Capacity Planning For Web Services Metrics Models And Methods

Designing Data-Intensive Applications

Advances in Web-Age Information Management

Production-Ready Microservices

Algorithms and Architectures for Parallel Processing

Evaluation of Complex Systems: Techniques and Tools

Advances in Web-Age Information Management

Web Engineering

From Integrated Publication and Information Systems to Information and Knowledge Environments

Programming Elastic MapReduce

Capacity Planning for Web Services

Service-Oriented Computing

Configuration and Capacity Planning for Solaris Servers

Guerrilla Capacity Planning

Capacity Planning for Web Performance

Software Design and Development: Concepts, Methodologies, Tools, and Applications

Fundamentals of Performance Evaluation of Computer and Telecommunication Systems

Scaling for E-business

Cloud Computing Bible

Geospatial Web Services: Advances in Information Interoperability

An Executive's Guide to Information Technology

Capacity Planning for Computer Systems

Site Reliability Engineering

Performance Themes for Cloud Computing

The Internet Encyclopedia, Volume 1 (A - F)

Software Engineering for Modern Web Applications: Methodologies and Technologies

The Art of Capacity Planning

Corporate Portals Empowered with XML and Web Services

The Art of Capacity Planning

Linux Performance Tuning and Capacity Planning

Architecting High Performing, Scalable and Available Enterprise Web Applications

ITIL Capacity Management

Cloud Capacity Management

Service-Oriented Computing - ICSOC 2007 Workshops

Web Services

Capacity Planning for Web Services

The Art of Capacity Planning

Model-Driven Online Capacity Management for Component-Based Software Systems

Performance by Design

Practical Service Level Management

The only singular, all-encompassing textbook on state-of-the-art technical performance evaluation Fundamentals of Performance Evaluation of Computer and Telecommunication Systems uniquely presents all techniques of performance evaluation of computers systems, communication networks, and telecommunication in a balanced manner. Written by the renowned Professor Mohammad S. Obaidat and his coauthor Professor Noureddine Boudriga, it is also the only resource to treat computer and telecommunication systems as inseparable issues. The authors explain the basic concepts of performance evaluation, applications, performance evaluation metrics, workload types, benchmarking, and characterization of workload. This is followed by a review of the basics of probability theory, and then, the main techniques for performance evaluation—namely measurement, simulation, and analytic modeling—with case studies and examples. Contains the practical and applicable knowledge necessary for a successful performance evaluation in a balanced approach Reviews measurement tools, benchmark programs, design of experiments, traffic models, basics of queueing theory, and operational and mean value analysis Covers the techniques for validation and verification of simulation as well as random number generation, random variate generation, and testing with examples Features numerous examples and case studies, as well as exercises and problems for use as homework or programming assignments Fundamentals of Performance Evaluation of Computer and Telecommunication Systems is an ideal textbook for graduate students in computer science, electrical engineering, computer engineering, and information sciences, technology, and systems. It is also an excellent reference for practicing engineers and scientists. This book constitutes the refereed proceedings of the 7th International Conference on Algorithms and Architectures for Parallel Processing, ICA3PP 2007, held in Hangzhou, China in June 2007. Focusing on two broad areas of parallel and distributed computing, the papers are organized in topical sections on parallel algorithms, parallel architecture, grid computing, peer-to-peer technologies, and advanced network technologies. One of the biggest challenges for organizations that have adopted microservice architecture is the lack of architectural, operational, and organizational standardization. After splitting a monolithic application or building a microservice ecosystem from scratch, many engineers are left wondering what’s next. In this practical book, author Susan Fowler presents a set of microservice standards in depth, drawing from her experience standardizing over a thousand microservices at Uber. You’ll learn how to design microservices that are stable, reliable, scalable, fault tolerant, performant, monitored, documented, and prepared for
