Chapter 7 Cloud Architecture And Datacenter Design

Handbook of Research on Security Considerations in Cloud Computing
A Practical Approach for Learning and Implementation
Cloud Computing
Cloud Computing
CompTIA CySA+ Study Guide with Online Labs
Future Networks, Services and Management
Theory and Practice
Architecting Cloud Computing Solutions
Securing the Cloud
Hands-On Industrial Internet of Things
Cognitive Computing and Big Data Analytics
Securing Your Cloud: IBM Security for LinuxONE
Solutions Architect's Handbook
Cloud Mobile Networks
Cloud Computing For Dummies
CLOUD COMPUTING
Adaptive Cloud Enterprise Architecture
Concepts, Technology & Architecture
Developing Interoperable and Federated Cloud Architecture
Build cloud strategies that align technology and economics while effectively managing risk
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An Experiential Approach
Cloud Computing

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Handbook of Research on Security Considerations in Cloud Computing Elsevier
This book describes the networks, applications, services of 2030 and beyond, their management. Novel end-to-end network and services architectures using cloud, wired, wireless, and space technologies to support future applications and services are presented. The book ties key concepts together such as cloud, space networking, network slicing, AI/ML, edge computing, burst switching, and optical computing in achieving end-to-end automated future services. Expected future applications, services, and network and data center architectures to support these applications and services in the year 2030 and beyond, along with security, routing, QoS, and management architecture and capabilities are described. The book is written by recognized global experts in the field from both industry and academia.

A Practical Approach for Learning and Implementation Cisco Press
Combine the power of analytics and cloud computing for faster and efficient insights Key Features Master the concept of analytics on the cloud: and how organizations are using it Learn the design considerations and while applying a cloud analytics solution Design an end-to-end analytics pipeline on the cloud Book Description With the ongoing data explosion, more and more organizations all over the world are slowly migrating their infrastructure to the cloud. These cloud platforms also provide their distinct analytics services to help you get faster insights from your data. This book will give you an introduction to the concept of analytics on the cloud, and the different cloud services popularly used for processing and analyzing data. If you’re planning to adopt the cloud analytics model for your business, this book will help you understand the design and business considerations to be kept in mind, and choose the best tools and alternatives for analytics, based on your requirements. The chapters in this book will take you through the 70+ services available in Google Cloud Platform and their implementation for practical purposes. From ingestion to processing your data, this book contains best practices on building an end-to-end analytics pipeline on the cloud by leveraging popular concepts such as machine learning and deep learning. By

the end of this book, you will have a better understanding of cloud analytics as a concept as well as a practical know-how of its implementation What you will learn Explore the basics of cloud analytics and the major cloud solutions Learn how organizations are using cloud analytics to improve the ROI Explore the design considerations while adopting cloud services Work with the ingestion and storage tools of GCP such as Cloud Pub/Sub Process your data with tools such as Cloud Dataproc, BigQuery, etc Over 70 GCP tools to build an analytics engine for cloud analytics Implement machine learning and other AI techniques on GCP Who this book is for This book is targeted at CIOs, CTOs, and even analytics professionals looking for various alternatives to implement their analytics pipeline on the cloud. Data professionals looking to get started with cloud-based analytics will also find this book useful. Some basic exposure to cloud platforms such as GCP will be helpful, but not mandatory.

Cloud Computing IGI Global

This well-organized book presents the principles, techniques, design, and implementation of cloud computing, with a perfect balance in the presentation of theoretical and practical aspects. The book, after providing a brief introduction to the subject, gives a clear analysis of different cloud computing models and explains all the relevant concepts on virtualization, security issues and challenges in cloud computing. In addition to this, the book introduces the reader with some of the prominent cloud service provider companies like Amazon, Microsoft and Google, and discusses the various features of these web services. Further, to provide the necessary background required to understand the principles of cloud computing, the roadmap for migration of application to cloud and roles of different standards used for cloud computing are discussed in detail. The discussion ends after addressing mobile cloud computing and microservices—the recent advances in cloud computing. The book is primarily intended for the undergraduate and postgraduate students of computer science and engineering, and information technology.

