Upgrading from a simplified low-cost airline revenue strategy to a hybrid structure for selling to business passengers requires several complex upgrades to an airline's distribution, reservation, ticketing, revenue management, and revenue accounting systems.

Revenue generation system upgrades for small airlines & LCCs

The majority of low-cost carriers (LCCs) have had to evolve their corporate strategies to become hybrid airlines, because traffic volumes derived from LCC marketing techniques have reached a plateau. "With a few exceptions, the LCC model erodes over time, so airlines have to adopt the hybrid route," says David Smith, senior manager portfolio marketing at SITA.

In becoming a hybrid airline, an LCC aims to increase passenger load factors and yields by attracting business passengers. The development requires a large change in the systems and technology that an airline uses throughout the revenue-generating process, because selling through a wide range of sales channels is so complex. "The process of revenue generation is simple in the LCC model, while the systems required in the hybrid model incur such high costs that the additional revenues result in a net increase for the carrier, rather than just a direct increase in revenue," says Smith.

Upgrading

The passenger sales process comprises many modules, some of which are not needed if an airline has a pure LCC strategy. When it migrates to a hybrid strategy, it uses most of, or all, the modules in the sales process, so adding them incurs costs for systems and labour. The modules that must be added or upgraded are: distribution, inventory and reservations; pricing and revenue management (RM); e-ticketing; ancillary revenues; customer relationship management (CRM); revenue accounting; and departure control and passenger handling.

Distribution

The process of adopting a hybrid strategy starts with distribution. LCCs sell purely through their own direct sales channels: their websites and call centres. Legacy and hybrid airlines sell through a larger number of sales channels, including: global distribution systems (GDSs); travel agents; on-line travel agents; general sales agents; and via codeshare and interline partnership agreements they have with other airlines.

LCCs not only have to consider all the system and process changes they will have to make if they want to distribute via GDSs in the traditional way, but also all the new alternatives.

The GDS is the standard system for distributing to a large number of travel agents around the world, with the clear benefit of increasing an airline's market penetration. This incurs new costs for an LCC, however. "The GDSs basically have a cartel, and airlines have to pay segment fees whether a reservation results in a booking or not," explains Richard Burgess, vice president for Europe at APG-GA.

Once airlines start using GDSs to sell via travel agents (whether they are on-line or not), fares must be filed with various agencies, and revenues claimed through various settlement plans. Airlines therefore incur several costs by using GDSs. The first are the segment fees, which are chargeable regardless of whether reservations become confirmed sales. Several other costs make using GDSs expensive for the airline. "The airline has to negotiate a contract with the GDS that specifies whether the system will show last seat availability, or if it will sell and report using AVS signals," explains Smith. "Other details regarding the provision of seat assignments and aircraft seat maps to the travel agent may be included. Each feature adds to the airline's costs. These can be paid by segment fees, as well as implementation fees for connecting the GDS and the airline."

Travel agency commissions also have to be paid, and balanced against the higher potential revenues that could be generated.

Then there are the many possible sources of revenue leakage that an LCC will have to consider and understand for the first time, and minimise by implementing systems and safeguards. It is becoming easier to protect against revenue leakage now that the entire passenger sales process has become electronic. There are still several ways in which revenue can be lost, however, and protecting against this is another cost for airlines migrating to a hybrid structure.

When joining GDSs, airlines also have to file schedules with OAG and fares with organisations such as SITA and ATPCO; incurring further costs. These filings, however, are a necessary part of increasing market penetration. The use of GDSs to sell via travel agents and on-line travel agents means an LCC will now be selling into a large number of countries around the world: on-line countries, to which they fly; and off-line countries, to which they do not fly but where they generate sales.

Airlines therefore require a mechanism for collecting revenues from the thousands of new potential sales outlets. For many years the traditional system has been to join settlement plans: the Airlines Reporting Corporation (ARC) for sales generated in the US; and a bank settlement plan (BSP) for each country other than the US. "Joining the ARC and a BSP for each country has a high initial fee. The ARC joining fee is $55,000, and BSP fees are $5,000-50,000, depending on the country. They average about $25,000," says Burgess. "Then there are monthly fees to process all the sales and revenue data for each airline". These joining and monthly processing fees for each country have to be considered against the possible sales volume that might be generated in return, which will clearly vary widely between each country around the world. An LCC in North America or Europe, for example, is unlikely to generate many sales from

individual African countries. LCCs will therefore avoid joining a lot of countries, and will find it hard to justify joining BSPs for many others. The fees may even dissuade airlines from attempting to penetrate a new market.

