

White paper - Sqills S3 Passenger Modules

# Offering a wide range of industry specific functionality

S3 Passenger counts 4 core modules, 2 "optional" modules and 5 supporting modules. All of them are managed through a single GUI back-office environment, to make the best compromise between modular setup and deployment of the software and an easy to use functional environment.

#### **S3 NAVIGATOR**

S3 Navigator is the service scheduling component of the platform. It handles everything related to timetables and the definition of the geographical network including routes, stops and connections. Once it has been defined, Services and related Timetables can be individually managed. In addition, creation of exceptions on Stops or Services level, to temporarily overrule the scheduled planning, is possible.

#### Features:

- Compatible with UIC international Train standards, Flexible route configuration, supporting multisegment, multi-carrier and multi-modality journeys
- Exception logic for temporary network or timetable changes
- Easy timetable planning
- Multi-lingual travel information
- Multi-carrier, multi-modality
- Multi-time zones scheduling
- Powerful end-customer travel options searching features
- Rich content presentation
- Detailed Sales-Channels authorization management
- Connection to external sources

# S3 FARE

S3 Fare is the component for the definition of the market proposition for the scheduled services. Including Products, Tariffs, Discounts and various Pricing mechanisms. A wide range of product types are supported, including "main" products (ticket with seat reservation, ticket without seat reservation, separate seat reservation) and "add-on" products (fees, insurances, food & beverages, pets, bicycles, prams, etc.). A detailed set of rules and conditions is available to make a specific set of Tariffs and Products available in various sales channels and portals under different circumstances.

- Clear classification and distinction of Products
- Powerful fee structure and after-sales condition management
- Various pricing mechanisms (Market, Zone, Distance, Fixed and Percentage prices), suited for both reserved and open tickets offers including Refined Tariff Rules and Conditions
- Sales channel specific definition of Price and Product offering
- Flexible Price period management
- Extensive discount logic
- Flexible ticket validity rules
- Bucket and Bundle logic
- Various VAT models including cross-border VAT calculations
- Multi-currency offers



## **S3 INVENTORY**

S3 Inventory is the component that handles the definition of the inventory material and relation to scheduled Services. Calculation of the capacity applies automatically to support real time inventory information. Carriages types and seat properties are defined precisely in order to handle inventory updates or specific material changes and their related bookings. Inventory control on physical and logical levels per origin / destination pair is in place to support fast orientation on remaining capacity and revenue management "booking limit" controls. Finally, the business logic around seat allocations for incoming booking requests is covered by an advanced seat algorithm.

## **Features:**

- Rolling stock definition module
- Unallocated inventory management
- Automatic capacity calculation
- Supports growing and shrinking of Services along the route
- Supports scheduling based on alternating week patterns
- Physical and Logical availability modelling
- Easy Drag and Drop configuration
- Rolling stock modelling using Carriage Type and Seat configuration
- Advanced Seat allocation algorithm control
- Consistent availability tracking and control
- Carriage and Seat blockades in case of temporary unavailability
- Availability dashboard
- Static Business Rules configuration

## S3 TICKET

S3 Ticket is the transactional heart of the system containing customer data, PNR's and related reference information. Functionality for digital ticket fulfilment in PDF home print format with UIC 918.3 2D barcodes is included. It also offers all the booking flow logic and after-sales conditional logic including allowing / refusing of modifications like rebooking, cancellation, modification, passenger name changes and calculation of appropriate after-sales fees. Provisional booking logic for customers is included, which means that booking requests include "expiry time" limits to secure seat availability during the booking confirmation. An automatic cancellation and clean-up process applies for nonconfirmed bookings.

- Provisional booking logic
- PNR booking data storage
- Booking search and filter options
- Customer / Passenger booking separation
- Optional linking to S3 CRM
- Automated Payment value vs. Ticket value check
- Booking modification audit trail logging
- Ticket fulfilment history logging
- Ticket validation history logging
- Back-office modification of transactions logging
- Advanced refunding logic
- Various After-sales booking modification options supported
- Operational Booking conflict management



- Bulk ticket printing functionality
- Financial data export
- Canned (data) reports export
- Real time interactive Ticket sales statistics
- S3 Ticket back-office Dashboard overview
- PDF home print ticket templates
- Affiliate / sales channel tagging in each
- Voucher logic as form of payment supported
- Passenger Manifest

## S3 CRM

S3 CRM is the customer profile management module. S3 CRM is an optional component in the infrastructure and is used to register end-user and Agent 'personal' profiles, preferences and booking behaviour. It enables operators to execute campaigns based on the stored data and users to access pages like "My Transport Company" within the booking engine web channel to sign up/in, manage their profiles, view and modify bookings, retrieve personalized content etc.

