



CASE STUDY

API Migration Consulting for a Leading Travel & Airline Booking Enterprise



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PROJECT OVERVIEW

Helping a major travel company
successfully transition 23 airline
booking APIs before legacy service
retirement

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LUVINA partnered with one of Japan's leading System Integrators (SI) to support a large-scale travel enterprise in migrating its airline booking system from a legacy API provider to a new platform.

The end customer, formed through the merger of K***** N***** Tourist and C*** Tourism, operates at a significant scale within the travel industry and relies heavily on airline reservation services.

As the existing API provider announced the termination of its services by May 2025, the customer faced a critical challenge: ensuring business continuity while transitioning complex booking functionalities to a new API ecosystem.

LUVINA participated in the project by providing business consulting, technical assessment, Proof of Concept (POC), and API migration services.

Location: Japan

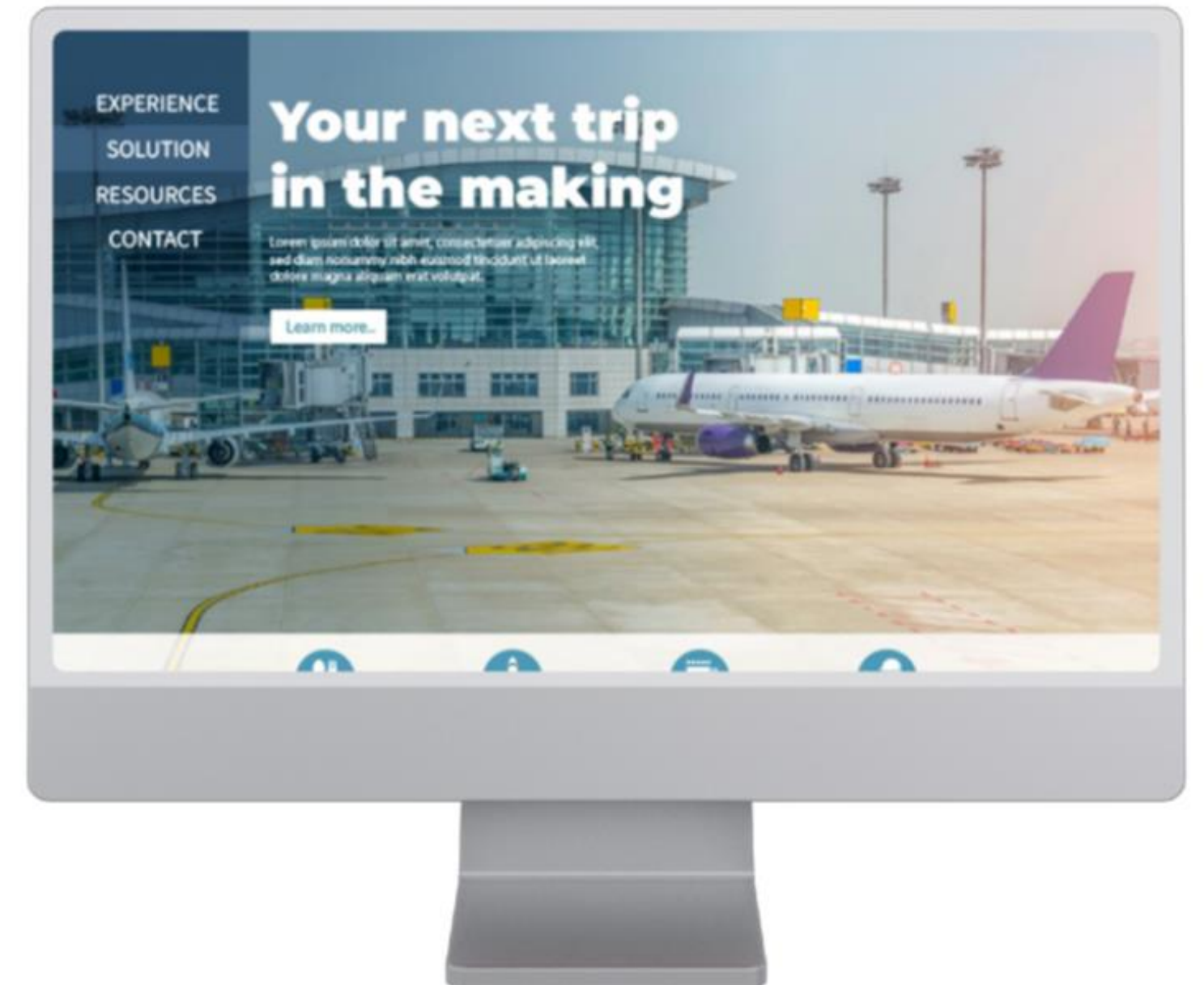
Industry: Travel & Airline Booking

Duration: February 2023 – November 2024

Project Size: 34 MM

Services: API Migration

Technologies: C#, Web Services, Oracle



PROJECT OVERVIEW

Customer Challenge

The migration was far more complex than a simple technical integration.

The existing booking platform supported mission-critical business operations, including:

- Flight booking
- PNR management
- Flight itinerary modifications
- Passenger information updates
- Ticket issuance

Any disruption during migration could directly impact customer experience and business operations.

The project faced several challenges:

- The legacy API provider would discontinue services by May 2025.
- Documentation for the existing APIs was incomplete and limited.
- Historical data available from the legacy system was insufficient for analysis.
- Airline business rules and workflows were highly specialized.
- The new API provider could not provide sufficient test data for validation.

The customer needed a partner capable of bridging both business and technical gaps while ensuring a successful migration within a tight timeline.

PROJECT OVERVIEW

LUVINA SOLUTIONS

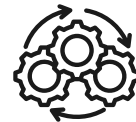


Business and Technical Assessment

LUVINA assigned senior Business Analysts with more than eight years of experience in the airline industry to analyze the differences between the legacy and target API platforms.