The issue is further complicated by the fact that to complete the entire sales and revenue collection process, an electronic form of communication is required so that airlines may claim revenues from BSPs. No ticket numbers are generated in an LCC's holistic sales system, because there is no external distribution, and revenue is collected at time of sale. When LCCs upgrade to hybrid strategies they therefore have to implement a module in their sales systems and processes to automatically generate electronic tickets and ticket numbers; thereby adding another cost to the upgrading process.

A further form of distribution is for an airline to form interline and codeshare agreements with other airlines. Codeshares will be used to co-operate with legacy carriers and use their own flight numbers plus those from one or two other airlines on the same service, with just one of the airlines operating the service. Codesharing can be on routes the LCC already operates, as well as some of the routes its partner airline flies on. LCCs gain from this by generating extra revenue from a few extra sales, whether the service is operated by them or their partner airline. The airlines that codeshare with each other effectively increase their market penetration by gaining access to each other's route networks. A recent example of a codeshare agreement between an LCC and a legacy airline is is one signed between WestJet and American Airlines.

LCCs can also benefit from interlining their services with other airlines, since they can gain traffic feed from the networks of these airlines by transferring passengers at hubs. Recent examples of interline agreements that have been formed between LCCs and legacy airlines are: German Wings and Lufthansa; and WestJet and Air France. JetBlue has recently formed interline agreements between two Star Alliance carriers (Lufthansa and South African Airways), as well as two OneWorld Alliance members (American Airlines and Aer Lingus). These interline agreements will allow these LCCs to take traffic feed from the legacy airlines, thereby generating additional sales volumes, and to benefit from the fact that partner airlines already distribute via GDSs to travel agents in several countries that the LCCs do not market in or fly to.

Codeshare and interline agreements, however, have several complications. The first is that revenue sharing has to be agreed between the airlines concerned. There are several ways to achieve this, but the process is complex and costly.

Another necessity of codesharing and interlining is that LCCs upgrading to this will have to issue electronic tickets and generate ticket numbers in order to monitor passengers as they pass through the check-in and departure control systems (DCS) of each airline and segment flown on a multi-segment trip. The LCC will therefore have to add an electronic ticketing module to their system.

Until the summer of 2008 airBaltic followed an LCC strategy. "Despite being an LCC, we had to use GDSs and travel agents because our route network included the three Baltic states, and several countries

from the Commonwealth of Independent States (CIS), in all of which there is a low level of credit card use. Direct selling through our website therefore accounted for only a small proportion of sales," explains Tero Taskila, chief commercial officer at airBaltic. "The economic downturn of 2008 resulted in our traffic, which was mainly leisure, falling by 40% in eight weeks. We quickly had to develop a new strategy, so we created a new network that focused on generating connecting traffic by serving 80 destinations and creating a lot more connections at our Riga hub. By the first quarter of 2009, connecting traffic in our system had increased to 60% from 15% a year before.

"The main issue was how we were going to distribute and market ourselves. We needed to sell more through travel agents, on-line travel agents, and via codeshare and interline agreements," continues Taskila. "We continue to use six GDSs, but have also started using General Sales Agents (GSAs) in 26 countries. We fly to 40 countries, and have our own sales representatives in another 14. We now have the largest penetration of any EU airline into the CIS, and also serve several points in the Middle East. The sales channels we use have allowed us to sell, even though the use of credit cards in many of our markets is low. The percentage of total sales made through our website has fallen. One area to which we increased our operations was Scandinavia, where more people use travel agents. Sales are generated by other airlines with which we have interline agreements, and we use GSAs in Japan and Korea that promote us as the preferred airline for European legs."

Further considerations

Besides these changes and upgrades to systems that all airlines would have to make, LCCs have several other options. The first is that there are alternatives for distribution, including the new direct GDSs. "One example is Air Asia, which is using a direct GDS," says Raelynn Sink, product director passenger services at Navitaire. "As far as the travel agent is concerned the information on the screen looks like all other information provided by a GDS, but the system in fact connects directly to Air Asia's inventory. GOL in Brazil also sells a large volume through travel agents, but connects directly to them,

German Wings adopted a hybrid strategy and moved to ticketing technology. It formed an interline agreement with Lufthansa. Lufthansa also acts as a GSA for German Wings. In the process, German Wings avoided the cost of joining BSPs, operating its own call centre, ticketing and collecting payments.

rather than via a traditional GDS. American Airlines is trying to get travel agents to connect directly to them, and bypass the GDSs. This will cut out the cost of segment fees, so that airlines only have to pay travel agents' commissions.

