BOOKING ENGINE

Product Specification Document V. 1.0

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Version History

Booking Engine

Version	Description
0.0	Titles and key specifications
1.0	Detailed descriptions

Contents

Definitions

GDS: Global distribution system. The tool that travel providers distribute their trips on it.

LCC: Low cost career. A low-cost carrier or low-cost airline is an airline that is operated with an especially high emphasis on minimizing operating costs and without some of the traditional services and amenities provided in the fare, resulting in lower fares and fewer comforts.

Sabre: Sabre Corporation is a travel technology company based in Southlake, Texas. It is the largest Global Distribution Systems provider for air bookings in North America.

BFM: Bargain Finder Max places extensive search capabilities to the most attractive fares, allowing you the opportunity to increase bookings and add customers. It quickly compares hundreds of the best travel options based on your traveler's specific needs.

SDS: The Short Data Service (SDS) is a data service that is comparable with the Short Data Message (SMS) of GSM. An SDS message can carry up to 140-byte data per message. SDS message carrying different types of information are separated via a protocol identifier.

Master Pricer: The ultimate search solution for travel retailers that instantly returns the cheapest bookable fares and most convenient itineraries, over a wide choice of airlines and flights your online shoppers want to book.

Travelport: Travelport Worldwide Ltd is a UK headquartered travel technology company. Its travel commerce platform provides distribution, technology, payment and other solutions for the travel and tourism industry.

EDIFACT: Electronic Data Interchange for Administration, Commerce and Transport. This is a global set of rules defined by the UN for the inter-company electronic data exchange between two or more business partners via EDI.

EDI: Companies share standardized messages electronically. Data interchange between business partners takes place automatically. This process is known as Electronic Data Interchange.

NDC: NDC (New Distribution Capability) is a travel industry-supported program (NDC Program) launched by IATA for the development and market adoption of a new, XML-based data transmission standard (NDC Standard).

IATA: The International Air Transport Association is a trade association of the world's airlines.

PASS: Postal Accounts Settlement System. PASS will produce standard invoices to postal operators as well as automate invoicing and payment processes, facilitate the reconciliation process and enable online dispute resolution.

User journey: All requirements should be provided by the engine through API, which affects user journey on booking a trip.

Search stage: The stage user is searching the trip

Booking stage: The stage user is trying to reserve and book the trip

Basic: Specs which are necessary for initial launch

Feature: Specs which can be considered in later releases

Part 1: Main Product Features

Several GDS and Interface

Booking engine is connected to various travel service providers included but not limited to GDSs, LCCs, hotel property management systems, rail provider and car rental companies. Each of these providers 'speak' their own 'language'. Sabre for instance has a Sabre webservices interface and provides messages such as Bargain Finder Max (BFM). An alternative way is to communicate with SDS messages to Sabre. Amadeus also has a webservices interface or an API V2 interface (supposed to be decommissioned). A similar message such as BFM on Amadeus would be Master Pricer. Travelport has a number of historically grown interfaces such as Galileo/Apollo webservices or XML Select, Worldspan DIR, XML Pro (an actual Pass product), or universal API (uAPI). Airline carriers speak EDIFACT. EDIFACT is supposed to be replaced by NDC which is a schema IATA adopted from PASS.

Hotels and car rental companies usually have their home-grown systems derived from the Open Travel Alliance (OTA). Rail provider usually have entirely their own system and there are only a few aggregators such as Silver Rail.

One API for all

Out of this multitude of different 'languages' and interfaces, booking engine creates one data interface or API (seen on the top of the architecture) which looks the same across all these different content and inventory sources. As you can imagine it has been a huge undertaking to create one single globally accepted XML schema from all this different 3rd parties. This is why the XX1 XML schema has become a worldwide standard in the industry adopted by IATA.

Features

- DIRECT ACCESS TO RESERVATION SYSTEMS: Direct access to supplier systems, such as airlines, CRS, hotel property management systems (PMS) or car rental.
- COMPLEX FILTERING OPTIONS: Engine offers several filtering capabilities in order to create the ideal solution for your business case and requirements.
- ONE SUPER PNR FOR ALL TRIP DETAILS: Storing all trip details including air, non-air, online & offline bookings in one Super PNR database.

Part 2: User Journey

User Options in Search Stage

The engine should be able to support an API, through which the application service can provide following options to the user in search stage.

Search by Service | Basic

User is able to search his request, choosing the transportation type, accommodation, visa or other travel services.

- Domestic Flight
- International Flight
- Domestic Train
- International Train
- Domestic Hotel
- International Hotel
- Domestic Tour
- International Tour
- Car rental
- Cruises
- Visa
- Insurance
- CIP
- Transfer
- Leader/Guide
- Accommodation (Canvas)

Flex Search | Basic/Feature

User can choose the flex search option and, in this case, engine will show the user offers similar to search request as well as results matched with request. Two options available in flex search and for any search only one can be selected.

Option 1: Flex date search (Basic)

Results include offers from 3 days before search date to 3 days after search date.

Option 2: Nearby cities (Feature)

Results include offers from nearby cities as well.

Search Result | Basic

The result shown to the user could be managed based on Availability Management Panel. This panel is explained in the incoming section.

Bundle Search | Feature

User may bundle his request in one search. Bundle axes are as follows and bundling is possible up to 5 dimensions. Tour is a pre-defined bundle of transportation, accommodation, visa and insurance so not listed here.

