

# *Rethinking Semantic Interoperability Through Collaboration*

**18 May 2011, 09:30 – 16:30**

Albert Borschette Conference Centre - Room 0A  
Rue Froissart 36, Brussels - 1040, Belgium

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# ***Welcome by Declan Deasy***



The Directorate General for Informatics (DIGIT), in partnership with other Commission services, Member State administrations and stakeholders, provides high quality corporate information systems, common frameworks and interoperable, reusable components enabling the successful implementation of EU policies.

The Directorate General for Informatics (DIGIT) manages the Interoperability Solutions for Public Administrations (ISA) Programme. ISA, together with all relevant Commission services and in close cooperation with Member States and other stakeholders, works on frameworks, common services and reusable components, facilitating the delivery of electronic public services supporting the implementation of EU policies and activities

## ***Declan Deasy***

*European Commission DIGIT.B, Information Systems and Interoperability Solutions,  
Director*

# ***Rethinking Semantic Interoperability***



The lack of Semantic interoperability remains, since many years, a key obstacle to the seamless flow and exchange of data, information and services amongst the European Member States and beyond. Progress is remarkable at the technical interoperability level, with already mature and turn-key solutions to overcoming existing inconsistencies.

However, semantic interoperability is still lagging behind with issues not only related to the development of appropriate tools and applications, but also to the natural difficulties in the social process required to reach agreements on common representations and definitions. For the European Public Administrations in 27 countries, in particular, collaboration seems to be the key element for moving forward in this area. That is why this year's SEMIC.EU Conference will focus on the collaborative aspects of semantic interoperability.

The participants in this conference will gain a broader understanding on the current state-of-affairs of semantic interoperability in Europe, and understand the updated SEMIC.EU strategy; a strategy based on collaboration with the Member States and the broader community with a clear target to support Public Administrations in their interoperability efforts.

## ***Vassilios Peristeras***

*European Commission DIGIT.B2, Information Systems and Interoperability Solutions,  
Programme Manager*

# Agenda

**9:00**

**0:30**



Registration & Coffee

**9:30**

**0:10**

## **Welcome to the SEMIC.EU Yearly Conference**

Mr. Declan Deasy, European Commission DIGIT.B2, Information Systems and Interoperability Solutions, Director

**09:40**

**0:35**

## **The Semantic Interoperability Community of Practice experience in the USA**

Keynote Speaker: Dr. Brand Niemann, Semantic Community, Director and Senior Data Scientist

**10:15**

**0:15**



Coffee Break

**10:30**

**0:20**

## **Opportunities and challenges for using semantic technologies**

Prof. Stefan Decker, National University of Ireland, the Digital Enterprise Research Institute (DERI), Director

**10:50**

**0:20**

## **Can the lack of Semantic Interoperability in Europe be seen as a collaborative challenge?**

How SEMIC.EU aims to help Public Administrations overcoming it  
João Rodrigues Frade, PwC, Manager

**11:10**

**0:20**

## **Core Concepts and first steps towards a federation of asset repositories**

Dr. Renke Fahl-Spiewack, Jinit[, Team Leader

**11:30**

**0:30**

## **Discussion and wrap-up of morning sessions**

Interactive Q&A

**12:00**

**1:15**



Lunch break

**13:15**

**0:15**

## **How to harness collaboration, National Semantic Interoperability Projects in Europe**

Digitaliser.dk - more than a repository  
Adam Arndt, National IT and Telecom Agency, Special Adviser

**0:15**

Yhteentoimivuus.fi is how you spell interoperability in Finnish  
Tommi Karttaavi, Association of Finnish Local and Regional Authorities, Senior Advisor, Information Society

**0:15**

The Estonian Semantic Interoperability Framework: Building a Better e-State through Collaboration  
Dr. Peep Küngas, University of Tartu, Institute of Computer Science, Senior researcher

**0:15** The Essence project: collaborative and contextual semantic interoperability  
Paul Oude Luttighuis, Essence, Project Manager

**14:15 Case Studies: Semantic Interoperability in Pan-European Projects**

**0:15** A Linked Data approach to sharing public sector service and project information  
Mike Thacker, Porism Limited, Technical Director - UK local government electronic service delivery (esd) toolkit, Technical Partner

**0:15** Creating an Ecosystem of Linked Governmental Data  
Dr. Sören Auer, AKSW/Computer Science Dept., University of Leipzig – leader of several large-scale collaborative research projects such as German BmBF funded project LE4SW, EU-FP7-ICT funded integrated project LOD2 or Eureka funded SCMS

