

PerformOps™

Airline Software Suite

PerformOps is a software suite that manages most aspects of an airline operation. It enables the integration of all the different business sections that often operate as separate 'companies' within an airline.

The operational data of an airline are the drivers to most of the costs an airline is exposed to, as well as all revenue generated through operational activities. It is therefore logical to use one central data silo to support all cost- and revenue data of all the departments of an airline.

While the origin of PerformOps is aircrew duty rosters and aircraft scheduling, it now extends far beyond that, and enables sophisticated business modelling.

An accurate software model can be created to perfectly represent the entire airline business, enabling projected profitability and assessment of individual flights, routes and/or an entire Seasonal Timetable. Simple and immediate Airline Performance Evaluations indicate profitability detailed to flight, route and timetable levels.

Strategic Objectives of PerformOps™

Objective One

To enable the user to **drive down the production cost of seat miles**, by ensuring that resources, human and others, are utilized at optimum levels.

Objective Two

To offer a complete Business Modelling tool, that will **create a Competitive Edge** for the user to remain a step ahead of the competition. Easy to use and easy to understand tools enable the Executive team to make accurate and informed decisions.

High Level Description of PerformOps™

Business Modelling

This is a comprehensive software suite that consists of various integrated modules that are all dedicated to optimise airline efficiency, and to display vital airline performance parameters to the Executive Management. Scientific and Sophisticated business modelling remove the guesswork and cost surprises from airline flight/route assessment. Detailed cost analysis and revenue projections, maximising of the efficiency of resources, and real time reporting enable optimum airline performance at all times.

Traditionally airline executive management only had access to Management Information data a month or more after operations, which made proactive and prudent decision making impossible. With PerformOps you can tell which are the most lucrative flights to fly and how to do it most efficiently, and assess your airline's performance down to a fare class per individual flight, before an aircraft has taken off!

There are essentially three drivers to the entire modelling solution, (1) the Timetable, (2) the Expense Model and (3) the Revenue Model.

You can specify all costs to the finest detail, in a logical and intuitive way to clearly assess every flight, route or entire timetable. All costs incurred (as captured in the business model) are extracted from the airline timetable as the timetable is being created with the Visual Timetable Module. Once the airline timetable has been completed, aircrew pool size calculations are made to complete the operational business model. Station costs (staff and other fixed costs) are also captured per station (airport) and allocated to defined cost centres.

To complete the business model revenue projections are made per flight, relying on load-factor and yield projections made by the airline executive. These revenue projections are then assessed against cost analysis to indicate viability per flight, route or the entire timetable.

Reservations

The reservations modules of PerformOps has its origin some 6 years ago, and was introduced to the market as PerformAir. It is a very mature and proven set of tools, that address all aspects of reservations and Passenger handling.

Airline Control Systems developed PerformOps™ Reservations to enable airlines to pursue an alternative strategy to be competitive in the 'New Airline' (post 9/11) environment. PerformOps™ Reservations is a comprehensive software package that replaces/alleviates the conventional Computer Reservations System (CRS), Global Distribution System (GDS), Billing Settlement Plan (BSP), Passenger and Baggage Check-In procedures and Departure Control Systems (DCS). Even though the requirement of the GDS is just about alleviated, PerformAir is seamlessly integrated with the GDS, with the result that the GDS can be retained as an additional Point of Sale.

PerformOps™ Reservations aims to elevate airline Sales and Reservations and Departure Control Systems to modern technologically advanced e-commerce

standards, while introducing the cost benefit of the modern business principles to airlines. It targets all airlines, whether large and established or small and growing. We therefore offer access to PerformOps™ Reservations in various cost models to be affordable to any airline.

Whether you are using the CRS and/or GDS or not, we offer an alternative Total Solution that include all your Sales and Reservations-, Passenger and Baggage handling-, Departure Control System- and Yield Management requirements!

An exciting difference from other reservation systems is that your data and inventory is your own, and you can interact with it and report on it as you please, at no extra cost.

Should you choose to retain your access to the GDS and/or the IATA BSP systems, we have the solution to match your requirement. We integrate fully with Galileo, Amadeus, Worldspan, Sabre and Apollo. So whatever your requirement, we will offer an affordable alternative while introducing cost saving - and revenue generating benefits.

PerformOps™ Reservations also introduces Active Revenue Management, which is a process that uses flight profiling and modern up-selling techniques to maximise revenue. This revenue management process is now as simple as 'select and click' to change fare structuring at any time during the sales cycle of a flight.

