

Project Note

# Iterative Development of a Gateway for Air Traffic

Air traffic controllers undergo rigorous training before beginning their actual work in the field. That for, a gateway for a simulation system used in training has to be developed. The gateway was delivered successfully and on time.

## Task

To develop a gateway for a simulation system used in training air traffic controllers. The gateway was to connect and synchronise several subsystems to ensure their consistent interoperation. The subsystems included, among others, an Airtraffic Generator and the new development of an air surveillance system. The gateway architecture had to accommodate the integration of future subsystems not yet known.

## Implementation

In the first phase (elaboration), the requirements already specified in detail by the customer were analysed and further refined. At the same time, the test framework was defined, along with test cases for the acceptance procedure.

In the subsequent phase (construction) the three main project issues were tackled in parallel with each other: the incremental implementation of the use cases, the development of a test framework and the creation of the GUI for configuring and monitoring the gateway. The implementation was then verified on the basis of test data compiled by the customer. On-schedule completion was assured by fast, regular customer feedback.



## Technical Data

Development: RUP  
Architecture: Multi layer  
Programming: Java 2  
Development tools: Eclipse Workbench, Rational Rose, Apache Ant, Jython, Log4j, Xerces, JUnit, CMS Perforce  
Persistence: Filesystem, XML  
Development platform: Windows  
Production platform: Windows

## Customer benefits

- Modular, object-oriented design is an approach that allows additional external systems not yet known to be integrated easily in the future. The additional protocols can be supported with minimal effort.
- The gateway was delivered successfully and on time – an important project goal – thanks to professional project management involving short iteration cycles and the consistent involvement of the customer in the project.

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