any catastrophe. Explore production-readiness standards, including: Stability and Reliability: develop, deploy, introduce, and deprecate microservices; protect against dependency failures Scalability and Performance: learn essential components for achieving greater microservice efficiency Fault Tolerance and Catastrophe Preparedness: ensure availability by actively pushing microservices to fail in real time Monitoring: learn how to monitor, log, and display key metrics; establish alerting and on-call procedures Documentation and Understanding: mitigate tradeoffs that come with microservice adoption, including organizational sprawl and technical debt.This book constitutes the refereed proceedings of the 5th International Conference on Web-Age Information Management, WAIM 2004, held in Dalian, China in July 2004. The 57 revised full papers and 23 revised short and industrial papers presented together with 3 invited contributions were carefully reviewed and selected from 291 submissions. The papers are organized in topical sections on data stream processing, time series data processing, security, mobile computing, cache management, query evaluation, Web search engines, XML, Web services, classification, and data mining. Architecting High Performing, Scalable and Available Enterprise Web Applications provides in-depth insights into techniques for achieving desired scalability, availability and performance quality goals for enterprise web applications. The book provides an integrated 360-degree view of achieving and maintaining these attributes through practical, proven patterns, novel models, best practices, performance strategies, and continuous improvement methodologies and case studies. The author shares his years of experience in application security, enterprise application testing, caching techniques, production operations and maintenance, and efficient project management techniques. Delivers holistic view of scalability, availability and security, caching, testing and project management Includes patterns and frameworks that are illustrated with end-to-end case studies Offers tips and troubleshooting methods for enterprise application testing, security, caching, production operations and project management Exploration of synergies between techniques and methodologies to achieve end-to-end availability, scalability, performance and security quality attributes 360-degree viewpoint approach for achieving overall quality Practitioner viewpoint on proven patterns, techniques, methodologies, models and best practices. Bulleted summary and tabular representation of concepts for effective understanding Production operations and troubleshooting tips As Web service technologies have matured in recent years, an increasing number of geospatial Web services designed to deal with spatial information over the network have emerged. Geospatial Web Services: Advances in Information Interoperability provides relevant theoretical frameworks and the latest empirical research findings and applications in the area. This book highlights the strategic role of geospatial Web services in a distributed heterogeneous environment and the life cycle of geospatial Web services for building interoperable geospatial applications. The Cloud Computing Bible is a complete reference to cloud computing that presents the technologies, protocols, platforms and infrastructure that make cloud computing possible and desirable. Many of the cloud computing books on the market today are small books of 300 pages or less and the larger books tend to be programming books or security titles. A longer format book such as Cloud Computing Bible allows a complete definition of the topic as well as in-depth introductions to essential technologies and platforms. Additionally it allows significant technologies to be presented in a form that provides enough detail for the reader to determine if it is something that they are interested in learning more about. It is important to stress platform and technologies as the main subject and intersperse that with products in order to provide an extended life span, but have current appeal. The book will be divided into five parts: The Value Proposition, Platforms, Infrastructure, Services and Applications, and The Mobile Cloud. Innovative tools and techniques for the development and design of software systems are essential to the problem solving and planning of software solutions. Software Design and Development: Concepts, Methodologies, Tools, and Applications brings together the best practices of theory and implementation in the development of software systems. This reference source is essential for researchers, engineers, practitioners, and scholars seeking the latest knowledge on the techniques, applications, and methodologies for the design and development of software systems. Capacity management is a core activity when designing and operating distributed software systems. Particularly, enterprise application systems are exposed to highly varying workloads. Employing static capacity management, this leads to unnecessarily high total cost of ownership due to poor resource usage efficiency. This thesis introduces a model-driven online capacity management approach for distributed component-based software systems, called SLAStic. The core contributions of this approach are a) modeling languages to capture relevant
architectural information about a controlled software system, b) an architecture-based online capacity management framework based on the common MAPE-K control loop architecture, c) model-driven techniques supporting the automation of the approach, d) architectural runtime reconfiguration operations for controlling a system's capacity, as well as e) an integration of the Palladio Component Model. A qualitative and quantitative evaluation of the approach is performed by case studies, lab experiments, and simulation.

