



Open Source and disrupting the travel distribution ecosystem

Travel Distribution is stuck in the boombox era

- **1980s:** Physical media to move music
 - Vinyl, tape and in 1982, CD (digital)
 - Distribution controlled by record companies
 - New artists locked out unless they sign with record company
- **1990s:** Digital formats emerging, but still physical media and record companies in control
 - MP3 (formally MPEG-1 Audio Layer III) in 1991
- **2000s:** Streaming arrives!
 - Peer to peer streaming like Napster shows up in 2001, bypassing physical media
 - By the end of the decade, retail outlets like Circuit City dependent on CD and DVD sales closing
- **2010s onward:** Distribution goes fully digital, business models change
 - Record companies no longer the gate keepers



Travel Distribution is stuck in the boombox era

- **Complexity:** For travel, the sheer cost of product distribution is the limitation
 - Basic air, car, hotel trip means 100s of bespoke APIs
 - Price rules unpublished or through costly licensing
 - Highly skilled staff required, if available
- **Cost:** High cost of distribution is the gate keeper
 - Smaller travel providers locked out of market as costs to connect exceed revenue
- **Digital:** Open Travel founded 25 years ago
 - Providing XML and JSON messages for digital movement of products
 - Implemented chaotically
- **No Napster:** Distribution works as it did 25 years ago
 - Barriers to innovation to reduce the friction and cost



What the traveler deserves

- **Traveler:** AI enabled, trip level solutions in an instant
 - Experience led retail, “I want to see a play on Broadway”, propose a total solution, don’t make me construct it
 - Only show me the solutions most relevant to me, know my preferences (AI based relevancy scoring)
 - Give me a special deal across the total trip (suppliers all know who I am and their offers combinable)
 - Protect my privacy following PI regulations and allow me to control my own data
 - Provide me several solutions and don’t make me wait
- **What it takes:** Orders of magnitude more actionable travel products in the cloud
 - Ready to order without further messaging (digital retail)
 - **Trip** level personalization and bundling
 - Open-source, community driven solutions to handle solution management, security, identity and other needs consistently
 - Rethinking distribution agreements





Solution Approach

- Employ the proven open-source approach to deliver the needed data definitions and functions to create, publish, and manage offers
 - Open, universal offers with user defined price and rules.
 - Work with existing or new order management solutions
 - Work with companies operating offer management (shopping cart) services
- For all travel participants in retail
 - Reduce significantly search (availability) costs
 - Increased opportunity for aggregation of offers into bundled offers.
 - Increased opportunity for personalization of offers.
 - Increased travel content, as publishing costs come down, to enrich the travel experience

Solution Overview

Creating the Open Travel Foundation



Open Travel Foundation Mission and Vision

- Our Mission
 - Enhance the future of travel by enabling the transition of our travel industry members to digital retail supporting today's app-based consumers demanding personalized solutions.
 - Empowering members via message standards, reference architectures, and reference implementations to support their efforts to move to modern APIs and cloud-based solutions that in turn support digital retail at scale.
- Our Vision
 - OpenTravel is a cross-sector technology enabler for the travel community providing open-source support for ubiquitous offers capable of omnichannel personalization that will remove barriers to the publishing and consumption of travel products.
 - Any product, offered and sold on any channel, while conveying the supplier's price and rules.

