Solution Distrted And Cloud Computing

The dot-com revolution has brought many advances before unimagined. Of them all, it may be said that none have surpassed e-government in attracting a significant number of researchers and practitioners from around the world. However, the question remains whether everyone is ready to join the e-government movement, or if some are just blindly following the latest trend. Digital Solutions for Contemporary Democracy and Government touches on several key issues and challenges surrounding the recent e-government boom and offers practical solutions from those who have been a part of implementing e-government programs internationally. Due to its breadth of discussion on a variety of topics relating to the intersection of technology with politics, democracy, and government, this authoritative book is a valuable reference source for professionals, researchers, and students in the field of e-government, information management, or knowledge management.

The Internet of Things describes a world in which smart technologies enable objects with a network to communicate with each other and interface with humans effortlessly. This connected world of convenience and technology does not come without its drawbacks, as interconnectivity implies hackability. Security Solutions for Hyperconnectivity and the Internet of Things offers insights from cutting-edge research about the strategies and techniques that can be implemented to protect against cyber-attacks. Calling for revolutionary protection strategies to reassess security, this book is an essential resource for programmers, engineers, business professionals, researchers, and advanced students in relevant fields.

This book constitutes the proceedings of the 6th International Conference on Cloud Computing, CloudComp 2015, held in Daejeon, South Korea, in October 2015. The 36 revised full papers were carefully reviewed and selected from 89 submissions and cover topics such as virtualization and management on cloud; resource management, models and performance; mobile cloud and media services; pervasive cloud applications, services and testbeds; cloud-enabling techniques and devices.

Explores key challenges and solutions to assured cloud computing today and provides a provocative look at the face of cloud computing tomorrow This book offers readers a comprehensive suite of solutions for resolving many of the key challenges to achieving high levels of assurance in cloud computing. The distillation of critical research findings generated by the Assured Cloud Computing Center of Excellence (ACC-UCoE) of the University of Illinois, Urbana-Champaign, it provides unique insights into the current and future shape of robust, dependable, and secure cloud-based computing and data cyberinfrastructures. A survivable and distributed cloud-computing-based infrastructure can enable the configuration of any dynamic systems-of-systems that contain both trusted and partially trusted resources and services sourced from multiple organizations. To assure mission-critical computations and workflows that rely on such systems-of-systems it is necessary to ensure that a given configuration does not violate any security or reliability requirements. Furthermore, it is necessary to model the trustworthiness of a workflow or computation fulfillment to a high level of assurance. In presenting the substance of the work done by the ACC-UCoE, this book provides a vision for assured cloud computing illustrating how individual research contributions relate to each other and to the big picture of assured cloud computing. In addition, the book: Explores dominant themes in cloud-based systems, including design correctness, support for big data and analytics, monitoring and detection, network considerations, and performance Synthesizes heavily cited earlier work on topics such as DARE, trust mechanisms, and elastic graphs, as well as newer research findings on topics, including R-Storm, and RAMP transactions Addresses assured cloud computing concerns such as game theory, stream processing, storage, algorithms, workflow, scheduling, access control, formal analysis of safety, and streaming Bringing together the freshest thinking and applications in one of today’s most important topics, Assured Cloud Computing is a must-read for researchers and professionals in the fields of computer science and engineering, especially those working within industrial, military, and governmental contexts. It is also a valuable reference for advanced students of computer science.

14th International Symposium, CSS 2022, Xi'an, China, October 16–18, 2022, Proceedings

Computational Intelligence in Industrial Application

Build cloud strategies that align technology and economics while effectively managing risk

From Parallel Processing to the Internet of Things

Proceedings of the 2014 Pacific-Asia Workshop on Computer Science in Industrial Application (CIIA 2014), Singapore, December 8-9, 2014

Distributed Denial of Service (DDoS) Attacks

10th IFIP WG 6.1 International Conference, DAIS 2010, Amsterdam, The Netherlands, June 7-9, 2010, Proceedings

This book constitutes the proceedings of the 10th International Conference on Algorithms and Architectures for Parallel Processing, ICA3PP. The 47 papers were carefully selected from 157 submissions and focus on topics for researchers and industry practioners to exchange information regarding advancements in the state of art and practice of IT-driven services and applications, as well as to identify emerging research topics and define the future directions of parallel processing.

