

real-time revenue management

Today has been another challenging day. This morning, my manager asked me to close down V class availability in August (apparently increasing average yield is the current management objective) and simultaneously prepare for a promotion in Q class in September, and, of course, he wants it done immediately. Then just before lunch, the group reservations team

advised me that the agency allocation requests for the New Year's holiday are in, and they will be blocking inventory space on my flights today. If that wasn't enough to deal with, shortly afterward, scheduling called to say there have been some significant changes to the winter schedule (all affecting my routes, of course), and I should look out for several aircraft changes over the busy holiday period.



Our pricing structure has few restrictions, so if there are significant changes in flight schedules, inventory, seating configuration or re-assignment of equipment, there is a significant risk that the lowest available fare on those flights will not be revenue optimal. The information I need does exist — I have historical data, competitor fare data and inventory data — but it's all held in different locations. How can I keep up with the daily changes that occur in inventory and still manage my other responsibilities such as route analysis and strategy planning?

The challenges facing the typical revenue management analyst today are numerous. The objective of delivering the optimal network revenue performance by controlling inventory can be impacted by factors outside of revenue management control.

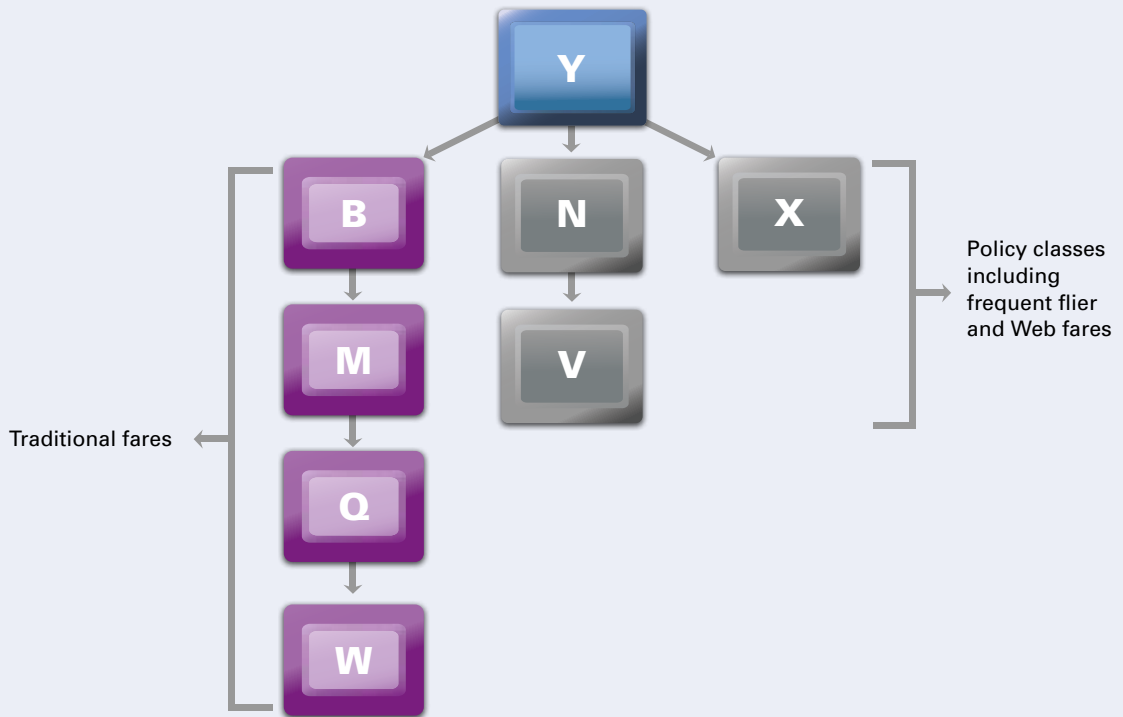
Revenue management is often treated as an “offline” function. The analyst works with data downloaded from the inventory system during the previous night, making adjustments to flights in the revenue management system based on that data, but the analyst is potentially unaware of significant changes occurring within inventory and pricing.

