# Load Balancing In Cloud Computing

Advances in Network-Based Information SystemsCloud ComputingQuantum Particle Swarm Optimization Technique for Load Balancing in Cloud ComputingNovel Practices and Trends in Grid and Cloud ComputingServer Load BalancingModel-Driven Development and Operation of Multi-Cloud ApplicationsLoad Balancing Servers, Firewalls, and CachesAlgorithms for Energy Efficient Load Balancing in Cloud EnvironmentsApplication Delivery and Load Balancing in Microsoft AzureAdvances on P2P, Parallel, Grid, Cloud and Internet ComputingCritical Approaches to Information Retrieval ResearchSwarm Intelligence for Cloud ComputingWeb Information Systems and MiningJava PerformanceRising Threats in Expert Applications and SolutionsLoad Balancing in Cloud Computing Environment Using Greedy AlgorithmsProceedings of the International Conference on Signal, Networks, Computing, and SystemsPractical AWS NetworkingCloud Computing and VirtualizationComparative Analysis of Load Balancing Algorithms in Cloud ComputingCloud ComputingInnovation in Electrical Power Engineering, Communication, and Computing TechnologyIntelligent Computing and Innovation on Data ScienceNovel Practices and Trends in Grid and Cloud ComputingAdvances in Computer and Computational SciencesOptimal Load Balancing in Distributed Computer SystemsComputer, Communication and Electrical TechnologyAnticipatory Models of Load Balancing in Cloud ComputingRole of Edge Analytics in Sustainable Smart City DevelopmentHigh-Performance Computing and Big Data AnalysisA Novel Approach To Enhance The Performance Of Cloud Computing File System Using Load Balancing AlgorithmEncyclopedia of Cloud ComputingMobile Web and Intelligent Information SystemsPractical Load BalancingBig Data AnalyticsICT for Competitive StrategiesSustainable Communication Networks and ApplicationGoogle Cloud Platform for ArchitectsProceedings of the Fifth International Conference on Innovations in Bio-Inspired Computing and Applications IBICA 2014Computational Intelligence in Data Mining

## Advances in Network-Based Information Systems

Annotation This book constitutes the refereed proceedings of the International Conference on Web Information Systems and Mining, WISM 2010, held in Sanya, China, on October 23-24, 2010. The 54 revised full papers presented in this volume were carefully reviewed and selected from 603 submissions. The papers are organized in topical sections on applications of web information systems, applications of web mining, distributed systems, e-government and e-commerce, geographic information systems, information security, intelligent networked systems, management information systems, mobile computing, web content mining, web information classification, web information retrieval, web services and e-learning, and XML and semi-structured data.

## Cloud Computing

This book features selected high-quality papers from the International Conference on Innovation in Electrical Power Engineering, Communication, and Computing Technology (IEPCCT 2019), held at Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India, on 13–14 December 2019. Presenting innovations in power, communication, and computing, it covers topics such as mini, micro, smart and future power grids; power system economics; energy storage systems; intelligent control; power converters; improving power quality; signal processing; sensors and actuators; image/video processing; high-performance data mining algorithms; advances in deep learning; and optimization methods.

## Quantum Particle Swarm Optimization Technique for Load Balancing in Cloud Computing

The International Conference on "Computational Intelligence in Data Mining" (ICCIDM), after three successful versions, has reached to its fourth version with a lot of aspiration. The best selected conference papers are reviewed and compiled to form this volume. The proceedings discusses the latest solutions, scientific results and methods in solving intriguing problems in the fields of data mining, computational intelligence, big data analytics, and soft computing. The volume presents a sneak preview into the strengths and weakness of trending applications and research findings in the field of computational intelligence and data mining along with related field.

## Novel Practices and Trends in Grid and Cloud Computing

Doctoral Thesis / Dissertation from the year 2014 in the subject Computer Science - IT-Security, Lovely Professional University, Punjab (Lovely Professional University, Phagwara, Punjab), course: M.Tech Information Technology, language: English, abstract: Cloud computing is one of the biggest thing in computing in recent time. Cloud computing uses the internet and the central remote servers to support different data and applications. Cloud computing is that emerging technology which is used for providing various computing and storage services over the Internet. In the cloud computing, the internet is viewed as a cloud. Internet users can receive services from a cloud as if they were employing a super computer which be using cloud computing. To storing data in the cloud instead of on their own devices and it making ubiquitous data access possible. Load balancing helps to make resource utilization effective and also used to improve the response time of the job. The load balancing helps to remove the nodes which are unbalanced. In this situation, it removes the nodes, which are overloaded or under loaded. It is dynamic in nature. In the cloud computing, file system management is the big issue. We use round robin algorithm with load balancing in the file systems. It will help to enhance the performance of file system. It also helps to increase the access of file systems in cloud computing.