Open Travel Foundation Value Proposition

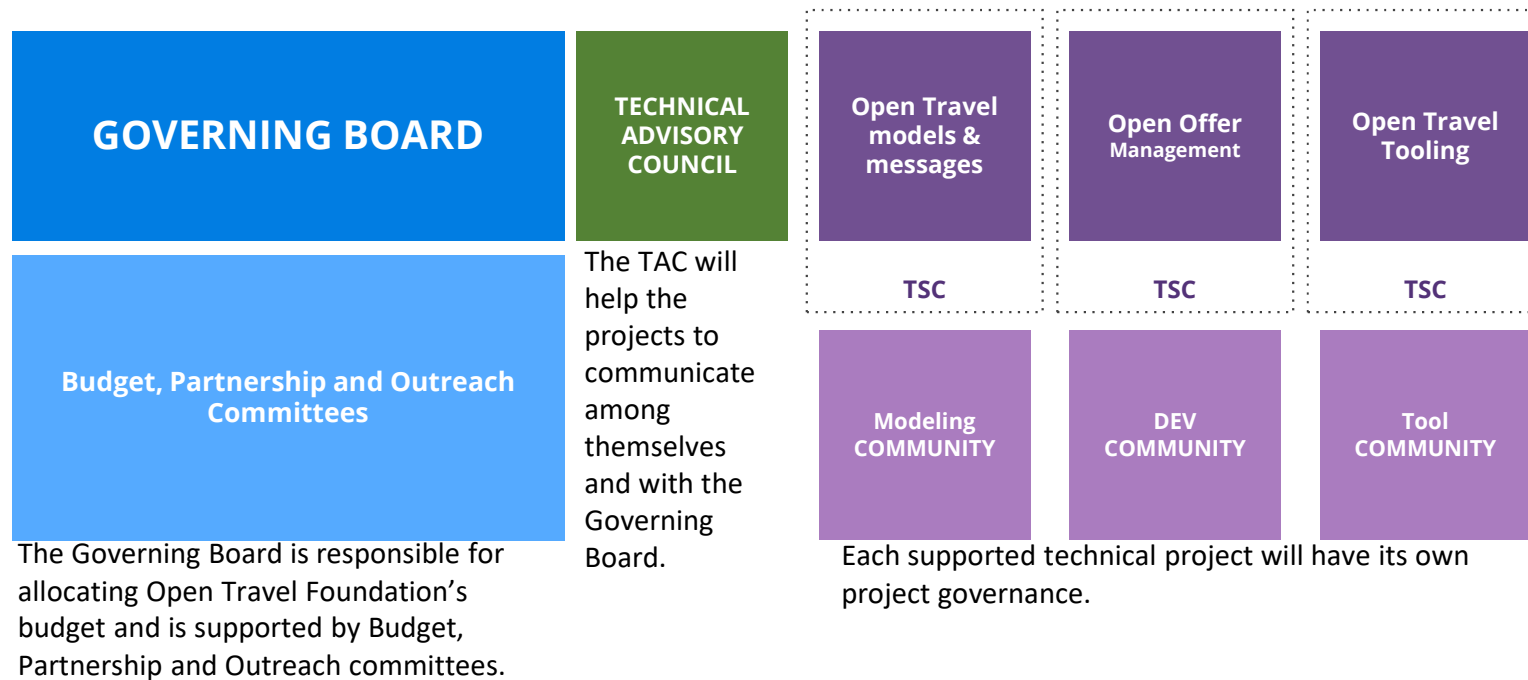
- Cost Reduction
 - Define all common travel retail data and functions as extendable Java friendly object models from which tooling will generate ready to publish APIs (labor reduction)
 - Provide open-source functions for offer management to eliminate redundant API work across the industry (labor reduction)
 - Highly automated API consumption (labor reduction, faster time to market)
- Revenue Enhancement
 - Open offer container that can sell any product, obeying the supplier's price and rules, on any channel to bring new products to market quickly (net new revenue)
 - Bundling of offers as a trip to support experience level retailing (revenue enhancement)
 - Omnichannel personalization to reach your best customers where they are versus making them come to your direct channel (customer sat and revenue enhancement)

Create a Foundation based community

- Partnerships
 - Standard bodies determine the needs and rules that will allow the flexibility their industry requires
 - The foundation makes those rules interoperable across industries
 - Taxonomy, syntax, encoding, API behaviors, tooling
- Open Travel Foundation Role
 - Provide open solutions that implement the recommended use of standards ranging from industry wide to sector specific (air, rail, etc.)
 - Provide a sandbox environment exposing working examples as an onramp to adoption
- Relationships
 - Partners run work groups using agreed on process
 - Industry wide governance (all groups represented) to assure interoperability
 - Membership structure to fund maintenance of library and solutions