**0:15** EuroFiling project: Semantic interoperability in primary financial reporting  
Ignacio Boixo, European Banking Authority XBRL Operational Network, Coordinator

**0:15** SPOCS (Simple Procedures Online for Cross- Border Services) project  
[To be Confirmed] Dinand Tinholt, SPOCS Programme, Director

**15:15** ☕ Coffee Break  
**0:15**

**15:30 Panel Discussion: Semantic Interoperability Community of Practice @EU**

**0:45** Dr. Vassilios Peristeras, European Commission DIGIT.B2, Information Systems and Interoperability Solutions, Programme Manager  
Dr. Brand Niemann, Semantic Community, Director and Senior Data Scientist  
Prof. Stefan Decker, National University of Ireland, the Digital Enterprise Research Institute (DERI), Director  
Representatives from Member States  
Dr. Renke Fahl-Spiewack, jinit[, Team Leader  
Pieter Breyne, PwC, Director

**16:15 Conference wrap-up**

**0:15** Interactive Q&A

**16:30 Networking**

***Facilitator***

Dr. Vassilios Peristeras, European Commission DIGIT.B2, Information Systems and Interoperability Solutions, Programme Manager

# Keynote speakers



## **Dr. Brand Niemann**

*Semantic Community, Director and Senior Data Scientist*

### **Title of the presentation**

The Semantic Community: Building Knowledge Centric Systems in the Cloud.

### **Abstract of the presentation (0:35)**

The Federal Semantic Interoperability Community of Practice (SICoP) was established in 2003 by a group of individuals for the purpose of achieving "semantic interoperability" and "semantic data integration" focused on the U.S. government sector. The SICoP enabled Semantic Interoperability, specifically the "operationalizing" of these technologies and approaches, through online conversation, meetings, tutorials, conferences, pilot projects, and other activities aimed at developing and disseminating best practices. The SICoP was graduated to the Semantic Community in 2008 because the maturation of the Semantic Web and Semantic Technologies created the need to apply the work of SICoP to the real-world needs of both government and non-government organizations in a new way. Now the Semantic Community is building knowledge-centric systems based on the earlier SICoP experience and maturation of the pilots and products fostered previously.

### **Bio**

Dr. Brand Niemann is the Director and Senior Data Scientist of the Semantic Community. He was the former Senior Enterprise Architect and Data Scientist at the U.S. Environmental Protection Agency and co-led the Federal CIO Council's Semantic Interoperability Community of Practice (SICOP) with Mills Davis from 2003-2008. He is currently authoring a series of Editorials for Federal Computer Week on his work and recently made Spotfire's Twitter list for his cool visualizations on government data to produce more transparent, open and collaborative business analytics applications.



## **Prof. Stefan Decker**

*National University of Ireland, The Digital Enterprise Research Institute (DERI),  
Director*

### **Title of the presentation**

Opportunities and challenges for using semantic technologies.

### **Abstract of the presentation (0:20)**

Prof. Stefan Decker, National University of Ireland and the director of the Digital Enterprise Research Institute (DERI), will share his views on opportunities and challenges for using semantic technologies in the public sector.

### **Bio**

Stefan Decker is a professor at the National University of Ireland, Galway, director of the Digital Enterprise Research Institute and Cluster Leader of the Semantic Web Cluster within the institute. Previously he worked at ISI, University of Southern California (2 years, Research Assistant Professor and Computer Scientist), Stanford University, Computer Science Department (Database Group) (3 Years, PostDoc and Research Associate), and Institute AIFB, University of Karlsruhe (4 years, PhD Student and Junior Researcher). His main research field is the Semantic Web.

His past main accomplishments include:

- Creation of the first RDF Query and Inference system based on F-Logic (see the QL'98 paper);
- The Semantic Web information food chain presented in an ECDL 2000 paper and depicted at SemanticWeb.org is widely used as an architectural model and motivation for Semantic Web technology;
- Foundation of Edutella project, the first metadata exchange infrastructure for RDF;
- Creation of the first Ontology-based routing algorithm and hypercube topology for P2P networks. HyperCuP has been used by a couple of projects as a P2P topology;
- Initiation and organization of the Semantic Web Working Symposium at Stanford University, the first large scale Semantic Web event (> 250 participants), which spawned the International Semantic Web Conference, which is now organized by the Semantic Web Science Association.

# Speakers

## National Semantic Interoperability Projects in Europe



### Adam Arndt

National IT and Telecom Agency, Special Adviser

#### **Title of the presentation**

Digitaliser.dk - more than a repository.

