

Capacity Planning For Web Performance Metrics

Capacity Planning for Web Services Metrics, Models, and Methods Prentice Hall
A unique resource that combines all aspects of Web testing and makes it completely specific to ASP.NET As Microsoft's key Web technology for creating dynamic, data-driven Web sites and Web applications, ASP.NET is incredibly popular. This is the first book to combine several testing topics and make them specific to ASP.NET. The author duo of Microsoft MVPs covers both the test-driven development approach and the specifics of automated user interface testing; performance, load, and stress testing; accessibility testing; and security testing. This definitive guide walks you through the many testing pitfalls you might experience when developing ASP.NET applications. The authors explain the fundamental concepts of testing and demystify all the correct actions you need to consider and the tools that are available so that you may successfully test your application. Author duo of Microsoft MVPs offer a unique resource: a combination of several testing topics and making them specific to ASP.NET, Microsoft's key Web technology for creating dynamic, data-driven Web sites and applications Guides you through the many testing pitfalls you may experience when developing ASP.NET applications Reviews the fundamental concepts of testing

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and walks you through the various tools and techniques available and for successfully testing an application Discusses several different types of testing: acceptance, stress, accessibility, and security Examines various testing tools, such as NUnit, VS test suite, WCAT, Selenium, Fiddler, Firebug, and more This one-of-a-kind resource will help you become proficient in successful application testing.

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 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

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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 esiging and managing a capacity plan.

Under today's shortened fiscal horizons and contracted time-to-market schedules, traditional approaches to capacity planning are seen by management as inflating production schedules. In the face of relentless pressure to get things done faster, this book facilitates rapid forecasting of capacity requirements, based on opportunistic use of available performance data and tools so that management insight is expanded but production schedules are not. The book introduces such concepts as an iterative cycle of improvement called "The Wheel of Capacity Planning," and Virtual Load Testing, which provides a highly cost-effective method for assessing application scalability.

This IBM® Redpaper™ 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

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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.

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

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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

"This book provides an integrated approach and guidelines to performance testing of Web based systems"--Provided by publisher.

This book presents analysis techniques for quantifying and projecting every element of your e-business site's performance and planning for the capacity you need.

Success on the web is measured by usage and growth. Web-based companies live or die by the ability to scale their infrastructure to accommodate increasing demand. This book is a hands-on and practical guide to planning for such growth, with many techniques and considerations to help you plan, deploy, and manage web application

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infrastructure. The Art of Capacity Planning is written by the manager of data operations for the world-famous photo-sharing site Flickr.com, now owned by Yahoo! John Allspaw combines personal anecdotes from many phases of Flickr's growth with insights from his colleagues in many other industries to give you solid guidelines for measuring your growth, predicting trends, and making cost-effective preparations. Topics include: Evaluating tools for measurement and deployment Capacity analysis and prediction for storage, database, and application servers Designing architectures to easily add and measure capacity Handling sudden spikes Predicting exponential and explosive growth How cloud services such as EC2 can fit into a capacity strategy In this book, Allspaw draws on years of valuable experience, starting from the days when Flickr was relatively small and had to deal with the typical growth pains and cost/performance trade-offs of a typical company with a Web presence. The advice he offers in The Art of Capacity Planning will not only help you prepare for explosive growth, it will save you tons of grief.

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 NFS servers Database management Client/server computing Timesharing General purpose application servers Internet firewalls Sun

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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.

Targeting the critical issue of performance, this guide shows how to resolve bottlenecks, increase speed, and get better overall performance for Java Websites. The author team is a group of seasoned performance experts who have helped hundreds of customers resolve enterprise Website performance issues.

MenascT (computer science, George Mason U.) and Almeida (computer science, U. of

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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 performan

Written by a leader in Web development methodologies and processes, Collaborative Web Development brings structure and sanity to what is often an overwhelming and chaotic process. Drawing on the front-line experiences of practicing professionals and numerous real world case studies, the author will help you get a handle on the issues and challenges you face, with proven strategies for effective coordination among team members and clients, a smooth development process, and a successful end result.

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

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evaluation.

