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2 Developing and managing the schedule of an airline is a highly complex task. Lufthansa Systems' innovative NetLine/Sched solution covers all schedule management aspects and provides a powerful yet easy way to visualize and modify schedules. The results are better schedules; they match market demand in the best possible way and make best use of the airline's fleet. This increases revenues by up to 2 percent, which means a double-digit million dollar amount for a medium-size airline. Aircraft utilization increases by up to one percent.

Hot Topics

Lufthansa Systems' pricing solution for maximum revenue ProfitLine/Price Sales Integration takes fare coordination to a new level

Airlines are extremely complex businesses. There are a large number of processes and many internal and external parties involved. However, it all boils down to one target that all airline companies in the world share: making profit. To a great extent, this goal is closely related to the airline's revenue management and pricing, or to maximizing the airline's profit by smart market segmentation and fast pricing initiatives. Lufthansa Systems offers ProfitLine, a leading integrated pricing and revenue management product suite.

Pricing is a central element of this process, because it is the final result of the airline's market segmentation efforts. Booking classes may be well structured, but they will not maximize profits if the fares they represent are too high (turning away customers) or too low (giving away revenues). With ProfitLine/Price, revenue specialists have a state-of-the-art solution on hand that optimizes pricing processes and increases revenues.

Part of the success of ProfitLine is its constant renewal process. Lufthansa Systems is always exploring new functionalities that can help the planner with this increasingly complex job. It is important to observe fares in the market and see what competitors are doing. As most airlines serve foreign markets, they need to have a pricing structure for every country based on the local cost levels and market situation. This is where the new ProfitLine/Price Sales Integration web client comes into the picture.

Pricing coordination between an airline's headquarters and its international offices is an important task for pricing managers. After all, prices that suit the market are not necessarily what central airline strategists have in mind. For instance, if due to a local economic downturn it may be advisable from a market perspective to stimulate travel by implementing lower fares, head office may oppose this move because it will be hard to lift fares in the future.

Also, if a competitor reduces prices for a specific route during a promotion, the airline needs to calculate very well whether it makes sense to match the low fares or to stick to its fare levels in order not to spoil the market.

If a local office decides to change a certain fare, it needs to file a request with its headquarters. This process has been long-winded and quite intransparent. Now, the new Sales Integration web client supports pricing managers with a number of innovations. Its new, user-friendly graphical user interface makes it easy to work with, reducing training time and costs. Being web-based, it acts as a standardized communications platform for sales and pricing departments, giving planners access to the comprehensive ProfitLine/Price fares and rules database. The solution is integrated with the airline's deal management, and most importantly, it is part of the pricing workflow rather than a cumbersome separate solution.

For pricing managers at the head office and in the field, the new Sales Integration web client provides even more advantages: It increases pricing efficiency due to its standardized approach. This improves transparency and economic results as misunderstandings between offices, and thus time to market, can be significantly reduced. Deployment, configuration and user guidance are easy and fast, so the airline starts to benefit from the tool shortly after implementation.

Several international airlines have signed up for the new web client already. This is proof to the fact that it is a big step in keeping ProfitLine/Price in its leading market position. Because airlines can do a lot in terms of product quality and service - but industry professionals know: a flight is a flight, and pricing is everything.

FreeFlight by Lufthansa Systems - A dream of future aviation may come true

Despite the current downturn in the airline industry, the FAA forecasts that air traffic will increase by 36 percent to 61.9 million aircraft handled in 2025 compared to 2008. EUROCONTROL also predicts that until 2030 flight movements over Europe will double compared to 2007. Therefore several programs worldwide have been initiated to research the potential that is available to increase capacity and efficiency. Lufthansa Systems has developed the FreeFlight module - an innovative add-on of its powerful Lido OC flight planning solution - which enables airlines to benefit from the latest advancements.

With the goal to enhance the ecological and economical efficiency of each routing, the Air Traffic Capacity and Flow Management (ATCFM) will move from airspace to trajectory based operation, to allow each flight to achieve its most efficient trajectory. With airspace based operation the possibilities for a routing are limited to available airways. These are defined and controlled by the Air Traffic Management (ATM) of each country. Often, these airways are restricted in time, flight level, flight direction or speed, which reduces the effectiveness of the flight routing. Based on the given structures and limitations flight planning systems have to find an optimal routing.

