



## STM produces design documents in weeks rather than months

*IBM Rational software ends platform dependencies and accelerates systems development*

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### Overview

#### The need

STM sought integrated tools that would run on a real-time operating system and that would fulfill analysis, requirements management, configuration, design and development demands.

#### The solution

The company implemented IBM® Rational® ClearCase®, IBM Rational ClearQuest®, IBM Rational DOORS® and IBM Rational Rhapsody® software, which are all integrated.

#### The benefit

Using the Rational software, STM eliminated platform dependencies. Further, it can deliver 400- to 500-page design documents in a few weeks, versus the three months required previously.

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Savunma Teknolojileri Mühendislik ve Ticaret A.S. (STM) was founded in 1991 to provide systems engineering, technical support, project management, technology transfer and logistic support services; offer software development services for civil and military systems; and create and operate national computing centers for software development and maintenance. With leading companies Turkish Aerospace Industries, Inc. (TAI), HAVELSAN and Savronik as its shareholders, STM aims to put its depth of knowledge and experience at the disposal of public and private organizations in Turkey and abroad. Approximately 85 percent of the company's 380 employees are engineers and support professionals, enabling STM to offer its customers advanced knowledge and extensive experience.

### Beginning a quest for a real-time operating system software solution

STM mainly operates in three key areas: engineering and consulting services, technology portfolio development and procurement services. The company needed a software solution that would run on a real-time operating system. STM began seeking integrated tools that would support its requirements, which included analysis, requirements management, configuration, integration with design and development requirements, and production of automatic design documents through a design tool. In 2007, STM worked with IBM and began using IBM Rational Rhapsody software.



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*“At STM, we now use IBM Rational DOORS, IBM Rational Rhapsody, IBM Rational ClearCase and IBM Rational ClearQuest tools in an integrated structure. The reason we preferred IBM tools is that they support many operating systems, including real-time operating systems.”*

—Özgür Güteryüz, systems manager,  
Savunma Teknolojileri Mühendislik ve  
Ticaret A.S. (STM)

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“We took off with an R&D project. We identified an infrastructure to create both a real-time operating system and a [Microsoft] Windows-based solution, and IBM tools were chosen as the best solution in this context,” says Özgür Güteryüz, systems manager, STM. “What counted for us was the availability and integrated operability of several products. At STM, we now use IBM Rational DOORS, IBM Rational Rhapsody, IBM Rational ClearCase and IBM Rational ClearQuest tools in an integrated structure. We chose IBM since these tools support many operating systems, including real-time operating systems, provide a model-based software offering, produce the design document both on the onset and on the close of the project without requiring extra efforts, and are able to integrate with external libraries such as Qt and Boost.”

For the project, STM worked with the IBM team to resolve problems encountered while creating the infrastructure and using the tools. “With the Rational products,” says Güteryüz, “a software solution was developed that is independent of the platform and can also run on other operating systems, and which allows testing on model-based software and is enhanced with service-oriented architecture. Requirement monitoring, software design and development are also performed on the same tool. We are no longer facing the problem of platform dependency and are able to produce quick solutions for different platforms.”

### **Completing the first model-based and real-time command and control project**

In 2007, the STM project involving Rational Rhapsody software became the first model-based and near-real-time command and control project developed in Turkey. “Success of this project designed with service-oriented architecture opened the doors to similar projects for STM,” says Özlem Dengizek, project manager, STM. “The platform-independent infrastructure provided by Rational Rhapsody enabled us to use the design and software used in the real-time project in a new project involving a different operating system and different software development environment. Therefore, we started to go for the Rational Rhapsody product not only in real-time projects but also in other command and control projects. Thanks to the integration of Rational Rhapsody with other platform-independent libraries used in these projects, the projects are able to run on Windows, Linux and VxWorks operating systems.

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## Solution components

### Software

- IBM® Rational® ClearCase®
  - IBM Rational ClearQuest®
  - IBM Rational DOORS®
  - IBM Rational Rhapsody®
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According to Aydın Kara, software manager, STM, “Requirements managed on Rational DOORS under the projects were migrated to Rational Rhapsody, enabling monitoring between requirements and design modules and the association of all requirements with design modules. Class and object diagrams generated in the software design and flow diagrams automatically produced by Rational Rhapsody were transferred to the software design document, without requiring extra time to produce the design document. Coding started as soon as the design started.”

## Achieving significant time savings

The use of IBM products enables STM to transfer solutions developed within one operating system to another, connecting requirements and creating designs quickly, saving a significant amount of time. In the past, it would take the entire team at two to three months to create a design document and would require the engagement of the entire team. Using the Rational software, a few people can produce a 400 to 500 page document in a few weeks.

## For more information

To learn more about IBM Rational software, please contact your IBM representative or IBM Business Partner, or visit the following website: [ibm.com/rational](http://ibm.com/rational)

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Software Group  
Route 100  
Somers, NY 10589

Produced in the United States of America  
October 2012

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