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IFIP's mission is to be the leading, truly international, apolitical organization which encourages and assists in the development, exploitation and application of information technology for the benefit of all people.

IFIP is a non-profitmaking organization, run almost solely by 2500 volunteers. It operates through a number of technical committees, which organize events and publications. IFIP's events range from an international congress to local seminars, but the most important are:

- The IFIP World Computer Congress, held every second year;
- Open conferences;
- Working conferences.

The flagship event is the IFIP World Computer Congress, at which both invited and contributed papers are presented. Contributed papers are rigorously refereed and the rejection rate is high.

As with the Congress, participation in the open conferences is open to all and papers may be invited or submitted. Again, submitted papers are stringently refereed.

The working conferences are structured differently. They are usually run by a working group and attendance is small and by invitation only. Their purpose is to create an atmosphere conducive to innovation and development. Refereeing is less rigorous and papers are subjected to extensive group discussion.

Publications arising from IFIP events vary. The papers presented at the IFIP World Computer Congress and at open conferences are published as conference proceedings, while the results of the working conferences are often published as collections of selected and edited papers.

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Luis M. Camarinha-Matos Lai Xu
Hamideh Afsarmanesh (Eds.)

Collaborative Networks in the Internet of Services

13th IFIP WG 5.5 Working Conference
on Virtual Enterprises, PRO-VE 2012
Bournemouth, UK, October 1-3, 2012
Proceedings



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Preface

Collaborative Networks in the Internet of Services

Recent developments under the umbrella of the Future Internet offer new concepts and mechanisms to support a new generation of advanced collaborative networks. Particularly relevant is the consolidation of the Internet of Services and its associated infrastructures and related concepts such as service ecologies and service parks. Complementarily, recent progress on cyber physical systems has induced new virtualization possibilities for resources and capabilities, leading to notions of Industrial Internet, Sensing Enterprise, Internet of Events, etc.

Moving from services provided by a single entity to more complex or integrated multi-stakeholder services requires new approaches in dynamic service composition and thus the effective consideration of the “collaboration” perspective. This is a fundamental step in reducing the gap between the notions of software service and business service.

Collaborative networks naturally benefit from such new possibilities, but they also bring important elements to the future Internet at various levels, including structural and behavioral models, value systems and value creation, and the business perspective. On the other hand, development of the so-called services science adds clarification to the semantics of the service concept in which context synergies with collaborative networks need to be further explored.

The accumulated body of empiric knowledge and the size of the research community involved in collaborative networks provide the basis for leveraging the potential of new concepts and mechanisms in addressing big societal challenges and consolidating the scientific discipline in “collaborative networks.” Such discipline is strongly multidisciplinary and thus the PRO-VE Working Conference is designed to offer a major opportunity to mix contributions from computer science, engineering, economics, management or socio-human communities. The main theme of PRO-VE 2012 focused thus on crucial aspects to empower collaborative networks as a main actor of change in society.

PRO-VE 2012, held in Bournemouth, UK, was the 13th event in a series of successful conferences, including PRO-VE 1999 (Porto, Portugal), PRO-VE 2000 (Florianopolis, Brazil), PRO-VE 2002 (Sesimbra, Portugal), PRO-VE 2003 (Lugano, Switzerland), PRO-VE 2004 (Toulouse, France), PRO-VE 2005 (Valencia, Spain), PRO-VE 2006 (Helsinki, Finland), PRO-VE2007 (Guimarães, Portugal), PRO-VE 2008 (Poznan, Poland), PRO-VE 2009 (Thessaloniki, Greece), PRO-VE 2010 (St. Etienne, France), and PRO-VE 2011 (São Paulo, Brazil).

This book includes a number of selected papers from the PRO-VE 2012 Conference, providing a comprehensive overview of identified challenges and recent advances in various collaborative network domains and their applications, with

a particular focus on the Internet of Services. With this focus, this edition of the conference specifically emphasizes collaborative network topics related to:

- Service-enhanced products
- Service design
- Service composition
- Collaborative ecosystems
- Platforms for service-oriented collaborative networks
- Cloud-based support to collaborative networks
- Collaborative business frameworks
- e-Governance
- Collaboration motivators
- Collaboration spaces
- Virtual organization breeding environments
- Collaboration in traditional sectors
- Design of collaborative networks
- Cost, benefit, and performance analysis
- Identification of collaboration patterns
- Collaborative behavior models
- Risk, governance, and trust

We would like to thank all the authors both from academia/research and industry for their contributions. We hope this collection of papers represents a valuable tool for those interested in research advances, emerging applications, and future challenges for R&D in collaborative networks. We also appreciate the dedication of the PRO-VE Program Committee members who helped with the selection of articles and contributed with their valuable comments to help authors in improving the quality of their work.

