3rd INTEROP-VLab Newsletter

EDITORIAL: INTEROP-VLab on the Way to support the European Community

By Prof. Kai MERTINS, IPK Fraunhofer (G), Treasurer of INTEROP-VLab

INTEROP-VLab is growing consequently!

Now eight regional poles forming the INTEROP-VLab. In the 2nd General Assembly meeting we could welcomed the Italy.it (Italian Pole) and the North Pole (Finland Norway, Sweden). Now more than 300 Interoperability experts in 70 Organisations coming from Research, Industrial Users and Vendors established a strong community to create and apply the Science Base for Enterprise Interoperability.

Two major events happened in the last month:

- I-ESA'08 Conference in Berlin on March 25th – 28th
- 2nd General Assembly in Brussels on May 15th

I-ESA'08 underlined both, the need for a common understanding of Enterprise Interoperability challenges and approaches and how a strong community can contribute to. By the way: the INTEROP VLab workshop at I-ESA'08 with more than 45 participants was by far the most visited session at the first day in Berlin. At the 2nd General Assembly we could present important achievements for further growing and impact into Science and Industry. First of all the INTEROP VLab assets on the Web Platform including:

- Single Entry point of State of the Art for Enterprise Interoperability. Now the public deliverables developed in the FP6 and FP7 projects related to Enterprise Interoperability provided by the European commission are accessible via the INTEROP-VLab platform (currently more than 300),
- Research Agenda of the INTEROP-VLab scientific group has been introduced into the EU roadmap,
- The INTEROP-VLab services including the knowledge map as the dynamic interoperability Asset of INTEROP VLab to facilitate finding of world wide Interoperability Experts, Interoperability approaches and artefacts as well as all related documents in an integrated environment.

Cristina Martinez, representing Gerald Santucci, head of the unit "Enterprise Networking and RFID" at the European Commission , responsible for Enterprise Interoperability at the European Commission expressed the great success of the establishment of INTEROP-VLab. In her speech she addresses that INTEROP-VLab was the project of the Month in March, 2008.

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Our Community plays a major role in other organisations as well. So the Special Interest Group EI in IFIP, created with the support of INTEROP VLab, is now an official working Group (WG5.2) in IFIP TC5 to manage the world wide Science in Enterprise Interoperability. On the other hand a stable communication between INTEROP VLab and IMS (Intelligent Manufacturing Systems) has been formed. This gives us the opportunity to involve this industry-led, international research and development program in order to support the development of the next generation of manufacturing and processing technologies.

In the near future we are looking forward to introduce enterprise interoperability in the strategies of the European countries and to include new VLab poles especially coming from growing east and middle Europe.

Your,

Kai Mertins

SPECIAL REPORT ON: IESA'08 Conference

"Science meets Industry"

by Thomas KNOTHE, IPK Fraunhofer, Chair of I-ESA'08 Organizing Committee

Under the headline „Science meets industry" at the I-ESA'08 Conference in Berlin 183 participants from 26 countries shared requirements and solutions in the domain of Enterprise Interoperability.

Chaired by Prof. Kai Mertins, the Fraunhofer IPK hosted a huge programme: starting on March 25th with intensive workshops in six parallel sessions perpetuated into three conference days until March 28th. In 62 speeches including 11 industrial ones major topics have been discussed like: methodologies for semantic modeling, services oriented architectures and cross-sector processes.

Highlights were the Keynotes by:

- o Prof. Frank Leymann (University of Stuttgart), about "Cloud Computing"
- o Walter Halamek (BMW, Germany), expressing highly important interoperability challenges in car development. Halamek pointed out the demand on open solutions coming from joint industry and research initiatives.
- o Prof. Cui Degang (AVIC), showing Chinese approaches to master dependencies between various disciplines in the area of aircraft engineering.

Sujit Wings from BaseN (Finland) stated: „Keynotes by its own were already worth to come to Berlin". Very positive to be seen: „The I-ESA'08 demonstrated a very stable and active community approaching more and more jointly the immense challenges in Enterprise Interoperability.

The 5th I-ESA'10 will be held in Coventry (UK), chaired by Prof. Keith Popplewell. Under the leadership of Prof. Xiaofei Xu the first I-ESA'09 China takes place in Harbin in 20-23 April 2009.

REPORT ON THE SCIENTIFIC INTEROP WORKSHOP

by G. Doumeingts, INTEROP-VLab General Manager

In the frame of the various workshops organised for the I-ESA 08 Conference (March 25th, 2008), the INTEROP Scientific Workshop was well received (more than 40 participants in the first morning).

