Walt Disney World
Parks & Resorts

Request for Information - CRS & External Procurement

CodeGen Ltd. ***Proposal***

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EXECUTIVE SUMMARY

Dear Andrea,

TravelBox Technology will provide Walt Disney World Parks & Resorts (referred to as WDW within this document) with the opportunity to operate as an asset owner and virtual tour operator.

CodeGen was established in 1999 and has spent the last 15 years building and successfully delivering a “next generation” end to end software platform to the wide ranging global travel and tourism industry.

TravelBox Technology is a multi-faceted, highly advanced modular platform “a GDS in its own right” and is built using cutting edge technologies. TravelBox was conceived and uses full web services "bottom up", therefore all its features and functionalities can be exposed via API as required.

TravelBox Technology as CodeGen’s innovation for the Travel Industry is the platform on which a single repository store for all allocated inventory from internal and external vendor sources will be created for WDW providing cross-sell, up-sell, ancillary sales and dynamic and opaque pricing capabilities. Various TravelBox configurations have been deployed at several clients globally and constant Research and Development are underway to take TravelBox further to meet the demands of the current and future marketplace.

TravelBox Technology is completely built on open standards enabling WDW to easily configure its own business architecture, policies and Unique Selling Points. TravelBox provides managed products and inventories as well as seamlessly connecting to any third party platform / application internally or externally to obtain products and services on “demand” in a single simultaneous search. A number of Host to Host (H2H) links are already connected to TravelBox including leading names in Hotel, Cruise, Car, Ground Transportation and Airline inventory distribution. The proposed system can be easily integrated and configured with the existing inventory management interfaces and any number of H2H links, GDS and other third party suppliers with the requirements for future expansion of the services offered. From sourcing product to automated supplier payments, TravelBox provides an End-to End solution covering the four main areas of most Business Operations: Pre-Sales, Sales, Post-Sales and Accounts. TravelBox has been developed using Java technology and uses the Java Internationalisation API to produce multilingual versions of all back end system applications.

TravelBox Technology lends itself extremely well to those organisations who require a technology platform that supports the broadening and evolution of its core business activities, simultaneously promoting business growth, greater efficiency and reducing overheads. New and agile business models can literally be developed

"out of the box" using TravelBox's vast array of loosely coupled product and service modules along with inbuilt processes provided by this fully integrated sales platform. Couple this with strong technology to support online, offline and multi-media distribution, easy to set-up dynamic rule engines for merchandising, pricing, promotions and distribution, mobile gateway and functional rich API, fully automated back office processes along with detailed accounting data processing and we believe this makes TravelBox Technology second to none in the global travel technology arena.

CodeGens USP is its ongoing commitment to R & D where our dedicated team of high calibre creative thinkers are always driving TravelBox and our client community forward with new technical advantages. CodeGen has invested hundreds of thousands of hours in maintaining itself at the forefront of cutting edge technologies as and when they are released or in some cases still in labs globally.

As the global travel and tourism industry evolves into the new customer features and experience world it looks for new distribution capabilities with more agile and flexible merchandising options we believe TravelBox Technology is well positioned to play a prominent and strategic role for its clients immediately and well into the future.

TravelBox is fully scalable at both the application and web server level and with its sophisticated in-built caching tools it offers high performance with optimisation providing a cost effective yet agile solution. TravelBox can be integrated to existing systems/applications and run side by side, or can be used to transform an organisations full IT landscape.

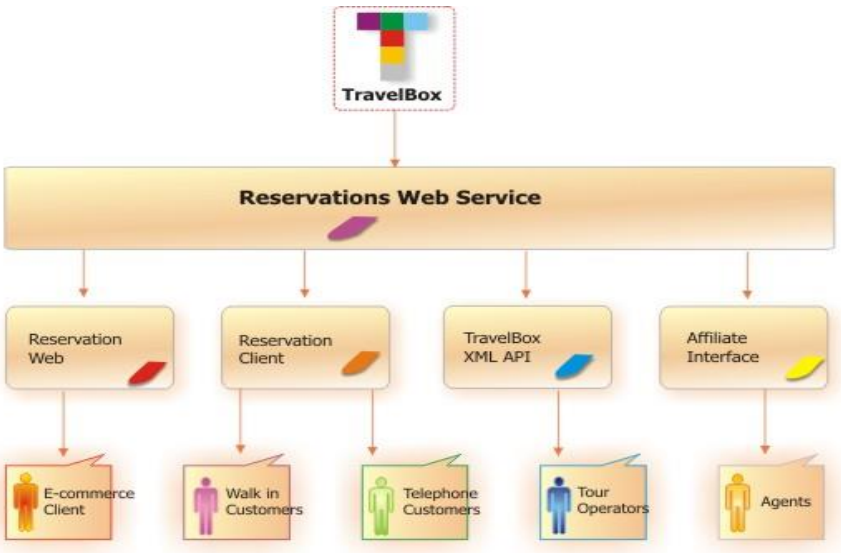
CodeGens current client community includes a number of large global airline and non-airline tour operations, bed banks, DMC's, travel service providers and niche tour operators but presently we do not directly work with any major asset owner. We acknowledge there are number of areas which require additional development or enhancement although this would mainly be integration, an area in which we have tremendous expertise and experience.

We do believe this platform can therefore provide WDW with immense power and agility now and into the foreseeable future.

We welcome any further information sharing and engagement……

SUMMARY OF PROPOSED SOLUTION

TravelBox Technology provides cost-efficient distribution and management of travel and tourism products via a multi-channel model that incorporates such interfaces as external Tour Operators, Travel Agencies, multiple online booking websites including affiliates/white labels, H2H, GDS, B2B/B2C, multiple call centres/retail outlets and data-loading teams. The proposed system provides the facility to transfer order / booking details to allow seamless real time synchronisation between other third party reservation interfaces as required. The following figure shows the proposed inventory distribution structure.

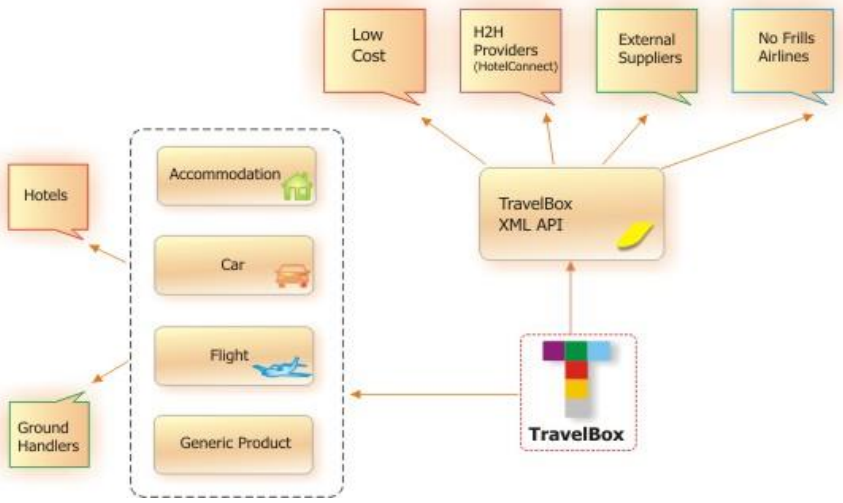


TravelBox Sales Distribution

TravelBox Technology gives the versatility to support complex product ranges. Own inventory assets and vendor contracts can be combined with fully transparent bi-directional XML integration to multiple connectors such as GDS, CRS, H2H vendors or wholesalers of third-party products services as outlined in sections Q14. Third Party Systems and Q16. Third Party Procurement Systems.

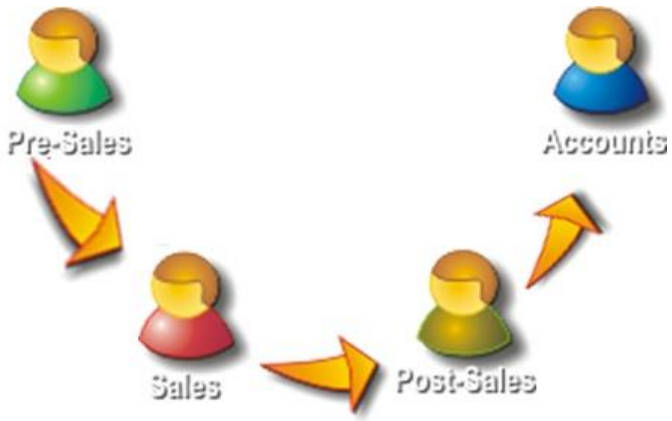
Flights, Accommodation, Car Hire, Ancillaries, Cruise, Transfers, Ground Transportation, Tours, Attraction Tickets, Insurance and various other products can be sold as single inventory items (shopping Cart), Dynamic Packaging / Tailor Made, Pre Built Packages with flexing (semi Dynamic) and Elite Packages (a hybrid of dynamic and pre-built with intelligent results) across all sales channels and brands with varying levels of applied mark-up and inventory control. TravelBox post sales modules will provide comprehensive

management and fulfilment of orders from all distribution channels by streamlining many back office processes through automation.



TravelBox Inventory Management

From sourcing the product to automated vendor payments, TravelBox Technology provides an End-to-End solution covering the four main areas of most Business Operations: ***Pre-Sales, Sales, Post-Sales and Accounts***.



Main Stages of the Business Operation

Each module is designed for a specific task, combined with flexible user rights and real-time reporting. Business processes are optimised to increase productivity and profitability.

A key feature of the TravelBox platform is its ability to manage business requirements in a Multi-Currency and Multi-Lingual environment, which has been developed with our international clients' requirements.

TravelBox software was conceived and originally built with an English language default, and today TravelBox will deliver all product and content held in multiple languages which will interact with WDWs own web content.

The ability to manage all types of accounts and sales in multiple currencies is vital with ever increasing worldwide travel it is becoming increasingly important to be able to deal with all client accounts in their local currency.

TRAVELBOX MODULES LIST

TravelBox is a modular platform, each module provides a different functionality to the TravelBox software platform, and various business configurations and rules can be easily applied to meet the exact requirements of WDW, should there be a shortfall in key business requirements being supported the loosely coupled architecture of TravelBox makes enhancements and new developments possible in short and cost effective release cycles. TravelBox consists of a set of ***Required Modules*** that are needed for the operation of the platform and other ***Optional Modules*** which provide extended functionality. The following tables give an overview of the required, optional and other functionalities available through TravelBox.

Modules are loosely coupled and communicate with each other via web services and each inventory module contains its own purpose built booking engine with supporting API to enable easy exposure to external services.

REQUIRED MODULES			
	Accounts Module		Mark-Up Manager
	Administrator		Reports Module
	Customer Profiles		Reservations Manager
	Documents Module		Suppliers Module
	Documents Repository		TBX Set-up
	Dashboard		TravelBox BI Module
	Internal Queue Manager		

OPTIONAL MODULES			
	Accommodation Module		Groups Module
	Accommodation Extranet		Holiday Manager
	Availability Checker		Insurance Module
	Car Hire		Package Builder
	Content Manager		Rail Module
	Cruise Module		Revenue Management Module
	Fare Manager		Ticketing Module
	Flight Allocations		Tour Builder
	Generic Module		Transfers & Excursion Module
	Forced Components		Transportation Module

OTHER FUNCTIONALITIES			
	Accounts Journal Entry		Multi Company Set Up
	Address Checker		Multi Currency
	Aggregation / XML / Gateway		Multi Lingual
	Cache Manager		Multiple Payment Gateways
	Dynamic Packaging		Pre-built & Flexi Packaging
	Electronic Payment (Australia)		Scheduler
	GDS Queue Manager		Shopping Cart
	Integrated Fax / Email		Staff Queues
	Itinerary Save Booking flow		Ticket Processor
	Low Cost Carrier Gateway		Visa Management
	Mobile Technology Gateway		Wide Search

RESPONSE TO VENDOR QUESTIONS

Q1. PRODUCT SET-UP, OFFERING, COMBINABILITY, ELIGIBILITY AND PRICING RULES

Describe product setup structure, including supported offerings (air, room, ticket, retail, etc.) and related associations including combinability (individual, fixed/dynamic packaging offers), eligibility and pricing rules (fixed/dynamic, cost of goods by vendor, price of goods by market).

1.1 PRODUCT SETUP

With TravelBox virtually any travel and leisure related product component and/or service can be easily setup, managed and distributed across multiple channels regardless of the source of procurement. Each product / service type is supported by dedicated system modules, each product module contains its own booking engine and is entirely built on web services and therefore can be fully exposed and easily connected to internal and external services. TravelBox also provides a rule based aggregation layer enabling seamless real time procurement across multiple channels.

External Product Procurement (Third Party Integrations)

- For any existing third party product / service providers already integrated with TravelBox, WDW will require a commercial agreement to be in place with the third party and CodeGen will activate and configure the channel.
- Dependent on the third party there may be configurations that can be managed by WDW directly.
- For new third party product / service providers CodeGen will integrate and test the link, map the two systems and configure the WDW account.
- WDW can then define their own business rules including (but not restricted to) pricing, prioritisation, distribution, amendment and cancellation policies etc.

Direct Product Procurement

- WDW will create vendor / supplier profiles within the TravelBox Supplier module.
- WDW can re-create product component contracts within the relevant product module which is associated to the supplier profile.
- WDW can then define their own business rules including (but not restricted to) pricing, prioritisation, distribution, amendment and cancellation policies etc.

