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check-in

SITA marks its 60th  
anniversary in 2009  
looking to the future

# Developing Technology Collaboratively

By Aaron Karp

**W**HILE GLOBAL COMMERCIAL aviation is an intensely competitive business, it is notable among the world's for-profit enterprises for its high level of interconnectivity and reliance on cooperation among competitors. Technology platforms used by one airline often are applicable to another, even fierce rivals. Many of the worldwide aviation business's inefficiencies, in fact, arise from a lack of common standards and systems.

This is where SITA, the information technology and communications specialist owned by its air transport industry members, comes into play. Founded in 1949 by 11 airlines as Societe Internationale de Telecommunications Aeronautiques, it opened its first telecommunications center a year later in Rome, where it manually transmitted information with perforated tape and teleprinters.

The cooperative company has evolved a great deal since then and now is involved in nearly every aspect of

air transport communications and IT, developing a broad range of equipment and services to facilitate the movement of information within and among airlines and between carriers, airports and passengers. "When you think about it, the main enablers of globalization are air transport and technology, and SITA sits at the intersection of air transport and technology," Chairman Paul Coby, British Airways CIO, tells *ATW*.

SITA says its members represent "over 90% of the total airline business

worldwide." Its board comprises 35 nonexecutive directors from its top 20 customers in the previous year, nine regional representatives and one seat held by an airport grouping.

With headquarters in Geneva, it employs more than 4,500 worldwide representing 140 nationalities. It provides services to more than 550 members and 3,200 customers comprising airlines, CRSs, airports, aerospace companies, air cargo providers and governments. Operating in more than 220 countries and territories, SITA manages more than 17,000 IP connections on behalf of nearly 700 customers.

"It's a model of collaboration that has been able to change and adapt through the years," Coby says. "We now provide telecommunications globally to airlines and airports. We enable basic connectivity, but we do so much more. We provide solutions for the air transport community."

Perhaps as significant as its various products, such as self-serve check-in kiosks, SITA conducts a number of studies and surveys to determine airlines' and passengers' attitudes toward technologies and IT-related services

as well as to grade the industry on its progress—or lack thereof—in various areas, such as baggage handling. It also operates a “strategic research facility” dubbed the “SITA Lab” where it examines potential technologies that could be deployed in the future.

**Common Standards** Many of its customers are also shareholders, and it is “genuinely multinational,” Coby says, driving it to tailor its services to commercial aviation worldwide. “We take into account the needs of the entire air transport industry. The nature of air transport is that it is linked . . . We can provide access to common standards across the world.”

The most recent example of this was its trial from late January to mid-April of CUPPS (Common Use Passenger Processing Systems) at Orlando International in conjunction with WestJet. During the test period, passengers checking in and boarding flights on the Canadian LCC used CUPPS, which SITA says “will save the air transport industry millions of dollars through the introduction of the first-ever common-use IT application acceptable for use by all airports and airlines.” It worked with Airports Council International, IATA and others for four years to develop the standards for CUPPS, the successor to CUTE (Common Use Terminal Equipment), which was established by SITA in 1984.

Its platform to operate CUPPS is the latest version of AirportConnect Open. Other companies will be able to develop their own platforms to compete with SITA using the CUPPS standards; ARINC, for example, has been conducting CUPPS trials at Las Vegas.

SITA VP-Airport Services Catherine Mayer tells *ATW* that CUPPS is based on Web architecture that is “a much more flexible and open-type platform [compared to CUTE] . . . you’re going to have consistency around the world.” She explains that an airline could “develop an application once and it should run on any platform [globally]. It’s an ideal common-use solution.” She believes carriers around the world will convert to CUPPS within three years.

The application, SITA officials say, is an example of the company’s taking guidance from its air transport industry shareholders/customers to develop a technology solution with broad benefits for the industry. Coby says board meetings are centered on determining “what

does the airline industry need from SITA [by] listening to what our users and shareholders need.”

He emphasizes, however, that carriers don’t simply purchase whatever the company is selling because they own it. “Everything that SITA does is acutely competed,” he says, commenting that airlines are seeking the most cost-effective products in the current financial environment. “Nowhere does SITA these days get a free ride [evidenced by competition from ARINC on CUPPS]. SITA has to be intensely commercial in all its activities.”

Ultimately, he explains, SITA’s activities are focused on two primary goals: First, enabling a “convergence of technologies” to improve the passenger experience. “We’re using technology to take the hassle out of the whole air transport process,” he says. “Travel has become harder.” Second, the company is developing communications and IT solutions to deliver greater operational efficiencies for airlines and airports.