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

First book to address and assess performance of enterprise Java-based applications using the new Java EE 5 Presents Java EE 5 Performance Management as a proven methodology, featuring a set of common problems that have been observed in real-world customer

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environments Presents "wait-based" performance tuning methodology, the most efficient Java EE 5 tuning methodology, but one previously neglected in the Java EE 5 space

Web-based platforms have become vehicles for enterprises to realize their digital strategy and are key to positive user engagement. The performance of these platforms can make the difference between an effective sale and a negative review. There exist several tools and methodologies to enhance your digital platform's performance, and Modern Web Performance Optimization has arrived to walk you through them with an expert's guidance. Author Shailesh Kumar Shivakumar breaks the study of web performance optimization down into four digestible, applicable dimensions: performance patterns, framework and methods, process and tools, and the modern web. This multi-faceted approach ensures a broad optimization of your platforms and avoids the typical pitfalls of neglecting essential steps that so many often do. Shivakumar analyzes web performance ecosystem components such as validation, governance, metrics, key performance indicators, assessments, and monitoring, just to name a few. The book discusses reference architectures and relevant tools and technologies for successfully implementing a best practices-driven solution. Modern web frameworks such as HTML5 and PWA are also covered. Modern Web Performance Optimization puts readers from any level of experience at ease. Accessible templates, real-world case studies, and your very own performance optimization checklist make this book an engaging and interactive learning opportunity for platform owners across industries. Developers, engineers, project managers, and more are set up for long-term success with Modern Web Performance Optimization at their fingertips. What You Will Learn Analyze the performance optimization across end-to-end layers Utilize a comprehensive web optimization framework for digital projects Implement proven

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methods, best practices, and tools for web performance optimization Who This Book Is For System administrators, front-end developers, professionals looking to understand how to optimize their online presence

Production and manufacturing management since the 1980s has absorbed in rapid succession several new production management concepts: manufacturing strategy, focused factory, just-in-time manufacturing, concurrent engineering, total quality management, supply chain management, flexible manufacturing systems, lean production, mass customization, and more. With the increasing globalization of manufacturing, the field will continue to expand. This encyclopedia's audience includes anyone concerned with manufacturing techniques, methods, and manufacturing decisions.

How prepared are you to build fast and efficient web applications? This eloquent book provides what every web developer should know about the network, from fundamental limitations that affect performance to major innovations for building even more powerful browser applications—including HTTP 2.0 and XHR improvements, Server-Sent Events (SSE), WebSocket, and WebRTC. Author Ilya Grigorik, a web performance engineer at Google, demonstrates performance optimization best practices for TCP, UDP, and TLS protocols, and explains unique wireless and mobile network optimization requirements. You'll then dive into performance characteristics of technologies such as HTTP 2.0, client-side network scripting with XHR, real-time streaming with SSE and WebSocket, and P2P communication with WebRTC. Deliver superlative TCP, UDP, and TLS performance Speed up network performance over 3G/4G mobile networks Develop fast and energy-efficient mobile applications Address bottlenecks in HTTP 1.x and other browser protocols Plan for and deliver

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the best HTTP 2.0 performance Enable efficient real-time streaming in the browser Create efficient peer-to-peer videoconferencing and low-latency applications with real-time WebRTC transports

The book presents different models for the simultaneous optimization problem of capacity investment and work release rule parameterization. The overall costs are minimized either including backorder costs or considering a service level constraint. The available literature is extended with the integration of a distributed customer required lead time in addition to the actual demand distribution. Furthermore, an endogenous production lead time is introduced. Different models for make-to-order production systems with one or multiple serial processing stages are developed. Capacity investment is linked to the processing rates of the machines or to the number of the machines. Results are equations for service level, tardiness, and FGI lead time in such a production system. For special cases with M/M/1 and M/M/s queues explicit solutions of the optimization problems or optimality conditions concerning capacity investment and work release rule parameterization are provided.

This monograph-like state-of-the-art survey presents the history, the key ideas, the success stories, and future challenges of performance evaluation and demonstrates the impact of performance evaluation on a variety of different areas through case studies in a coherent and comprehensive way. Leading researchers in the field have contributed 19 cross-reviewed topical chapters competently covering the whole range of performance evaluation, from theoretical and methodological issues to applications in numerous other fields. Additionally, the book contains one contribution on the role of performance evaluation in industry and personal accounts of four pioneering researchers describing the genesis of breakthrough results. The

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book will become a valuable source of reference and indispensable reading for anybody active or interested in performance evaluation.

