COLLABORATIVE BUSINESS ECOSYSTEMS
AND VIRTUAL ENTERPRISES
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COLLABORATIVE BUSINESS ECOSYSTEMS AND VIRTUAL ENTERPRISES

IFIP TC5 / WG5.5
Third Working Conference on Infrastructures for Virtual Enterprises (PRO-VE'02)
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Sesimbra, PORTUGAL, 1-3 May 2002

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Towards collaborative business ecosystems

Last decade was fertile in the emerging of new collaboration mechanisms and forms of dynamic virtual organizations, leading to the concept of dynamic business ecosystem, which is supported (or induced?) by the progress of the ubiquitous / pervasive computing and networking. The new technologies, collaborative business models, and organizational forms supported by networking tools "invade" all traditional businesses and organizations what requires thinking in terms of whole systems, i.e. seeing each business as part of a wider economic ecosystem and environment. It is also becoming evident that the agile formation of very dynamic virtual organizations depends on the existence of a proper longer-term "embedding" or "nesting" environment (e.g. regional industry cluster), in order to guarantee certain basic requirements such as trust building ("Trusting your partner" is a gradual and long process); common interoperability, ontology, and distributed collaboration infrastructures; agreed business practices (requiring substantial engineering / re-engineering efforts); a sense of community ("we vs. the others"), and some sense of stability (when is a dynamic state or a stationary state useful). The more frequent situation is the case in which this "nesting" environment is formed by organizations located in a common region, although geography is not a major facet when cooperation is supported by computer networks. Nevertheless, the geographical closeness has some advantages for cooperation as it may facilitate better adaptation to the local (culture) needs and an easier creation of a "sense of community". Ideas from biology in terms of evolving ecosystems and the ecosystems reaction to exotic invaders can provide a useful insight for understanding the emerging collaborative paradigms.

The VE/VO activities although initially technology-driven, are gathering more and more contributions of a multi-disciplinary nature, namely from the socio-economic and organizational areas. New behavioral forms, new cooperation agreements and social contracts, new liability agreements and risk negotiation practices, new ways
of generating value for common developments, and correspondingly new challenges on IPR and ownership identification are among major trends.

Once a generalized access to information and knowledge sources become available with the wide spreading of Internet and ubiquitous computing, it is becoming clear that such knowledge is only valuable if applied, leading to the emergence of a “society of relationships” or society of collaborative relationships as the next stage of the information society or knowledge society. Developments in the area of virtual communities in the framework of business ecosystems are a sign of this trend.

The proliferation and variety of terms applied to forthcoming business structures, such as blurring borders in organizations, alliances, partnerships, aggregations, value constellations, business webs, and business ecosystems, show only the surface of a fast changing paradigm. This paradigm needs to be better understood and properly supported, not only in terms of the needed technologies, but also through the development of adequate skills, tools & mechanisms, culture and regulations.

PRO-VE, the IFIP Working Conference on Infrastructures for Virtual Enterprises, by creating a focused "meeting point" for the experts in the field to discuss ideas, proposals and experiences, is definitely contributing to this global effort of systematization of the area, harmonization of approaches, and pointing out challenges for the research agenda.

This book contains selected articles from PRO-VE’02, the third conference of the series. The included works represent relevant examples of the current state of the art in virtual enterprises and other collaborative and networked organizations and provide valuable insights on future trends and challenges.

The first book of this series, entitled "Infrastructures for Virtual Enterprises”, was prepared in the framework of PRO-VE’99. It included a general presentation of concepts and requirements for VEs as well as detailed descriptions of solutions proposed by a large number of international projects.

The second book, entitled “E-Business and Virtual Enterprises”, prepared in the framework of PRO-VE 2000, in addition to a diversity of application domains, had the emphasis mostly on new forms of virtual organizations, support for agility, distributed business processes modeling and execution, management of enterprise clusters, distributed information and knowledge management, and safe communication.

This book clearly reflects a growing maturation and diversification of the area. Important development directions are well represented such as: modeling and reference architectures, formation of virtual organizations, including contract management and negotiation, operation support functionalities, infrastructures and interoperability, virtual communities and new collaboration forms, best practices and strategic planning, economic aspects and performance metrics, training and new ways of working. The comprehensive coverage of topics, coming from a wide diversity of geographical origins, confirms PRO-VE as one of the most relevant conferences specifically focused on Virtual Enterprises / Virtual Organizations.

It is important to note that the required efforts in the area should not be confined to any particular geographical region, being important to create synergies among
initiatives taking place in different parts of the world. In this context it is relevant that this year the PRO-VE conference had the technical co-sponsorship of two international networks of experts in virtual organizations:

- COVE, an IFIP project that aims at assessing research results and practices in virtual enterprises and electronic business, leading to the design of common reference models, cooperation infrastructures, and prospects for further collaborative developments. This project evolved recently into a new organizational form, the new IFIP Working Group 5.5 on Co-operation Infrastructures for Virtual Enterprises and Electronic Business.

- THINKcreative, an European initiative under the IST program in the area of smart and emerging organizations in the framework of the "knowledge and skills economy" that aims to identify and characterize the emerging organizational forms, the required infrastructures, modeling and application tools, and socio-organizational needs for the next 5, 10, and 20 years.

Finally a word of gratitude for the contributions of all authors, both from academia and industry, as well as the dedication of the referees that helped in the selection of articles and contributed with their valuable comments to improve the quality of the various chapters. As a result of this collaborative and highly distributed work the PRO-VE'02 book shall become a valuable tool to all of those interested in the advances and challenges of the collaborative business ecosystems.

The editor,

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