"Although this may seem complicated to achieve technically, airlines can actually make better sales this way. First, it allows greater product differentiation, and gives airlines greater control over how it is presented to shoppers. The airlines can also get more detailed information about the passenger making the enquiry and what they ultimately buy in terms of fare and ancillary products. The information is also broken out, rather than listed as a single sum. This aids RM systems in valuing transactions, so the airline can tailor its offering," continues Sink. "This requires the airline to use type A messaging when communicating with the travel agent, which is more expensive than type B messaging, so that the agent gets actual availability and pricing information from the airline's system. The airline can offer a customised service, and achieve better RM, and improved yields. Another issue here is that of ancillary revenue. It is not possible to market ancillary products and airline frills to potential buyers with conventional GDSs, since all is known is that an enquiry about a potential trip is being made by someone. It is possible with direct GDSs, because of the more detailed information obtained about the buyer."

British Airways (BA) is also attempting to bypass traditional GDSs for at least some of its fare classes. "BA is threatening to remove some of its fare types from the GDSs if the system providers do not reduce their segment fees," says Burgess. "Joining GDSs and filing schedules and fares is relatively easy, but the bigger issue is the costs that result from claiming revenues from the sales that are generated. The cost of joining BSPs will be prohibitive for most LCCs trying to penetrate new markets. We offer pay-as-you-go alternatives to BSPs, so that airlines can avoid the up-front investment and therefore enter a lot more new markets. One example is IBCS, which works in the same way as a BSP, but has an initial joining fee of $1,000 per country. If the airline wants to join for 10 countries, then the fee is just $1,000 for five countries. There is then a 3% commission for all sales claimed. We offer BSPs for 70 countries, and most of our clients join 30-

40 BSPs through IBCS. The airline, of course, still needs to have a system to generate ticket numbers for making the revenue claims.

"Despite the rise of internet ticket sales over the past 10 years, 80% of all global airline sales are claimed through BSPs, which indicates that the majority of sales are still made through the traditional sales channels," continues Burgess. "Also, LCCs that have upgraded to a hybrid model generate a substantial portion of their sales through BSPs. Vueling, for example, now gets about 20% of its sales through BSPs. IBCS is now used by 127 airlines, including LCCs that have developed into hybrid airlines. IBCS allows airlines to test small markets, and is a good system to have in countries where the use of the internet and credit cards is small. Airlines still have to pay segment fees to GDSs, commissions to travel agents, and commissions for the use of IBCS, but the low up-front cost opens more new markets."

Although the IBCS may be initially cheaper than joining a BSP, airlines need to consider other indirect costs in relation to low-cost settlement plans. "The IBCS has a low joining fee, but it requires a lot more manual work by the airline than a BSP. We want to automate as much as possible at airBaltic, so that we can reduce staff, so we have opted to join BSPs," says Taskila. "We have been getting significant volumes of passengers from off-line countries, such as Syria, so we joined the Syrian BSP."

The IBCS may be an overall cheaper option to start with, so that airlines can upgrade to full BSPs when sales volumes reach higher levels, which would make costs per ticket lower overall.

As well as distributing via traditional

GDSs and new direct GDSs, LCCs that upgrade can also consider using GSAs, which are sales offices that act on behalf of several airlines in one country where the sales volume for each carrier is expected to be small. This is more economic than setting up a dedicated sales office. Using a GSA means that the costs of a single sales office can be shared by several carriers. "A GSA makes economic sense where an airline sells into a marginal market that could generate a small sales volume," explains Burgess. "We offer GSAs in 100 countries, and have staff representing several airlines in each one. The staff actively market for the airline using on-line travel agents, forming interline agreements, and by creating in-house travel agents for the airline. GSAs work on a commission-only basis, so costs are proportionate to the sales volumes generated. Our 100 GSAs mean that we can represent an airline in 100 countries where they may only generate small sales volumes. These are, of course, likely to be off-line countries, to which the airline does not operate, so the traffic comes from these countries through interline agreements. A European LCC may need representation in China through a GSA, and will take traffic flows from the Chinese operator's flights between China and Europe. The LCC will therefore become the carrier of choice on European flights for the Chinese passengers."

A third consideration is the formation of interline agreements. "This is expensive, since it costs a system provider $5,000-6,000 to set up an interline agreement between two carriers when using e-tickets," says Burgess.

