

Sabre AirMax Revenue Manager



Effectively using reservations data to improve revenue and enhance bottom-line results

Smart Solutions

A robust, sophisticated and flexible tool, *Sabre® AirMax® Revenue Manager* provides airlines with the entire range of revenue management applications, including reservations data collection, off-line data collection, forecasting, overbooking, optimization, performance measurement and reporting.

The system can be run in different processing modes based on the desired level of sophistication in inventory control — leg and segment-based serial nesting, O&D-based virtual nesting and O&D-based continuous nesting.

Proven Expertise

The only commercially available O&D revenue management solution in production at multiple airlines, *Revenue Manager* lets you unlock unrealized financial benefits from your revenue management operations thanks to advanced forecasting and optimization methodologies, accurate seasonality mapping, business support for both market and route analysis and other ongoing revenue improvement initiatives.

The system also delivers forecasting and optimization processes enhanced to incorporate the necessary decision support for operating in a restriction-free pricing environment with minimal or no restrictions on fares in the marketplace and only one fare being available at a time for a market and compartment.

Bankable Results

With *Revenue Manager*, airlines can increase revenues up to 7 percent.

This highly customizable system can be installed as on-site licensed package software or delivered through *Sabre® eMergo®* Web access, our application service provider offering.

The revenue enhancement gained from using *AirMax Revenue Manager* is estimated to be from 5 percent to 7 percent.

The system has been successfully implemented at more than 35 top-tier industry carriers including Air France, Alitalia, American Airlines, US Airways, Alaska Airlines, Grupo Taca, Gulf Air, Cathay Pacific Airways and Malaysia Airlines.

Based on customer feedback and the reliability of *AirMax Revenue Manager*, the *Sabre Airline Solutions*[®] business was recognized as the industry's Best Airline Revenue Management Provider.

Revenue Manager Benefits

AirMax Revenue Manager heralds the next generation of revenue management systems. Built in a modular yet tightly integrated design, the system lets you choose the capabilities you need and features a functional graphical user interface with powerful information presentation and extensive reporting capabilities.

Leg and Segment Control Benefits

For the past two decades, airlines have practiced traditional revenue management at the flight leg or flight segment level. Implementation of *Revenue Manager* in the leg-segment mode typically yields additional incremental revenues of 4 percent to 5 percent.

Key benefits of the leg-segment solution include:

Improved decision making Assists revenue analysts by automatically recommending optimal inventory control settings that simultaneously minimize market share erosion and revenue dilution.

In addition, users can access the flexible *Revenue Manager* database from different functional areas to retrieve pertinent statistics that facilitate informed decision making.

Increased productivity Automates a large amount of manual work, freeing valuable time to analyze markets and market trends, identify unusual events and react to competitive moves.

Improved responsiveness Enables analysts to quickly react to market changes, such as schedule changes and currency fluctuations.

Reduced spoilage/unaccommodated customer costs

Reduces the affects of both spoilage and oversales through consistent monitoring and control of cancellation rates, no-show rates and the resulting overbooking levels.

O&D Control Benefits

While the leg-segment method of inventory control generates incremental revenues for airlines, the O&D method is limited to maximizing revenues by flight leg or flight segment. No maximization of system-wide revenues is achieved. Thus, scheduling and pricing decisions are made at the market or O&D level of detail while flight inventory is controlled at a less detailed level.

To overcome this shortcoming, airlines are moving away from the traditional leg and segment-based inventory control to controlling inventory directly by O&D.

Benefits applicable to *Revenue Manager* operating in an O&D processing mode include:

Network revenue maximization Enables airlines to realize maximized revenues by accepting and rejecting individual reservations requests.

Inventory controls Delivers a state-of-the-art inventory control framework to maximize customer revenues.

Point-of-sale control Provides the ability to control availability by point of sale, providing significant revenue benefits.

Multiple control framework Includes the capability to generate and send continuous nesting as well as traditionally nested inventory controls using the same decision-support framework.

Features

Revenue Manager provides utilities you can use in the entire range of revenue management activities, from advanced planning to day-of-operations tasks.

Data Collection

The system regularly collects the necessary data elements from the reservations system and other off-line data sources.

Some of the information collected daily includes schedule, inventory and post-departure data. Some of the information collected periodically includes revenue accounting and fare data.

Appropriate filters exclude extraneous data elements.

The data collection process is completely automated for the *SabreSonic® Passenger Solution*.

Automatic Schedule Change Isolation

Automated schedule change mapping is achieved by initially converting all of the flight number-based schedule information to an internal numerical flight identifier, a combination of the flight number and the departure time window.

