

# ascend

Taking your airline to new heights

A portrait of Muhammad Ali Albakri, Chief Information Officer of Saudi Arabian Airlines, wearing a dark suit and glasses, looking directly at the camera. The background is a bright, modern office space with large windows.

## THE JEWEL

A Conversation With ...  
Muhammad Ali Albakri,  
Chief Information Officer,  
Saudi Arabian Airlines,

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# Passengers Come First

Passenger reaccommodation platform solves irregular operations issues

*Sabre Airline Solutions*<sup>®</sup> has rolled out new reaccommodation technology to help get airline customers rebooked with little or no inconvenience.

■ By Pramod Jain and Siva Kalavagunta | *Ascend* Contributors



messages of their revised itineraries, leaving little to no manual processing for the airline. Solving a problem of that size can take an airline at least four to five days to recover after using massive manpower and immense revenue loss.

*IROPS Reaccommodation*, a component of *SabreSonic® Check-in*, simplifies the process of moving misplaced passengers and minimizes schedule changes, resulting in improved customer service. Benefits include:

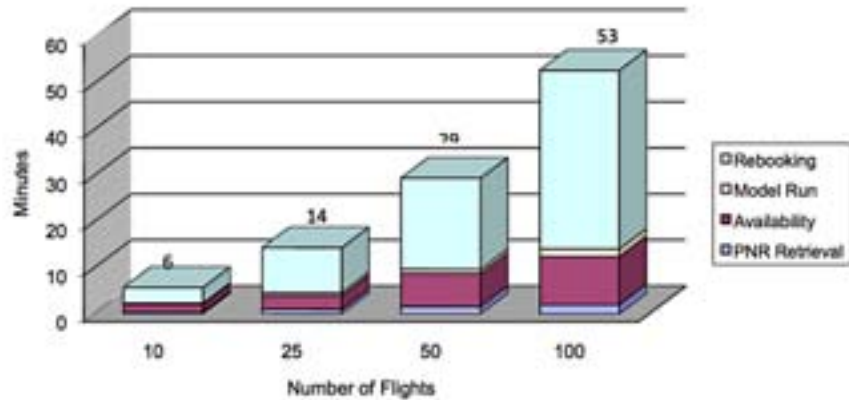
- Optimized reaccommodation of passengers based on user-defined rules,
- Increased agency productivity — A solution is automatically deployed back to reservations and check-in systems, alleviating the need for manual intervention,
- Improved customer experience — Customer loyalty is preserved and revenue retention is maximized by minimizing customer impact,
- Impact analysis capabilities — Enhanced what-if capabilities enable airlines to quickly evaluate the overall impact to its passengers and the cost impact to the airline prior to submitting the solution into the reservations system,
- Proactive customer notification — Volume at the call center and airport queue is reduced by proactively notifying customers of itinerary changes well in advance,
- Seamless integration — Integration with reservations, check-in and flight operations systems for synchronized passenger data and disruption information allows the system to provide optimal solutions based on real-time data.

### Features And Capabilities

Using a powerful combination of what-if capabilities and optimization-based algorithms, *Reaccommodation Manager*, a key component of *IROPS Reaccommodation* provides a way to optimally reaccommodate passengers that have been displaced due to flight cancellations, delays, diversions, etc.

To accomplish this, *Reaccommodation Manager* generates extremely fast and optimized solutions. The system takes into account the value of each passenger according to an airline-defined customer relationship management index. Airlines may define the value of the passenger based on various criteria such as:

- Fare paid,
- Class of travel,
- Frequent flyer status,
- Miles flown (to recognize high-mileage travelers that may be traveling on a free ticket),
- Passengers on international connections,
- Unaccompanied minors,
- Passengers traveling with infants.



**Faster Reaccommodation** When 100 flights are cancelled, it typically takes an airline four to five days to recover, and it requires massive manpower. *IROP Reaccommodation* can help airlines rebook passengers in less than 1 hour.

The CRM index is used to prioritize passengers to effectively create alternative itineraries that address passenger needs while enabling the airline to minimize disruption-related costs such as hotel expenses, passenger compensation and interline fees.

*Reaccommodation Manager* is designed to create a rebooking solution based on the list of disrupted flights provided. It provides real-time integration with flight operations and movement control systems. Through this integration, passenger coordinators have access to the latest schedule in real time including schedule manipulations made by operations controllers.

Other critical components completing *IROPS Reaccommodation* include:

- Flight operations and movement control systems used to determine day-of-operation changes to the operational schedules due to off-schedule operational events.
- Web services enables service-based access into the core reservations and check-in systems for PNR retrieval and inventory as well as rebooking requests.
- Reservations processing incorporates several applications:
  - Availability processing — Processes availability requests from *Reaccommodation Manager* in user terminal format to gather availability information for rebooking optimization,
  - FLIFO information — The flight information system and database used to track ad hoc day-of-operation changes to departures,
  - Schedule change rebooking utility service — Provides rebooking functionality.
  - PNR database processing — The PNRC processing complex provides a ser-

vice-enabled interface into PNR lists and summary retrieval for *Reaccommodation Manager* processing.

