



CARMEN SYSTEMS
RESOURCES IN BALANCE



Carmen Passenger Recovery

Airlines

Carmen Passenger Recovery is the process to recover quickly and produce recovery options for disruptions with as little change as possible with maximum service level retained.

Controlling costs while improving passenger service

The process

Define scope

Define areas of responsibility, for example a region.

Detect

The view presents statistics where you can see how current problems would impact passengers if no passenger re-bookings are performed.

Solve

Use Carmen Passenger Recovery to obtain a re-booking solution for all disrupted passengers. Carmen Passenger Recovery system can suggest re-bookings, including prioritization according to ticket price, gold card membership, group travellers etc. The system can even suggest minor flight delays that would reduce the total number of passenger disruptions. These delays can then be evaluated from a fleet and a crew perspective.

Evaluate

The system presents a summary of delayed passengers, misconnected passengers and the total cost for reimbursements and accommodation. In addition to the summary there is a detailed recovery plan for each passenger.

Communicate

Once a recovery option is chosen it is communicated to the central database as soon as you have confirmed the changes. The changes are now available for everyone using the system.

Re-accommodates disrupted passengers on the day of operation to minimize the total amount of passenger disruptions

Integrated with

Carmen Fleet Control and Carmen Crew Control to guarantee solutions that are feasible and effective for the entire operation.

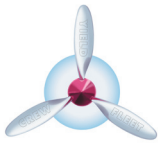
Existing day-of-operation systems to recover as quickly as possible with as little change as possible.

Existing systems for operational data management to ensure maximum service levels for passengers.

The screenshot shows a flight recovery system interface. The top part displays a flight schedule for August 14, 2003, with columns for Tail No., Aircraft, and Crew. Below this is a detailed recovery plan table for passenger 7.

of pax	TLV	Flight Seq.	Bkd. Stn. Seq.	Cabin Seq.	Plan. Dep.	Plan. Arr.	Sug. Flight Seq.	Sug. Stn. Seq.	Cabin Seq.	Est. Dep.	Est. Arr.	Delay
7	15	911-561	MTY-MEX-TAP	M-M	14-Aug 15:00	14-Aug 18:25	937-563	MTY-MEX-TAP	M-M	15-Aug 01:00	15-Aug 04:30	10:05
5	15	905-315	MTY-MEX-ACA	M-M	14-Aug 13:00	14-Aug 16:15	917-405	MTY-MEX-ACA	M-C	14-Aug 17:00	14-Aug 21:20	05:05
6	15	256-184	OAX-MEX-TIJ	M-M	14-Aug 13:20	14-Aug 18:45	256-178	OAX-MEX-TIJ	M-C	14-Aug 13:20	14-Aug 20:40	01:55
11	15	256-184	OAX-MEX-TIJ	M-M	14-Aug 13:20	14-Aug 18:45	256-178	OAX-MEX-TIJ	M-M	14-Aug 13:20	14-Aug 20:40	01:55
103	15	184	MEX-TIJ	M	14-Aug 15:30	14-Aug 18:45	178	MEX-TIJ	M	14-Aug 17:25	14-Aug 20:40	01:55
52	15	185	TIJ-MEX	M	14-Aug 19:45	14-Aug 23:05	179	TIJ-MEX	M	14-Aug 21:25	15-Aug 00:50	01:45
9	15	184	MEX-TIJ	M	14-Aug 15:30	14-Aug 18:45	158-158	MEX-LAP-TIJ	C-M	14-Aug 15:30	14-Aug 20:05	01:20

This view shows a passenger recovery option with a detailed re-booking plan for all passengers.



Product content

- Passenger Recovery optimization
- Graphic Passenger Recovery Interface
- Carmen Rave (rule and quality modelling language)
- Reports (Carmen Rave Publisher)
- Regular new releases
- Standard support (office hours support and regular Installation Quality visits)

Technical information

- Web clients
- Unix or Linux server
- Standardized XML interface
- Oracle database

Basic functionality

Carmen Passenger Recovery automatically evaluates the impact on passengers from actual or proposed schedule changes. In finding the best solution, passengers can be re-accommodated to other flights or be up- or down-graded. Carmen Passenger Recovery can also suggest re-timing of flights.

Speed

The optimizer will rapidly produce high quality solutions within one minute for any kind of disruptions such as a closed hub or an impaired aircraft.

