



iTravel for Airlines – IBS' NDC enabled merchandizing platform



With the consumer acceptance of the internet as a shopping channel, the demands of Airlines grew to sell their flights increasingly directly to the consumer and this trend is still growing. Airlines quickly understood that a direct distribution through the own website opens new opportunities. To provide consumers with latest shopping experiences, airlines tend to include increasingly non-air travel items and retailing items into their regular offerings.

This requires, in turn, powerful platforms that support Airlines to turn into this role. Traditional e-commerce and merchandising solutions are not tailored enough to the needs and requirements of airlines, as travel comes with its own complexity that requires in-built travel related intelligence in the selling platform.

IBS' vision and goal is to support Airlines in this important step into the future by providing a state-of-the-art travel e-commerce platform, named **iTravel for Airlines**.

iTravel for Airlines – Vision

- iTravel for Airlines transforms the structure of the current selling processes of all components of travel management for Airlines & Other Travel Suppliers, Travel Brokers and OTA's.
- iTravel for Airlines raises distribution capabilities at all possible customer touch points to the highest possible level.
- iTravel for Airlines significantly improves the customer experience leading to stronger brand loyalty.
- iTravel for Airlines provides a new generation enterprise travel services platform with revolutionary travel super market capabilities.
- iTravel for Airlines enables real competitive advantage & delivers fast speed to market through user-managed rules based engines and ultra-fast connection capabilities to external content sources.

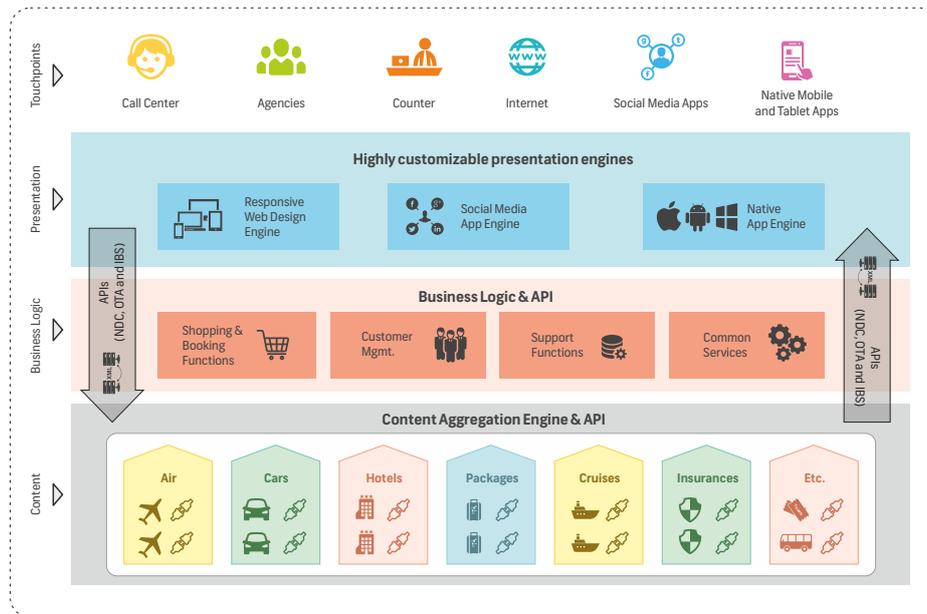
Airlines that will use iTravel for Airlines will be able to realize these benefits:

- Design and sell new products by dynamically packaging airline inventory with non-air ancillary by aggregating content from any external supplier system in real time.
- Target and excite consumers with many configurable shopping flows through powerful orchestration capabilities.
- Target potential consumers through social media channels.
- Enabling shopping facilities on mobile devices.
- Provide travel agencies with a sophisticated selling platform will help to enhance indirect sales revenue.
- Faster go to market with innovative products inclusive of third party products, by being able to connect quickly with third party systems using aggregation engine.
- Enabling IATA NDC for Airlines bound to their legacy PSS with no NDC capabilities. Since the aggregation engine exposes the NDC 15.2 API for air related functions, it will be fully compliant with the de facto standard from IATA. A connector to the 3rd-party PSS enables an airline to distribute directly to agencies and helps them to by-pass GDSs. Airlines are ready for the future. Content can be provided to any NDC aggregator.
- Full customer centricity across all products.
- Physically shared Super-PNR Management and order management. A reservations agent and the customer have access to the same booking data – regardless of it being a flight or an external supplier booking. All activities, bookings, changes, cancellations are visible immediately in all channels.
- Increase revenue by enabling the airline to sell non-air ancillaries through every channel, this includes every Kiosk system, the call center or the check-in desk at the airport.

