

TBS | TRAVEL BOOKING SYSTEM

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TRAVEL BOOKING SYSTEM

ACTUAL CONTEXT AND MARKET NEEDS

BUSINESS EVOLUTION

Working with online reservations systems is no longer considered innovative today, as more and more suppliers already have a more or less enhanced reservations system.

Basically, today all major suppliers offer their customers a system to search and book automatically their services.

TODAY MARKET NEEDS


The multitude of suppliers and hence reservations systems raised the complexity on the travel agency/retailer side, which finds it harder and harder to use all these systems and get the best rate.

The stakes are clear, working with more wholesalers/suppliers/GDSes at the same time empowers the large agencies to offer an even greater product variety and availability at the lowest price.

Therefore they must face some major disadvantages:

- Agents must be trained to work with each interface of each wholesaler/supplier
- Necessity to sequentially search in each system, manually select the desired offer among multiple results and make the reservation
- Impossibility for travel agency's affiliates to work with more suppliers at once

Given the complexity of travel business today, a unitary system is useful to integrate at a higher level all the wholesalers, allow the travel agency to control the content, the availability and best price, manage the selling partners and offer them a selling platform and all in an automate fashion, to cut costs and save time.





INTRODUCING TBS

Travel Booking System was born and grown as a complex solution integrating travel services suppliers, focused on content quality, availability, volume, management and automation.

Started from the idea of a comprehensive computer front office reservations system, the project was enriched with mid-back office features in order to create a complete solution and give the travel agency all the tools needed to fully control the business.

TBS represents an advanced front office system which integrates the largest travel services providers on the market (hotel wholesalers, air GDS, cruise, car rental, insurance, transfers, insurance, etc).

Today TBS powers large customers performing several hundreds of bookings per day. It proved to be reliable and mature, getting the job done when large volumes and big business are at stake. The strictness of which the development team and QA treat the implementation makes it a suitable software for such demanding projects.

TBS HIGHLIGHTS

- Search, quote and book on multiple selling channels, resellers, corporation accounts and online sales on different extensions (whitelabel B2B2C), even with credit card payment
 - Comprehensive reservations management
 - Full webservice /API output for maximum freedom in building custom made front office interface
 - Standard reservation XML data export for third party mid back office integration
 - Optimized to work with lots of external suppliers by using parallel processes and multitasking & multithreading, ensuring high-speed operation
 - Unique search results - the system matches the elements replicated into multiple suppliers when necessary (countries, cities, hotels, etc) by joining them into single elements. This ensures coherent searches and uniqueness of elements. When booking, the system wisely selects the wholesaler which is more convenient for the travel agency, based on a set of defined rules
 - Content quality management - the travel agency can sell the hotels as they come from the wholesaler or adjust the quality of the static data stored on local database (descriptions, details, images, facilities), customizing the content that he sells
 - Digital maps to place the hotels and other services together with the surrounding landmarks, with very capable POI and address search
 - Multi lingual interface
 - Flexible payment modes for resellers
 - Credit – the reseller can book within the credit limit
 - Pay later – the reseller can book but the voucher cannot be issued until the reservation is paid and confirmed by the travel agency
 - Credit Card – secure the booking immediately, with CC, using the desired payment gateway
 - Automated management
 - Automatically manages the reservations, keeps track of voids and refunds, cancellation policies
 - Auto cancels the reservations which are due to enter cancellation fee limit, according to setting, with e-mail notification in advance
 - Different levels for mark-up (supplier, market, reseller, promotion)
 - Promotion schemas per different elements and combinations
 - Advanced documents templates manager to allow design of different layouts for documents (vouchers, tickets, proforma invoices, invoices, annexes), ensuring flexibility and adaptability
 - Extract vouchers and proforma invoices into a reseller interface, based on given credentials
 - E-mail alerts and warnings – configure different warning to be sent by e-mail (reservations which are about to be cancelled, communication issues, etc)
 - Advanced reporting tool, both for travel agency and resellers
 - Comprehensive logs which include each transaction and message inside the application, from communication with the wholesalers to booking operations, to put the operator in full control of his business
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BASIC ARCHITECTURE AND CONCEPT

TBS is built on the latest generation kernels and integrates new programming concepts and techniques.

