

Telecommunications and IT Convergence Towards Service E-volution

Telecommunications is the enabler of the emerging Information Society, whose members will greatly benefit from the provision of affordable, high-quality, ubiquitous services. A revolution in information technology and telecommunications is already in progress, and will escalate during the beginning of the 21st century. The two worlds have already begun to converge; this convergence path is marked by the continuously expanding penetration and scope of telecommunications services, thus broadening the opportunities available to the users.

However, the forthcoming integration of information technology and telecommunications implies neither that computers will disappear behind an "active network" nor that networks will disappear behind the "all-pervasive" computers; on the contrary, both will appear within a single system. In this combined system, active computation power will be pervasive (in every room, in every appliance, for every person), while all this "computation" will be effectively totally interconnected; more importantly, its scope will not just be the home or the business, it will be the entire globe.

One of the driving forces of convergence is the increasing competition among the different service-supplier chains in the field. Successful and innovative combination of computation and telecommunication capabilities and features tends to help the players involved to acquire competitive advantage. However, there is still a considerable way to go, and several key questions have yet to be answered. Who will be taking the market-lead in this race and what appear to be the most likely evolution paths? Which technologies are or will be playing a major role? What will the role and impact of the Internet be in this convergence process and how is it expected to evolve through this? What will be the impact of other factors such as regulatory and pricing policies?

The IS&N conferences have been devoted to techniques and tools for development and management of services and communications. With the theme of IS&N'2000 being *Telecommunications and IT Convergence Enabling Service Evolution*, the conference especially relates to trends and enabling technologies that can be brought to bear on this new, integrated world and on the breakthrough it promises in everyday life in the new millennium.

The IS&N conferences have their origins in the RACE programme of the European Union co-funded research. What was initiated as a set of project workshops addressing communications management and programming infrastructure, became a series of truly international conferences, given the general interest of the subject matter. These conferences offered a unique opportunity to discover and discuss the overall technical area of telecommunications services and the relevant software, covering subjects such as communications management, Intelligent Networks, mobility, architecture, brokerage, security, service modelling and creation, etc. The Conference has become, over the years, a major forum for the discussion of issues and the exchange of outstanding technical ideas and results related to the areas above.

For IS&N'2000, seven chapters, with a total of 23 papers, have been selected for this book; namely, eCommerce, Developing Communications Efficiency through Management and Control, Architectures for Multimedia Communications, Service

Creation Techniques for Software Development and Deployment, Agent-Based Management, Virtual Home Environment, Integrated and Scalable Solutions for Telecommunications Management. This shows that the issues related to communications management, architectures, and service creation are still of great interest, while the virtual home environment is emerging as a new key topic in IS&N.

In summary, this book reflects the state of the art in research on IS&N topics, with the focus mentioned above, not only from European Union co-funded projects (mainly in the ACTS programme), but also from research organisations around the globe.

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Previous IS&N Conferences and Proceedings

The first IS&N conference was organised in 1992 in Paris, France. Since then, the IS&N conferences have been held almost every year, with proceedings published as part of the Lecture Notes in Computer Science (LNCS) series of Springer-Verlag. These are as follows.

“Towards a Pan-European Telecommunication Service Infrastructure – IS&N’94”, Hans-Jürgen Kugler, Al Mullery, Norbert Niebert (Eds.), Aachen, Germany, September 1994, LNCS 851, ISBN 3-540-58420-X.

“Bringing Telecommunication Services to the People – IS&N’95”, Anne Clarke, Mario Campolargo, Nikos Karatzas (Eds.), Heraklion, Greece, October 1995, LNCS 998, ISBN 3-540-60479-0.

“Intelligence in Services and Networks: Technology for Cooperative Competition – IS&N’97”, Al Mullery, Michel Besson, Mario Campolargo, Roberta Gobbi, Rick Reed (Eds.), Cernobbio, Italy, May 1997, LNCS 1238, ISBN 3-540-63135-6.

“Intelligence in Services and Networks: Technology for Ubiquitous Telecom Services – IS&N’98”, Sebastiano Trigila, Al Mullery, Mario Campolargo, Hans Vanderstraeten, Marcel Mampaey (Eds.), Antwerp, Belgium, May 1998, LNCS 1430, ISBN 3-540-64598-5.

“Intelligence in Services and Networks: Paving the Way for an Open Service Market – IS&N’99”, Han Zuidweg, Mario Campolargo, Jaime Delgado, Al Mullery (Eds.), Barcelona, Spain, April 1999, LNCS 1597, ISBN 3-540-65895-5.

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