"The cost of implementing interline

Following the economic downturn in the summer of 2008, airBaltic was forced to restructure its route network so that it generated connecting traffic between 80 destinations. This necessitated the use of GDSs and GSAs.

connections between two airlines will be predictable if both have mature systems with the required software," adds Burgess. "If an LCC's system does not have the right software, the implementation can easily cost more than $200,000.

"Prior to e-ticketing, many airlines had interline agreements with a large number of airlines that generated small numbers of passengers. Maintaining them became expensive because of the cost of setting up the interline agreement for e-tickets, so a lot of these interline agreements were dropped," explains Burgess. "We created an interline hub as a response to this. Each airline joins the hub, and we take a 9% commission on revenue without any joining fee, so an airline can have a limitless number of interline agreements. Our hub is used by 71 airlines, and it would normally cost $350,000 to create all these interline agreements if an airline wanted to set them up with all the other carriers that use the hub. The hub means interline agreements can be formed with airlines that generate only a few passengers. The hub can also be used as an alternative to a BSP or the IBCS when selling only a small number of tickets in a particular market. GOL, for example, uses the hub to sell into Australia.

"Once sales volumes exceed $100,000, it becomes cheaper for the airline to join the IBCS or a BSP. The IBCS is good for medium sales volumes, while the BSP is cheaper per sale for high sales volumes," adds Burgess. "APG-GA advises airlines when it is economic to switch."

Beyond distribution

Airlines then have to consider connections with other modules that are part of the passenger sales process: DCS; inventory and reservations; pricing; RM; e-ticketing, ancillary products; and CRM.

A major decision for an airline is whether it wants to offer ticketed or non-ticketed services when selling via a GDS and travel agent. Non-ticketed services are already offered by LCCs, and require instant payment. "This may appear to be advantageous because it does not rely on BSP processing and so is cheaper, but the need for a travel agent to ask a buyer for payment often halts the process," says Cyril Tetaz, senior manager distribution at Amadeus. "Most LCCs have evolved and use standard ticketing processes, which use BSPs but do not require instant payment. WestJet, JetBlue, German Wings and Norwegian Air Shuttle have all moved to standard ticketing. Eliminating the need for direct payment has seen a 270% increase in the volume of bookings made by travel agents that use Amadeus. The airlines generate higher yields and volumes, and achieve greater market penetration, but get paid later. Standard ticketing processes, however, make interlining and codesharing possible."

The use of partnership agreements and standard ticketing means the GDS needs to have connectivity with the airline's reservation, inventory and DCS systems. "This connectivity is clearly required for the travel agent to know if seats are available on requested flights," says Tetaz. "The airline also needs an e-ticket server, since this will identify all the tickets issued by a travel agent when the passenger checks in and boards the flights. The e-ticket number is also required for revenue accounting, and to claim revenues through BSPs and other settlement plans."

German Wings is an LCC that adopted a hybrid strategy and moved to ticketing technology. German Wings formed an interline partnership with Lufthansa, so that German Wings could avoid the cost of joining BSPs and their processing fees. Lufthansa also acts as a GSA for German Wings, so that the latter avoids the cost of operating its own call centres. Flights with German Wings flight numbers are ticketed by Lufthansa, which collects payment. The two airlines have a pro-rating agreement, and Lufthansa supports the BSP costs.

"German Wings did have to enhance its technology, but it only had to add an e-ticket server and establish a connection with Lufthansa's reservation system," says Tetaz. "The two airlines both use Amadeus reservation systems, which are linked together."

Ticketless systems via GDS and travel agents are a cheaper entry-level system for airlines upgrading to a hybrid strategy. "It still gives the airlines the benefit of distributing via a travel agent, while avoiding the costs of acquiring an e-ticket server and joining BSPs," says Tetaz. "The simplicity of the system means it cannot be used for partnerships with other airlines, and the travel agent still requires instant payment from the customer. Most new airlines start with a ticketless system, and upgrade to ticketing later because of the additional benefits, so airlines have to consider the technical and commercial implications when changing sales strategy."

Revenue management

LCCs upgrading to a hybrid strategy will have to change from an RM system that provides point-to-point fares used on a single-segment or single-leg basis. "RM becomes more complex for hybrid carriers, especially when partnerships with other airlines are formed," says Smith. "Partnerships mean that that multi-leg, origin & destination (O&D) fares are required. Airlines will also need to increase the complexity of the fares used on existing point-to-point, single-leg trips by adding barriers to segment fares and prevent business passengers accessing lower fares."

