

OVERVIEW

IP COMMUNICATIONS IN AIRPORTS

Improving operational efficiency, increasing safety, generating new revenue sources, and expanding passenger services.



ENHANCE AIRPORT OPERATIONS AND SAFETY

Heightened security requirements, changing business models, and increasing passenger traffic and cargo volumes have spurred airports to adopt more efficient, flexible business processes for operations and security. Until now, multiple, disparate communications environments have hindered change. When the airport, airlines, service providers, and other tenants rely on different communications systems, adopting new business processes becomes complicated and expensive.

Today, airports around the world have become more efficient and flexible by integrating new and existing business applications over a converged voice, video, and data network. This strategy, called IP Communications, is changing the way airports do business by enabling them to:

- Deliver voice, video, and data to any connected or wireless Cisco® IP phone in the airport, enhancing safety as well as passenger services
- Flexibly assign common-use gates and counters to different airlines as needed, improving resource utilization
- Provide voice services for airlines and tenants, gaining a new source of ongoing revenue
- Improve passenger services, helping to attract more travelers

Read on to discover how Cisco IP Communications is becoming a cornerstone of airport operations around the world.

Solve Top Airport and Airline Challenges with Cisco IP Communications

- Overcome the operational and competitive constraints of multiple, disparate communications environments
- Accommodate changing customer, business, and security requirements from passengers, airlines, airport tenants, contractors, and airport partners
- Improve transportation security
- Increase operational efficiency and flexibility
- Reduce network costs
- Differentiate customer services to attract travelers
- Find new revenue sources

IP COMMUNICATIONS AND OPERATIONAL EFFICIENCY

With Cisco IP Communications, airports can flexibly assign common-use areas to different airlines, improving resource utilization. Airlines and tenants can continue to use their existing company voice services and personalized phone services such as speed dial.

When each airline has its own voice and data system, airport efficiency suffers. One reason is that airports cannot shift unused counters and other physical spaces to other airlines, wasting resources. Low-cost airlines that want to operate out of the airport face high barriers to entry because of the cost and delays associated with acquiring voice, video, and data services. And tangles of physical cables complicate upgrades to the airport telecommunications infrastructure.

With Cisco IP Communications, airports acquire unprecedented flexibility, including the ability to:

- Assign voice and data connectivity on demand to different airlines, in common-use areas such as gates, ticket counters, self-service kiosks, airport information kiosks, flight displays, baggage carousels, and more. A gate agent simply logs on to the computer or Cisco IP phone to provision all networked resources for that flight, including IP phones, phone directories, video gate displays, and jetway communications. The airport improves gate utilization, avoids new terminal construction, improves aircraft turnaround, and reduces airline gate costs.
- Enable airlines to connect to their corporate voice services. Airlines that connect to the Cisco IP Communications network can use their existing voice carriers and enter internal dialing codes to reach corporate resources at the airport, headquarters, or elsewhere. Each airline can set up its own speed-dial numbers for gates, ramps, counters, baggage, and other locations.
- Provide access to airport and airline systems using PCs as well as wired or wireless Cisco IP phones.
- Add new users and applications much more quickly than possible with legacy PBX systems.
- Reduce total cost of ownership of the telephony system by managing and maintaining one converged network instead of separate voice and data networks; enabling self-service moves, adds, and changes; and simplifying application integration.
- Help keep flights on time by sending automated reminders to the airline gate agent's Cisco IP phone to board a certain class of passenger at a predefined interval before take-off.

Figure 1. Gate Agents Can Log into any Cisco IP Phone to Personalize It with Their Airline's Phone Number, Directory, and Other Options



Common-Use Gate Success Story

Toronto Pearson International Airport

Like most airlines, Toronto Pearson International Airport previously assigned each airline its own counters, including phones dedicated to the airline's own extension and speed-dial numbers. Some counters remained idle for long periods when other airlines could have used them. Now the Greater Toronto Airports Authority (GTAA) can assign any airline to any unused counter. Agents personalize the Cisco IP phones and PCs at the counter in just a few minutes, with a single sign-on.

The "virtual gate" application at Pearson International Airport runs over the GTAA's optical backbone network. Gate agents log on to the airline's Common Use Passenger Processing System (CUPPS) as they would at any common-use terminal. CUPPS connects them to departure control, boarding, flight display, and other data systems. At the same time, it customizes the Cisco IP phones at the counter, boarding bridge, and ramp with the airline's phone number and speed-dial numbers. Airline employees can use the IP phone to access one directory for "above-the-wing" employees such as airline agents, and another for "below-the-wing" employees such as baggage handlers and maintenance staff. "With Cisco CallManager...we have far more flexibility and can use our space more efficiently," says Thomas Tisch, the airport's general manager of electronic systems and technology.

IP COMMUNICATIONS AND SECURITY

Cisco IP Communications helps improve passenger safety by enabling security personnel to access security-related information—voice, video, and data—from a secure Cisco IP phone anywhere in the airport.