For each flight leg, a unique flight identifier is generated based on the O&D of the leg and the time of departure.

The time of departure is represented as a time window, centered about the departure time, with a time span on each side.

This helps track historical flight data, in spite of schedule changes that assign different flight numbers to essentially the same flight.

Demand Forecasting

Based on historical and current reservations data, *Revenue Manager* forecasts expected demand at the appropriate level (typically segment and fare class).

The forecasts are generated using a combination of different forecasting techniques and include spill estimation for predicting true demand. The system incorporates flexible definition of time-based (for example, day of week) and event-based (for example, Easter) seasonality to improve the forecast accuracy. The final forecast is a combination of different time series-based forecasting methodologies.

In an O&D processing mode, the system generates forecasts at the O&D, class and point-of-sale level.

Overbooking

The system appropriately overbooks and sets authorization levels higher than capacity to compensate for passenger cancellations and no-shows.

Optimization

The system uses passenger demand forecasts and current flight details to calculate optimal inventory control settings. It maximizes the expected revenue for a given remaining demand forecast (and variation) subject to remaining capacity constraints.

Optimization can be applied to an individual flight, a logical grouping of flights or the full airline network.

Dynamic Re-optimization

Throughout the day for all flights and without analyst intervention, future departure dates can be optimized, based on schedule or inventory changes since the last optimization and real-time reservation activities as well as any group booking activities.

Analysts assign weights to specific criteria such as new flights and departure time changes, and future departures dates are optimized in order of the high-est weight or score.

User Interaction

The system incorporates a flexible point-and-click graphical user interface that lets the analyst react to situations on a daily basis from the critical workbench screen or proactively analyze the markets using the market workbench screen.

The interface enables multiple windows to be viewed simultaneously, facilitating the comparison of information.

The critical workbench helps the analyst perform flight-by-flight management. The analyst is guided by a critical situation identifier which checks data inputs and model outputs for analyst-defined critical situations that may have occurred (Figure 1). The identifier is an analyst-driven rule-based trigger module that singles out critical situations based on preset thresholds such as capacity changes and distressed inventory.

The market workbench enables the analyst to perform macro analysis and then influence the inputs to tune the system. The Market Analysis screen (Figure 2) graphically displays spikes, troughs and trends and lets the analyst make any appropriate changes.

Figure 1 Critical Situation Identifiers screen

CSI Name	Critical Description	Critical Weight	Enabled	Table Name
Low Booked Load Factor Within 14 Days of Dptr	Low BLF	4	Y	Leg / Cabin / Class
Low Avail For Discount F Cabin A Class	Low Cur Class Avail	7	Y	Leg / Class
Null Class Model Auth	Processing Errors	20	N	Leg / Class
High Group Bookings as Pctg of Capacity	Group Bookings	99	Y	Segment / Class

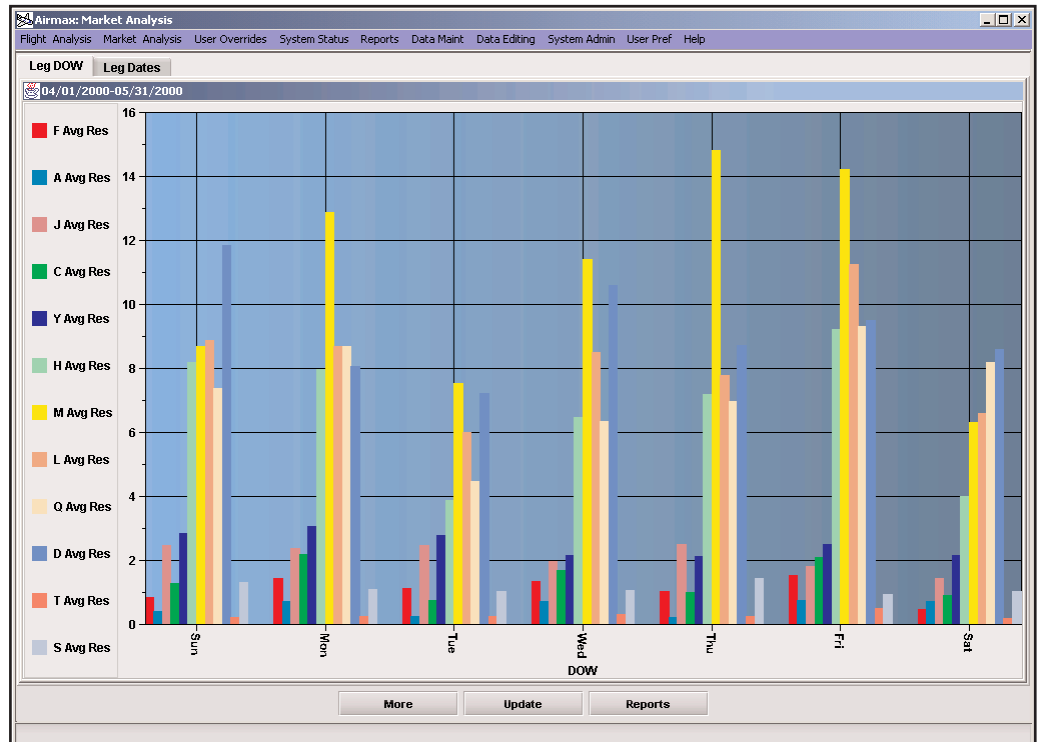
Configuration Panel for 'Low Booked Load Factor Within 14 Days of Dptr':