The team:

- Investigated the behavior of 23 existing APIs
- Analyzed booking-related business workflows
- Evaluated compatibility between old and new APIs
- Identified business and technical gaps requiring remediation



Proof of Concept (POC)

Rather than proceeding directly to implementation, LUVINA proposed a Proof of Concept phase to validate the migration approach.

The team developed prototype functionalities using the new APIs to:

- Verify technical feasibility
- Assess implementation risks
- Estimate effort and complexity
- Support project planning and budgeting
- The resulting POC was later reused as the foundation for full-scale development.



Alternative Testing Strategy

Due to limited test data from the new provider, LUVINA proposed a simulation-based testing approach using predefined API input and output scenarios.

This enabled the project team to continue validation activities without being blocked by external dependencies.



PROJECT OVERVIEW



ACHIEVEMENT

This project demonstrates LUVINA's capability to lead complex API migration initiatives where deep business knowledge is just as important as technical expertise.

Beyond software development, LUVINA helped the customer define a practical migration strategy, reduce implementation risks, and ensure business continuity for a mission-critical airline booking platform.

Defined a Comprehensive Migration Strategy

LUVINA successfully delivered:

- Business gap analysis
- Technical risk assessment
- Migration strategy
- Detailed implementation roadmap

Successfully Validated Feasibility Through POC

The Proof of Concept enabled the customer to:

- Confirm migration feasibility
- Estimate project size and budget
- Plan future implementation activities

The POC assets were subsequently reused during production development

Delivered on Tight Deadlines

Despite challenging timelines and project complexity, LUVINA consistently met the customer's critical milestones.

High Customer Satisfaction

The customer highly appreciated LUVINA's ability to combine airline domain expertise with technical consulting and implementation capabilities.



LUVINA SOFTWARE

Core Business Functions Migrated & Technology Landscape



CORE BUSINESS FUNCTIONS MIGRATED

The migration covered 23 APIs supporting key airline booking operations.

Booking

- Allows users to create a new Passenger Name Record (PNR) containing:
- Flight information
- Passenger information
- Travel itinerary

Retrieve Reservation

Retrieves an existing PNR using its record locator.

