

## **General Project Description**

Project title: Testing J@T XML-trace analyzer  
Contractor: Zelenova S.A., Zelenov S.V.  
Customer: ISP RAS  
Project start date: February 2, 2004.  
Project end date: April 14, 2004.

### ***Project goals***

The main goal of the project was demonstration of feasibility of UniTesK application for automated testing distributed systems components with XML interface. As an example of such a component, the J@T XML-trace analyzer was chosen.

### ***Project input***

XML-trace analyzer, one of a number of components of the J@T testing tool version 1.4, was tested in the project. Total size of system under test is 6 Klines of source code.

The following documentation was used for development of test generator and test system components:

- XML-trace description (in the form of BNF);
- Internal trace representation description (in the form of UML);
- Trace semantics description;
- Analyzer API and internal trace representation API description (in the form of javadoc).

### ***Process used***

Test system was created with respect to UniTesK technology.

Models and test generators were developed amenably to UniTesK technology of model-based testing using OTK tools and methods. The OTK has demonstrated its high efficiency for testing compilers, i.e. systems that process complex data structures.

### ***Project effort***

The documentation was investigated by 2 people in 1 week.

Models and test generators were developed by 1 person in 2 weeks.

Test system development and test running were performed by 1 person in 2 weeks.

### ***Project results***

The project has proved feasibility of UniTesK application for automated testing distributed systems components with XML interface.

As a result of the project, the J@T XML-trace analyzer was tested.

In the course of the project, a test system for automated testing components with XML interface was created with respect to UniTesK technology. Total size of manually developed components of the test system is the following:

- model description – 500 lines of source code;
- other components – 3 Klines of source code.

As a result of testing the J@T XML-trace analyzer, 3 errors were detected.