Such challenges necessitate processes and solutions that create relevant and intelligent information and share it in a seamless and effective manner. Airlines require an integrated solution framework spanning multiple revenue planning functions.

Integrated Framework

Real-time revenue management provides an integrated framework that incorporates robust, sophisticated systems offering the ability to sense and respond to changes in inventory and pricing in an automated manner to minimize decision delays and enhance revenue performance.

Figure 1



Inventory

Airlines utilizing the latest inventory platforms can recognize revenue benefits incremental to those using traditional inventory controls. This benefit is primarily recognized by increasing the airline's control to accept and reject passengers. For example, airlines are recognizing the need to refine the flight-level inventory controls by point of sale, including city, country, agency and distribution channel. With flexible technology, airlines create conditional rules to numerically adjust the availability by user-defined points of sale. Airlines use these point-of-sale rules to ensure they give preferential availability to the higher-valued points of sale, demonstrating a real benefit to their bottom line.

Airlines are also leveraging the flexibility provided by multiple, mixed nesting structures on their networks to improve fare product segmentation. For example, a leg-segment airline with a mix of unrestricted and restricted fare products can choose to create two sets of parallel nested fare classes: one for unrestricted, highly competitive fare classes and one for restricted, traditional fare classes. By separating the classes, revenue management analysts can force up-sell on their restricted fare class hierarchy while maintaining availability and competitive presence in the unrestricted fare classes.

For airlines using origin-destination revenue management, the benefits are shown to have a more dramatic effect on revenues. O&D inventory control requires accurate, detailed fare information for all markets served by the airline. These fares are used to evaluate all availability requests, and it's imperative that they are in sync with



both the marketplace and the revenue management system. It is also important the fare qualifiers are contained within the inventory system for accurate evaluation of availability. Where interline traffic exists, pro-ration agreements should also be included in the availability calculation. Both of these features ensure airlines are using the correct fare value to determine the availability level, ultimately increasing the revenues by selling the right seat to the right passenger.

These features coupled with strong revenue management practices enable carriers to be agile and easily move from one control strategy to the next.

Revenue Management

Utilizing a state-of-the-art revenue management system employing “top-down” forecasting, customer-choice modeling, and a framework handling product and price-sensitive passenger behavior ensures accurate inventory controls to maximize revenue. Top-down forecasting creates forecasts at the market level and then distributes those forecasts across itineraries based on customer choice attributes such as schedule attractiveness and competitor price availability. The accuracy of this forecasting approach is superior to “bottom-up” forecasting from the segment class level. In addition to the decision-support technology, user-defined business rules can be created enabling the analyst to implement specific strategies or quickly respond to competitor actions

in the market place. This combination of mathematical modeling and business rules gives the analyst the necessary tools to continuously review, re-evaluate and implement a new solution set quickly and effectively.

In addition, other factors critical to the success of a revenue management function include:

- Critical flagging — Alert-driven processing based on inventory data to identify critical flights to analysts for their attention and action,
- Automated response — The ability to define actions to be taken when a flight meets certain flexible parameters and enabling the system to update inventory controls automatically,
- Integrated competitor fare data — This information is invaluable and should be utilized within the revenue management system to minimize the number of systems an analyst has to use. This data can be used for display, alerting and even automated response actions.

Pricing

With a sophisticated fares management system, accurate fare data can be automatically uploaded to both inventory and revenue management systems for more effective revenue decisions. This final piece of the end-to-end framework ensures consistency across the systems and ensures the right seat is being sold at the right price.

Airlines can also benefit from the integration of a pricing system with ATPCO and SITA, enabling the analyst to perform powerful queries, identify competitive changes, make an informed decision based on detailed analysis and effect any changes required quickly.