## **Features:**

- Customer profile creation
- E-mail newsletter opt-in/opt-out logic
- Customer attribute calculation like Booking Value, Booking frequency, Average trip group size etc.
- Customer data segmentation options
- Export module for segmented data
- Call centre Customer interactions registration
- Customer self-service after-sales functions
- After-sales operations for Agents

## **S3 REVENUE MANAGEMENT**

S3 Revenue Management is the component that is responsible for controlling the logical availability restrictions in the S3 Inventory data tables, by calculating and optimizing which restrictions (also known as "booking limits") leads to the highest possible revenue given the available market demand. In order to perform this task, S3 Revenue Management analysis historical demand and forecasts future demand for each departure, analysis the found price elasticity figures in transnational data in order to make the demand forecast price sensitive, and optimizes the required booking limits based on the ongoing progress of a future departure in its sales cycle. S3 Revenue Management is an optional component in the infrastructure.

- Basic booking limit control
- Analytical dashboards
- Dynamic Business rules
- Departure specific control screen
- Demand Group segmentation
- Demand Profile segmentation
- Demand forecasting
- Template based steering



- Bucket Protection System (rule based)
- Exception management screens to control Departure List

#### S3 AUTH

S3 Auth is the back-end component responsible for administration tasks related to the authorisations of individual (back-end) users, onboard personnel, web service clients, sales channels, etc. Also, the permissions of the "role-based" user authorisation system are part of this configuration module. For the sales channel configuration in S3 Auth, parameters like allowed payment methods, or booking process features, can be controlled from the back-end.

## **Features:**

- Role based user authorization
- API user configuration
- Sales Channel configuration options

#### S3 CONFIG

S3 Config is a back-end module that holds and manages several technical and functional configuration aspects of the S3 Passenger platform. Several numerical and boolean parameters are contained in this part of the system, as well as environment dependent parameters like template paths in the file system etc. Also, the predefined e-mail templates that are used throughout the entire system in customer communication are maintained within S3 Config.

## **Features:**

- Language management
- E-mail template control
- Manual Wiki deep links

## **S3 COMMUNICATION**

S3 Communication is the component that handles all, booking related, outgoing communication from the S3 Passenger platform to customers, passengers and other external users. Template management for e-mails and SMS messages is part of this module, but also the configuration and scheduling of other related outgoing messages from the S3 system.

- Communication operations
- Templates
- Free Marker template logic
- Communication profiles and automated distribution
- CMS features



## **S3 PAYMENT**

S3 Payment is a component that acts between the S3 Passenger back-office and the various S3 Passenger front-ends, in order to facilitate payments that deal with external providers. Furthermore, S3 Payment prevents direct S3 Back-office interaction with the outside world and therefore reduces security risks. S3 Payment simplifies the payment process and supports various processes such as: payment validation before final booking confirmation, store payment information in the booking dossier, after-sales / refund and shopping basket.

### **Features:**

- Shopping basket
- Simplicity in the payment representation
- Payment initialisation
- Synchronize payment status
- Refunds

## **S3 REPORTING**

S3 Reporting is a generic database component that produces reporting-optimised materialised views of the relevant S3 data from all the S3 Passenger modules. The S3 Reporting consists of a replication of the S3 Passenger database, where users can have isolated access without any risk of disturbing production systems. The data is frequently automatically refreshed and updated (almost real-time and configurable per implementation). The reporting database contains materialized views of data of the various S3 Passenger modules and based on these views reports can be built with standard reporting tools (not part of S3 offering. The only specific technical requirement for such tools is to be able to communicate with PostgreSQL on "ODBC" standard.

## **Features:**

- Tailor made reports
- Multi usage reporting
- Safe and efficient
- Performance

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