## Server Load Balancing

From an industry insider--a close look at high-performance,end-to-end switching solutions Load balancers are fast becoming an indispensable solution forhandling the huge traffic demands of the Web. Their ability tosolve a multitude of network and server bottlenecks in the Internetage ranges from dramatic improvements in server farm scalability toremoving the firewall as a network bottleneck. This book provides adetailed, up-to-date, technical discussion of this fast-growing,multibillion dollar market, covering the full spectrum oftopics--from server and firewall load balancing to transparentcache switching to global server load balancing. In the process,the author delivers insight into the way new technologies aredeployed in network infrastructure and how they work. Written by anindustry expert who hails from a leading Web switch vendor, thisbook will help network and server administrators improve thescalability, availability, manageability, and security of theirservers, firewalls, caches, and Web sites.

## Model-Driven Development and Operation of Multi-Cloud Applications

This book presents state-of-the-art theories and technologies and discusses developments in the two major fields: engineering and sustainable computing. In this modern era of information and communication technologies [ICT], there is a growing need for new sustainable and energy-efficient communication and networking technologies. The book highlights significant current and potential international research relating to theoretical and practical methods toward developing sustainable communication and networking technologies. In particular, it focuses on emerging technologies such as wireless communications, mobile networks, Internet of things [IoT], sustainability, and edge network models. The contributions cover a number of key research issues in software-defined networks, blockchain technologies, big data, edge/fog computing, computer vision, sentiment analysis, cryptography, energy-efficient systems, and cognitive platforms.

## Load Balancing Servers, Firewalls, and Caches

Information retrieval (IR) is considered to be the science of searching for information from a variety of information sources related to texts, images, sounds, or multimedia. With the rise of the internet and digital databases, updated information retrieval methodologies are essential to ensure the continued facilitation and enhancement of information exchange. Critical Approaches to Information Retrieval Research is a critical scholarly publication that provides multidisciplinary examinations of theoretical innovations and methods in information retrieval technologies including search and storage applications for data, text, image, sound, document, and video retrieval. Featuring a wide range of topics including data mining, machine learning, and ontology, this book is ideal for librarians, software engineers, data scientists, professionals, researchers, information engineers, scientists, practitioners, and academicians working in the fields of computer science, information technology, information and communication sciences, education, health, library, and more.

## Algorithms for Energy Efficient Load Balancing in Cloud Environments

Efficient Single Board Computers (SBCs) and advanced VLSI systems have resulted in edge analytics and faster decision making. The QoS parameters like energy, delay, reliability, security, and throughput should be improved on seeking better intelligent expert systems. The resource constraints in the Edge devices, challenges the researchers to meet the required QoS. Since these devices and components work in a remote unattended environment, an optimum methodology to improve its lifetime has become mandatory. Continuous monitoring of events is mandatory to avoid tragic situations; it can only be enabled by providing high QoS. The applications of IoT in digital twin development, health care, traffic analysis, home surveillance, intelligent agriculture monitoring, defense and all common day to day activities have resulted in pioneering embedded devices, which can offer high computational facility without much latency and delay. The book address industrial problems in designing expert system and IoT applications. It provides novel survey and case study report on recent industrial approach towards Smart City development.

## Application Delivery and Load Balancing in Microsoft Azure

The purpose of this book is first to study cloud computing concepts, security concern in clouds and data centers, live migration and its importance for cloud computing, the role of firewalls in domains with particular focus on virtual machine (VM) migration and its security concerns. The book then tackles design, implementation of the frameworks and prepares test-beds for testing and evaluating VM migration procedures as well as firewall rule migration. The book demonstrates how cloud computing can produce an effective way of network management, especially from a security perspective.

## Advances on P2P, Parallel, Grid, Cloud and Internet Computing

## Critical Approaches to Information Retrieval Research

Business and IT organizations are currently embracing new strategically sound concepts in order to be more customer-centric, competitive, and cognitive in their daily operations. While useful, the various software tools, pioneering technologies, as well as their unique contributions largely go unused due to the lack of information provided on their special characteristics. Novel Practices and Trends in Grid and Cloud Computing is a collection of innovative research on the key concerns of cloud computing and how they are being addressed, as well as the various technologies and tools empowering cloud theory to be participative, penetrative, pervasive, and persuasive. While highlighting topics including cyber security, smart technology, and artificial intelligence, this book is ideally designed for students, researchers, and business managers

on the lookout for innovative IT solutions for all the business automation software and improvisations of computational technologies.