Change Segments

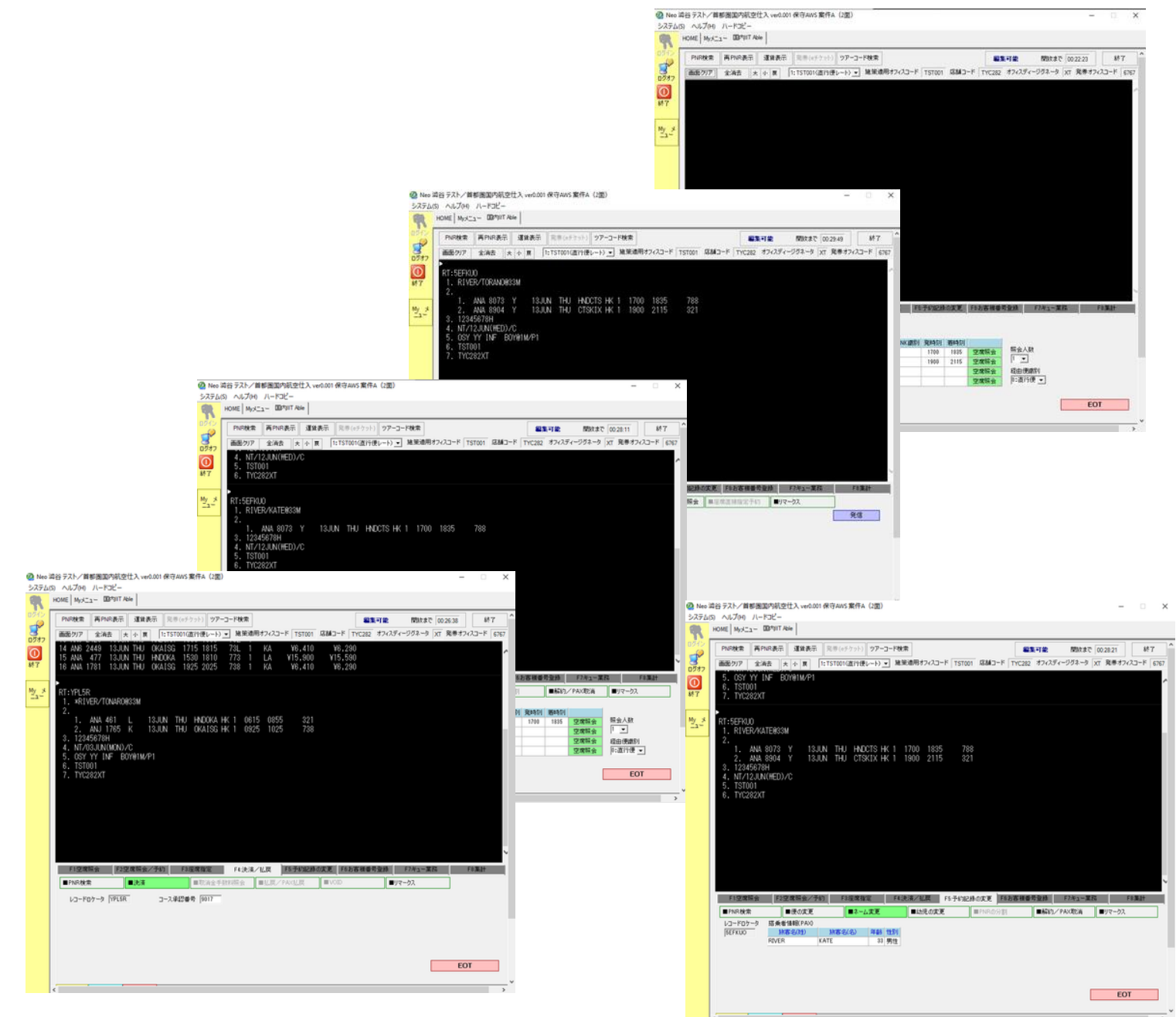
Allows users to add, modify, or remove flight segments.