This book represents the combined peer-reviewed proceedings of the Seventh International Symposium on Intelligent Distributed Computing - IDC-2013, of the Second Workshop on Agents for Clouds - A4C-2013, of the Fifth International Workshop on Multi-Agent Systems Technology and Semantics - MASTS-2013, and of the International Workshop on Intelligent Robots - iR-2013. All the events were held in Prague, Czech Republic during September 4-6, 2013. The 41 contributions published in this book address many topics related to theory and applications of intelligent distributed computing and multi-agent systems, including: agent-based data processing, ambient intelligence, bio-informatics, collaborative systems, cryptography and security, distributed algorithms, grid and cloud computing, information extraction, intelligent robotics, knowledge management, linked data, mobile agents, ontologies, pervasive computing, self-organizing systems, peer-to-peer computing, social networks and trust, and swarm intelligence.

"This book is a collection of widespread research providing relevant theoretical frameworks and research findings on the applications of distributed computing innovations to the business, engineering and science fields"--Provided by publisher.

This book discusses the application of data systems and data-driven infrastructure in existing industrial systems in order to optimize workflow, utilize hidden potential, and make existing systems free from vulnerabilities. The book discusses application of data in the health sector, public transportation, the financial institutions, and in battling natural disasters, among others. Topics include real-time applications in the current big data perspective; improving security in IoT devices; data backup techniques for systems; artificial intelligence-based outlier prediction; machine learning in OpenFlow Network; and application of deep learning in blockchain enabled applications. This book is intended for a variety of readers from professional industries, organizations, and students.

Cloud Computing Solutions

Using Cross-Layer Techniques for Communication Systems

Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing

Architecture, Data Storage, Implementation, and Security

Concepts, Techniques, Applications and Case Studies

Building High-Assurance Applications and Cloud-Hosted Services

Rising Threats in Expert Applications and Solutions

Digital technology has enabled a number of internet-enabled devices that generate huge volumes of data from different systems. This large amount of heterogeneous data requires efficient data collection, processing, and analytical methods. Deep Learning is one of the latest efficient and feasible solutions that enable smart devices to function independently with a decision-making support system. Convergence of Deep Learning and Internet of Things: Computing and Technology contributes to technology and methodology perspectives in the incorporation of deep learning approaches in solving a wide range of issues in the IoT domain to identify, optimize, predict, forecast, and control emerging IoT systems. Covering topics such as data quality, edge computing, and attach detection and prediction, this premier reference source is a comprehensive resource for electricians, communications specialists, mechanical engineers, civil engineers, computer scientists, students and educators of higher education, librarians, researchers, and academicians.

Guide to Cloud Computing for Business and Technology Managers: From Distributed Computing to Cloudware Applications unravels the mystery of cloud computing and explains how it can transform the operating contexts of business enterprises. It provides a clear understanding of what cloud computing really means, what it can do, and when it is practical to use. Addressing the primary management and operation concerns of cloudware, including performance, measurement, monitoring, and security, this pragmatic book: Introduces the enterprise applications integration (EAI) solutions that were a first step toward enabling an integrated enterprise Details service-oriented architecture (SOA) and related technologies that paved the road for cloudware applications Covers delivery models like IaaS, PaaS, and SaaS, and deployment models like public, private, and hybrid clouds Describes Amazon, Google, and Microsoft cloudware solutions and services, as well as those of several other players Demonstrates how cloud computing can reduce costs, achieve business flexibility, and sharpen strategic focus Unlike customary discussions of cloud computing, Guide to Cloud Computing for Business and Technology Managers: From Distributed Computing to Cloudware Applications emphasizes the key differentiator—that cloud computing is able to treat enterprise-level services not merely as discrete stand-alone services, but as Internet-locatable, composable, and repackageable building blocks for generating dynamic real-world enterprise business processes.

Research Paper (undergraduate) from the year 2014 in the subject Computer Science - Internet, New Technologies, grade: 2,00, Management Center Innsbruck (Management Center Innsbruck), language: English, abstract: The cloud paradigm introduces a change in visualization of system and data owned by an enterprise. Further, the on service-based sharing of resources such as storage, hardware and applications which are delivered with cloud computing in a total different way has facilitated coherence of the resources and economies of scale through its pay-per-use business model. It is no longer a collection of devices on a physical location and run a particular software program with all the needed data and resources present at a physical location but instead is a system which is geographically distributed with consideration on both application and data. But even when the development of distributed cloud architectures and services are all dealing with the same issues of scalability, elasticity over demand, broad network access, usage measurement, security aspects such as authorization and authentication, and many other concepts related to multitenant services in order to serve a high number of concurrent users over the internet, is it the main goal for companies to find the right solution for their requierments. The right solution can be a public, a private or a hybrid cloud and although the issues are very similar in any of these solutions, it depends further on the degree of potency of one or some issues which are related to different kind of industries and organisations to evaluate the right cloud based approach for a particular company. This means we have to agree that the evolution of a new paradigm requires adaptation in usage patterns and associated functional areas to fully benefit from the paradigm shift.