IGI Global

As workloads are being offloaded to IBM® LinuxONE based cloud environments, it is important to ensure that these workloads and environments are secure. This IBM Redbooks® publication describes the necessary steps to secure your environment from the hardware level through all of the components that are involved in a LinuxONE cloud infrastructure that use Linux and IBM z/VM®. The audience for this book is IT architects, IT Specialists, and those users who plan to use LinuxONE for their cloud environments.

Cloud Computing John Wiley & Sons

Introduces the topic of cloud computing with an emphasis on the trustworthiness of cloud computing systems and services This book describes the scientific basis of cloud computing, explaining the ideas, principles, and architectures of cloud computing as well the different types of clouds and the services they provide. The text reviews several cloud computing platforms, including Microsoft Azure, Amazon, Oracle, Google, HP, IBM, Salesforce, and Kaavo. The author addresses the problem of trustworthiness in cloud computing and provides methods to improve the security and privacy of cloud applications. The end-of-chapter exercises and supplementary material on the book's companion website will allow readers to grasp the introductory and advanced level concepts of cloud computing. Examines cloud computing platforms such as Microsoft Azure, Amazon, Oracle, Google, HP, IBM, Salesforce, and Kaavo Analyzes the use of aspect-oriented programming (AOP) for refactoring cloud services and improving the security and privacy of cloud applications Contains practical examples of cloud computing, test questions, and end-of-chapter exercises Includes presentations, examples of cloud projects and other teaching resources at the author’s website (http://www.vladimirsafonov.org/cloud) Trustworthy Cloud Computing is written for advanced undergraduate and graduate students in computer science, data science, and computer engineering as well as software engineers, system architects, system managers, and software developers new to cloud computing.

CompTIA CySA+ Study Guide with Online Labs CRC Press

Includes bibliographical references and index.

Future Networks, Services and Management John Wiley & Sons

Cloud computing has quickly become the next big step in security development for companies and institutions all over the world. With the technology changing so rapidly, it is important that businesses carefully consider the available advancements and opportunities before implementing cloud computing in their organizations. The Handbook of Research on Security Considerations in Cloud Computing brings together discussion on current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting the need for consumers to understand the unique nature of cloud-delivered security and to evaluate the different aspects of this service to verify if it will meet their needs, this book is an essential reference source for researchers, scholars, postgraduate students, and developers of cloud security systems.

Theory and Practice Springer Nature

This book will show you how to create robust, scalable, highly available and fault-tolerant solutions by learning different aspects of Solution architecture and next-generation architecture design in the Cloud environment.

Architecting Cloud Computing Solutions CRC Press

Securing the Cloud is the first book that helps you secure your information while taking part in the time and cost savings of cloud computing. As companies turn to burgeoning cloud computing technology to streamline and save money, security is a fundamental concern. The cloud offers flexibility, adaptability, scalability, and in the case of security - resilience. Securing the Cloud explains how to make the move to the cloud, detailing the strengths and weaknesses of securing a company's information with different cloud approaches. It offers a clear and concise framework to secure a business' assets while making the most of this new technology. This book considers alternate approaches for securing a piece of the cloud, such as private vs. public clouds, SaaS vs. IaaS, and loss of control and lack of trust. It discusses the cloud's impact on security roles, highlighting security as a service, data backup, and disaster recovery. It also describes the benefits of moving to the cloud - solving for limited availability of space, power, and storage. This book will appeal to network and security IT staff and management responsible for design, implementation and management of IT structures from admins to CSOs, CTOs, CIOs and CISOs. Named The 2011 Best Identity Management Book by InfoSec Reviews Provides a sturdy and stable framework to secure your piece of the cloud, considering alternate approaches such as private vs. public clouds, SaaS vs. IaaS, and loss of control and lack of trust Discusses the cloud's impact on security roles, highlighting security as a service, data backup, and disaster recovery Details the benefits of moving to the cloud-solving for limited availability of space, power, and storage