1.2 PRODUCT OFFERING

TravelBox supports a full suite of product offering types, each with a dedicated product module and API service plus some supportive module services e.g. Content Management System. Every TravelBox product module enables the following setup controls per product component / service;

- Linked to vendor profile
- Rate type i.e. nett or gross rates
- Rule based distribution and visibility controls
- Sales date, validity date definitions and seasonality
- Configurable contract setup workflow
- Variable group rates according to passenger ranges
- Contract ownership (Company and Division)
- Currency definition
- Inbuilt booking engine
- Supporting API

Accommodation Manager

This product module is designed from a product distributor / tour operation basis rather than an asset owner perspective although it does include many property management capabilities. WDW will be able to setup and manage any type of accommodation including (but not restricted to) hotels, apartments and camping. There is no limit to how many room types that can be related to an individual accommodation along with the following key condition controls;

- Board basis options
- Room occupancy Rule based distribution and visibility
- Availability including; allocation, commitment, free sale, on request as well as blackout and closeout management and shared allocation capabilities. Rule based allocation channel management and bucket control options are also provided.
- Configurable rate definition including; per person, per person type (including multiple age range capability), per unit, per occupancy, pro rata / non pro rata, per season, per day of week, per night, per duration, flexible and capped rate control also available in conjunction with “Accommodation Extranet”
- Room occupancy and sharing rule definition
- Compulsory supplements and optional extras
- Vendor / supplier discounts i.e. early booking, free nights, family, honeymoon, anniversary and gross price all can be calculated on a fixed price or percentage basis.
- Special rates
- Early check-in, late check-out rules
- Minimum, maximum stay rules
- Contract crossover facility

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Car Hire Manager

Although the module name refers to car hire there is also a dedicated contract type for motorhomes, although actually there is no limitation to the type of rental that can be managed within this interface and it will easily support any kind of self-drive including yacht / boat hire. The module contains the following capabilities;

- Rule based distribution and visibility
- Availability including; free sale and on request as well as blackout and closeout management.
- Vehicle definition including class and type
- Pick-up and drop-off locations including type of location and operational days and times including out of hours services.
- Rental duration specification and calculation methods
- Rental product definition and associated sub categories e.g. insurance options, optional extras
- Rental conditions including age limits, age based supplements, one way drop off rules and fees, mileage fees, location fees.
- Rate definition per vehicle, per season, per location, per day, per week
- Compulsory supplements and optional extras
- Vendor / supplier discounts i.e. early booking, free days and gross price all can be calculated on a fixed price or percentage basis.

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Cruise Manager

Suitable for both ocean and river cruise product offering, the module services have already been directly connected to some of the largest cruise operators globally (please see Q16. Third Party Procurement Systems for details) and is able to provide real time rates, availability and ordering / booking. The module and related services contains the following capabilities;

- Master grade and cabin grade categorisation
- Itinerary setup including ports of call
- Availability via interactive deck plans
- Individual cabin facilities / location / description
- Surcharge / sundry setup and controls including but not limited to; port tax, gratuities
- Dining options including able size and sitting
- Ship features, recreations and services
- Rule based distribution and visibility
- Availability including; allocation, commitment, free sale, on request as well as blackout and closeout management and shared allocation capabilities. Rule based allocation channel management and bucket control options are also provided.
- Configurable rate definition including; per person, per person type (including multiple age range capability), per unit, per occupancy, per season, per departure / itinerary.
- Vendor / supplier discounts i.e. early booking and gross price all can be calculated on a fixed price or percentage basis.

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Fares Manager

TravelBox is directly linked to all major GDS i.e. Amadeus, Galileo, Worldspan and Sabre along with other direct flight CRS including Navitaire and Travelfusion where WDW can obtain multiple fare types e.g. private (Cat35, Cat25), published and low cost. The Fares Manager module also provides WDW with an interface to upload any directly negotiated air fares that may not be available via Cat35 or Cat25. The module can also be used to manage other transportation fares including rail, coach and ferry (although please note no direct connections to any of these other transport service providers currently exist). There are many supporting TravelBox modules and services related to Fares Manager and GDS connections as follows;

- GDS Queues – interacts with GDS queues and automates / semi-automates schedule changes
- Ticketing Client – automates / semi-automates ticketing processes in conjunction with GDS
- Flight Allocations – manage and distribute allocation plus utilise to support advance bookings / out of system range flights, auto convert to actual PNR.
- Flight Inventory Manager – capable of managing a small flight operation e.g. charter flight operator, manage seat inventory, fares and distribution.
- Generic Module – flight ancillaries

The module and related services also contains the following capabilities;

- Flight tax look-up via GDS and/or TravelBox tax table
- Fares input based on one way, return, segment and minimum selling price, booking class, cabin class, season, day of week, specific flight number etc.
- Fare constraint rules i.e. inclusive of ground services validation
- Passenger categorisation at a contract level e.g. handles youth, senior, military etc.
- Fare conditions, including but not limited to, open jaws, stopover policies, back tracks, surface sectors etc.
- Routing specification including exact, zone and via point controls
- Add-ons including domestic, destination and side trips, surcharges and sell-up supplements

Generic Product Manager

This is the most versatile product module within the TravelBox suite, this interface will enable WDW to create its own product / service type definitions. The module is frequently used but not limited to managing excursions, tours, flight ancillaries, sport equipment hire, spa treatments and packages, weddings, golf services e.g. tee off times, travel visa etc. The module also contains the following capabilities;

- Setup own product offering types (elements and related product types)
- Configure conditions at product level i.e. with or without duration (nights, days, hours), departure time required yes/no, minimum / maximum passengers etc.
- Setup ancillaries and directly relate product to specific airport(s) or accommodation.
- Availability including; allocation, commitment, free sale, on request as well as blackout and closeout management and shared allocation capabilities. Rule based allocation channel management and bucket control options are also provided.
- Configurable rate definition including; per person, per person type (including multiple age range capability), per unit, per season, per duration range, per duration, per passenger range.
- Vendor / supplier discounts i.e. early booking, free person and gross price all can be calculated on a fixed price or percentage basis.

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Insurance Manager

Manage and distribute travel insurance policies, WDW can create its own policy types and TravelBox automatically validates the policy conditions with the passenger grouping and related order / booking. The module also contains the following capabilities;

- Single, multi-trip, annual, family and individual policies
- Insurance offering validation according to destination, passenger nationality, duration and order / booking revenue.

Rates based on per person, per group (unit), fixed amount, percentage (including percentage of adult rate to support child, senior variation), extension

TravelBox™ Technology

Tour Manager

This module is most frequently used for multi-element ground based tours e.g. escorted coach tours but is very flexible and has many features suitable for a tour / excursion provider to utilise i.e. service decomposition which enables different elements of the tour to be sourced from multiple vendors and pick-up point offset rules. The module also contains the following capabilities;

- Tour categorisation
- Guide language
- Full itinerary definition
- Optional elements
- Pre and post extension tours
- Linked itineraries
- Construction rates
- Availability including; allocation, commitment, free sale, on request as well as blackout and closeout management and shared allocation capabilities. Rule based allocation channel management and bucket control options are also provided.
- Room occupancy and sharing rule definition
- Configurable rate definition including; per person, per person type, per unit, per season, per departure, per passenger range.
- Vendor / supplier discounts i.e. early booking, free person and gross price all can be calculated on a fixed price or percentage basis.

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Transfer & Excursion Manager

This module services all forms of ground transportation, WDW will be able to create their own mode of transport definitions and TravelBox will automatically validate transportation options according to pick-up and drop-off locations and passenger group size. The module also provides a dedicated interface to support excursions, the module also contains the following capabilities;

- Pre-defined pick-up and drop-off locations include airports, accommodations, cruise port and resorts and WDW can also create their own locations.
- Create location groups
- Any mode of transportation can be defined.
- Transfer routing can be setup from and to single, multiple or group locations.
- Service start and end times can be specified as well as specific departure times, shuttle service frequencies and duration of transfer or excursion.
- Availability is based purely on free sale or on request plus blackout management.
- Configurable rate definition including; per mode, per season, per day of the week, per passenger group range, per person, per person type and per unit.

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1.3 PRODUCT COMBINABILITY

TravelBox can provide WDW with many options to enable product combinability including individual component (shopping cart), dynamic and pre-built packaging but also TravelBox unique “Elite Packages” which are hybrid of dynamic and pre-built with the ability to support opaque or alternatively transparent pricing.

TravelBox has a “Super PNR” logic and there is no limit to the product type combinations or number of separate components that can be managed within a single order and with TravelBox it is even possible to mix the paths of selection for the components held within a single order i.e. a proportion of an order could’ve been selected via elite packages and another proportion via dynamic packaging, any combination is supported.

WDW will have access to business setup that will enable you to manage your own combination rules and special features like “Forced Components” are also provided that will allow ancillary type products e.g. Generic, Car Hire & Transfers to be automatically included (compulsory, opt in, opt out) in an order.

Every flow option transfers well to multi- media interfaces but in particular Elite packages was designed with online sales conversion techniques in mind, by automatically and intelligently broadening results and offering diversity whilst checking business logics on yield and bookability.

Dynamic Packaging

This enables a single action simultaneous search for multiple product types from all available sources (external, internal) and items to create an ad-hoc package. Very little set-up is required to utilise this service, as long as product elements are either available from an integrated third party source or have been added within the dedicated TravelBox product modules, pricing rules exist and core TravelBox business set-up is completed then WDW could immediately exploit dynamic packaging.

Benefits – very little resource required for set-up, resulting in very quick speed to market.

Limitations – no in depth control on result ordering

TravelBox™ Technology

Pre-Built Packaging

TravelBox provides a dedicated module (Package Builder) which would enable WDW to create pre-defined package itineraries. Itineraries can be fixed, flexible or semi-flexible this includes being able to alter durations, swap components and select outside alternatives and optional extras, all at the point of sale, also pricing can be setup as guaranteed or dynamic. Individual components should first be setup within their dedicated modules, these components can then be selected and combined under a package code, itineraries and all the relevant rules and options are entered, pricing rules are then defined (please note for guaranteed, pricing is calculated automatically by validating product component costs and applying the pricing rules specified to create a price grid, for dynamic pricing TravelBox calculates the price at the time of request by validating component costs and current pricing policy.).

Benefits – can pre-define all the rules and conditions for the package and easily control product priorities.

Limitations – setup can take time depending on complexity, with the exception of flights products can only be sourced internally.

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Elite Packaging

Controlled via the Holiday Manager module this is a hybrid of pre-built and dynamic packages and will enable WDW to quickly create packages with product procured from any source internal and external, and apply business logic to deliver intelligent results to customers across any channel. WDW will be able to create simple itinerary templates and allow TravelBox to automatically build all possible variants, yield and bookability scores are applied and TravelBox uses artificial intelligence to learn and constantly adjust these scores as searches and conversions are made. Easy access is provided to enable WDW to define product prioritisation and extend results to automatically offer diversity and broaden the results from original request e.g. search for 01 June 7 nights Disney's Animal Kingdom will return exact results if available but could also return 05 June 7 nights Disney's Wilderness Lodge and 01 June 10 nights Disney's Animal Kingdom, this feature is particularly useful online. The Holiday Manager also provides WDW with the ability to "Force Components", simple rule based setup to automatically present ancillary products and services with the main itinerary, compulsory and optional capabilities.

Benefits – very little resource required for set-up and in depth, easy control for product prioritisation resulting in very quick speed to market, higher conversion rates.

Limitations – does require higher processing power

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Shopping Cart

Search for individual products and services in any order, each product item is individually priced. Every product item has its own search interface and there are few restrictions on the required search criteria, usually date and number of passengers are only compulsory entries and often the date can be offset.

Benefits – Totally flexible in itinerary building

Limitations – searching component by component can be slow

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1.4 PRODUCT ELIGIBILITY

TravelBox provides many eligibility controls when setting up products and services making it incredibly flexible for any business model. The core business architecture of TravelBox is highly adaptive to suit any business model, enabling the creation of multiple companies "Company" on a single instance of the system, each company is treated as a separate legal entity. A sub category "Division" has many capabilities but is frequently used to denote a sales office, add brand, distributional channel and client group and it becomes very easy to partition not just eligibility of products but vary business policies such as deposits, cancellations, commissions etc.

All eligibility levels are validated at time of request, the key eligibility levels are listed below;

- Sales channel – including;
    - Selling company
    - Selling division
    - Brand
    - Distribution channel
- Currency
- Marketplace – including;
    - Source market
    - Client group
    - Specific customer
- Product – including;
    - Combination rules
    - Constraints
    - Visibility rules
    - Availability
    - Pricing policy

1.5 PRODUCT PRICING RULES

Pricing can be achieved by using a global dynamic pricing engine, this is setup within the TravelBox Mark-up Manager module and is incredibly flexible. Mathematical formulae can be created with multiple calculation actions using percentages and / or fixed amounts and positive or negative definition. The formulae can then be applied globally or individually at a component, package or order / booking level along with per person, per passenger type, per unit, per night or per stay via setup of a mark-up scheme which provides a comprehensive suite of rule levels outlined below;

- Channel rules
    - Company
    - Division
    - Brand
    - Distribution channel
- Marketplace
    - Source market
    - Client group
    - Trade client
- Dates
    - Booking date
    - Departure date
- Geographical
    - Region (global)
    - Country
    - City
    - Resort
    - Outbound gateway

    - Flight zone
- Vendor
    - Supplier
    - Airline
    - Link (integrated third party)
- Product
    - Product type
    - Product combination
    - Product specific levels including but not restricted to;
        - Room type
        - Star rating
        - Cabin class
        - Rate code
        - Generic product
- Other
    - Duration
    - Day of week
    - Passenger group size
    - Product count

The module also provides the ability to create discount schemes which are quick to set-up and can be immediately applied to market. The discount facility offers all of the rule capabilities listed under mark-ups plus provides the ability to define capping rules based on count or budget, discounts can be calculated by value or percentage and applied per person, per passenger type, per unit, per night, per stay, per component, per package and per booking plus there are the following additional rule levels;

- Promotion code
- Media code
- Package occupancy
- Special request

Q2. INVENTORY MODELS AND REVENUE MANAGEMENT CONTROLS

Describe inventory models supported (physical, logical, unit by day, by hour, by week, blocks, allotments, hierarchies) and related revenue management controls (length-of-stay, bid-price curve, authorization limits, external integration).

