Model and Inference Driven Automated testing of Services architectures

MIDAS Newsletter

EDITORIAL

Dear Reader,

Welcome to our ninth MIDAS Newsletter!

During the last year of the project lifetime, the Consortium decided that, in order to successfully complete the planned activities and to achieve the expected results, a project extension of 2 months with respect to the approved work plan was necessary. The amendment was approved and MIDAS Project will end in October 2015. For this reason newsletters #9 and #10 will be delayed to May and September 2015.

In this ninth Newsletter you will read about:

- Release of D6.4 (MIDAS Platform as a service – prototype alpha), D7.2 (Healthcare services pilot – building the specific test framework and carrying out the test campaign) and D7.3 (Supply Chain Management pilot – making testable the architecture)
- Poster @ Petri Net 2015
- A related project: InGeoCloudS
- Project meetings
- International Summer School on Intensive Automated Testing of Service Oriented Architectures
- A related event: 10th Workshop on System Testing and Validation
- Spanish Software Testing Innovation Alliance
- TesteA: Learning by Testing
- SINTESIO Foundation Partner

Enjoy your reading!

MIDAS Consortium

Content

Project Extension

During the last year of the project lifetime, the Consortium decided that, in order to successfully complete the planned activities and to achieve the expected results, a project extension of 2 months with respect to the approved work plan is necessary. This extension was required as a consequence of the challenging and innovative character of the project research activity

For this reason an amendment has been requested and approved by the EC, so that the project will finish in October 2015.

Newsletters have been rescheduled on May and September 2015.

D6.4 MIDAS Platform as a service – prototype alpha, has been delivered

The prototype alpha of the MIDAS Platform as a service is the first release of the complete MIDAS Platform. As stated in the DoW, it includes specific support for the integrated test execution macro-component, and specific support for the execution of MIDAS pilots.

The prototype alpha is a Cloud-based platform accessible with credentials. Nevertheless, a version that can be locally deployed on a local machine is provided for verification purposes without using on Cloud resources.

This document is provided in addition to the released prototype to give a high level description of all components included in the complete MIDAS Platform, and of their deployment on the Cloud underlying infrastructure, together with a more detailed description of the included MIDAS services to highlight the features of their current release.

Finally, the examples used to carry out testing activities with the prototype alpha of the MIDAS Platform are described in this document, and included in the release. The examples are the result of an intensive activity carried out with the MIDAS end user partners providing the pilot applications, and they are used to validate the correct functioning of the MIDAS services on the pilots.

D7.2 Healthcare services pilot – building the specific test framework and carrying out the test campaign, has been delivered

This deliverable documents the results of the task 7.2 aimed at creating a specific test framework for the Healthcare pilot. At this stage the attention is particularly focused on the use of the modelling tools available in MIDAS and the production of the first model artefacts that allow technical partners to start evaluating and validating their test methods.

After attending several sessions of dedicated training, different artefacts have been produced according to the different modeling strategies.

All the produced artefacts are documented and analyzed from a quantitative viewpoint. A preliminary qualitative evaluation is provided in order to give some early feedback about the modeling tools and techniques. This evaluation is focused on the following aspects: tooling, data modeling, architecture modeling, test oriented structure modeling and models for the generation of tests.

D7.3 Supply Chain Management pilot – making testable the architecture, has been delivered

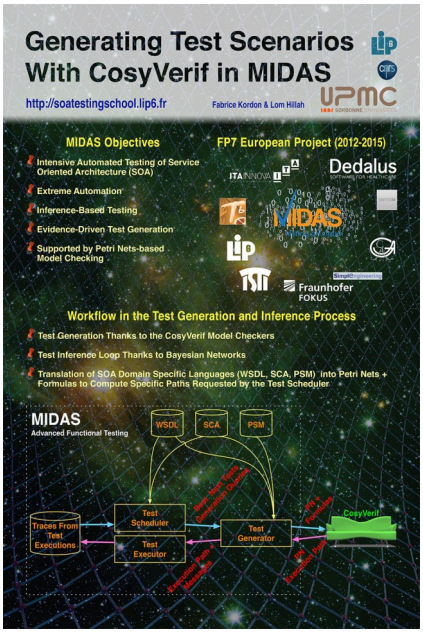
This document summarizes activities performed in the Supply Chain Management Pilot according to the Pilots Integration Plan by making use of the technical results and milestones of MIDAS platform and aligned to the Platform Integration Plan activities.

