<table>
<thead>
<tr>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Editorial</strong> — HERVÉ PANETTO ........................................... 13</td>
</tr>
<tr>
<td><strong>Enterprise Integration, Interoperability and Networks</strong> ............ 15</td>
</tr>
<tr>
<td>PC Chairs’ message — A. ORTIZ, H. PANETTO, A. MOLINA ................. 17</td>
</tr>
<tr>
<td>Action Research as the basis to implement Enterprise Integration</td>
</tr>
<tr>
<td>Engineering and Business Process Management — R. MEJIA, L. CANCHÉ,</td>
</tr>
<tr>
<td>R. ROSAS, R. CAMACHO, M.A OCAMPO, A. MOLINA .......................... 19</td>
</tr>
<tr>
<td>An Architecture for Managing Distributed Business Processes</td>
</tr>
<tr>
<td>in Networked Organization — R. D. FRANCO, V. ANAYA, A. ORTIZ ........ 31</td>
</tr>
<tr>
<td>Issues for Utilizing and Enabling the Global Semantic Web for Enterprise</td>
</tr>
<tr>
<td>Integration — T. WAHL, R. MOLDEN, G. SINDRE .............................. 41</td>
</tr>
<tr>
<td>From a models translation case towards identification of some issues</td>
</tr>
<tr>
<td>about UEML — M. ROQUE, B. VALLESPIR, G. DOUMEINGTS .................. 53</td>
</tr>
<tr>
<td>Enterprise Modelling, an overview focused on software generation</td>
</tr>
<tr>
<td>R. GRANGEL, R. CHALMATA, C. CAMPOS, O. COLTELL ...................... 65</td>
</tr>
<tr>
<td>Enablers and Technologies Supporting Self-Forming Networked</td>
</tr>
<tr>
<td>Organizations — C-M. CHITUC, A. AZEVEDO ............................... 77</td>
</tr>
<tr>
<td>UEML : Providing Requirements and Extensions for Interoperability</td>
</tr>
<tr>
<td>Challenges — M. BERGHLTOLZ, P. JOHANNESON, P. WOHED .................. 89</td>
</tr>
<tr>
<td>Ontology for Enterprise Interoperability in the domain of Enterprise</td>
</tr>
<tr>
<td>Business Modelling — H. PANETTO, L. WHITMAN, K. ALI CHATHA ........ 103</td>
</tr>
</tbody>
</table>
Web Services and Interoperability ........................................... 115

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 ......................... 127

Web services business values, legal and financial aspects
E. SÖDERSTRÖM ................................................................. 135

A Pipelined Workflows Framework for Frequent Scientific Data
Interaction – X. B. HUANG, J. TANG ....................................... 147

A Methodology for Developing OWL-S Descriptions
M.C. JAEGER, L. ENGEL, K. GEIHS ........................................... 153

MODTIS: System Integration Orchestrated, Dynamic and Transactional
Model – J. ABIN, F. RODRIGUEZ ........................................... 167

Designing Web Service Accounting System – G. ZHANG, J. MUeller,
P. MUeller ................................................................. 181

Interoperability Standards - Implementation, Dynamics
and Impact ........................................................................ 195

PC Chair’s message – K. JACOBS ............................................... 197

Interoperability of Software: Demand and Solutions – K. BLIND ...... 199

Current issues in RFID standardisation – M. GERST, R. BUNDUCHI,
I. GRAHAM ........................................................................ 211

Connection stakeholders and B2B standards life cycles
E. SÖDERSTRÖM ................................................................. 223

IPv6 versus Network Address Translation
J.L.M. VRANCKEN, C.P.J. KOYMAN ........................................... 235

A bottom-up approach to build a B2B sectoral standard:
the case of Moda-ML/TextSpin – N. GEassa, G. CUCCHIARA,
P. DE SABATTa, A. BRUTTI ................................................... 249

Standards Dynamics – T.M. EGYEDI, P. HEIDEN ................................ 261
Standards dynamics in the mobile communication area: Three cases
E.J. IVERSEN, R. TEE ......................................................... 283

+ vs. - : Impacts and Dynamics of competing standards of recordable
DVD-media – S. GAUCH .................................................. 299

Open Standards and Open Source Software: Similarities and differences
J. VERHOOSSEL .............................................................. 311

Towards Interoperability of Enterprise, Heterogeneous Enterprise
Networks and their Applications: from Industries needs
to ATHENA requirements ............................................. 317

PC Chairs’ message – M-S. LI, M. ANASTASIOU, R. GARCIA ........ 319

ATHENA - Advanced Technologies for Interoperability
of Heterogeneous enterprise networks and their applications
R. RUGGABER .............................................................. 321

Framework for training and education activities in interoperability
of ESA – R. JARDIM-GONCLAVES, R. SARAIVA, P. MALO,
A. STEIGER-GARCAO .................................................. 329

Towards Interoperability of Heterogeneous Enterprise Networks
and their Applications - Requirements Handling and Validation activities
M. ANASTASIOU, M.J. NUÑEZ, O. GARCIA ......................... 341

Towards Business Interoperability Research - Requirements Gathering
and Analysis – M-S. LI, P. PAGANELLI ............................ 353

Index of Authors .......................................................... 363
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 held on February 22nd, 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. Enterpise 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” (ISID1’2005), 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, focussing 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