## Swarm Intelligence for Cloud Computing

Fourth International Conference on Information and Communication Technology for Competitive Strategies targets state-of-the-art as well as emerging topics pertaining to information and communication technologies (ICTs) and effective strategies for its implementation for engineering and intelligent applications.

## Web Information Systems and Mining

With more and more companies moving on-premises applications to the cloud, software and cloud solution architects alike are busy investigating ways to improve load balancing, performance, security, and high availability for workloads. This practical book describes Microsoft Azure's load balancing options and explains how NGINX can contribute to a comprehensive solution. Cloud architects Derek DeJonghe and Arlan Nugara take you through the steps necessary to design a practical solution for your network. Software developers and technical managers will learn how these technologies have a direct impact on application development and architecture. While the examples are specific to Azure, these load balancing concepts and implementations also apply to cloud providers such as AWS, Google Cloud, DigitalOcean, and IBM Cloud. Understand application delivery and load balancing--and why they're important Explore Azure's managed load balancing options Learn how to run NGINX OSS and NGINX Plus on Azure Examine similarities and complementing features between Azure-managed solutions and NGINX Use Azure Front Door to define, manage, and monitor global routing for your web traffic Monitor application performance using Azure and NGINX tools and plug-ins Explore security choices using NGINX and Azure Firewall solutions

## Java Performance

This book covers both basic and high-level concepts relating to the intelligent computing paradigm and data sciences in the context of distributed computing, big data, data sciences, high-performance computing and Internet of Things. It is becoming increasingly important to develop adaptive, intelligent computing-centric, energy-aware, secure and privacy-aware systems in high-performance computing and IoT applications. In this context, the book serves as a useful guide for industry practitioners, and also offers beginners a comprehensive introduction to basic and advanced areas of intelligent computing. Further, it provides a platform for researchers, engineers, academics and industrial professionals around the globe to showcase their recent research concerning recent trends. Presenting novel ideas and stimulating interesting

discussions, the book appeals to researchers and practitioners working in the field of information technology and computer science.

## Rising Threats in Expert Applications and Solutions

This book presents the latest research findings and innovative theoretical and practical research methods and development techniques related to the emerging areas of information networking and their applications. Today's networks and information systems are evolving rapidly, and there are several new trends and applications, such as wireless sensor networks, ad hoc networks, peer-to-peer systems, vehicular networks, opportunistic networks, grid and cloud computing, pervasive and ubiquitous computing, multimedia systems, security, multi-agent systems, high-speed networks, and web-based systems. These networks have to deal with the increasing number of users, provide support for different services, guarantee the QoS, and optimize the network resources, and as such there are numerous research issues and challenges that need to be considered and addressed.

## Load Balancing in Cloud Computing Environment Using Greedy Algorithms

Get acquainted with GCP and manage robust, highly available, and dynamic solutions to drive business objective Key Features Identify the strengths, weaknesses and ideal use-cases for individual services offered on the Google Cloud Platform Make intelligent choices about which cloud technology works best for your use-case Leverage Google Cloud Platform to analyze and optimize technical and business processes Book Description Using a public cloud platform was considered risky a decade ago, and unconventional even just a few years ago. Today, however, use of the public cloud is completely mainstream - the norm, rather than the exception. Several leading technology firms, including Google, have built sophisticated cloud platforms, and are locked in a fierce competition for market share. The main goal of this book is to enable you to get the best out of the GCP, and to use it with confidence and competence. You will learn why cloud architectures take the forms that they do, and this will help you become a skilled high-level cloud architect. You will also learn how individual cloud services are configured and used, so that you are never intimidated at having to build it yourself. You will also learn the right way and the right situation in which to use the important GCP services. By the end of this book, you will be able to make the most out of Google Cloud Platform design. What you will learn Set up GCP account and utilize GCP services using the cloud shell, web console, and client APIs Harness the power of App Engine, Compute Engine, Containers on the Kubernetes Engine, and Cloud Functions Pick the right managed service for your data needs, choosing intelligently between Datastore, BigTable, and BigQuery Migrate existing Hadoop, Spark, and Pig workloads with minimal disruption to your existing data infrastructure, by using Dataproc intelligently Derive insights about the health, performance, and availability of cloud-powered applications with the help of monitoring, logging, and diagnostic tools in

Stackdriver Who this book is for If you are a Cloud architect who is responsible to design and manage robust cloud solutions with Google Cloud Platform, then this book is for you. System engineers and Enterprise architects will also find this book useful. A basic understanding of distributed applications would be helpful, although not strictly necessary. Some working experience on other public cloud platforms would help too.