Securing the Cloud Cloud

ComputingConcepts, Technology & Architecture
The easy way to understand and implement cloud computing technology written by a team of experts Cloud computing can be difficult to understand at first, but the cost-saving possibilities are great and many companies are getting on board. If you've been put in charge of implementing cloud computing, this straightforward, plain-English guide clears up the confusion and helps you get your plan in place. You'll learn how cloud computing enables you to run a more green IT infrastructure, and access technology-enabled services from the Internet ("in the cloud") without having to understand, manage, or invest in the technology infrastructure that supports them. You'll also find out what you need to consider when implementing a plan, how to handle security issues, and more. Cloud computing is a way for businesses to take advantage of storage and virtual services through the Internet, saving money on infrastructure and support This book provides a clear definition of cloud computing from the utility computing standpoint and also addresses security concerns Offers practical guidance on delivering and managing cloud computing services effectively and efficiently Presents a proactive and pragmatic approach to implementing cloud computing in any organization Helps IT managers and staff understand the benefits and challenges of cloud computing, how to select a service, and what's involved in getting it up and running Highly experienced author team consults and gives presentations on emerging technologies Cloud Computing For Dummies gets straight to the point, providing the practical information you need to know.
Hands-On Industrial Internet of Things Blue Rose Publishers
Cloud computing is often described as providing computing resources the way electric utilities provide energy. In theory, anyone with an adequate connection to the Internet should be able to tap into a cloud provider and get exactly the computing resources they want when they want it, just like plugging into the electricity grid and getting exactly the energy you want when you want it. But to get that electricity, there are many standards: voltage, frequency, phase, motors constructed in standard ways—there is a long list; there is an equally long list for cloud computing. Many of the standards are already in place. Others are being developed; some in contention. Cloud Standards is a broad discussion of important existing and future standards. For existing standards, the discussion focuses on how they are used, providing practical advice to engineers constructing clouds and services to be deployed on clouds. For future standards, the discussion is on why a standard is needed, what the benefits will be, and what is being done now to fill the gap. No current book provides this information in the depth and detail necessary for an engineer in his work, an architect in designing cloud systems, a product manager collecting and evaluating products, or an executive evaluating the feasibility of a project. A second benefit from this book is that it provides insight into cloud implementations. Cloud implementations can be seen as the culmination of many trends in software and hardware engineering. Much of the foundation for these developments have been crystallized in the form of standards like TCP/IP (Transmission Control Protocol/Internet Protocol) and HTTP (Hypertext Transmission Protocol). The book leads readers to understand how these contribute to and affect cloud implementations. Unfortunately, emerging standards are often messy. Cloud implementers may need to choose between competing proposed standards. Sometimes it is better to reject the standard entirely and "roll your own." This book provides background for intelligent decisions. Keeping a cloud, or an application implemented on a cloud, running well requires careful tuning of the implementation. Tuning often involves adjusting controls that are in the standard or applying the standard in less well-known ways. This book is an aid in tuning cloud systems for maximum benefits.
Cognitive Computing and Big Data Analytics Packt Publishing Ltd
Enhance your virtualization skills by mastering storage and network virtualization with automation across different Clouds Key Features Migrate and build your applications in Hybrid Cloud with VMware Cross Cloud components and services Gain in-depth configuration insights of VMware Cross Cloud architecture Learn to migrate applications from VMware to AWS and IBM Cloud Book Description Over the past two decades, VMware vSphere has been known as the most trusted and reliable virtualization platform. VMware Cross-Cloud Architecture shows you how to design and configure Cross Cloud Architecture by using VMware Cloud Foundation and vRealize Suite with various use cases across private, public, and hybrid Cloud. This book takes you through everything from a basic understanding of virtualization to advanced aspects of storage and network virtualization, clustering, automation, and management. This book will be your guide to designing all aspects of Cloud. We start with the challenges faced by a traditional data center, define problem statements for you, and then brief you on respective solutions. Moving on, all kinds of virtualization and Cloud offerings from AWS and IBM Soft Layer are introduced and discussed in detail. Then, you'll learn how to design IT infrastructures for new and existing applications with a combination of Cloud Foundation, vRealize Suite, and vSphere enabled with VSAN and NSX. Furthermore, you'll learn how to design and configure high availability, disaster recovery, and apply an appropriate compliance matrix. Toward the end of the book, you will learn how to calculate the TCO/ROI, along with the VMware products packaging and licensing in detail. What you will learn Install and configure the Cloud foundation with Cross-Cloud services Configure vSphere high availability with the vCenter redundancy setup Architect and configure VMware with AWS Cloud Deploy VMware components in IBM Soft Layer Extend your DR setup with VMware to consume DRaaS Design and configure software-defined networking Implement compliance regulations to fix violations Who this book is for This book is for administrators, Cloud architects and network engineers who want to globalize their infrastructure using VMware and AWS services. An initial setup of workloads and data center is beneficial.
Securing Your Cloud: IBM Security for LinuxONE Apress
Emerging developments in cloud computing have created novel opportunities and applications for businesses. These innovations not only have organizational benefits, but can be advantageous for green enterprises as well. Cloud Computing Technologies for Green Enterprises is a pivotal reference source for the latest scholarly research on the advancements, benefits, and challenges of cloud computing for green enterprise endeavors. Highlighting pertinent topics such as resource allocation, energy efficiency, and mobile computing, this book is a premier resource for academics, researchers, students, professionals, and managers interested in novel trends in cloud computing applications.
Solutions Architect's Handbook Springer
Despite the buzz surrounding the cloud computing, only a small percentage of organizations have actually deployed this

