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Designing for adaptability and evolution in system of systems engineering

DANSE Exploitation Forum

D_8.7.3

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1 Introduction

1.1 Overview, Purpose and Scope

This document is an accompanying document to deliverable 8.7.3 – DANSE Exploitation Forum, 3rd revision. The deliverable itself is an IBM Connections website with public access, containing DANSE exploitation and dissemination materials as a whole and per work packages. The individual work package and tasks owners are responsible for their respective content.

The web site has been established later in the first year before the first prototype of the tool-net, and did not have a real value before prototypes are ready for exploitation. That happened mostly in the second and third years of the project. This report is the final version description of the forum and supersedes all the previous reports D8.7.1, and D8.7.2.

Website address:

<https://www-304.ibm.com/connections/communities/service/html/communityview?communityUuid=8c32ad8d-973f-4d7f-8975-66fb631d1d6f>

Short URL: <http://www.danse-ip.eu/forum>

Important Note: In the IBM Community website the individual discussion is called a “forum”. To eliminate the confusion between the terms the originally defined (in DOW) “exploitation forum” will be referred to as “exploitation community” or simply “community”.

The main purpose of this accompanying document is to outline the structure of the exploitation community with intent to organize it and guide the partners in creating additional topics in an easily navigable manner.

2 Community structure

2.1 Overall structure

The community has been structured differently a bit from the ideas presented in the first report on this service on M12. The elements maintained in this service consist of **Topics** and **Forums**, where topics are associated with specific forums. Each topic may have a hierarchy of threads of replies to the topic. Each user registered on this service may choose to follow a certain forum, which will be included in a summary report sent to the user on a daily or weekly basis.

The user profile can be setup to indicate how these reports are mailed to him/her.

DANSE prototype III (see D8.5) consisted of a set of about 25 technologies, consisting of off-the-shelf tools as well as tools extensions and new tools developed as part of the DANSE research activity. That has been updated only a bit to the final prototype (see D8.8).

Each of these technologies deserves a forum, which is led by one of the partners who is most critical in the development, maintenance and support of that technology to the user community. These forums are still being set up at this point in time, since the DANSE members are slow to adopt this mean of support.

The forums presently are listed in the next figure, showing the activity in each of the forum. Clearly, the DANSE Technology forum has been most busy with lots of topics.

Of interest is the topic WishList ion the DANSE Technology forum

DANSE Exploitation Forum



- Overview
- Recent Updates
- Status Updates
- Members
- Forums**
- Bookmarks
- Files

Forums

Forums
Topics

Forums	Topics/Messages	Latest Post
 DESYRE The DESYRE by ALES is a simulation and test monitoring tool. This forum is used to track problems and issue with using this...	23/37	Jan 26 Jean Quilbeuf
 FMU solutions Discuss problems with the FMU technology. Some discussions already started in a really busy forum...	2/3	Jan 6 Stephane PAUL
 Architecture Generation Modeling of dynamicity (SoS architecture reconfiguration) using graphical means similar to UML.	7/7	Dec 15, 2014 Stephane PAUL
 Goal and Contract Specification Language (GCSL) In DANSE the GCSL is used to formalize requierements for system dynamics as well as for dynamicity with extends the classi...	3/11	Dec 3, 2014 Stephane PAUL
 DANSE Tool-Net This is the discussion and updates thread about tool interoperability framework.	5/9	Sep 28, 2014 Uri Shani
 DANSE Technology DANSE Technology consists of tools, methods and processes required to perform Systems of System model-based design, a...	39/138	Sep 6, 2014 Uri Shani
 Statistical Model Analysis with Plasma This is a forum managed by INRIA's Benoit Boyer.	2/5	Jul 25, 2014 Stephane PAUL
 Protege tools-net client to the Semantic Mediation Container (SMC) Forum to discuss use of the Protege client to SMC. That is described in the technology wiki here: https://www.danse-ip....	1/1	Jun 26, 2014 Uri Shani
 DANSE Methodology Forum to discuss issues about the DANSE methodology as a whole; the life cycle diagram, the major...	4/12	Mar 18, 2014 Eric Honour
 Administration Discussion group on the content and the structure of this community. Please suggest additional...	3/6	Dec 22, 2013 Uri Shani
 Architecture Optimization Workbench This forum is about the Architecture Optimization technology from IBM Research, based on SysML modeling using the "Con...	0/0	Sep 12, 2013 Henry Broodney

Figure 2-1: Exploitation forum community for DANSE: Main forums.