Organised by the Scientific Coordination Group (SCG) of the Scientific Committee of INTEROP-VLab, this workshop is a contribution to the "Scientific Agenda" published regularly by INTEROP-VLab. The objective of the Workshop is to facilitate an in-depth discussion among the Stakeholders in the research domain of Enterprise Interoperability in order to produce the next version of the "INTEROP-VLab Scientific Agenda"

The structure of the workshop is as follows:
- Introduction on the workshop, by Guy Doumeingts
- "Enterprise Interoperability - The Challenge for Informatics to Restrain Complexity", by Prof. Kassel
- Topic 1: Interoperability by design and Enterprise engineering for collaboration & interoperability; Coordinator: Guy Doumeingts
- Topic 2: Knowledge-based collaboration & semantic interoperability, including WEB 3.0; Coordinator: Keith Popplewell
- Topic 3: Mapping, reconciliation and mediation for executable interoperability; Coordinator: Michele Missikoff
- Topic 4: Interoperability Assessment (including simulation, diagnosis, value proposition…); Coordinator: Yves Ducq
- Topic 5: Science Base for Enterprise Interoperability (EI); Coordinator: Ricardo Goncalves
- Conclusion by Guy Doumeingts

27 contributions were proposed in all the topics.
Now the work continues. A book is in preparation. It will present the 3rd version of the Scientific Agenda, plus two pages per subtopic and ten papers selected from the 27 presentations.

REPORT ON THE STANDARDS WORKSHOP

by Martin ZELM, Cimosa, coordinator of the INTEROP-VLab Standards Group

A workshop entitled 'Standards for Interoperability – How?' was held on Mar 25, 2008 in conjunction with the I-ESA'08 Conference. The goal of the workshop was to increase awareness and understanding of standards for enterprise interoperability, industrial automation and the role of the INTEROP-VLab.

The workshop started with 2 overview papers: one by M. Zelm on the INTEROP VLab, its origin, scope, status and strategy, with focus on its role in standardisation, and one by K. Kosanke on standards supporting interoperation in integrated/unified environments (CEN/ISO 19440 - modelling language) and federated environments (ISO 15745 and 16100 – definition of profiles) as well as related standards.

Further, D. Chen and D. Shorter, presented a paper "Framework for Manufacturing Process Interoperability" about the content of the current efforts in CEN/ISO in the area of interoperability. The 3-diemensional framework enables identification of categories of barriers to interoperation (conceptual, technological, organisational) at different levels of concern (data, services, processes, business) and related types of solutions.

The paper on "Implementation of ISO-10303 Standards in SME-based Environments" by M. Delgado et al, presented by R. Goncalves described the efforts made in the European project INNOVAFUN to enable SMEs in the furniture industry with low ICT competence to implement the funStep standard according to their needs.

"Interoperability Issues in Virtual Product Creation" was the title of the paper presented by U. Kaufmann. Focussing on the automotive industry and its supply chains with their CAD/CAM/PDM/ERP-STEP-based applications, the interoperability problems between the different partners and their implemented solutions were discussed

In the paper "UML Profile and Metamodel for Services (UPMS)" A. Berne presented the emerging OMG standard that will provide a basis for interoperability of platform independent models and specifications of services in SOA - Service Oriented Architecture.

In the discussion, a number of requirements which VLab should address were identified:

o   Economical Aspects: Cost model for interoperation, ROI of standards,

o   Dissemination: Material in condensed form for standards promotion in industry.

o   Education: Enhancing the available education material on interoperability standards.

The papers and the related presentations are available at www.interop-vlab.eu.

PORTRAITS OF the winners of the IFIP Award Best Paper, during I-ESA'08

In 2007, the Steering Committee of I-ESA decided to create two awards for the Best paper for a Senior Researcher and an Award for the Best paper of a junior Researcher. These two awards are sponsored by the Technical Committee N°5 "IT Application" of IFIP (International Federation for Information Processing) : the winner receive a price of 500 €.

Gilles Gautier (University of Salford, UK)
Best Paper in the category senior researcher

Mr. Gilles Gautier is a research assistant at the Future Workspaces Research Centre at the University of Salford. He is a key researcher in the EU funded COSPACES project which is developing technologies to support innovative collaborative workspaces for distributed engineering organisations. His research interest is in the area of human factors for issues in collaboration and how they can be addressed by technology to improve the work of distributed teams. He has developed a formal meta-model to describe the working context of the collaborative teams, including a representation of their physical, organisational and computational environments. This model is used in a model driven approach to automatically generate context-based user interfaces. In this approach, the look-and-feel and contents of the UI can be adapted in real-time to the users depending on their context.