Traditional computing concepts are maturing into a new generation of cloud computing systems with wide-spread global applications. However, even as these systems continue to expand, they are accompanied by overall performance degradation and wasted resources. Emerging Research in Cloud Distributed Computing Systems covers the latest innovations in resource management, control and monitoring applications, and security of cloud technology. Compiling and analyzing current trends, technological concepts, and future directions of computing systems, this publication is a timely resource for practicing engineers, technologists, researchers, and advanced students interested in the domain of cloud computing.

Handbook of Software Solutions for ICME

Role of Data-Intensive Distributed Computing Systems in Designing Data Solutions

Security Solutions for Hyperconnectivity and the Internet of Things

Proceedings of the 7th International Symposium on Intelligent Distributed Computing - IDC 2013, Prague, Czech Republic, September 2013

Classification, Attacks, Challenges and Countermeasures

Distributed Computing Innovations for Business, Engineering, and Science

Cloud Computing

These proceedings of the 2014 Pacific-Asia Workshop on Computational Intelligence in Industrial Application (CIIA 2014) include 81 peer-reviewed papers. The topics covered in the book include: (1) Computer Intelligence, (2) Application of Computer Science and Communication, (3) Industrial Engineering, Product Design and Manufacturing, (4) Automatio

Although the existing layering infrastructure--used globally for designing computers, data networks, and intelligent distributed systems and which connects various local and global communication services--is conceptually correct and pedagogically elegant, it is now well over 30 years old has started create a serious bottleneck. Using Cross-Layer Techniques for Communication Systems: Techniques and Applications explores how cross-layer methods provide ways to escape from the current communications model and overcome the challenges imposed by restrictive boundaries between layers. Written exclusively by well-established researchers, experts, and professional engineers, the book will present basic concepts, address different approaches for solving the cross-layer problem, investigate recent developments in cross-layer problems and solutions, and present the latest applications of the cross-layer in a variety of systems and networks.

CLOUD COMPUTING SOLUTIONS The main purpose of this book is to include all the cloud-related technologies in a single platform, so that researchers, academicians, postgraduate students, and those in the industry can easily understand the cloud-based ecosystems. This book discusses the evolution of cloud computing through grid computing and cluster computing. It will help researchers and practitioners to understand grid and distributed computing cloud infrastructure, virtual machines, virtualization, live migration, scheduling techniques, auditing concept, security and privacy, business models, and case studies through the state-of-the-art cloud computing countermeasures. This book covers the spectrum of cloud computing-related technologies and the wide-ranging contents will differentiate this book from others. The topics treated in the book include: The evolution of cloud computing from grid computing, cluster computing, and distributed systems; Covers cloud computing and virtualization environments; Discusses live migration, database, auditing, and applications as part of the materials related to cloud computing; Provides concepts of cloud storage, cloud strategy planning, and management, cloud security, and privacy issues; Explains complex concepts clearly and covers information for advanced users and beginners. Audience The primary audience for the book includes IT, computer science specialists, researchers, graduate students, designers, experts, and engineers who are occupied with research.

Building an Effective Security Program for Distributed Energy Resources and Systems Build a critical and effective security program for DERs Building an Effective Security Program for Distributed Energy Resources and Systems requires a unified approach to establishing a critical security program for DER systems and Smart Grid applications. The methodology provided integrates systems security engineering principles, techniques, standards, and best practices. This publication introduces engineers on the design, implementation, and maintenance of a security program for distributed energy resources (DERs), smart grid, and industrial control systems. It provides security professionals with understanding the specific requirements of industrial control systems and real-time constrained applications for power systems. This book: Describes the cybersecurity needs for DERs and power grid as critical infrastructure Introduces the information security principles to assess and manage the security and privacy risks of the emerging Smart Grid technologies Outlines the functions of the security program as well as the scope and differences between traditional IT system security requirements and those required for industrial control systems such as SCADA systems Offers a full array of resources— cybersecurity concepts, frameworks, and emerging trends Security Professionals and Engineers can use Building an Effective Security Program for Distributed Energy Resources and Systems as a reliable resource that is dedicated to the essential topic of security for distributed energy resources and power grids. They will find standards, guidelines, and recommendations from standards organizations, such as ISO, IEC, NIST, IEEE, ENISA, ISA, ISACA, and ISF, conveniently included for reference within chapters.