Proposed Open Travel Foundation Structure



Solution Overview

Technology
Overview



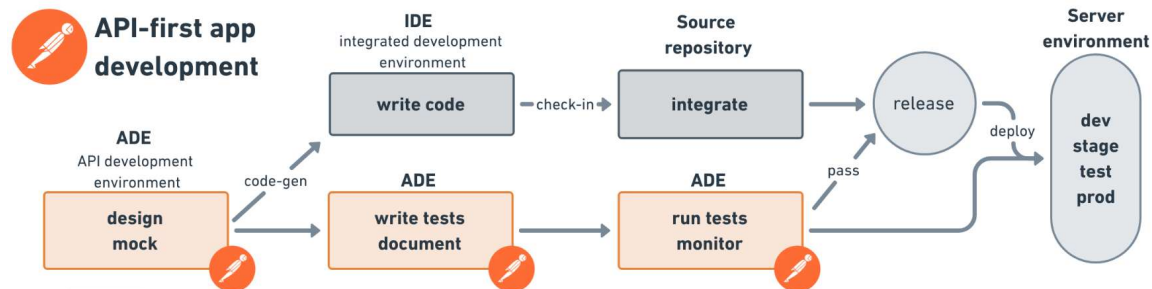
Universal Open Offer, a digital truck

- Think of a travel offer as a means to transport your product, a hotel room, airplane or rail seat, tour, cruise, rental car, etc. to a consumer. That's the sole purpose of publishing an offer that travel distribution channels or apps will consume. The traveler no more sees the offer than a customer in a grocery store sees the truck that delivered the crate of oranges.
- Uniqueness from each supplier in how the offer works only serves to increase costs for all.
 - Each distributor and channel needs to build custom loading docks for each "truck" they need to receive
- **The Open Travel Foundation will deliver the needed universal open offer standards and solutions that will convey any product, at any price, with any rules the supplier provides**
 - The rules may include personalization rules with allows omni channel personal offers



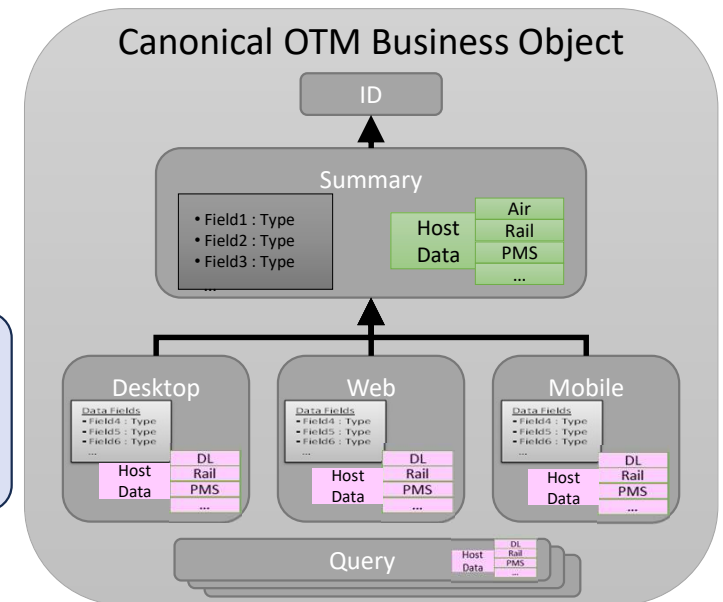
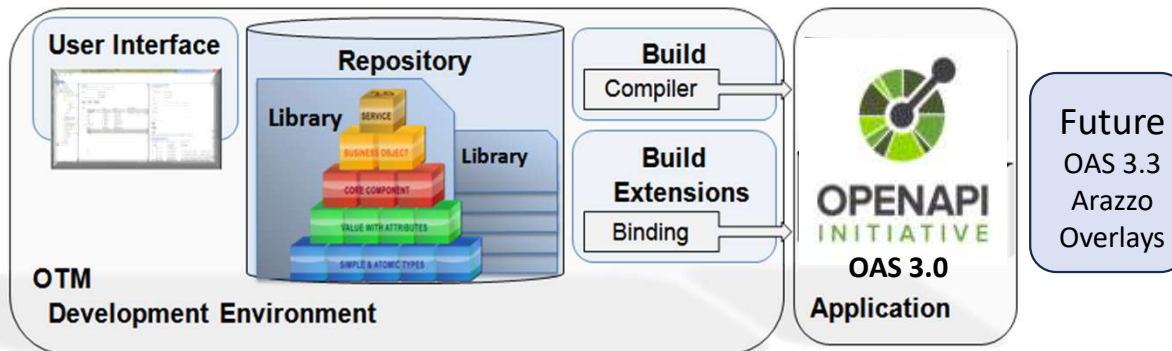
API First to Model First, Shift Left

