

The 6th IWEI Working Conference (IWEI 2015) was held in Nîmes, France, with a workshop day on May 27, 2015. The program with a total of 13 papers was composed of three workshops with distinct future oriented themes in context with Enterprise Interoperability (EI): Big Data and EI, New challenges for EI: the Sensing Enterprise, and Standardization for EI bridging the gap with research. The workshop proceedings are published online at CEUR-Workshop.org. The presentations have been posted at the IWEI website.

Workshop 1 aimed to provide understanding how enterprises deploy Big Data in products and services, and to learn about challenges, benefits and impacts. Four papers were presented: 1. Interoperability of self organising systems of multiple participants, 2. A framework for a research agenda of data collection architecture of Big Data, 3. Opportunity analysis for collaborating SME networks and 4. Interoperability challenges for Context Aware Logistic Services –The case of Synchronodal Logistics.

Big Data processing and analytics present major challenges to Enterprise Interoperability. These data usually come from different stakeholders with unknown quality and utility. Exchanging, analysing interpreting, and combining such data for enterprise-driven purposes requires advanced techniques and methods. Due to, for example, unclear data governance, weakness in automatic data acquisition and data formatting, the interoperation for data exchange is suboptimal and should be improved to meet application and business requirements. Clearly, these challenges and issues are offering opportunities for further research, as was demonstrated by one of the papers with the presentation of a research agenda

Workshop 2, organised by the European OSMOSE project focused on the challenges of Enterprise Interoperability for the Sensing Enterprise (SE), with contributions from other European IoT Projects related to the SE concept. Five projects have been presented 1. OSMOSE: the osmosis paradigm linking the three worlds, the Real World, Digital World and Virtual World which determine the Liquid-Sensing Enterprise. 2. C2-SENSE: Interoperability Profiles for Command/Control Systems and Sensor Systems in Emergency Management, 3. FITMAN, addressing Future Enterprise enablers for the Sensing Enterprise: A FIWARE Approach & Industrial Trialling, 4. CELTIC-PLUS: Usable Access Control enabled by Sensing Enterprise Architectures and Future Enterprise, 5. DBI: The Future Enterprise Roadmap: What lies ahead for the Sensing Enterprise?.

Besides the value of knowledge dissemination of this research, aspects of evaluation, testing and implementation as well as deployment of the respective architectures in use cases were discussed. The presented projects might investigate research challenges and case studies along the Digital Business Innovation aspects and consider integration of the project results for a common approach.

Workshop 3 focused on developing standards for Enterprise Interoperability (EI) to bridge the gap between research and standardisation. The workshop aimed to share knowledge about new standardisation developments for Enterprise Interoperability emerging from ongoing research. Four papers were presented: 1. Requirements for standardisation in an Enterprise Operating System (EOS), 2. FLEXINET: Standardised semantic models to support the configuration of global production networks, 3. Issues and needs in supporting software interoperability in standardised interfaces and 4. Standardisation connecting the concepts of Industry 4.0 and of Service Lifecycle Management.

A general concern for EOS and other promising candidates for potential standards is how to best realize a standard, reaching consensus against proprietary solutions. Examples of upcoming research questions include the capability of a reference ontology to represent several sectors, as well as key concepts, rules and relationships within the reference ontology. The paper addressing the adoption of standards based software interfaces, showed the importance to provide clear examples of adoptions and to evaluate, disseminate and promote the business benefit. Standards should have minimal complexity to make them implementable. Standardisation to connect high level concepts for information exchange needs clear methods of implementation. It can be concluded that standards for Enterprise Interoperability are indeed strongly needed, however development, implementation and adoption are suffering from various obstacles.

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