Systems Performance Enterprise And The Cloud

The field of enterprise systems integration is constantly evolving, as every new technology that is introduced appears to make all previous ones obsolete. Despite this continuous evolution, there is a set of underlying concepts and technologies that have been gaining an increasing importance in this field. Examples are asynchronous messaging through message queues, data and application adapters based on XML and Web services, the principles associated with the service-oriented architecture (SOA), service composition, orchestrations, and advanced mechanisms such as correlations and long-running transactions. Today, these concepts have reached a significant level of maturity and they represent the foundation over which most integration platforms have been built. This book addresses integration with a view towards supporting business processes. From messaging systems to data and application adapters, and then to services, orchestrations, and choreographies, the focus is placed on the connection between systems and business processes, and particularly on how it is possible to develop an integrated application infrastructure in order to implement the desired business processes. For this purpose, the text follows a layered, bottom-up approach, with application-oriented integration at the lowest level, followed by service-oriented integration and finally completed by process-oriented integration at the topmost level. The presentation of concepts is accompanied by a set of instructive examples using state-of-the-art technologies such as Java Message Service (JMS), Microsoft Message Queuing (MSMQ), Web Services, Microsoft BizTalk Server, and the Business Process Execution Language (BPEL). The book is intended as a textbook for advance undergraduate or beginning graduate students in computer science, especially for those in an information systems curriculum. IT professionals with a background in programming, databases and XML will also benefit from the step-by-step description of the various integration levels and the related implementation examples.
"This book is a valuable addition to the reading list of executives, managers, and staff in business, government, and other sectors who seek to keep their enterprises agile and efficient as they manage change, implement new business processes and supporting technologies, and pursue important strategic goals"--Provided by publisher.
Structured to follow the software life cycle, Patterns for Performance and Operability provides advice and examples-based instructions at every phase. You can read it from start to finish or go directly to those chapters that interest you the most. Whatever approach you choose, you will learn: How to: · Define and document comprehensive non-functional requirements for any software system · Define scope and logistics for non-functional test activities · Execute non-functional tests and report results clearly and effectively · Patterns for defensive software designs in common software scenarios that promote operability and availability · Implement the right level of reporting, monitoring, and trending for

highly available production software systems Patterns for: · Software designs that support simpler and more efficient operation in a production environment · Software design that support high-performance and scalability Strategies and Techniques for: · Techniques for managing and troubleshooting during a production crisis · Strategies for resisting project pressure to compromise on quality or completeness of non-functional activities in the software cycle

As the service sectors play an increasingly important role in all economies worldwide, service executives and professionals are well advised to recognize two main pathways to achieving sustainable success in services. The first path requires enhancing the strategic differentiation and operational excellence of their service enterprises; the second requires that these executives and their employees develop the knowledge and skills needed to achieve such success. Specifically, this book discusses actionable methodologies needed to generate creative ideas, including deciding on which ones to pursue; on how to justify projects financially; on how to manage the development projects for innovative services; and on how to reach out to customers and offer them superior service support.

The topic of Enterprise Information Systems (EIS) is having an increasingly relevant strategic impact on global business and the world economy, and organizations are undergoing hard investments in search of the rewarding benefits of efficiency and effectiveness that these ranges of solutions promise. Organizational Integration of Enterprise Systems and Resources: Advancements and Applications show that EIS are at the same time responsible for tremendous gains in some companies and tremendous losses in others. Therefore, their adoption should be carefully planned and managed. This title highlights new ways to identify opportunities and overtake trends and challenges of EIS selection, adoption, and exploitation as it is filled with models, solutions, tools, and case studies. The book provides researchers, scholars, and professionals with some of the most advanced research, solutions, and discussions of Enterprise Information Systems design, implementation, and management.

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

Engineering systems such as an aircraft or frigate are highly complex and specifically designed to meet the customer's requirements. This important book provides the information necessary to acquire and support complex engineering systems expected to last for a long time. Chapters in the first half of the book examine the life cycles of these systems, their design, testing and certification, and the principles behind their acquisition. The second half of the book reviews topics including operations support and logistics, systems maintenance, reliability and upgrades, and performance and risk analysis, ending with a discussion of the need for continuous improvements in these systems. Creates a new operational view of modern acquisition, design, services and support systems Applies enterprise modelling and analysis techniques to develop a whole systems view Takes the systems engineering approach to services system design and support

