

FLIGHT PLANNING PROWESS

TURKISH AIRLINES: GEARING UP FOR NEW FLIGHT-PLANNING CHALLENGES

By Grant Faulks, Robert Heiss and Witold Klajnert

“We fly to more countries than any other airline,” Turkish Airlines’ current marketing campaign focuses on this statement. With its main hub, Istanbul, Turkey, acting as a historic bridge between the east and west, the slogan emphasizes the airline’s tremendous growth in recent years.

Following the airlines’ growth, the demands on its flight-planning organization have increased considerably. In 2010, when Turkish Airlines implemented Sabre Flight Plan Manager, the airline operated approximately 700 flights a day. Today, that number has nearly doubled to almost 1,400 daily flights.

Flight Plan Manager combines complete data support services — notice to airmen (NOTAM), weather, airport suitability and airspace restrictions — with real-time alerts. The 4-D cost optimization functionality, route, altitude, speed and time are simultaneously analyzed to create an optimal flight path that accounts for fuel costs, CO₂ emissions and delays.

Flight Plan Manager reduces costs and increases revenue by providing an airline with optimized solutions on a flight-by-flight basis, considering fuel, time and revenue. It enables airline analysts to manage by exception through alerting. In addition, it integrates with industry standardized meteorological and navigational data, aircraft situational display and airspace flow control.

“After a detailed analysis and evaluation, Sabre’s Flight Plan Manager System received the highest ratings within Turkish Airlines’ RFP process,” said Capt. Fatih Kacmaz, senior vice president of the integrated operations control center for Turkish Airlines.

At the time of Turkish Airlines’ launch of Flight Plan Manager, its main goals were to automate dispatch business processes; manage by exception; and minimize delays, fuel costs and CO₂ emissions. These goals have been achieved successfully, but in the wake of the airlines’ growth, a new challenge became apparent — the need to ensure that those business processes scale together with the airline’s increased complexity in flight-plan management.

One example of the growing complexity is the increased strain on the airline’s IT infrastructure, due to the rapidly growing number of flights, all of which needed to be planned. In addition, the IT department was in the process of updating its hardware inventory as part of Turkish Airlines’ five-year roadmap.

This led to a precarious situation for current and future operations. Turkish Airlines realized the need to take action and, again, partnered with Sabre to upgrade its flight-planning environments, enabling future growth and securing ongoing operations.

“We believe that we have chosen the best fit among the competitors due to the fact that Sabre’s system is open to customization, advanced in technology and fully automated,” said Mustafa Egilmezbilek, senior vice president of IT for Turkish Airlines.

In 2014, Turkish Airlines and Sabre began the process of modernizing the flight-planning system’s infrastructure by implementing a multi-layered plan based on three key objectives:

1. A complete hardware migration. This course of action was considered to be the most efficient in supporting future operations and included:
 - a. A comprehensive flight-planning environment spread across two data centers in Istanbul;
 - b. An updated test environment used to test new functionalities, configuration changes and product versions;
 - c. An additional environment for natural disaster recovery to be located in Antalya, Turkey, as an emergency backup to the Istanbul data centers, which is planned to go live this year.

2. An upgrade to the most current version of Flight Plan Manager, adding integration between Flight Plan Manager and Flight Explorer. Flight Explorer offers an integrated display of flight information, weather and other operational data, making the solution a central part of operational decision-making and planning. It facilitates management of flight operations by bringing together relevant flight information to improve fuel economy, reduce environmental impact and better route aircraft for optimal efficiency. The integration between the two systems provides two core benefits for Turkish Airlines, including:
 - a. A graphical display of planned routes and weather;
 - b. Complete integration between Flight Explorer and Flight Plan Manager.

	COUNTRY	CITY	AIRPORT
Domestic	1	49	51
Europe	43	109	110
Far East	22	34	34
Middle East	13	34	34
Africa	31	48	48
America	6	15	15
TOTAL	116	289	292

▲ TURKISH AIRLINES FLIES TO MORE COUNTRIES THAN ANY OTHER COMMERCIAL AIRLINE, WITH MORE THAN 115 COUNTRIES SERVED. THAT’S NEARLY 40 MORE COUNTRIES THAN THE NO. 2-RANKING AIRLINE OPERATES.

3. Implementation of ePerf, an analysis and reporting system developed by Turkish Airlines that integrates with aircraft-manufacturer-performance software and Flight Plan Manager. The application provides the dispatcher/analyst with various tools and options, such as statistical reports and analyses from existing (historical) flight plans. These data are then used by Turkish Airlines, supporting the operational and/or commercial decision-making process.

Following the smooth and successful execution of Turkish Airlines’ IT modernization strategy, the airline is prepared to overcome future flight-planning challenges. It is running state-of-the-art flight-planning software, which is scaling well with the ongoing growth, as well as running on a modern IT infrastructure.

With a culture of innovation and an open mind set for future improvements being



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WITH ITS MAIN HUB IN ISTANBUL, TURKEY, TURKISH AIRLINES, IN 2010, OPERATED APPROXIMATELY 700 FLIGHTS A DAY. THAT SAME YEAR, THE AIRLINE IMPLEMENTED SABRE FLIGHT PLAN MANAGER, AND TODAY, IT OPERATES NEARLY 1,400 DAILY FLIGHTS.



deeply rooted within both Turkish Airlines and Sabre, the stage has already been set for the next set of modernizations, including:

- Configurable operational flight plans, allowing the airline to add or remove components of flight plans and change layouts. This will greatly enhance the turnaround time for related service requests and provide for a new level of flexibility in customizing flight plans (the product of every flight-planning process).
- Usability project: A further modernization by upgrading to the next release of Flight Plan Manager, which will feature a new and greatly enhanced graphical user interface.

“Flight Plan Manager is open to new functions and further development,” said Capt. Kacmaz. “Therefore, it is the best fit for our needs. We are glad to say that we made an excellent choice since Sabre helped us ease and smooth the set-up, transition and maintenance processes through its contributions and collaboration.” ASCEND

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IN 2014, TURKISH AIRLINES AND SABRE PARTNERED TO FURTHER DEVELOP FLIGHT PLAN MANAGER'S INFRASTRUCTURE. THE MULTI-LAYERED PLAN INVOLVED A COMPLETE HARDWARE MIGRATION, AN UPGRADE TO THE MOST CURRENT VERSION OF FLIGHT PLAN MANAGER AND THE IMPLEMENTATION OF EPERF, AN ANALYSIS AND REPORTING SYSTEM DEVELOPED BY TURKISH AIRLINES THAT INTEGRATES WITH AIRCRAFT-MANUFACTURER-PERFORMANCE SOFTWARE AND FLIGHT PLAN MANAGER.

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