new style of IT—so far. If you're planning your long-term cloud strategy, this practical book provides insider knowledge and actionable real-world lessons regarding planning, design, operations, security, and application transformation. This book teaches business and technology managers how to transition their organization's traditional IT to cloud computing. Rather than yet another book trying to sell or convince readers on the benefits of clouds, this book provides guidance, lessons learned, and best practices on how to design, deploy, operate, and secure an enterprise cloud based on real-world experience. Author James Bond provides useful guidance and best-practice checklists based on his field experience with real customers and cloud providers. You'll view cloud services from the perspective of a consumer and as an owner/operator of an enterprise private or hybrid cloud, and learn valuable lessons from successful and less-than-successful organization use-case scenarios. This is the information every CIO needs in order to make the business and technical decisions to finally execute on their journey to cloud computing. Get updated trends and definitions in cloud computing, deployment models, and for building or buying cloud services Discover challenges in cloud operations and management not foreseen by early adopters Use real-world lessons to plan and build an enterprise private or hybrid cloud Learn how to assess, port, and migrate legacy applications to the cloud Identify security threats and vulnerabilities unique to the cloud Employ a cloud management system for your enterprise (private or multi-provider hybrid) cloud ecosystem Understand the challenges for becoming an IT service broker leveraging the power of the cloud

Cloud Mobile Networks Packt Publishing Ltd

This book provides a comprehensive overview of the research on anomaly detection with respect to context and situational awareness that aim to get a better understanding of how context information influences anomaly detection. In each chapter, it identifies advanced anomaly detection and key assumptions, which are used by the model to differentiate between normal and anomalous behavior. When applying a given model to a particular application, the assumptions can be used as guidelines to assess the effectiveness of the model in that domain. Each chapter provides an advanced deep content understanding and anomaly detection algorithm, and then shows how the proposed approach is deviating of the basic techniques. Further, for each chapter, it describes the advantages and disadvantages of the algorithm. The final chapters provide a discussion on the computational complexity of the models and graph computational frameworks such as Google Tensorflow and H2O because it is an important issue in real application domains. This book provides a better understanding of the different directions in which research has been done on deep semantic analysis and situational assessment using deep learning for anomalous detection, and how methods developed in one area can be applied in applications in other domains. This book seeks to provide both cyber analytics practitioners and researchers an up-to-date and advanced knowledge in cloud based frameworks for deep semantic analysis and advanced anomaly detection using cognitive and artificial intelligence (AI) models.

