

A MAGAZINE FOR AIRLINE EXECUTIVES

2010 Issue No. 2

ascend

Taking your airline to new heights



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Get Off The Tarmac

Airlines have access to the industry's most innovative technology designed to prepare for, avoid and rapidly recover from potentially costly tarmac delays, resulting in an efficiently run operation that promotes customer goodwill.

■ By Rachel Olson | *Ascend* Contributor





In April, the U.S. Department of Transportation passed a bill prohibiting U.S. airlines operating domestic flights from permitting an aircraft to remain on the tarmac for more than three hours without allowing passengers to deplane (see related article on page 44). This also applies to international flights, operated by U.S. carriers into and out of the United States; with the differentiation that the carrier must specify in advance the time limit where passengers will be allowed to exit the aircraft. In addition, food, water and restrooms must be made available after a delay of two hours. The hefty fines of up to US\$27,500 per impacted passenger for exceeding the threshold make avoidance of the three-hour or greater delays imperative.

A common alternative used to avoid violation of the tarmac delay rule is to cancel flights when extensive taxi delays are anticipated. While the loss of revenue is significant, it pales in comparison to facing significant per-passenger fines.

A much-improved option is available, however, that enables an airline's operations team to anticipate and proactively react to these delays as well as plan and prepare in advance to avoid them completely. This would result in maintaining the revenue for that flight and facilitating passenger goodwill by providing passengers a smoother travel experience and less likelihood for rerouting their itinerary, avoiding frustration and inconvenience.

Sabre Airline Solutions® offers a variety of robust technology to assist airline operations centers in handling irregular operations. These tools can be utilized to prevent long taxi delays from occurring and identify and alert operations if a long delay is imminent.

Recovery Management

The likelihood of tarmac delays increases with each occurrence of schedule disruption. Airlines that employ technology to quickly and proactively resolve schedule disruptions while minimizing overall operational disruptions stand a greater chance of avoiding tarmac delays.

Sabre® AirCentre™ Recovery Manager is an automated, optimization-based flight operations decision-support system used to quickly and proactively resolve schedule disruptions while minimizing overall operational disruptions (see related article on page 79). Recovery Manager supports effective decision making, including compliance with new consumer compensation legislation for tarmac delays, and recommends real-time schedule adjustments and aircraft assignment changes to resolve disruptions. Recovery Manager has valuable features that enable airlines to prevent situations that could result in tarmac delays

due to overcrowding of gates, taxiways and/or runways.

By explicitly taking into consideration airport constraints, such as air traffic flow control programs, Recovery Manager enables airlines to maintain viable operations while not exceeding operational levels that would result in severe tarmac delays. During the process of recovering a flight schedule in response to an irregular operation by suggesting flight delays, cancellations and diversions, Recovery Manager gives airline analysts the ability to specify several airport constraints including the maximum number of aircraft at gates and on the ground as well as the arrival flow rates. This enables the user to simulate and manage airport flow rates and manage the impact to ramp congestion.

Recovery Manager recommends schedule time adjustments to ensure airport constraints

are not violated. For instance, flights may be delayed in their departure station to prevent overcrowding at an arrival station and a possible extended wait time on arrival. Furthermore, by explicitly incorporating posted ground delay program slot restriction times into the recovery process, Recovery Manager will determine the approximate departure time from the gate so an outbound flight is not subject to additional tarmac delays during the departure procedure. Based on the average taxi time at the airport, the flight would be released from the gate in time to meet its assigned GDP slot time at the arrival station.