- Administration – deals with community management, structure, rules and general DANSE information.
- Technology forums – several forums, each for each of the technologies. Will serve for discussions and information about technologies in DANSE, their purpose, non-confidential description and links to material in the art. This section may also contain workflows build on joint (sequential or simultaneous) usage of several DANSE technologies – yet that depends on the activities by the participants.
- Use cases – TBD by users. Intend to discuss about potential applications domains, including the four DANSE use cases.

DANSE Technology

DANSE Exploitation Forum



Overview

Recent Updates

Status Updates

Members

Forums

Bookmarks

Files

Tags: [interoperability](#), [oslc](#), [sos](#), [tool-net](#), [tools](#)

DANSE Technology consists of tools, methods and processes. The elements of this collection are described in the project forum. Another forum, the "Solution Methods" presents a methodology and phases.

[Log in to start a topic.](#)

1-25 of 39

Topics

Wish List
Started by Uri Shani

Minor Desyre interface bug
Started by Stephane PAUL

FMU Export-Import process
Started by Stephane PAUL

FMU export (manual) process
Started by Stephane PAUL

<<FMUIgnore>> stereotype
Started by Stephane PAUL

Re : Upgrade to Desyrell-2.2.0
Started by Charles Robinson

Upgrade to Desyrell-2.2.2
Started by Charles Robinson

Overcost and Rol
Started by Stephane PAUL

Desyre II: configuration management

Topic Tags ?

Find a Tag

[; container](#) [danse](#) [desyre](#)

[list mediation](#) [methodology](#)

[profile rhapsody](#) [semantic](#)

[smc standards](#) [tool-net](#)

[tools-net](#) [updm](#) [wish](#) [wishful](#)

[Cloud](#) | [List](#)

Figure 2-2: Topics in the DANSE Technology forum in the Exploitation Forum community.

Some examples from the Wish List topic are in the following figure.

DANSE Exploitation Forum



- Overview
- Recent Updates
- Status Updates
- Members
- Forums**
- Bookmarks
- Files

Topic Tags

Find a Tag

; container danse **desyre**
list mediation **methodology**
profile **rhapsody** semantic
smc standards tool-net
tools-net updm wish wishful

Cloud | List

DANSE Technology > Wish List

5 replies Latest Post - Sep 6, 2014 by Uri Shani



Uri Shani
28 Posts

Wish List

Jun 25, 2014 | Tags: list, wish, wishful

This topic is intended to build a wish list by users and vendors within the time and capacity of this project, but that would prove development ecosystem.

[Log in to reply.](#)



Stephane PAUL
30 Posts

Re : Wish List

Jun 26, 2014 in response to Uri Shani

Ok, but there is some form of redundancy with the topic "Suggest Long-Term Wishes, by contrast with the former.

[Log in to reply.](#)



Uri Shani
28 Posts

Re: Re : Wish List

Jun 29, 2014 in response to Stephane PAUL

Exactly, things that will most certainly not happen during DANSE which may than pass on to this list when its resolution seen

[Log in to reply.](#)



Stephane PAUL
30 Posts

Multiple scopes of simulation

Aug 29, 2014 in response to Uri Shani

The topic is rather silent! I would like to suggest one.

It would be great to be able to define multiple scopes of simulation Desyre, but a sub-part or a specific view over the SoS. The general configurations, meaning different architectures and multiple FMUs for the same CS.