Change Passengers

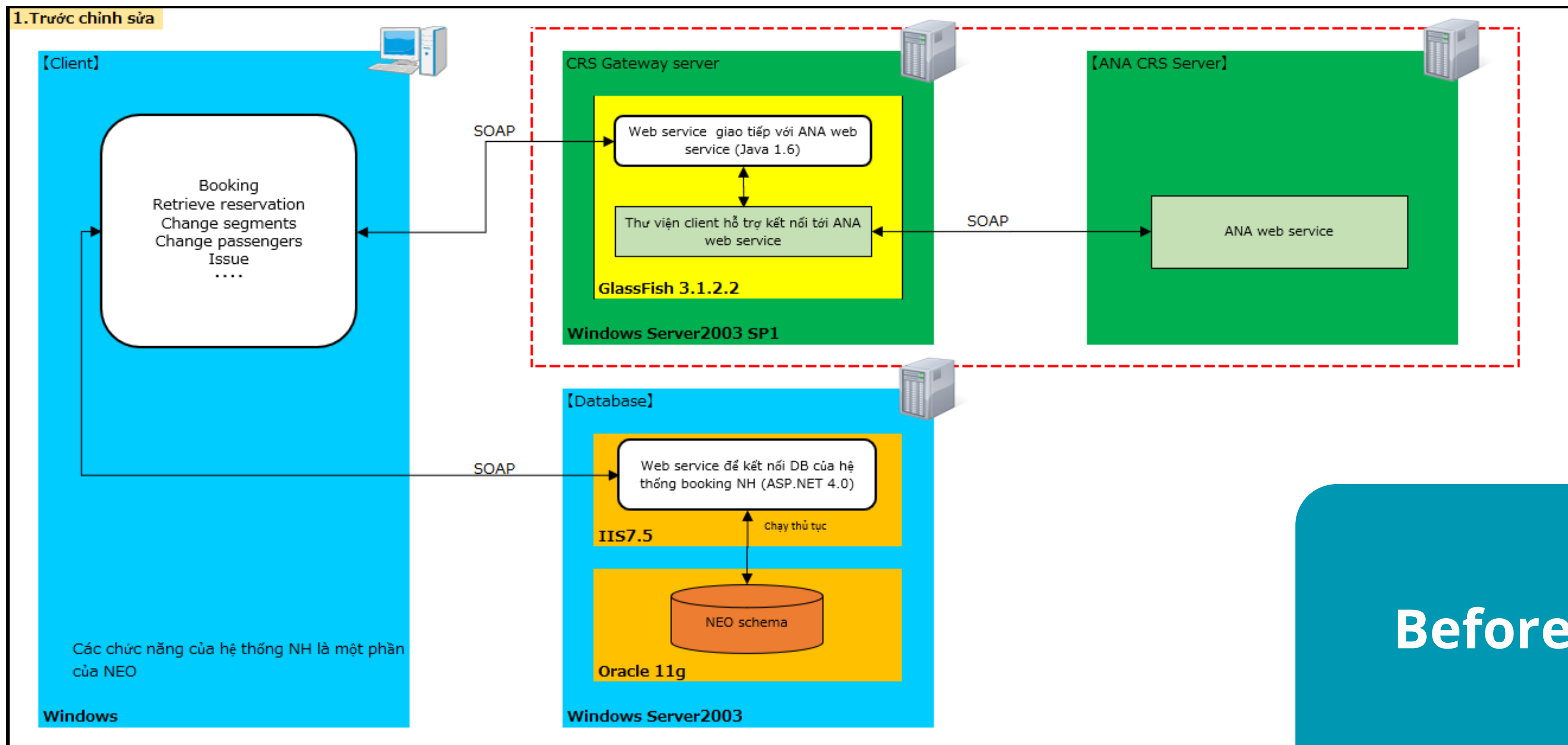
Allows users to update passenger information associated with a PNR.

Issue Ticket

Allows users to issue airline tickets through the new platform.