Network Performance Guide, is an essential reference for enterprise network performance, optimization and capacity planning. This reference guide explains principles, methodologies and techniques used for high performance network design. The book starts with a foundational chapter that teaches networking essentials. The following chapter discusses performance monitoring and a guide for selecting tools. The book continues with traffic behavior topics such as packet structure, traffic types, packet efficiency, performance calculations and HTTP.

Capacity design solutions such as link bandwidth, campus switching design, device and server components are presented. In addition topics such as WAN optimization, TCP features, route optimization, high availability and resiliency are discussed. The performance solutions are used to develop optimized campus, WAN, wireless and cloud designs. There are performance troubleshooting case study examples that teach assessment, analysis and design solutions for CCNA, CCNP and CCIE level engineers.

Master SDDC Operations with proven best practices About This Book Understand the drawbacks of the traditional paradigm and management that make operations difficult in SDDC

Master performance and capacity management in Software-Defined Data Center

Operationalize performance and capacity monitoring with proven dashboards Who This Book Is For This book is primarily for any system administrator or cloud infrastructure specialist who is interested in performance management and capacity management using VMware technologies. This book will also help IT professionals whose area of responsibility is not VMware, but who work with the VMware team. You can be Windows, Linux, Storage, or

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Network team; or application architects. Note that prior exposure to the VMware platform of data-center and cloud-based solutions is expected. What You Will Learn Simplify the task of performance and capacity management Master the counters in vCenter and vRealize Operations and understand their dependency on one another Educate your peers and management on SDDC Operations Complete your SDDC monitoring to include non-VMware components Perform SDDC performance troubleshooting Explore real-life examples of how super metric and advanced dashboards Introduce and implement a Performance SLA Accomplish your Capacity Management by taking into service tiering and performance SLA In Detail Performance management and capacity management are the two top-most issues faced by enterprise IT when doing virtualization. Until the first edition of the book, there was no in-depth coverage on the topic to tackle the issues systematically. The second edition expands the first edition, with added information and reorganizing the book into three logical parts. The first part provides the technical foundation of SDDC Management. It explains the difference between a software-defined data center and a classic physical data center, and how it impacts both architecture and operations. From this strategic view, it zooms into the most common challenges—performance management and capacity management. It introduces a new concept called Performance SLA and also a new way of doing capacity management. The next part provides the actual solution that you can implement in your environment. It puts the theories together and provides real-life examples created together with customers. It provides the reasons behind each dashboard, so that you get the understanding on why it is required and what problem it solves. The last part acts as a reference section. It provides a complete reference to vSphere and vRealize Operations counters, explaining their dependencies and

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providing practical guidance on the values you should expect in a healthy environment. Style and approach This book covers the complex topic of managing performance and capacity in an easy-to-follow style. It relates real-world scenarios to topics in order to help you implement the book's teachings on the go.

The Internet Encyclopedia in a 3-volume reference work on the internet as a business tool, IT platform, and communications and commerce medium.

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

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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 agile

This book provides an insight into the key practical aspects and best practice of 4G-LTE network design, performance, and deployment Design, Deployment and Performance of 4G-LTE Networks addresses the key practical aspects and best practice of 4G networks design, performance, and deployment. In addition, the book focuses on the end-to-end aspects of the LTE network architecture and different deployment scenarios of commercial LTE networks. It describes the air interface of LTE focusing on the access stratum protocol layers: PDCP, RLC, MAC, and Physical Layer. The air interface described in this book covers the concepts of LTE frame structure, downlink and uplink scheduling, and detailed illustrations of the data flow across the protocol layers. It describes the details of the optimization process including performance measurements and troubleshooting mechanisms in addition to demonstrating common issues and case studies based on actual field results. The book

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provides detailed performance analysis of key features/enhancements such as C-DRX for Smartphones battery saving, CSFB solution to support voice calls with LTE, and MIMO techniques. The book presents analysis of LTE coverage and link budgets alongside a detailed comparative analysis with HSPA+. Practical link budget examples are provided for data and VoLTE scenarios. Furthermore, the reader is provided with a detailed explanation of capacity dimensioning of the LTE systems. The LTE capacity analysis in this book is presented in a comparative manner with reference to the HSPA+ network to benchmark the LTE network capacity. The book describes the voice options for LTE including VoIP protocol stack, IMS Single Radio Voice Call Continuity (SRVCC). In addition, key VoLTE features are presented: Semi-persistent scheduling (SPS), TTI bundling, Quality of Service (QoS), VoIP with C-DRX, Robust Header Compression (RoHC), and VoLTE Vocoders and De-Jitter buffer. The book describes several LTE and LTE-A advanced features in the evolution from Release 8 to 10 including SON, eICIC, CA, CoMP, HetNet, Enhanced MIMO, Relays, and LBS. This book can be used as a reference for best practices in LTE networks design and deployment, performance analysis, and evolution strategy. Conveys the theoretical background of 4G-LTE networks Presents key aspects and best practice of 4G-LTE networks design and deployment Includes a realistic roadmap for evolution of deployed 3G/4G networks Addresses the practical aspects for designing and deploying commercial LTE networks. Analyzes LTE coverage and link budgets, including a

