ibssoftware

Redefining Crew Planning

With iFlight Crew – a comprehensive crew planning optimization platform that delivers powerful insight for result driven airlines

iflight CREW

Optimal crew planning is critical to your operations: missed flights, underutilized crew or lack of reserve crew, are key issues that can result in higher crew costs, preventable delays and flight cancellations. Mismanagement of crew resources can also affect your crew quality of life and crew satisfaction, which can hugely impact customer service.

iFlight Crew Planning solutions help you link your crew planning activities to strategic objectives to determine the factors impacting crew productivity, crew-related costs and crew satisfaction, and then take decisive actions to achieve operational excellence. Backed by AD OPT's award-winning optimization engines, iFlight Crew Planning delivers trusted and recognized tools that automate and optimize your strategic crew planning processes for enhanced operational stability and cost control.

Crew Pairing

Build Operationally Robust Crew Pairings for Maximum Efficiency

The Pairing Optimization module within iFlight Crew is a dynamic and flexible system that builds productive roster-friendly pairings at the lowest possible cost, while maintaining full compliance with company rules, operational requirements, company cultures, specific sets of activities, contract agreements and government regulations.
iFlight Crew Pairing is based on proven and widely-acclaimed optimization technology that seamlessly integrates with existing systems and provides airlines with an immediate and sustainable ROI.

- Build roster-friendly pairings, meeting all rules, regulations and fatigue targets
- Balance productivity, operational constraints and cost performance
- Save up to 15% of crew costs

Advanced Pairing Tools

iFlight Crew Pairing provides a large set of planning functions that help planners create operationally robust solutions. iFlight Crew Pairing's core functionality is designed with flexibility in mind, knowing that in the "real world," disturbances often occur even after pairings are published.

To help alleviate such events, it provides:

- Connection times by time of day or by sector pairs: planners can use the feedback from operations to plan for possible delays at specific problem stations

- "Line Friendly" constraints: from daily crew availability to trip mix, planners can create pairing solutions that can easily be built into lines/rosters while providing cost and operational efficiency

- Automatic cockpit crew augmentation for long haul problems

- Dynamic templates guide results by allowing planners to restrict, impose, and/or suggest flight combinations or station restrictions to fit operational needs

Forecast What-ifs with Confidence

In an effort to meet deadlines, planners must also forecast and plan for future occurrences. iFlight Crew Pairing's extensive "what-if" capabilities allow planners to focus on developing long-term strategies, including whether to explore new scenarios, such as opening a new base, or to analyze the effects of union negotiations.

Proactive Approach to Crew Pairing

iFlight Crew Pairing can be configured using customized scripts in accordance with your pairing generation strategies, so you can promptly react to changes. If additional changes to the schedule occur, the solution can automatically be repaired or re-optimized according to the new schedule, providing your organization with a proactive approach and making the planning department more efficient.

A Complete Approach to the Entire Planning Process

- Using the feature rich, user-friendly Graphical Interface, planners can create pairings, manage data, and filter trips and legs based on a wide range of criteria.

- The optimization solver automatically generates the most efficient pairings, taking hotel costs, per diem rates, deadheads, as well as business and contractual rules into consideration, providing optimal pairings in a reasonable timeframe. The solver can create a monthly solution directly without the use of the traditional daily/weekly approach, providing for better robustness and cost savings.

- A complete audit trail system stores all modifications to all data items, along with user comments, allowing for any type of post-production audit to take place.

- Because all changes are automatically saved and easily managed, a previous state can be recovered at any time allowing for comparisons between various outcomes to evaluate the best possible solution.

- Our proprietary optimizer leverages GENCOL, a state-of-the-art column-generation technology that uses a global approach to generate schedules. This approach considers the entire set of flight legs over the entire planning horizon, delivering optimal, cost-effective pairings.

Crew Rostering

Develop Quality Rosters that Balance Fairness with Operational Efficiency

The Roster Optimization module within iFlight Crew is a comprehensive rostering system that creates optimal monthly schedules for pilots and flight attendants, taking into consideration a company's operational objectives (such as productivity, block hour distribution standby coverage, and open-time control) and equalization criteria.
Using quality metrics as an objective, the Rostering solver will generate solutions that optimally spread all equity and quality elements, providing the best schedule quality without jeopardizing operation robustness.

- Builds productive and robust rosters while allowing for a large range of crew requests

- Provides a perfect balance between airline strategic objectives and crew quality of life

- Manages a large number of quality KPIs through configurable quality guidelines

Adapted for your Airline

With over three decades of implementations across the globe, iFlight Crew Rostering is a time-tested and proven airline crew scheduling solution that adapts easily to a diverse range of organizational structures from the simplest to the most complex.

You can select from one or a combination of the following approaches that are designed to fit your operations:

- Equitable/fair share
- Equitable/fair share with crewmember requests
- Fair share preferential bidding

Regardless of the approach, all methods have one key objective – to produce productive rosters that meet your quality criteria.