## Proceedings of the International Conference on Signal, Networks, Computing, and Systems

Your one step guide to learn all about AWS networking. Key Features Master your networking skills on Public Cloud Gain hands-on experience of using Amazon VPC, Elastic Load Balancing, Direct Connect and other AWS products Implement troubleshooting skills and best practices for security on AWS network Book Description Amazon Web Services (AWS) dominates the public cloud market by a huge margin and continues to be the first choice for many organizations. Networking has been an area of focus for all the leading cloud service providers. AWS has a suite of network-related products which help in performing network related task on AWS. This book initially covers the basics of networking in AWS. Then we use AWS VPC to create an isolated virtual cloud for performing network-related tasks. We then provide an overview of AWS Direct Connect after taking a deep dive into scalability and load balancing using the auto scaling feature, Elastic Load Balancing, and Amazon Route S3. Toward the end of the book, we cover troubleshooting tips and security best practices for your network. By the end of this book, you will have hands-on experience of working with network tasks on AWS. What you will learn Overview of all networking services available in AWS Gain work with load balance applications across different regions Learn auto scale instances based on increases and decreases in traffic Deploy applications in a highly available and fault tolerant manner Configure Route 53 for a web application Troubleshooting tips and best practices Who this book is for This book is for cloud architects, cloud solution providers, or any stakeholders dealing with networking on AWS Cloud. A prior idea of Amazon Web Services will be an added advantage.

## Practical AWS Networking

Exchange of information and innovative ideas are necessary to accelerate the development of technology. With advent of technology, intelligent and soft computing techniques came into existence with a wide scope of implementation in engineering sciences. Keeping this ideology in preference, this book includes the insights that reflect the 'Advances in Computer and Computational Sciences' from upcoming researchers and leading academicians across the globe. It contains high-quality peer-reviewed papers of 'International Conference on Computer, Communication and Computational Sciences (ICCCCS 2016), held during 12-13 August, 2016 in Ajmer, India'. These papers are arranged in the form of chapters. The content of the book is divided into two volumes that cover variety of topics such as intelligent hardware and software design, advanced communications, power and energy optimization, intelligent techniques used in internet of things,

intelligent image processing, advanced software engineering, evolutionary and soft computing, security and many more. This book helps the perspective readers' from computer industry and academia to derive the advances of next generation computer and communication technology and shape them into real life applications.

## Cloud Computing and Virtualization

This volume comprises the select proceedings of the annual convention of the Computer Society of India. Divided into 10 topical volumes, the proceedings present papers on state-of-the-art research, surveys, and succinct reviews. The volumes cover diverse topics ranging from communications networks to big data analytics, and from system architecture to cyber security. This volume focuses on Big Data Analytics. The contents of this book will be useful to researchers and students alike.

## Comparative Analysis of Load Balancing Algorithms in Cloud Computing

The emergence of the cloud and modern, fast corporate networks demands that you perform judicious balancing of computational loads. Practical Load Balancing presents an entire analytical framework to increase performance not just of one machine, but of your entire infrastructure. Practical Load Balancing starts by introducing key concepts and the tools you'll need to tackle your load-balancing issues. You'll travel through the IP layers and learn how they can create increased network traffic for you. You'll see how to account for persistence and state, and how you can judge the performance of scheduling algorithms. You'll then learn how to avoid performance degradation and any risk of the sudden disappearance of a service on a server. If you're concerned with running your load balancer for an entire network, you'll find out how to set up your network topography, and condense each topographical variety into recipes that will serve you in different situations. You'll also learn about individual servers, and load balancers that can perform cookie insertion or improve your SSL throughput. You'll also explore load balancing in the modern context of the cloud. While load balancers need to be configured for high availability once the conditions on the network have been created, modern load balancing has found its way into the cloud, where good balancing is vital for the very functioning of the cloud, and where IPv6 is becoming ever more important. You can read Practical Load Balancing from end to end or out of sequence, and indeed, if there are individual topics that interest you, you can pick up this book and work through it once you have read the first three chapters.

## Cloud Computing

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while

allowing for the financial assessment of resources and how they compare to traditional storage systems.

