

## AIRLINES / TRAVEL INDUSTRY EXPERIENCE

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### BACKGROUND

With a technical background and career spanning over 28 years, I specialize in integrating and digital migration for various industries that extends to both public and private sectors. I've worked with wide range of business, from start-ups to large corporations providing high-level to detailed design, implementation and supporting to deliver projects cross-functional teams while overseeing functional groups. Sector include from retail, banking, digital, insurance, defense, government, aviation, telecommunications, housing associations, education, travel, and pharmaceuticals. Throughout my career, I have successfully designed and implemented comprehensive solutions in business regions across EMEA, ASPAC, North and South America. With a proven track record of delivery. I have a strong focus on digital innovation and have worked extensively with cloud-based technologies such as Azure and AWS.

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### (BMI) British Midland Airlines – Derby, Midlands UK

#### Architect / Technical Lead

##### Role/Responsibilities

- I was responsible for the integration design and delivery of BMI Airlines e-commerce booking engine and integration of hotel and car rental platforms. Architect and Technical Lead across the projects.
- Provided E2E solution to redesign and re-platform the legacy booking engine to Cloud services.
- Worked closely with different stakeholders and provided architectural improvements, design and integration solutions.
- Created Low-Level Design / Technical Design Documents TTD (Detailed technical Design), Business Functional Design Documents Created technology road documents for development and deployment standards/guidelines.
- Created Low-Level design to integration (B2B) services, affiliates and external partner systems.

##### Solution

At BMI Airlines, I held the position of Lead Technical Architect and Integration Lead. My main responsibility was to design and implement integration solutions for reservation and booking engines. This involved completely revamping the e-commerce platform and backend systems to enhance the customer's online E2E journey and integrate the airline's IT distribution landscape.

At a high level, the integration solution consisted of the model/stack: -

1. Sales (IBE and OTA)
2. GDS distribution channels/Marketplace (Consolidators, Aggregators and Tour Operators)
3. Integration Management Stack (1) CRS (Altea – Amadeus) (2) CRMS/CRS (car hire, Taxi, hotel travel operators)
4. Customer Service and Experience Management (CRM, Loyalty, Customer Experience and Promotions)
5. Operations (GOPS, Flight operators/operations)

The integration solution encompassed the supply side, which included providers for air travel, cars, hotels, taxis, and more, along with end customers who primarily interacted through an agent to access a comprehensive range of offerings

The solution were divided into five parts, they were

1. Supplier (airlines, hotels, car rental companies),
2. Inventory management (administration of the inventory in a CRS),
3. Distribution: (Global Distribution Systems (GDSs), but also this key part as aggregators, consolidators and organizers)
4. Sales End customers can arrange their travel purchase through the agency/TMC, one of the online agencies (OTA, OTMC) or even the provider directly on the corresponding website (direct) and
5. Market (travel operators)

The solution inventory system was integrated with the CRS. This contained all the airline's flights and the available seats. The main function of the inventory system is to define how many seats are available on a particular flight by opening or closing an individual booking class by rules defined by the operators/airlines. Also, the solution integrated with the departure control system is the system used by airlines and airports to check in a passenger. The DCS is connected to the reservation system, enabling it to check who has a valid reservation on a flight.

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## **Air Lingus Solution, Dublin (Airport H6), Ireland**

### **Solution Architect**

#### **Projects and Responsibilities**

I provided HLSD/LLD (High- and low-level solution design documents) were: -

- HLD Ancillaries (seat-maps, baggage, and travel offers) Offers and Pricing
- HLD Collection and stamping of passenger's nationality data on flight tickets.
- HLD AWS High-level Infrastructure design for Integration environments (development, staging and production) with Integration Event messaging hub
- HLD for a generic Cloud solution for Security Authentication and Authorization For APIs within the integration environment (Auth0, JWT, Centralised Secrets Manager, Key Management)
- I created designs based on event and Microservices architecture for the cloud environment based on AWS's well-architected patterns and approaches.
- I would work closely with business, product teams, security, data, testing and third-party teams to ensure the delivery of the solution
- I presented solutions to business and design authority's approvals and worked across multiple teams and SMEs to ensure the compliance/regulation for governance, security, functional and non-functional requirements were met.

AerLigus PSS providers and used Atral.