- Crit Weight: 0
- Crit Desc: Low BLF
- Enabled:

Criteria Table:

Criteria	Value
Cabin Load Factor <=	50
Max Reading Day	14

Figure 2 Market Analysis screen



Revenue Manager has been recognized by premier industry publications at conferences and by the media in general.

Revenue Performance Measurement

Revenue Manager incorporates a revenue opportunity model that measures incremental revenue contributions attributable to revenue management controls. It provides a consistent and reliable method to measure revenue management performance by isolating the revenue impact from other factors, such as pricing and schedule changes.

The performance measures offered are: revenue opportunity realized, remaining revenue opportunity, revenue dilution and revenue spoilage.

The revenue opportunity measures can be aggregated to any desired level based on the statistics determined at the flight number level.

Auto-sending Controls

After critical and non-critical flights have been identified, *Revenue Manager* automatically loads the appropriate inventory controls into the reservations system for all non-critical flights. When possible, user transactions are enhanced to simultaneously update all controls for a single flight leg or segment, thereby greatly reducing response time.

Reporting

Revenue Manager incorporates a flexible reporting system that lets you create, access and run an extensive set of standard reports as well as custom reports. In addition, you can create unique reports on an ongoing basis using the custom reporting feature.

Low-Fares Model

In today's environment, the shift in passenger purchasing behavior toward restriction-free, low-fare tickets is an important factor to consider when determining the type of revenue management model your airline employs. Historical methods of segmenting customers by class no longer apply, making it necessary to implement alternative forecasting and optimization methods in order to maximize revenue.

The Low-Fares Model delivers enhanced modeling techniques that help airlines effectively minimize revenue dilution due to passenger buy-down behavior. Incorporating advanced and complex algorithms, the model considers data specific to the low-fares environment, resulting in more reliable forecasting that better estimates low-fare demand.

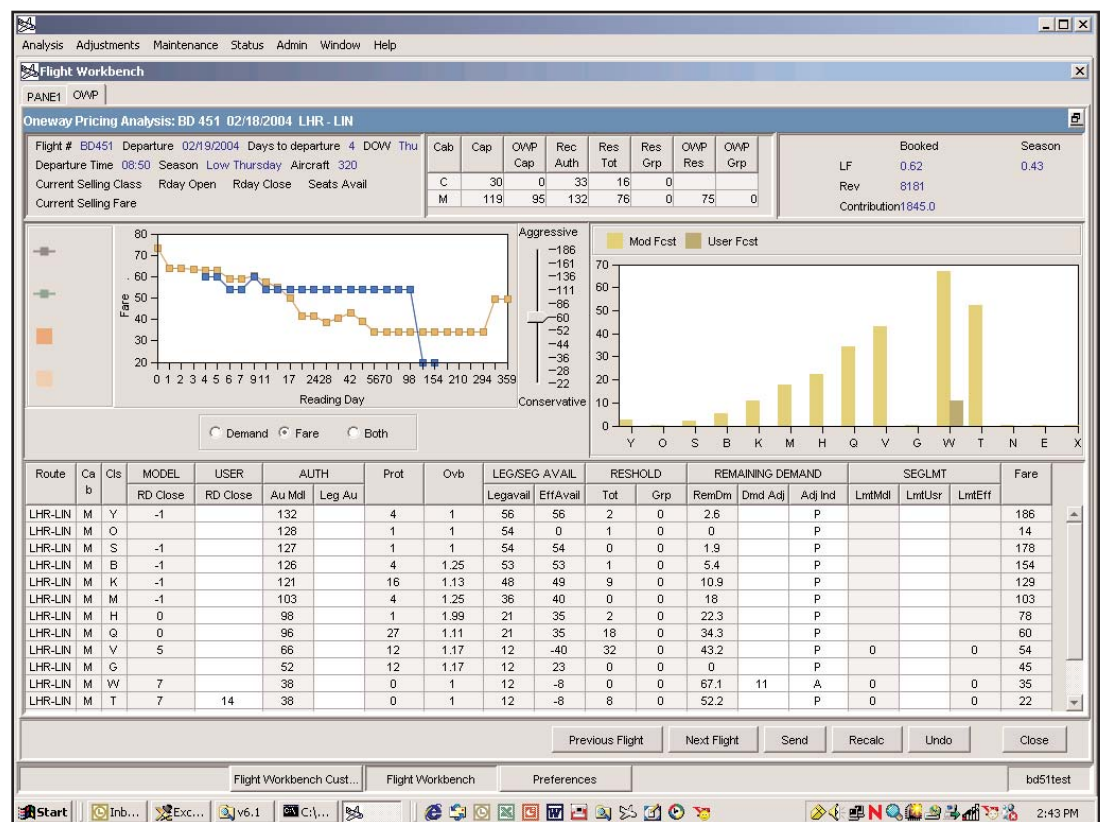
With the model's easy-to-use interface (Figure 3), users can adjust and override settings such as demand values, fare curves and class-open and class-close timings.

