

## New York JFK Airport

### Introduction

With nearly 15 million passengers going to and from New York City in 2005, American Airlines needed a larger, more efficient terminal at JFK to better serve their customers. American operates more than 230 flights each day from their New York area airports and JFK carries the majority of that traffic. Planning for a new terminal commenced over five years ago, and in late 2005, a new state-of-the-art terminal was opened at John F. Kennedy International Airport.



The open-aided \$1.1 billion facility, which covers 1.5 million square feet, allows American to offer non-stop service to 27 international destinations. When the final construction phase is completed in 2007, the terminal will have more than 100 ticketing positions, 10 security lanes and be capable of processing 2,000 passengers an hour. The new terminal is world-class in every respect from LCD signage, efficient baggage handling systems, computerized check-in kiosks and an advanced VoIP telecommunications system that connects American to its airport locations around the globe.

### Telecommunications

In 2004, American embarked on an ambitious plan to replace the separate voice and data networks around the world with a converged VoIP telecommunications platform. The airline had selected Nortel Networks and AT&T as the platform for that architecture. The blueprint calls for appropriately configured Nortel Networks IP-PBX systems connected to their AT&T MPLS network. JFK presented a unique environment, in that it was an entirely new construction site, which allowed for a level of planning and conversion that is rarely offered in an operating airport environment.

### Cost Analysis

Prior to establishing design criteria for the new terminal's voice/data communications systems, American engaged a telecommunications consultant, Richard F. English, to provide financial and technical guidance to assure the level of technology is balanced with a return on

technology investment. Mr. English prepared a cost-benefit financial model that was used to guide the level of hardware/software investment and make technical decisions that supported the level of investment required.

Once the current hardware maintenance, network operating and support costs were identified, the design criteria could begin by knowing how each design component impacted the ROI for the overall architecture and project as a whole. This ROI cost analysis provided a confirmation to American to move forward based on operational savings and technological improvements.

### Design

The design for American Airlines at JFK includes distributed Nortel Networks Succession 1000M IP PBXs, connected with diversely routed AT&T circuits from three different entrance facilities at the airport. Fault-tolerance and load-sharing has been incorporated into the design with the dual PBX architecture. Instrumentation includes a balanced mixture of analog, digital and IP sets in order to offer the most resilient performance based on various operating parameters and environments. With multiple power sources and technology delivery platforms, no one fault can totally disable the telecommunications system.

### Planning & Implementation

After the financial and technical design components were clearly articulated, Mr. English was the principal consultant in the overall technical implementation and acceptance testing. The fault-tolerant, resilient design of the American Airlines VoIP networked system at JFK has proven to offer the airline the technical capabilities and overall cost efficiencies that had been desired during the conceptual planning and design phases.



*Richard F. English is Director of Management Consulting at ConsultEdge. He leads our Management Consulting and Professional Services practice and has over 20 years of technology strategy, planning and design experience. He has consulted with numerous private and public sector clients regarding network architecture, optimization and multi-media technology.*

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