#### **Abstract of the presentation (0:15)**

In late 2009, Denmark replaced its aging XML repository with an online collaboration forum for digitisation. This presentation will introduce the reasoning for this, the selected system architecture and some lessons learned over the first couple of years in operation.

#### **Bio**

Adam Arndt has an M.Sc. in Computer Science and Political Studies from The University of Copenhagen and has worked as a systems developer for a number of years before joining the National IT and Telecom Agency (NITA) in September 2005 to work on interoperability and standardisation. At NITA, Adam has been involved with many varied topics including:

- approval of XML based interoperability interfaces;
- revisions of rules and recommendations for XML based interoperability interfaces;
- evaluation and recommendations on open standards and specifications;
- international standardisation in UN/CEFACT (since 2007 as Head of Delegation for Denmark);
- international coordination of interoperability in IDABC, ISA and several informal fora;
- open government data.



### Tommi Karttaavi

Association of Finnish Local and Regional Authorities, Senior Advisor, Information Society

#### **Title of the presentation**

Yhteentoimivuus.fi is how you spell interoperability in Finnish.

#### **Abstract of the presentation (0:15)**

Yhteentoimivuus.fi is the national interoperability portal for the public administration in Finland. The portal is based on the Semic.eu platform and will be launched in May 2011. The content of the portal will consist of things like XML Schemas, ontologies, code lists, vocabularies, reference models, standards and even software components.

#### **Bio**

Mr. Tommi Karttaavi is a Senior Advisor at the Association of Finnish Local and Regional Authorities. He has worked as a Project Manager at the Finnish Ministry of Finance from 2008-2009, and Finland's Ministry of the Interior from 2004-2007. He has also worked as

an ICT Expert in the private sector, where he has been the Director of Business Solutions at To the Point ltd, R&D Communications Manager at Elisa Communications, Account Executive at CW Works ltd, and Project Manager at Helsinki Telephone Corporation. He has also been a Communications Coordinator at the Lifelong Learning Institute Dipoli at the Helsinki University of Technology. He is the Chair of the Finnish Chapter of the Internet Society (ISOC Finland).



## **Dr. Peep Kungas**

*University of Tartu, Institute of Computer Science, Senior researcher*

### **Title of the presentation**

The Estonian Semantic Interoperability Framework: Building a Better e-State through Collaboration.

### **Abstract of the presentation (0:15)**

Estonian semantic interoperability framework aims at providing a unified view to heterogeneous data structures and services in nation-wide and pan-European settings. In order to support this aim the framework outlines standards such as XSD, WSDL, OWL and SA-WSDL to be used correspondingly for describing data structures, services, metamodels and finally, providing semantic annotations, which will ultimately lead to more effective usage of information artifacts in loosely coupled systems with respect to semantic interoperability. An online tool for collaborative creation and management of particular metamodels and semantic annotations has been released for supporting creation of interlinked artifacts complying to this set of standards.

### **Bio**

Dr. Peep Kungas is currently senior researcher at University of Tartu, Estonia where he carries out research on services ecosystems and modern Internet technologies including applications of formal semantics in the context of the Web. Besides his academic interests Peep has consulted major national governmental organizations, such as Estonian Ministry of Economic Affairs and Communications, Estonian Informatics Centre and Estonian eHealth Foundation, and worked with international companies, including Ernst & Young, on the matters of e-services, semantic interoperability and classification systems. Peep is one of the architects of Estonian Semantic Interoperability Framework and a member of the national semantic interoperability workgroup.

Peep Kungas received PhD in Information and Intelligence Science from Norwegian University of Science and Technology, Trondheim, Norway in August 2006. MSc and BSc in Computer and Systems Engineering were acquired from Tallinn University of Technology, Tallinn, Estonia respectively in 2002 and 2000. Peep has expert knowledge and experience in the Semantic Web, semantic interoperability, formal methods, knowledge engineering, automated Web services annotation, intelligent distributed systems, analysis of e-services networks and large-scale federated information systems. Additionally Peep maintains a repository of public SOAP-based Web services at <http://www.soatrader.com> to accelerate empirical research in the field of Web services and semantic interoperability.





## ***Paul Oude Luttighuis***

*Essence, Project Manager*

### ***Title of the presentation***

The Essence project: collaborative and contextual semantic interoperability.