The Low-Fares Model translates low-fares pricing controls into relevant inventory controls which are sent to the reservations system from the revenue management system, such as *AirMax Revenue Manager*.

Training and Support

Our experienced revenue management professionals provide extensive training on *AirMax Revenue Manager*. In addition, technical training is provided to ensure a smooth technology transfer. Our help desk personnel are also available 24/7 to answer questions and address specific problems.

Figure 3 One-way Pricing Analysis screen



Helping airlines better market, sell, serve and operate from planning through execution.

Market

Quasar™ system

Revenue Integrity

Sabre® AirFlite™ Suite

Sabre® AirMax® Suite

Sabre® AirPrice® systems

Sabre® CargoMax™ Suite

Sabre® GDS Analysis

Sabre® Loyalty Suite

Sabre® Rocado® Suite

Sabre® SmartFlow® tool kit

SabreSonic® Inventory

Sell

Customer Data Delivery

Customer Insight

Sabre® Qik® Solutions

Sabre® WiseVision™ Suite

SabreSonic® Res

SabreSonic® Shop

SabreSonic® Ticket

SabreSonic® Web

Serve

Sabre® Customer Experience Manager

Sabre® Inform™ mobile services

Sabre® Qik® Solutions

Sabre® Virtually There®

SabreSonic® Check-in

Operate

Ramco MRO System

Sabre® AirCrews® Suite

Sabre® AirFlite™ Suite

Sabre® AirOps™ Suite

Sabre® AirServ® Suite

Sabre® Flight Control Suite

Sabre® Rocado® Suite

Sabre® Streamline® Suite

Our consulting services offer seasoned expertise across all commercial and operational areas, helping airlines and airports reach their performance targets.

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System Requirements On-site Implementation

AirMax Revenue Manager runs on a UNIX-based platform and uses a Windows 95/98/2000/NT graphical user interface. An open-system architecture enables interactive processing with external systems. Using an Oracle database, the system was developed on the Sun Microsystems platform, but can be ported to other platforms if required.

Remote Access

As an alternative to a local installation at possible multiple locations, *AirMax Revenue Manager* can be remotely accessed over the Internet using the *Sabre eMergo* environment. For this delivery method, you will need an ISP or direct network connection and a Web browser. *Sabre Airline Solutions* manages all necessary hardware, upgrades and applicable third-party software.

Our Unique Expertise

Sabre Airline Solutions, a *Sabre Holdings*® company, is the world's proven leader of software products for the airline industry, offering passenger management solutions and consulting services for airlines to simplify their operations and lower costs.

More than 200 airlines around the world use its broad portfolio of smart solutions as decision-support tools to increase revenues and improve operations. More than 100 airlines worldwide rely on *Sabre Airline Solutions* for passenger management solutions. In addition, more than 100 airline industry clients around the world have turned to the *Sabre Airline Solutions* consulting group for strategic, commercial and operational consulting.

The complete *Sabre Airline Solutions* portfolio comprises more than 100 diverse decision-support products and services, arranged into four distinct groups — Market, Sell, Serve and Operate. *AirMax Revenue Manager* is an offering of the Market group. Other products within the Market group are listed at the left.

Works Well With ...

These other *AirMax* products complement *AirMax Revenue Manager*.

Sabre® AirMax® Day-of-Departure Manager

Sabre® AirMax® Group Manager



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