2.1 INVENTORY MODELS

TravelBox does not provide a PMS solution however it does support some inventory control for accommodation, cruise, generic products, flights (can also support other transportation e.g. rail) and tours as follows;

- Allotments can be defined by day, by week, by departure (cruise, generic, tour).
- Allotment groups can be created for multiple room types / services to share.
- Multiple blocks with variable release can be managed and inbuilt logic will automatically prioritise the most restrictive release.
- Rule based allotment distribution across multiple channels including ring fencing (assigned) and capping maximum volume.

TravelBox can and has been integrated to third party systems, currently RateTiger, Travelclick and HBSi have been integrated.

2.2 REVENUE MANAGEMENT CONTROLS

Although TravelBox does not currently provide full PMS capabilities TravelBox could be integrated with WDW's chosen PMS solution. WDW would then be able to utilise various TravelBox revenue management features including Mark-up Manager and Elite Package yield and bookability capabilities.

Q3. ASSET SETUP

Describe asset setup structure, including supported types (resorts, restaurants, rooms, other facilities) and hierarchical relationships.

3.1 SUPPORTED TYPES OF ASSET

TravelBox does not feature a specific asset setup interface however it would be possible to replicate the logic via use of our Supplier module and relevant product modules i.e. Accommodation Manager, Generic Product Manager and this would then support the creation of the following assets;

- Resort – Supplier module
- Hotel / Vacation Club – Supplier module
- Cruise Line – Supplier module
- Waterpark – Supplier module
- Restaurant – Generic module
- Other assets e.g. shops, tours etc. – Generic module

3.2 HIERARCHICAL RELATIONSHIPS

Hierarchical relationships can be created within TravelBox which will assist in supporting business logic e.g. revenue recognition. The following outlines what facilities there are currently;

- Resort defined as a "General" supplier profile and hotel defined as an "Accommodation" supplier profile means both can be linked during product offering setup.
- Cruise line can be defined as a "Cruise" supplier profile and then each ship can be directly setup within the profile.
- Restaurant can be defined as a "Generic Product Element" and then linked to a Resort by selecting the resorts general supplier profile and could further be linked to a hotel by selecting the accommodation supplier profile.

Q4. PROFILE SETUP

Describe profile setup, including (vendors, agencies, individuals, organizations) and related associations (contracts, orders, commissions, eligibility rules).

4.1 VENDOR / SUPPLIER PROFILE

TravelBox provides a dedicated Supplier module to enable vendor creation, the interface presents different templates to support different types of vendor i.e. General, Accommodation, Airline and Cruise Line. Each profile setup includes ability to define address and localisation, multiple contacts and contact categories, bank details, government taxation (for exceptions), default payment and cancellation scheme policies. Dependent on the type of vendor there may be product specific setup e.g. ships under cruise line, cabin classes under airline etc. Each profile is one time setup, WDW will be able to create its own coding and naming logics and each profile can be related to multiple products and services.

4.2 AGENCY AND ORGANISATIONAL PROFILES (BUSINESS TO BUSINESS)

TravelBox provides a customer profile module which will service any type of business purchaser e.g. agency, operator or wholesaler. There is an optional hierarchical set-up allowing Network>Head Office>Branch> Employee there is also the option of Independent which can also be linked to Network and or Employee. WDW will also be able to define the following;

- Commission structure
- Address and contact details
- Nett agents
- Client group
- Association to specific company, division or brand
- Language (for communication and documentation)
- Payment conditions i.e. credit or non-credit, special payments systems
- Marketing code definitions

4.3 INDIVIDUAL PROFILES (BUSINESS TO DIRECT)

The customer profile module also supports individual / direct profiles. The logic is based on a lead passenger with travelling companion profiles stored at an order / booking level but linked to the lead passenger profile with editing capabilities. Each profile enables the following to be defined;

- Customer title, name, date of birth, gender
- Address and multiple contact details, preferred contact
- Client group
- Association to specific company, division or brand
- Language (for communication and documentation)

- Primary and secondary passport details (automates APIS process)
- Frequent flyer memberships
- Marketing code definitions

Q5. COMMISSIONING AND SALES INCENTIVES

Describe commissioning and sales incentives support from end to end (contract, booking, fulfillment, and accounting).

5.1 COMMISSIONS / INCENTIVES RECEIVABLE

Every TravelBox product offering module provides the ability to select a rate type that defines commission paid by the vendor to WDW. Commissions can be varied according to product contract and element / service e.g. room type and seasonality on a percentage basis only. There is the ability to define if commission is valid for any supplements (compulsory or optional) and vendor discounts. During the booking process TravelBox will automatically calculate the vendor payable and deduct any valid commissions to accurately define the liability.

5.2 COMMISSIONS / INCENTIVES PAYABLE

Each trade / business customer profile can be set-up as eligible for commission, they can then be linked to a commission scheme. The scheme controls the commission calculation to be applied for each order / booking and accumulates data to validate any additional incentives. Commission variations can be applied on the following parameters;

- Company, division, brand or distribution channel
- Source market
- Booking date and/or departure date range
- Product type, product combination, package type

- Charges and fees e.g. cancellation charge, flight taxes etc.
- Thresholds to vary commissions based on sales or revenue

There are further commission controls available outside of the commission scheme setup i.e. at an individual product offering level a commission override can be applied, this control is also available in pre-built package setup. At time of booking commissions are automatically calculated according to the rules defined although if the internal user has a valid authorisation level they can override and adjust the commission levels. Dependent on the payment terms setup within the business customers profile commission will be automatically deducted from the balance due (if they are a credit agent) or calculated and paid retrospectively at the pre-arranged frequency. Please note TravelBox can generate commission payment runs and cheque print file if required or handover data to third party accounting system.

Q6. SYSTEM ORDERING / BOOKING CAPABILITIES

Describe system ordering capabilities (retail items, spa, dining, event, product eligibility, combinability, etc.), including any limitations to what can be booked within a single order (multiple resorts/facilities, multiple dates, air-only, without room, etc.) and parties supported (individuals, travel agencies, wholesalers and groups support).

6.1 AVAILABLE ORDERING / BOOKING FLOWS

TravelBox provides a Reservations Manager module (call centre interface) that supports multiple booking flows and WDW can elect to operate as they prefer, many of our existing clients utilise all of the flow options for different products, destinations and purposes. The flows can also be mixed within a single order / booking file i.e. a single order could contain some products sourced using dynamic packaging in conjunction with others sourced using elite packaging, there is no limit. The system supports quotations, options and advanced registrations (pre-orders) as well as converted orders. There are also few restrictions on the required search criteria for each flow i.e. destination does not always need to be specified allowing a broader set of results. Via the web services API (SOA and native APIs are available) TravelBox can expose the booking flows for any

media channel including mobile and Coregent have recently released an online call centre interface built on HTML5. A brief explanation of each flows capabilities follows;

Pre-Built Packaging

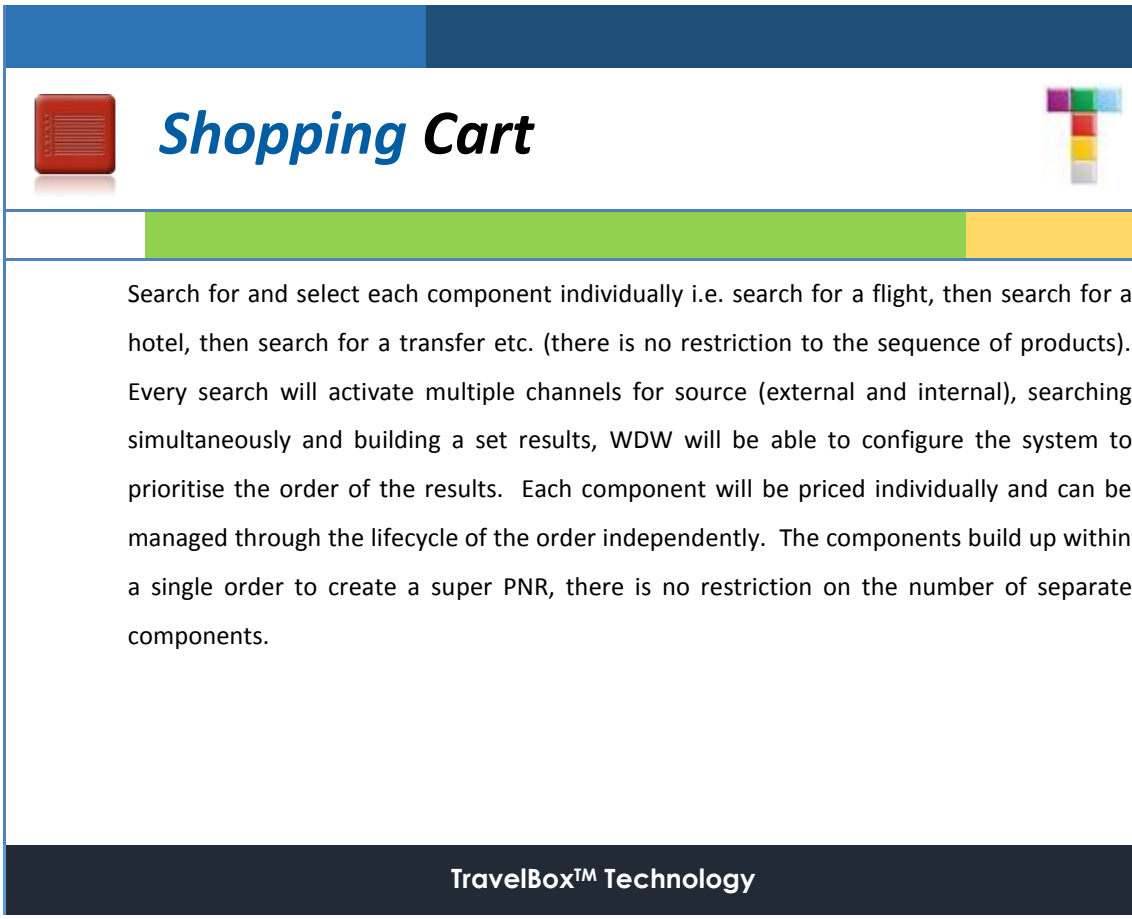
Although this is designed to manage traditional package vacations TravelBox features much more control and ability to personalise the package requirement for each individual request. As the package itineraries have already been pre-defined the search options are much broader, multiple package results can be returned simultaneously. Dependent on the set-up of a package there may be many ways to adapt the package including changing durations, adding optional extras, swapping or selecting alternative components, sell-up options and more. Although part of a package each individual component will be managed independently from a servicing perspective.

TravelBox™ Technology

Elite Packaging

This is a totally unique and versatile booking flow which will enable WDW to apply its own, more in depth business logic to configure and control the order of vacation results. When initiating a search the pre-defined itineraries and in-built business logic mean a completely wide ranging search can be made i.e. rather than specify a date with an offset a user could simply enter the month or even year of departure. Multiple results will be returned and dependent on business preferences results will be listed with more emphasis on most likely vacations to be converted plus with automatic inclusion of diversity and widening of results, this is particularly useful for any online media channel where a sales representative is not present to ask questions or observe reactions. Dependent on the set-up of the template there may be many options to adapt the original result including changing durations, selecting optional extras and / or sell-ups. Although part of a package each individual component will be managed independently from a servicing perspective.

TravelBox™ Technology



6.2 SINGLE ORDER / BOOKING, SUPER PNR

With TravelBox there is no limitation to what can be booked within a single order, each order file is effectively a "Super PNR" and can contain any number of product components or services from multiple sources (internal and external). It is even possible for each passenger within a single order to be doing completely different things e.g.

- Passenger "A" could be flying to Orlando from Chicago
- Passenger "B" could be flying to Orlando from London UK
- Passenger "C" could be arranging their own travel
- All 3 passengers want to share a Triple room at a Disney's Animal Kingdom for week 1

- Passenger “A” and “C” want a Disney cruise for week 2
- Passenger “B” wants a single room at Disney’s Grand Floridian week 2
- All can be accommodated in a single TravelBox order that includes 2 separate flight PNRs, 2 hotel components and a cruise component plus any required ancillaries including park tickets, ground transfers, restaurant bookings, spa package etc.

6.3 CUSTOMER TYPES SUPPORTED

Any customer type can be supported e.g. direct, trade agencies, tour operators, wholesalers, groups etc. Where a customer profile already exists it can be searched for and selected within Reservations Manager and directly related to an order, there are many quick data entry options to find an existing profile i.e. passenger / business name, Trade ID / membership no., telephone number, zip code etc. When an existing profile is selected an order history can be displayed, not just for fulfilled orders but also quotations, advanced registrations and cancellations. For new customers the user can create a new profile within the Reservations Manager (WDW can define what data is compulsory to create a new profile). Customer login for both trade and / or direct is supported, as well as being able to generate new orders the trade client login also provides order administration capabilities including amendments and cancellations as well as trade client reports.

Q7. ORDER / BOOKING LIFECYCLE

Describe the order lifecycle, including book, modify, cancel, auto cancel, reinstate, wait-list, wish-list, including fulfillment capabilities (printing vouchers, tickets, other collateral, etc.)

7.1 ORDER / BOOKING DEFINITIONS AND STATUS CAPABILITIES

TravelBox has a complete workflow to identify the exact status of an order at any point through its lifecycle, many automated and semi-automated processes are applied and there are many configurable triggers and business rule options to allow WDW adapt the workflow to suit. There are different order definitions and two

separate status parameters ("Booking Status" and "Option Status") applied to an order, these are outlined below;

Order / Booking Definitions

- **Quote** – This is purely a price quotation, availability will be checked at time of enquiry and all product details will be captured within the quotation file. WDW will be able to define business parameters to control the validity period of the price quotation and an automated task will expire quotations accordingly. There is an inbuilt conversion wizard process that makes it easy to convert to a full order, If a customer converts during the validity period the price can be guaranteed as long as original product components are still available although internal user can action a re-price if required and customers can still convert after quote expiry however TravelBox will automatically re-price.
- Option – This is similar to a quotation however it also enables the business to allow customers to hold inventory (usually internal products only although some third party vendors will also allow options dependent on the commercial agreement between WDW and the vendor). There are also expiry rules that will automatically release any inventory being held, once released the order is treated as per an expired quote.
- Booking (Order) – Any order where customer has confirmed they wish to complete their order will be classified as a booking. It is possible to start an enquiry either as a quote and then convert to a booking or start from within a booking / order flow.