July 2012

Luis M. Camarinha-Matos
Lai Xu
Hamideh Afsarmanesh

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Table of Contents

Introduction

A Service Science for Collaborative Enterprises – Observations and Theses on Future Developments.....	3
<i>Kyrill Meyer</i>	

Service Enhanced Products

Collaborative Business Scenarios in a Service-Enhanced Products Ecosystem	13
<i>Luis M. Camarinha-Matos, Patricia Macedo, Filipa Ferrada, and Ana Inês Oliveira</i>	

Economic and Organizational Transition towards Product/Service Systems: The Case of French SMEs	26
<i>Xavier Boucher</i>	

GPS: An Architecture to Help Firms Running from a Product to a PSS Offer	35
<i>Sophie Peillon, Sarra Dahmani, and Xavier Boucher</i>	

Using the Product Life Cycle as a Basis for a Product-Service Strategy Model	43
<i>David Walters and Jyotirmoyee Bhattacharjya</i>	

Service Composition I

A Formal Model-Based Approach to Engineering Systems-of-Systems ...	53
<i>John Fitzgerald, Jeremy Bryans, and Richard Payne</i>	

A Framework for Automated Service Composition in Collaborative Networks	63
<i>Hamideh Afsarmanesh, Mahdi Sargolzaei, and Mahdieh Shadi</i>	

Open Ecosystems, Collaborative Networks and Service Entities Integrated Modeling Approach.....	74
<i>Rubén Darío Franco, Angel Ortiz Bas, Pedro Gómez-Gasquet, and Raúl Rodríguez Rodríguez</i>	

Service Composition II

Quality Driven Web Service Composition Modeling Framework	87
<i>Georgiana Stegaru, Cristian Danila, Ioan Stefan Sacala, Mihnea Moisescu, and Aurelian Mihai Stanescu</i>	
An Efficient QoS Preference Oriented Recommendation Scheme for the Internet of Services	96
<i>Le Xin, Yushun Fan, and Hongbo Lai</i>	
Meta-model for Data Harmonization and Business Process Compliance in Service Procurement	105
<i>Maik Herfurth, Thomas Schuster, and Peter Weiß</i>	

Collaborative Ecosystems

A Collaborative Services Ecosystem for Ambient Assisted Living	117
<i>Luis M. Camarinha-Matos, João Rosas, Ana Inês Oliveira, and Filipa Ferrada</i>	
Evaluating Collaboration Effectiveness of Patient-to-Doctor Interaction in a Healthcare Territorial Network	128
<i>Dario Antonelli, Dario Bellomo, Giulia Bruno, and Agostino Villa</i>	
Modeling of Digital Ecosystems: Challenges and Opportunities	137
<i>John Krogstie</i>	

Platform Requirements

ICT Requirements Analysis for Enterprise Networks Supporting Solar Power Plants	149
<i>Hamideh Afsarmanesh and Victor Thamburaj</i>	
Enterprise Architecture Management-Based Framework for Integration of SME into a Collaborative Network	158
<i>Igor Polyantchikov, Anoop Bangalore Srinivasa, Guruprakash Veerana Naikod, Tarvi Tara, Taivo Kangilaski, and Eduard Shevtshenko</i>	
Towards CPS Based Aircraft MRO	166
<i>Kai Mertins, Thomas Knothe, and Pavel Gocev</i>	

Cloud-Based Support

A Cloud Based Data Integration Framework	177
<i>Nan Jiang, Lai Xu, Paul de Vrieze, Mian-Guan Lim, and Oscar Jarabo</i>	

SMEs' Perception of Cloud Computing: Potential and Security	186
<i>Reza Sahandi, Adel Alkhalil, and Justice Opara-Martins</i>	

Software Co-development in the Era of Cloud Application Platforms and Ecosystems: The Case of CAST	196
<i>Dimitrios Kourtesis, Konstantinos Bratanis, Dimitris Bibikas, and Iraklis Paraskakis</i>	