### ***Abstract of the presentation (0:15)***

This presentation will present an overview of the approach and findings of the first half-year phase of the Essence project, a (so far) seven-party public-private consortium project aimed at improving semantic interoperability across and beyond Dutch e-government. Both the semantic approach, model- and context-based, as well as the lay-out of the collaboration, based on shared investment and open results, will be addressed.

### ***Bio***

Paul Oude Luttighuis, at Novay since 2007, is principal researcher and consultant. He combines broad and in-depth expertise in the areas of chain, enterprise, and software architecture and interoperability. Within these areas, he applies expertise and experience on e.g. service-oriented architecture, model-based architecture, semantics and information modelling, rule and event modelling, process modelling, and service modelling. Paul has enterprise interoperability as a specific area of interest and operation, including semantic and technical interoperability across enterprises, and the standardisation processes involved. In his work, he strives for combining information science and technological expertise with business, organizational, and economical insights and he likes to stay away from "school battles".

# Semantic Interoperability Pan-European Projects



## **Mike Thacker**

*Porism Limited, Technical Director - UK local government electronic service delivery (esd) toolkit, Technical partner*

### **Title of the presentation**

A Linked Data approach to sharing public sector service and project information.

### **Abstract of the presentation (0:15)**

Mike will introduce a Linked data ontology for sharing project details, show an application which is driven from a triple store of project information and show how projects are indexed against a set of public sector vocabularies, expressed according to the SKOS standard. Those vocabularies include the European local government service list developed by the North Sea Region Smart Cities project.

### **Bio**

Mike Thacker is a technical director of Porism Limited and the technical partner in the UK local government electronic service service delivery (esd) toolkit. He has worked for over a decade on web-based toolsets for local government. He runs the esd-toolkit Information Management work group, which defines semantic standards used in the UK public sector.



## **Dr. Sören Auer**

*AKSW/Computer Science Dept., University of Leipzig*

### **Title of the presentation**

Creating an Ecosystem of Linked Governmental Data

### **Abstract of the presentation (0:15)**

Over the past 4 years, the semantic web activity has gained momentum with the widespread publishing of structured data as RDF. The Linked Data paradigm has therefore evolved from a practical research idea into a very promising candidate for addressing one of the biggest challenges in the area of the Semantic Web vision: the exploitation of the Web as a platform for data and information integration. In particular for Open Governmental Data, the Linked Data paradigm represents a technique to facilitate the interoperation between different public datasets and services, it can help to foster citizen involvement and stimulate the creation of new value-added data services around governmental data. In this talk we present an overview of the Linked Data life-cycle. We will discuss the how the Linked Data life-cycle can support the creation of an ecosystem of public knowledge and present some examples of existing Open Governmental Linked Data applications.

### **Bio**

Dr. Sören Auer studied Mathematics and Computer Science in Dresden, Hagen and Ekaterinburg (Russia). Before pursuing a scientific career Sören was managing director of adVIS GmbH, a Dresden-based Internet and IT service provider until 2003. In 2006 he obtained his doctorate in Computer Science from Universität Leipzig. From 2006-2008 he

was working with the database research group at the University of Pennsylvania, USA. Currently, he leads the research group Agile Knowledge Engineering and Semantic Web (AKSW) at the department Business Information Systems (University of Leipzig). Sören is also leading several large-scale collaborative research projects such as German BmBF funded project LE4SW, EU-FP7-ICT funded integrated project LOD2 or Eureka funded SCMS. Sören is founder (respectively co-founder) of several high-impact research and community projects such as the Wikipedia semantification project DBpedia, the open-source innovation platform Cofundos.org or the social Semantic Web toolkit OntoWiki. He is co-organiser of several workshops, programme chair of I-Semantics 2008, OKCON 2010, ESWC 2010 and ICWE 2011, area editor of the Semantic Web Journal, serves as an expert for industry, the European Commission, the W3C and is member of the advisory board of the Open Knowledge Foundation.



## ***Dinand Tinholt***

*SPOCS Programme, Director - Capgemini, Vice President Global EU Lead*

### ***Title of the presentation***

SPOCS project: Doing business in other EU countries is getting simpler.

### ***Abstract of the presentation (0:15)***

Businesses seeking to expand into other countries often struggle to comply with all the regulations they need to follow. Applying for licenses, permits and completing other administrative procedures in another country can be very complicated. SPOCS is a large-scale pilot project launched by the European Commission in May 2009 that aims to overcome these obstacles. The EU Services Directive already requires all procedures involved in establishing a business and providing services in another EU country to be fully online. The SPOCS project is now taking things a step further by streamlining those procedures and bringing them together in one place. For example: An Italian real estate agent wants to expand his business to Bremen, Germany. The information provided by the Bremen PSC does not currently specify the Italian documents required. SPOCS will allow him to do all the administrative procedures online through the Point of Single Contact. May 2011 will see the launch of the first services using SPOCS that will support travel agents, real estate agents and master builders in establishing a presence and doing business in other EU countries.