The main purpose is to give an early feedback regarding the usage of the MIDAS platform by users in testing Logistics GS1 LIM service architectures and evaluating the main success factors and key performance indicators from the users' point of view.

During this first increment the activities have been focused on acquire knowledge in the MIDAS DSL and create a MIDAS DSL compliant SAUT model. As a main conclusion, we have identified some positive aspects, some improvement opportunities and main risks in order to achieve a successful adoption of MIDAS platform by end-users, in particular, people without technical skills in the testing domain.

This early feedback is based on limited information, because due to a 5 months delay according the initial Pilots schedule, there's no end-to-end scenario where users can upload models and interpret test results.

Anyway we believe that with this joint work between TMC-UMC partners, we can identify barriers, develop new features and validate them in practice in order to mitigate these risks sooner.



Poster @ Petri Net 2015

The Petri net conference is the leading yearly event of this community. In 2015, it is hosted by ULB in Bruxelles the last week of June together with ACSD (International Conference on Application of Concurrency to System Design). There will be a MIDAS demonstration at this conference, centered on the coupling of the «test scheduler» module with «test generator» relying on the CosyVerif Petri net services to automatically produce traces respecting a given input specification. Such requests are performed by the «test scheduler» module and returned to the «test executor» module that will enrich the traces to be used for generating consistent tests for web services.

Project meetings—Training Sessions

Training Session , Zaragoza, 10th-11st February 2015

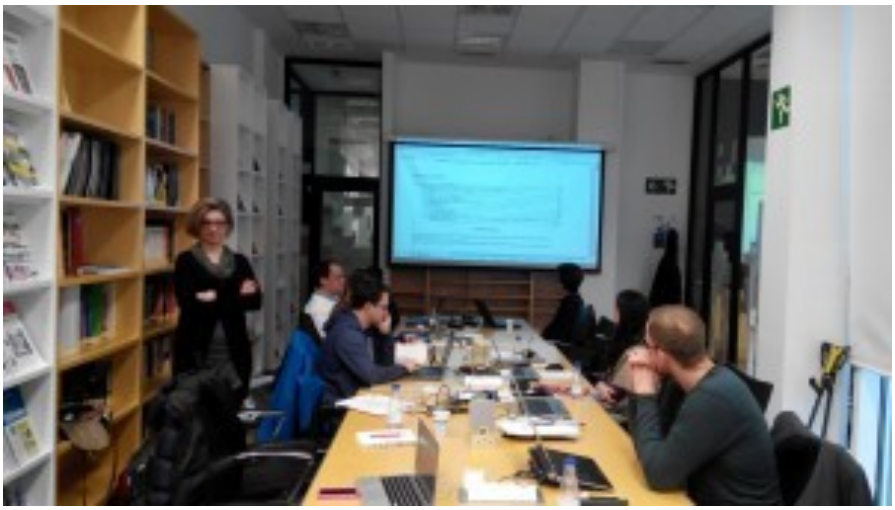
On February 10th-11st 2015 a training session was organized by TMC members in Zaragoza.

The main objective was to finalize the training in the MIDAS DSL foundations to pilot members in order to create MIDAS DSL complaint models for the pilots.

The agenda was:

- Discussion about state of the models
- DSL Training – Foundations
- MIDAS DSL: data modelling
- MIDAS DSL: Security testing
- Step-by-step model developed by pilot members

As a result the pilots are ready to create the model of the SAUTs on their own and a complete step-by-step user manual is available.



MIDAS members in the Training Session

A related project

Project: InGeoCloudS

Title: INspired GEOdata CLOUD Services

Description: The project aims at demonstrating the feasibility of employing a cloud-based infrastructure coupled with the necessary services to provide seamless access to geospatial public sector information, especially targeting the geological, geophysical and other geoscientific information. This kind of information possesses interesting characteristics like the size of the available data, the existing metadata descriptions (mostly according to the European Directive INSPIRE) and the current availability of related services that can be moved to the cloud.

Website:

https://www.ingeoclouds.eu

Coordinator:

AKKA INFORMATIQUE ET SYSTÈMES

International Summer School

Today, Service Oriented Architectures tend to be the standard way to elaborate information systems in enterprises. These systems grow rapidly, due to increasing needs of big-data management and to the increasing strength at a decreasing cost of modern computers. Testing of such systems becomes a challenge due to their complexity. To handle this, testing of Service Oriented systems must be simplified, intelligent, automated and routinized.

