

Pathfinder

Trans-European Platform Optimizes
International Rail Traffic



Web-Based Pathfinder Transcends Borders

With Pathfinder, European railroad companies are planning the international traffic of goods and passengers by rail. Their joint federations, RailNetEurope and Forum Train Europe, are using Pathfinder to ensure that over 400 users from more than 25 countries can easily coordinate their rail transport requirements. Netcetera put major emphasis on project management when developing this application, taking into account cultural, organizational and technical differences.

The Project

Since 1900, railroad companies have been planning the international journeys of their goods and passenger trains using proven tools, such as telephone, personal meetings and fax. For their domestic train connections, however, computerization has long provided sophisticated planning systems.

The gradual liberalization of the European railroads has led to competition for attractive international connections, which in turn fuelled the need for more efficient planning. The 70 infrastructure operators and railroad companies that were then joined in the Forum Train Europe needed a common planning platform to register and manage all the information concerned with cross-border train movements and to translate it into offers for train passengers and goods transport.

Since 2004, RailNetEurope is representing the involved infrastructure operators. Today, RailNetEurope and the Forum Train Europe use Netcetera's Pathfinder for their international timetables, and over 400 users from more than 25 European countries use it to coordinate their rail transport requirements.

The Challenge

The challenges of this project have historical origins: For one and a half centuries, the rail companies operated in isolated markets, and they highly valued their traditions and independence. International services were planned on the basis of national connections, using various methods, and supported by a wide variety of different software systems.

The multitude of languages spoken on the European continent posed an additional challenge. This diversity was also reflected in the project group that eventually initiated and financed Pathfinder. It comprised representatives from 17 corporations from seven countries, with five different languages. According to Uwe Kolk, the Overall Project Manager, the greatest challenge in Pathfinder was to take all the different requirements into account and to ensure the acceptance by all project group members at every stage.

When awarding the project, a company was looked for that could deal with this European diversity and whose openness and flexibility would ensure that the participating rail companies would stay on board as investors.



“An intensive dialog with the prospective users is decisive for the success of a project of such magnitude with so many parties involved. This requires an iterative approach.”

Patrik Auf der Mauer

Pathfinder Project Manager, Senior Project Manager & Consultant, Netcetera

The Solution

With Pathfinder, a centralized platform for managing all the dossiers for international trains has been available to the railroad companies since the end of 2003. Its comprehensive information ensures that all participants at timetable conferences have the same level of knowledge. As a result, the planning and coordination effort for the European passenger and goods traffic is reduced by 20 percent.

The decisive factor in the award of the project to Netcetera was the approach that was presented, summarizes Uwe Kolk. Netcetera's Project Manager, Patrik Auf der Mauer, suggested to realize the project in one-month iterations and to have the software tested by the project group members each month. Major emphasis was also placed on the correct registration of the requirements. In discussions with the users, use cases were compiled describing the actions that should be possible with the software. They were submitted to the users and adjusted if objections were raised. This process was repeated until the users were satisfied, says Marcel Steinmann, Technical Project Manager at Netcetera.

From the outset, the application was developed in several languages. Even the very first Pathfinder release, available to the clients only four months after the start of the project, could be operated in several languages. The wording with which the employees of the companies draw up proposals for international trains are different from country to country, and range from precise specifications to vague suggestions. The management of latter data was a further challenge of the implementation.

At the start of the project, the railroad companies were interested in a decentralized solution, in which each connected company would operate its own Pathfinder server to store its documents. Netcetera Project Manager Patrik Auf der Mauer supported a centralized solution. He was able to convince the users that a centralized system would also meet their security requirements. This centralized solution made it possible to realize the project more easily and more cost effectively, and also within the ambitious time frame. The resources freed by this approach were directed to developing an even better Pathfinder.

"Pathfinder reduces the effort of the railroad companies by 20 percent."

Uwe Kolk

Freelance Pathfinder Overall Project Manager and Consultant for Swiss Railway (SBB)





“The Swiss IT Award 2004 in the category Project goes to SBB Pathfinder.”

The Swiss IT Award by the Swiss specialist journal InfoWeek is granted to convincing projects, innovative services and outstanding software from in-house production.

Jury member Serge Mouttet, CIO and Member of the Board of Orell Füssli Holding, presents the award to Uwe Kolk, Overall Project Manager, and Patrik Auf der Mauer, Netcetera (from left to right).

Project Facts

Client

SBB AG on behalf of the Forum Train Europe and since 2004 RailNetEurope

Realization and Overall IT Project Management

Netcetera Zürich

Project Length and Milestones

Start of project: June 2002

Prototype: September 2002

Pilot operation: February – April 2003

Start-up and continuing development:

Since December 2003

Partners involved

Nose AG Design Intelligence, Zurich – GUI design and usability

Technologies used

- Java/Servlet. Centralized, web-based application for the control of international route alignment from the query up to the timetable
- Decentralized web applications manage the data, which can only be published at legally defined points in time
- Centralized and decentralized Oracle databases
- Data comparison via Oracle Database Link and “Distributed Transactions”
- Apache, Tomcat, Linux
- Planning data from the local railroad company systems railroad will be imported via the XML interface
- Birt (Reporting formats: PDF, XML, XLS)
- Data archive in XML format, delivery in the RPM format
- Consistent automated tests (at the Code and User-Interface level)

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