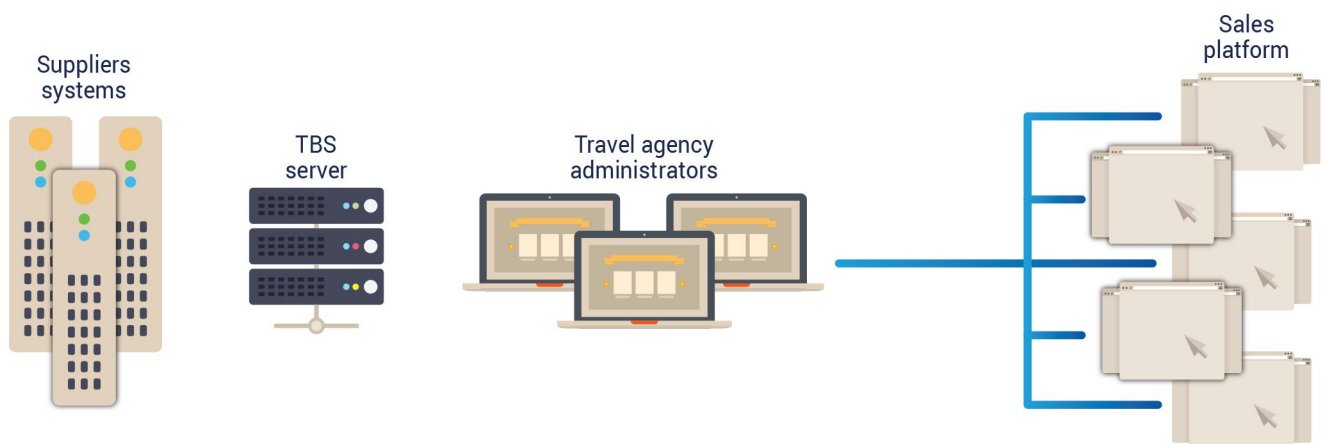
The application runs on a central server which stores the databases and is accessed both by travel agency administrator interface and by resellers users using a web browser, based on user accounts, with no other extra software, over TCP/IP protocol standard Ethernet connection.

Designed with a flexible and modular structure, TBS has its core based on DCS Engine™, a structured and ready to use development framework, consisting of a collection of libraries, module management, user access granting, auto-complete, XML requests, web service, etc.

As a web based software, it has major advantages:

● Accessibility and scalability

● Low cost implementation and maintenance



Accessibility and scalability

The application is accessible virtually from anywhere. Any member whether is an administrator managing the database and mark-ups or a reselling agent searching for hotels, cruises or plane tickets, can access the system based on his credentials from any location, by means of just a computer terminal or mobile device connected to the internet. TBS server Travel agency administrators Suppliers systems Sales platform

Extension of reseller number, adding more users, relocation or any other changes in the structure have no impact in application operation and usage. The architecture adapts to the new structure. The system can accommodate to various changes and grow as much as needed, limited only by central server hardware performance and network bandwidth.

Low cost implementation and maintenance

TBS offers very good TCO, as it runs on server-client architecture and all the software needed to operate the server is open source.

All the clients can access the software over the network, from their terminals, using standard operating systems (e.g. Microsoft Windows®, Linux, Apple OS, etc.) and standard web browsers (e.g. Microsoft Internet Explorer®, Mozilla Firefox, Google Chrome, etc.) or mobile devices (Android, iOS or WP).

All application updates, maintenance operations, routine checks, monitoring are made only on the central server. TBS requires no maintenance on user terminals.



