



Technology upgrade for a  
cruise line to achieve 90% reduction in  
business critical response time



## Client Overview

The customer is one of the world's largest private cruise lines with operations in 70 countries and serving close to two million guests annually. IBS has had a long-standing relationship with the customer for several strategic initiatives like technology advisory, business consulting and professional services such as software development and user experience.



### The Context

The customer had an ecosystem of partners that enabled the guests to book cruises, associated amenities like on-shore excursions, air, rail and road travel arrangements, and more. Multiple technology vendors had collaborated to deploy state-of-the-art digital experiences on board the ships as well as on affiliate partner properties. The entire ecosystem had multiple information systems exchanging data simultaneously on demand and with controlled access based on partner agreements.

For such a data-intense operational model, the customer had a caching mechanism for multiple vendors to extract the required data from its systems across the world. A legacy mass file transfer mechanism was used for transferring data to partners and vendors as XML files from this cache.

### The Challenges

Most of the time, the data requested by the customer's partners and vendors was dynamic in nature as it contained highly fluctuating components like fares and inventory availability. The existent mass data file transfer model posed serious issues of dynamic and near real-time data delivery to partners because of high response time for queries. This led to:

#### Inefficient and Asynchronous Operations

Booking partners often faced situations where their operations turned inefficient because of supplied data becoming obsolete. For example, not accommodating real-time fare changes, and booking of sold out inventory. Lack of real-time synchronisation led to overbookings and mismatched invoices, resulting in soaring inefficiencies for guest services.

#### Unfulfilled Guest Expectations

Today, guests expect information and services at their fingertips and with minimal effort. The customer's legacy caching mechanism created significant delays for critical systems that powered:

- Search functions on self-booking portals
- Information discovery on mobile devices
- Dynamic pricing systems at partner services
- Subscription and loyalty systems across affiliate partner offerings

This led to rising levels of guest dissatisfaction, which ultimately affected the customer's brand reputation and business prospects.



### Inadequate Search Performance

Cruise partners, booking agents and self-booking portals were facing considerable limitations with respect to searching for information from across multiple cruise options and packages in real time. The back-end system was able to supply only limited combinations of searching power across data sets from the huge assortment of offerings the customer had at its disposal.

### Limited Scope of Digital Experience

Guests expected seamless experience across the entire spectrum of digital innovation—both hardware and software—on-board their cruise journey, like interactive tours, travel recommendations, entertainment, guided navigation, and virtual assistants. The customer depended on multiple technology vendors to facilitate this experience. But, because of asynchronous information being passed to them from the customer's core systems, the vendors found it hard to offer real-time digital experiences.



## The Solution

The customer wanted a solution that would help them achieve two primary objectives:

- Create a powerful data cache for seamless data transfer among the various in-house and external affiliate systems
- Bolster the guest experience with improved search and information discovery across the entire services line with lower response time and higher result accuracy

For achieving the first objective, IBS built a high performance data cache system to help the customer create a near real-time data repository. It allowed partners, vendors and the customer's own intelligent in-house operations systems to retrieve data from the core systems based on set permissions and agreed transfer protocols. The system was built using Couchbase, which had proven to be a roaring success at some of the world's biggest internet-powered tech companies, thanks to its ability to be easily deployed, be managed intuitively, and scale smoothly on demand. The system would be capable of handling huge surges in request volumes from all stakeholders.

To realise the second objective of having powerful search flexibility across the customer's B2C and B2B portals, IBS implemented and deployed Elasticsearch as a comprehensive search engine across the customer's information retrieval points of contact on both B2C and B2B systems. The search engine offered near real-time and distributed searching powers which made it the world's most powerful enterprise search engine. It offered best-in-class relevance for search results, full-text search, and intelligent analytics-embedded recommendations.

The customer's engagement with IBS resulted in creating a flexible data caching system with powerful search and high performance information retrieval for all business functions as well as technology competence. The system was made with an eye for future enhancements including setting up APIs or gateways for new vendors and partners and massive scalability in terms of data search volumes.

## Highlights of the Solution

### Increased Operational Efficiency

The availability of near real-time data from the customer's core system enabled the booking systems to process new bookings from partners and guests with more efficiency. Prevention of overbooking, streamlined room and amenity booking as well as visibility into real-time fares resulted in perfectly synchronised operational models for the customer.

### Delightful Guest Experience

With instant near real-time data availability and powerful information discovery, the customer's digital landscape was able to offer individualised experiences for every guest. Straight from self-booking to on-board digital systems powered by the customer's technology vendors, the entire information and data stream of its digital landscape was able to adapt to modern day data-intensive operations. The back-end cache system successfully augmented efforts to bring information discovery, loyalty management, best price match-ups, and personalised recommendations throughout the entire guest journey from enquiry to exit after a happy cruise.

### Faster and More Diverse Search Responses

The IBS solution enabled data retrieval from across the customer's business information ecosystem with a multitude of search filters. From being severely constrained to just five passenger combinations from a mere one million data sets, the customer was able to transform its search into 27+ powerful passenger combinations from over four million data sets. In terms of response time, the average search response was lowered to about 200 milliseconds from over 2 seconds in the past.

### Exceptional Vendor Services

With near real-time synchronised data delivery from the customer's core information systems, its technology vendors found it easy to build better working offerings at the customer's digital and physical premises. The data needed was provided in the required format and with controlled access to ensure that all vendors received fair treatment and that ultimately the guest experienced the best of all offerings the customer provided during the journey.



## Key Outcomes

The customer was able to continue with its core vision to enhance guest experiences with the best of technology solutions available today. IBS was pleased to partner and guide the customer in the right direction. The engagement provided significant benefits in terms of creating valuable experience for guests and it also provided the customer with a striking edge in terms of technology competence. During the engagement, IBS was able to align its service model to suit multiple and multi-level collaboration requirements with other technology and business partners of the customer. With timely delivery and proactive consulting approach, the customer continues to work with IBS for strengthening its existing as well as building newer business competencies with such state-of-the-art technology solutions.

90% reduction in response time between systems—from **2 seconds** to **200 milliseconds**

Empowering search landscape expansion from **less than 1 million** overall to accommodate continuous additions of **more than 1 million** in just a month

20% rise in overall system performance

Rapid rise in search combinations—from **less than 5** to **more than 27**



## About IBS Software

IBS Software is a leading SaaS solutions provider to the travel industry globally, managing mission-critical operations for customers in the aviation, tour & cruise and hospitality industries. IBS' solutions for the aviation industry cover fleet and crew operations, aircraft maintenance, passenger services, loyalty programs, staff travel and air-cargo management. IBS also runs a real-time B2B and B2C distribution platform providing hotel room inventory, rates and availability to a global network of hospitality companies and channels. For the tour and cruise industry, IBS provides a comprehensive customer-centric, digital platform that covers onshore online and on-board solutions. IBS Software is a Blackstone portfolio company and operates from 11 offices across the world.

Further information can be found at <https://www.ibsplc.com>



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