Internet-based e-services comprise a wide spectrum of applications from B2C (business-to-consumer, e.g., sales, auctions, or brokerage) to B2B (business-to-business, e.g., supply chains or service outsourcing) and everything in between. Even fancy scenarios such as computerized court trials (with electronic lawyers) that may sound like science fiction today fall into the category of conceivable e-services and may well become practice some day. Advanced forms of e-services pose challenging requirements on the underlying IT infrastructure that are much broader than the traditional scope of database management. In addition to extremely high scalability, responsiveness, and availability of the data management engine, e-service platforms need to address interoperability, customizability, messaging, process management, and Web application programming and management issues.

The notion of e-services shares the fate of most other "hot topics" that it covers much ground but is itself not well defined. This special issue is *not* an attempt to define the area, but merely aims to bring up and discuss the many facets of e-services across the entire spectrum. Therefore, this issue contains an unusually large number of articles, to provide readers with general background and representative impressions of what is going on in this contemporary and highly vital area, from both research and development perspectives. The issue contains six articles from key players in the e-service platform industry on their latest developments and industrially relevant standards, trends, and future perspectives. There are five additional articles from research groups, industry labs as well as academia, which discuss various issues that are still beyond the current agenda of products but are likely to become practically relevant in the not-too-far future.

The issue starts out with the article "B2B Protocol Standards and their Role in Semantic B2B Integration Engines", in which Christoph Bussler gives an overview of relevant standards. The second and third papers, "Towards a Scalable Infrastructure for Advanced E-Services" by the Propel Platform Development Team and "Defining the Next Generation e-Business Platform" by Anil Nori et al., discuss requirements for a comprehensive e-service platform and how the developed system architectures meet them. The fourth paper on "Sell-side Channel Integration – Tavant's Approach", by the Tavant team, studies the specific aspect of integrating distribution channels of manufacturers from the viewpoint of an application service provider. The fifth and sixth articles, "Definition, Execution, Analysis, and Optimization of Composite E-Services" by Fabio Casati and Ming-Chien Shan and "BizTalk Server 2000 Business Process Orchestration" by Bimal Mehta et al., focus on the process-oriented dimension of e-services and discuss how workflow technology contributes to current solutions.

The second, primarily research-oriented, half of the special issue begins with the paper by Vassilis Christophides on "Workflow Mediation using VorteXML". This paper and the next one, "WISE: Process based E-Commerce" by Amaia Lazcano et al., report on ongoing research efforts towards more flexible, interoperable, and highly dependable workflows in an e-service environment. The ninth article, entitled "CrossFlow: Cross-Organizational Workflow Management for Service Outsourcing in Dynamic Virtual Enterprises" and authored by Paul Grefen et al., presents results from a multi-national research project on cooperation in virtual enterprises. The tenth paper, by A. Kraiss et al. on "Response Time Guarantees for e-Service Middleware" discusses the importance of performance guarantees in a banking environment and a mathematical approach for appropriate system configuration. The special issue is concluded with the eleventh article, "ObjectGlobe: Open Distributed Query Processing Services on the Internet" by Reinhard Braumandl et al., which extends the notion of e-services into Internet-based infrastructure for highly distributed, global querying.