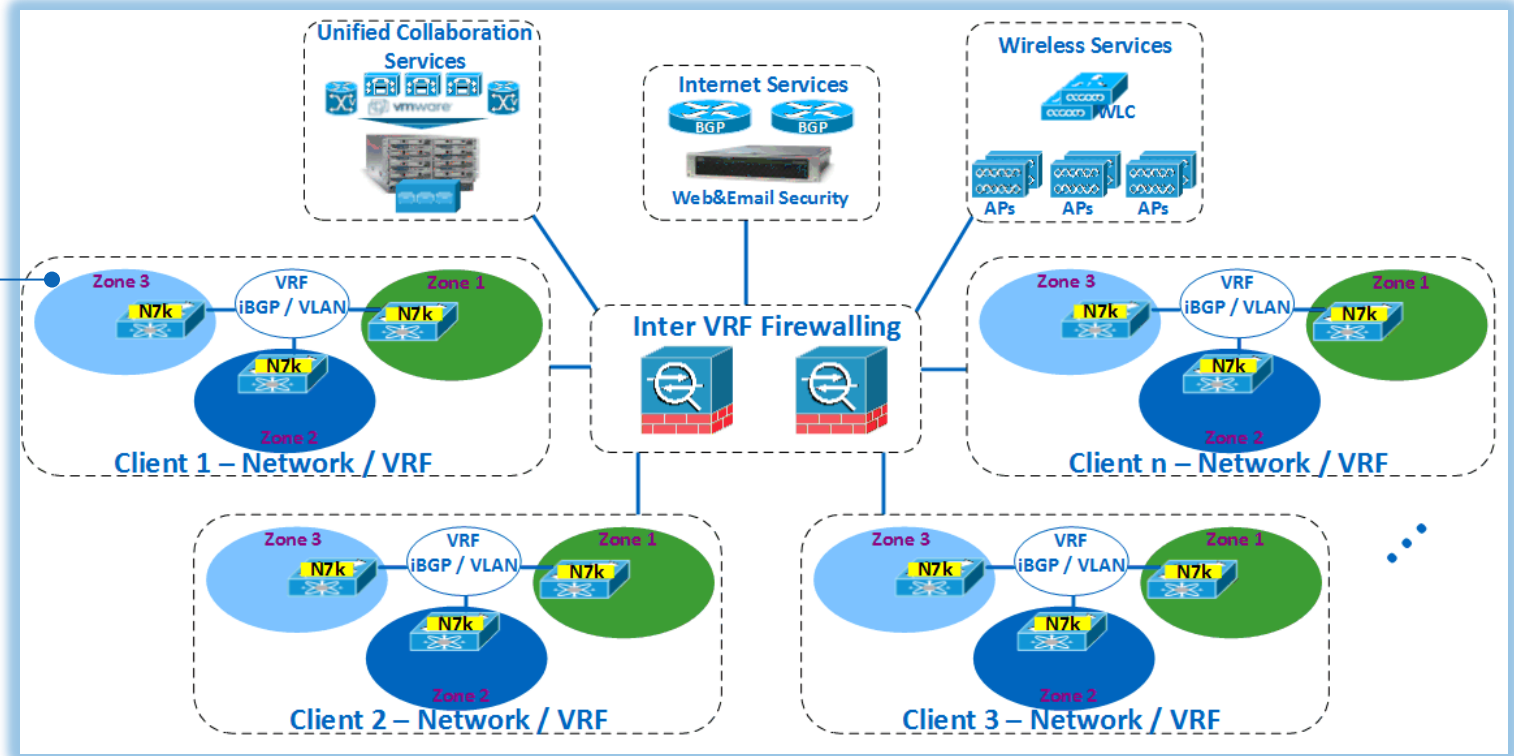


Unified infrastructure solution components

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

- Bucharest Airports Cisco Case study link: www.cisco.com/en/US/prod/collateral/vpndevc/ps6032/ps6094/ps6120/airport_romanian.pdf
- AppStore: “Cisco Customer Success Stories”
- Bucharest Airports: www.bucharestairports.ro
- Crescendo International: www.crescendo.ro





UNIFIED COLLABORATION - Cisco Jabber, Mobility