The Internet Encyclopedia in a 3-volume reference work on the internet as a business tool, IT platform, and communications and commerce medium. This IBM® RedpaperTM is the second in a series that addresses the performance and capacity considerations of the evolving cloud computing model. The first Redpaper publication (Performance Implications of Cloud Computing, REDP-4875) introduced cloud computing with its various deployment models, support roles, and offerings along with IT performance and capacity implications associated with these deployment models and offerings. In this redpaper, we discuss lessons learned in the two years since the first paper was written. We offer practical guidance about how to select workloads that work best with cloud computing, and about how to address areas, such as performance testing, monitoring, service level agreements, and capacity planning considerations for both single and multi-tenancy environments. We also provide an example of a recent project where cloud computing solved current business needs (such as cost reduction, optimization of infrastructure utilization, and more efficient systems management and reporting capabilities) and how the solution addressed performance and capacity challenges. We conclude with a summary of the lessons learned and a perspective about how cloud computing can affect performance and capacity in the future.

The Internet Encyclopedia in a 3-volume reference work on the internet as a business tool, IT platform, and communications and commerce medium. No matter what application or SPARC architecture you're working with, "Configuration and Capacity Planning for Solaris Servers" can help you maximize the performance of your Solaris-based server. This is the most comprehensive guide to configuring and sizing Solaris servers for virtually any task, including: World Wide Web, Internet E-mail, ftp, and Usenet news servers. Databases, database management, client/server computing, timesharing, general purpose application servers, Internet firewalls. Sun Microsystems engineer Brian Wong reviews the load characteristics of each type of usage, in detail. He then demonstrates how each application interacts with Solaris server architecture to impact each aspect of system performance, including throughput, latency, utilization, and efficiency. Ten detailed case studies make it easy for system administrators to take advantage of the book's concepts and methodology. "Configuration and Capacity Planning for Solaris Servers" focuses extensively on critical I/O issues, showing how to tailor usage, applications, software, and hardware to accommodate the realities of I/O. It presents detailed coverage of memory and virtual memory, SBus and VME configuration, disk access, SCSI and RAID subsystems, and file systems and backup issues. Wong also presents important considerations in configuring systems based on each major SPARC architecture. Whether you're optimizing an existing Solaris system or planning a new one, "Configurations and Capacity Planning for Solaris Servers" gives you the practical advice and detailed technical information you need to deliver maximum performance at the lowest possible cost. Practical, real-world solutions are given to potential problems covering the entire system life cycle. This book describes how to map real-life systems (databases, data centers, and e-commerce applications) into analytic performance models. The authors elaborate upon these models and use them to help the reader better understand performance issues. Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively. Make informed decisions by identifying the strengths and weaknesses of different tools. Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity. Understand the distributed systems research upon which modern databases are built. Peek behind the scenes of major online services, and learn from their
architectures
Following the humbling of the 'dot.coms' it is well implemented corporate portals that are ushering in a new and prosperous era of e-business. Corporate Portals Empowered with XML and Web Services provides decision makers with a clear and concise explanation of what portals are all about, why you really need a portal strategy, how you go about implementing one, and the issues you have to encounter and surmount. Guruge shows how you can successfully use XML and web services to empower your portals for collaboration, knowledge management, CRM, ERP and supply chain management. · Extensive examples of corporate portals illustrate the viability of the technology · Architectural and network diagrams show detailed portal implementations · Comprehensive references to guides, solutions, products and terminology leverage living outside resources
The overwhelming majority of a software system's lifespan is spent in use, not in design or implementation. So, why does conventional wisdom insist that software engineers focus primarily on the design and development of large-scale computing systems? In this collection of essays and articles, key members of Google’s Site Reliability Team explain how and why their commitment to the entire lifecycle has enabled the company to successfully build, deploy, monitor, and maintain some of the largest software systems in the world. You’ll learn the principles and practices that enable Google engineers to make systems more scalable, reliable, and efficient—lessons directly applicable to your organization. This book is divided into four sections: Introduction—Learn what site reliability engineering is and why it differs from conventional IT industry practices Principles—Examine the patterns, behaviors, and areas of concern that influence the work of a site reliability engineer (SRE) Practices—Understand the theory and practice of an SRE’s day-to-day work: building and operating large distributed computing systems Management—Explore Google's best practices for training, communication, and meetings that your organization can use