Collaborative Business Frameworks I

The Service Dominant Strategy Canvas: Towards Networked Business Models	207
<i>Egon Lüftenegger, Paul Grefen, and Caren Weisleder</i>	

The SOAVE Platform: A Service-Oriented Architecture for Virtual Enterprises	216
<i>Amihai Motro and Yun Guo</i>	

Mappings from BPEL to PMR for Business Process Registration	225
<i>Jingwei Cheng, Chong Wang, Keqing He, Jinxu Jia, and Peng Liang</i>	

Context-Specific Multi-Model-Template Retrieval	234
<i>Frank Hilbert and Raimar J. Scherer</i>	

Collaborative Business Frameworks II

Embedding Interoperability in System of Systems: Definition and Characterization of Fundamental Requirements	245
<i>Nicolas Daclin</i>	

Building Computational Grids Using Ubiquitous Web Technologies	254
<i>Robert John Walters, Stephen Crouch, and Phillip Bennett</i>	

Supporting Collaborative Work by Preserving Model Meaning When Merging Graphical Models	262
<i>Keith Falgout, Frank Grimm, and Lai Xu</i>	

Services Design

Services Design in a Collaborative Network for Multidisciplinary Research Projects	273
<i>Maria Krestyaninova and Yulia Tammisto</i>	

Structure Dynamics Control-Based Service Scheduling in Collaborative Cyber-Physical Supply Networks	280
<i>Dmitry Ivanov and Boris Sokolov</i>	

Advanced Services for Supply Chain Design Processes in Collaborative Networks	289
<i>Eva A. Coscia, Rosanna Fornasiero, João Bastos, Américo Azevedo, Domenico Rotondi, and Salvatore Piccione</i>	

e-Governance

Assessing Maturity for e-Government Services	301
<i>Egidijus Ostašius</i>	
Assessing Value-Based Plans in Public R&D Using the Analytic Hierarchy Process	310
<i>Pawadee Meesapawong, Yacine Rezgui, and Haijiang Li</i>	
iSurvival: A Collaborative Mobile Network System for Disaster Management	318
<i>Ali Al-Sherbaz, Rashmi Dravid, Espen Svennevik, and Phil Picton</i>	

Collaboration in Traditional Sectors

Modelling a Collaborative Network in the Agri-Food Sector Using ARCON Framework: The PROVE Case Study	329
<i>Patricia Macedo, António Abreu, and Luis M. Camarinha-Matos</i>	
Knowledge Exchange and Social Learning Opportunities in Direct Agri-Food Chains	340
<i>Antonio P. Volpentesta, Salvatore Ammirato, and Marco Della Gala</i>	
Collaborative Networks Model for Clothing and Footwear Business Sector	349
<i>João Bastos, Valentina Franchini, Américo Azevedo, and Rosanna Fornasiero</i>	

Collaboration Motivators I

On the Paradox of Collaboration, Collaborative Systems and Collaborative Networks	363
<i>Donald Neumann</i>	
What Is Collaboration? An Analytical Cut from the Business Processes and SaaS Perspectives	374
<i>Maiara Heil Cancian, Ricardo J. Rabelo, and Christiane Gresse von Wangenheim</i>	
Identifying the Reasons Why Companies Abandon Collaborative Networks	385
<i>Rolando Vargas Vallejos, Paulo Fernando Pinto Barcellos, Margareth Rodrigues de Carvalho Borella, and Rosimeri Machado</i>	

Collaboration Motivators II

A Roadmap Focused on SMEs Decided to Participate in Collaborative Non-Hierarchical Networks	397
<i>Beatriz Andrés and Raúl Poler</i>	
Internal and External Collaborative Technology Adoption: A Focus on a European and an Emerging Countries' Gaps Based on the Adaptive Structuration Theory	408
<i>Marc Diviné and Julie Stal-Le Cardinal</i>	
From Groupware to Social Media – A Comparison of Conceptual Models	416
<i>Nils Jeners and Wolfgang Prinz</i>	