Title of the paper: "Understanding the Collaborative Workspaces"

Co-authors: Colin Piddington and Professor Terrence Fernando (University of Salford)

Despite the concept of working collaboratively being very popular, its implications on the organisational structures and on the human requirements are not completely understood. As a result, the advanced technologies used to enhance collaborative work have often had a limited or even a negative impact on the work efficiency. Common issues often involve human factors, such as the acceptance of the

new product by the users, the lack of communication between users and the working culture. As a consequence, a better understanding of the human needs would facilitate the development of better tools to support group work as well as more efficient organisations.

Therefore, this paper compares the organisation and the human perspectives on collaboration in order to identify the barriers to implementing it. In particular, it focuses on issues related to the life cycles, organisation structure, information flow and human motivation. It also introduces the case of virtual organisations and their difficulty to generate efficient collaboration.

Marcel HIEL (Tilburg University, NL)
Best Paper in the category young researcher

Marcel Hiel is a PhD candidate at Tilburg University. He received his BSc in Software Engineering from Rotterdam University of Applied Sciences, and his MSc in Artificial Intelligence from Utrecht University. His research interest lies in combining these two fields, with a focus on making (web) services adaptive regarding interoperability.

Title of the paper: "An Adaptive Service-Oriented Architecture "

Co-authors: Hans Weigand, Willem-jan van den Heuvel (Tilburg University, NL)

Service Oriented Architectures and Autonomic Computing are heralded as the de-facto solutions for constructing and evolving complex and highly- adaptive enterprise applications. Unfortunately however, the architectures proposed are visionary; how to design, build and evolve adaptive service-enabled applications remains largely unclear. In this paper, we introduce an extension to the Service.

Oriented Architecture, called Adaptive Service Oriented Architecture (ASOA), leveraging it with concepts and mechanisms from Autonomic Computing and Agent Technology.

Key concept for realizing this adaptivity in ASOA is the manager. By introducing a manager on top of each service, we create a separation of concerns where the service is responsible for dealing with operational issues and where the manager is responsible for the adaptivity and controlling the service. The manager is guided by goals that are defined by the owning organization and restricted by the contracts with other services. The manager uses the management capabilities of the service to control it and monitors the events that the service generates to detect any changes.

To illustrate the constituents and implications of this framework, we have described a prototypical architecture which deals with interoperability issues. The service (retailer) has a business process described in BPEL and the manager is written in the agent-programming language 2APL. The manager has the goal to keep the service compliant (compatible) with respect to the interfaces (WSDL) of the used services (Bank, Shipper etc). The adaptation process is explained with a change example (i.e. the bank upgrades its interface to support creditcards).

INTEROP-VLab activity

Report on the activity of INTEROP-VLab since January 2008
by Guy Doumeingts, INTEROP-VLab General Manager

We describe below the main activities performed by INTEROP-VLab through the Board and the Management:

Membership:
- Two new Poles have been officially recognised by INTEROP-VLab: the North Pole (beginning of March 2008) and the Italian Pole (beginning of May 2008)
- Fees for 2007 have been collected from all the poles
- Discussion with University of Bucharest to create a pole in Rumania

Promotion of INTEROP-VLab:
- Visit to the UK pole by Guy Doumeingts in order to participate to the local event and to discuss on the launching of potential projects (24-25/01/2008)
- Visit to the Italian Pole by Guy Doumeingts in order to participate to the official creation of the pole and to answer to any questions (21-22/02/2008)

Collaborations:
- Participation to the EI cluster meeting (11/03/2008): Keith Popplewell; Michele Missikoff; Guy Doumeingts; Gash Bhullar; Contribution to the EI Roadmap v5
- Relation with IFIP Working Group 5.2 "Enterprise Interoperability": INTEROP-VLab has facilitated the creation of this W.G. (participation of the WG to the organisation of the Scientific Workshop during I-ESA 08). In fact the two organisations are complementary: INTEROP-VLab is an Association of Organisation at the European and Chinese level, IFIP is a structure of individual people at the world wide level