Booking Status

This relates directly to the status of the product and service components within the order.

- **Confirmed** – This identifies that every individual component within the order is fully available and confirmed.
- **Cancelled** – Any quote / order that has been fully cancelled, the order file remains accessible and can be reactivated, each component would automatically be re-priced and checked for availability.
- **Expired** – Related purely to quotes or options that have now expired from being valid, the order file remains accessible and can still be converted.

- **On request** – An order (can also be applied to quote) where all components are currently in an on request status with the relevant vendors.
- **Confirmed (RQ)** – This indicates an order where at least one component is currently in an on request status with the relevant vendor but also at least one component is fully available and confirmed.

Option Status

This relates to the accounts receivable status for the order.

- Quote - No receipt will be expected at this time from the customer, will be linked to the booking status Quote only.
- Option – Dependent on WDW business rules this may or may not involve a deposit requirement from the customer, will be linked to the booking status Option only.
- **Definite** – This will denote that customer has indicated they wish to proceed with order completion but there is currently no receivable posted. WDW will be able to configure their own rules for when deposits and balance of payments are due and how they should be calculated.
- **Firm** – Denotes that the required deposit has been received from the customer or where there is a trade customer involved with a valid credit arrangement with WDW.
- **Fully paid** – Denotes that all expected monies have been received from the customer or where there is a trade customer involved with a valid credit arrangement with WDW the accounts receivable team have authorised and posted the credit on account.
- **Settled** – Indicates that not only have all receipts been realised but also all payable liabilities have also been processed and effectively the order has been fully reconciled through WDWs accounts process.

7.2 MODIFY / AMENDMENT CAPABILITIES

TravelBox provides an automated validation wizard process to assist users with any modification to an existing order (in any booking or option status) for any source including third parties if the relevant API supports modification. WDW will be able to create amendment policies and define rules for when they should be

applied i.e. according to specific sales channel, source market, customer, booking type, product combination etc. and TravelBox will validate these rules at time of modification. TravelBox can also consider and apply any vendor fees and rule conditions along with the reason for modification. The wizard will also auto trigger vendor and customer notifications and documentation.

7.3 CANCELLATION CAPABILITIES

TravelBox provides an automated validation wizard process to assist users with any cancellation, as well as cancelling a complete order it is also possible to cancel just individual components or package groupings within an order without affecting the other components and leaving the order actively confirmed. Cancellation wizard is available for an existing order (in any booking or option status) for any source including third parties if the relevant API supports cancellation. WDW will be able to create cancellation policies and define rules for when they should be applied i.e. according to specific sales channel, source market, customer, booking type, product combination etc. and TravelBox will validate these rules at time of cancellation. TravelBox can also consider and apply any vendor fees and rule conditions along with the reason for cancellation. The wizard will also auto trigger vendor and customer notifications and documentation.

7.4 FULFILMENT CAPABILITIES

TravelBox provides a complete suite of supporting modules and services to manage fulfilment including;

Document Manager

WDW will have the ability to create their own document templates and define the rules for document generation triggers and dispatch. TravelBox provides a full suite of industry standard document types i.e. service vouchers, itinerary, vendor notifications, customer invoice and many more. Each document type has a supporting xml schema which provides all the coding details for each data packet, TravelBox then provides a design tool interface to enable the creation of each template using drag and drop features plus allowing inclusion of data grids, tables, images, barcoding etc. This module can also be used to manage e-mail and certification templates.

Document Repository

Every document generated will have a unique document reference related and every document will then be stored within the repository. Each document type generation and dispatch can be fully or semi-automated or manually triggered and the repository provides the main interface for any manual intervention i.e. quality check prior to dispatch. The repository also monitors dispatch process and provides supporting queues / reports i.e. alert any failures in delivery etc.

Internal Queues

This module has many uses, it provides multiple reports enabling internal users to monitor and manage orders throughout their life-cycle. Each queue has a different purpose i.e. display current option status of each order, monitor active processes i.e. current status of any on request components, third party order exceptions, credit control and many more.

Q8. ACCOUNTS PAYABLE, RECEIVABLE AND ACCOUNTING LEDGER PROCESSING

Describe how the system maps products and payments to the chart of accounts, standardizes accounts payable, accounts receivable and credit settlement, rolls up EOD balances for reporting, and interfaces to industry-standard accounting applications (SAP, etc.).

8.1 ACCOUNTS PAYABLE

For any product component or service the liability (payable) detail is captured at the time of enquiry, this includes the following data where relevant;

- Vendor ID, contract ID
- Product details
- Purchase currency
- Calculated cost in purchase currency
- Calculated cost in base currency (standard accounting currency defined by WDW, can differ per company definition)

- Currency exchange rates contract to selling and contract to base currency
- Commission
- Any tax and / or surcharges
- Pre-payment cost
- Amendment and cancellation costs
- Payable date
- Third party CRS reference

TravelBox does have the capability to process payables and generate remittances, payment runs and various supporting reports. Alternatively the data can be transferred to a third party accounting management system to process the payable (TravelBox has been integrated with many different packages including SAP).

8.2 ACCOUNTS RECEIVABLE

WDW will have the ability to define their own receivable rules i.e. if there is a deposit / pre-payment required and when balance of payment should be received. TravelBox can be integrated with a payment service provider of WDWs choice to process card payments, this service can be activated through any web based media along with reservations manager and accounts manager, the receipt will automatically be posted to the relevant order and the amount will be deducted from the balance due. The posting of receipt will automatically update the option status of the booking i.e. definite – firm once deposit has been fully received and firm – fully paid once full outstanding balance is received. For trade clients there is the ability to post a receivable against multiple orders and CodeGen have provided a number of client specific special payment service processes.

8.3 ACCOUNTS LEDGERS

TravelBox provides a fully configurable accounts ledger interface, WDW will be able to replicate its nominal ledger accounts and define the rules for posting the relevant data packets into the correct ledger account enabling a simple handover to WDWs accounting management service.

8.4 ACCOUNT SYSTEM INTERFACING

CodeGen have vast experience with account system interfacing and have integrated to various systems including SAP. Every TravelBox client will have specific requirements for their accounts services and we have integrated with single and bi-directional capabilities as required. With the highly configurable capabilities of the accounts ledger within TravelBox mapping can be achieved and it is usually even possible to handover data in summary rather than detail format.

Q9. PAYMENT OPTIONS AND LIFECYCLE

Describe payment options and limitations (authorized payment types, any included gateways, limitations to integration with external gateways) and payment lifecycle (refunds, partial refunds, adjustments, pre-authorizations, balance inquiries, payment, pending refunds, bank returns, transfers, splits, etc.,).

9.1 PAYMENT TYPE OPTIONS

TravelBox supports all standard payment types i.e. credit card, debit card, cash, cheque and WDW can also create their own payment types e.g. voucher types, gift certificates etc.

9.2 PAYMENT GATEWAY PROVIDERS

CodeGen have integrated with many payment providers at client request, the list below identifies if they are readily available i.e. only need account set-up to activate or whether some additional work would be required to deploy for WDW. This is usually due to the provider being integrated on either an older version or separate code branch of TravelBox.

Category	H2H/GDS System	Readily Available	Need Small Developments	Need Full Developments
PAYMENT GATEWAYS	Pay Point / Secpay		✔	
	Buy it Online			✔
	Clear Commerce		✔	
	E-XACT		✔	
	Flexwin DBS		✔	
	Payment Express		✔	
	Payment Tech		✔	
	PayBox	✔		
	Protx			✔
	Realeft			✔
	Realex			✔
	Smart2 Pay		✔	
	Servebase	✔		
	SolveSe			✔
	Verisign			✔
	Worldpay			✔
	Adquira		✔	
	Wirecard			✔

9.3 PAYMENT ADJUSTMENTS

TravelBox supports many different types of adjustment and many have automated or semi-automated processes, these include (but are not limited to);

- Refunds including; partial and pending
- Payments including; adjustments, passenger associated payment, payment schedules, transfers and splits
- Pre-authorizations (dependent on payment gateway provider)
- Balance inquiries

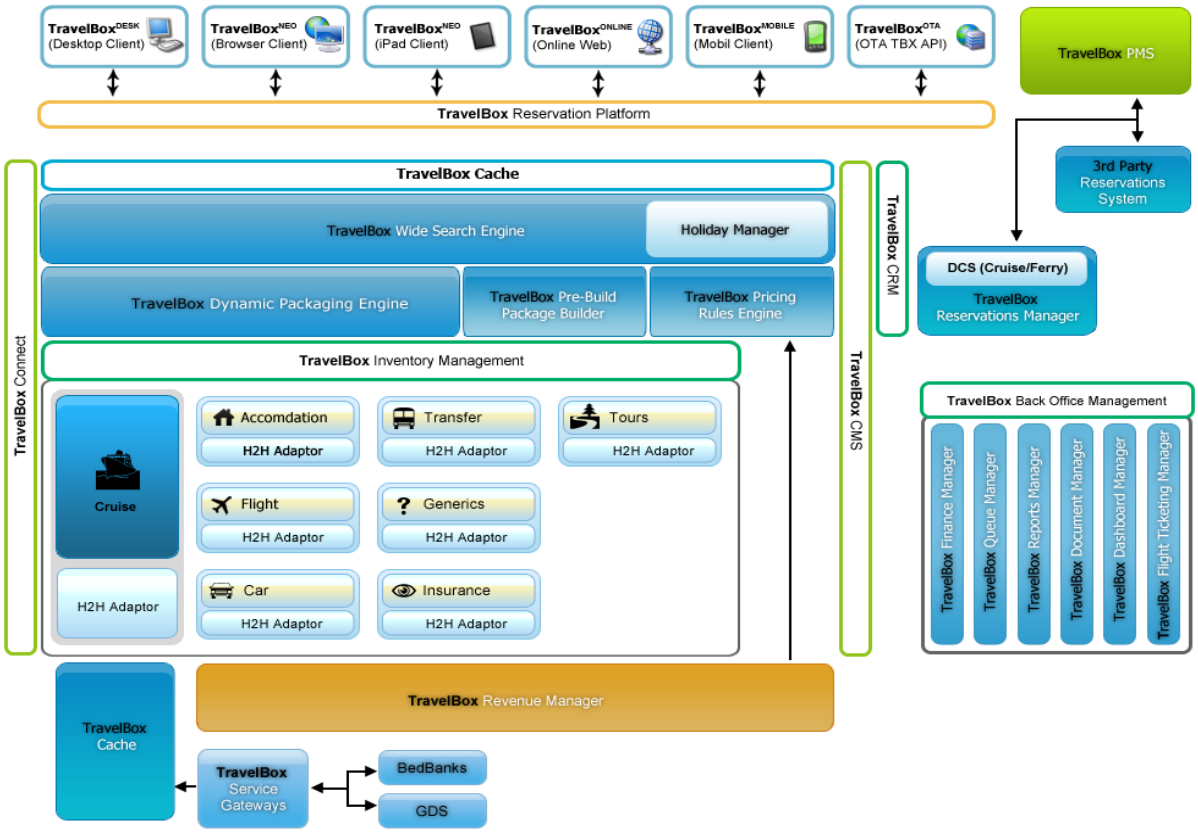
Q10. SYSTEM ARCHITECTURE

Describe the overall system architecture in terms of relevant tiers, client-server structures, dependent hardware, software and relevant licensing requirements, SaaS vs. hosting vs. on-site option requirements and any known limitations to virtualization.

10.1 OVERALL SYSTEM ARCHITECTURAL TIERS

TravelBox is a modular, Service Oriented Architecture (SOA) based on Web Services which orchestrate various business processes in providing its full functionalities. The loosely coupled nature of the SOA allows TravelBox to be configured and scaled easily to accommodate the expected growth of the client's business.

TravelBox consists of many state-of-the-art unique features that offer business performance monitoring & management, system performance enhancements, marketing of products, ubiquitous computing and many more. The figure below shows the overall system architecture of TravelBox.



TravelBox System Architecture

The underlying Simple Object Access Protocol (SOAP) protocol which forms the transport layer of the SOA is a lightweight protocol suitable for use over the web as opposed to the other distributed computing technologies such as CORBA, RMI, and DCOM. The preferred SOAP toolkit used by TravelBox is JaxWS.

10.2 CLIENT SERVER STRUCTURES

CodeGen proposes three options for operational environments all based on 3-tier architecture (not applicable to pre-operational environments). These options vary in cost and resilience to disaster.

Systems with High Demand (Option 1)

First option is for systems with high volumes that demand high scalability, high availability and disaster recovery. Under this option there will be a primary site and a secondary (standby site). On the primary site both the application and database layer will have a cluster of servers giving scalability and high availability, with full disaster recovery capabilities. Primary site will be mirrored on the standby site. Database will be kept in synchronization using Oracle Data Guard, which comes in two flavours which is either Active Data Guard or (traditional prior 11g) Data Guard. With Active Data Guard (which requires additional licensing), it is possible to query the DR (Disaster Recovery) site database for reporting and offloading those tasks from the primary site. This option prevents both intra-site and inter-site outages.

Slight variation of the above option is to have an asymmetrical standby site where a lesser number of servers are available. This would protect the data and application from disaster on the primary site but may affect the business continuity plans if the hardware capacity on the standby site is not adequate enough to handle the load. In terms of cost, this would be the costliest option. The following table lists the minimum required hardware for this option.

