



Bidlines

Carmen provides the airline and crew members with a complete system, creating and awarding productive and high quality bidlines, while adapting to any quality aspects defined by the airline.

What is a good bidline? There is no simple answer to this question. When blocking pairings, you usually wish to create productive and regular lines that follow the circadian rhythm of the crew member. While productivity is a commonly understood objective, regularity can be defined in many different ways. In the past bidlines were created manually and for that reason identical pairings were repeated in order to provide regularity. But this only resulted in a small number of lines with the desired properties.

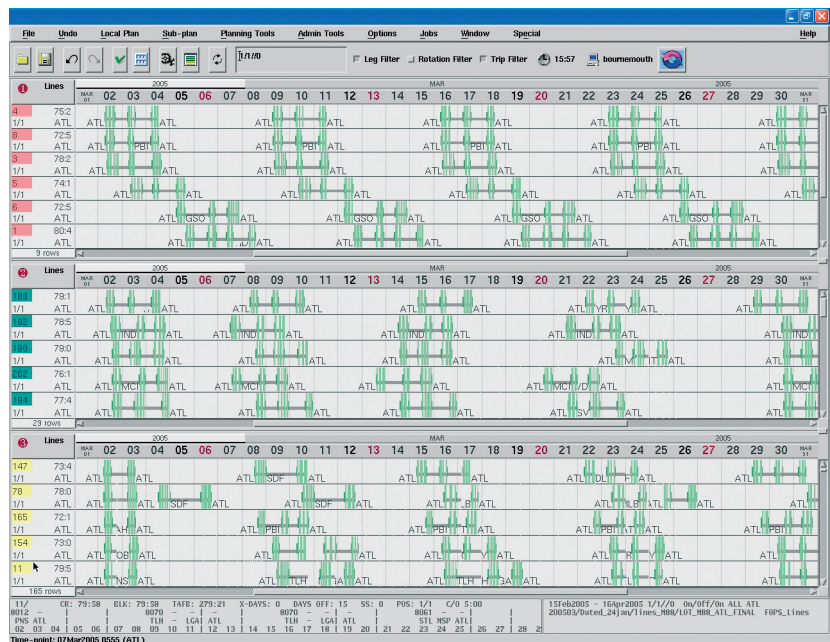
To support the circadian rhythm of crew members' with regular lines, there are far more options available by blocking similar pairings. Defining what makes pairings similar is up to the management and crew of the individual airline. Similarity can touch on specific criteria such as duty days, particular flights and layovers, or on more general conditions such as crew commutability.

Quality of life

The goal is always to apply general quality definitions shared by crew members. To be able to conform to these definitions, rather than imposing a fixed and permanent definition of what defines quality of life for the crew. Carmen has developed the bidlines functionality to be very flexible and adaptable.

The right pairings

An important aspect for achieving regularity in crew schedules is the way pairings are constructed. Carmen's Crew Pairing optimizer integrated with the bidline process allows for the creation of pairings that is easier to combine to efficient bidlines. This will result in a larger number of high-quality bidlines, while maintaining a high productivity. For example, if there are too few commutable pairings there



The optimizer can create lines with many different properties, while distributing block time in the desired span. A view showing lines with identical pairings starting on the same day (perfect lines), lines where all pairings are identical (pairing pure) and lines where all pairings starts on the same week day (day pure).

will always be a small number of commutable bidlines at the end. By creating more commutable pairings, without allowing a reduction of the overall pairing productivity, it will be possible to create more commutable bidlines.

Awards and conflict resolution

The awarding of bidlines is included in the product and can be customized. It is essential to be able to implement any airline specific aspects on the resolution of assignment conflicts and their effect on crew members' pay. This includes easily being able to evaluate and introduce operational changes. Carmen Rave is used to capture all specific details of the bid award process, and to ensure that the airline

always is in compliance with all contractual requirements.

Many scheduling concepts

Carmen Crew Rostering supports the creation and assignment of bidlines as well as the creation of individual crew schedule with preferential bidding. This provides the airline with the means to evaluate and perform a transition from one of the methods to the other, without having to replace the scheduling system. It is also possible to support both bidlines and preferential bidding for different fleets and different crew categories. This makes the airline equipped to face future changes.

Adaptability and flexibility

There is no everlasting definition of quality of life. Carmen's technology provides the necessary adaptability and flexibility to meet changing requirements. With Carmen Rave, we can customize and configure the system according to highly detailed and specific requirements.

Optimization matters

It is essential that a bidline system creates the maximum number of lines that, while still protecting productivity, meets the airline's criteria for quality of life. The bidline generation problem is a complex puzzle where the pairings are the pieces that need to be put together in the best possible way. Carmen uses unique optimization technology to guarantee that quality requirements are met as far as possible.

Usability and simplicity

As a crew member, how do you find the lines that best reflect your lifestyle? You can enter and update bids from home or from a hotel via internet with Carmen's bid interface, InterBids. The system is very easy to use and no specific software needs to be downloaded. You can easily express your preferences and match these with available bidlines. You do not have to go through all the lines in the published bid package to identify a set of lines attractive to you. InterBids filters them all for you and creates your personal bids for exactly these lines.

Summary

Carmen provides the airline and crew members with a complete system, creating and awarding productive and high-quality bidlines, while at the same time managing all contractual requirements.

If you have any questions about bidlines or Carmen Crew Rostering please contact us at carmen@carmensystems.com

The screenshot displays the Carmen Systems bidline interface. At the top, it shows the schedule period (01JUN05 - 30JUN05), deadline (12MAY05), PPR # (bjorn), and Name (Bjorn Samuelsson). Below this, there are tabs for 'BIDS' and 'PRE ASSIGNMENTS'. A table shows bid details with columns for Bid type, Details, Bid validity period, Pos, and Pts. The main area displays a grid of bidlines with columns for dates from 01 to 04 of each month. The grid shows various bidline numbers and their corresponding details for each date.

The system can filter bidlines with desirable properties as well as allowing standing bids for abstract line properties. The report shows the result of filtering out all lines with a line value between 65 and 79 hours and a day off on 1st of June.



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