Secure Volunteer Computing for Distributed Cryptanalysis

Achievements of PLGrid Plus Domain-Specific Services and Tools

Proceedings of FICR-TEAS 2022

Proceedings of the 2014 5th International Conference on Environmental Science and Information Application Technology (ESIAT 2014), Hong Kong, November 7-8, 2014

A Business Perspective on Technology and Applications

Guide to Reliable Distributed Systems

Second International Workshop, ALGOCLOUD 2016, Aarhus, Denmark, August 22, 2016, Revised Selected Papers

Cloud computing is changing the way businesses and users interact with computers and mobile devices. Gone are the days of expensive data centers, racks of disk drives, and large IT support teams. In their place are software applications delivered to users on demand from the cloud, high-capacity, auto-replicated, secure cloud-based disk-storage and databases, virtualized-server and desktop environments, and cloud-based collaboration tools which support on-premise-, remote-, and hybrid-team success. Within the pages of Cloud Computing, readers will find a hands-on introduction to the cloud, which will have them using cloud-based data storage to store personal documents and to share photos and other digital media with other users and their own various devices, performing cloud-based automated backups, and using other cloud-based applications by the end of Chapter 1! Readers will learn specifics about software as a service (Saas), platform as a service (Paas), infrastructure as a service (IaaS), server and desktop virtualization, and much more. Each chapter of the book presents a cloud topic, examines the underlying business case, and then takes the reader on a test drive. The chapters are filled with real-world case studies. The book's content is ideal for users wanting to migrate to the cloud, IT professionals seeking knowledge on cloud fundamentals, developers who will build the cloud solutions of the future, and CIOs wanting insights on the most recent cloud solutions.

This book describes the key concepts, principles and implementation options for creating high-assurance cloud computing solutions. The guide starts with a broad technical overview and basic introduction to cloud computing, looking at the overall architecture of the cloud, client systems, the modern Internet and cloud computing data centers. It then delves into the core challenges of showing how reliability and fault-tolerance can be abstracted, how the resulting questions can be solved, and how the solutions can be leveraged to create a wide range of practical cloud applications. The author's style is practical, and the guide should be readily understandable without any special background. Concrete examples are often drawn from real-world settings to illustrate key insights. Appendices show how the most important reliability models can be formalized, describe the API of the Isis2 platform, and offer more than 80 problems at varying levels of difficulty.

The scope of LNCS, including its subseries LNAI and LNBI, spans the whole range of computer science and information technology including interdisciplinary topics in a variety of application field. --Book Jacket.

To help researchers from different areas of science understand and unlock the potential of the Polish Grid Infrastructure and to define their requirements and expectations, the following 13 pilot communities have been organized and involved in the PLGrid Plus project: Acoustics, AstroGrid-PL, Bioinformatics, Ecology, Energy Sector, Health Sciences, HEPGrid, Life Science, Materials, Metallurgy, Nanotechnologies, Quantum Chemistry and Molecular Physics, and SynchroGrid. The book describes the experience and scientific results achieved by the project partners. Chapters 1 to 8 provide a general overview of research and development activities in the framework of the project with emphasis on services for different scientific areas and an update on the status of the PL-Grid infrastructure, describing new developments in security and middleware. Chapters 9 to 13 discuss new environments and services which may be applied by all scientific communities. Chapters 14 to 36 present how the PLGrid Plus environments, tools and services are used in advanced domain specific computer simulations; these chapters present computational models, new algorithms, and ways in which they are implemented. The book also provides a glossary of terms and concepts. This book may serve as a resource for researchers, developers and system administrators working on efficient exploitation of available e-infrastructures, promoting collaboration and exchange of ideas in the process of constructing a common European e-infrastructure.

Algorithmic Aspects of Cloud Computing

6th International Conference, CloudComp 2015, Daejeon, South Korea, October 28-29, 2015, Revised Selected Papers