The segmentation of fares is something that RM systems for pure LCCs cannot manage. Low-cost RM systems also have a simple mechanism for changing the availability of each fare class; and are usually based on a first-come, first-serve basis so that fares get higher as available

Virgin Blue is another example of a LCC that has migrated to a hybrid strategy. The airline now accounts for a high percentage of capacity on the Australian and New Zealand domestic markets, having been set up to fill the space left by Ansett after its collapse in 2001.

inventory reduces. The RM system for hybrid carriers is likely to become more complex by becoming dynamic so that it is able to react to changing levels of demand. Hybrid airlines are clearly serving leisure and business markets, and need to forecast demand levels for both as part of their RM process. "Sky Price is an RM system that handles segmentation, but also has a price-sensitive forecast for the leisure market," says Sink.

Another issue is that hybrid airlines changing to a more complex fare structure will need to add a pricing module to their system architecture. "LCCs do not distribute fares to travel agents, or file fares. Their simple fare structures mean that fares are pre-calculated for each route, and do not need to be calculated when a buyer makes an enquiry. This is in contrast to a hybrid carrier with a complex fare structure, rules and segmentation," says Smith. "A pricing module is required to determine what fare can be offered to the buyer according to their itinerary and fare rules. The pricing system also has to calculate taxes and tariffs applied to the fare, and it is required when selling through external channels and airline partnerships. The pricing system also has to interface with the airline's distribution, reservation and RM systems."

airBaltic's change of strategy in 2008 illustrates how an LCC's RM system requirements changed. "The portions of business and leisure traffic in our mix have not changed much. Our objective was to generate new passenger volumes by interlining, because point-to-point traffic shrank," says Taskila. "Our problem was that the LCC RM model only optimises yield on a single-segment basis. We had no real price rules, and used one-way pricing where the price was simply dictated by seat availability. While legacy systems have complex fare rules, we have a policy of not introducing them. We still want to base fares on seat availability. It is difficult, however, to optimise yields when selling fares with several segments. We are therefore introducing an O&D RM system, with simplified fare rules, from Lufthansa Systems, and expect to enhance yields and traffic volumes by about 8%."

Different fares are also sold through different sales channels, with business passengers accounting for most of the sales through travel agents, with leisure passengers accounting for the majority sold through airline websites and on-line travel agents. "An RM system for multiple sales channels can be done statically, so the fares for different sales channels and sales regions are distinguished, and then filed periodically. This can be for a day, several days or a week," says Marco Cesa, senior vice president of sales EMEA at Lufthansa Systems. "The alternative is to use a dynamic RM system where fares change according to the criteria of each request: the point of sale; the time of day the request is made; the flight required; the destination and origin airports; how often the client uses the airline; and the requested time of departure. These are all used to analyse the type of customer and the value of the request being made. This has to be done in milliseconds, so we use Dynamic Price Engine, a module of our ProfitLine suite. The use of a dynamic system is an attempt to segment the market."

While dynamic price changing may result in a higher yield mix, there is a cost implication in changing fares. Fare availability changes have to be communicated to the GDSs. "This is done with availability status messaging, and airlines pay according to the number of characters they use in the message. More frequent changes result in more characters being sent and a higher messaging cost," says Smith. "There are therefore lots of additional system and technology costs when upgrading to a hybrid system.

"A more sophisticated RM module is not enough on its own," continues Smith. "RM for higher yields from business passengers requires a forecasting module, as well as market intelligence to regularly monitor the fares an airline's competitors are offering. We offer our Airfare Insight product for this function, which robotically monitors competitors in real-time. This can result in more frequent fare changes, which incurs more messaging costs."

A further development in recent years is the advent of ancillary products and the unbundling of full-service fares. "The hybrid airline also requires a system to handle unbundled fares, as well as price a lot of ancillary products," says Sink. "The difficulty that unbundling and adding ancillary products causes is that it becomes harder to forecast market demand and sensitivity to different fares and ancillary products, and to compare airlines' fares and ancillary products because of the differentiation between them.

"A further issue is that while airline websites can display ancillary products, most GDSs do not display ancillary products and unbundled fares for travel agents," adds Sink. "It is easier to display unbundled fares and ancillary products when the travel agent has a direct connection to the airline. This allows more dynamic pricing. Our New Skies product can price an airline's different ancillary products, as well as bundle base fares and a group of different ancillary products."

