New user-friendly solutions are evolving to improve all aspects of the airline customer 'buy-to-fly' process. One area where the solutions, and the process, are still evolving is ticketing, checking in for the flight and seat choice. The various technologies and options are explored.

Solutions to ease check-in & seat allocation

The International Air Transport Association (IATA) is pushing hard for 100% electronic ticketing (e-ticketing) to be used globally. The original target for implementation of this was the end of 2007, but it has been extended to 31st May 2008, due largely to the significant investment and resources that airlines need to commit in order to effect the considerable change to a ticketless environment.

Alongside e-tickets, self-service check-in and seat allocation have grown in popularity and most airports are now a sea of self-service kiosks. Indeed, three of the five IATA key initiatives in its 'Simplify the Business' project are related to ticketing and check-in. The others are barcoded boarding passes (BCBP) and common-use self-service (CUSS) kiosks.

Most airlines are now introducing on-line check-in from home and the facility to choose seats. Of course with the low-cost carrier (LCC) revolution, seat choice can be redundant with free seating the norm for most LCCS. Some are moving back to introducing seat reservation, but now it will cost passengers extra for this 'luxury'. There are also some airline industry observers who see the self-service kiosk as a passing trend, soon to be overtaken by other emerging technologies.

Reducing cost of sales

The business process of selling a seat on a flight to a customer can be complex and often expensive. In the past, travel agents or the airline sales office would issue paper tickets over the counter, which passengers had to keep in a safe place. Easily lost or forgotten, paper tickets were neither efficient nor convenient for passengers or airlines.

The internet revolutionised the way seats were sold *(see The future of web-based applications, Aircraft Commerce, June/July 2006, page 43)*. Now, technology is delivering the paperless environment through e-tickets. According to IATA, when 100% e-ticketing is introduced by 31st May 2008 it will save the industry up to $3 billion annually. IATA estimates that e-tickets typically cost about $1 to create, process and issue, compared to about $10 for the paper equivalent.

IATA quotes that e-tickets have been adopted at a rate of 84% on a global basis, hence the slight delay in the deadline. Africa, the Middle East and CIS countries lag furthest behind. Interlining, or flights connecting through several carriers, is causing the biggest challenge to getting e-ticketing adopted universally, with only 49% of interline coupons being electronic.

As well as simplifying the end user's experience of flying, these new technologies offer cost reduction opportunities for the airlines. Airline staff jobs are effectively being outsourced to the customer. Tickets and boarding cards are being printed at home on the passenger's computer, using their own ink and paper. With the customer's time and money being used to carry out these tasks, fewer people have to be employed at airports.

Talking recently about an initiative with SITA to introduce its E-Commerce Platform and its E-Ticketing at VLM Airlines, Rony Timmermans, executive director commercial & finance says, "SITA's solutions have helped us to reduce our costs and have improved our flexibility and speed. The implementation took about three months and we found SITA very responsive and supportive."

VLM operates in excess of 100 flights a week in and out of London City Airport, carrying about 700,000 passengers in 2006. They are looking for a 25% increase in 2008. This expansion could be costly in terms of manpower costs without the introduction of systems like SITA's. The flyvlm.com website now offers on-line check-in and e-tickets as part of the booking process.

Sabre offers a full e-ticket system with its SabreSonic suite of solutions. Regardless of the reservation system employed, airlines can take advantage of the e-ticketing options offered through SabreSonic Ticket software. Sabre offers solutions for both existing SabreSonic Res customers and those using other reservations systems. With the e-ticketing option, an airline can remain hosted on its reservation system, while acquiring the ability to access and utilise a full suite of electronic ticketing solutions. With the interline e-ticketing hub option, a carrier can transmit and receive messages with its interline partners without having to co-ordinate expensive individual bilateral agreements.

For airlines using non-airline check-in desks and staff, the third-party ground-handling option incorporates IATA standards for check-in and customer service for those passengers with electronic tickets. Additional SabreSonic ticket options can help airlines further improve business processes to support a fully electronic environment by including: an automated process for ticket reissues, refunds and the collection of change fees; and the 'travel bank' option, an electronic alternative to cash or voucher refunds for residual values from cancelled or exchanged tickets, which allows travellers to retain electronic flight credits in a travel bank that is accessible through all points of sale.

The interline electronic ticketing hub allows an airline to exchange inbound and outbound interline electronic tickets with multiple participating airlines

While self-service check-in kiosks have saved airlines costs related to airport passenger handling staff, they are already seen by some as becoming outdated. Systems are already available for passengers to check themselves in remotely from home and print their own boarding cards.

through a single connection to the hub. This addresses some of the issues that IATA identified as holding back 100% e-ticketing. The airline can seamlessly transfer coupons to participating interline electronic ticket partners both inbound and outbound. The hub's functionality incorporates the use of involuntary indicators to support interline settlement processes.