PRIMARY SITE	NETWORK	DISASTER RECOVERY SITE
2 x App servers 2 x DB servers + SAN	1 x Firewall 1 x Load balancer	2 x App servers 2 x DB servers + SAN

Systems without Standby Site (Option 2)

The second option would consist only of a primary site as described in option 1. This option does provide high scalability and high availability but does not have any disaster recovery capabilities. In terms of cost, this would be approximately half the cost of option 1. Below are the minimum requirements.

PRIMARY SITE	NETWORK
2 x App servers 2 x DB servers + SAN	1 x Firewall 1 x Load balancer

Systems with Less Demand (Option 3)

Third option is for systems that have very low volumes and can tolerate long periods of down time. Under this option both application and database layer each will have only one dedicated server. This does not provide high scalability, high availability or disaster recovery.

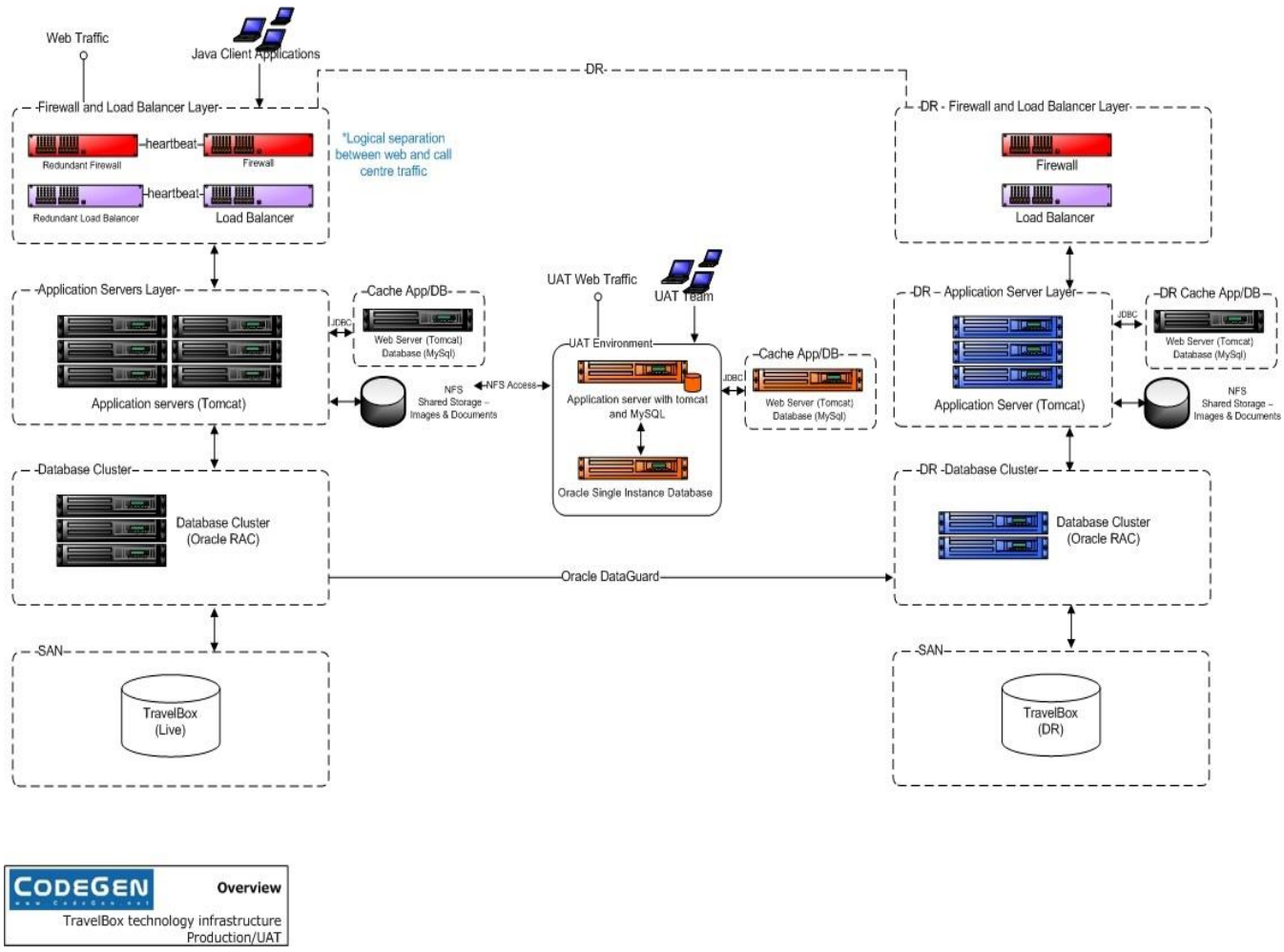
This would be the cheapest option without the need for SAN, load balancer or a private switch.

PRIMARY SITE	NETWORK
1 x App servers 1 x DB servers + SAN	1 x Firewall 1 x Load balancer

The following figure shows the structure for the recommended hardware platform for highly scalable operational which require high availability and disaster recovery and a pre-operational environment (UAT).

If desired the application layer could be further segmented to web layer which handles only the web traffic and call centre application layer which handles only the call centre traffic.

Each layer is clustered and could be scaled out as needed when the system load increases.



Hardware Architecture

Option	Scalability on DB Layer*	Scalability on APP Layer*	Cost Factor*	High Availability	Disaster Recovery	Resemblance to Production*	Resilience to Disaster*
Option 1	Easy	Easy	10	Yes	Yes	10	Inter-site & Intra-site
Option 2	Easy	Easy	5	Yes	No	5	Intra-site
Option 3	Difficult	Easy	1	No	No	1	None

Scalability on DB/APP Layer:

Easy: - scale out would require adding a DB/APP server and connecting components

Difficult: - scale out would require a new setup and reinstalling

Cost Factor:

10 - Most expensive, 1 - least expensive

Resemblance to production:

10 - Closely resemble the production environment,

1 - Least resemblance to production environment.

Resilience to Disaster:

Inter-site: - resilience to total site failure

Intra-site: - resilience to hardware component failure within site.

The table below lists the advantages and the disadvantages of the three options.

OPTION	ADVANTAGES	DISADVANTAGES
Option 1	Redundant servers mean even if one server per layer was down/offline the system can still function from the remaining servers. Redundant servers allow the load to be distributed so system will be able to handle a higher or unexpected surge in the load. Oracle RAC enables fault tolerance and load handling of DB calls. Unlimited scalability with Oracle Enterprise edition and access to Oracle full range of product suite (requires licenses) Ability to have live mirror data between Live and DR	Higher license and hardware costs than Options 2 and 3
Option 2	Redundant servers mean even if one server per layer was down/offline the system can still function from the remaining servers. Redundant servers allow the load to be distributed so system will be able to handle a higher or unexpected surge in the load Oracle RAC enables fault tolerance and load handling of DB calls. Lower license and hosting costs than Option 1	Higher license and hardware costs than Option 3
Option 3	Low costs for hosting and licences	This setup has a single point of failure meaning if one component was to fail in the system the whole system will fail due to non-redundant hardware. Server failure due to failure of a single hard drive can be minimised with multiple hard drives in a RAID 1 configuration.

10.3 HARDWARE REQUIREMENTS

Below is a list of minimum hardware and network requirements for Live and UAT environments.

Application Servers:

CPU: Intel Dual Hexa core 2.6 GHz or above

Memory: 48 GB or above

HDD: 300 GB or above with RAID 1

Database servers:

CPU: Intel Dual Hexa core 2.6 GHz or above

Memory: 48 GB or above

HDD: 300 GB or above with RAID 1

Network: 2 x Gigabit network cards (4 if fault tolerance is desired in the NIC level) + HBA card for Fiber optic network or appropriate connectivity card for SAN.

SAN:

SANs from all major vendors (EMC, HP, and DELL) have been used in TravelBox deployments. These SANs used either iSCSI or Fiber Channel (FC) for commination. Depending on the client's data volume the required capacity may vary, 250 GB would be ideal for initial deployment.

Depending on the RAID level used (RAID 1+ 0 or RAID 5) amount of actual space that need to be in the SAN may vary. RAID 1+ 0 is the preferred RAID level for OLTP systems but requires twice the disk space than the usable disk space. (E.g. To use 250GB have to purchase 500GB). RAID 5 makes all available space as usable

space but has an IO penalty for write operations. It is also possible to have a mixture of RAID level for each database file type which is going to require substantially more disk space.

Load Balancers:

The load balancer will balance all the traffic coming into the TravelBox servers based on the performance of the servers. Load balancer capable of handling sticky IP/session, arrow point cookie, SSL, VPN features is preferred for live deployments. The sessions in TravelBox are held at database level therefore in the event one of the web or application servers fail the client request will be redirected to the remaining server which will retrieve the session from the database and continue from where it was left off.

At the database level the Oracle Real Application Cluster (RAC) will hold two oracle instances which will provide availability at the database level.

Firewall:

A firewall capable of handling session persistency (IP or session based), site to site VPN/VPN clients and SSL is the preferred option for firewall.

Network:

LAN - 1000 Mbps recommended

2 Mbps lease circuit for 3rd party inventory and GDS

Desktop:

CPU: Dual core 2GHz / Pentium 4 3GHz processor or equivalent

Memory: 2 GB or higher *

HDD: 2 GB free space for a full TBX installation

Network: direct connection to TravelBox application servers through TCP/IP (including FTP access to that server)

**** Note:** Given above are the minimum requirements for a PC or laptop running TravelBox. Any users who will be having many TravelBox modules open at the same time may need a higher amount of memory than a normal call centre staff who has on average 2 modules open at a time. The required specs also takes in to account any additional common software products that the user may have open such as Microsoft Office, Internet browsers etc.*

10.4 SOFTWARE COMPONENTS BY LAYER

Database Layer

Software Component	Description	Versions tested in production with TravelBox
Operating System	Database Server Operating System	RHEL 5.8, CentOS 5
Oracle Database	Base database	11gR2, 11gR1, 10g Rel2
Oracle Dataguard	Used for replicating the database for disaster recovery. When data views are accessed by third party systems frequently the replicated database is also used to service these data views.	
Oracle Real Application Cluster	Used for scaling as well as fault tolerance when the SLA's demand high availability of the system	11gR2, 11gR1, 10g Rel2
MySQL Database	This database is optional and is used required when extensive logging is enabled.	Mysql 5.5

Application Layer

Software Component	Description	Versions tested in production with TravelBox
Operating System	Database Server Operating System	RHEL 5.8, CentOS 5
WebService Application server	Used as the container to run the TravelBox Web Services	Tomcat 6, Glassfish community edition 2.1.1,
Java	Used as the Java Virtual Machine for the Application Server	Oracle JDK 1.6.0 update 18,
JaxWS	This is the Java web services library needed to deploy the web services on the Application Server.	Jaxws RI v2.2

Web Layer

Software Component	Description	Versions tested in production with TravelBox
Linux Operating System	Database Server Operating System	RHEL 5.8, CentOS 5
Servlet Engine	Used as the container to run the TravelBox servlets	Tomcat 6
Java	Used as the Java Virtual Machine for the Application Server	Oracle JDK 1.6.0 update 18,
GWT Servlet	The Servlet and components supporting GWT	GWT 2.4

GWT Presentation Layer

Software Component	Description	Versions tested in production with TravelBox
Operating Environment	Web browser is needed on the client to run the GWT Web app.	Any Google Web Toolkit (GWT) supported browser see list of supported browsers

Web Presentation Layer

Software Component	Description	Versions tested in production with TravelBox
Operating Environment	Web browser is needed on the client to run the web layer	IE 8, Firefox 4, Chrome

Desktop Swing App Presentation Layer

Software Component	Description	Versions tested in production with TravelBox
Operating Environment	The base operating system of the client	Windows 2000, Windows XP, Windows 7, Mac OS, Citrix Desktop
Java	Used as the Java Virtual Machine for the Desktop Application. This is installed as part of the Swing app and separate installation or maintenance is not required	Oracle JRE 1.6.0 update 11,

10.5 LICENSE REQUIREMENTS

Oracle database and its options such as real application cluster, diagnostic and tuning packs.

Redhat Linux license.

10.6 SAAS VS. HOSTING VS. ON-SITE OPTION REQUIREMENTS

CodeGen does not provide its own hosting but work with 3rd party hosting providers to facilitates both SaaS and hosting options for clients and act as a single point of contact for the solution.

Clients can also host the solution on their own hardware on-site.

10.7 LIMITATIONS TO VIRTUALIZATION.

There are no limitations to virtualization with regard to web/application servers. From the past experience, relating to performance, it's preferred to have the database servers deployed on physical servers than virtual servers.

Q11. SYSTEM SECURITY ARCHITECTURE

Describe system security architecture (user access, activity logs, storage), archive and purge capabilities, and ability to comply with information security laws (SOX, PCI, CNIL, Safe Harbor requirements).

11.1 SYSTEM SECURITY ARCHITECTURE

Cryptographic Algorithms

TravelBox uses the following Cryptographic algorithm for Secret Key Encryption/Decryption

- pbeWithSHA1AndDESede (JavaTM Cryptography Extension (JCE) Reference Guide 2004)

This algorithm is a symmetric key algorithm which uses a Salt and iteration count to derrive a key out of all the possible keys for a particular pass phrase. The Derrived Key is then used to Encrypt the Ciphertext using the Triple DES algorithm. The algorithm is an extension of the PBES1 Algorithm developed by RSA Laboratories (Laboratories March 25, 1999).

Authentication

Web Services and Java Client Applications

Both Java client applications and exposed web service API use the same mechanism to connect to TBX

Two factor authentication with user ID and password

TravelBox uses two factor authentication schemes

1. Initial authentication for application. The requesting application has to login by providing an application user id and password.
2. Secondary authentication for end users. For certain functions, users must login using their personal credentials, using a user id and password

Initial authentication for application – getAuthToken()

authToken is a token received from the initial authentication. It testifies that the requesting web service and the subsequent ones are authenticated by TravelBox.