TBS SUPPLIERS AND SERVICES

The system is built on a versatile platform, being able to adapt multiple travel services and suppliers. Currently, TBS works with more than 40 XML providers of different services:

- Hotels
- Flights (GDS and LCC)
- Transfers
- Cruises
- Car rental
- Activities and Tours
- Packages
- Insurance

WHO NEEDS TBS AND HOW CAN IT BE IMPLEMENTED

TBS is designed for travel agencies dealing with several suppliers who want to optimize the reservation process and benefit of best available rates, as well as to extend their travel services sales to a variety of selling channels, both B2B, B2B2C and B2C.

The implementation process has 6 stages:

- Initial presentation of the product, client profiling and assessment, discussion on the client's needs, full project forecast, milestones to fulfill the plan
- Designation of the responsible person on client's staff, to handle the system and communicate with dcs plus team
- Product deployment and full training with the responsible person
- Piloting phase with a reduced number of travel agents
- Discussion over the piloting phase and adjustments, when necessary
- Moving to production

PRODUCT MODULARITY

The structure is modular, functionalities and modules being able to be plugged or unplugged as per client request, in order to perfectly fit the travel agency needs.

This way, the product can address small travel agencies which run with just a few suppliers and distribute the services mainly online on their website or via a few resellers, as well as large travel agencies which work with a larger number of suppliers and services, multiple selling channels, online, corporate, resellers.

The suppliers and services are plug-ins, so they can be added or removed per client request. The client actually builds up the solution according to his business needs.





TBS core engine	The main TBS engine
B2B reseller interface	The reseller front office with reservations management, reports, etc.
B2C whitelabel	The extension of online selling platform, which allows any reseller to open online sales
Suppliers of travel services	Each connection with a supplier is a plug-in which can be added or removed from the system
Payment providers	Each CC payment gateway can be added to the mix
Back-office export	Standard export of reservation data into the back-office application
Webservices API	Full webservice for custom made interaction with TBS core engine

MAINTENANCE AND SUPPORT PROGRAM

Being a complex solution, TBS is fully maintained and supported by dcs plus team, to ensure that the client uses the system at full capacity at all times. The program is composed of the below types of deliverables.

Periodical updates and general product improvements

TBS is a continuously evolving product; it is updated several times a year, with improved functionalities, additional features, etc. These functionalities are in the benefit of the application and represent an advantage for all of its clients.

Examples:

- Improved searching capabilities
- Engine optimizations
- Improved caching to work with several concurrent searches
- Additional information into the reservations list
- New functionality: searching by landmarks on the map
- Show luggage information for flight reservations

Maintenance, help and support, consultancy

Help and support

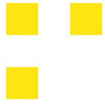
TBS requires monitoring and tracking on both communication ports: suppliers and selling platform. From time to time the suppliers fail to correctly send/receive the messages or wrongly store the records into their system.

Investigations can be performed inside TBS's operations log to build case reports.

The resellers can report inconsistent data, cancellation policies, etc. Investigations inside TBS can be performed to recall the data the reseller received.

dcs plus stays in touch with the supplier's technical representatives in order to understand, solve or transmit supplier's issues.





Maintenance

The system is being permanently monitored by dcs plus team to ensure that all the parameters run within normal ranges. Alerts sent by the system are tracked for smooth operation. Periodically DB maintenance and system maintenance can increase the overall system performance.

Scripts inside TBS automatically transmit e-mail alerts with system internal messages. dcs plus team can help the client take the right decisions and act accordingly.

Updates which are being made by the suppliers, any changes which they make to their systems are immediately analyzed and implemented by dcs plus team to ensure full system compatibility on the newest versions.

Consultancy

Some procedures and operations can be performed in different ways. Some might have a better outcome than others. dcs plus team is available for advice and consultancy on system features and usage and new business opportunities.