Check-in for the flight

Checking in for a flight has always been one of the most frustrating and time-consuming parts of any passenger's journey, second only to the ever-lengthening security-check queues.

Several years ago airlines started to provide travellers with a self-service option using stand-alone kiosks. Many other industries have been using self-service solutions for years, including banks and car parks. Today, shops are even gradually introducing self-check-out kiosks to remove the need for check-out staff and to make shopping easier.

These kiosks took time to catch on in the airline world, but after the user interfaces were refined a little they became more and more common.

One of the main challenges of course was that of hardware investment and maintenance. Airports, which rented check-in desks to airlines, did not want to completely replace the old methods. Faced with the prospect of having to accommodate many airlines' kiosks on one concourse, airports could opt for a solution that emulated the generic check-in desk systems, called common use terminal equipment (CUTE), with a CUSS kiosk system. This enables many airlines to run their departure control system (DCS) from either the CUTE or CUSS equipment and ensure that effective boarding control can be maintained at the airport. The airport concourse could therefore have several clusters of self-service kiosks, at which the customer simply selects the airline and flight they are booked on. The cost of the equipment and maintenance contracts is therefore shared across airlines.

In early 2004 there were only 10 airports worldwide with CUSS equipment. In 2007 alone there have already been 25 new airport installations of CUSS equipment, but that is down from 49 new installations in 2006. This might indicate a slowing down of the interest in this overall method of check-in, or that airlines are re-thinking the branding issues surrounding the use of common equipment. But IATA is still confidently projecting that more than 150 airports will be equipped with CUSS equipment.

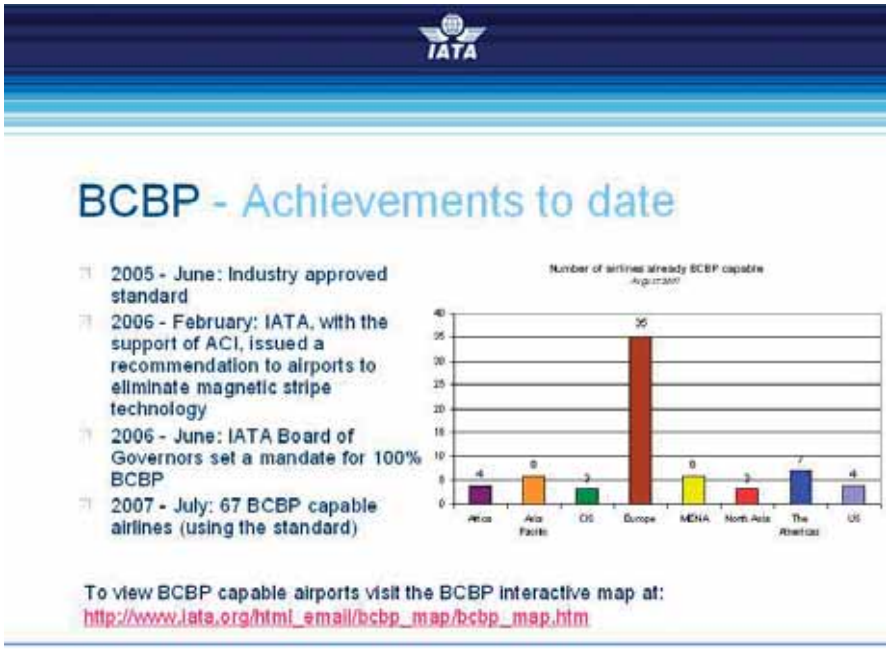
IATA's main argument in favour of self-service check-in is that it provides a time saving for passengers, reduces the cost to an airline to about $2.50 per check-in, and frees up space at airports so that they can increase capacity at a lower cost. The main challenge is compatibility and connectivity of airlines' DCS systems at the airport on this type of equipment. For example, the airline has to have a flexible and simple-to-use front end on its check-in software to enable this to work. Not all have this.

Of course kiosks are not the 'silver bullet' to end all the problems of check-in. Indeed, the queue can simply be shifted to a different part of the check-in process. Anyone with hold luggage knows that they can speed through the check-in process at the kiosk, only to join a huge queue to drop off their suitcases. Many airlines were forced to drop the word 'fast' from 'fast bag-drop' points because of the length of time people spent queuing. The production of bag tags, together with the weighing and handling of hold bags is still done by airline ground staff.