The authentication token is generated using a random seed together with the millisecond information for the time that the authentication is done. The generated authentication information is stored in the database which is how it is shared between TBX instances.

The authentication token (***authToken***) needs to be obtained via a web service call, which provides user id and password, to the **Security Service** (Dedicated web service for security related functionality) as shown in Figure 1.

Once the authentication token is obtained, this is passed to **all** subsequent method calls.

The authentication token will expire after the configured timeout after which and JAXRPCException will be thrown when trying to call any method on the any of the security enabled web service. The TransatWeb Client is expected to perform a call to the **Security Service** again to obtain a new authentication token.

getAuthToken() Method Signature

Security Service provides getAuthToken() method to get the authentication token.

New method is added through Travel Box API to get the Authentication token for users. Initially user has to get the Authentication Key and pass it to every security enabled web service method.

The username, password should be passed as the first two parameters for this method. The domain name is optional (use null)

*public CGError **getAuthToken**(String username, String password, String domain) throws Remote Exception*

CGError.getMsg() contains the Authentication key. It is recommended to use this method after enabling the SSL configuration. Please refer section 2.1.2 to see details on how to enable/disable the TBX security behaviour and for other relevant parameter configurations for security

CGError.returnData will contain LoginDetail object which contains general information about the user and his login.

```
public class LoginDetail
{
   private int logins;//Number of logins for the user
   private int status;
   private int userId;
   private String username;
   private String realName;
   private String company;
   private String message;
   private String session; //Authentication key
}
```

Above status can be any of the following value

```
public static final int SUCCESS = 1;
public static final int ERROR = -1;
public final static int SUCCESS_LOGIN = 100;
public final static int SUCCESS_MULTIPLE_LOGINS = 101;
public final static int ERROR_LOGIN_NOT_ALLOWED = -100;
public final static int ERROR_LOGIN_MULTIPLES = -101;
public final static int ERROR_LOGIN_INVALID = -102;
public final static int ERROR_EXCEED_ALLOWED_CONCURRENT_LOGINS = -103;
public final static int ERROR_LOGINS_DISABLED = -104;
public final static int ERROR_LOGINS_PASSWORD_EXPIRED = -105;
```

Every ***X*** minute (decided by user) the authentication key should be refreshed. (The refresh period should be within the limit of session refresh time setup under AUTH_TOKEN_TIMEOUT_IN_MINUTES)

*public CGError **refreshAuthKey**(String authKey, String username)*

CGError.getMsg() contains the new Authentication key.

Also to end the user login session releaseAuthToken() method should be called

CGError releaseAuthToken(String authToken, String user) throws RemoteException ;

The sequence diagram below describes the mechanism to obtain the authentication token

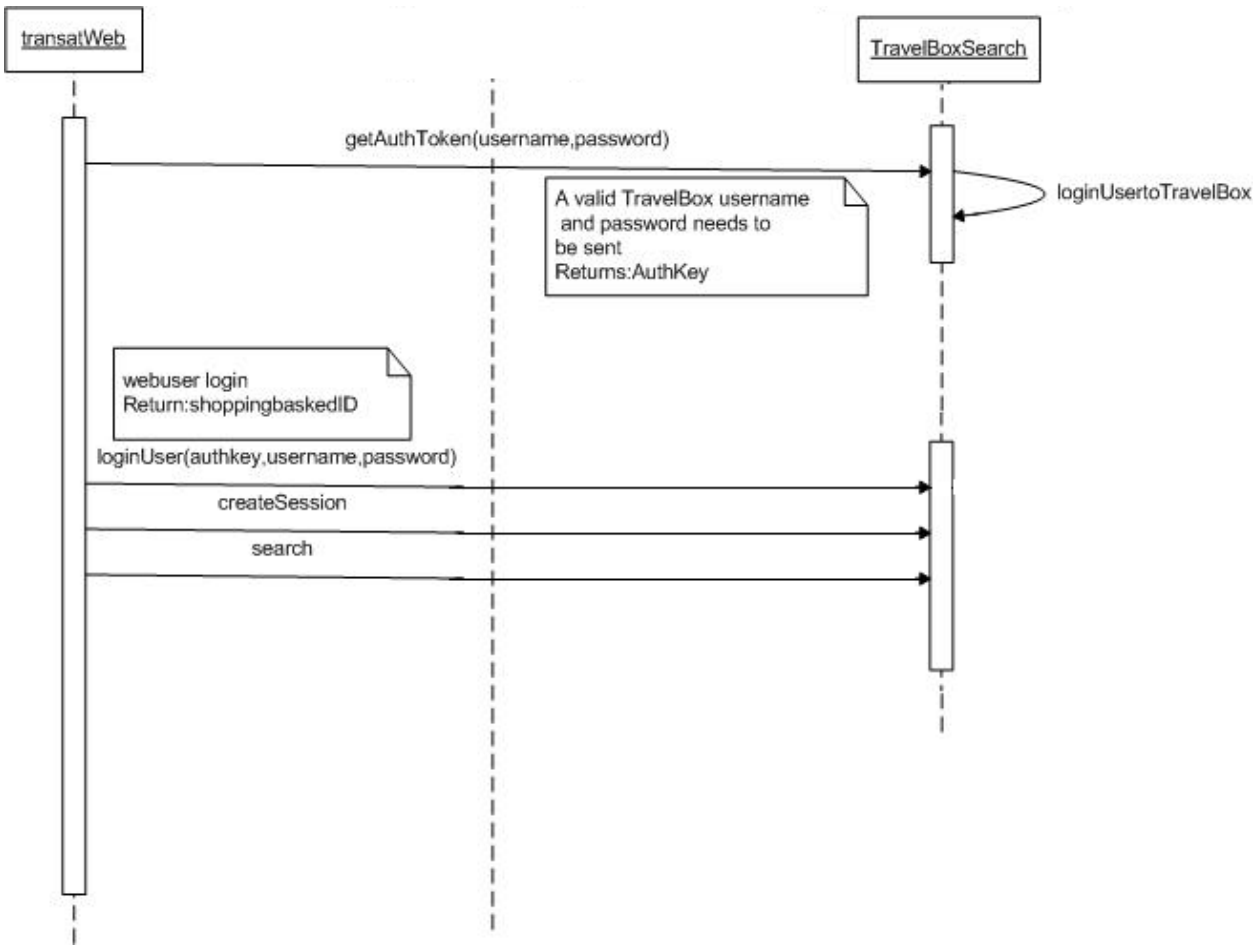


Figure 1 Sequence Diagram showing authentication (TravelBoxSearch needs to be changed to SecurityService)

Secondary authentication for end users - loginUser()

The loginUser() method given in the TravelBoxSearch API is for authenticating a “Web” user or a Reservation Manager user.

Web user login is separate from the retrieval of the authentication token as described in previous section, however the web user login method requires the authentication token, which basically testify that the requesting web service client; the application (web or RM, not the customer), was initially authenticated.

*CGError returnValue = **TravelBoxSearch.loginUser**(authToken, webSiteId , username, password, "EN");*

String shoppingBasketId = returnValue.getMsg();

In this process it is the web user id and password which is used, if a client is only registered via one website this will in effect be the client user id/password

Security Implementation

The following configuration parameters have been added related to security implementation. The configuration should be added against GENERAL Service. Also adding SECURITY_ENABLED against each service user should be able to enable/disable security per service

SECURITY_ENABLED	To enable/disable security
MAX_CONCURRENT_USERS	Max concurrent users allowed in the system
AUTH_TOKEN_TIMEOUT_IN_MINUTES	Authentication token timeout
LAST_TOKEN_TIME_ALLOWANCE_IN_MINUTES	The time system allow last token to be used after getting a new token
SECURITY_BYPASS_TOKENS*	Comma separated list of Security bypass tokens
SECURITY_BYPASS_USERS*	Comma separated list of Security bypass users
SECURITY_BYPASS_HOSTS*	Comma separated list of Security bypass hosts (client machine host name)

*All three parameters will be validated to bypass the security.

Methods Authentication

Please refer TravelBox API documentation for methods that require previous authentication

Database

The database does not hold any encryption keys for transmission as per 3.1 below. The database will hold encrypted data as mentioned in section 3.2. Anyone with access to the database will only be able to see encrypted data for the data classes mentioned in section 3.2.

Database access for the database administration and for the TravelBox application is to be protected by the company policy on DBA access and file system security respectively

Encryption and Sensitive Data

Encryption in login process

Transmission of Username (uses SSL)

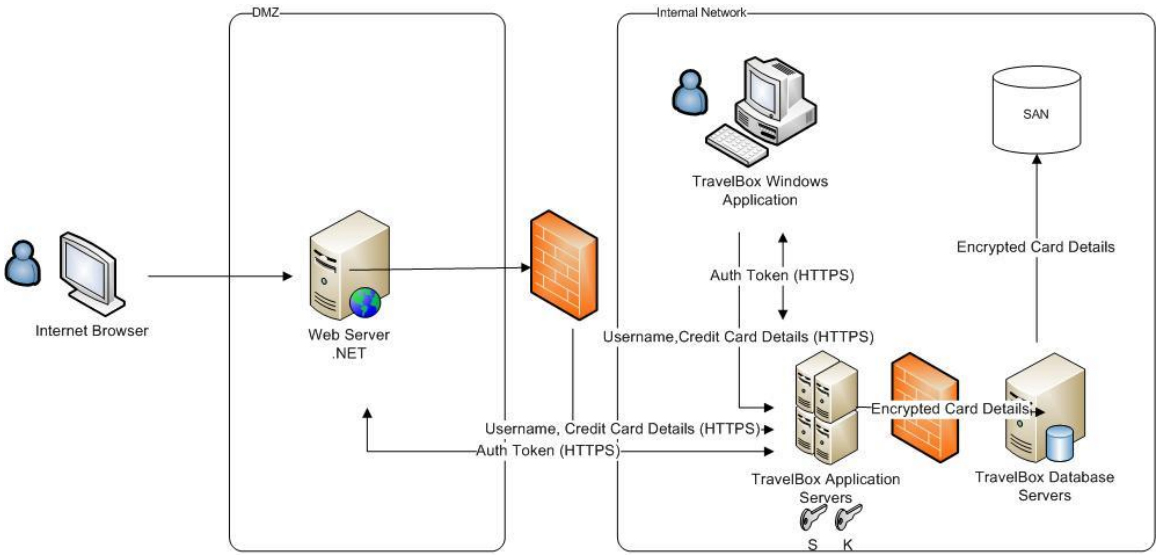
The username is the TravelBox username that is setup using the Administrator module for each user that has authority to use the TravelBox application. For the web application a single user is setup with a special username that allows TravelBox to recognize requests coming from the Web Layer. The username that is keyed in by the user when authenticating on the Java Windows application or the username that is sent by the Web application is sent by using the HTTPS URL of the WebService. The application server hosting the web service stores the certificate that is used for the SSL tunnel.

Obtaining the Authentication Token (uses SSL)

The authentication token is obtained by invoking a API call on the TravelBox web service and is a session key that is then used by the caller for all of the next API calls. The HTTPS URL of the Web Service should be used to perform this API call.

The authentication token will be time limited and a separate API call is provided to refresh the authentication token which will again be performed using HTTPS URL.

The following diagram shows where the above data is transmitted and where the keys reside when the application is not in a running state. When the application is in the running state the key K will also reside in wrapped form in the memory on the TravelBox Application Servers.



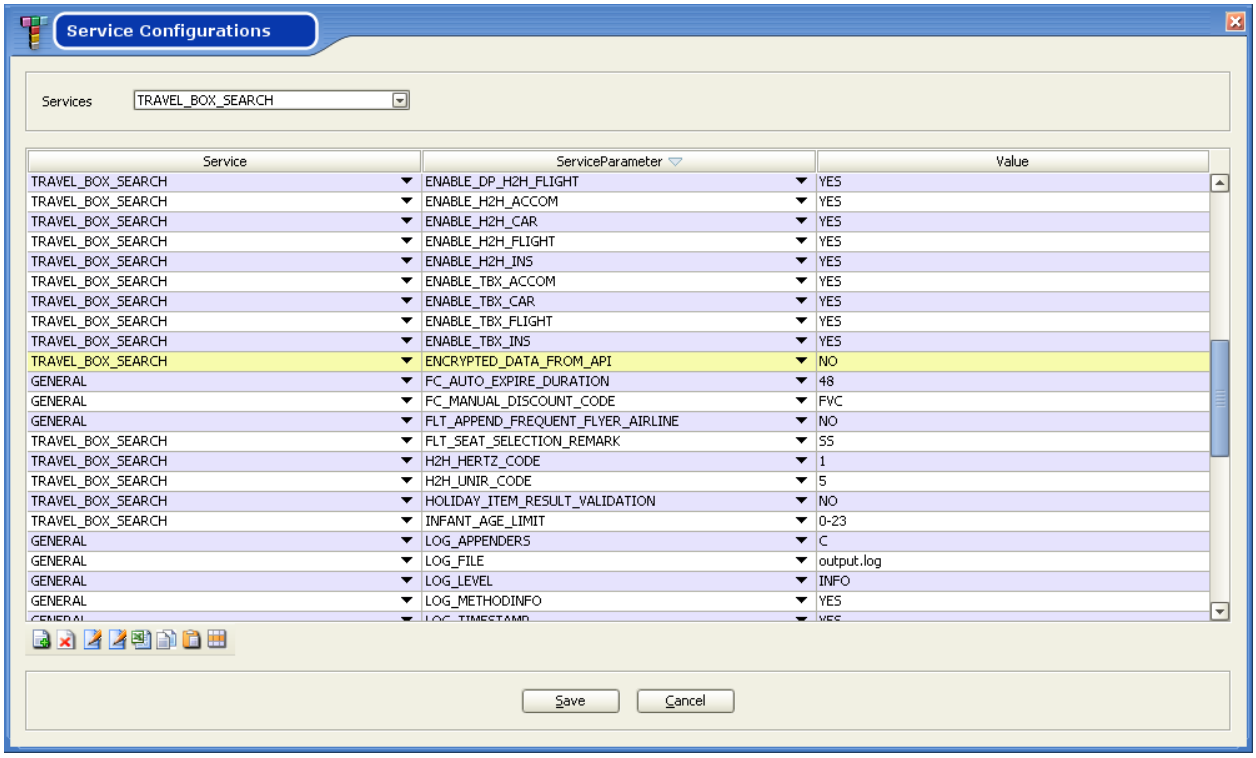
Data Storage

Encrypted Data

Even though encryption is not necessary for transmission since channel is encrypted (SSL) TravelBox client can still send data encrypted (This is to support backward compatibility) The following configuration parameter is used to enable/disable encryption of data through API

ENCRYPTED_DATA_FROM_API (Value YES/NO)

This should be added as a service parameter configuration under TravelBox Search service as shown below



Note: Even if security is enabled or disabled the data is saved encrypted in the database it'll only be encrypted/decrypted when transferred

Storing of Credit Card Details (uses pbeWithSHA1AndDESede passphrase K, and Salt S)

The following Credit Card details are stored in the TravelBox Database encrypted.