The International Summer School on Intensive Automated Testing of Service Oriented Architectures is intended for people willing to learn about the most advanced techniques for quality assurance of Service Oriented Architectures. It is provided by a group of researchers and industry people experienced with SOA testing and who joined their effort in the MIDAS European project, dedicated to this purpose. In the summer school, this group will teach you the latest innovative techniques enabling you to perform automated and intensive testing of Service Oriented Architectures. You will learn how to generate a consistent set of tests for such systems and to execute these tests in the cloud.

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This summer school is sponsored by the MIDAS European project that is dedicated to testing of systems in the cloud. It is also sponsored by Université Pierre & Marie Curie and the Laboratoire d'Informatique de Paris 6 (LIP6).

http://soatestingschool.lip6.fr

Related Event

10th Workshop on System Testing and Validation

System testing and validation is an area which has been the focus of many research efforts for decades. Yet, due to new challenges resulting from new development processes, such as SCRUM used in agile development and new aspects of large scale system integration, the need for efficient testing has been seeing much resent research. That is why this workshop will bring together researchers and practitioners in the field of system testing and validation. The goal of the workshop is to provide a forum for presenting and discussing work in progress, or ideas for future research in response to future trends.

The workshop will be hosted by ETSI in Sophia Antipolis (France) the day before UCAAT 2015. We like to encourage all STV15 participants also to attend UCAAT2015.

See more at https://www.fokus.fraunhofer.de/go/stv15

Spanish Software Testing Innovation Alliance

On April 29th, ITAINNOVA, a MIDAS partner, was in the first meeting of the Software Testing Innovation Alliance in Valencia. STIA, is created in the Innovation Alliance EU project, with these objectives:

- Join all software testing key actors in Spain
- Work to improve support to innovation and transfer of research results to SMEs
- Establish new projects and partnerships between partners

The usage of MIDAS EU Results into SMEs will be considered as a task in the Software Testing Innovation Alliance.

TesteA: Learning by Testing

TESTEA Learning by testing

Yes, we test!

TesteA, the Aragon framework for the promotion of software quality based on testing, will be launched on May the 20th. The main motivation of this action is to promote, develop and transfer new testing techniques to SMEs in order to be competitive in an international market where no failures are allowed. Dissemination, training and transfer to SMEs activities are proposed. MIDAS project will be disseminated and some SMEs will be engaged to make use of MIDAS platform in practice.

The newspaper Heraldo de Aragon, the major daily newspaper in Aragon and in the top15 of newspapers in Spain, has published an article on the TesteA initiative where MIDAS project is disseminated,

TESTEA>IMAGINE UN SOFTWARE LIBRE DE FALLOS

Let us introduce you…

SINTESIO Foundation

Sintesio is an open, not-for-profit foundation, co-founded by the European Telecommunications Standards Institute (ETSI), Slovenian Institute for Standardization (SIST), and Iskratel, a Slovenian telecommunication vendor. The aim of the Foundation is to promote open standards, interoperability in multi-vendor/multioperator environments, to support standardization efforts and to facilitate vendors collaboration in the area of information and communication technologies and standardization. The Foundation set up the interoperability test lab, located in Bled, Slovenia, with the purpose to test and validate interoperability of multi-vendor ICT products, as well as to validate the quality of open ICT standards, especially in the NGN and IMS domain.

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Our goal

To build an effective solution for SOA testing problem.

With MIDAS, we want to make it easier for companies to benefit from SOA testing.

MIDAS in a nutshell

The MIDAS project aims to design and build an integrated framework for SOA testing automation that will be available as a Software as a Service (SaaS) on a Cloud infrastructure and that spans all the testing activities: test generation, execution, evaluation and scheduling, on the functional, interaction, fault tolerance, security and usage-based testing aspects. MIDAS is focused on SOA testing, i.e. on black box testing of single services and on grey-box testing of services architectures. The testing methods and technologies that are investigated and prototyped in the project are beyond the state of the art, particularly on model-based testing, model checking of choreographies for sound interaction test scenarios, fuzzing for security testing, usage-based testing, probabilistic inference reasoning about test evaluation and scheduling. Two pilot SOA testing experiences in different business domains (healthcare and supply chain management) are carried out.

Who we are

MIDAS is led by a group of partners who have years of experience as offering research services to the industry.

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MIDAS Consortium

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