Bar-coding the future

Once check-in is over, a boarding pass is needed to complete the process and allow the passenger through the security checks and onto the aircraft. Most travellers are familiar with the cardboard passes that have a perforated tear-off strip for the departure gate staff to hand back to the passenger.

Normally, this is what the passenger retains as proof of their ticket and their



The 2D BCBP initiative from IATA is taking time to be adopted. Europe is at the forefront of introducing this bar-code technology.

validity to board. It also contains the magnetic strip which contains the information needed to be read into the equipment at the departure gate to feed the DCS and ensure that orderly, complete and secure boarding is achieved. Hand in hand with the e-ticketing initiative, IATA has been driving the BCBP initiative to introduce two-dimensional barcoded boarding passes.

As well as being cheaper to produce and read, without the need for magnetic strip technology but rather using standard barcode scanners and readers, two-dimensional barcoded boarding passes facilitate a newer phenomenon of home-printed boarding cards. Many of the suppliers like Amadeus with Altea and Sabre, along with smaller players like Radixx, provide web-based software that will allow seat-selection and home-printing of boarding passes. They all adhere to the new standards for BCBP, using IATA industry standard 2D Bar Code (Resolution 792), which allows the use of the pass on interline journeys, and takes advantage of the efficiencies offered by the industry's conversion to 100% e-ticketing.

Most LCCs introduced the barcoded boarding pass many years ago. For example, Southwest Airlines did away with cardboard passes and chose to use simple and cheap thermal-printed paper strips, which did not look as impressive, but were just as effective. IATA wants 100% BCBP in use by 2010 globally. The challenges lie mainly in the reluctance of some airlines to invest in the change. IATA also sees some remaining obstacles in terms of some system readiness and a lack of suitable airport infrastructure. The major adoption of two-dimensional barcode technology to date has taken place in Europe *(see figure, this page)*.

The advent of the home-printed boarding card and the two-dimensional barcodes that can be used at security points and for DCS, has revolutionised certain aspects of the journey process. Hand-luggage-only travellers can now simply go straight to the security gate and reduce the time they must arrive ahead of departure, thereby missing the check-in queue altogether. Many airlines allow their passengers to select seats on-line at the time of check-in, which completely eradicates the need for kiosks.

"Many see the kiosk as a dinosaur already," comments Robert Kok, managing partner of MainTrack, a travel technology company specialising in airline and airport solutions.

Alongside its Travel Portal solutions that can enable airlines to cross-sell car hire, hotels and other concierge services and earn incremental money, MainTrack has also just introduced an Air Taxi module to allow the smaller executive jet operators to manage their business more profitably. "Most internet-based reservations and booking solutions allow the passenger to check in at home and select their seat. Our system, ReservaWeb, which we sell as a hosted solution, is made by CIONS. You can print out your boarding card and go straight to the security check at the airport, if the airport systems are compatible. Therefore the kiosk becomes a little redundant. We have also been looking at some early trials of check-in using remote devices like smartphones or personal digital assistant (PDA). We believe that the kiosk will soon look old-fashioned and that the current investment will stop. But what we do offer are innovative solutions to short-term problems. For example, for one client we looked at the deployment of our solution onto a wireless wearable computer, with a hip-mounted thermal printer. For peak periods, when people checking in for flights in the old-fashioned way were queuing excessively, the portable check-in staff could be deployed to run up and down the line and check people in."

Sabre is one of the large IT providers which offers a range of technology solutions to suit airline customers' requirements. Its SabreSonic range of products includes e-ticketing and check-in. The latter offers options to enable self-service kiosks to be used, or for passengers to check in at home and print a boarding card.

In summary

Technology is serving many airlines and airports well in terms of improving the departure process, and is set to continue to do so. Most passengers feel the benefits of this new technology and embrace it. Major airlines like British Airways use it as a main plank in their advertising strategies. The IATA board of governors has asked IATA to go further and to develop a self-service strategy and action plan by the end of 2007. This is aimed at further outsourcing the travel experience to the travelling public. As well as further reducing the cost of travelling, it could provide more control over the whole process, with less queuing. Or it could cause a huge headache for the less technology-literate travellers. IATA says that the project is aimed at enabling the passenger to manage all appropriate departure and arrival processes through a range of self-service options. The benefits for the passenger would be additional control over more aspects of the journey, more convenience and less time waiting in queues. Benefits for the airlines include enhanced customer service, reduced airport space requirements and increased staff productivity. Airports benefit as well, with fewer manual process points and improved capacity utilisation, which challenges the need for expensive infrastructure development. They also get more people through the airport, thereby increasing retail revenue in the process. It seems that technology is providing winning solutions as far as the check-in and departure process is concerned. AC