PerformOps™ Reservations™ is the first in the industry to offer services to the consumer never seen before, by embracing latest modern technology. This includes GSM- and USSD technology services that allow for messages and/or selections to be made to/from cellular telephones to request and advise of flight times and flight progress. PerformAir™ adds value to the service that the airline offers, in a way that the expectations of the consumer are exceeded in all aspects.

Resource Management

We understand that aircrew costs are one of the top three expenses of an airline, and efficient scheduling within the complex aviation regulations (dictated by Aviation Authorities and Aircrew Unions) is an enigma. Efficient aircrew utilisation drive aircrew costs down, creating a competitive edge that a successful airline relies on.

The cradle of PerformOps™ is therefore an elaborate and involved module addressing aircrew and aircraft Scheduling. It guarantees optimum Aircrew Efficiency, whilst crew operate safely within regulations and limitations.

Your Operations Control Centre will have the tools to ensure the right crew at the right time at the right place. Easy aircrew co-ordination and elaborate operational reporting ensure aircrew- and operations staff satisfaction.

Functions of PerformOps™

Airline Timetable Design Module

This is a visual click-and-drag design tool to create the Airline Seasonal Timetable, called the **Visual Timetable Planner** (VTP). The conventional Gantt chart is now visually created to from a table of schedules, which can be edited 'dragging & dropping' at any time. The user is also offered the option to capture a timetable in a normal table format.

Various tables are required to be populated before the **VTP** can be used, and these are populated in a logical, intuitive and easy to use process. Through this module, a host of data tables are populated to form the foundation of all Revenue, Financial and Operational data.

Business Modelling

Aircraft Cost Analysis Module

This cost analysis module is a powerful building block in the total Business Modelling function. All aircraft fixed- and variable costs can be specified to the smallest detail, and CityPair specific Operational Costs (variable costs) incurred are included in the Business Modelling. All costs can be associated with any one (or More) Cost Centre, to be able to do Cost Centre Budgeting/Performance quickly and accurately.

Airline Timetable Cost Analysis Module

This is an accurate but simplified view of the Airline Timetable Cost analysis. It is simplified as only Aircrew Fixed- and Variable cost and Aircraft Fixed- and Variable costs are considered. Operational Costs (variable costs), Airline Staff Costs and Airline Fixed Costs are not considered in this initial Timetable Cost Analysis module. This is a powerful tool, as it quickly and clearly advises total Timetable Cost, allowing for various timetable permutation comparisons.

Aircrew Cost Analysis Module

Similar to the Aircraft Cost Analysis module, this module permeates the entire Business Modelling module. All possible aircrew fixed cost can be added, whilst variable cost are added per crew per pairing/flight or distance measure.

Airline Staff & Fixed Cost Analysis Module

A complete structure with Salary Scales for all positions for Staff in the entire airline is constructed. Other fixed cost can be added to the level of detail as elected by the executive management of the airline.

Airline Timetable Revenue Module

This is a revenue model created by the executive management of an airline, based on projections of Yield and Load Factors per Schedule. This revenue model includes an open-ended possibility of fare classes per City-Pair Group. This means that all CityPairs are grouped by common 'characteristics'. This could be 'Local City-Pair' or 'Regional City-Pair' or by whatever other common grouping applies. A Revenue (Fare-Class) model is then assigned per CityPair Group, to function as a data-capture structure after the movement has been completed. This 'real' data then serves as a basis for the Yield Reporting and Decision Support Reporting Module.

Timetables consist of CityPairs, and every CityPair is profiled with regards to Seasonal market support form the different market segments (business, leisure etc?). This City Pair Profile contains a period with a loading per market segment, to calculate potential pax traffic volume, and associated revenue.

During Timetable construction, a 'saturation index' is displayed, indicating if the potential passenger volume is serviced adequately.

Detailed Business Modelling

This modelling can be applied on 3 different levels.

1. Assessment of costs of the Airline TimeTable as it was completed with the Airline TimeTable Design Module.
2. Assessment of Business Model of the Airline based on the projected Revenue as captured with the Airline Timetable Revenue Model. This option will typically be used where no actual historic data is available to validate actual Yield and Load Factors.
3. Assessment of Business Model of the Airline based on the Actual Revenue as captured (or imported) using actual data captured with the Data Capture Interface into the Airline Timetable Revenue Model. This option will typically be used where actual historic data is available to validate actual Yield and Load Factors.

Different Cost Centres and Cost Centre Groups can be created, to perfectly model the way your airline operates. Cost centre groups can also be created to easily facilitate 'Job Costing', Project Management and custom reporting.