A trajectory based routing can be considered in free flight airspaces, where an airline is allowed to plan the routings without a given airway structure. This means, in free flight airspaces an airline can choose any route between A and B without being restricted by airways. This opens up almost unlimited options to calculate the most-efficient routing. But it also increases the demand on flight planning systems dramatically. The highly complex procedure of calculating the most efficient, trajectory in terms of distance, flight altitude, wind direction and speed in free flight airspaces requires highly intelligent optimization algorithms as well as high performance software procedures.

As an industry first, the FreeFlight module of Lido OC, automatically generates a dense carpet containing millions of artificial waypoints and segments in order to optimize flight paths by using geographical co-ordinates instead of waypoints and radio beacons. The method of "trajectory-based flight plan optimization" dramatically improves the fuel efficiency of every flight. Lufthansa Systems' first simulations of the economical impact of free flight trajectories in an "artificial Single European Sky" have shown fuel improvements of more than 3 percent. Therefore also the environmental impact is significant. Emissions will be reduced as less fuel is burned. Some European ATC authorities (e.g. Portugal and Sweden) have already begun to tackle this difficult task by implementing free flight airspaces. Tests in flight simulators have shown that free flight could make it easier to keep track of air traffic in the extremely busy airspace over Europe. But how does it work? Collision avoidance is handled by on-board computers in cooperation with the pilots. On a technical level, the navigation computer in each plane regularly sends course data to all other aircraft in the area. If there is a danger of collision, the aircraft follows fixed rules to avoid one other. That way, aircraft are able to fly the shortest route to their destination at the ideal altitude and speed. In addition more aircraft can cross the same airspace if traffic is not restricted to the airways.

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Next-generation revenue management with Lufthansa Systems' Dynamic Price Engine takes off

Launching customer TACA now benefits from optimal pricing in real time

TACA is the first airline worldwide to optimize its pricing processes and increase its revenues by using Dynamic Price Engine (DPE). After Lufthansa Systems has implemented its next generation revenue management solution the leading Latin-American airline now can evaluate booking requests in real time and respond with the optimal price.

"By deploying the Dynamic Price Engine, we gain even more flexibility and significant competitive advantages through optimal pricing in real time and by optimizing distribution costs," explains Mario Cruz, Revenue Management and Pricing Manager at TACA, the airline's decision to enhance their revenue management system. The airline has been successfully using revenue management solution ProfitLine/Yield O&D (Origin & Destination) from Lufthansa Systems since 2005.

With its DPE, Lufthansa Systems has developed a tool that enables network airlines to improve their position when directly competing with low-cost carriers. "This innovative solution enables TACA to always take the current market situation into account in order to offer the optimal price. It provides a fully integrated approach to revenue management and pricing that leads to real time dynamic pricing," says Dr. Ulrike Gall, Senior Vice President Airline Management Solutions at Lufthansa Systems. "The implementation of the Dynamic Price Engine for our launching customer TACA is a further testimony to our in-depth airline expertise and extensive IT know-how."

Since 2005, TACA has been using an extensive package of IT solutions from Lufthansa Systems to handle its core processes. The Central American airline optimizes its revenue management and pricing (ProfitLine), crew and fleet management (NetLine), flight planning (Lido OC) and passenger management with IT from Lufthansa Systems. The IT provider operates all systems in its own data center.

China Southern Airlines optimizes route network and flight schedules with IT from Lufthansa Systems

More passengers, more revenue and better utilization of aircraft and crews

China Southern Airlines, the largest airline in Asia, is now optimizing its route network and flight schedules with the integrated NetLine/Plan and NetLine/Sched solutions from Lufthansa Systems. This will enable the airline to acquire new passengers and increase the utilization of its aircraft. China Southern Airlines selected the world's leading planning system in 2007 and its implementation is now complete.

"We would like to thank Lufthansa Systems for carrying out this complex project with sheer professionalism. As the world's fifth largest airline, China Southern emphasizes the quality and efficiency in scheduling and network planning and will further improve the operation performance with the help of NetLine/Sched and NetLine/Plan," said Mr. Jerry Hu, Chief Information Officer, China Southern Airlines.