- Recirculating past architectural approaches
 - DFDs, Flowchart, Service, System, Application, and Integration architecture, UML
 - Iterative development (aka AGILE)
- Function vs data flows
 - API first, function flow but do you really have the data? Can the overall system architecture handle the functions at a target volume and cost?
 - Data first, hard to tell if the data is adequate without a definition on what is the function to be supported
- Model first
 - Modeling can encompass both the data definition and the service definition in the same tool.
 - Still needs to be validated against the System, Application, and Integration architecture



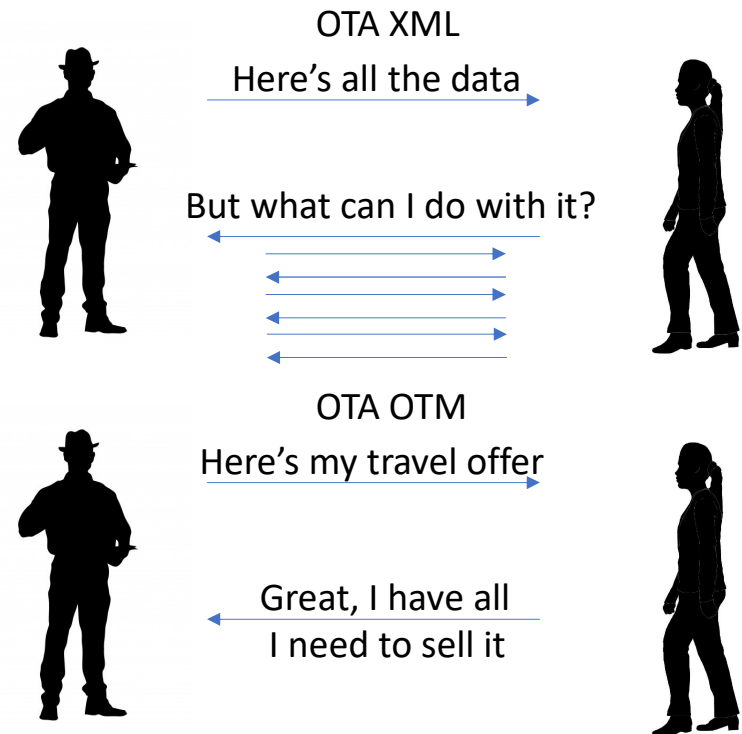
OTM-DEx (Development Environment extended)

- Features
 - Model Designer user interface
 - Repository for sharing object libraries
 - Extendable compiler for XML Schemas and OAS 3.0
 - Benefits
 - Reusable libraries encourage object reuse
 - Applies style guide automatically
 - Schemas support interchangeable levels of detail
- OTM-DE used to define canonical objects
 - Objects model includes various representations that all conform to interface specifications (xsd, OAS 3.0)
 - Identifiers make the object an accessible resource