eScience on Distributed Computing Infrastructure

Intelligent Distributed Computing VII

Cyberspace Safety and Security

From Distributed Computing to Cloudware Applications

Convergence of Deep Learning and Internet of Things: Computing and Technology

Accelerating Business and Mission Success with Cloud Computing. Key Features A step-by-step guide that will practically guide you through implementing Cloud computing services effectively and efficiently. Learn to choose the most ideal Cloud service model, and adopt appropriate Cloud design considerations for your organization. Leverage Cloud computing methodologies to successfully develop a cost-effective Cloud environment successfully. Book Description Cloud adoption is a core component of digital transformation. Scaling the IT environment, making it resilient, and reducing costs are what organizations want. Architecting Cloud Computing Solutions presents and explains critical Cloud solution design considerations and technology decisions required to choose and deploy the right Cloud service and deployment models, based on your business and technology service requirements. This book starts with the fundamentals of cloud computing and its architectural concepts. It then walks you through Cloud service models (IaaS, PaaS, and SaaS), deployment models (public, private, community, and hybrid) and implementation options (Enterprise, MSP, and CSP) to explain and describe the key considerations and challenges organizations face during cloud migration. Later, this book delves into how to leverage DevOps, Cloud-Native, and Serverless architectures in your Cloud environment and presents industry best practices for scaling your Cloud environment. Finally, this book addresses (in depth) managing essential cloud technology service components such as data storage, security controls, and disaster recovery. By the end of this book, you will have mastered all the design considerations and operational trades required to adopt Cloud services, no matter which cloud service provider you choose. What you will learn Manage changes in the digital transformation and cloud transition process Design and build architectures that support specific business cases Design, modify, and aggregate baseline cloud architectures Familiarize yourself with cloud application security and cloud computing security threats Design and architect small, medium, and large cloud computing solutions Who this book is for If you are an IT Administrator, Cloud Architect, or a Solution Architect keen to benefit from cloud adoption for your organization, then this book is for you. Small business owners, managers, or consultants will also find this book useful. No prior knowledge of Cloud computing is needed.

In today’s dynamic business environment, IT departments are under permanent pressure to meet two divergent requirements: to reduce costs and to support business agility with higher flexibility and responsiveness of the IT infrastructure. Grid and Cloud Computing enable a new approach towards IT. They enable increased scalability and more efficient use of IT based on virtualization of heterogeneous and distributed IT resources. This book provides a thorough understanding of the fundamentals of Grids and Clouds and of how companies can benefit from them. A wide array of topics is covered, e.g. business models and legal aspects. The applicability of Grids and Clouds in companies is illustrated with four cases of real business experiments. The experiments illustrate the technical solutions and the organizational and IT governance challenges that arise with the introduction of Grids and Clouds. Practical guidelines on how to successfully introduce Grids and Clouds in companies are provided.

A highly accessible reference offering a broad range of topics and insights on large scale network-centric distributed systems Evolving from the fields of high-performance computing and networking, large scale network-centric distributed systems continues to grow as one of the most important topics in computing and communication and many interdisciplinary areas. Dealing with both wired and wireless networks, this book focuses on the design and performance issues of such systems. Large Scale Network-Centric Distributed Systems provides in-depth coverage ranging from ground-level hardware issues (such as buffer organization, router delay, and flow control) to the high-level issues immediately concerning application or system users (including parallel programming, middleware, and OS support for such computing systems). Arranged in five parts, it explains and analyzes complex topics to an unprecedented degree: Part 1: Multicore and Many-Core (Mc) Systems-on-Chip Part 2: Pervasive/Ubiquitous Computing and Peer-to-Peer Systems Part 3: Wireless/Mobile Networks Part 4: Grid and Cloud Computing Part 5: Other Topics Related to Network-Centric Computing and Its Applications Large Scale Network-Centric Distributed Systems is an incredibly useful resource for practitioners, postgraduate students, postdocs, and researchers.

This book constitutes the refereed proceedings of the First International Conference on Advanced Research in Technologies, Information, Innovation and Sustainability, ARTIIS 2021, held in La Libertad, Ecuador, in November 2021. The 53 full papers and 2 short contributions were carefully reviewed and selected from 155 submissions. The volume covers a variety of topics, such as computer systems organization, software engineering, information storage and retrieval, computing methodologies, artificial intelligence, and others. The papers are logically organized in the following thematic blocks: ?Computing Solutions; Data Intelligence; Ethics, Security, and Privacy; Sustainability.

Quantitative Assessments of Distributed Systems

Guide to Cloud Computing for Business and Technology Managers

Economic Models and Algorithms for Distributed Systems

Architecting Cloud Computing Solutions

Computing and Technology

Performance of Cloud Based Solutions. The Impact of Public Cloud, Private Cloud and Hybrid Cloud

Building an Effective Security Program for Distributed Energy Resources and Systems

This book focuses on recent developments in integrating AI, machine learning methods, medical image processing, advanced network security, and advanced antenna design techniques to implement practical Mobile Health (M-Health) systems. The editors bring together researchers and practitioners who address several developments in the field of M-Health. Chapters highlight intelligent healthcare IoT and Machine Learning based systems for personalized healthcare delivery and remote monitoring applications. The contents also explain medical applications of computing technologies such as Wireless Body Area Networks (WBANs), wearable sensors, multi-factor authentication, and cloud computing. The book is intended as a handy resource for undergraduate and graduate biomedical engineering students and mobile technology researchers who want to know about the recent trends in mobile health technology.