This book constitutes the thoroughly refereed papers presented at five international workshops held in conjunction with the 5th International Conference on Service-Oriented Computing, ICSOC 2007, in Vienna, Austria, in September 2007. The five workshops were selected out of eight submissions. The volume contains papers presented at the First International Workshop on Web APIs and Services Mashups ( Mashups 2007), the Workshop on Non-Functional Properties and Service Level Agreements in Service-Oriented Computing ( NFPSLA-SOC 2007), the 2nd International Workshop on Business-Oriented Aspects Concerning Semantics and Methodologies in Service-Oriented Computing ( SeMSoC 2007), the First International Workshop on Telecom Service-Oriented Architectures ( TSOA 2007) and the Third International Workshop on Engineering Service-Oriented Applications ( WESOA 2007). The papers offer a wide range of hot topics in service-oriented computing: development of mashups; management of non-functional properties and service level agreements; engineering approaches; semantic methodologies; and telecom services and service architectures.
This book constitutes a commemorative volume devoted to Erich J. Neuhold on the occasion of his 65th birthday. The 32 invited reviewed papers presented are written by students and colleagues of Erich Neuhold throughout all periods of his scientific career. The papers are organized in the following topical sections: Database management enabling information systems Semantic Web drivers for advanced information management Securing dynamic media content integration From digital libraries to intelligent knowledge environments Visualization – key to external cognition in virtual information environments From human-computer interaction to human-artefact interaction Domains for virtual information and knowledge environments.
This book constitutes the refereed proceedings of the 6th International Conference on Web-Age Information Management, WAIM 2005, held in Hangzhou, China, in October 2005. The 48 revised full papers, 50 revised short papers and 4 industrial papers presented together with 3 invited contributions were carefully reviewed and selected from 486 submissions. The papers are organized in topical sections on XML, performance and query evaluation, data mining, semantic Web and Web ontology, data management, information systems, Web services and workflow, data grid and database languages, agent and mobile data, database application and transaction management, and 3 sections with industrial, short, and demonstration papers.
This book constitutes the joint post-proceedings of four topical workshops held as satellite meetings of the 8th International Conference on service-oriented computing, ICSOC 2010, held in San Francisco, CA, USA in December 2010. The 23 revised papers presented together with four introductory descriptions are organized in topical sections corresponding to the individual workshops: performance assessment and auditing in service computing (PAASC 2010), engineering service-oriented applications (WESOA 2010), services, energy and ecosystems (SEE 2010), and service-oriented computing in logistics (SOC-LOG 2010)
don’t need a large computing infrastructure to process massive amounts of data with Apache Hadoop, it can still be difficult to get started. This practical guide shows you how to quickly launch data analysis projects in the cloud by using Amazon Elastic MapReduce (EMR), the hosted Hadoop framework in Amazon Web Services (AWS). Authors Kevin Schmidt and Christopher Phillips demonstrate best practices for using EMR and various AWS and Apache technologies by walking you through the construction of a sample MapReduce log analysis application. Using code samples and example configurations, you’ll learn how to assemble the building blocks necessary to solve your biggest data analysis problems. Get an overview of the AWS and Apache software tools used in large-scale data analysis Go through the process of executing a Job Flow with a simple log analyzer Discover useful MapReduce patterns for filtering and analyzing data sets Use Apache Hive and Pig instead of Java to build a MapReduce Job Flow Learn the basics for using Amazon EMR to run machine learning algorithms Develop a project cost model for using Amazon EMR and other AWS toolsThis book presents analysis techniques for quantifying and projecting every element of your e-business site's performance and planning for the capacity you need. Measure, manage, and improve the speed and reliability of Web services with this complete reference for creating relevant, effective Service Level Agreements. Starting with an explanation of SLM and common performance metrics, the book provides detailed discussions of methods to measure and improve performance. In their early days, Twitter, Flickr, Etsy, and many other companies experienced sudden spikes in activity that took their web services down in minutes. Today, determining how much capacity you need for handling traffic surges is still a common frustration of operations engineers and software developers. This hands-on guide provides the knowledge and tools you need to measure, deploy, and