Virtual Organization Breeding Environments

Green Virtual Enterprise Breeding Environments: A Sustainable Industrial Development Model for a Circular Economy	427
<i>David Romero and Arturo Molina</i>	
A Collaborative Network Model for the Standards Community	437
<i>Ovidiu Noran</i>	
Systematic Analysis of Information Management Challenges within Long-Term Collaborative Networks	446
<i>Ekaterina Ermilova and Hamideh Afsarmanesh</i>	

Collaboration Spaces

Collaborative Spaces as Mediators for Information Sharing in Collaborative Networks	459
<i>António Lucas Soares and Fábio Alves</i>	
Towards Collaborative Alignment of Engineering Networks	467
<i>Kim Jansson, Iris Karvonen, and Mikko Uoti</i>	
The Challenge of Learning for Networked SMEs to Increase Competitiveness in Virtual Enterprises	475
<i>Heiko Duin, Manuel Oliveira, Sobah Abbas Petersen, and Klaus-Dieter Thoben</i>	

Designing Collaborative Networks

Towards a Cybernetic Theory and Reference Model of Self-designing Complex Collaborative Networks	485
<i>Hadi Kandjani and Peter Bernus</i>	

Integrated Engineering – A SME-Suitable Model for Business and Information Systems Engineering (BISE) towards the Smart Factory ...	494
<i>Günther Würtz and Bernhard Kölmel</i>	
A Genetic Algorithm Approach for Collaborative Networked Organizations Partners Selection	503
<i>Lorenzo Tiacchi and Andrea Cardoni</i>	
Pooling Supply Chain: Literature Review of Collaborative Strategies ...	513
<i>Abdelhamid Moutaoukil, Ridha Derrouiche, and Gilles Neubert</i>	

Cost, Benefits and Performance

Using Value Models to Improve the Cost/Benefit Analysis of Inter-Organizational System Implementations	529
<i>Silja Mareike Eckartz, Christiaan Katsma, and Roel Wieringa</i>	
Fundamentals for the Allocation of Financial Benefits in Virtual Enterprises	539
<i>Hendrik Jähn and Thomas Burghardt</i>	
A Cost Model for Services	548
<i>Jürgen Dorn and Wolfgang Seiringer</i>	
Performance Analysis of the Quality of Products for Value-Adding Processes in Virtual Enterprises	559
<i>Hendrik Jähn and Thomas Burghardt</i>	

Identification of Patterns

Identifying Opinion Leaders in Time-Dependent Commercial Social Networks	571
<i>Antonio P. Volpentesta and Alberto M. Felicetti</i>	
Extracting the Dynamic Popularity of Concepts from a Corpus of Short-Sentence Documents	582
<i>Willy Picard</i>	
Identification of the Virtual Organization Breeding Environment Based on the Cooperation Network	592
<i>Yun Liu, Hua Yuan, and Peiji Shao</i>	

Co-innovation and Competitiveness

Knowledge Transfer Assessment in a Co-innovation Network	605
<i>Paula Urze and António Abreu</i>	

Virtual Enterprise Environments (VEEs) to Enable Innovation in Collaborative Networks – Initial Modelling Approach	616
<i>Benjamin Knoke and Jens Eschenbächer</i>	

Business Model Development for Virtual Enterprises	624
<i>Evelyn Paola Soto Rojas, Ana Cristina Barros, Américo Lopes de Azevedo, and Antonio Batocchio</i>	

Collaborative Behavior Models

Choose What to Feel: Emotional Labour in Space of Classic Organizations and Virtual Collaborations	637
<i>Kseniya Navazhylava</i>	

MISE 3.0: An Agile Support for Collaborative Situation	645
<i>Frederick Benaben, Matthieu Lauras, Sébastien Truptil, and Jacques Lamothe</i>	

A Model for Collaborative Decision-Making for the Evolution of Virtual Enterprises	655
<i>Marcus Vinicius Drissen-Silva and Ricardo J. Rabelo</i>	

Risk, Governance, Trust

A Governance Framework for Mitigating Risks and Uncertainty in Collaborative Business Processes	667
<i>Ziyi Su, Frédérique Biennier, and Wendpanga Francis Ouedraogo</i>	

Modeling the Trustworthiness of a Supplier Agent in a B2B Relationship	675
<i>Patrícia Alves, Pedro Campos, and Eugénio Oliveira</i>	

Governance as a Service for Collaborative Environment	687
<i>Juan Li, Frédérique Biennier, and Youssef Amghar</i>	

Author Index	695
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