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detailed comparative analysis with HSPA+. References the best practices in LTE networks design and deployment, performance analysis, and evolution strategy Covers infrastructure-sharing scenarios for CAPEX and OPEX saving. Provides key practical aspects for supporting voice services over LTE, Written for all 4G engineers/designers working in networks design for operators, network deployment engineers, R&D engineers, telecom consulting firms, measurement/performance tools firms, deployment subcontractors, senior undergraduate students and graduate students interested in understanding the practical aspects of 4G-LTE networks as part of their classes, research, or projects.

This book constitutes the refereed proceedings of the 11th International Conference on Modelling Tools and Techniques for Computer Communication System Performance Evaluation, TOOLS 2000, held in Schaumburg, IL, USA in March 2000. The 21 revised full papers presented were carefully reviewed and selected from a total of 49 submissions. Also included are 15 tool descriptions and one invited paper. The papers are organized in topical sections on queueing network models, optimization in mobile networks, stochastic Petri nets, simulation, formal methods and performance evaluation, and measurement tools and applications.

1.1 Introduction This book is written in five major divisions. The first part is the introductory chapters consisting of Chapters 1-3. In part two, Chapters 4-10, we use fuzzy probabilities to model a fuzzy queueing system . We switch to employ ing fuzzy arrival

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rates and fuzzy service rates to model the fuzzy queuing system in part three in Chapters 11 and 12. Optimization models comprise part four in Chapters 13-17. The final part has a brief summary and suggestions for future research in Chapter 18, and a summary of our numerical methods for calculating fuzzy probabilities, values of objective functions in fuzzy optimization, etc., is in Chapter 19. First we need to be familiar with fuzzy sets. All you need to know about fuzzy sets for this book comprises Chapter 2. Two other items relating to fuzzy sets, needed in Chapters 13-17, are also in Chapter 2: (1) how we plan to handle the maximum/minimum of a fuzzy set; and (2) how we will rank a finite collection of fuzzy numbers from smallest to largest.

While hospitals can learn from other industries, they cannot be improved or run like factories. With work that is more individualized than standardized, and limited control over volume and arrivals, even the leanest-minded hospital must recognize that healthcare systems are more dynamic than nearly any work environment. Written with the creativity needed to navigate the rapidly changing landscape of healthcare, *Dynamic Capacity Management for Healthcare: Advanced Methods and Tools for Optimization* presents the unique new tools, methodologies, and thinking required of healthcare systems that want to survive and thrive in a reduced reimbursement, higher-cost world. Demonstrating his approaches and recommendations through case studies specific to the complex issues of healthcare delivery, Pierce Story, a long-time and passionate healthcare operations expert, shows how hospitals and health systems can

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make leaps in performance in an environment in which both financial and human resources are shrinking as expectations for clinical perfection continue to rise. Through its unique approach to the dynamic management of complex care systems, this volume raises the bar for what is possible. This text presents an excellent opportunity for healthcare's change agents to meet the challenges and responsibilities of our day. Cloud Capacity Management helps readers in understanding what the cloud, IaaS, PaaS, SaaS are, how they relate to capacity planning and management and which stakeholders are involved in delivering value in the cloud value chain. It explains the role of capacity management for a creator, aggregator, and consumer of cloud services and how to provision for it in a 'pay as you use model'. This involves a high level of abstraction and virtualization to facilitate rapid and on demand provisioning of services. The conventional IT service models take a traditional approach when 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

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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.

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

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and technical debt

This handbook is for anyone responsible for a Web site, from the person running a personal site off a Linux PC at home up to large corporate site managers who wants to improve their performance right now.

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.