This book constitutes the thoroughly refereed post-conference proceedings of the Second International Workshop on Algorithmic Aspects of Cloud Computing, ALGOCLOUD 2016, held in Aarhus, Denmark, in August 2016. The 11 revised full papers presented together with one tutorial paper were carefully reviewed and selected from 30 initial submissions. They deal with the following topics: algorithmic aspects of elasticity and scalability for distributed, large-scale data stores (e.g. NoSQL and columnar databases); search and retrieval algorithms for cloud infrastructures; monitoring and analysis of elasticity for virtualized environments; NoSQL, schemaless data modeling, integration; caching and load-balancing; storage structures and indexing for cloud databases; new algorithmic aspects of parallel and distributed computing for cloud applications; scalable machine learning, analytics and data science; high availability, reliability, failover; transactional models and algorithms for cloud databases; query languages and processing programming models; consistency, replication and partitioning CAP, data structures and algorithms for eventually consistent stores.

Distributed systems employed in critical infrastructures mustfulfill dependability, timeliness, and performance specifications.Since these systems most often operate in an unpredictableenvironment, their design and maintenance require quantitativeevaluation of deterministic and probabilistic timed models. Thisneed gave birth to an abundant literature devoted to formalmodeling languages combined with analytical and simulative solutiontechniques The aim of the book is to provide an overview of techniques andmethodologies dealing with such specific issues in the context ofdistributed systems and covering aspects such as performanceevaluation, reliability/availability, energy efficiency,scalability, and sustainability. Specifically, techniques forchecking and verifying if and how a distributed system satisfiesthe requirements, as well as how to properly evaluatenon-functional aspects, or how to optimize the overall behavior ofthe system, are all discussed in the book. The scope has beenselected to provide a thorough coverage on issues, models. andtechniques relating to validation, evaluation and optimization ofdistributed systems. The key objective of this book is tohelp to bridge the gaps between modeling theory and the practice indistributed systems through specific examples.

This book constitutes the refereed proceedings of the 13th IFIP WG 6.1 International Conference on Distributed Applications and Interoperable Systems, DAIS 2013, held in Florence, Italy, in June 2013, as part of the 8th International Federated Conference on Distributed Computing Techniques, DisCoTec 2013. The 12 revised full papers and 9 short papers presented were carefully reviewed and selected from 42 submissions. The papers present state-of-the-art research results and case studies in the area of distributed applications and interoperable systems focussing on cloud computing, replicated storage, and peer-to-peer computing.

Advanced Research in Technologies, Information, Innovation and Sustainability

Cyber Security in Parallel and Distributed Computing

Mobile Computing Solutions for Healthcare Systems

Distributed and Cloud Computing

10th International Conference, ICA3PP 2010, Busan, Korea, May 21-23, 2010. Proceedings

Challenges and Solutions for Large-scale Information Management

13th IFIP WG 6.1 International Conference, DAIS 2013, Held as Part of the 8th International Federated Conference on Distributed Computing Techniques, DisCoTec 2013, Florence, Italy, June 3-5, 2013, Proceedings

Distributed and Cloud Computing: From Parallel Processing to the Internet of Things offers complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing. It is the first modern, up-to-date distributed systems textbook; it explains how to create high-performance, scalable, reliable systems, exposing the design principles, architecture, and innovative applications of parallel, distributed, and cloud computing systems. Topics covered by this book include: facilitating management, debugging, migration, and disaster recovery through virtualization; clustered systems for research or ecommerce applications; designing systems as web services; and social networking systems using peer-to-peer computing. The principles of cloud computing are discussed using examples from open-source and commercial applications, along with case studies from the leading distributed computing vendors such as Amazon, Microsoft, and Google. Each chapter includes exercises and further reading, with lecture slides and more available online. This book will be ideal for students taking a distributed systems or distributed computing class, as well as for professional system designers and engineers looking for a reference to the latest distributed technologies including cloud, P2P and grid computing. Complete coverage of modern distributed computing technology including clusters, the grid, service-oriented architecture, massively parallel processors, peer-to-peer networking, and cloud computing Includes case studies from the leading distributed computing vendors: Amazon, Microsoft, Google, and more Explains how to use virtualization to facilitate management, debugging, migration, and disaster recovery Designed for undergraduate or graduate students taking a distributed systems course—each chapter includes exercises and further reading, with lecture slides and more available online