Aircrew Pool size Calculation Module

This is an essential module for any airline that operates 3 or more aircraft. To accurately interpret aviation regulations and consider training and HR liabilities (Annual Leave, Sick Leave, Maternity Leave etc.) superimposed on a busy timetable, make total crew compliment calculations a mathematical maze.

PerformOps mathematically calculates aircrew pool size requirements, with efficiency parameters, training- and Human Resources aspects considered. You can be assured that the exact number of aircrew is employed, and the 'Utilisation Objectives' guide the correct amount of this crew to be on leave, in the simulator, or the classroom.

Being 'scientifically guided' on this critical and expensive resource, creates part of the competitive edge that PerformOps offers the modern airline.

Aircrew Scheduling Module

We know that aircrew are one of the major expenses of an airline, and we also know that the Aviation Authorities and Unions regulate Duty Period, Flight Time and Rest Periods with impossible to monitor rule-sets.

PerformOps dedicate an entire module to aircrew scheduling that applies Duty Period, Flight Time and Rest Periods rule-sets without fail, in a way that maximum aircrew efficiency is guaranteed. All the rules are table-driven, meaning that complete flexibility is retained. Not only are the parameters to the rules variable, but the rules themselves can be recreated and repeated. All rules and the applicable parameters to the rules are saved in a rule set, and an unlimited quantity of rule sets can be created.

With numerous rule-sets available, automatic crew rosters can be generated to any of the rule-sets applied. Different rule-sets can be used for different crew ranks. A typical application of this will be to roster cabin staff to different rules than cockpit crew.

Training Requirements (Qualifications and Renewals) are captured per crew rank. Crew groups can also be created with special training requirements. Colours and pop-up windows serve as reminders to the roster clerk to advise the crew managers to schedule training. Renewals are set as 'hard' or 'soft' Training Requirements with 'hard' renewals disabling a crewmember from the active roster, and 'soft' renewals merely serve as warnings.

Aircrew Bidding Module

Aircrew 'bidding' is a module that allows aircrew to 'bid' for a certain pairing on a certain day. Quantity of bids can be restricted, to prevent excessive distortion of the roster balance, and bids are only allocated if the crew duty roster can accommodate the bid (or request). Aircrew seniority or 'first come first served' allocation rules can be selected for conflicting requests.

Crew grouping module

This module is a building block for various other modules, while in its own pure form, offers no new functionality. It has to be installed before any of the other Grouping modules can be installed, as it serves as the only link between:

1. Duty Rosters of the various Crew Types, eg First Officer's rosters checked against Captain's rosters, checked against Cabin Attendant's rosters etc. The module that manages this Crew Type (Group) utilisation checked against all other crew type (groups), is called **Crew Group Exclusions**.
2. Training Profiles and Crew Groups. The module that manages this Training Profile association with Crew Groups, is called **Crew Group Training Profiles**.
3. HR Profiles and Crew Groups. The module that manages this HR Profile association with Crew Groups, is called **Crew Group HR Profiles**.
4. Route Profiles and Crew Groups. The module that manages this Route Profile association with Crew Groups, is called **Crew Group Route Profiles**.
5. Airports and Crew Groups. The module that manages Airport association with Crew Groups, is called **Crew Group Airport Profiles**.

Crew Group Airport Profiles Module (sample of Crew Group Module)

All airfields are categorised, open-ended. This means that 'groups' of airfields are created, for example, 'Short Field Special Ops', or 'Critical Airfield', or 'Cat III ILS' etc. An airfield can belong to one or more categories.

All aircrew are categorised, open-ended.. This means that 'groups' of aircrew are created, for example, 'Short Field Qualified', or 'Critical Airfield Qualified', or 'Cat III Rated' etc. An aircrew member can belong to one or more categories.

This module offers the functionality to restrict any specific Crew Group from any airport. A fairly comprehensive matrix of crew/airfields can thus be created to ensure that only properly qualified aircrew operate on any flight.

Daily Aircrew Co-ordination Module

As soon as an operation grows beyond 3 or 4 aircraft, Aircrew co-ordination becomes very complicated, especially if aircrew efficiency is high. If one aircraft is delayed, or if one crewmember falls ill, it is impossible to 'manually' check what other crew can legally do additional duty.

Crew Co-ordination is all about managing the daily changes than an airline has to be able to cope with. Changing crew, aircraft, hotels, positioning flights and diverting flights are just some of the challenges that the *Daily Aircrew Co-ordination Module* handles in it's stride. Compliance with regulations is assured, as is the tracking and notifications of roster changes to the necessary staff.