Benefits Of Real-Time Revenue Management Through Integration

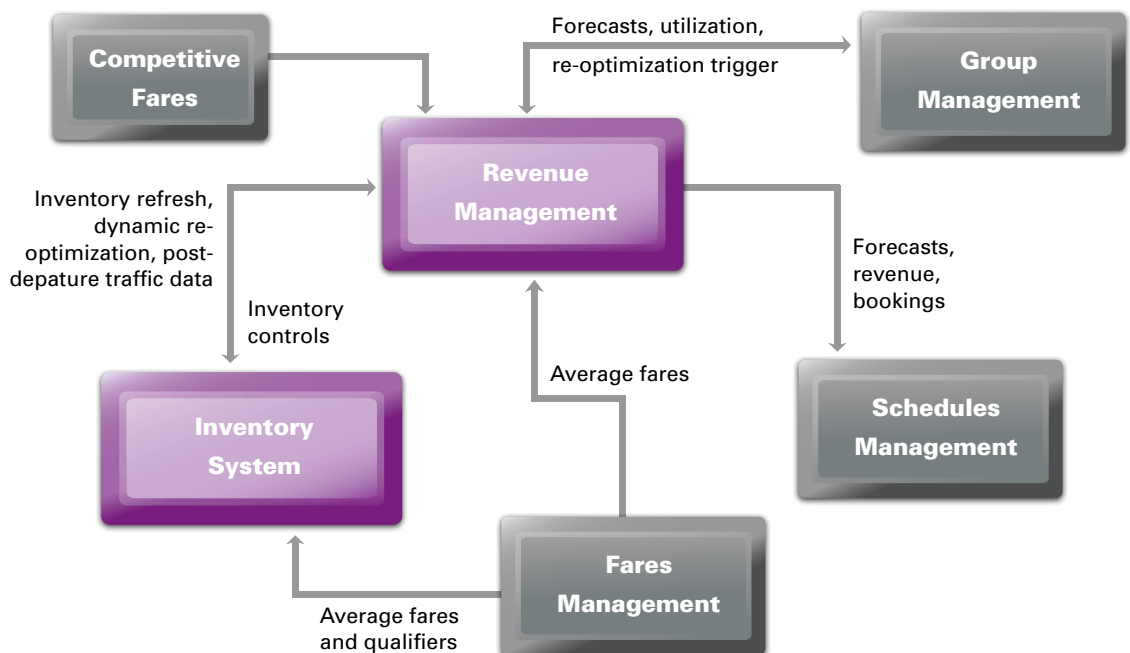
Airlines using tightly integrated inventory and revenue management systems have the unique advantage of a real-time revenue management solution, which offers the ability to provide updated optimal inventory controls in real time based on conditions in the marketplace.



This integration enables analysts to define a threshold for booking and cancellation activity within the inventory system. When there is a schedule change or an activity threshold is reached, the inventory system sends an alert notification to the revenue management system, which reacts to these alert messages and automatically

re-optimizes, both for individual flight departures and based on the amount of alerts, the complete network for a particular departure date. The result is optimal inventory controls immediately updated in the marketplace without the wait for either the nightly download or manual analyst intervention. This technology enables airlines to react faster than ever before to changes in their inventory.

Figure 2



The Integrated Scenario

It is critical in a competitive marketplace to enable analysts to focus on strategy development and performance analysis without impeding their effectiveness with data complexity and scattered intelligence.

Moving to an integrated solutions platform enables each department to make proactive, profitable decisions in a rapid fashion, minimizing revenue dilution, minimizing revenue spoilage and maximizing revenue gain while remaining competitive in an ever-changing environment.

Analyst Productivity Improves With Integration

In an integrated systems framework, the inefficiencies troubling the analyst would be automatically resolved:

- Closing inventory classes for a range of flights can be done in just a few key strokes in the revenue management system and updated in the inventory system through a live connection.
- Confirmation of group bookings in the group management system and directly in inventory sends a trigger to the revenue management system for an automatic flight re-optimization to ensure the correct inventory levels are on sale to maximize revenue in the remaining capacity and that the overbooking levels are correct. The schedule changes made in the inventory system also send a trigger activating an automatic re-optimization.
- Revenue management system forecast data can be used within the scheduling system to determine the optimal aircraft changes to make at the start of the process.
- Shared nesting structures across revenue management and inventory provide optimal controls and improved fare segmentation.
- Competitor fare data from the pricing system can be used as part of the revenue management decision process.
- Airline fares and qualifiers can be automatically provided to the revenue management and inventory systems.



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