This book discusses the applications and optimization of emerging smart technologies in the field of healthcare. It further explains different modeling scenarios of the latest technologies in the healthcare system and compares the results to better understand the nature and progress of diseases in the human body, which would ultimately lead to early diagnosis and better treatment and cure of diseases with the help of distributed technology. Covers the implementation models using technologies such as artificial intelligence, machine learning, and deep learning with distributed systems for better diagnosis and treatment of diseases. Gives in-depth review of technological advancements like advanced sensing technologies such as plasmonic sensors, usage of RFIDs, and electronic diagnostic tools in the field of healthcare engineering. Discusses possibilities of augmented reality and virtual reality interventions for providing unique solutions in medical science, clinical research, psychology, and neurological disorders. Highlights the future challenges and risks involved in the application of smart technologies such as cloud computing, fog computing, IOT, and distributed computing in healthcare. Confers to utilize the AI and ML and associated aids in healthcare sectors in the post-Covid 19 period to revitalize the medical setup. Contributions included in the book will motivate technological developers and researchers to develop new algorithms and protocols in the healthcare field. It will serve as a vast platform for gaining knowledge regarding healthcare delivery, health- care management, healthcare in governance, and health monitoring approaches using distributed environments. It will serve as an ideal reference text for graduate students and researchers in diverse engineering fields including electrical, electronics and communication, computer, and biomedical fields.

As one of the results of an ambitious project, this handbook provides a well-structured directory of globally available software tools in the area of Integrated Computational Materials Engineering (ICME). The compilation covers models, software tools, and numerical methods allowing describing electronic, atomistic, and mesoscopic phenomena, which in their combination determine the microstructure and the properties of materials. It reaches out to simulations of component manufacture comprising primary shaping, forming, joining, coating, heat treatment, and machining processes. Models and tools addressing the in-service behavior like fatigue, corrosion, and eventually recycling complete the compilation. An introductory overview is provided for each of these different modelling areas highlighting the relevant phenomena and also discussing the current state for the different simulation approaches. A must-have for researchers, application engineers, and simulation software providers seeking a holistic overview about the current state of the art in a huge variety of modelling topics. This handbook equally serves as a reference manual for academic and commercial software developers and providers, for industrial users of simulation software, and for decision makers seeking to optimize their production by simulations. In view of its sound introductions into the different fields of materials physics, materials chemistry, materials engineering and materials processing it also serves as a tutorial for students in the emerging discipline of ICME, which requires a broad view on things and at least a basic education in adjacent fields.

This book LNCS 13547 constitutes the proceedings of the 14th International Symposium on Cyberspace Safety and Security, CSS 2022, held in Xi’an, China, in October 2022.The 26 revised full papers presented were carefully reviewed and selected from 104 initial submissions. The papers focus on Cyberspace Safety and Security, such as authentication, access control, availability, integrity, privacy, confidentiality, dependability and sustainability issues of cyberspace.

Assured Cloud Computing

Algorithms and Architectures for Parallel Processing

Grid and Cloud Computing

Digital Solutions for Contemporary Democracy and Government

Environmental Science and Information Application Technology

Distributed Applications and Interoperable Systems

Emerging Research in Cloud Distributed Computing Systems

Distributed computing paradigms for sharing resources such as Clouds, Grids, Peer-to-Peer systems, or voluntary computing are becoming increasingly popular. While there are some success stories such as PlanetLab, OneLab, BOINC, BitTorrent, and SETI@home, a widespread use of these technologies for business applications has not yet been achieved. In a business environment, mechanisms are needed to provide incentives to potential users for participating in such networks. These mechanisms may range from simple non-monetary access rights, monetary payments to specific policies for sharing. Although a few models for a framework have been discussed (in the general area of a "Grid Economy"), none of these models has yet been realised in practice. This book attempts to fill this gap by discussing the reasons for such limited take-up and exploring incentive mechanisms for resource sharing in distributed systems. The purpose of this book is to identify research challenges in successfully using and deploying resource sharing strategies in open-source and commercial distributed systems.

"This book focuses on the challenges of distributed systems imposed by the data intensive applications, and on the different state-of-the-art solutions proposed to overcome these challenges"--Provided by publisher.