- Transportation
- Accommodation
- Visa
- Car rental
- Insurance

Free Search | Feature

User can search the trip, by inputting origin and destination only, or date only. Mentioning exact date is optional and system can suggest him all transportation options and if exact date is not mentioned, based on approximate date suggestion will be shown.

- Option 1
  - o   User input: Origin, Destination, Exact Date
  - o   Engine output: All available transportation options, sorted by price
- Option 2
  - o   User input: Origin, Destination, Approximate Date
  - o   Engine output: All available transportation options, the best date to travel based on cheapest price for each
- Option 3
  - o   User input: Origin, Exact Date
  - o   Engine output: All available transportation options, the best destination to travel based on cheapest price for each transportation tool

More Flights | Feature

After showing initial search results, user can touch more trips button and receive offers from providers which are filtered to be excluded from search in Availability Management Panel.

Define Mash-ups | Feature

User can mix and match flights to get the best deal, like flying out with one airline and back with another

Reservation and Booking

The engine should be able to support an API, through which the application service can provide following options to the user in reservation and bookings stages as well as support center.

Reserve the Trips | Basic

User can reserve the trip and book later. In this case the user can retrieve the booking using a simple tracking code and cancel or pay it. Based on provider rules, user can extend the reservation, paying associated cost.

Instant Booking | Basic

User can reserve the trip and book instantly after reservation.

Ticket Cancellation | Basic

User can request ticket cancellation and penalty will be calculated based on Revenue Management Panel. Up on user approval on penalty, the refund will be done automatically through payment APIs.

Additional Services on Booking | Features

Additional services, are the service user can purchase for flight. Pricing details could be set in Revenue Management Panel. What ever user selects in booking, should be reflected in ticket and sent to airlines panel to be showed in ticket notes.

- Stop over: Booking hotel during transit time.
- Using miles: User can input his/her frequent flyer number in order to use its benefits.
- Cancellation guarantee: User can pay extra money so in case of cancellation, can be refunded without penalty.
- Upgrade booking: User can retrieve a booking and upgrade it for allowed baggage, cabin class, lounge, etc.
- Set SMS or Email reminder: User can set reminders for flight through SMS or email.
- Online checking: User can choose the seat for flight and check in online. It may require user to login to his airline panel.

- Assistant: User can request and book for an assistant in origin or destination airport to carry on baggage or help through check in and boarding process.
- Passport Information Change: User can retrieve a booking and change the passport information in case of passport change.
- Type of passengers: User can request and purchase type of passengers: seniors (+65) and seat for infants

Add to calendar | Feature

Engine should be able to connect to google and Microsoft calendars, so user can add trip to the online calendar.

Part 3: Management Panels

Availability Management Panel

This panel will help to set availability of trips based on service. Engine will follow this panel settings to search providers and to the results. This panel will be used to set below settings:

- Include or exclude providers in search based on:
  - Overall → Totally close or open the provider without any condition
  - Company → Show or hide selected companies on selected providers
  - Route → Search selected routes through selected providers
  - Trip number (for flights and trains) → Show or hide filtered trip numbers in search results
  - Trip date → Show or hide selected companies in selected dates
- Manage displaying search results based on
  - Route → Based on selected routes, desired airlines or offers to be displayed
  - Trip Date → Based on selected dates, desired airlines or offers to be displayed
  - Search Date → Based on selected dates, desired airlines or offers to be displayed
- Define and add customized trips.

Besides, there are some providers who has no webservice and they just share user name and password to grant access for booking through a website. In this case we need some robots to handle it.

Booking Management Panel

Booking management panel will be used to manage all reservations and bookings and

- Change the order status or order information in case of any replacement
- Manual trip cancellation and refund
- Ability to change the status of cancelled references from any status to any status
- Ability to change the order class
- Change date
- Re-issue
- Update and notify support for any changes from trip provider (e.g. Q on Amadeus shows the changes)
- Sending customized and pre-defined SMS or emails
- Notify call center for any defined events
- Log user purchase (Especially in cases where (user error) or (site error) is unknown)
- Displays the number of cancelation left in the cancelations panel (typically Field View: New 10 / Waiting 20)
- Ability to create (send letters for cancelation request and name correction to providers) in panel and selectable PDF / JPG formats

Reporting Panel

Reporting panel will provide below reports based on each client using engine web service.

- Search reports based on provider
- Sales and revenue reports, service by service (Sales, ticket, transaction) based on provider and company
- Financial reports per provider and company to be able to check with bank transactions and output for other systems such as Hamkaran
- Cancellation reports
- Call center activity reports
- Business analytics reports
- Flexible report: Reports can be produced in multiple formats

Revenue management panel

All financial activities and calculation in engine and other panels will follow this panel rules.

- Managing fare price, markup, commission, discount both percentage and fixed amount per provider, company, route, purchase date, travel date and payment method
- Set support activity costs (cancellation, re-issue, etc.) per provider, company, route, purchase date and travel date
- Set additional services cost per provider, company, route, purchase date and travel date
- Managing allowed package (KG and PCs) and cancellation rules in a panel (to be able to change the value returned by engine)
- Create separate fields to report system error costs
- Display or instant alert for markup changes in panel (Error reduction for financial reports)