Cloud Computing For Dummies IGI Global

Cloud ComputingConcepts, Technology & ArchitecturePearson Education

CLOUD COMPUTING John Wiley & Sons

The complete guide to provisioning and managing cloud-based Infrastructure as a Service (IaaS) data center solutions Could computing will revolutionize the way IT resources are deployed, configured, and managed for years to come. Service providers and customers each stand to realize tremendous value from this paradigm shift-if they can take advantage of it. Cloud Computing brings together the realistic, start-to-finish guidance they need to plan, implement, and manage cloud solution architectures for tomorrow's virtualized data centers. It introduces cloud 'newcomers' to essential concepts, and offers experienced operations professionals detailed guidance on delivering Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). This book's replicable solutions and fully-tested best practices will help enterprises, services providers, consultants, and Cisco partners meet the challenge of provisioning end-to-end cloud infrastructures. Drawing on extensive experience working with leading cloud vendors and integrators, the authors present detailed operations workflow examples, proven techniques for operating cloud-based network, compute, and storage infrastructure; a comprehensive management reference architecture; and a complete case study demonstrating rapid, lower-cost solutions design. Cloud Computing will be an indispensable resource for all network/IT professionals and managers involved with planning, implementing, or managing the next generation of cloud computing services. • •Review the key concepts needed to successfully deploy and cloud-based services •Transition common enterprise design patterns and use cases to the cloud •Master architectural principles and infrastructure design for 'real-time' managed IT services •Understand the Cisco approach to cloud-related technologies, systems, and services •Develop a cloud management architecture using ITIL, TMF, and ITU-TMN standards •Implement best practices for cloud service provisioning, activation, and management •Automate cloud infrastructure to simplify service delivery, monitoring and assurance •Choose and implement the right billing/chargeback approaches for your business •Design and build IaaS services, from start to finish •Manage the unique capacity challenges associated with sporadic, real-time demand •Provide a consistent and optimal cloud user experience This book is part of the Networking Technology Series from Cisco Press, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers.

Adaptive Cloud Enterprise Architecture John Wiley & Sons

This handbook offers a comprehensive overview of cloud computing security technology and implementation, while exploring practical solutions to a wide range of cloud computing security issues. With more organizations using cloud computing and cloud providers for data operations, proper security in these and other potentially vulnerable areas have become a priority for organizations of all sizes across the globe. Research efforts from both academia and industry in all security aspects related to cloud computing are gathered within one reference guide.

Concepts, Technology & Architecture World Scientific

The book is for Integrated Business Processes Analysis & Enterprise Architecture design in the Cloud. The author has covered essential topics in the book. Flexible and logical modules integrated across the Globe in a cloud server(s) with internal users and external user’s dashboards. The book describes the distribution of Application software programs roles & responsibilities and users (Multi locations) for Operation Level, Middle Management, and Top Management. The Author describes algorithms for designing robust enterprise

database engine development as per schema design. Integrated Business flow/Process flow with control. Each step is defined step by step; the Author explains a few engines design and (BA) Business Analytics. Enterprise Design Database Engine for end-to-end finance & Account system deployed in the cloud architecture. Project Planning and control, Project Costing and (BA) Business Analytics.

Developing Interoperable and Federated Cloud Architecture Packt Publishing Ltd

This book explains the key feature to develop a complex and stable network that helps to gather the data to optimize the asset performance and maximize the production in the Industries leveraging on the cloud infrastructure and services. By the end, you can design the Industrial IoT network and the architecture for processing its data in the cloud.

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