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## **Express Travel Market - UK**

### **Principle Architect**

#### **Technologies**

OS, Virtualization Platforms, Windows Servers, Cloud Data Platforms, iOS, Android, VMWare, vSphere 5.0 Hosting Platforms

Architecture Methodologies And Patterns: SOA (Loosely-coupled and Tightly-coupled Solutions), TOGAF, Message Brokering, UML Modelling, Messaging Patterns, Aggregator Patterns, Content Based Patterns, Wire Tap Patterns, Splitter Patterns, Parallel and Sequential Convoy Patterns, DNA, UML patterns, Object-Oriented Design, Object Brokering services (O.B.), Aspect Oriented Programming (AOP), and TAP, UI/ UX And Content Data Methodologies: User Interface Patterns, Human factors engineering, storyboards, sketching, interactive prototypes, affinity diagrams, wire-framing, user journeys, persuasion design (PET), Fogg behavioural model and Lab Testing, COTS Architecture and Patterns

Database Technologies: SQL Server 2008 R2 and SQL Server 2012 R2, Development Frameworks, Enterprise Service Bus and Workflows

.Net 4.0/3.5, C#, Microsoft WCF Services, XML, XSLT, SQL Server 2012 R2, WCF LOB Adapter Window Foundation Workflow, BizTalk Rules Rule Service, ESB Toolkit 2.0, Itinerary Services, Itinerary On-Ramps/Off-Ramps, ESB Exception Management Framework, ESB Management Portal,

NServiceBus, ServiceControl, Service Plus, ServiceInsight, MSMQ and WebAPI, Mobile Platforms (Development and Design), Tablet iPad (1.0, 2.0), iPhone, Windows Mobile, Android Mobile, MS Surface Tablet

#### **Projects**

An Online Travel Comparison platform, Travel comparison services cover Flights, Hotels, Car Rentals, Transfers, Trains, Villas and Travel Insurance. Partners (Split over 4 major software releases) commercial airline carriers phase 1 covered British Airways API, Monarch Airlines, Emirates, KLM, Air France, Delta Airlines, Qatar Airway, Aer Lingus, Air New Zealand, Cathay Pacific, Finn Air, Singapore Airlines, Swiss Air, Virgin Atlantic, Vueling Airlines; Hotel Provides (Hotel.com,

Booking.com), Car Rental (CarTrawler and CarHire), Transfers, Trains (TrainLine) and Villa Partners; Postcode-to-Postcode Routing Planning cover all the Google GTFS feeds for trains, buses and travels across the world. Comparison engine that was created on AI Technologies; Multichannel public application; Covered 720 Airlines routes, itinerary with Seat Maps, 542 Airports guides.

**My responsibilities as principal architect were as follows:-**

- **Provided the complete architecture, design and POC for Travel Comparison web Application** for 640 airline carriers; All Major Hotels, Car Rental, Transfers and Trains and Villa Partners;
- **Provided the complete architecture for Travel Comparison Table and Mobile Applications.** Tablet iPad (1.0, 2.0), iPhone, Windows Mobile, Android Mobile, MS Surface Tablet
- **Designed and created a hybrid comparison framework** and services for real-time airline price comparisons. The service aimed to provide accurate Fare availabilities. As a POC, the hybrid comparison search engine was tested with **British Airways API, Monarch Airlines, Emirates, KLM, Air France, Delta Airlines, Qatar Airway, Aer Lingus, Air New Zealand, Cathay Pacific, Finn Air, Singapore Airlines, Swiss Air, Virgin Atlantic, Vueling Airlines and more.**
- **Created and presented for the business, Partners, Affiliate and Networking partners**
- **Designed and created a Flight (Air) Route Planner** that covers Europe, North and South America, Asia, Oceania, Africa and South America and we constantly expanding. Route planner has extensive commercial route mapping and connection coverage of 98.9% of the air worldwide. The connection information is based on accurate and comprehensive available data. Flight times are regularly updated so that users can find the best possible connection routes. Airline-specific connection of flights are based on your criteria, we provide the best combination of routes, that are base, user choice of journey plan, quickest, short journey times, and minimum connect time which contains the Standard International-International, International-Domestic, Domestic-International and Domestic-Domestic, IATA recommended defaults for airports worldwide airline and airport specific exceptions to these IATA values / General Transit Feed Schedule (GTFS)
- **Designed and created a door-to-door journey planner** which asks you to specify the type of location e.g. station/airport, town/district/village.
- Public Transportation coverage program includes trains, subways, metro-links and ferries (private and publicly operated). To ensure we provide a door-to-door service we have included private transportation hire, like taxis. Currently, we have over 240 country-based fares that are regularly updated to ensure that find the average fare for (Taxi) private fare hire.
- **Design and create affiliates utilising retrieve flight availability and pricing information system.** The purpose of the RAAPS was to provide flight availability and pricing information in a machine-readable format through a common interface. The RAAPS interface follows the IATA standard and XML messaging, of request and response patterns that expose the information it can provide to affiliates.
- **Data Migrations Project.** Created and managed all the data migration from legacy systems to SQL Server 2012
- **Managed all External Partner Parties API and data sources**
- Created all master documentation for the Business, Web, Integration, Data and Mobile
- Defining the applications strategy and operating as a member of the architectural review board (Director/Management level)
- **Provided the budget and costing for:-**
  - Development and for full SDLC
  - Hosting / Hardware
  - Release 1, 2 and 3
- **Created low-level design documents** for the integration Infrastructure Design including Clustering, LB and Web Farms