Product evolution

TBS has evolved on 2 directions

- Services and suppliers – more and more travel services and suppliers are to be added to the product and are being available for selection by the customers
- Functionalities – the product is continuously evolving, many new functionalities being added on a monthly basis

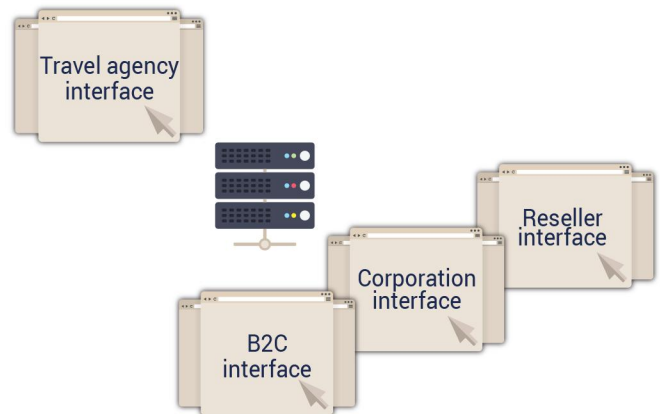


FUNCTIONAL DESCRIPTION

The system has 2 sections:

- Admin interface – the administration part of the system (back-end) offering all the tools to the travel agency to fully control the providers, database, services, prices, reservation and resellers, and extract comprehensive reports. All setups and operations for the travel agency are made under this interface. It basically handles the entire system.

- Selling platform – the selling interfaces, opened to the resellers, corporations and online visitors to search for services, book, manage reservations, issue travel documents, manage invoices from the travel agency and even extract reports.



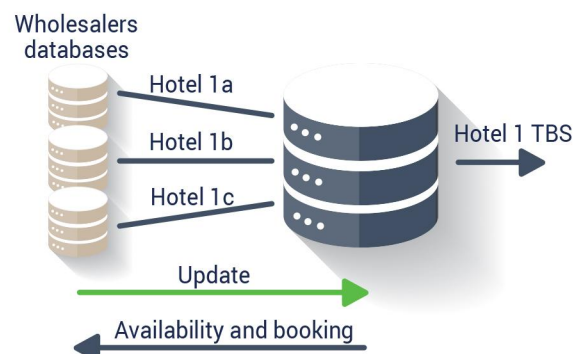
TBS OWN DATABASE

TBS communicates with each of the suppliers systems over the network based on communication protocols (XML files/webservices) extracting the data from their database, in order to build its own database, later used to serve content to the resellers.

- Countries
- Cities
- Locations
- Nationalities
- Hotels
- Other travel units

Unique elements

The elements (like hotels) might be present in more than one wholesaler database. TBS matches (manually and automatically, based on comparison algorithms) each replica of the same element and creates a unique element in its own database which is to be further addressed when searching. This way, when requesting for example hotels in a city, each hotel will be unique, regardless of how many wholesalers have availability for it.



Content management

The travel agency has full control over the content in TBS own database. From managing the name of a hotel/city/location/country/etc to changing the descriptions, images, locations, geocodes, and even add additional information of the static units (hotels, cruise ships, etc.), the travel agency can customize and personalize the content presented on the selling platform.

While working just fine with the elements as they come from the wholesaler, TBS offers this extra possibility to increase the quality of the content.

RESELLERS AND SUPPLIERS MANAGEMENT

Credit and prepayment

TBS manages all the details of a reseller and handles 3 types of accounts:

● Pay later

● Credit

● Credit Card

The system automatically debits the credit limit when booking and reinstates it when the reservation is paid.

On Pay Later, no commitments are required, however the booking will be auto-cancelled if not paid in due time (before CXL)

On Credit Card, the credit card will be debited to secure the booking.