- Card Holder Name
- Masked Card Number (first and last 4 digits, middle 8 digits are replaced with X)

The following data is identified as having a protection level of the highest order and stored encrypted.

- Username/Password
- Bank Account Numbers of Company/Division

Data in clear

The following data is identified as having a secondary protection level and stored in clear in a secure database. Secure database is meant to be the Oracle database which has been secured according to the Oracle security guidelines

- Client Information
- Booking Data
- Supplier Addresses
- Contract details
- Invoices & other Documents

The following data is identified as having the lowest protection level and protected at the OS level (Linux security + firewalls) from modification, however these are world readable

- Hotel Descriptions
- Images

Encryption during Transport

Transmission of Credit Card Details (uses SSL)

The HTTPS URL of the Web Service should be used when the following data is transmitted between the Web Layer and the TravelBox application server layer, or the TravelBox Windows Application and the TravelBox application server layer.

- Card Holder Name
- Credit Card Number
- Security Code (or CVV2 Number)
- Expiration Date

Key Management

Key	Stored	Who has access
Application Server Certificate	Application Server key store	Application server key store user
K	File on Application Server	Application Server program Linux OS user that is created to run the application server and root user on application server
S	CodeGen supplied library. A java archive for the java application server	Developers of the Java library

Table 1 Access to Keys

Changing of Keys

Application Server Certificate

This is used when encrypting the transmitted data and hence any change of the certificate can be done by the user with access to the application server key store. The password for the key store needs to be physically keyed in when changing the certificate.

Please note that CG is further investigating to resolve Java trusted store not functioning with Java 1.6

K

Change by invoking a Java utility program that has the same privileges as the Application server. All stored credit card holder names will be decrypted using the old key and encrypted and stored using the new key. The old key will be stored in the audit log which is generated at the same location as the key file.

The root user of the Application server or the user with access to the application server Linux Operating System account will need to physically login by typing their username and password to invoke the utility program. The user will also need to have been supplied with the library containing the new salt **S** as it will be used by the utility program.

The key will be changed periodically (at least annually) and as deemed necessary by the Organization using TravelBox.

S

The library including S will be updated to coincide with the changing of K above and the previous version of the library kept as a zipped copy on the application server directory.

Authorization

Authorization for each functionality (permission levels) can be defined using TravelBox Administrator module and these permissions can be attached to different user groups

Audit Trails

Audit trails of which user was logged into the system at what time will be available in a database table

Logs of user activity will be written with timestamp for each webservice accessed

All modifications/deletions with details about "who modified what when" are recorded in a separate security protected database which cannot be modified using the webservices

As specified in bug 333 CG will provide a user interface to display the audit logs

Monitoring

TravelBox will log every user action with the timestamp, authentication token, session id, date/time, elapsed time, host address and host name.

Also every log entry will be prefixed with above parameters as follows for normal log formatter (Which can be configured by putting F (File) or C (Console) as LOG_APPENDER)

#SSCKYR20090213230111812#UI42#IP192.168.0.39#HNdinesh~ tax Products size :::3

Also above parameters will be logged as XML if the formatter is setup as XML log formatter as follows. And the log message(In this case Hertz request) will be put into a CDATA section.

<record><session>BWJN20090213225842159</session><userid>42</userid><username>cg</username><hostip>192.168.0.39</hostip><hostname>dinesh</hostname><date>2009-2-13T22:59:12:352-Asia/Colombo</date><millis>1234546152352</millis><sequence>39665</sequence>

<logger>tbx.HH_HERTZ</logger><level>INFO</level><class>it.CodeGen.logging.H2hCallLogger</class><method>logRequest</method><file>H2hCallLogger.java:184</file><thread>33</thread>

```
<message><![CDATA[<OTA_VehResRQ Version="1.008" xmlns="http://www.opentravel.org/OTA/2003/05">
 <POS>
  <Source AgentDutyCode="M13T21R18S9" ISOCountry="CA" PseudoCityCode="9C5C">
   <RequestorID ID="T244" Type="4">
    <CompanyName Code="CP" CodeContext="hmbu"/>
   </RequestorID>
  </Source>
  <Source>
   <RequestorID ID="67730191" Type="5"/>
  </Source>
 </POS>
```

```
 <VehResRQCore>
  <VehRentalCore PickUpDateTime="2009-03-19T10:00:42" ReturnDateTime="2009-03-20T10:00:42">
   <PickUpLocation LocationCode="NCE"/>
   <ReturnLocation LocationCode="NCE"/>
  </VehRentalCore>
  <Customer>
   <Primary>
    <PersonName>
     <GivenName>Ado</GivenName>
     <Surname>Ado</Surname>
    </PersonName>
    <Telephone PhoneNumber="2522555" PhoneTechType="1"/>
    <Email>XXsanjayak@CodeGen.net</Email>
   </Primary>
  </Customer>
 </VehResRQCore>
 <VehResRQInfo>
  <RentalPaymentPref>
   <Voucher SeriesCode="184"/>
  </RentalPaymentPref>
  <Reference Type="16" ID="4FM5T522L416703-2501"/>
 </VehResRQInfo>
</OTA_VehResRQ>]]</message></record>
```

All the H2H calls will be logged into the database with above info and log file name and start/end position for the request and response position

To enable collection of above information, it is required to receive following Http headers with relevant values.

"HOST_NAME"

"HOST_ADDRESS"

"GATEWAY_ADDRESS"

"USER_NAME"

"USER_ID"

"METHOD_NAME";

"AUTH_TOKEN"

"SERVICE"

"SESSION_ID"

"WEB_SESSION_ID"

Additionally all the above logs which was logged into the database, will be available to view from the TravelBox Administrator module User menue

Bibliography

JavaTM Cryptography Extension (JCE) Reference Guide. Jan 29, 2004 . http://java.sun.com/j2se/1.5.0/docs/guide/security/jce/JCERefGuide.html#PBE (accessed Sept 22, 2008).

Laboratories, RSA. *PKCS #1 v2.1: RSA Cryptography Standard.* June 14, 2002.

Laboratories, RSA. "RSA Data Security, Inc. Public-Key Cryptography Standards (PKCS)." March 25, 1999.

11.2 ABILITY TO COMPLY WITH INFORMATION SECURITY LAWS (SOX, PCI, CNIL, SAFE HARBOR REQUIREMENTS).

PCI Compliance

1. TravelBox does not store or process customer's card information. It only captures and transmits them directly to the relevant payment gateway systems for processing. Hence, TravelBox adheres to the PCI DSS requirements relevant to the capturing and transmitting of sensitive information.

2. *The Report On Compliance supplied by CodeGen for TravelBox is attached separately to this main document.* Since TravelBox doesn't store credit card information on its databases, process cards and

since CodeGen does not host the servers in-house; only the application section is relevant for CodeGen in this document. Our recommended hosting providers and payment gateways are all PCI-DSS compliant and have regular tests being performed in their systems.

3. To be compliant with most other standards in the industry, TravelBox has also implemented many such features into its design and to the functionality offered. For example, all database modifications (insert, update, delete) are logged in the database for comprehensive auditing purposes.

4. Since TravelBox only captures and transmits the sensitive information without storing or processing them, TravelBox adheres to the PCI DSS requirements relevant to the capturing and transmitting of sensitive information. All our third party systems that this information is sent are PCI DSS compliant.

CodeGen is PCI DSS compliant based on set of guidelines provided by previous/existing client and will adhere to all guidelines as implemented at client's request. If these guidelines are changed by the body CodeGen will assist and amend these accordingly BUT it cannot "police" and be responsible for the monitoring of any changes to the guidelines or legislation which may affect the client. BUT it will assist in every way to implement any changes as requested/required by a client to adhere to any new legislation

Q12. GLOBALIZATION OPTIONS

Describe globalization options supported including multiple-language, localization, multiple-currency, multiple-site, time zones, etc.

12.1 MULTI LANGUAGE

TravelBox supports content i.e. product service parameter headings (e.g. room types etc.) and product service descriptions in multiple languages. As long as language drivers are available TravelBox can support any language although input can only be handled left to right. Previously the TravelBox thin client has also been deployed in French and Danish.

12. 2 LOCALISATION

TravelBox can support multiple global offices from a single instance, with use of multiple company and division set-up within the business architecture it is possible to define many localisation variations including (but not restricted to); government taxes, regulatory documentation generation, variations in business rules etc.

12.3 MULTIPLE CURRENCIES

WDW will be able to set-up and manage the following currency tables within TravelBox either manually or it is also possible to integrate with a currency provider or other internal system;

- Contract to selling currency – used at time of order to calculate selling price.
- Selling currency to base currency – used at time of order to calculate provisional revenue
- Variable currency (contract to payment currency) – used at time of payment to vendor to calculate accurate liability

The system also supports forward buying currencies.

12.4 MULTIPLE SITE

With TravelBox operating completely on web services there is no limitation to the number of multiple sites operating on a single instance of TravelBox.

Q13. SYSTEM PERFORMANCE METRICS

Describe system performance metrics (normal, peak load rates, recovery time) and reliability options (high availability, load balancing, disaster recovery, etc.).

13.1 PERFORMANCE METRICS (NORMAL, PEAK LOAD RATES, RECOVERY TIME)

Test No	Test	MAX Response time (secs)	Average Response time (secs)
1	Package Search (wide search)	5	3
2	Package Search (Narrow search)	2	1
3	Flight Search (3 Results)	10	7
4	Hotel Only Search	5	3
5	Wide Search without availability	5	3

**** Times given above are only valid provided the criteria given below are met, and while all hardware is performing at less than 80% of their maximum stated performance. Response times does not take into account network latency**

13.2 CONDITIONS UNDER TEST

Test No.	Description
1	*Reservation Manager Module*: Select only the date and number of passengers for the package. Click on search button on Package Search screen. This is the response time to produce the first result on the Web Service Server. Valid packages for the period should be less than 100
2	*Reservation Manager Module* : Enter package code. Select date and number of passengers for the package. Click on search button on Package Search screen. This is the response time to produce the first result on the Web Service Server. Valid packages for the period should be less than 100
3	*Reservation Manager module* : Enter Route, dates, No. of passengers. Click search on Flight Search screen. Number of sectors less than or equal to 2. Number of contracts for the selected route less than 20. Search without availability. This is the response time to produce the first three results on the Web Service Server.
4	*Reservation Manager module* : Select new Booking, Open Hotel search screen. Enter City to search hotel. Select room wise search. Enter passenger details and click on Search. Time is for first result on the Web Service Server. Number of rooms should be less than 5. Stay period should be less than 10 days. Number of contracts for selected city is less than 20 and all loaded contract less than 200. Searches are done without 3rd party Hotel Beds.
5	*Reservation Manager module* : Select new Booking, Open Wide search screen. Enter departure date, 2 adults , destination city code and click on Search. Time is for first result on the Web Service Server. Searches are without availability. In the Wide Search configuration following values need to be less than the indicated. Flight Requests Processed (FR) 3 Candidates Processed (CP) 11 Result Count (RC) 10 CRS Availibility Hit Count (CRH) 6
All Tests	Each of the above mentioned tests are carried individually in isolation without any other load on the system.

13.3 RELIABILITY OPTIONS (HIGH AVAILABILITY, LOAD BALANCING, DISASTER RECOVERY, ETC.).

As shown on the hardware architecture diagram TravelBox could be deployed with high availability achieved through clustering, client side load balancing using a layer 7 load balancer and disaster recovery which uses Oracle data guard for data synchronization between primary and standby site.

These configurations are already being used by our existing clients.

Q14. THIRD PARTY SYSTEMS

List third-party systems with which you support integration (fulfillment systems, external provider systems, etc.) and how open are the APIs for sending and receiving information.