Overview of iTravel for Airlines

iTravel for Airlines will be built considering travel specific business booking flows that the airline can orchestrate. Each travel product business booking flow will be designed taking into consideration of its unique characteristics rather than adopting a generic flow for all travel products. The travel products considered are Flight, Cruise, Hotel, Vacations, Rail, Car Rental, Ground Transfer, Activity/Excursion, Ferry. The system will also support business flows for even indirect travel related services and offerings such as insurance.

iTravel for Airlines will consist of 3 optional product components:
A Presentation Engine | A Business Logic Engine | An Aggregation Engine



High level overview of iTravel for Airlines solution

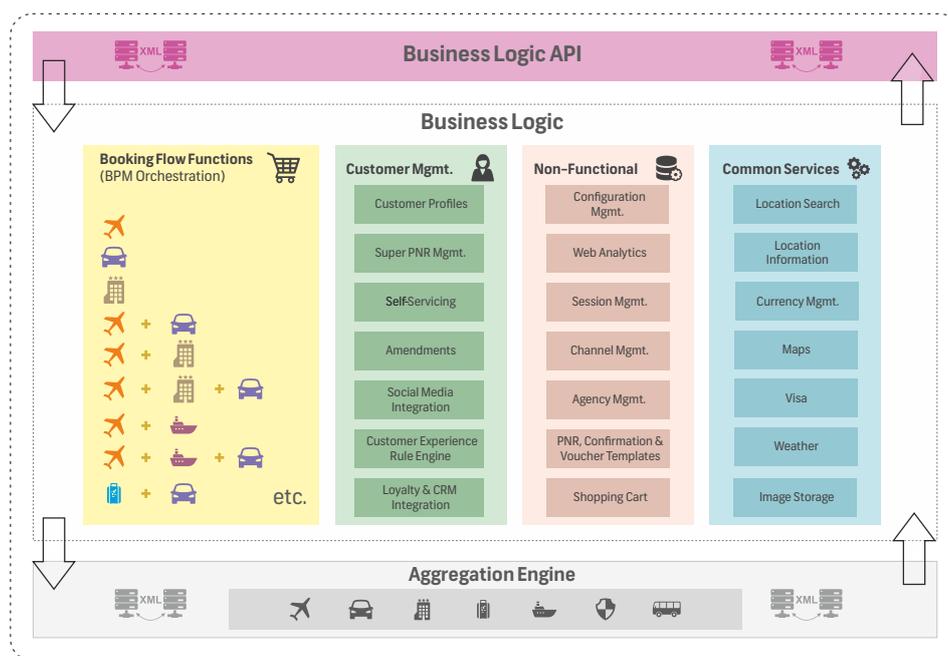
Presentation Engine

A sophisticated presentation engine is supposed to provide comprehensive customization and localization features and will be designed to accommodate easy modifications to the presentation and flow of the sequences and behavior of the logic. The product portfolio will include ready-made templates and components which airlines can immediately leverage.

Business Logic and API

The major drawback of many airline booking engines is that the business related logic is encapsulated in the presentation tier. The major disadvantage of such an implementation is that comprehensive and often even extremely sophisticated logic is tightly coupled with specific presentation mode only and not accessible to another mode of presentation, such as mobile device apps.

iTravel for Airlines Business Logic and API avoids this and encapsulate the full travel business logic separately and expose its functions through an open API based on IATA's NDC 15.2 standard for air related services, Open Travel Alliance standard (OTA) for non-air related travel services and an IBS extended API for all remaining travel business relevant services. This in turn can be consumed by any front-end mode/device. Such an implementation not only avoids effort duplication, but also guarantees that the logic behaves consistently across user interfaces.