Visual Ops Manager

This is the core of flight follow and crew tracking. A visual Gantt timeline displays visually the operations of the day. Colour coding and track-bars offer an easy to understand picture of the punctuality and progress of the daily operation.

Aircrew failing to sign on in time, or any other significant message visually flags a flight to challenge the Ops Controller for special attention.

This **VOM** is also the centre of shortcuts to access flight-specific crew-, time-, revenue- and punctuality information.

Crew Port

Every crewmember is issued with a unique 'key'. This 'key' may be a simple login (pin) or a smart card to validate crew presence at a certain time and place. Private crew messages (notices, bulletins etc) from management can be left for any or all crew, which is retrieved on sign-on or sign-off.

Additionally, sign-on and sign-off times are recorded as crew sign on- or off with their 'key'. The crew controller is warned if a crewmember has not signed in after a pre-determined period, to prevent flight delays due to absent/late crew not identified in time. All automatic recorded times populate the crew duty tables, and serve as real data for subsequent duties.

Crew can request/bid for flights, send swap requests to other crew and retrieve their own rosters.

Weight and Aircraft Performance

A simplified Weight and Balance module offers aircraft weight planning to facilitate quick and accurate capacity planning. Standard sector fuel planning, aircraft weights and simplified performance data enable the operations staff to create preliminary flight plans, to form the basis for capacity planning in reservations.

Once the aircrew arrive, they update the preliminary flight plan with accurate meteorological data to do the formal capacity planning.

Crew Communication Module

Modern technology is applied to facilitate effective, cheap and prudent communication with crew.

Duty Roster Distribution becomes a laborious task if it is all paper based. This module allows for aircrew duty rosters to be distributed via e-mail.

Even with Crew Duty Rosters being issued and distributed efficiently, Crew Co-ordination staff often have to advise crew of their upcoming duty details via telephone. This module offers via USSD (GSM cellular telephone application) a menu from which crew can request details of subsequent duties.

SMS technology is used extensively to advise crew of duty changes, reminders of events, training, bulletins, notices or messages from management. Delivery of the SMS is monitored, and successful delivery to the recipients' phone is verification of message received. This is the quickest, cheapest and most reliable means of communicating with crew, requiring the least amount of man-hours.

Daily Operations Control

The daily operational control of a growing airline soon becomes a major challenge. Obvious to the challenge is to have the correct crew at the correct time at the correct place, always, without fail. Not so obvious, is the controlling and informing of the 3rd party suppliers of an airline. Tail Allocations, Re-Fuelling at the right time and place, Parking bay allocations,

Cleaning, ATC, Catering, Engineering, crew flight info etc. All these functions are quick and easy to manage, by printing, faxing or e-mailing automatically prepared reports.

Tied in closely with the *Daily Aircrew Co-ordination Module*, this module ensures that aircrew and aircraft are prepared and ready at the correct time at the correct place, always, without fail.

Punctuality

The punctuality of an airline is accurately recorded, and delay reasons are captured where applicable. This small module offers simple punctuality bar graphs to indicate punctuality percentages, and pie-graphs to show causes of the delays.

Heuristics

Aircrew lifestyle and duty roster balance can be accurately managed with the heuristics module. Crew preferences for early-, late- non-flying etc duties are captured to enable the most accommodating aircrew duty rosters.

Duty Roster Balance is tracked, and includes flight hours, duty hours, duty days, Backup Crew duties, non-flying duties and office duties.

Aircraft Maintenance Module

This is a module dedicated to Aircraft Maintenance Planning. Any number of aircraft types can be 'exploded' into any number of components, each with it's own maintenance schedule. These schedules are tracked and updated as inspections are carried out, and every flight flown, adds the relevant cycles and/or flight time to the total time of the component.

This maintenance planner introduces colour-coding to the *Visual Ops Manager* (VOM), enabling accurate and legal resource scheduling.

Other Features

Colour Coded Data-Capture. Throughout the operation, PerformOps tracks the 'maturity' of the data in colours. Three levels of data accuracy is available, Red, Amber and Green data. Typically, Red data will be the original Standard Times, Amber data will be the first level of data capture (in the Ops Room, or OCC), and Green data will be the verified data, as captured off the Captain's Voyage Report.

Units of Measure. The design of the software is such that it can be applied for any aircraft type in any configuration. Units of Measure is unlimited, and can easily be changed from one unit to the next, without any external calculations. Most conversions are already included, but new units of measure can be introduced.

Multi Currency Support. The currency of the different aspects of the financial modelling is variable. Not all the revenue/expenses have to be in the same currency either, and currency conversions are captured as often as required by the operator. The different modules use the currency conversion most recently captured before the actual transaction date.

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