## Innovation in Electrical Power Engineering, Communication, and Computing Technology

## Intelligent Computing and Innovation on Data Science

The Encyclopedia of Cloud Computing provides IT professionals, educators, researchers and students with a compendium of cloud computing knowledge. Authored by a spectrum of subject matter experts in industry and academia, this unique publication, in a single volume, covers a wide range of cloud computing topics, including technological trends and developments, research opportunities, best practices, standards, and cloud adoption. Providing multiple perspectives, it also addresses questions that stakeholders might have in the context of development, operation, management, and use of clouds. Furthermore, it examines cloud computing's impact now and in the future. The encyclopedia presents 56 chapters logically organized into 10 sections. Each chapter covers a major topic/area with cross-references to other chapters and contains tables, illustrations, side-bars as appropriate. Furthermore, each chapter presents its summary at the beginning and backend material, references and additional resources for further information.

## Novel Practices and Trends in Grid and Cloud Computing

Cloud Computing systems are widely applied in many fields such as communication data management, web application, network monitoring, financial management and so on. The distributed Cloud Computing technology has been produced as the development of the computer network and distributed computing technology. Researches on data Cloud Computing become the necessary trend in the distributed Cloud Computing system domain since the sources and application of the data are distributed and the scale of the applications enlarges quickly. Load management is the focus of research in both of the area in distributed Cloud Computing systems and centralized Cloud Computing systems. Although researches on the load management in the cloud systems is similar to that of traditional parallel and distributed systems in many aspects, essential differences exist between them. The choice of a scheduling strategy has significant impact on the runtime Central Processing Unit, memory consumption as well as the storage systems. Load balancing optimization techniques such as Ant Colony Optimization (ACO), First Come First Served (FCFS), Round Robin (RR) and Particle Swarm Optimization (PSO) are popular techniques being used for scheduling and load balancing. However, these techniques have its weaknesses in terms of minimizing makespan, computation cost and communication cost. In this study, load balancing technique in Cloud Computing called Quantum Particle Swarm Optimization (QPSO) technique proposed by considering only minimization of makespan, computation cost and communication cost. Performance of the QPSO technique based on many heuristic

algorithms it is comprised the following steps. Firstly, tasks are assigned averagely to the machines according to a special initialization policy. Then the optimal criterion for exchanging tasks between two machines is proposed and exploited to speed up the improving process towards load balance. Secondly, this thesis proposes job-combination based static algorithm for load balancing where all jobs should organized into the standard job combinations, each task of which consists of one to four jobs. Then they are assigned to the machines according to the assignment algorithm for job combinations, which is a special integer partition algorithm. Finally, the result of experiment shows that QPSO can achieve at least three times cost saving as compared with ACO, FCFS, RR and PSO.

## Advances in Computer and Computational Sciences

Abstract: Cloud computing is a novel trend emerging in Information Technology (IT) environments with immense infrastructure and resources. An integral aspect of cloud computing is load balancing. Efficient load balancing in cloud computing ensures effective resource utilization. There are two types of load balancers: the static load balancer and the dynamic load balancer. While both types of load balancers are widely used in the industry, they differ in performance. In this project, the performances of the most widely used static and dynamic load balancers, namely the round robin and the throttled, are compared. Specifically, the project examines whether the throttled algorithm takes less time than the round robin algorithm to access data in cloud computing. The results show that the throttled algorithm takes less time than the round robin algorithm to access data, and that this difference is due to a faultiness in the implementation of the round robin algorithm.

## Optimal Load Balancing in Distributed Computer Systems

This books is open access under a CC BY 4.0 license. This book summarizes work being undertaken within the collaborative MODAClouds research project, which aims to facilitate interoperability between heterogeneous Cloud platforms and remove the constraints of deployment, portability, and reversibility for end users of Cloud services. Experts involved in the project provide a clear overview of the MODAClouds approach and explain how it operates in a variety of applications. While the wide spectrum of available Clouds constitutes a vibrant technical environment, many early-stage issues pose specific challenges from a software engineering perspective. MODAClouds will provide methods, a decision support system, and an open source IDE and run-time environment for the high-level design, early prototyping, semiautomatic code generation, and automatic deployment of applications on multiple Clouds. It will free developers from the need to commit to a fixed Cloud technology stack during software design and offer benefits in terms of cost savings, portability of applications and data between Clouds, reversibility (moving applications and data from Cloud to non-Cloud environments), risk management, quality assurance, and flexibility in the development process.