DATA STREAM AND COHERENCE

All data issued inside TBS flows into a single secure and coherent stream, without leaks. No user can manually interfere inside the stream, except by using the controlled inputs. Each phase of the

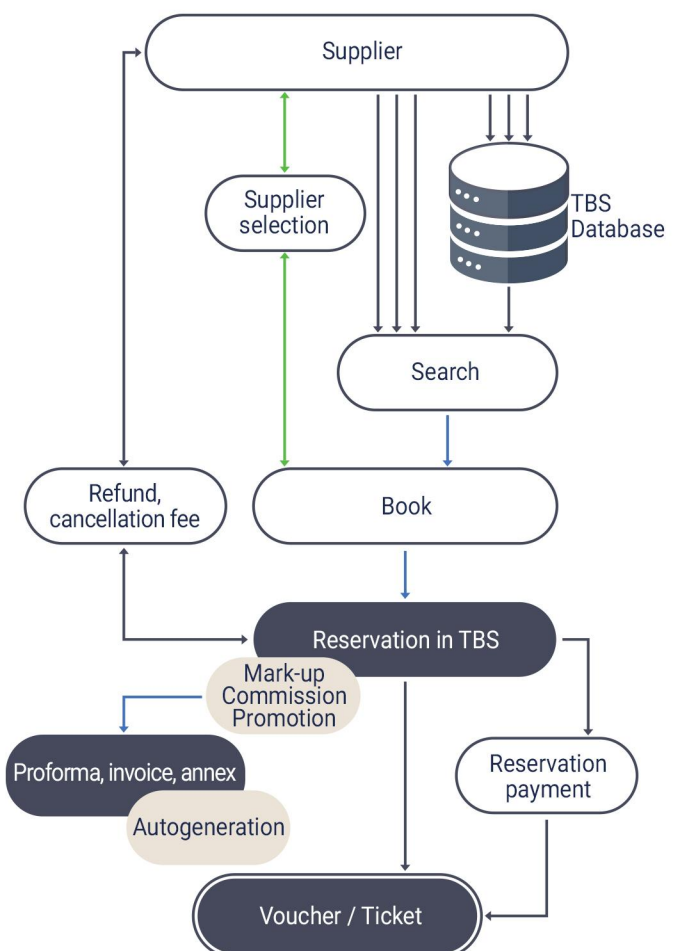
Mark-up and commission

TBS automatically manages all pricing components, starting from the supplier price. It adds mark-up (travel agency fee) and commission (reseller fee).

Mark-ups can be defined for each depth level (supplier, market, reseller, promotion) to ensure setup for any scenario.

Promotions

The travel agency can define its own promotions and rules of applicability. The promotion has a validity period and a set of simple or combined filters for appliance.



Reservations and invoices management

The system manages all the reservations, refunds and penalties and automatically cancels the unpaid reservations due to enter cancellation fee period, if set, but not before sending an e-mail alert.

The reseller can take the proforma invoice and when reservation is ok, it can extract the voucher too, directly from his account.

BACK-OFFICE INTEGRATION

TBS automatically exports all the reservation data via XML protocol, for easy back-office integration. Each transaction on the reservation (issue, refund, penalty, cancellation, etc.) is exported via standard XML, using a very simple structure. Full documentation for integration is provided as well.

SELLING PLATFORM

Parallel search into multiple suppliers

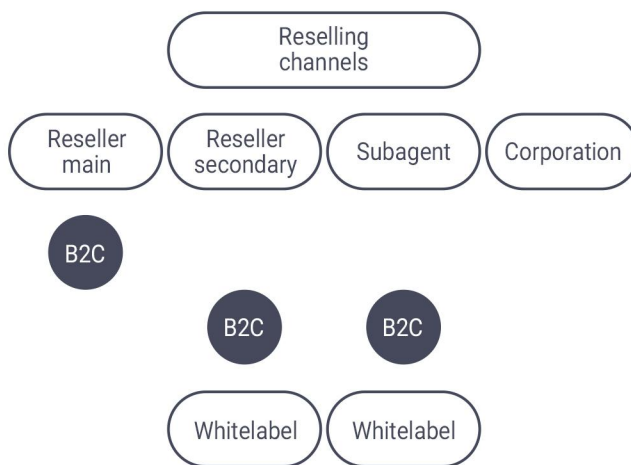
Working with more suppliers at the same time is a challenging task. Each supplier uses a different protocol and each has a different response time and lag.

When working with several suppliers, these differences can affect the overall response time for the resellers and the application may suffer because of the weakest link. In order to minimize this, TBS does not handle the systems sequentially but rather uses multitasking. This means that each supplier has a separate task and does not affect the others.