14.1 AVAILABLE THIRD PARTY SYSTEMS (EXCLUDING PROCUREMENT)

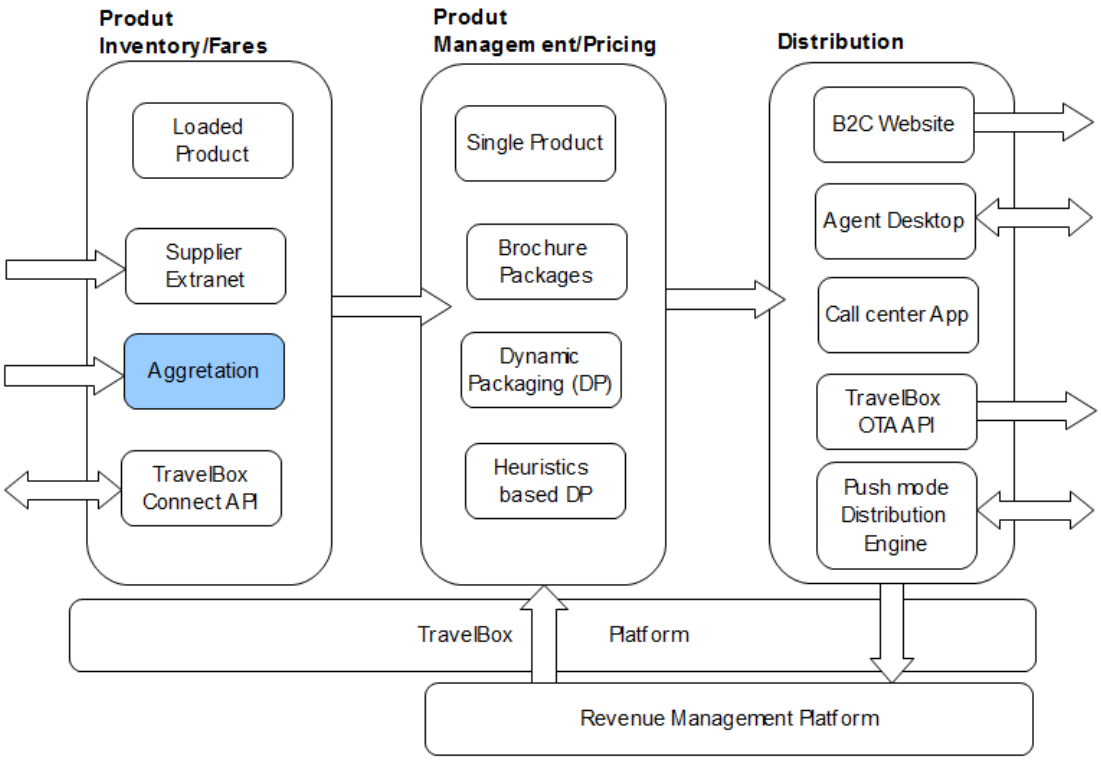
Many services can be integrated with TravelBox, some of the existing ones are listed below, many others including CMS, CRM and Accounting services are client specific.

MISCELLANEOUS	Post Code Anywhere	✔		
	Camper GDS		✔	
	Europaeski		✔	
	ATS Pacific		✔	

14.2 API CAPABILITIES

TravelBox is built on open standards such as SOAP, WSDL and provide a variety of interfaces from EDI to XML and can be interfaced with any third party platform with minimum effort. This will enable development of “surround systems” that are separate to TravelBox reservation system but integrated with TravelBox platform via XML messaging or other interfaces as required.

With TravelBox Web Services you can take advantage in order to effectively connect your infrastructure, integrating all of the people, processes, and information in your company. By having flexible SOA (Service Orientated Architecture) connections between services, and throughout your environment, you can take an existing business process and deliver it without much effort through a different business channel. You can even connect to external partners outside your firewall in a secure way.



TravelBox Integration Architecture

Clients can connect to internal, external systems in real time or as and when required to effectively communicate information or data across contents.

To deliver products, CodeGen has developed a set of Gateways, one for each product type which connects seamlessly to external 3rd party systems to pull down inventory and make reservations. The gateways can be connected to any number of 3rd party providers for any product range in real time for pricing, booking, content which can be displayed with your own inventory and products. Once a booking is made on the third party system, TravelBox creates the same under one booking 'Super PNR' with its own unique booking ID/Number.

Any types or number of items could be stored under one Super PNR. All allowable amendments and changes could be done directly from the web minimising the time taken for creating and managing a booking.

Through H2H links (via API), the client can seamlessly combine their own inventory and contracts with third party products and services in real-time, through one single platform.

Selling limits and sales controls can quickly and easily be applied according to business rules and applied across the platform. TravelBox supports flexibility in terms of how inventory can be allocated to different markets, customer types and distribution channels. Inventory is dynamically handled in 100% real-time, as are price changes, which enables the business to immediately react to market trends and provides the crucial ability to maintain a competitive edge.

Q15. REPORTS AND DATA

Describe system-defined reports and access to data for user-defined/custom-built reports.

15.1 PRE-DEFINED REPORTS

TravelBox does provide a dedicated Reports module which has some pre-defined reports, these reports are available to run in real time and / or can be scheduled to run by WDW. Report service types include;

- Sales
- Admin
- BSP
- Finance
- Stopsales
- Tariff
- Audit

Many other modules also provide inbuilt reports including;

- Internal Queues

- Order status queues
- User queues
- System process queues
- Aviation queues
- Finance queues

- Reservations Manager – real time order reports
- GDS Queues – schedule change and PNR management queues
- All Product Inventory Manager Modules – contract status reports
- Document Repository – document generation reports and dispatch status including failures
- Administrator Module – real time system usage, user reports, job scheduler, third party monitoring reports.

TravelBox also provides a comprehensive set of data views which can be extracted and utilised with a third party report writing tool. CodeGen are currently working to embed Crystal Reports which will shortly be available.

15.2 ACCESS TO DATA

CodeGen are currently working to embed Crystal Reports which will shortly be available, we have also developed a client specific Business Information web interface.

Q16. THIRD PARTY PROCUREMENT SYSTEMS

Describe system integration with third-party procurement systems for air, car, and train, including any limitations with regard to availability look-ups, pricing and booking.

16.1 AVAILABLE THIRD PARTY PROCUREMENT SYSTEMS

Category	H2H/GDS System	Available	Need Small Developments	Need Full Developments
ACCOMODATION	Allied Tipro		✔	
	Jonview		✔	
	Bonotel		✔	
	Welcome USA		✔	
	Travco		✔	
	Amadeus Hotels		✔	
	Calypso			✔
	HotelBeds	✔		
	Jonview		✔	
	Tourico	✔		
	Sun Hotels	✔		
	Pegasus		✔	
	Rate Tiger (CM)		✔	
	TravelClick (CM)		✔	
	Novasol		✔	
	Reserveit		✔	
	ATS Pacific		✔	

	HBSi	✔		
FLIGHTS	Amadeus	✔		
	Galileo	✔		
	Worldspan		✔	
	Sabre		✔	
	Navitaire		✔	
	Multicom (Low cost Europe)	✔		
	Viva Aerobus		✔	
	Travelfusion		✔	
CAR HIRE	Hertz		✔	
	Amadeus Cars		✔	
	Britz			✔
	HolidayAutos		✔	
	Dollar (Tour Direct)		✔	
	ATS Pacific		✔	
	CarTrawler		✔	
CRUISES	P&O (via CCS)	✔		
	Cunard (via CCS)	✔		
	Princess Cruises (via CCS)	✔		
	Ocean Village (via CCS)	✔		
	Royal Caribbean (Via RCCL API)	✔		
	Celebrity Cruises (via RCCL API)	✔		
	Azamara (via RCCL API)	✔		

	Costa	✔		
	Carnival USA (IP)			✔
TRANSFERS	ATS Pacific		✔	
	Holiday Taxis			✔
INSURANCE	Portruff & Smith		✔	

Q17. COMMERCIAL / PRICING PROPOSAL

Describe system pricing structure (by user, server, transaction volume, etc.) and include a matrix for actual price calculation for each (real figures, US dollars).

17.1 TRANSACTION MODEL

CodeGen Ltd. propose a transactional based commercial model to deploy and maintain TravelBox Technology for WDW. There will be a one-time only signing on fee and a minimum transaction threshold (minimum annual payment) per annum which is adjusted against the transaction fees. Transaction fees are charged per person per order "PPPO" and only one fee category will be charged per person i.e. fees are not accumulative, order will be classified within one order fee category according to the product combinations defined in the table below;

One off signing fee for Global Enterprise Platform	**USD $375,000**
Cruise inclusive order i.e. cruise + any product(s)	**USD $1.75 PPPO**
Flight inclusive order i.e. flight + any product(s) excluding cruise	**USD $1.25 PPPO**
Accommodation inclusive order i.e. accommodation + any product(s) excluding flight or cruise	**USD $0.50 PPPO**
Other product orders i.e. any product(s) excluding flight, cruise or accommodation	**USD $0.25 PPPO**
Minimum Annual Payment Adjusted against transaction fees paid	**USD $650,000 per annum**

Conditions all Transaction Models

1. Five Year Term
2. Minimum will be the amount paid annually to cover the cost of Support, Licensing and TravelBox managed services but is adjusted against the transaction income.
3. Inclusive of all TravelBox Modules
4. Inclusive of all Global User Licenses
5. Inclusive of 365(6)/24/7 Support
6. For Revenue Generating Passengers (RGP) only not quotes or options.
7. Payments – Sign on fee upon signature minimum commitment paid monthly in advance over each twelve month period.

17.2 OTHER CHARGES AND SERVICES

TravelBox Installation Fees for all Models

The first installation of TravelBox (per one instance) is at **USD 12,000 Per Installation** (Not including 3rd party software installation such as Oracle, which will be quoted separately if required). In most cases the same installation will be updated during the model office phase prior to live and production. Post Model office and development phases, additional instances (Test, UAT, Staging and Disaster Recovery) and installations will each require an additional installation fee (as above). The number of environments will vary from client to client. The **minimum** will be **Test and Production** i.e. two instances and installations.

Full , Hosting, Deployment & Managed Services

CodeGen works closely with Rackspace & UK Fast to provide hardware and hosting services as required, but will collaborate with any alternative internal or external provider, as requested by the client.

CodeGen will work closely with the client's IT team to ascertain existing and future capacity planning.

CodeGen will monitor, manage and assist with all off or on-site hosting from its 24/7 support centre. *Please see section "System Architecture" for further information and Set-up.*

Third Party Software Requirements			
Software	**Note**	**Installation**	**Support Fees**
Operating System- Red Linux		By client or CodeGen can provide this service at an extra cost **$125.00** per hour	Client will need to subscribe to support to obtain first line support updates etc
Soap Stack, Glassfish or Web Logic	Glassfish is provided at no charge. CodeGen can provide competitive prices for Web Logic when purchased with TravelBox	By client or CodeGen can provide this service at an extra cost **$225.00** per hour	Client will need to subscribe to support to obtain first line support & updates etc
Database- Oracle	CodeGen can provide competitive prices when purchased with TravelBox	By client or CodeGen can provide this service at an extra cost of **$250.00** per hour	Client will need to subscribe to support to obtain first line support & updates etc
Other	Any other third party software or applications required in the future will be the sole responsibility of the client.	Any installation charges to be advised on request	Client will need to subscribe to support to obtain first line support & updates etc

Fixed and Additional Support Services	
The General support is handled by our Sri Lankan, support centre and service levels are based on the agreed commercial terms	
Other Support Services that may be required by Client	
API Support	API support may be required if a client wants to provide TravelBox Web Services / XML feeds to third parties for integration to their systems. Any associated services and documents do not fall under this Support Agreement. Any work undertaken by CodeGen to provide these services will be charged at **$175.00** Per Hour or part there-of.
E- Commerce Support	Will be provided based on the activity and the skill required. These services will be charged at **$125.00** Per Hour or part there-of.

Gap or Business Analysis	
Daily charge Per CodeGen Attendee	**Other Charges**
$1200.00	Plus Travelling (air tickets, local taxis, train fees), Accommodation charged at cost, plus Daily Incidentals at **$110.00** per person per day.
To Be Agreed	Prior to Gap or Business Analysis there will be an amount agreed for the creation of the Software Specification Requirements (SRS) Document. This is required to be paid in advance of the activity.

Training	
Daily charge Per CodeGen Attendee	**Other Charges**
$975.00	Plus Travelling (air tickets, local taxis, train fees), Accommodation charged at cost plus Daily Incidentals at **$110.00** per person per day.

Customisation & Development Services	
CodeGen has a team of application and E-commerce developers to provide full “turn Key” services as required. The standard hourly charge for these services is $85.00. The following discounts will apply	
Thresholds (hours)	**Discount levels**
1,000 or above	10%
10,000 or above	20%
20,000 or above	30%

Payment terms are 50% due on signing of Job sheet for "go ahead", and 50% due on delivery

Q18. CUSTOMERS AND REFERENCES

Do you have large multi-national clients that will serve as a reference?

18.1 REFERENCES

Please find below three existing client references;

Virgin Holidays

Andrew Knott

Director of IT

Email: **Andrew.knott@virginholidays.com**

Monarch Group

Ian Hailes

Head of Product & Commercial

Email: **ihailes@cosmos.co.uk**

Emirates Group

Fabio Prestijacopo

Vice President – Destination & Leisure Management

Email: **fabio.prestijacopo@emirates.com**

18.2 EXISTING CUSTOMERS

Customer Name	Country	Adopted Functionality	Platform	Implementation
ANWB	Holland	Full	Enterprise	Across 2009
Avios (The Mileage Company)	UK	Full	Enterprise	January 2012
Beachcomber Tours	UK	Full	Standard	March 2006
Clipper Vacations	USA	Full	Enterprise	December 2010
Circle Solution	UK	Full	Standard	August 2006
Cosmos Holidays	UK	Full	Enterprise	November 2013
Discover the World	UK	Full	Enterprise	December 2007
Emirates Group	UAE	Full	Enterprise	2014
FDM Travel	Denmark	Full	Enterprise	April 2010
Fiesta Holidays Pvt. Ltd	Australia	Full	Standard	February 2005
Goway Travel	Canada	Full	Enterprise	November 2007
Goway	Australia	Full	Enterprise	November 2007
MainStreet USA	UK	Part	Standard	August 2004
Monarch Group	UK	Full	Enterprise	November 2013
Qantas Holidays	Sydney	Full	Enterprise	July 2007
Saga Holidays	UK	Full	Enterprise	April 2007
Sri Lanka Tourist Board	Sri Lanka	Part	Enterprise	Ongoing

TravelPaths	Ireland	Part	Standard	August 2004
Transat Group plc	Canada	Part	Enterprise	Across 2009
Transat Group plc	France	Full	Enterprise	Summer 2010
Transat Group plc	Mexico	Full	Enterprise	Summer 2010
Tour America	Ireland	Part	Standard	July 2006
Virgin Holidays	UK	Full	Enterprise	November 2007