Traditionally, airport security personnel needed multiple devices to access safety-related information: phones for emergency broadcasts, PCs for passenger watch lists, paper lists for lost or stolen employee IDs, and video monitors for video feeds from closed circuit TV (CCTV) cameras. Now, with Cisco IP Communications, operations and security personnel can quickly and securely access voice, video, or data from any connected or wireless Cisco IP phone, in any area. Safety improves because security staff can use Cisco IP phones to:

- Access passenger watch lists.
- View employee photographs to validate their security tags before allowing them into secured areas.
- Remotely control IP-based surveillance cameras.
- View remote video feeds of suspicious persons instead of relying on verbal descriptions, for faster identification and apprehension.
- Assess unsafe situations from a remote video feed delivered to the IP phone display in order to respond with the correct amount of force.
- Instruct airline operations personnel to stop or resume boarding in case of a security breach, by sending broadcasts to the speakers of Cisco IP phones at gates. This allows the airport to more rapidly stop and resume boarding after a security breach, reducing delays.
- Instantly identify the location of callers using emergency Cisco IP phones throughout the terminal, even if a caller is unable to provide identifying information. This is possible with a feature called Cisco Emergency Responder.

Figure 2. Airport Security Personnel Can Validate Employee ID Tags and Confirm They Have Not Been Reported Lost or Stolen



IP COMMUNICATIONS AND NEW REVENUE SOURCES, AND IMPROVED AIRLINE AND TENANT SERVICES

With Cisco IP Communications, airports can become the service provider for airlines and tenants, increasing service levels and gaining new sources of revenue.

Airlines and airport tenants typically make their own arrangements with carriers for voice services. When airports deploy a Cisco IP Communications infrastructure, the airport itself can act as the service provider for airlines and tenants, gaining a source of ongoing revenue and accelerating new service introduction. Airlines and tenants become operational faster when they do not need to wait for lines to be provisioned. And the airport increases the service it provides to airlines and tenants because it can:

- Offer value-added voice services such as IP telephony, unified messaging, contact center, conferencing, interactive voice response (IVR), and more.
- Integrate with the airline's back-office PBX and call-recording system so that airline personnel enjoy the same telephony features they would at their headquarters office.
- Facilitate collaboration between airport security and operations with 4- or 5-digit dialing.

Case Study

Athens International Airport

Identified by the International Air Transport Association as one of the best airports in the world for passenger satisfaction in its first three years of operation, the new Athens International Airport (AIA) in Greece moves 13.7 million travelers, thousands of aircraft, and 275,000 tons of cargo through its facility every year. AIA has always sought to differentiate itself by using advanced technology to increase operational effectiveness, improve safety, and provide convenient passenger services.

One way that AIA differentiates itself is by using Cisco IP Communications solutions. For example, airport tenants can capture the feed from AIA's antenna flight-scheduling system and display it on the built-in displays of their Cisco IP phones, eliminating the need for separate PCs. Airport security personnel can enter an employee's ID on an IP phone or PDA to view a photo of the user and find out if the ID has been reported lost or stolen. And AIA will be among the first airports to implement common-use, self-service check-in kiosks for multiple airlines, reducing the queuing time during passenger check-in.

"We are one of the few airports that haven't had any problems from the first day we opened for business," says Daravelis Leonidas, manager of telecommunications and systems integration at AIA. "We have been very successful and have shown proven results. That is due in part to the excellent cooperation we have had with Cisco."

IP COMMUNICATIONS AND PASSENGER SERVICES

Cisco IP Communications solutions help airports attract travelers by offering convenient services.

Airports increasingly compete for travelers based not only on their flight schedules, but also on convenient passenger services. A Cisco IP Communications infrastructure enables airports to:

- Provide courtesy kiosks based on Cisco IP Phone 7970s with color displays. Sample services include wheelchair service, information and directions, and emergency services.
- Connect passengers with hotels, car rental agencies, and airlines, combining visual displays such as maps and company logos with a direct phone connection to the company. A traveler might look up the hotel on the computer, for example, and then after normal shuttle hours press the "Request Shuttle" button. Cisco IP Communicator software on the computer immediately establishes a phone connection with the hotel.
- Establish a contact center, based on Cisco IP Contact Center (IPCC) Express and IVR, that provides automated responses to traveler questions about delays, weather, hotels, and more.

THE TECHNOLOGY BEHIND THE PROCESS CHANGE: CISCO IP COMMUNICATIONS SOLUTIONS

Cisco IP Communications solutions improve collaboration among airport security and operations personnel. They also provide value-added telephony services that the airport can offer to airlines and tenants.

Cisco IP Communications is a complete enterprise-class system that securely integrates voice, video, and other collaborative data applications into intelligent network communications solutions. It takes full advantage of the power, resilience, and flexibility of the airport's IP network to deliver IP telephony, unified communications, rich-media conferencing, IP video broadcasting, and customer contact solutions. Built-in intelligence enables airport operations to securely access required information, solve problems, conduct transactions, and complete tasks with less human intervention and less potential for error. The result is a highly effective and collaborative business environment that significantly improves the experience for airport employees, airlines, tenants, and passengers.