Movement Management And Control

During irregular operations, the operations controller is most likely handling multiple issues. Using technology to quickly identify

Time	Flight	A/C	To / Via	Remark	Weather	
14:30	14:30		PS 203	BERLIN	Cancelled	17 °C
14:30	14:30		VV 4752	WARSAW	Cancelled	17 °C
14:40	14:40		LN 181	TRIPOLI	Cancelled	29 °C
14:50	14:50		BT 403	RIGA	Cancelled	10 °C
14:50	14:50		VV 4403	RIGA	Cancelled	10 °C
15:15	15:15		LH 3239	DUSSELDORF	Cancelled	17 °C
15:15	15:15		OS 662	VIENNA	Cancelled	12 °C
15:15	15:15		PS 9816	VIENNA	Cancelled	12 °C
15:20	15:20		OK 917	PRAGUE	Cancelled	14 °C
15:20	15:20		VV 4917	PRAGUE	Cancelled	14 °C
15:30	15:30		S7 100	MOSCOW/DME	Check-in 5 - 7	11 °C
15:35	15:35		7W 7785	SHARJEAH		28 °C
15:45	15:45		RJ 176	AMMAN	Cancelled	26 °C
15:55	15:55		BA 883	LONDON	Cancelled	14 °C
16:05	16:05		PS 901	BRUSSELS	Cancelled	14 °C
16:05	16:05		TP 8216	BRUSSELS	Cancelled	14 °C
16:15	16:15		MA 111	BUDAPEST	Cancelled	16 °C
17:05	17:05		LH 3231	MUNICH	Cancelled	10 °C



Photos: Thinkstock

A common alternative used to avoid violation of the new tarmac delay laws is to cancel flights when extensive taxi delays are anticipated. While the impact on revenue is substantial, it's preferred to paying steep per-passenger fines.



Under the new laws passed earlier this year by the U.S. DOT, airlines that remain on the tarmac for more than three hours without offloading passengers will be fined US\$27,500 per passenger. For tarmac delays of two hours, food, water and restrooms must be made available to all impacted passengers.

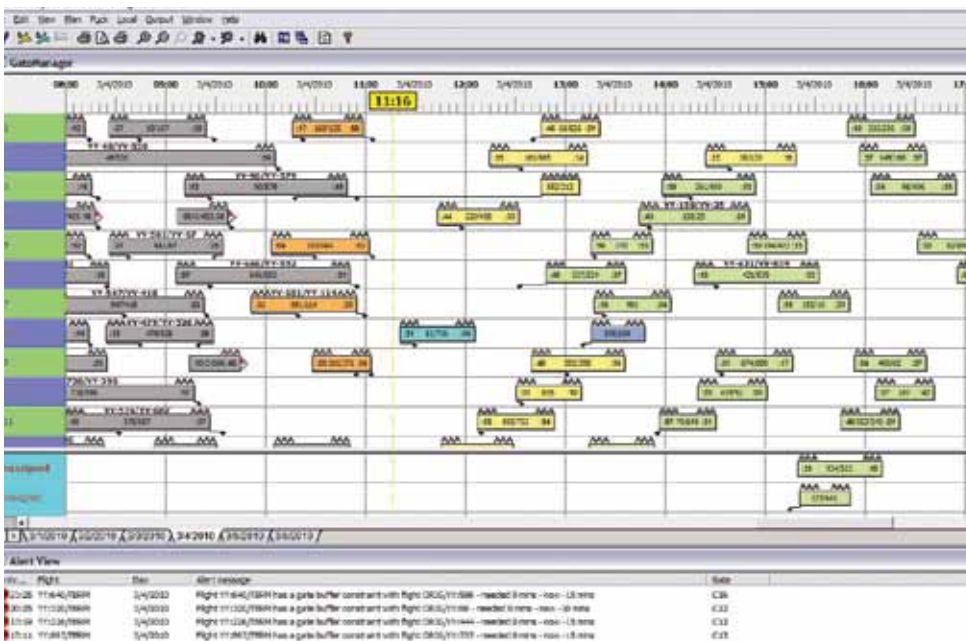
issues and analyze options will assist the controller and decrease the potential for a flight on an extended taxi delay to be overlooked.

Sabre® AirCentre™ Movement Manager and Sabre® AirCentre™ Movement Control

provide operations control personnel the means to easily monitor the status of flights and reduce the impact of disruptions to the schedule, helping ensure a positive travel experience. These solutions provide operations controllers with configurable

time-on-the-ground alerts to inform them of situations that could result in an extended tarmac delay. A special tarmac delay alert can be set, which is triggered if an aircraft has an out time but not an off time, an on time or an in time after an airline-configurable time threshold.