**Top 10** SITA has identified “10 technology advances that will change air travel,” five each in the aforementioned categories of improving the passenger experience and increasing operational efficiency, and is targeting its energies to explore these technologies’ implications and develop products and solutions that take advantage of these advances. “What is common to all 10 technologies is the way that they will change the traditional boundaries of an IT department by consigning legacy technologies to the museum,” says CTO Jim Peters, primary author of SITA’s recently released report on the subject. “The challenge for the industry is to find a cost-effective model that allows it to benefit from these innovations.”

Of the 10, mobile devices are the “highest profile and sexiest,” Peters tells this magazine in his first interview discussing the report. “Traditional things such as checking in and shopping for flights . . . will move over to mobile devices.” SITA notes that surveys reveal that more than 90% of airline pas-



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sengers carry cellular devices. While this has not altered significantly the way in which they interact with carriers yet, the latest devices, such as Apple’s iPhone and Google’s G1, “are fast blurring the line between phones and computers, thereby accelerating the acceptance that your mobile device can be

the primary access point to online services, replacing the need for a laptop or desktop,” the report explains.

Peters says it is too early to understand what impact mobile devices will have on the airline industry, but SITA is studying the issue at its research facility, where it is working to develop SITA Travel. It describes the future service as “a mobile application for smart phones providing concierge-style services . . . The SITA Travel mobile application is aware of the user’s location and itinerary, thus making intelligent decisions based on the user’s individual needs.” Says Peters, “We’re not clear how it’s going to work, but we’re doing trial applications.” He says the virtue of SITA Lab is that it is a facility in which “we can make an investment where we don’t have to have a clear return but could be developing technology that will play a significant [future] role in improving the passenger experience.”

The second advance on which the company is focusing is Web 2.0 technology, or online social networking. “For the leisure market in particular, air travel will stop being about places and prices but more about living experiences and sharing journeys through blogs and photos with families, friends and fellow travelers,” SITA says. It is studying how airlines can reinvent their websites so passengers’ preferences can be gleaned and paired with activities at a given destination.

The third technology advance is Near Field Communication: Short-range, high-frequency wireless communication through which data can be exchanged quickly. “In the future, passengers may only need to carry their mobile device with embedded NFC technology to take their flight,” SITA explains. “The ticket can be purchased online and sent to the mobile phone, check-in can then be made while on the way to the airport.

Biometric border controls verify the passenger's identity and a simple wave of the phone across a wireless reader at the gate validates the stored e-boarding card, enabling the passenger to walk directly onto the aircraft."

The other technologies SITA is exploring related to the passenger experience are RFID as a means for tracking baggage more effectively and biometrics. It has participated in a biometric pilot program at London Heathrow using index finger scans rather than paper documents to identify passengers. Coby says the biometrics program and all of the research into mobile devices, Web 2.0 and NFC are "good examples of us looking to the future."

**Operating Efficiency** The five identified technology advances that will increase operational efficiency comprise Service Oriented Architecture, Collaborative Decision Making, "cloud computing" (providing a company's computer needs via the Internet rather than in-house servers), RFID to support MRO supply chains and virtualization of data centers

to optimize "the use of software, computing hardware . . . and network infrastructure by sharing server capacity not only across organizations but also across different physical locations."

SOA involves creating "a library of business functionalities to be used over and over again to build different applications . . . leading to faster development times and easier integration," SITA says, noting that its Airport IT Trends Survey conducted last year revealed that "over half of airports will have implemented an SOA architecture within 3-5 years." Airline uses include Japan Airlines' establishing SOA "to integrate Boeing's maintenance manuals with its own service recommendations that include the latest shared knowledge and best practices of JAL's technicians and MRO engineers," according to SITA.

It explains that CDM "facilitates the decision-making processes by ensuring that a combination of stakeholders such as airlines, ATC, airports and ground handling organizations are provided with timely and accurate information," which could be quite useful for ATC

modernization.

While it is not a technology development, environmental regulations such as the EU's emissions trading scheme will have a big impact on airline operations and SITA is spending a great deal of time determining how carriers can use IT to collect, report and verify their carbon dioxide output. "We have reflected on the more difficult aspects of emissions trading schemes," Head-Environmental Program Frederic Falise tells this magazine, noting that ETS programs established by regulators other than the EU may have different requirements that airlines also will have to meet.

"We see that emerging regulations are coming out and they all require monitoring, reporting and verification of data and this is where we come in," he continues. "SITA has been mandated by its more than 500 members to develop a way to support the industry . . . A common approach to maintaining, reporting and verification is critical to the industry. We must ensure that emissions are correctly tracked and properly verified. It is doable but it will require some work." **ATW**