## Computer, Communication and Electrical Technology

Business and IT organizations are currently embracing new strategically sound concepts in order to be more customer-centric, competitive, and cognitive in their daily operations. While useful, the various software tools, pioneering technologies, as well as their unique contributions largely go unused due to the lack of information provided on their special characteristics. Novel Practices and Trends in Grid and Cloud Computing is a collection of innovative research on the key concerns of cloud computing and how they are being addressed, as well as the various technologies and tools empowering cloud theory to be participative, penetrative, pervasive, and persuasive. While highlighting topics including cyber security, smart technology, and artificial intelligence, this book is ideally designed for students, researchers, and business managers on the lookout for innovative IT solutions for all the business automation software and improvisations of computational technologies.

## Anticipatory Models of Load Balancing in Cloud Computing

Load balancing improves network performance by distributing traffic efficiently so that individual servers are not overwhelmed by sudden fluctuations in activity. Server Load Balancing is a guide to this critical component of high availability, clustering, and fault tolerance, all of which provide the infrastructure for reliable Internet sites and large corporate networks. Much of the information on load balancing comes from vendor-specific manuals that use inconsistent terminology and are often biased toward the products they cover. Server Load Balancing explains to engineers and technicians the concepts and terminology of load balancing and offers practical guidance for planning and implementing it in almost any environment. It includes a configuration guide with diagrams and sample configurations for installing, configuring, and maintaining products from the four major vendors: Alteon WebSystems Cisco's CSS Series (formerly ArrowPoint) F5's BIG-IP the Foundry ServerIron series By comparing several load balancing products, you'll gain a deeper understanding of the technology and how best to use it to improve your network performance. No system administrator responsible for traffic management should be without this practical guide.

## Role of Edge Analytics in Sustainable Smart City Development

This book constitutes the refereed proceedings of the 16th International Conference on Mobile Web and Intelligent Information Systems, MobiWIS 2019, held in Istanbul, Turkey, in August 2019. The 23 full papers presented together with 3 short papers were carefully reviewed and selected from 74 submissions. The papers of the MobiWIS 2019 deal with areas such as: mobile apps and services; web and mobile applications; security and privacy; wireless networks and cloud computing; intelligent mobile applications; and mobile web and practical applications.

## High-Performance Computing and Big Data Analysis

An important consideration in improving the performance of a distributed computer system is the balancing of the load between the host computers. Load balancing may be either static or dynamic; static balancing strategies are generally based on information about the system's average behavior rather than its actual current state, while dynamic strategies react to the current state when making transfer decisions. Although it is often conjectured that dynamic load balancing outperforms static, careful investigation shows that this view is not always valid. Recent research on the problem of optimal static load balancing is clearly and intuitively presented, with coverage of distributed computer system models, problem formulation in load balancing, and effective algorithms for implementing optimization. Providing a thorough understanding of both static and dynamic strategies, this book will be of interest to all researchers and practitioners working to optimize performance in distributed computer systems.

## A Novel Approach To Enhance The Performance Of Cloud Computing File System Using Load Balancing Algorithm

Unleash the power of cloud computing using Azure, AWS and Apache Hadoop Description With the advent of internet, there is a complete paradigm shift in the manner we comprehend computing. Need to enable ubiquity, convenient and on-demand access to resources in highly scalable and resilient environments that can be remotely accessed, gave birth to the concept of Cloud computing. The acceptance is so rapid that the notion influences sophisticated innovations in academia, industry and research world-wide and hereby change the landscape of information technology as we thought of. Through this book, the authors tried to incorporate core principles and basic notion of cloud computing in a step-by-step manner and tried to emphasize on key concepts for clear and thorough insight into the subject. Audience This book is intended for students of B.E., B.Tech., B.Sc., M.Sc., M.E., and M.Tech. as a text book. The content is designed keeping in mind the bench marked curriculum of various universities (both National and International). The book covers not only the technical details of how cloud works but also exhibits the strategy, technical design, and in-depth knowledge required to migrate existing applications to the cloud. Therefore, it makes it relevant for the beginners who wants to learn cloud computing right from the foundation. Aspiring Cloud Computing Researchers Instructors, Academicians and Professionals, if they are familiar with cloud, can use this book to learn various open source cloud computing tools, applications, technologies. They will also get a flavor of various international certification exams available. What will you learn • Learn about the Importance of Cloud Computing in Current Digital Era • Understand the Core concepts and Principles of Cloud Computing with practical benefits • Learn about the Cloud Deployment models and Services • Discover how Cloud Computing Architecture works • Learn about the Load balancing approach and Mobile Cloud Computing (MCC) • Learn about the Virtualization and Service-Oriented Architecture (SOA) concepts • Learn about the various Cloud Computing applications, Platforms and Security

