

**CASE STUDY**

# Large North-American Travel Tech Booking Engine Modernization

**Location***North America***Industry***Travel and Hospitality***Tenure***2017-2020***Delivery centers***Ukraine***Tech stack***React, Java,  
Kubernetes,  
Terraform, Docker,  
Oracle DB, AWS***Team size***Architect, Product Owner, PM,  
Technical Leader, 5 Backend  
Engineers, 2 Frontend Engineers,  
2 QA Automation Engineers***COMPANY PROFILE**

An enterprise-scale leisure travel marketplace connecting travel agents with leisure-focused travel suppliers, facilitating research, marketing, and selling of vacations in the USA and Canada.

## CHALLENGE

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Our client's Travel Booking Engine has been built in 1990s-2000s, and it included integrations Sabre Global Distribution System based on legacy cryptic interface. The operational cost of keeping legacy integrations alive has exceeded 6M USD annually (4.5M infrastructure cost: proprietary on-prem farm and 2 HP Tandem mainframes + 1.6M personnel cost, which included the development team and trained department of Travel Agents).

Client's decision was to migrate to modern Sabre Orchestrated APIs. Usage of modern services greatly increases content and offering of Flights represented to client's customers. Most important, migration to modern GDS APIs allows to decommission costly legacy infrastructure and repurpose teams maintaining the old technology.

## SOLUTION DELIVERY

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Brightgrove's team has delivered the migration to the new set of Sabre APIs. Migration was executed in 2 phases: Search-to-Book functionality migration and Post-Purchase functionality migration. Each phase included detailed requirement creation, architecture solution design, software development and validation, user acceptance testing and actual production roll-out.

### Requirement Creation

- Map legacy services to Orchestrated APIs.
- Compile parametrization tables, ensure backward compatibility for request parametrization.
- Create custom request sequence to replicate platform workflow using Orchestrated APIs
- Build Postman Libraries for implementation by development team
- Create technical documentation in form of Epics and User stories

### Architecture solution design

- Evaluate volume and load requirements for upgraded integration
- Select and justify architectural approach
- Estimate Infrastructure cost and need for upgraded services
- Facilitate getting CTO approval for suggested architecture

### Software development

- Implement functionality based on requirements
- Establish QA processes and validation
- Develop functionality and deliver it to UAT team

### User acceptance testing

- Selected UAT team has validated functionality against real production configurations and use cases
- Brightgrove PO has consumed feedback and converted it into additional requirements
- Development team has implemented change requests based on additional requirements

### Production roll-out

- Brightgrove team has suggested and executed "gradual legacy replacement" roll-out strategy
- 24/7 proactive care mode has been established for 60 days, with defined SLAs based on incident severity
- The initial release has happened with 0% traffic onto new services
- Traffic has been gradually scaled up over the further 30 days up to 75%
- Final switch to 100% happened after 45 days

## RESULTS AND ACHIEVEMENTS

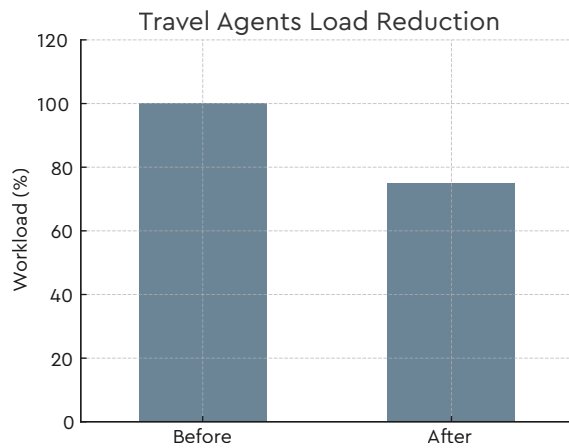
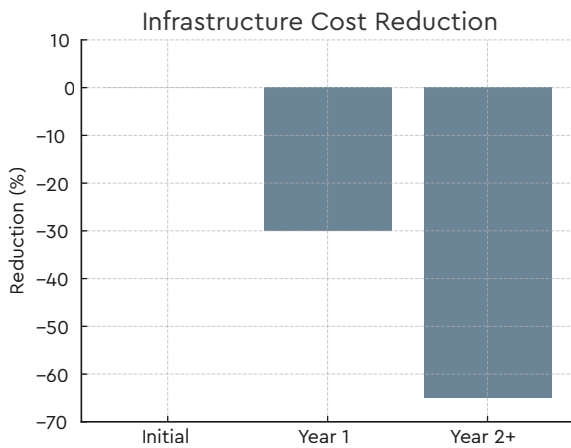
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Upgraded integration of Sabre services allowed Brightgrove's customer to decrease the cost of operations as well as enhance their value offering to new and existing customers.

First phase implementation (Search-to-Book) took 15 months from idea to production, second phase (Post-purchase service) – 8 months.

### Operational Efficiency

- 30% infrastructure cost reduction after first year of initial release
- 65% infrastructure cost reduction starting from the second year after release
- Reduced load on Travel Agents department by 25%



### New capabilities unlocked

- Increased unit economics of booked Sabre flights by ~6% via richer flight content
- Attracted new customers for a total of ~20k annual flight bookings via extended Fare Class options (such as Basic Economy)

### Technology Partnership Impact

Brightgrove's partnership has enabled our client to:

- Significantly reduce OPEX costs
- Maintain high product quality standards
- Unlock new feature development
- Obtain new clients
- Build a business case for future integration upgrades

**Ready to take the next step?**

Reach us today at [info@brightgrove.com](mailto:info@brightgrove.com)