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VTT Industrial Systems
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Call for Participation

European Working Group on
Simulation-assisted automation testing

The use of dynamic simulation in various phases of automation development and testing has been a long-time dream of automation professionals. Recent technology development has finally turned the dream into reality:

- Computation power has rocketed in relation to the price: modern PC's are capable of running plant-wide models in real time. There is no longer a need to have expensive dedicated simulation server computers in the office.
- PC-based DCS and PLC emulation software products, also known as virtual automation systems, have been released, with basic simulation features (start/stop/save/load). There is no longer a need to purchase a second set of automation hardware for simulation use, as the entire system can run on regular office computers. Neither is there a need to build a simulation model of the automation in the simulation tool, as the original automation configuration can be used as such.
- Simulation tools have developed: solvers have been validated, comprehensive model libraries have been built, and easy-to-use graphical user interfaces have been implemented. The manpower needed for building up a simulation model of a plant has significantly come down.
- Industrial standardization efforts, e.g. OPC Foundation, have produced a number of de-facto standards for plug-and-play co-use of simulation and automation software by different providers. There is no longer a need to write product-specific driver code to bridge software together.

The technology is now being taken up in the industry. During recent years, pilot projects have been carried out using various tools and technologies. At the moment, serious thinking is going on about making revolutionary changes in the work practices of individual companies and virtual enterprises.

It is now time to sit down together, gather best practices, identify synergies and outline a roadmap to the future. To have a forum for this, a European Working Group of Simulation-assisted automation testing has been formed as a part of the SIM-SERV project.

For more information about SIM-SERV, see

<http://www.sim-serv.com/>

Frankfurt workshop and other activities

The working group will have a one-day workshop meeting at Hotel Monopol in Frankfurt on Wednesday, May 14th to the following outline agenda:

9.00	Coffee
9.30	Overview on the working group topic and goals
10.00	Presentations: Experiences on using simulation in automation testing
12.00	Lunch
13.00	Presentations: Experiences on using simulation in automation testing
15.00	Coffee
15.30	Discussion: Possibilities, development needs, synergies
18.00	End of the workshop

The price of the workshop is 47€ including the lunch and coffee.

After the workshop, the work continues by the aid of mailing lists and e-meetings as agreed in Frankfurt.

Call for presentations

On the agenda in Frankfurt there will be a number of success stories on applying simulation in automation testing. Let me know if you are willing to present a case in which you have used dynamic simulation for testing any part or property of the automation, e.g.:

- Validation of control system design
- Verification of control system implementation
- Evaluation of system operability

The SIM-SERV project will make some money available to refund travel and hotel expenses of those who present cases in the workshop. For more information, see Appendix 1.

The deadline for presentation topics is April 23rd.

I need the complete presentations in ppt or pdf format by May 9th.

How to get involved?

It is simple:

1. Fill your data in the table in Appendix 1
2. Copy the table in another document
3. Send the document to me by April 23rd

Looking forward to your participation,

Matti Paljakka
Chairman of the Working Group
Senior Research Scientist
VTT Industrial Systems
Matti.Paljakka@vtt.fi

Appendix 1

To participate in the Frankfurt workshop May 14th and/or other activities of the Working Group, fill your data in the table below and mail it to Matti.Paljakka@vtt.fi.

The information given will be public to all Working Group members.

Proposed Member	
Full Name	
Employer	
Job Title	
Postal Address	
Telephone No	
Fax No	
E-mail	
Summary of the Experience in Working Group Topic	
I will participate in the Frankfurt workshop	Yes/No
I am willing to present a Success Story, title:	

The price of the Frankfurt workshop is 47€, which is paid at the hotel. Rooms are available at Hotel Excelsior for 72€ a night in a single room. To book, contact the hotel

Hotel Excelsior Monopol GmbH

Mannheimer Straße 7-13
D-60329 Frankfurt am Main

Tel: +49 (0) 69 - 22 737-1280

Fax: +49 (0) 69 - 22 737-1285

bankett@hotelmonopol-frankfurt.de

For those who present Success Stories, the SIM-SERV project will refund the workshop costs incurred. The costs will be refunded subject to prior written acceptance from SIM-SERV. SIM-SERV will not fund any labour, equipment costs or consumables. Organisations participating in the working group are encouraged to sign SIM-SERV membership contract before the first meeting in order to be funded by SIM-SERV.

Refunding of travelling costs is subject to

- Signed SIM-SERV Membership Contract with VTT before any costs are incurred.
- Travel refunding application with cost estimate to VTT.
- Written acceptance from VTT.
- Delivery of written documentation of own presentation to VTT.
- Delivery of travelling expenses invoice form and copies of receipts to VTT.

Please note that because SIM-SERV is an EU FP5 project, your organisation must be based in an EU country in order to get funding from the project. Naturally, also organisations from other countries are most welcome to participate in the workshop and other activities of the Working Group.

Appendix 2

Description of the SIM-SERV working group of Simulation-assisted automation testing SAAT, which has been formed under the EC Contract G7RT-CT-2001-05044, as accepted by the SIM-SERV project.

<p>Short description of the Working Group topic</p> <p>Simulation-assisted automation testing means evaluation of DCS or PLC design or implementation by running simulation experiments connected to a process simulation model. For this purpose, the automation can be simulated, emulated or stimulated.</p>
<p>Background. Reasons why this Working Group is needed.</p> <p>In industries, the use of simulation to support automation system design and implementation is seen as an attractive means to achieve shorter commissioning times and improved quality in automation system deliveries. Automation and simulation software providers have implemented tools to facilitate the co-use of automation and simulation software, and the tools have been pilot-used in industrial projects with promising results.</p> <p>This WG is needed to spread the good news about the success already achieved, and to open discussion on new working methods enabled by the new technology. From a software provider's point of view, the WG will provide use case -based requirements to development work and open discussion channels between developers and users.</p>
<p>Working Group goals.</p> <ul style="list-style-type: none"> • Define the state of the art in simulation and automation technologies related to the co-use of simulation and automation software for testing purposes • Exchange experiences and ideas about using simulation to test automation design and implementation • Form networks to assist in taking the tools and technologies into use • Agree on the related ICT specifications, e.g. interfaces for data exchange and simulation control
<p>The expected impact of the working group.</p> <ul style="list-style-type: none"> • Better understanding on the possibilities of the simulation technology in automation deliveries • New, more efficient working methods that lead to shorter commissioning times and higher quality • Improved co-use of simulation and automation software
<p>Expertise already possessed by the proposed members.</p> <p>Computer simulation ICT Experience in integrating simulation and automation software components Dynamic simulation of power plant and paper mill processes</p>
<p>Expertise that should be added. What kind of additional members would be required to make the group successful? SIM-SERV will try to engage the relevant persons to the working group if the topic is accepted.</p> <p>Automation system providers Simulation and related software providers Industrial partners who design, implement and deploy automation systems</p>