concepts • Understand the adoption Cloud Computing technology and strategies for migration to the cloud • Case Studies for Cloud computing adoption - Sub-Saharan Africa and India Key Features • Provides a sound understanding of the Cloud computing concepts, architecture and its applications • Explores the practical benefits of Cloud computing services and deployment models in details • Cloud Computing Architecture, Cloud Computing Life Cycle (CCLC), Load balancing approach, Mobile Cloud Computing (MCC), Google App Engine (GAE) • Virtualization and Service-Oriented Architecture (SOA) • Cloud Computing applications - Google Apps, Dropbox Cloud and Apple iCloud and its uses in various sectors - Education, Healthcare, Politics, Business, and Agriculture • Cloud Computing platforms - Microsoft Azure, Amazon Web Services (AWS), Open Nebulla, Eucalyptus, Open Stack, Nimbus and The Apache Hadoop Architecture • Adoption of Cloud Computing technology and strategies for migration to the cloud • Cloud computing adoption case studies - Sub-Saharan Africa and India • Chapter-wise Questions with Summary and Examination Model Question papers Table of Contents 1. Foundation of Cloud Computing 2. Cloud Services and Deployment Models 3. Cloud Computing Architecture 4. Virtualization & Service Oriented Architecture 5. Cloud Security and Privacy 6. Cloud Computing Applications 7. Cloud Computing Technologies, Platform and Services 8. Adoption of Cloud Computing 9. Model Paper 1 10. Model Paper 2 11. Model Paper 3 12. Model Paper 4

## Encyclopedia of Cloud Computing

Coding and testing are generally considered separate areas of expertise. In this practical book, Java expert Scott Oaks takes the approach that anyone who works with Java should be adept at understanding how code behaves in the Java Virtual Machine—including the tunings likely to help performance. This updated second edition helps you gain in-depth knowledge of Java application performance using both the JVM and the Java platform. Developers and performance engineers alike will learn a variety of features, tools, and processes for improving the way the Java 8 and 11 LTS releases perform. While the emphasis is on production-supported releases and features, this book also features previews of exciting new technologies such as ahead-of-time compilation and experimental garbage collections. Understand how various Java platforms and compilers affect performance Learn how Java garbage collection works Apply four principles to obtain best results from performance testing Use the JDK and other tools to learn how a Java application is performing Minimize the garbage collector's impact through tuning and programming practices Tackle performance issues in Java APIs Improve Java-driven database application performance

## Mobile Web and Intelligent Information Systems

This volume of Advances in Intelligent Systems and Computing contains accepted papers presented at IBICA2014, the 5th International Conference on Innovations in Bio-inspired Computing and Applications. The aim of IBICA 2014 was to provide a

platform for world research leaders and practitioners, to discuss the full spectrum of current theoretical developments, emerging technologies, and innovative applications of Bio-inspired Computing. Bio-inspired Computing remains to be one of the most exciting research areas, and it is continuously demonstrating exceptional strength in solving complex real life problems. The main driving force of the conference was to further explore the intriguing potential of Bio-inspired Computing. IBICA 2014 was held in Ostrava, Czech Republic and hosted by the VSB - Technical University of Ostrava.

## Practical Load Balancing

Swarm Intelligence in Cloud Computing is an invaluable treatise for researchers involved in delivering intelligent optimized solutions for reliable deployment, infrastructural stability, and security issues of cloud-based resources. Starting with a bird's eye view on the prevalent state-of-the-art techniques, this book enriches the readers with the knowledge of evolving swarm intelligent optimized techniques for addressing different cloud computing issues including task scheduling, virtual machine allocation, load balancing and optimization, deadline handling, power-aware profiling, fault resilience, cost-effective design, and energy efficiency. The book offers comprehensive coverage of the most essential topics, including: Role of swarm intelligence on cloud computing services Cloud resource sharing strategies Cloud service provider selection Dynamic task and resource scheduling Data center resource management. Indrajit Pan is an Associate Professor in Information Technology of RCC Institute of Information Technology, India. He received his PhD from Indian Institute of Engineering Science and Technology, Shibpur, India. With an academic experience of 14 years, he has published around 40 research publications in different international journals, edited books, and conference proceedings. Mohamed Abd Elaziz is a Lecturer in the Mathematical Department of Zagazig University, Egypt. He received his PhD from the same university. He is the author of more than 100 articles. His research interests include machine learning, signal processing, image processing, cloud computing, and evolutionary algorithms. Siddhartha Bhattacharyya is a Professor in Computer Science and Engineering of Christ University, Bangalore. He received his PhD from Jadavpur University, India. He has published more than 230 research publications in international journals and conference proceedings in his 20 years of academic experience.

