## **CONTENTS**

Editorial – Hervé Panetto	13
Enterprise Integration, Interoperability and Networks	15
PC Chairs' message – A. ORTIZ, H. PANETTO, A. MOLINA	17
Action Research as the basis to implement Enterprise Integration Engineering and Business Process Management – R. MEJIA, L. CANCHÉ, R. ROSAS, R. CAMACHO, M.A OCAMPO, A. MOLINA	19
An Architecture for Managing Distributed Business Processes in Networked Organization – R. D. FRANCO, V. ANAYA, A. ORTIZ	31
Issues for Utilizing and Enabling the Global Semantic Web for Enterprise Integration – T. WAHL, R. MOLDEN, G. SINDRE	41
From a models translation case towards identification of some issues about UEML – M.ROQUE, B. VALLESPIR, G. DOUMEINGTS	53
Enterprise Modelling, an overview focused on software generation R. GRANGEL, R. CHALMETA, C. CAMPOS, O. COLTELL	65
Enablers and Technologies Supporting Self-Forming Networked Organizations – C-M. CHITUC, A. AZEVEDO	77
UEML : Providing Requirements and Extensions for Interoperability Challenges – M. BERGHOLTZ, P. JOHANNESSON, P. WOHED	89
Ontology for Enterprise Interoperability in the domain of Enterprise Business Modelling – H. PANETTO, L. WHITMAN, K. ALI CHATHA 10	03

Web Services and Interoperability
PC Chairs' message – E. SÖDERSTRÖM, P. BACKLUND, H. KÜHN 117
Approaches to Service Interface Design – M. HENKEL, J. ZDRAVKOVIC. 119
Service-oriented Architecture for Business Monitoring Systems F. Bayer, H. Kühn, A. Petzmann, R. Schlossar
Web services business values, legal and financial aspects E. SÖDERSTRÖM
A Pipelined Worklflow Framework for Frequent Scientific Data Interaction – X. B. HUANG, J. TANG
A Methodolgy for Developing OWL-S Descriptions M.C. JAEGER, L. ENGEL, K. GEIHS
MODTIS: System Integration Orchestrated, Dynamic and Transactional Model – J. ABIN, F. RODRIGUEZ,
Designing Web Service Accounting System – G. ZHANG, J. MUELLER, P. MUELLER
Interoperability Standards - Implementation, Dynamics and Impact
PC Chair's message – K. JACOBS
Interoperability of Software: Demand and Solutions – K. BLIND 199
Current issues in RFID standardisation – M. GERST, R. BUNDUCHI, I. GRAHAM
Connection stakeholders and B2B standards life cycles E. SÖDERSTRÖM
IPv6 versus Network Address Translation J.L.M. VRANCKEN, C.P.J. KOYMANS
A bottom-up approach to build a B2B sectoral standard: the case of Moda-ML/TexSpin – N. GESSA, G. CUCCHIARA, P. DE SABATTA, A. BRUTTI
Standards Dynamics – T.M. EGYEDL P. HELINEN 261

Standards dynamics in the mobile communication area: Three cases E.J. IVERSEN, R. TEE	33
+ vs: Impacts and Dynamics of competing standards of recordable DVD-media – S. GAUCH	)9
Open Standards and Open Source Software : Similarities and differences  J. VERHOOSEL	1
Towards Interoperability of Enterprise, Heterogeneous Enterprise Networks and their Applications: from Industries needs to ATHENA requirements	17
PC Chairs' message – M-S. Li, M. ANASTASIOU, R. GARCIA	9
ATHENA - Advanced Technologies for Interoperability of Heterogeneous enterprise networks and their applications R. RUGGABER	21
Framework for training and education activities in interoperability of ESA – R. JARDIM-GONCLAVES, R. SARAIVA, P. MALO, A. STEIGER-GARCAO	29
Towards Interoperability of Heterogeneous Enterprise Networks and their Applications - Requirements Handling and Validation activities M. ANASTASIOU, M.J. NUÑEZ, O. GARCIA	41
Towards Business Interoperability Research - Requirements Gathering and Analysis – M-S. Li, P. PAGANELLI	53
Index of Authors 36	53

## **Editorial**

The INTEROP-ESA international conference, organised by the INTEROP NoE, offered a workshops program comprising four workshops. The objective of the workshops that have been hold on February 22<sup>nd</sup>, 2005, was to strengthen some key topics related to interoperability of enterprise applications and software. The workshops organisation left time slots to brainstorm between attendees in order to come out, at the end, with new research directions for the future.

It is a fact that enterprises need to collaborate if they want to survive in the current extreme dynamic and heterogeneous business world they are involved in. Enterprise integration, interoperability and networking have been disciplines that have studied how to do companies to collaborate and communicate in the most effective way. Enterprise Integration consists in breaking down organizational barriers to improve synergy within the enterprise so that business goals are achieved in a more productive and efficient way. The IFAC (International Federation for Automatic Control) Technical Committee 5.3 "Enterprise Integration and Networking" organised the Workshop "Enterprise Integration, Interoperability and Networking" (EI2N'2005) which aims to identify issues on Applications Interoperability for Enterprise Integration that will be developed in future research works.

One of the main domain related to interoperability concerns architectures. Technology such as Web services promises to facilitate the interaction between IT systems and enterprise applications. The workshop "Web services and interoperability" (WSI'2005) gathered researchers and practitioners in order to explore various aspects of web services and their benefits to the interoperability problem. However, interoperability needs common consensus through standards. The workshop "Interoperability Standards - Implementation, Dynamics, and Impact" (ISIDI'2005), organised by the NO-REST IST STREP project (Networked Organisations - REsearch into STandards and Standardisation Project) aimed at getting a better understanding of the impact ICT standards have on networked organisations. It was investigated the applicability and, specifically, the dynamics of standards and their implementations, focusing on the e-business and e-government. In order to put in practice interoperability technologies, industry is a key focus. The ATHENA Integrated project (Advanced Technologies for interoperability of Heterogeneous Enterprise Networks and their Applications) organised the workshop "Towards Interoperability of Enterprise, Heterogeneous Enterprise Networks and their Applications : from Industries needs to ATHENA requirements" (IEHENA'2005) aiming at presenting and discussing the current results of ATHENA programme related to industry short and long term needs and requirements regarding interoperability of enterprise software and applications. In particular, the way industrial interoperability requirements are handled within the programme will be presented and specific examples of industry scenarios indicating interoperability needs and solutions will be provided.

Many thanks to all chairs for their scientific work that resulted in these workshops.

Hervé Panetto University Henri Poincaré Nancy I, France