The book presents high-quality, peer-reviewed papers from the FICR International Conference on Rising Threats in Expert Applications and Solutions 2022 organized by IIS (Deemed to be University), Jaipur, Rajasthan, India, during January 7–8, 2022. The volume is a collection of innovative ideas from researchers, scientists, academicians, industry professionals, and students. The book covers a variety of topics, such as expert applications and artificial intelligence/machine learning; advance web technologies such as IoT, big data, cloud computing in expert applications; information and cyber security threats and solutions, multimedia applications in forensics, security and intelligence; advancements in app development; management practices for expert applications; and social and ethical aspects in expert applications through applied sciences.

The complexity and severity of the Distributed Denial of Service (DDoS) attacks are increasing day-by-day. The Internet has a highly inconsistent structure in terms of resource distribution. Numerous technical solutions are available, but those involving economic aspects have not been given much consideration. The book, DDoS Attacks – Classification, Attacks, Challenges, and Countermeasures, provides an overview of both types of defensive solutions proposed so far, exploring different dimensions that would mitigate the DDoS effectively and show the implications associated with them. Features: Covers topics that describe taxonomies of the DDoS attacks in detail, recent trends and classification of defensive mechanisms on the basis of deployment location, the types of defensive action, and the solutions offering economic incentives. Introduces chapters discussing the various types of DDoS attack associated with different layers of security, an attacker’s motivations, and the importance of incentives and liabilities in any defensive solution. Illustrates the role of fair resource-allocation schemes, separate payment mechanisms for attackers and legitimate users, negotiation models on cost and types of resources, and risk assessments and transfer mechanisms. DDoS Attacks – Classification, Attacks, Challenges, and Countermeasures is designed for the readers who have an interest in the cybersecurity domain, including students and researchers who are exploring different dimensions associated with the DDoS attack, developers and security professionals who are focusing on developing defensive schemes and applications for detecting or mitigating the DDoS attacks, and faculty members across different universities.

Methodologies and Techniques

Data Intensive Distributed Computing: Challenges and Solutions for Large-scale Information Management

First International Conference, ARTIIS 2021, La Libertad, Ecuador, November 25–27, 2021, Proceedings

Smart Distributed Embedded Systems for Healthcare Applications

Large Scale Network-Centric Distributed Systems

The book contains several new concepts, techniques, applications and case studies for cyber securities in parallel and distributed computing The main objective of this book is to explore the concept of cybersecurity in parallel and distributed computing along with recent research developments in the field. Also included are various real-time/offline applications and case studies in the fields of engineering and computer science and the modern tools and technologies used. Information concerning various topics relating to cybersecurity technologies is organized within the sixteen chapters of this book. Some of the important topics covered include: Research and solutions for the problem of hidden image detection Security aspects of data mining and possible solution techniques A comparative analysis of various methods used in e-commerce security and how to perform secure payment transactions in an efficient manner Blockchain technology and how it is crucial to the security industry Security for the Internet of Things Security issues and challenges in distributed computing security such as heterogeneous computing, cloud computing, fog computing, etc. Demonstrates the administration task issue in unified cloud situations as a multi-target enhancement issue in light of security Explores the concepts of cybercrime and cybersecurity and presents the statistical impact it is having on organizations Security policies and mechanisms, various categories of attacks (e.g., denial-of-service), global security architecture, along with distribution of security mechanisms Security issues in the healthcare sector with existing solutions and emerging threats.

Distributed systems intertwine with our everyday lives. The benefits and current shortcomings of the underpinning technologies are experienced by a wide range of people and their smart devices. With the rise of large-scale IoT and similar distributed systems, cloud bursting technologies, and partial outsourcing solutions, private entities are encouraged to increase their efficiency and offer unparalleled availability and reliability to their users. The Research Anthology on Architectures, Frameworks, and Integration Strategies for Distributed and Cloud Computing is a vital reference source that provides valuable insight into current and emergent research occurring within the field of distributed computing. It also presents architectures and service frameworks to achieve highly integrated distributed systems and solutions to integration and efficient management challenges faced by current and future distributed systems. Highlighting a range of topics such as data sharing, wireless sensor networks, and scalability, this multi-volume book is ideally designed for system administrators, integrators, designers, developers, researchers, academicians, and students.

Environmental Science and Information Application Technology contains selected papers from the 2014 5th International Conference on Environmental Science and Information Application Technology (ESIAT 2014, Hong Kong, 7-8 November 2014). The book covers a wide variety of topics: - Global Environmental Change and Ecosystems Management - Graphic and I