

Customer Profile

iWay Software accelerates business integration by providing tools that make service-oriented architectures easy to implement.

ProRail

Snapshot

Organisation

ProRail

Challenge

To ensure timely operation of passenger and goods trains on the heavily burdened Dutch rail network, disruptions to the passage of trains should be kept to a minimum. Disruptions in the rail infrastructure must be solved as quickly as possible. ProRail is aiming for a 20% reduction in the number of disruptions.

Strategy

Increase the speed of processing disruptions to the Dutch rail infrastructure, in part by automating the exchange of messages between ProRail and the maintenance contractors, and by more efficiently exchanging information on the basis of the Loosely Coupled Systems concept.

Results

- Streamlining the exchange of messages;
- Transparent disruption processing;
- Straight Through Processing of disruptions;
- Management information on the nature, cause, duration and approach to disruptions;
- Improved management of contractors;
- Reduced throughput times of disruption processing;
- Major and structural cost savings;

Information Builders Solutions

iWay Software SAP Adapter

Microsoft Solution

BizTalk Server



Martin Zootjens

ProRail Innovating the Exchange of Messages

Rapid link between SAP and BizTalk with iWay Software

In order to innovate, you have to be in the position to exchange information efficiently. This was the experience of ProRail, the manager of the Dutch rail infrastructure. Quickly solving disruptions to the rail infrastructure demands state-of-the-art communication between ProRail and the maintenance contractors. They each have their own systems and processes that must be seamlessly aligned. This has been achieved: BizTalk now operates as the platform for message exchange. iWay links ProRail's SAP system and BizTalk.

Growing mobility is making ProRail's tasks complex and challenging. Take for example the allocation of the limited space on the rail network. ProRail ensures fair and optimal distribution of the rail capacity – sometimes as decision maker, sometimes as intermediary. Safety is always foremost. Should a disruption occur, ProRail organises the coordination of emergency and repair services. The 6500 kilometres of railways in the Netherlands are some of the most frequently used in the world. This therefore means there is a continuous assault on points, overhead contact wires, bridges, viaducts, and level crossings.

“Eyes on – hands off”

Ensuring everything stays in top condition is handled by three specialist maintenance contractors: BAM, Strukton Railinfra, and Volker Stevin Rail en Trafic.

Small causes have major consequences. A malfunctioning point can seriously disrupt the course of trains. Train drivers, conductors, service managers, ... everyone involved in train traffic is keen to track down disruptions as soon as possible and to report them to the appropriate departments. ProRail plays a pivotal role in this. Reports of disruptions arrive at ProRail's control and reporting centre and from there are distributed amongst the three regular maintenance contractors. “Until recently, this happened in the old fashioned way: lots of phone calls, emails and notes to pass on the status of the disruptions,” says Martin Zoontjens. Operating from ProRail's ICT Management department, he is closely involved in the modernisation of message exchanging. Within the OPC+ project, the cooperation between ProRail and the three maintenance contractors has taken on a new form. ProRail is looking to make the cooperation with the maintenance contractors more businesslike and to improve performance in terms of reliability, availability, maintenance and safety, while at the same time ensuring a better price/performance ratio. In practical terms, this means that OPC+ should lead to a 20 percent reduction in disruptions by 2006. This demands new working methods and different behaviour. The project addresses small-scale maintenance; major maintenance and new construction are not included.

Loosely Coupled Systems

As mentioned, an important component of OPC+ was the modernisation of the message exchanging. ProRail wanted to set up disruption registration and the repair process so that it occurred univocally and with a minimum of human intervention. In addition, everyone was to have access to the same information in order to avoid misunderstandings. Automation of the exchange of messages and the processing of messages throughout the various systems (Straight Through Processing) were therefore the obvious choice. This was to occur using the so-called Loosely Coupled Systems (LCS) concept. The LCS concept comprises: exchanging information between existing, independent systems on the basis of message traffic. The advantage of the LCS concept is that the parties involved can continue to use their existing systems, which considerably simplifies the integration process. Zoontjens: “The LCS concept is without a doubt the blueprint for the coming five years.” ProRail did not make a hasty decision. First a pilot was performed to test whether LCS was actually feasible. The pilot demonstrated the LCS' most important effects:

- Improved disruption analyses
- A better picture of and management of disruptions
- Faster and more efficient disruption processing

Microsoft Biztalk was selected as the messaging platform. The iWay Software SAP Adapter links BizTalk and ProRail's primary SAP system. “We had a brief look at alternative adapter solutions and the possibility of developing one ourselves. However, the iWay Adapter turned out to have the greatest functionality, as well as being highly flexible. Of course the price also played a role. Within two days, the link had been laid and the application managers and developers had been trained to use the iWay Adapter.



ProRail started by entering the processing of disruptions to points and level crossings into the system. Double registration is no longer necessary, as information is recorded once only, directly at the source. In the end, all managed objects, more than 500,000, will have to be processed using the new method. "We will then be in the position to better monitor the performance of the maintenance contractors, and to manage them better. Eyes on – Hands off is the objective." The modernised information provision will also allow ProRail to introduce new innovations, such as the application of SMS messaging traffic and wireless PDAs.

Chain integration

The project is a prime example of chain integration, whereby ProRail and the contractors for small-scale maintenance represent a virtual organisation. "It was quite a challenge to achieve what we have. Each party has its own systems, and its own level of automation. Some were already highly advanced, while others were still using traditional methods. Organisations that for a long time had been used to operating in a particular way, suddenly had to change their working methods. Setting up 24/7 organisations, for example, demands a change in thinking throughout the chain."

The system is now operational for the disruption registration and function repair process. Investigations are now underway as to which other processes could be integrated on the basis of the LCS concept.

Benefits for users

- Univocal information;
- Once-only registration;
- Improved disruption analyses;
- Better picture of and improved management of disruptions;
- Quicker and more efficient disruption processing.

Benefits for IT

- The ability to quickly react to changes in information requirements;
- Greatly simplified management;
- Modern flexible infrastructure;
- Readily-expandable functionality.

"The link BizTalk-SAP was completed within two days, and the application managers and developers had also been trained."



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Find Out More

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Benefits for Business

- Efficiency and time gains;
- Cost reductions;
- Improved management of contractors;
- Management information.

Facts and Figures

2,800 km network length
6,500 km rails
4,500 km overhead contact wires
8,700 points
385 stations
3,000 level crossings
4,500 bridges, viaducts and tunnels

ProRail – Working on Rail Mobility in the Netherlands

In the Netherlands, a million people each day use the rail network, and a over 28 million tons are transported. This is certainly not set to decrease.

We are talking about one of the most busy rail networks in the world. ProRail is the organisation responsible for rail mobility. This covers capacity, reliability, and safety on and around the network. It represents a complex task for its 2900 staff, at the head office, four regional offices, and the seventeen traffic management posts distributed across the country.

ProRail aims to achieve effective rail mobility with transporters, contractors and governmental institutions. With the drive to continuously fine-tune and improve performance.