

Preface

Cloud computing is an emerging discipline which is changing the way corporate computing is and will be done in the future. The National Institute of Standards and Technology (NIST) defines cloud computing as a “model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.” The architecture of Cloud Computing is comprised of four layers: Infrastructure as a Service (comprised of servers, hypervisor, storage and network), Platform as a Service (development environment including data base, integration and development tools), Software as a Service (ready-made applications), and Business Process as a Service (applications plus services). In addition, there are different types of clouds: private, public, hybrid and community clouds, with different capabilities and requirements. As with any new area, cloud computing raises many conceptual, technical, and managerial issues that need to be addressed by both academicians and practitioners.

OBJECTIVE OF THE BOOK

The book aims to provide relevant theoretical frameworks and practical applications in the area. Chapters were written for the benefit of professionals who want to improve their understanding of cloud computing and address many of the issues related to change management, security, management and processing approaches related to cloud computing. A key objective is to provide a systematic source of reference for all aspects of cloud computing. Another key objective is to understand the changes cloud computing will have on organizations and management. Most of what has been written about cloud computing is either about its technical aspects, or are descriptions of products and services, many by providers of these products and services. This book brings many different perspectives to start a more serious discussion about what cloud computing is and its impacts in the many facets of organizations.

Content

The book is organized in six sections with following emphasis:

1. **Cloud computing services:** The definition of cloud computing terms and taxonomy, detailed review of Infrastructure as A Service, Software as a Service, managing the cloud for agility, and a holistic investment framework for cloud computing.

2. **Cloud services development framework:** A systems approach and requirements engineering for cloud applications, a decision framework for small businesses, and integrating cloud scenarios and solutions.
3. **Security in cloud computing:** Security concerns and issues, security in cloud computing, and cloud security and risk management.
4. **Legal issues in cloud computing:** Key issues and legal implications of cloud computing in US and UK.
5. **Economic impact of cloud computing:** The business impacts, economics of cloud computing, and an economic analysis of cloud and VDI models.
6. **Applications and advances in cloud computing:** An advanced example on the pattern of tactical networking services.

The book includes in seventeen chapters with contributions from twenty-nine authors from seven different countries providing a global, broad perspective on cloud computing topics. This book is an excellent starting point for both practitioners and academicians that want to migrate to cloud computing or engage in cloud computing research. As already mentioned, cloud computing is an emerging discipline and new concepts, methodologies, and applications are constantly emerging making this a challenging and rewarding area of research. We invite our colleagues to research further in this area to build the ever increasing knowledge base of cloud computing.

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