### ***Bio***

Dinand is Vice President within Capgemini and its global leader for the European Union. He is actively involved in numerous pan-European eGovernment activities. He is the programme director of the pan-European large scale pilot of the European Commission about enabling cross-border business startup (SPOCS) and involved in numerous other areas of international interoperability. In addition to this he is responsible for the European Commission's annual eGovernment benchmark. This internationally recognized benchmark that has been conducted since 2001 measures the overall progress of EU (and various non-EU) Member States with regard to eGovernment services and developments in their countries. Dinand has a strong international background in consulting and public administration with a focus on the field of eGovernment. He holds a Masters degree in European Public Administration and an Executive MBA and is a regular speaker at international conferences on topics such as eGovernment, European interoperability, public service improvement, electronic identity management, etc.



## **Ignacio Boixo**

*European Banking Authority XBRL Operational Network, Coordinator*

### **Title of the presentation**

EuroFiling project: Semantic interoperability in primary financial reporting.

### **Abstract of the presentation (0:15)**

EuroFiling project is an open joint initiative of the XBRL Operational Network of the European Banking Authority in collaboration with XBRL Europe, as well as stakeholders as banks, solution providers, academy and individuals. XBRL is the XML-based eXtended Business Reporting Language.

The deliverables are Data Models, XBRL taxonomies, know-how and materials for Supervisory Frameworks: COREP (Basel II solvency ratio) and FINREP (Financial Reporting), assessed as “mature” by SEMIC. EuroFiling also holds contributions, as an XBRL taxonomy for BSI-MIR data collection for the European Central Bank. The project started in 2005, being operational since 2007 in a number of National Supervisory Authorities and its jurisdictional Financial and Monetary Institutions. A closer harmonization is scheduled by 2013, based in Binding Technical Standards.

Methodology, team, budget, lessons learned and way forward will be points to review.

### **Bio**

Ignacio Boixo is the coordinator the EuroFiling project. After the completion of a MSc. in Computing Engineering at the Polytechnic University of Madrid, he worked in a Consultancy firm from where he joined the Bank of Spain almost 30 years ago. He also holds a Diploma in Financial Economy from the Autonomous University of Madrid. He also serves as XBRL Spain International Relation and OpenFiling Association acting President.

# *Can the lack of Semantic Interoperability in Europe be seen as a collaborative challenge?*



## **João Rodrigues Frade**

*PwC, Manager*

### **Title of the presentation**

Can the lack of Semantic Interoperability in Europe be seen as a collaborative challenge?

### **Abstract of the presentation (0:20)**

PwC is currently assessing the SEMIC.EU business model. This involves the revision of the SEMIC.EU roadmap and a detailed analysis of the SEMIC.EU experience to date. In this context, João will present the results of PwC's assessment and discuss future directions for SEMIC.EU. In all future scenarios, collaboration, at all levels, will continue to be key to the success of SEMIC.EU.

### **Bio**

João is a Portuguese national working and living in Belgium as a Business and IT Architect specialising in the deployment of consultancy services in large European projects. João has assisted numerous organisations, throughout Europe, in several sectors.

Currently João is a Manager at PwC Belgium Consulting practice, specialising in Information Systems Interoperability, Service Oriented Architecture (SOA) and Enterprise Architecture (EA).

He holds a Master in Information Systems and Technology Management from the Instituto de Empresa Business School (Madrid, Spain) and several Certifications such as: Product Platform and Design from MIT (Boston Massachusetts, USA) and TOGAF Enterprise Architect from The Open Group.

# *Core Concepts and first steps towards a federation of asset repositories*



## **Dr. Renke Fahl-Spiewack**

*Jinit[, Team Leader*

### **Title of the presentation**

Core Concepts and first steps towards a federation of asset repositories.

### **Abstract of the presentation (0:20)**

Dr. Renke Fahl-Spiewack, Team Leader of Jinit[ will present his views on the SEMIC.EU Core Concepts initiative and the first steps towards a federation of asset repositories.

# Contacts

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## **ePractice.eu**

<http://www.epractice.eu/en/events/2011-semiceu-yearly-conference-2011>