[Log in to reply.](#)

Updated on Sep 1, 2014 at 9:37 AM by Stephane PAUL

Figure 2-3: Wishes discussion in the forum

2.2 Users

A relentless effort to get all of the DANSE users to register with this service resulted at the end of the project with 42 users, which is about 75% of the DANSE mailing list size. Some people from the public joined since this is a public forum.

Some of the users will start technology and users forums in which the technologies can be exploited. All users can set up their profile to indicate how they want to get reports on activities in this community service. Summaries of activity are sent on a daily or weekly basis to the users on forums they choose to follow. A summary of the user activity is also presented in the user profile:

My Profile
My Network
Directory

Profiles by Name



Edit My Profile

Tags

Add tag(s) to this profile +

Enter a tag as a single word with no spaces. Examples: human-resources, hiring_manager, payroll.

Reasons to Update Your Profile

- Your profile is visible to everyone in the organization. Use it to define who you are and what you do.
- Post a message to share an idea or problem that you are working on and get immediate feedback about it from your colleagues.
- Click "Edit My Profile" to update your contact information, upload a photo, and add information about your work and expertise.

View Demo

Uri Shani

shani@il.ibm.com
Local Time: 5:29 PM

Send Email
Download vCard

Recent Updates | Contact Information | Background

What are you working on right now?

Filter By: All



Uri Shani replied to the [Re : Re: Rhapsody - Error loading project](#) topic thread in the [DANSE Technology](#) forum.



Charles Robinson I think the problem is best described in these two consecutive screenshots (attached). Rhapsody is trying to read past the end of one of the files.(I have also posted the question here: <https://www.ibm.com/developerworks/community/forums/html/topic?id=108b2ac5-9272-4b34-87bc-2880666805c4>)

Network

1 new invitation

No network connections

[View All \(0\)](#)

My Links

There are no links

[Add Link](#)

My social

Visit me

[LinkedIn](#)

[Facebook](#)

[Edit my social](#)

Figure 2-4: User profile

In addition, the user can set up how often such summaries are mailed to him/her:

Email Preferences
Application Access

Notifications Preferences

Send emails to this address: shani@il.ibm.com

Receive notifications from other people by email ? Email language: Language used in last visit ?

How often do I want to be notified about:

Responses & Notifications	Individual Emails	Daily Newsletter	Weekly Newsletter	No Email
Responses to my content and Notifications for me ?	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Content that I am following	Individual Emails	Daily Newsletter	Weekly Newsletter	No Email
People	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Communities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Blogs	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Tags	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Activities	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forums	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
Files	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wikis	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure 2-5: Users settings for feedback from the forums.

At the end of the project there are about 42 real users, most members of DANSE partner companies, only a few public. Most active industrial users have been from Thales, and specifically Stephane PAUL who deserves a “Gold Member” flag.

Here is the roster of all the users:

Sort by: Name | Date Added ▾

 Jean Quilbeuf Member Edit Remove	 Valerio Senni Member Edit Remove	 Romain Soulat Member Edit Remove	 Alexandre Arnold Member Edit Remove
 ajino motil Member Edit Remove	 Yael Dubinsky Member Edit Remove	 Sabrina Rohrer Member Edit Remove	 Gerard Cristau Member Edit Remove
 YISHAI FELDMAN Member Edit Remove	 Leonardo Mangeruca Member Edit Remove	 Marco Marazza Member Edit Remove	 Lev Greenberg Member Edit Remove
 Roberto Passerone Member Edit Remove	 Michael Masin Member Edit Remove	 EVGENY SHINDIN Member Edit Remove	 Benoit Boyer Member Edit Remove
 Roy Kalawsky Member Edit Remove	 Antara Bhatt Member Edit Remove	 Yingchun Tian Member Edit Remove	 Jürgen Müller Member Edit Remove
 Alberto Sangiovanni Vincentelli Member Edit Remove	 Revital Goldberg Member Edit Remove	 Avi Shaked Member Edit Remove	 Ariav Savir Member Edit Remove
 Michael Langner Member Edit Remove	 Nir Bendov Member Edit Remove	 Massimo Baleani Member Edit Remove	 Tayfun Gezgin Member Edit Remove
 Imad Sanduka Member Edit Remove	 animesh bhattacharjee Member Edit Remove	 Charles Robinson Member Edit Remove	 Tim Lochow Member Edit Remove
 Andreas Keis Member Edit Remove	 Mickael Albert Member Edit Remove	 Stephane PAUL Member Edit Remove	 Stephanie Kemper Member Edit Remove
 Sebastian Klaas Member Edit Remove	 Christoph Etzien Owner Edit Remove	 Uri Shani Owner Edit	 Eric Honour Owner Edit Remove
 Ariel Landau Member Edit Remove	 Henry Broodney Owner Edit Remove	 Community Admin Owner Edit Remove	