In a situation where an aircraft has left the gate but is not airborne and a designated period of time has passed, the controller will receive an alert notifying of an aircraft that is nearing a potential tarmac delay violation. This alert will indicate that the controller needs to monitor the flight and take appropriate action if the flight will not be airborne in time. In a similar situation where an aircraft has landed but has not yet made it to the gate for passengers to deplane and the alert is generated, the operations controller knows arrangements must be made with the appropriate ground personnel to allow passengers to disembark prior to the three-hour threshold.



Among a number of advanced solutions designed to help airlines respond to and overcome tarmac delays is Sabre AirCentre Gate Manager, a system that generates an alert when an aircraft has landed and its designated gate is occupied.

Airport Operations

At the airport, inclement weather and other disruptions can lead to an abundance of non-scheduled aircraft on the tarmac and occupying gates. Airports that utilize technology to streamline their operations are better equipped to handle unplanned aircraft on the ground.

Sabre® AirCentre™ Airport offers forecasting and planning technology that uses

demand-driven resourcing to determine the most efficient resource levels, including airport staff, gates and equipment required to meet the work demands for a given flight schedule. *Sabre AirCentre Airport* provides airport controllers with alerts to identify and prevent long tarmac delays.

Users of *Sabre® AirCentre™ Staff Manager* can create alerts based on a threshold of elapsed time since the flight departed the gate. If the flight is not off the ground within certain user-defined minutes from the departure time, the system generates an alert. In addition, *Sabre® AirCentre™ Gate Manager* generates an alert when an aircraft is on the ground and the gate of the aircraft is occupied.

In the near future, *Sabre Airline Solutions* will introduce new ground movement tracking situational awareness technology designed to take advantage of ASD-B and other surface surveillance radar to chart the position of aircraft maneuvering around airfields. The solution will provide visual alerting to the consequences of airfield congestion and ground-stop programs,

offering real-time situational awareness to the SOC and supporting the decision-making processes of the operator, including compliance with new consumer compensation legislation for tarmac delays.

In conjunction with data and messaging capabilities already available in *Movement Manager* and *Movement Control*, airlines will have a complete picture of airfield operation and performance. This new solution, when complimented with *Sabre® AirCentre™ Flight Explorer*, will provide full gate-to-gate visualization of an airline's flight operations. *Flight Explorer* offers alerting capabilities to track the elapsed time from the departure of the aircraft, signified by the out message, until airborne.

There are two alerts in the Events Manager module within *Flight Explorer* — Aircraft Taxi-Time Warning and Aircraft Taxi-Time Critical. User-definable thresholds have been created as the elapsed time from departure grows. The two events are differentiated with unique colors. In the future, similar logic will be put in place for arrival alerting based on ON and IN messages.

Utilizing the most advanced technology will assist airline operations personnel in recognizing, proactively reacting to and preventing costly tarmac delays as well as increasing passenger satisfaction and retention. ■

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+count it up

2050

The year by which worldwide aviation's CO₂ emissions from fossil fuel is expected to reach 3 percent, based on a forecast by the U.N. International Panel on Climate Change. Today, aviation's CO₂ emissions footprint is 2 percent.

30

The percentage by which air transport covers the shortest distance between two points compared to the same route taken by a form of land transport, according to enviro.aero.

23

The percentage of global greenhouse gas emissions accounted for by the transportation industry in general, according to enviro.aero. Aviation is responsible for 12 percent of CO₂ emissions from all transport sources, compared to 76 percent from road transport.

73 million

The amount in tons of CO₂ that are wasted every year around the world due to infrastructure inefficiencies, according to enviro.aero.

50

The percentage by which emissions of carbon monoxide from aviation have been reduced during the past 40 years, according to enviro.aero. During the same period, emissions of hydrocarbons from aviation have been reduced by 90 percent.

32 million

The number of jobs the air transport industry generates globally, according to enviro.aero. Of those, 14.7 million account for direct/indirect/induced jobs and 17.1 million direct and indirect jobs through air transport's catalytic impact on tourism.