Meanwhile, Amadeus has launched Amadeus Ancillary Services to help airlines that provide full ticketing on sales made through GDSs and travel agents, to sell ancillary products. "This includes the fulfilment of ancillary services and tickets," says Tetaz.

airBaltic has an agreement with Amadeus and Sabre to sell ancillary products via GDSs and travel agents. "This will start in April 2011," says Taskila. "Other GDSs have the technology for this, but Amadeus and Sabre have the highest penetration in the markets we serve."

E-ticketing

Another change when upgrading to a hybrid strategy is that using external sales channels, combining tickets with ancillary products, and codesharing and interlining with other airlines on multi-leg trips all mean that full ticketing is required, and that the airline needs an e-ticketing module. "Airlines need to keep track of a passenger as they check in and board each flight on multileg trips. This can only be done with e-tickets that monitor passengers as they pass through DCSs when they board flights," says Smith. "An airline will therefore need to acquire an e-ticketing module, and to connect it with various other modules in the sales process. These include the DCS, reservation system, the reservation systems of partner airlines, and the revenue accounting system. The use of e-tickets across several airlines means they need to be in a standard format, and kept in a central database where they can be located. SITA processes more than 1 million e-tickets per month, and charges airlines on a per coupon basis. We also provide connectivity to the e-ticket hub."

Revenue accounting

Revenue accounting in the holistic systems used by pure LCCs can be virtually non-existent, since payment is received instantly, and taxes and tariffs are simply deducted leaving a net revenue figure. Reconciling revenues received and those in the booking engine is often done using spreadsheets.

"Changing to a hybrid system introduces a lot of complexity. Sales through travel agents require an airline to become a member of a BSP or similar settlement plan, particularly when they distribute through GDSs or have partnerships with other airlines," says Cesa. "Revenues therefore have to be claimed from many countries. Reconciling the amount due is complicated by GDS segment fees, travel agent commissions, BSP processing fees, and taxes and tariffs. There are also revenue fluctuations caused by changes in exchange rates, but these are dealt with by International Air Transport Association (IATA) rules and the calculated IATA exchange rates that are published each month. These need to be used by the revenue accounting system.

"Further complexity is introduced by airline partnerships, due to the different pro-ration agreements between each of an airline's partners," continues Cesa. "Ancillary products, and the revenue sharing agreements an airline has with each of the ancillary product providers adds further complication."

Amadeus is promoting the use of electronic miscellaneous documents (EMDs), which will provide electronic references for collecting funds for different ancillary products, so that ancillary revenue can be associated to a particular passenger and flight number.

Hybrid revenue accounting systems need to work with other airlines' systems for: pro-ration of fares, BSPs and other settlement plans, GDSs, on-line travel agents, and ancillary revenue vendors.

IATA has a project to make the billing and invoicing of all revenues fully electronic for all interline tickets by September 2011, through IATA's simplified interline settlement (SIS) scheme. All airline systems will need to comply with this initiative by this date. SIS will remove all paper billing and invoicing between airlines that have interline and codeshare agreements, and ultimately save costs.

Lufthansa Systems's SIRAX is a revenue accounting system that can manage the requirements of all types of airlines, and has been chosen by some LCCs that have updated their revenue accounting systems as they have migrated to a hybrid strategy.

Within revenue accounting there is also the issue of revenue leakage. "This will be less of an issue with tickets being fully electronic, but checks still need to be made to see that travel agents have applied the correct fare, or have not made duplicate bookings," says Smith. "Our SITA Passenger Revenue Accounting system has a revenue integrity module that checks the fares applied by travel agents, and looks for duplicate bookings. The system can automatically send agency debit memos, and it works robotically after bookings have been made."

DCS

The importance of a DCS should not be overlooked, especially when more complex and refundable fares are introduced, since passengers may fail to board a flight even after check-in, and may be entitled to a refund or to use the ticket on another flight. DCS is also required to monitor passengers on multi-leg trips, especially with revenue accounting for airline tickets and ancillary products.

The Amadeus DCS is based on the e-ticket server, so that when a passenger boards an aircraft, the DCS informs the e-ticket server in real-time.

An airline's DCS therefore needs to communicate with the e-ticket server of all affected airlines, as well as the revenue accounting system and ancillary revenue system. The DCS can prevent people who have violated fare rules from boarding the aircraft. This is useful when introducing O&D fares and connecting services.

Ancillary products are important to an airline's DCS because the cabin crew on the aircraft need to know which passengers have boarded, and reconcile this with the ancillary products each one has ordered. The DCS stores all the ancillary product information in one place, since all ancillary products will be sold through several channels. AC