Figure 2-6: DANSE Exploitation Forum users.

2.3 Administration Forum

This section will include presently two topics which discussed the management and organization of this community:

- Exploitation Forum Organization – this topic discussed the general organization of this community as presented in this document.
- Forum usage guidelines– this topic have an initial post outlining the rules of conduct for the community and the guidelines for posting information, non-confidentiality, etc.
- List of publications – TBD – not applied yet. This topic will include a list of DANSE related publications from all partners with links (where applicable) to the publication. Publications will not be posted on the website in order not to violate the rules of publication (publisher) for the original publication venue. Yet, this is a replication of other means of DANSE such as the DANSE web site.
- List of related events – TBS – not applied yet. This topic will include past and future events either in SoS area or with relevance to one or several technologies in DANSE. This is too a replication of the

DANSE web site. Yet, when event relate to exploitation, than repeating them in this forum will be valuable.

2.4 Technology Forums

This group of forums will include topics for the technologies that are used and evolved in DANSE. The responsibility for leading and moderating the topic lies with the specific technology provider.

The topics shall also include stories of successful and unsuccessful application of the specific technologies and the best known methods for such.

Special forum is the “Danse Technology” forum in which discussion on the DANSE technology is presented to include:

1. How to work with this forum
2. Various issues by users of the DANSE technologies

Table 1 outlines the topics of the section.

#	Technology	Partner	Task in DOW
1	SoS Architecture Patterns	LU	WP5
2	DANSE Technology	IBM	WP4-8
3	GCSL	ALES	T6.3
4	Architecture Generation	OFFIS	-
5	SoS Meta-Modeling	OFFIS	T6.4
6	Simulation	ALES	T7.1
7	Abstraction	OFFIS	T7.3
8	Statistical Model Checking	INRIA	T7.4
9	Formal Verification	ALES	T7.5
10	Optimization	IBM	T7.8
11	DANSE Tool-net	IBM	WP8
12	DANSE Methodology	Honorcode	WP2

Table 1 – List of topics in the technology section of the exploitation community

Status: 2 is active, 3 and 12 established. Rest are still pending.

2.5 Applications and Usage Forums

These forums are for exemplifying the usage of the specific technologies in various engineering workflows.

Thus in addition to the technologies the topics will discuss other important aspects, such as:

- Prerequisites for starting a workflow and the setup required
- The information flow between tool and tool
- The expected results
- Effort and skill required to implement and execute
- Other aspects as may deem appropriate by the members of the community

Similarly to the technologies section the topics shall also include stories of successful and unsuccessful application of the specific workflows and the best known methods for such.

Table 2 summarized the initial list of workflows to be included in the forum.

Workflow	Partners	Notes
Pattern based Architecture Synthesis	IBM, LU	Usage of patterns as input into architecture optimization via the tool-net
Design Verification	ALES, INRIA, EADS FR	Usage of simulation and statistical model checking for verifying the design requirements defined in GCSL

Table 2 – List of workflows

2.6 Methodology and Use Cases Forums

These forums will include the overall discussions on DANSE proposed methodology, based on the technologies and workflows. The objective of the discussion is to elicit the overall perceived value from applying all the DANSE developments.