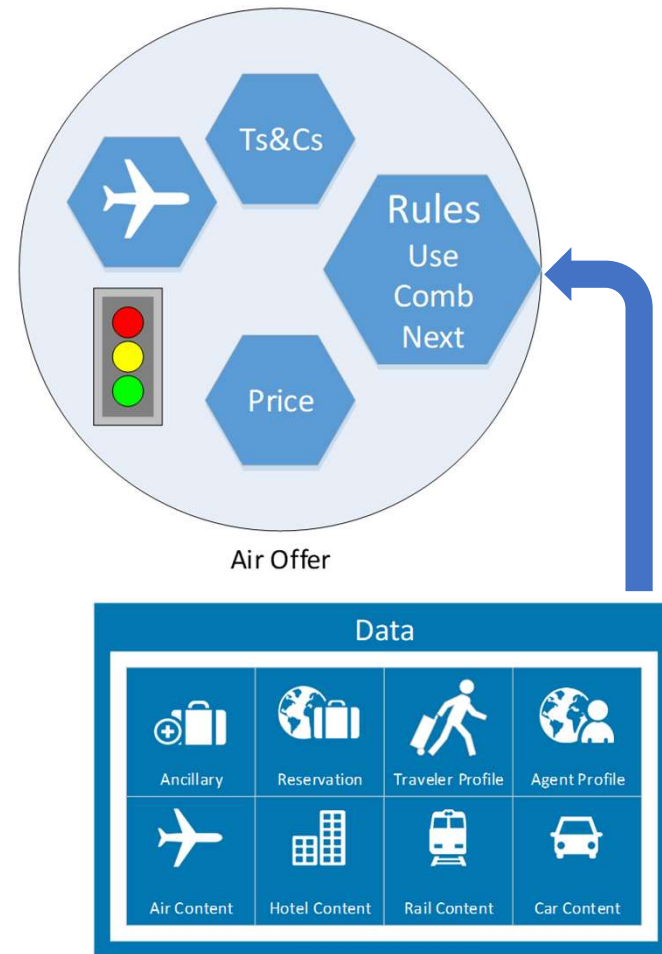
Messages versus OTM Objects

- An XML or JSON message just conveys data such as product name, attributes (1st class, 2nd class), price, payment methods accepted, etc.
 - Messages don't convey the rules of use or the process flow (what can or must you do next)
 - Some suppliers such as IATA based airlines have a separate data feed for fare rules, but for most direct negotiations are required
- Business Objects based on OTM are intelligent as in you can ask them questions
 - To provide the data needed like current messages
 - To provide the terms and conditions directly applicable to this offer
 - To state what is the next best action
- Generic processing engines can be built with little to no inherent process or rules implied, they get all they need from the intelligent object



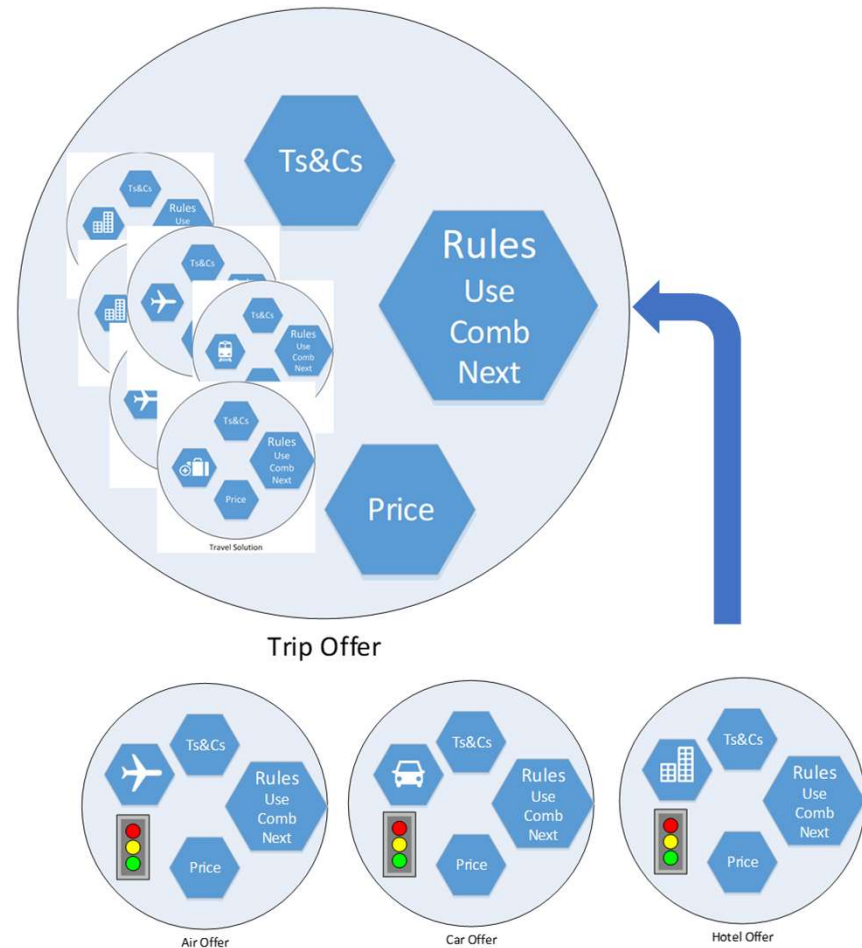
Offers defined

- Attributes of an Offer
 - Product description (which may be a bundle)
 - Price
 - Ts&Cs which include rules on:
 - Use, which may be persona or personalization based
 - Combinability, guiding what this offer may or may not be combined with
 - Next; detailing possible next steps such as immediate or deferred payment
 - RAG status (green means sell!)
 - Offers may be digitally signed (guaranteed offer)