## Big Data Analytics

Seminar paper from the year 2013 in the subject Computer Science - Commercial Information Technology, grade: 1.0, Otto-von-Guericke-University Magdeburg (Faculty of Computer Science), course: Recent Topics in Business Informatics, language: English, abstract: Energy efficiency has a rising importance throughout society. With the growth of large data centers, the energy consumption becomes centralized and nowadays takes a significant amount of the overall electricity consumption of a country. Load balancing algorithms are able to make an existing infrastructure more efficient without

major drawbacks. This structured literature research presents the state of the art technology regarding the load balancing approach to make data centers more en-ergy efficient. The state of the art approaches are reviewed for techniques, im-provements and consideration of performance effects.

## ICT for Competitive Strategies

The First International Conference on Advancement of Computer, Communication and Electrical Technology focuses on key technologies and recent progress in computer vision, information technology applications, VLSI, signal processing, power electronics & drives, and application of sensors & transducers, etc. Topics in this conference include: Computer Science This conference encompassed relevant topics in computer science such as computer vision & intelligent system, networking theory, and application of information technology. Communication Engineering To enhance the theory & technology of communication engineering, ACCET 2016 highlighted the state-of the-art research work in the field of VLSI, optical communication, and signal processing of various data formatting. Research work in the field of microwave engineering, cognitive radio and networks are also included. Electrical Technology The state-of-the-art research topic in the field of electrical & instrumentation engineering is included in this conference such as power system stability & protection, non-conventional energy resources, electrical drives, and biomedical engineering. Research work in the area of optimization and application in control, measurement & instrumentation are included as well.

## Sustainable Communication Networks and Application

This book constitutes revised and selected papers from the Second International Congress on High-Performance Computing and Big Data Analysis, TopHPC 2019, held in Tehran, Iran, in April 2019. The 37 full papers and 2 short papers presented in this volume were carefully reviewed and selected from a total of 103 submissions. The papers in the volume are organized acording to the following topical headings: deep learning; big data analytics; Internet of Things.- data mining, neural network and genetic algorithms; performance issuesand quantum computing.

## Google Cloud Platform for Architects

This book presents the latest research findings, as well as innovative theoretical and practical research results, methods and development techniques related to P2P, grid, cloud and Internet computing. It also reveals the synergies among such large scale computing paradigms. P2P, Grid, Cloud and Internet computing technologies have rapidly become established as breakthrough paradigms for solving complex problems by enabling aggregation and sharing of an increasing variety of distributed computational resources on a large scale. Grid computing originated as a paradigm for high-performance

computing, offering an alternative to expensive supercomputers through different forms of large-scale distributed computing. P2P computing emerged as a new paradigm following on from client-server and web-based computing and has proved useful in the development of social networking, B2B (Business to Business), B2C (Business to Consumer), B2G (Business to Government), and B2E (Business to Employee). Cloud computing has been described as a "computing paradigm where the boundaries of computing are determined by economic rationale rather than technical limits". Cloud computing has fast become the computing paradigm with applicability and adoption in all domains and providing utility computing at large scale. Lastly, Internet computing is the basis of any large-scale distributed computing paradigm; it has very quickly developed into a vast and flourishing field with enormous impact on today's information societies and serving as a universal platform comprising a large variety of computing forms such as grid, P2P, cloud and mobile computing.

## Proceedings of the Fifth International Conference on Innovations in Bio-Inspired Computing and Applications IBICA 2014

The book is a collection of high-quality peer-reviewed research papers presented in the first International Conference on Signal, Networks, Computing, and Systems (ICSNCS 2016) held at Jawaharlal Nehru University, New Delhi, India during February 25–27, 2016. The book is organized in to two volumes and primarily focuses on theory and applications in the broad areas of communication technology, computer science and information security. The book aims to bring together the latest scientific research works of academic scientists, professors, research scholars and students in the areas of signal, networks, computing and systems detailing the practical challenges encountered and the solutions adopted.

## Computational Intelligence in Data Mining

ROMANCE  ACTION & ADVENTURE  MYSTERY & THRILLER  BIOGRAPHIES & HISTORY  CHILDREN'S  YOUNG ADULT  FANTASY  HISTORICAL FICTION  HORROR  LITERARY FICTION  NON-FICTION  SCIENCE FICTION