



MindTree partners one of the world's leading specialists in air transport communications and information technology, to architect and develop Next-Gen Passenger Management Solutions

Our Client

Our client is one of the world's leading specialists in air transport communications and information technology (IT) who works closely with the air transport community to provide innovative IT applications and communication services for the airline's enterprise operations.

The Problem Statement

Our client is in the process of upgrading and replacing its suite of legacy Passenger Management Systems. This includes the replacement of their Departure Control System (DCS), Load Planning Systems, and reservation desktops, as well as creating new applications to replace the traditional PNR data store and use customer profiles and customer journey information. These are being implemented on a Service Oriented Architecture (SoA) platform and will need to comply with relevant airline processes.

The existing suite of systems is a few decades old, built on a Mainframe platform and is being used by more than 150 airlines across the world. Apart from the challenges of maintaining and refreshing these systems, with changes in customer behavior and client expectations, our client needs to:

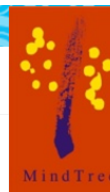
- Change market perception and broaden the potential market
- Attract larger airlines with their product offerings
- Measure the impact of testing on the improvements on the application to measure ROI
- Provide a single snapshot of engagement and project level information for effective decision making

The key challenges they faced included:

- Continuing legacy development would be complex and difficult
- Availability of skilled workforce is limited
- Lack of required testing guidelines and checklists
- Inadequacy of process to track the testing progress / coverage

Hence the solution needs to be flexible and reusable, while being functionally rich. Initial development was done in a 'waterfall' mode, while it currently being run on 'Agile Offshore Factory' principles, with multiple Scrum teams delivering in 2-week Sprints.

MindTree's Consulting; Architecture; Application Development, Maintenance, and Testing; and Support teams are partnering with the client to deliver this strategic programme.



MindTree's Approach

We have been working with the client to deliver the following applications and utilities as part of the suite of Next-Gen Passenger Management Systems:

- **Departure Control System (DCS):** A new DCS with a shared PNR concept and integrated with Weight and Balance, Seating and other applications.
- **Seating:** An application for managing seatmaps in a common repository that can be accessed by Reservation, DCS, and Inventory. The system includes advanced seat map characteristics that facilitate seat selections, advance seating scenarios and ancillary sales.
- **Weight and Balance:** A system for carriers and GHAs to handle load planning that is being integrated with DCS and Baggage Handling using industry accepted messaging standards. This is a thin client system with auto load and trim functionality using advanced features like "drag and drop"
- **Airfare Shop:** A web based solution to increase direct sales and reduce distribution cost of airlines. It allows configuring different kinds of virtual cabins according to airlines' needs for displaying various fares and classes.
- **Payments:** A centralized service for payment integration across payment gateways that includes currency conversion, 3D secure and address verification.
- **ESB:** An ESB framework to facilitate integration of COTS for quick turnaround time.
- **Agent Reservation Desktop:** A system enhancement to add advance ticketing, stored fares, and new user interface
- **Next Generation Graphical User Interface:** An end-to-end framework with rich user interface features and extended JSF and Swing components.
- **Business and Technical Utilities:** Multiple utilities, including Location Manager and Reference Data Manager, built on the SOA framework along with technical utilities to support a number of solutions including Error Manager, Audit Manager and a Messaging Framework.
- **Customer Journey Archival:** A system to synchronize and reconcile data between legacy and open systems in near real-time mode with advanced search and retrieval criteria.
- **Customer Profile:** A central system to store all customer profiles and customer ratings for the airline/ subscriber.

Summary

- This transformation is nearly complete - the entire suite is going from a Mainframe based system to an Open Systems technology based product suits.
- This is a system capable of handling the steep growth in passenger numbers expected by 2020 - over 3 billion passengers compared to today's 2.2 billion.
- We have delivered a Next-Gen User Interface that is feature-rich and yet is optimized for airlines that will use it in varied network and computing environments.
- We have successfully demonstrated the viability of large-scale Agile-based software development in an Onshore - Offshore model, with multiple teams working in parallel on multiple domains and workstreams.