Jakarta Tomcat is not only the most commonly used open source servlet engine today, it's become the de facto standard by which other servlet engines are measured. Powerful and flexible, it can be used as a stand-alone web server or in conjunction with another server, like Apache or IIS, to run servlets or JSPs. But mastery of Tomcat is not easy: because it's as complex as it is complete. Tomcat: The Definitive Guide answers vexing questions that users, administrators, and developers alike have been asking. This concise guide provides much needed information to help harness Tomcat's power and wealth of features. Tomcat: The Definitive Guide offers something for everyone who uses Tomcat. System and network administrators will find detailed instructions on installation, configuration, and maintenance. For users, it supplies insightful information on how to deploy Tomcat. And seasoned enterprise Java developers will have a complete reference to setting up, running, and using this powerful software. The book begins with an introduction to the Tomcat server and includes an overview of the three types of server configurations: stand-alone, in-process, and out-of-process. The authors show how directories are laid out, cover the initial setup, and describe how to set the

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environment variables and modify the configuration files, concluding with common errors, problems, and solutions. In subsequent chapters, they cover: The server.xml configuration file Java Security manager Authentication schemes and Tomcat users The Secure Socket Layer (SSL) Tomcat JDBC Realms Installing servlets and Java Server Pages Integrating Tomcat with Apache Advanced Tomcat configuration and much more. Tomcat: The Definitive Guide covers all major platforms, including Windows, Solaris, Linux, and Mac OS X, contains details on Tomcat configuration files, and has a quick-start guide to get developers up and running with Java servlets and JavaServer Pages. If you've struggled with this powerful yet demanding technology in the past, this book will provide the answers you need.

Offering 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.

This book covers the most critical 24 NFRs that are applicable to IT applications and systems. About This Book Explains three stages of nonfunctional requirements, that is, analysis, architecture, and assessment In-depth knowledge of NFR framework and taxonomy that provides guidance around the modelling phase for the NFRs Coverage of 24 critical and pivotal NFRs, including the analysis, architecture, and assessment. Who This Book Is For The primary audience for this title are the gamut of roles starting from IT consultant to chief architects who are responsible to deliver strategic, tactical, and operational engagements for fortune 100 customers worldwide. Nonfunctional requirements are the key to any software / IT program. They cannot be overlooked or ignored. The book provides a comprehensive approach from

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analysis, architecture, and measurement of nonfunctional requirements. The book includes considerations for bespoke (Java, .Net, and COTS applications). These are applicable to IT applications from various domains. The book outlines the methodology for capturing the NFRs and also describes a framework that can be leveraged by analysts and architects for tackling NFRs for various engagements. The audience for this book include business analysts, enterprise architects, business architects, solution architects, technical architects/designers, domain/security/integration architects, software developers, support engineers and test engineers, technical project managers, project leads/technical leads/technical project managers, and students from the computer science/IT stream

What You Will Learn

- Learn techniques related to the analysis, architecture, and monitoring of NFRs
- Understand the various tools, techniques, and processes in order to improve the overall quality of the desired outcomes
- Embrace the best practices of architecting, metrics, and success factors for NFRs
- Identify the common pitfalls to be avoided and the patterns to leverage
- Understand taxonomy and framework for NFRs
- Learn the design guidelines for architecting applications and systems relating to NFRs
- Abstract different methodologies to analyze and gather NFRs

In Detail

Non-functional Requirements are key to any software/IT program and cannot be overlooked or ignored. This book provides a comprehensive approach to the analysis, architecture, and measurement of NFRs. It includes considerations for bespoke Java, .NET, and COTS applications that are applicable to IT applications/systems in different domains. The book outlines the methodology for capturing the NFRs and also describes a framework that can be leveraged by analysts and architects for tackling NFRs for various engagements. This book starts off by explaining the various KPIs, taxonomies, and methods for identifying NFRs. Learn

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the design guidelines for architecting applications and systems relating to NFRs and design principles to achieve the desired outcome. We will then move on to various key tiers/layers and patterns pertaining to the business, database, and integrating tiers. After this, we will dive deep into the topics pertaining to techniques related to monitoring and measurement of NFRs, such as sizing, analytical modeling, and quality assurance. Lastly, we end the book by describing some pivotal NFRs and checklists for the software quality attributes related to the business, application, data, and infrastructure domains. Style and approach The book takes a pragmatic approach, describing various techniques related to the analysis of NFRs, the architecture of NFRs, and assessment of NFRs.

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