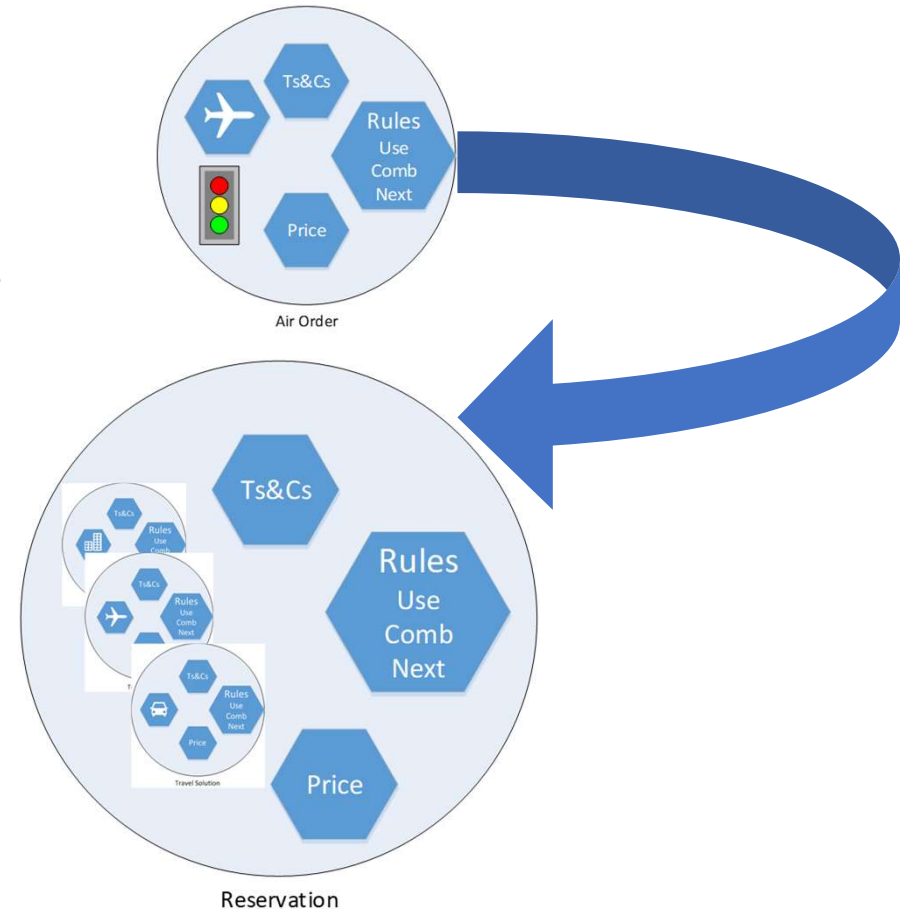
Offer of Offers

- The retail channel provider will need to manage offers from:
 - Many suppliers in the same travel pillar
 - Many suppliers across pillars (air, car, hotel, rail, etc.)
- Hence a “trip experience” offer may contain other offers
 - A personalized trip offer is a container which may hold one or more supplier offers
 - An offer with multiple offers may itself have a combined price and aggregate Ts&Cs
 - Ts&Cs define how pillar offers combine



Offers become Orders

- Orders contain the same attributes as an offer
 - Ts&Cs guide what can be changed, cancelations, etc.
- Order is moved to order management system
- One can “shop” against existing Orders to add more offers (options), make changes, remove offers, etc. in a single reservation
- Orders may be digitally signed indicating commitment to deliver
 - Analogous to active versus passive today



Your seat at the table

- **Community** of industry leaders
 - Travel providers of all size
 - Franchisees
 - Travel distributors
 - Travel channels
 - Travel technology providers
 - Travel standards bodies and trade associations
 - Government bodies
- **Build** Solutions together or thru vendor partnerships
 - Deliver noncompetitive open solutions to speed up the transition
 - Deliver automation, tools, standards, best practices to ease labor and budget constraints of participants
- **Grow** participation by adding projects and workgroups to solve industry challenges as a community



You can start now by helping to define the attributes of a universal, open, offer

Visit <https://opentravel.org/ota-offer-order/> and select the link to join a workgroup



Thank You!

Let's talk about what
happens next!