High level overview of sophisticated travel business logic

Important functional components of the Business Logic Layer includes:

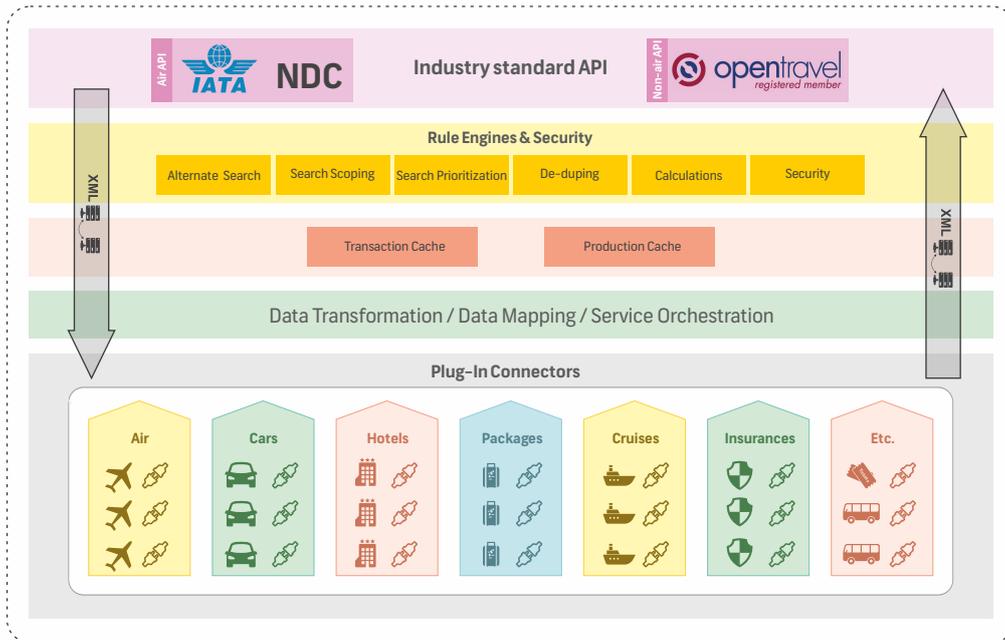
- Booking flow functions with powerful self-servicing functions for creation, rebooking, cancellations, refunds, etc. as well as Super-PNR Management.
- Offer Management
- Super PNR and order management.
- Shopping – air as well as non-air. Optionally even packaging (fixed and dynamic).
- More than 25 powerful Rule Engines for different kind of functions allowing the airline to configure the systems behavior the way they want it to behave.
- Booking Flow Orchestration Engine
- Wide variety Search Engines.
- Session Management with shopping cart functionalities.
- Agency Management functions for B2B operations model.
- Document Creation functions for documents such as confirmation receipts, boarding passes, itinerary documentation, etc.
- Functions for Calculation Purposes to calculate discounts or surcharges in real-time on fly
- Master Data functions to access master data, such as airports, cities, hotel information, etc.
- Sophisticated Ground Services functions like check-in, seat allocation, seat maps, etc. while deeply integrating with existing external departure control systems through the iTravel for Airlines Aggregation Engine.

Aggregation Engine and API

The Aggregation Engine is the powerful heart of the entire iTravel for Airlines platform. It acts as a switchboard for the airline to easily connect in the fastest possible time to any available external travel source content provider.

The Aggregation Engine can easily connect to different supplier systems that provide data and functions in different formats using different protocols. It aggregates the content from all these sources and transforms it into standardized and normalized structures. The APIs exposed by the engine will utilize the latest industry standards from the Open Travel Alliance as well as IATA's NDC 15.2 standard.

For data structures and functions that are not covered by any of these standards such as some ground services functions iTravel for Airlines introduces proprietary IBS defined functions where required.



Connect to external suppliers with iTravel for Airlines Aggregation Engine