This way the updates, searches and all other checks can be made in parallel, independent of each other.

When encountering errors, a system fails or responds with lag, it does not affect the overall system. Search results are shown as they are available in each system and no error stops the main process.

The overall response time is not the sum of all response times of the systems but rather is equal to the longest one, ensuring small response time despite the fact that several external systems are interrogated.



Reseller accounts

The resellers login into the selling platform using their credentials from the travel agency. Within this interface they can search, quote and book and then manage their reservations and invoices from the travel agency, take vouchers or send them directly by e-mail.

They can create their own users and set permission levels to access their account, make reports based on their activity, and even manage e-mail alerts according to their specific activity.

Corporation access

Corporations are given special accounts in order to search, book and manage their reservations. Their designated bookers are encouraged to access the interface to browse among multiple offers, find the best result and optimize the overall process, both of travel agency and his side.

Each corporate representative can make reservations and secure the travel service, before payment.

Online sales – B2C on whitelabel


This feature allows the travel agency to sell online on site. Special setup is required for the whitelabel module, for parameters like Online service fee, proforma invoice details, payment details, auto cancellation deadlines, credit card options, online sales reservation special management, etc.

However, the module can be up and running pretty quick.

The online visitor has direct access to search among large database, book, select the payment option, get the voucher and can go on the trip. Everything is very simple for the visitor, with as little effort as possible on travel agency side.

If the traveler chooses to pay with the credit card, he can do it directly on the website, without even contacting the travel agency.

E-mail confirmations and messages are automatically sent to the visitor which can always can access his account and manage his reservations.



The whitelabel can be opened on any website whether travel oriented or not. This allows the TBS client to increase the number of visitors, opening the online sales platform to high rated websites.

Webservices

In order to ensure maximum flexibility on client side, being able to build custom made front office interface or fully customized integration with a website for online sales, webservices have been developed.

With webservices from TBS, the client is able to build his own selling platform and benefit from the advantages of the TBS core functions, keeping and handling together all his suppliers at once.

ADMINISTRATIVE TOOLS

Documents template manager

TBS includes an extensive documents design tool, allowing the travel agency to create multiple layouts for the documents, in order to adapt to resellers and market needs.

The document data can be overlaid on multiple layouts, designed directly in the interface.

A voucher or proforma invoice can look different according to the documents layouts.


E-mail alerts

TBS can send e-mail alerts to the travel agency when certain events are triggered, like:

- Not enough credit (for credit type resellers)
- Wholesaler due date warning
- Reseller reached the next target level
- Error generated by wholesaler XML (communication error)
- Reservation is due to enter Cancellation Policy

Operations log

The system logs all operations, from the internal commands and communication with the resellers to the messages exchanged with the wholesalers. TBS records the date and time, message content and event description. This way the travel agency is always in control of the activity, being able to search into the log at any time.





Reporting tools

The travel agency can define his reporting templates and extract comprehensive reports, depending on the selected source

- Reservations
- Wholesaler data
- Resellers (users, targets, invoices)

The reports are very useful for prediction, when planning long term strategies. The travel agency can use data mining to extract important information related to his business activity.

ABOUT DCS PLUS

● dcs plus is a leading travel technology company, committed to designing and developing enterprise technology solutions for the travel and tourism industry. The company designs and builds adaptable, affordable, and cutting-edge tools and services for travel and tourism professionals. dcs, founded in 2002, operates in 42 markets around the globe with partners worldwide, including Amadeus IT group and Lufthansa City Center.

INTERESTED TO FIND OUT MORE?



+40 (0) 21 320 01 02



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CONTACT

Address: 215 Mihai Bravu Road, 5th floor, District 2, 021323, Bucharest, Romania

Monday to Friday, 9:00-18:00 GMT+2

Telephone number: +40 (0) 21 302 31 32

E-mail: office@dcspplus.net

dcscs TM
travel technologies