Relation with the European Commission:
- INTEROP-VLab is the Official organisation to host all the deliverables in EI of EC on the proposition of EC, DG INFSO, Unit "Enterprise Networking and RFID", Gerald Santucci (see the list of projects in "FOCUS ON" below)
- INTEROP-NoE has been elected the « Project of the Month » by DG INFSO (March 08): this distinction is a recognition of the work performed by the NoE
- Participation to the IMS (Intelligent Manufacturing System) workshop in Bern: creation of the streamline « Interoperability and Standards » at the invitation of EC (24/04/2008)

Projects activity:
- Potential calls in 7th Framework programme are described on the platform to partners and regularly updated
- Preparations of projects: CREAKTIVE project for a call e-content (possibility to improve and to develop the KMap)
- Follow up the preparation of a potential ERA-Net project in the domain of Enterprise Networking and follow up INTERREG project called SUDOE (Concerned poles: PGSO+SPAIN+PORTUGAL) (PGSO+SPAIN+PORTUGAL)
- Search of dedicated organisations for our partners in order to answer for various objectives

Other activities:
- Follow up the organisation of I-ESA 08
- Management (registration, information...) and follow up the evolution of Platform: KMap, creation of Workings Group, discussion and analyse to improve the running of the Platform and the KMap
- Organisation of Scientific Workshop during I-ESA 08 (see page 2)
- Elaboration of a Flyer (8 pages) available on the Platform (http://interop-vlab.eu/interop-vlab-network/interop_vlab_documentation/)
- Creation of documents describing the INTEROP-VLab services (http://interop-vlab.eu/backoffice/interop-vlab-network/I-V_services)

Main Decision of the General Assembly (13, 14, 15 May 2008)
- Confirmation of the membership of the North Pole and Italian Pole
- Approval of the Financial results for 2007
- Internal rules:
    - confirmation of the creation of the Scientific Coordination Group
    - One permanent access to the e-Learning Platform to consult all courses and tutorials for all partners
    - Decision to create Entry Fees for the new poles
    - Adoption of the Services provides by INTEROP-VLab
    - Adoption of the Reference for the organization of next I-ESA Conferences
- Report on the activities of the 8 poles
- Approval of the Scientific Committee activities: production of two books, selection of Seminar papers
- Approval of the Education Committees activities: organisation of the Master EI for 2007-2008; launching projects in the frame of M. Curie
- Approval of the Standardisation Group activities
- Decision to recruit Industrial partners as Sponsorships
- Approval of the Platform Renovation Plan
- Approval of the KMap group activities
- Approval the updated Budget for 2008
- Approval of the Budget forecasts for 2009 and 2010

FOCUS ON

EI PUBLIC DELIVERABLES AVAILABLE ON INTEROP-VLab WEBSITE
By Cathy LIEU, INTEROP-VLab Assistant Manager

Since beginning of May, about 150 public deliverables in the domain of Enterprise Interoperability (EI) are available on our website www.interop-vlab.eu

INTEROP-VLab has been chosen by the European Commission to be the official repository of EI public deliverables, from the 6th and 7th Framework programme. Currently you will find deliverables from:

- INTEROP-NoE (FP6-IST 508011 / completed)

Interoperability Research For Networked Enterprises Applications and Software

- ATHENA (FP6- IST 507849 / completed)

Advanced Technologies for Interoperability of Heterogeneous Enterprise Networks and their Application

- ABILITIES (FP6 IST-027306 / completed)

Application Bus for InteroperabiLITy In enlarged Europe SMEs

- FUSION (FP6 IST-027385 /execution)

Business process FUSION based on Semantically-enabled Service-Oriented Business Applications

- GENESIS (FP6-IST- 027867 /execution)

Enterprise Application Interoperability via Internet-Integration for SMEs, Governmental Organisations and Intermediaries in the New

European Union

This repository will be regularly enriched by other projects and public deliverables.

All public deliverables are in free access on the INTEROP-VLab website and can be downloaded or simply consulted.

INTEROP-VLab News

Announcement of the Special I-ESA 09 in China

INTEROP-VLab proposes a series of events in the domain of Enterprise Interoperability (EI).

Since 2005, the International Conference I-ESA (Interoperability for Enterprise Systems and Applications) has been organised annually. This is a major event in EI. The 5th edition was organised in Berlin by IPK Fraunhofer, on March 26th -28th 2008 (see article page 2).

Exceptionally, next year, a Special I-ESA in China will be organized in Beijing, on 20 - 23 April 2009, under the theme "Promoting collaboration of enterprises through interoperability, to link China and Europe, and the world".