manage your web application infrastructure before you experience explosive growth. In this thoroughly updated edition, authors Arun Kejariwal (MZ) and John Allspaw provide a systematic, robust, and practical approach to capacity planning—rather than theoretical models—based on their own experiences and those of many colleagues in the industry. They address the vast sea change in web operations, especially cloud computing. Understand issues that arise on heavily trafficked websites or mobile apps Explore how capacity fits into web/mobile app availability and performance Use tools for measuring and monitoring computer performance and usage Turn measurement data into robust forecasts and learn how trending fits into the planning process Examine related deployment concepts: installation, configuration, and management automation Learn how cloud autoscaling enables you to scale your app’s capacity up or down. MenascT (computer science, George Mason U.) and Almeida (computer science, U. of Minas Gerais, Brazil) provide a quantitative analysis of Web service availability and a framework for understanding and planning Web services. They discuss benchmarking, load testing, workload forecasting, and performanc Like many other incipient technologies, Web services are still surrounded by a substantial level of noise. This noise results from the always dangerous combination of wishful thinking on the part of research and industry and of a lack of clear understanding of how Web services came to be. On the one hand, multiple contradictory interpretations are created by the many attempts to realign existing technology and strategies with Web services. On the other hand, the emphasis on what could be done with Web services in the future often makes us lose track of what can be really done with Web services today and in the short term. These factors make it extremely difficult to get a coherent picture of what Web services are, what they contribute, and where they will be applied. Alonso and his co-authors deliberately take a step back. Based on their academic and industrial experience with middleware and enterprise application integration systems, they describe the fundamental concepts behind the notion of Web services and present them as the natural evolution of conventional middleware, necessary to meet the challenges of the Web and of B2B application integration. Rather than providing a reference guide or a "how to write your first Web service" kind of book, they discuss the main objectives of Web services, the challenges that must be faced to achieve them, and the opportunities that this novel technology provides. Established, as well as recently proposed, standards and techniques (e.g., WSDL, UDDI, SOAP, WS-Coordination, WS-Transactions, and BPEL), are then examined in the context of this discussion in order to emphasize their scope, benefits, and shortcomings. Thus, the book is ideally suited both for professionals considering the development of application integration solutions and for research and students interested in understanding and contributing to the evolution of enterprise application technologies.In their early days, Twitter, Flickr, Etsy, and many other companies experienced sudden spikes in activity that took their web services down in minutes. Today, determining how much
capacity you need for handling traffic surges is still a common frustration of operations engineers and software developers. This hands-on guide provides the knowledge and tools you need to measure, deploy, and manage your web application infrastructure before you experience explosive growth. In this thoroughly updated edition, authors Arun Kejariwal (MZ) and John Allspaw provide a systematic, robust, and practical approach to capacity planning—rather than theoretical models—based on their own experiences and those of many colleagues in the industry. They address the vast sea change in web operations, especially cloud computing. Understand issues that arise on heavily trafficked websites or mobile apps. Explore how capacity fits into web/mobile app availability and performance. Use tools for measuring and monitoring computer performance and usage. Turn measurement data into robust forecasts and learn how trending fits into the planning process. Examine related deployment concepts: installation, configuration, and management automation. Learn how cloud autoscaling enables you to scale your app’s capacity up or down. This book presents current, effective software engineering methods for the design and development of modern Web-based applications."
planning for service capacity to provide optimum services levels which has huge cost implications for service providers. This book addresses the gap areas between traditional capacity management practices and cloud service models. It also showcases capacity management process design and implementation in a cloud computing domain using ITSM best practices. This book is a blend of ITSM best practices and infrastructure capacity planning and optimization implementation in various cloud scenarios. Cloud Capacity Management addresses the basics of cloud computing, its various models, and their impact on capacity planning. This book also highlights the infrastructure capacity management implementation process in a cloud environment showcasing inherent capabilities of tool sets available and the various techniques for capacity planning and performance management. Techniques like dynamic resource scheduling, scaling, load balancing, and clustering etc are explained for implementing capacity management.