Setting objectives

Carmen Rave is used to describe the company policy regarding the re-accommodation of passengers. Carmen Passenger Recovery bases its decision on information on each individual passenger. For example, it is possible to prioritize unaccompanied minors and gold card passengers. The result is presented as a complete re-booking scenario in an easy-to-read format.

Legality control

All legality and quality is controlled with Carmen Rave. This guarantees that solutions will always respect the company's legality and quality policies as well as the targets for costs and passenger service levels. With Carmen Rave you can control properties such as prioritization of passenger categories, or the protection of certain markets.

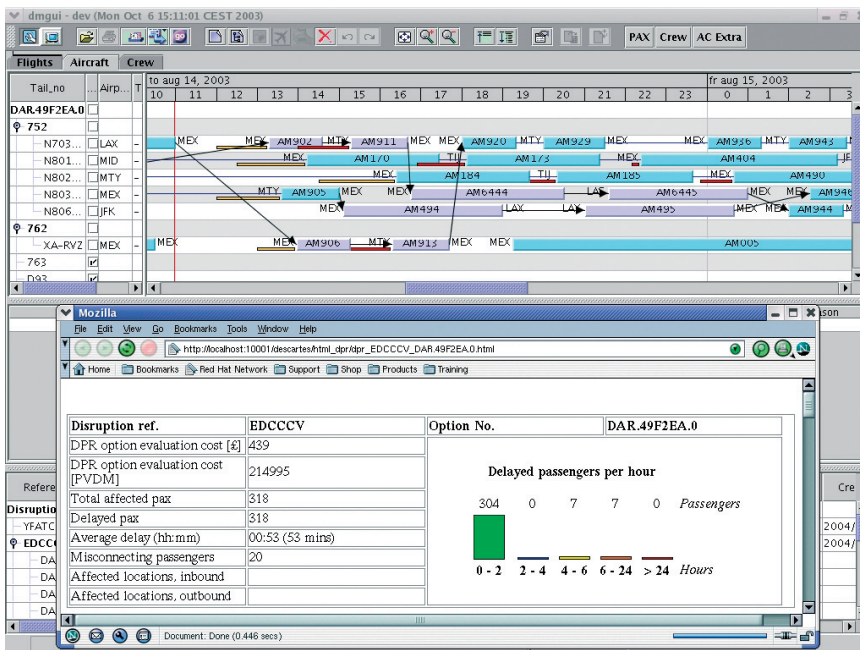
Changes can be introduced at short notice by the local system administrator. This ensures that the system delivers the best possible solutions, even after changes to seat configuration, timetables, company policies, planning processes etc.

Integrated operations control

Carmen Integrated Operations Control is a platform for integrated disruption management. It integrates the tools for Fleet Control, Crew Control and Passenger Recovery.

System integration

Carmen Passenger Recovery is a stand-alone system designed to work in an integrated operations control environment. It can also work as a decision support tool on top of existing systems for operational data management.



This view shows a passenger recovery option with compiled information and delay statistics.

Questions & Answers

What value can optimization bring on day of operation?

The main benefit from introducing optimization is that it provides control. The controller's role is changed from simply reacting to individual alerts to being in control of the consequences of different recovery strategies. The optimizer can also be used proactively to find good recovery strategies. For example to identify suitable cancellation candidates where passengers can be re-accomodated with only minor inconvenience.

The optimizer evaluates the possible solution strategies and provides effective means for comparing the different solutions.

How can the optimization help us with major problems, such as a closed hub?

By solving the entire problem, rather than trying to solve each sub-problem separately, it is possible to evaluate the full effect of a solution strategy before applying it. Recovery optimization focuses on specific properties such as the overall number of changes, the time to recover to original patterns, cost impacts, passenger disturbances etc. You can also combine a number

of passengers re-booked to other carriers and total weighted delays based on passenger value.

How can the Carmen Passenger Recovery system work in an environment of continuous change?

The most important factor is that Carmen Passenger Recovery is very fast. Major changes are unlikely to occur while the optimizer is running. However, if changes do occur which makes parts of the solution invalid, you have three options: accept part of the solution and repair it manually, accept part of the solution and repair it with Carmen Passenger Recovery, or reject the solution in its entirety and start a new optimization job.

If you have any questions about Carmen Passenger Recovery, please contact us at carmen@carmensystems.com



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