Organizers: INTEROP China Pole, HIT (Harbin Institute of Technology) and AVIC (China Aviation Industry Company)

Promoters: INTEROP-VLab, BUAA (Beihang University), ISCAS (Institute of Software, China Academy of Sciences)

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The INTEROP-VLab Event Cycle (IVEC)

Principle: the 10 poles will organise a local event, every two or three months. The pole is in charge to define the programme according to the local interest, to invite speakers and to promote the event.

The next local event will be organised by the Pole France GSO (Grand Sud-Ouest) on 4-5 June 2008, in Albi (F).

Poles	Event	Date
The PGSO	Pole event, organised in Albi (France)	4-5 June 2008
The Portuguese Pole	Pole event	27-31 October 2008
The INTERVAL Pole	Pole event in Spain	January / February 2009
The China Pole	I-ESA China 09, organized in Beijing (China)	20-23 April 2009
	INTEROP-VLab General Assembly in Brussels	June 2009
Italian Pole	Pole event in Italy	October 2009
UK Pole	I-ESA 10 Conference, organised in Coventry (UK)	24-26 March 2010
	INTEROP-VLab General assembly in Brussels	June 2010
North Pole	Pole event	October 2010
German Pole DFI	Pole event	January 2011

These meetings are open with registration. If you are interested to participate in one of the meeting, contact: info@interop-vlab.eu to receive more information of these events.

In brief

- Next Enterprise Interoperability Cluster meeting organised by the European Commission together with the SYNERGY project in the Commission premises in Brussels on the 19th of June 2008 from 9.30-17.00. Information should be available soon on our Cordis web page (http://cordis.europa.eu/ist/ict-ent-net/ei.htm)

- The Enterprise Interoperability Research Roadmap for FP7-WP2 (2009-2010) is now available (ftp://ftp.cordis.europa.eu/pub/ist/docs/ict-ent-net/ei-research-roadmap-v5final_en.pdf)

- The Enterprise Interoperability Cluster of EC has commissioned a "task force", lead by Keith Popplewell, I-VLab Secretary, to propose a route towards establishing the Science Base for Enterprise Interoperability, identified by the original EIRR (v4) as a significant activity. This hopes to make an interim report to the Cluster and the community in autumn 2008. An open discussion forum on this has also very recently opened, hosted on the INTEROP-VLab portal (http://interop-vlab.eu/backoffice/the-scientific-activities/EI_science_base_definition/)

Calendar of upcoming events and open call for papers

- **EMMSAD'08**, the Thirteenth International Workshop on Exploring Modeling Methods in Systems Analysis and Design, Montpellier, France, 16-17 June 2008, held in conjunction with CAiSE'08. Sponsored by INTEROP-VLab, www.emmsad.org

- **MDISI'08**, first edition of International workshop on the Model Driven Interoperability for sustainable information systems, Montpellier, France, 16 June 2008, held in conjunction with CAiSE'08. Sponsored by INTEROP-VLab, http://mdisis08.ec-lille.fr/

- **IFAC World Congress:** IFAC TC 5.3 "Enterprise Integration and Networking" (www.ifac-tc53.org), together with the INTEROP-VLab (www.interop-vlab.eu), are organizing sessions at the next IFAC World Congress, in Seoul, Korea, 6-11 July 2008, www.ifac2008.org

- **PRO-VE'08**, 9th IFIP Working Conference on Virtual Enterprises "Pervasive Collaborative Networks" , Poznan, Poland, 8-10 September 2008, www.pro-ve.org

- **IWEI 2008**: First International Workshop on Enterprise Interoperability, in conjunction with the 12th IEEE International EDOC Conference- EDOC 2008 - The Enterprise Computing Conference; organised by IFIP TC5 SIG on Enterprise Interoperability in cooperation with INTEROP-VLab. München, Germany, 18 September 2008, www.ics.kth.se/iwei

  Paper submission due: 13 June 2008

- **FIS 2008**: the first Future Internet Symposium, 28-30 September 2008, Vienna, Austria, www.fis2008.org

  Submission deadline: June 15, 2008

- **EI2N'08**: 3rd International workshop on Enterprise Integration, Interoperability and Networking ; sponsored by IFAC TC 5.3 "Enterprise Integration and Networking" and IFIP TC 5 WG5.12 "Architectures for Enterprise Integration" and by INTEROP-VLab, 12-13 November 2008, Monterrey, Mexico, www.cs.rmit.edu.au/fedconf/index.html?page=ei2n2008cfp

  Abstract Submission Deadline : June 15, 2008 ; Paper Submission Deadline: June 30, 2008

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Find more events on the INTEROP-VLab website!
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