The Business-Focused, Best-Practice Guide to Succeeding with ITIL Capacity Management

Using ITIL® capacity management processes, IT organizations can eliminate waste and overbuying, reduce both equipment and staffing costs, drive more value from existing investments, and consistently provide the right resources to meet the needs of the business. Now, in this comprehensive, best-practice guide, leading ITIL expert Larry Klosterboer systematically explains how to manage capacity using the ITIL framework and techniques. Drawing on his extensive ITIL experience, Klosterboer covers all facets of ITIL-based capacity management, and offers proven solutions to the challenges IT organizations encounter in implementation. He presents expert guidance on accurately projecting demand and growth, planning and staffing, tool selection, process implementation, and much more. This book’s practical insights will be invaluable to every IT leader who wants to leverage ITIL’s best practices for capacity management, and for every business and technical manager who wants IT to deliver greater value, efficiency, and effectiveness. Coverage includes Making the business case for capacity management Establishing specific goals for capacity management Mastering ITIL capacity management terminology Predicting capacity in dynamic, fast-changing organizations Implementing systems that help you anticipate trends Defining capacity plans, staffing capacity management teams, and implementing ongoing processes Linking capacity with performance management and with other ITIL processes Selecting the right capacity management tools for your environment Integrating capacity issues into your IT project management discipline Using “business capacity planning” to help the entire business become more agileOffering a step-by-step approach, the authors cover measuring, planning, and enhancing Web/Intranet site performance. Detailed case studies show exactly how to use every technique. Readers will soon understand the impact of every major Web technology on server performance, including HTTP, TCP/IP, HTML, CGI, Java, multimedia, and more.

Capacity Planning for Computer Systems covers the principles, concepts, and practical application of capacity planning to computer systems. This book is divided into nine chapters and begins with an introduction to the foundation and metrics of capacity planning. The subsequent chapters deal with the business elements, service levels, forecasting, and predictions of capacity planning, along with the regression techniques, forecast monitoring, and revision for the field. The remaining chapters highlight the applications of capacity planning, including in systems optimization, computer disk, tape, and tape drive. These chapters also provide the charting and graphics presentations for capacity planning. This book will be of value to computer scientists and researchers. This book overviews performance tuning and capacity planning for the experience professional. It also covers traditional UNIX tools that have been ported to Linux. Coverage includes: theoretical overview of performance tuning; a discussion of the risks involved and plans for prevention; examination of popular UNIX tools; examination of native Linux performance tuning tools; concepts of capacity planning; and designing and managing a capacity plan. Assessing the most valuable technology for an organization is becoming a growing challenge for business professionals confronted with an expanding array of options. This 2007 book is an A-Z compendium of technological terms written for the non-technical executive, allowing quick identification of what the term is and why it is significant. This is more than a dictionary - it is a concise review of the most important aspects of information technology from a business perspective: the major advantages, disadvantages and business value propositions of each term are discussed, as well as sources for further reading, and cross-referencing with other terms where applicable. The essential elements of each concept are covered in a succinct manner so the reader can quickly obtain the required knowledge without wading through exhaustive descriptions. With over 200 terms, this is a valuable reference for non- and semi-technical managers, executives and graduate students in
Online Library Capacity Planning For Web Services Metrics Models And Methods

business and technology management. This book presents the tutorial lectures given by leading experts in the area at the IFIP WG 7.3 International Symposium on Computer Modeling, Measurement and Evaluation, Performance 2002, held in Rome, Italy in September 2002. The survey papers presented are devoted to theoretical and methodological advances in performance and reliability evaluation as well as new perspectives in the major application fields. Modeling and verification issues, solution methods, workload characterization, and benchmarking are addressed from the methodological point of view. Among the applications dealt with are hardware and software architectures, wired and wireless networks, grid environments, Web services, and real-time voice and video processing. This book is intended to serve as a state-of-the-art survey and reference for students, scientists, and engineers active in the area of performance and reliability evaluation.

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