CASE STUDY

# Eurotunnel Le Shuttle (part of the Getlink Group):

## Created new business opportunities and increased revenue

If you've ever travelled by rail (Eurotunnel Le Shuttle or Eurostar) from the United Kingdom to France, you've gone through the Channel Tunnel, a 50 km undersea tunnel that connects mainland Europe to the United Kingdom. It's the third longest railway tunnel in the world and 10,000 vehicles typically cross it every day.

Opened in 1994, Eurotunnel is owned by French company Getlink, and forms the linchpin of its billion-euro business. The tunnel provides two types of train shuttle services: one for trucks and commercial vehicles, and a second for the passenger market. Eurotunnel also provides the infrastructure for Eurostar, the traditional railroad passenger trains that operate between the UK, France, Belgium, and Netherlands.

## Challenge

In 2018, a PricewaterhouseCoopers (PwC) IT audit of Eurotunnel MIS business systems scored each of their systems with red, amber, or green "traffic lights"— green for performing well and answering business needs, amber for requiring attention with some concerns, or red for being potentially obsolete, expensive and difficult to maintain. PwC identified that Eurotunnel's MultiValue (MV)-based reservation system needed to be either modernized or replaced.

Eurotunnel wanted to modernize their reservation system to take advantage of new business opportunities that would generate additional revenue. Their reservation system traditionally charged the same price for all types of passenger vehicles for the tunnel crossing. The Eurotunnel Le Shuttle Commercial team saw a business opportunity to base the price of passage on the size of the vehicle, for example, charging more for SUVs, which need more space, than for superminis. The project scope would also allow Eurotunnel Le Shuttle to identify accessories like roof boxes or bicycles. They estimated this could drive a multi-million euro uplift for their passenger business.

Eurotunnel Le Shuttle faced a difficult decision: replace their proven, business-critical system—which would cost several million euros, take years to complete, and introduce a large number of risks—or adapt and modernize the proven MultiValue-based reservation system, a project that would deliver maximum ROI with a smaller price tag and shorter time to market while minimizing risk.

## Solution

Eurotunnel Le Shuttle IT Engagement Manager Geoff Bishop was already familiar with Rocket® Software MV in the UK, where he had been introduced to both the Rocket MultiValue Integration Server (MVIS) and Python programming language options.

MVIS keeps MV relevant by making it easy to expose MultiValue data and logic as RESTful services, which enables integration with modern web applications and services. Using MVIS, users can build on existing investments while augmenting their environment with the latest technology, allowing new and existing MV applications to operate side-by-side with existing MV applications.

Weighing both the modern capabilities of their Rocket MV application platform and the cost and risk of a complete re-platforming project, Bishop began to share his vision with the technical teams and executives at Eurotunnel Le Shuttle on the modern capabilities of Rocket® UniVerse, the Rocket MV platform in use. By leveraging new MV technologies to strengthen and broaden the technology stack, he was confident that the MV app could support the organization's business goals for years to come while also serving to engage younger developers. By adding Python and application programming interfaces (APIs) to their technology stack, Eurotunnel Le Shuttle could participate and thrive in the modern, flourishing API economy.

"Since that [audit] report was published back in 2018, we have conducted a study of software packages on the market, but in parallel, I saw it important to demonstrate that modernization was also a viable option," Bishop said.

Impressed by modern innovations available for UniVerse and encouraged by the company's strong partnership with Rocket, the executive team backed the modernization route.

Then the COVID-19 pandemic reduced Eurotunnel Le Shuttle traffic substantially, putting the project at risk financially. However, the partnership with Rocket remained strong during this difficult period and allowed more time to prepare, build and test the new architecture.

The first step, technically, of the "Next Generation" pricing project was to review the design of the kiosk interface between the check-in lanes (both automatic check-in and checking in with a live attendant) and the MV reservation system. Bishop knew they needed to decouple each kiosk from the MV reservation system (a fat client) to reduce application overhead. Thanks to successfully implementing a new Zendesk contact management system using a U2 REST server, Eurotunnel focused their review on harnessing RESTful APIs. The newly implemented Zendesk contact management system allows attendants, checking in passengers, to seamlessly collect booking information, which is displayed on the kiosk screen, allowing customers to confirm their travel details. If there is no match, the customer is invited to enter his or her eight-digit booking reference on the touch screen. Behind the scenes, this is managed by an ANPR camera sending the license plate to the MV reservation system.

## Results

Using MVIS meant Bishop was able to implement a newer, more streamlined version of the kiosk's application, which replaced older technologies with lightweight RESTful APIs. This resulted in a substantial reduction in application overhead.

Eurotunnel Le Shuttle are also planning to implement what they named "a policeman" in the check-in lanes. This separate vehicle measurement system, based on laser technology, will send the actual dimensions of the vehicles that arrive at the toll plazas to be validated within the MV-based reservation system. Due to impact of the pandemic, this part of the project will be fully deployed soon.

Prior to delivery of "Next Generation" pricing, Eurotunnel Le Shuttle worked with a specialist partner to run a set of load test scenarios in their pre-production environment. During the test, the new system was achieving average response times of 0.2 to 0.3 seconds for POST requests with a file read (GET) of under 0.2 seconds! They drove the system up to 100 concurrent users at a rate of up to about 15 requests per second and the system remained very performant. The load test partner was very impressed with the response times, especially since the calls pass through a third-party middle tier microservices layer. In reality, the Eurotunnel Le Shuttle check-in application will never be pushed to such loads, but it demonstrated its resiliency and gave Eurotunnel Le Shuttle added confidence that embarking on the migration of their booking website's Rocket® U2 Web DE RBOs to MVIS REST APIs is proving to be the best way forward.

> "The Rocket suite of tools has been the answer to all our needs. Python is mitigating longer term risks of an aging workforce, and we're providing quite a lot of modernization with it and MVIS. The MV platform continues to evolve to meet new business needs, making it the logical choice to modernize as we move towards connected microservices rather than a monolithic application architecture."
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> *Geoff Bishop*
> *Eurotunnel Le Shuttle*



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