



**Fifth Interop–Vlab.It Workshop
on Enterprise Interoperability**

Complexity of Systems, Complexity of Interoperability

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Co-located with itAIS 2012
Consiglio Nazionale delle Ricerche, IASI “Antonio Ruberti”

Rome, September 28 2012

Organized by:



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Preface

This volume collects the papers of the Fifth Interop-Vlab.it Workshop on Enterprise Interoperability (INVIT 2012) held in Rome, on the 28th September 2012. The workshop is promoted and supported by the “Polo di ricerca scientifica e tecnologica sull’ interoperabilità – Interop-Vlab.it” (Italian Research Pole of the Interop-VLab European association), a scientific, cultural and non-profit association aimed at promoting research and initiatives on enterprise interoperability, and more in general on large, networked systems for complex organizations, from the technological, methodological, organizational, and cultural perspectives.

The theme of this edition of the workshop is "Complexity of systems, complexity of interoperability". In particular, besides the large number of research topics concerning interoperability, we wish to emphasize the theme of complexity of enterprise systems and their interoperability. The new challenges due to globalization require an increasing flexibility and efficiency in managing complexity and dynamicity of enterprise networks, social networks and networks consisting of huge amounts of connected data (e.g., linked open data). Deterministic modeling techniques allow these systems to be only partially specified. They do not consider the emergent characteristics as a result of autonomous behavior of proactive components. New advanced solutions to identify and understand semantic, technological and topologic complexity of these networks allow interoperability problems to be better addressed.

The Call for Papers invited papers addressing (but not exclusively) the following topics:

- Enterprise systems and complexity theory
- Interoperable complex systems
- Context information management in Networked Enterprises
- Internet of Things in complex systems
- Linked Open Data
- Linked Open Knowledge
- Metadata Management and interoperability
- Modeling and Simulation of Complex Systems
- Ontologies
- System and collective intelligence
- Semantic Business Processes
- Semantic models and architectures for interoperability in networks
- Semantic Social networks
- Situation awareness
- Semantic technologies for interoperability
- Semantic Web and enterprise systems
- Service Modeling for Business
- Service Oriented (Enterprise) Architectures
- Ubiquitous production control
- Cooperative decision making.

This year the Interop-VLab.IT Workshop has a rich program with three technical sessions and one ‘testimonial session’, plus a keynote speaker, according to our tradition. The first technical session presents advanced approaches related to web services and software engineering. The second technical session presents new proposals addressing the theme of the cognizant enterprise. Then the third technical session presents advanced research achievements related to smart communities. The testimonial session is dedicated to presentations of preliminary results or on-going activities in an early stage that need more work but are ready for a first public exposition. Finally, the Keynote speech will address the area of Complex Systems, shading light on its impact on interoperability.

September 2012,

Antonio De Nicola
Michele Missikoff
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