Lufthansa Systems' NetLine suite provides comprehensive IT solutions, and enables airlines to optimize their schedules, sub fleets and crew assignments. For example, with the NetLine/Plan module, airlines can modify schedules to increase load factor, and optimize connections and codeshare flights to acquire more passengers. Referring to the benefits from both revenue and fleet utilization, such innovative IT solutions offer great economic value. Now more than 50 airlines worldwide have already adopted this product.

"As the largest airline in Asia, China Southern has a high standard of quality. We have proven that NetLine improves flight schedule quality and profitability to strengthen international competitiveness, and we look forward to continued cooperation with China Southern," said Dr. Gunter K uchler, a member of the Executive Board of Lufthansa Systems AG, commenting on the completion of the project in Guangzhou.

AeroLogic opts for extensive IT package from Lufthansa Systems

Optimal IT tools for flight operations, planning and control

AeroLogic, the cargo airline owned by DHL Express and Lufthansa Cargo, launches flight operations by using industry-leading navigation products from aviation IT specialist Lufthansa Systems. The airline uses the electronic navigation charts Lido eRouteManual for its air and ground navigation. AeroLogic has also chosen the Lido FMS navigation database service for the flight management system and calculates its crew rotations with NetLine/Crew. In addition the airline uses NetLine/Sched for schedule management, NetLine/Ops for all operational control processes, and Lido OC, Lufthansa Systems' leading flight planning solution, via DHL Express.

"Lufthansa Systems impressed us with its extensive experience and solid airline expertise. The modern IT solutions from Lufthansa Systems are some of the most powerful on the market and will make our flight operations extremely efficient. Using a number of solutions from a single source gives us the benefit of systems that are harmonized with each other," explained Dr. Thomas Papke, managing director of AeroLogic GmbH.

The Lido OC, Lido eRouteManual and Lido FMS solutions, for example, are based on the same aeronautical database. As a result AeroLogic benefits from a high degree of integration as well as efficient flight planning and operations. The products in the NetLine suite cover all crew and fleet planning processes. With their high level of automation and cutting-edge optimization tools, the NetLine solutions enable airlines to accelerate processes, lower costs and increase revenues.

"We are proud that AeroLogic has chosen Lufthansa Systems' integrated IT solutions for its business-critical processes," said Stefan Auerbach, Senior Vice President Sales EMEA at Lufthansa Systems. "The NetLine products and Lido FlightOps Suite offer greater optimization than standalone solutions and guarantee sustained cost savings for AeroLogic."

Germanwings reduces fuel costs with IT from Lufthansa Systems

Efficient flight planning and route optimization with Lido OC

Lufthansa Systems announced that Germanwings recently signed a five-year agreement for the use of the market-leading Lido Operations Center (Lido OC) flight planning solution. Lido OC from Lufthansa Systems uses a number of parameters to calculate the optimal route for each flight, which leads to fuel savings of up to five percent.

"Reducing operating costs is more important than ever in the current economic climate. Lido OC supports our operational flight planning and calculates optimal routes to significantly cut flying time, fuel consumption and flight costs," explained Michael Knitter, Flight Operations Manager at Germanwings. "Thanks to its high level of automation, the system also makes our dispatch processes more efficient."

Lido OC is used to plan around 40 percent of all flights operated by European airlines. The system uses its own aeronautical database to calculate the best route for each flight. It takes all relevant information into account, including weather data and current aeronautical restrictions. Lido OC additionally generates clear and reliable briefing documents for every flight. Germanwings will also use the Lido Briefing module so that its crews can access briefing materials over the Internet.

"We are very happy that Germanwings has decided to expand its close cooperation with us and take advantage of our flight planning expertise. Lido OC is a good example of our modern IT solutions which lead to direct cost reductions for airlines," said Stefan Auerbach, Senior Vice President Sales EMEA at Lufthansa Systems. Germanwings has been a Lufthansa Systems customer since 2002 and already uses a number of solutions from the IT provider.

Meet Lufthansa Systems

If you would like to talk to one of our IT experts about any specific solution in detail, we would be happy to coordinate a meeting. You can find us at the following events:

Name of Event	Date, Location	Solutions presented
NetLine Optimization Day	July 9, 2009 Lufthansa Systems Berlin, Germany	NetLine/Ops and NetLine/Crew.