### User Interface Components

The end-user interface follows modern user experience practices. It is constructed as a step-by-step process that drives airline analysts from the beginning to the end of the reaccommodation process. It's powered by rich Internet application technologies to make sure it's quick and easy to understand. Main features of the interface include:

- Core user interface — A Web-based application for enabling end-user access to *Reaccommodation Manager*. The airline analyst reviews the results of operational changes on schedule and optimization activities as well as performs what-if analysis for reaccommodation scenarios and rebooking of PNRs.
- Data manager — A Web-based module responsible for system data maintenance gives the ability to interactively manage reference/static data to calibrate the parameters for the optimization model.
- User manager — A Web-based module responsible for user profile maintenance provides the airline analyst with the ability to configure user access controls and manage who can do what within *Reaccommodation Manager*.

### Communications Components

There are several communications components that are critical to *Reaccommodation Manager*, including:

- Enterprise service bus — Internal ServiceMix communications is used to integrate the interface layer with different systems and integration of application components via messaging.

- HTTP — Connectivity into Sabre® Web Services as XML over HTTP.
- Message queues — Connectivity into core Sabre Airline Solutions applications provides delivery of message traffic to/from the host reservations system, Sabre Web Services feeds to Reaccommodation Manager for FLIFO information messages.
- Alert runner — Alert runner is responsible for monitoring the state of other application processes. It collects sensitive runtime information and, based on the collected data, generates alerts to file.
- Database server — The database server is used to maintain persistent copies of schedules, safe retention of real-time messages and static information used by Reaccommodation Manager to perform optimization scenarios. It uses Oracle RDBMS to implement its relational database and supports the following key information:
  - Schedules;
  - Message feeds — Movements (MVT and ASM);
  - Optimization input — Passenger lists, inventory availability query results, pending scenarios;

### Back-End Components

Some of the core system components are required to sustain 24/7 schedule change and day-of-operation processing. These components are configured to operate in a real-time processing mode. They are supported by redundant instances of application, communications and database modules and support requests from the

### HIGHLIGHT

## *IROPS Reaccommodation, a component of SabreSonic Check-in, simplifies the process of moving misplaced passengers and minimizes schedule changes, resulting in improved customer service.*

host reservations system to change schedules and reaccommodate passengers. Key components include:

- Schedule parser component — The parser component, used to parse inbound schedule-change messages, supports standard IATA schedule formats: MVT, ASM and SSM messages as well as parsing of the SSIM files/dump format. The component receives MVT/ASM/SSM messages from the host reservations system in individual and blocked formats (single message or a block of many messages).
- Optimization model — The optimization module is used to determine the optimal use of flight alternates for reaccommodation of existing passenger itineraries. It is invoked to reaccommodate passengers during real-time schedule changes and day-of-operation changes. The model uses schedules, inventory availability, PNR data, user-defined parameters and rebooking policies as input to determine the best alternate routes for passengers.

ing scenarios;

- Optimization output — Optimal reaccommodation result scenarios for schedule change, day of operation and end-user what-if analysis;
- Static data — End-user access, airport minimum connect times, etc.

### User Experience

An airline's movements control analyst reacts to day-of-operation (current day and eight days into the future) events such as delays, cancellations and diversions. The airline's movement control system transmits MVT or ASM messages to Reaccommodation Manager. Using the Web interface within the system, the analyst can search and select disrupted flights to query for all PNRs on selected flights.

The analyst then selects candidate flights using the latest schedule and can get the current snapshot of available seats for the complete set or subset of the potential candidate flights. He or she will submit the request for an optimal solution, which

initiates the optimization model (the solution is based on parameters defined by the airline).

The solution will be displayed on the Web interface, and the analyst can look at passengers' impacted itinerary and proposed itinerary. Various reports, such as stranded passengers, are available to help the analyst decide whether the solution should be used or the issue can be resolved by expanding the candidate flight list.

The analyst will then decide to request the rebooking of passengers, and the changes will be applied to the real-time passenger and departure control environments. From there, the PNRs are passed to check-in res-amendment processing, which moves passenger data from the old flight to the new flight and the analyst can monitor the status of rebooking requests on the Web GUI.

Effectively reaccommodating passengers is critical to an airline's operation and its ability to retain customers. Through advanced technology, passengers can be rebooked with very little, if any, inconvenience, making a difference in how they perceive a particular airline. If this task isn't handled in the best possible way, it will leave a lasting impression on the customer, who may not return to that airline.

On the other hand, if the passenger has a positive experience with the way reaccommodation was handled, not only will he likely return to that airline, he'll have a positive story to tell. And word of mouth is certainly one of the best marketing methods for an airline. ■

Sabre Reaccommodation Manager overview



*Pramod Jain is a delivery and consulting manager and Siva Kalavagunta is a director of software development for Sabre Airline Solutions. They can be contacted at [pramod.jain@sabre.com](mailto:pramod.jain@sabre.com) and [siva.kalavagunta@sabre.com](mailto:siva.kalavagunta@sabre.com).*