This section will also include discussions on the specific use cases and the respective applicability of the technologies and workflows (i.e. what methodological subset may be used). It is intended that with time there will be additional use cases, from the DANSE partners and from external parties.

Table 3 outlines the initial list of use cases (essentially the four original DANSE use cases per the DOW).

Use case	Partner
Emergency response	EADS DE
Air Traffic Control	Thales
Integrated Water Treatment and Supply	IAI
Autonomous Ground Transport	Carmeq

Table 3 – List of use cases

3 Issues Tracking

Not part of the exploitation forum, but contributing as a complementing facility. That facility is supported on the REDMINE wiki server: <https://www.danse-ip.eu/redmine/projects/danse/issues>.

Only problems and bugs have been dealt in this page to keep it within the project private eyes:

#	Tracker	Status	Priority	Subject	Assigned to	Updated
37	Bug	New	Normal	Issue when suppressing a <<TRACEABLE>> stereotype	STEPHANE PAUL	01/16/2015 10:07 pm
36	Bug	Resolved	Normal	Rhapsody FMU Plugin - Issues in serialization\deserialization of events	Lev Greenberg	01/08/2015 04:52 pm
35	Bug	Resolved	Normal	FMUIgnore issue in interaction with port interface	Lev Greenberg	01/08/2015 04:51 pm
34	Bug	Resolved	Normal	DESYRE 2.2.4 import of CAE example failed	Valerio Senni	12/03/2014 06:49 pm
33	Bug	Closed	Normal	DESYRE Installation Failed	Valerio Senni	12/02/2014 03:38 pm
32	Bug	In Progress	Normal	GCSL parser error with negative numbers	Christoph Etzien	10/31/2014 04:34 pm
31	Bug	New	Normal	Contrat cannot be loaded by the GCSL Editor	Christoph Etzien	10/30/2014 06:11 pm
30	Bug	New	Low	Error messages in GCSL Editor Console	Christoph Etzien	10/30/2014 06:08 pm
29	Bug	In Progress	Normal	Intervals are initialized with "[,0" instead of "0,inf"	Christoph Etzien	10/16/2014 03:54 pm
28	Bug	Resolved	Normal	No nested Constraints selectable in Editor	Christoph Etzien	10/31/2014 04:41 pm
27	Bug	Resolved	High	Mismatch between BLTL translation and Agreement document (eu.danse.gcsImm)	Christoph Etzien	10/15/2014 08:58 am
26	Bug	Resolved	High	Testing issue tracking system	Valerio Senni	10/30/2014 10:50 am
18	Bug	Resolved	Normal	Notificaiton of new issues adds unwanted watchers	Christoph Etzien	10/30/2014 10:51 am

Figure 3-1: Issues Tracking facility of DANSE

This forum has been very busy in the last period of the project, much as the Exploitation forum was since that is the time the industrial users have been most busy with their cases and needed support of the tool vendors.

4 Conclusions

The Exploitation forum was not as effective as expected or planned. Issues tracking facility seems more proper for maintaining tools between users and providers. That is probably a function of the maturity of the tools. DANSE tools maturity has been of a research products rather than well finished products, hence bug-tracking seems more appropriate.

However, had these tools been more mature and so would have a wide acceptance also in the public, or that the content of DANSE have been more of interest to the public (and that may take a bit more time than the project lasts, and require a stronger dissemination of the project assets), this forum would have shown more activity and proven more valuable, specifically through public participation.

5 Abbreviations and Definitions

DANSE	Design for Adaptability and evolution in System of systems Engineering
GCSL	Goals and Contracts Specification Language
DOW	Description Of Work
IAI	Israeli Aerospace Industries
EADS	European Aeronautic Defense and Space Company
LU	Loughborough University
ALES	Advanced Laboratory for Embedded Systems
IBM	International Business Machines corporation
SoS	System of Systems

6 References

[1] DANSE Exploitation Community Address:

<https://www-304.ibm.com/connections/communities/service/html/communityview?communityUuid=8c32ad8d-973f-4d7f-8975-66fb631d1d6f>