IP Telephony

Cisco CallManager is the software-based call-processing component of the Cisco IP telephony solution, delivering enterprise telephony features to wired and wireless IP phones and video devices. Benefits of IP telephony for airports include:

- **Flexible gates.** An airline employee logs into a Cisco IP phone at any gate to personalize it with the airline's phone number, directory, and other settings.
- **Self-service moves.** An employee who relocates to another cubicle, office, or gate can keep his or her phone number after simply disconnecting the phone and reconnecting it in the new location, eliminating expensive moves, adds, and changes.
- **4- or 5-digit dialing.** Collaboration between security and operations improves—employees can dial personnel in any department served by the same Cisco CallManager server simply by dialing an extension or by accessing the employee directory from the Cisco IP phone display.
- **Ability to transfer calls to other departments.** Rather than forcing callers to hang up and dial a different department, airport or airline employees can transfer calls to any department served by the same Cisco CallManager server, improving service.
- **Extension mobility.** The extension mobility feature enables employees who need to work temporarily in other locations served by the same Cisco CallManager server to log into any IP phone as their own, personalizing it with their phone number, directory, and other preferences.

Cisco Unity Unified Messaging

Cisco Unity[®] unified messaging integrates with Microsoft Outlook e-mail clients, enabling airport operations employees to conveniently access all e-mail, voice, and fax messages from either the desktop PC or phone—in the office, on the road, or at home. Because every message is delivered to a single inbox, employees can see the number, type, and status of all communications at a single glance, and can reply to, forward, and save messages with a click of the mouse. Text-to-speech capability enables employees to listen to information about their messages and to the text portion of e-mail messages over the phone. They can respond with a voice message; with certain fax servers, they can also print e-mail, attachments, and incoming faxes on a nearby fax machine.

Cisco IP Contact Center

Cisco IPCC Express provides contact center capabilities for airport operations agencies or individual departments that need an entry-level or mid-level solution. A "contact center in a box," Cisco IPCC Express delivers sophisticated call routing, contact management, and administration features, and is easy to install and configure. It gives airport and airline employees the flexibility to automatically route calls to any employee in any location, within or outside the contact center. Service to airlines, travelers, and other callers improves with features like call routing based on business rules, call-in-queue and expected-wait-time messages, and IVR.

Cisco Customer Voice Portal

The Cisco Customer Voice Portal extends the possibilities of automated self-service beyond traditional IVR systems. Support for automated speech recognition and text-to-speech capabilities enables callers to obtain personalized answers to complex questions, including information that appears on the airport Website, updates on airport operations, and parking availability.

Cisco MeetingPlace

An integrated voice and Web conferencing solution, the Cisco MeetingPlace® application facilitates collaboration and informed decision-making by allowing airline executives and managers to meet anytime, anywhere. Setting up a meeting with voice, video, and Web collaboration is as simple as setting up a phone call. Deployed “on-net,” behind the firewall, the solution protects the confidentiality of sensitive conversations.

Cisco IP Videoconferencing (IP/VC)

Using Cisco IP/VC solutions, airport operations personnel can conduct videoconferences. When used for training, Cisco IP/VC videoconferencing solutions reduce the time and costs of traveling to remote facilities.

Cisco Partner Solutions for Airports

To deliver end-to-end business-ready networks, Cisco has developed rich partnerships with industry-leading airport facility and operations consultants, engineering and construction firms, technology and application providers, and full-service system integrators. Key application providers include:

SITA Airport Connect

SITA is the world's leading provider of global information and telecommunications technologies to the air transport and related industries, and counts 20 of North America's top 25 airports as customers. Its AirportConnect application transforms Cisco IP phones into data terminals for accessing and processing passenger information.

ARINC

ARINC provides a comprehensive set of applications for Cisco IP phones, including wireless passenger check-in, local departure control system, a load boarding application, an information display system, a gate management system, and broadcasting messages about baggage sorting.

Berbee InformaCast

Berbee InformaCast improves communications among airport operations, airlines, and security. Broadcasts are sent through the speakers integrated into Cisco IP phones or over external loudspeakers, to a single airline or all airlines in the terminal. A popular use in airports is for the security group to send announcements to stop and resume boarding in response to security incidents.

WHY CISCO

The leader in networking for the transportation industry, Cisco Systems® serves airports, airlines, and other transportation services providers of all sizes throughout the world. Unlike legacy communications vendors or networking niche players that lack networking depth or breadth, Cisco delivers industry-leading expertise, partnerships, and solutions that result in the most comprehensive network solutions for safely delivering passengers and cargo.

With Cisco IP Communications solutions, airports increase service effectiveness without increasing operational costs. The concept is proven—airports around the world have revamped their processes for greater efficiency and effectiveness by using their networks in new ways. IP Communications contributes by fostering improved communication and collaboration, increasing service reach and responsiveness, and helping airports use their facilities, staff, and network resources more effectively.

Get connected. For more information about Cisco IP Communications Solutions for airports, visit <http://www.cisco.com/go/airports>

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