Advanced Forecasting Capabilities

With iFlight Crew Rostering, planners have the ability to quickly assess different scenarios and immediately react to changes, dramatically enhancing planning capabilities and flexibility — delivering a valuable competitive advantage to your airline. With the full ability to define multiple scenarios – literally an endless amount of possibilities – planners have complete control over the solution generated. For example, planners can:

- Assess the trade-off between overtime and allowing flying to remain unassigned
- Run scenarios using a varying number of crewmembers to evaluate the resulting cost
- Evaluate the impact of increasing or decreasing the number of standbys required.

Planner Interface, Custom Reports and More!

The Rostering Planner Interface allows planners to manage and control a wide range of equity criteria. Planners can benefit from drag and drop capabilities, seamlessly manage large crewmember volumes, manage pre-assigned activities such as standby duties, days off, leave and so much more. In addition to customized reports designed specifically for your airline, the Rostering solution features a number of detailed reports including:

- Several roster reports that highlight individual to group rosters
- Statistics reports
- Public views to the Altitude Rostering database that you can use to create any additional report needed by your airline

Airline, Planners and Crewmembers All Benefit

In a fair share environment, iFlight Crew Rostering constructs a bid period schedule by maximizing the quality of rosters, ensuring fair distribution of block hours both on a monthly and annual basis among other criteria. When crewmembers are allowed requests, iFlight Crew Rostering will incorporate subjective quality-of-life biases into the planning process, granting as many requests as possible while still delivering

the most cost-effective, efficient, and operations-friendly rosters possible. With iFlight Crew Rostering, airlines, planners and crew members benefit from rosters that:

- Fairly distributes the work among the crewmember population based on predefined strategies
- Are legal with respect to the rules and operational constraints, and do not generate conflicts with carry-ins, or pre-assigned activities.

Preferential Bidding System (PBS)

Increase Roster Efficiency and Crew Quality of Life

The PBS module within iFlight Crew is a comprehensive rostering/scheduling solution used to create personalized crewmember (cockpit and cabin) monthly schedules that take into account crewmember preferences, collective agreements, and preassigned tasks. iFlight Crew PBS provides crewmembers greater control over their work lives, while ensuring airlines meet their operational objectives such as reserve coverage and open time control.

- Efficiently allocates duties and time-off, while respecting assignment rules, quality guidelines, legality and preferences
- Helps improve productivity and increases crew satisfaction
- Allows crewmembers to enter an unlimited number of requests through the intuitive crew interface

Perfect Fit for your Airline

iFlight Crew PBS provides an efficient solution that directly responds to the requirements and dynamic issues facing even the most complex airline organizational structures and operations. With over 100 different bid options to select, grouped into appropriate categories - like time-off, pairing characteristics and quality of life - airlines and crewmember associations can select the bid options required, providing a fully customized solution designed to fit your operations.

Control quality, Customize preferences

iFlight Crew PBS is available in either strict seniority or fair share contexts. For strict seniority, iFlight Crew's global approach respects crewmember seniority with the goal of maximizing each crewmember's satisfaction. In a fair share context, every crewmember is treated fairly and equitably, while maximizing global satisfaction among all crewmembers.

Advanced Forecasting Capabilities

With iFlight Crew PBS, planners have the ability to quickly assess different scenarios and immediately react to changes, delivering a valuable competitive advantage to your airline. Planners can perform monthly scheduling tasks and launch the solver for the automatic generation of personalized crew lines. The planner interface features a fully graphical schedule editor, enabling the planner to efficiently perform all pre-award tasks, such as pre-assignments, training allocation, or any last minute updates of a crewmember's activities.

The interface also features a capacity analysis tool that provides a visual assessment of crew availability. With the Solution Analysis Tool (SAT), the planner can answer queries such as why a crewmember did not obtain a specific pairing.

Powered by a Class-Leading Optimization Solver

Our proprietary PBS optimizer leverages GENCOL, a state-of-the-art column generation technology that features a global approach to generating schedules. This approach considers the entire category over the entire planning horizon, providing crewmembers with optimized schedules that enhance employee satisfaction and improve organizational efficiencies.

Crewmember Benefits

The Intuitive crew interface enables crewmembers to easily submit their bids through a desktop or mobile application.

Thanks to the intuitive User Interface, crewmembers can benefit from:

- Accurate and transparent bidding process
- Ability to express preferences
- Improved crewmember lifestyle
- Web access from anywhere, anytime
- Access to communications from planners
- Increased transparency with a Bid Analyzer that allows crewmembers to validate bids against existing pairings

Different Bid Models to Choose From

Depending on your airline's organizational structure and crewmember needs, you can select one of three PBS bid models: weighted, automatic mode or preference set.

The Weighted Approach enables crewmembers to indicate the importance of each preference to them. Weighting is easily performed using HI, MED, and LOW qualifiers in the Automatic mode, while more seasoned users can use the full 1 to 1,000 range of values available to crewmembers who want to refine their bid.

The Preference Set Approach enables crewmembers to specify and rank multiple sets of preferences. Bids are grouped together into preference sets and each preference set is ranked in priority order, where the solver's goal is to search through virtually all combinations to award the highest possible preference set.

Regardless of the selected approach or bid model, the solver's core objectives are to maximize each crewmember's satisfaction, while strictly respecting seniority or fairness, and all business targets.