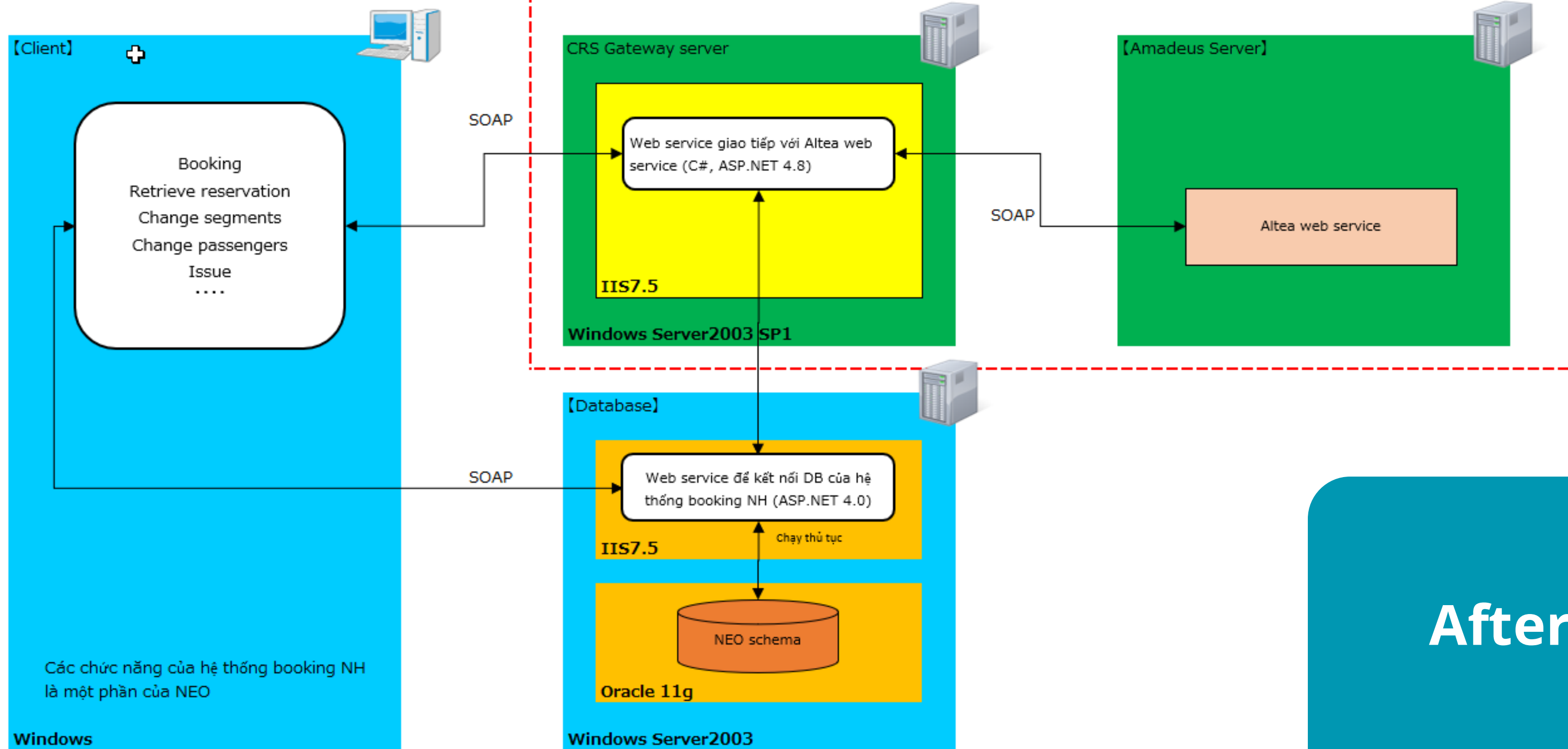
ARCHITECTURE OVERVIEW



Before

ARCHITECTURE OVERVIEW

2.Sau chỉnh sửa



After

PROJECT DELIVERABLES & KNOWLEDGE TRANSFER

Name	Values	Description	Version
Amadeus Web Services (SOAP)	Proprietary	New airline reservation platform replacing the legacy ANA web services	N/A
Oracle Database 12c	Proprietary	Existing database platform used by the customer's booking system	12c
C# (.NET Framework 4.8)	Free	Development of the middleware services connecting the booking platform with the new API provider	4.8
Security & Compliance VB.NET (Windows Forms)	Free The existing client application leverages: - Form-based Authentication - Role-based Authorization This approach ensures that users can only access functionalities appropriate to their assigned roles and responsibilities	Existing client application used by travel agency operators To maintain a secure communication channel with the new airline service provider, the integration layer was implemented using: - HTTPS communication - TLS 1.2 encryption This allowed the new architecture to comply with the same security standards as the legacy platform while ensuring secure transmission of booking and passenger information.	4.0



DELIVERY APPROACH



Delivery Approach

LUVINA worked closely with the SI partner to establish a structured migration roadmap consisting of four phases:

Phase	Objective
Assess	Understand the legacy system and processes
Design	Define migration strategy and eval between old and new APIs
Validate	Verify technical feasibility through Concept
Implement	Execute migration and ensure syst

In parallel, LUVINA proactively trained additional resources to ensure scalability whenever the customer requested team expansion.



Thank You

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