This book presents, as a how-to guide, a compelling methodology for improving the operational and financial performance of a firm. The book focuses on the optimum utilization of capital assets and human resources to support the firm's business strategy and, therefore, gain a competitive advantage. It complements publications on the Balanced Scorecard by providing rather detailed sets of performance metrics applicable to Supply Chain, Customer Relationship Management, and Intellectual Capital improvement efforts. Managers involved in business improvement programs will benefit from the development of performance metrics for intellectual capital. MBA students will find especially useful the concise description of the best practices and issues affecting enterprise performance today. Reviews Finally, consideration for non-financial assets handled in a non-financial manner. A coming together of several current management concepts, along with a way to measure and evaluate their value to the company. A useful reference for building, implementing and evaluating a plan of improved efficiency. L. Sehr RA/AVP, Bank of America, San Jose, California This book provides a good overview of important financial and process redesign concepts that can influence business performance. This resource covers a broad range of ideas from continuous improvement, business strategies, balanced scorecards and value measurement tools. Non-financial persons will find this especially helpful, as information is presented in a non-technical manner, a quick read and intuitively links each idea or concept. David Bell Senior Manager, Guidant, Inc., Santa Clara, California The High Performance Enterprise is written in a very readable and concise language. The authors manage to explain in a very direct way the relationship between enterprise high

performance and each of the four steps to achieving it; all this, without getting bogged down with the details on specific techniques and practices that are generally known in the industry. The discussion stays focused on the importance of metrics and simulation and their link to overall financial/accounting concepts that gauge the value of the enterprise and its performance. Because the book touches on, and gives examples of, all major functional aspects of an enterprise, I would recommend it for use in an undergraduate strategic management or capstone course in business administration program. The book would be particularly useful in an MBA course. George Guim Ed.D. Head of Business Administration Department The National Hispanic University, San Jose, California

Digitising Enterprise in an Information Age is an effort that focuses on a very vast cluster of Enterprises and their digitising technology involvement and take us through the road map of the implementation process in them, some of them being ICT, Banking, Stock Markets, Textile Industry & ICT, Social Media, Software Quality Assurance, Information Systems Security and Risk Management, Employee Resource Planning etc. It delves on increased instances of cyber spamming and the threat that poses to e-Commerce and Banking and tools that help and Enterprise toward of such threats. To quote Confucius, "As the water shapes itself to the vessel that contains it, so does a wise man adapts himself to circumstances." And the journey of evolution and progression will continue and institutions and enterprises will continue to become smarter and more and more technology savvy. Enterprises and businesses across all genre and spectrum are trying their level best to adopt to change and move on with the changing requirements of technology and as enterprises and companies upgrade and speed up their digital transformations and move their outdate heirloom systems to the cloud, archaic partners that don't keep up will be left behind. Note: T&F does not sell or distribute the Hardback in India, Pakistan, Nepal, Bhutan, Bangladesh and Sri Lanka.

A workable blueprint for developing and implementing performancemanagement in order to improve revenue growth and profitmargins Enterprise performance management (EPM) technology has beenrapidly advancing, especially in the areas of predictive analysisand cloud-based solutions. Real Enterprise PerformanceManagement introduces a framework for implementing and managingnext-generation functionality for better insight, focus, andalignment of EPM. This blueprint shows that EPM can have a directpositive impact on revenue growth, operating margin, assetutilization, and cash cycle efficiency. Introduces a framework for implementing and managingnext-generation functionality for better insight, focus, andalignment Reveals that EPM can have a strong impact on revenue growth,operating margin, asset utilization, cash cycle efficiency Today's businesses have a great deal of data and technology, butless-than-fact decisions are still made. Executives need astructured framework for gathering, analyzing, and debating thebest ways to deploy capital, people and time. Real EnterprisePerformance Management joins IT and finance in a digestibleblueprint for developing and implementing performance management inorder to improve revenue growth and profit margins.

Enterprise Process Management Systems: Engineering Process-Centric Enterprise Systems using BPMN 2.0 proposes a process-

centric paradigm to replace the traditional data-centric paradigm for Enterprise Systems (ES)--ES should be reengineered from the present data-centric enterprise architecture to process-centric process architecture to be called as Enterprise Process Management Systems (EPMS). The real significance of business processes can be understood in the context of current heightened priority on digital transformation or digitalization of enterprises. Conceiving the roadmap to realize a digitalized enterprise via the business model innovation becomes amenable only from the process-centric view of the enterprise. This pragmatic book: Introduces Enterprise Process Management Systems (EPMS) solutions that enable an agile enterprise. Describes distributed systems and Service Oriented Architecture (SOA) that paved the road to EPMS. Leverages SOA to explain the cloud-based realization of business processes in terms of Web Services. Describes how BPMN 2.0 addresses the requirements for agility by ensuring a seamless methodological path from process requirements modeling to execution and back (to enable process improvements). Presents the spreadsheet-driven Spreadsheeter Application Development (SAD) methodology for the design and development of process-centric application systems. Describes process improvement programs ranging right from disruptive programs like BPR to continuous improvement programs like lean, six sigma and TOC. Enterprise Process Management Systems: Engineering Process-Centric Enterprise Systems using BPMN 2.0 describes how BPMN 2.0 can not only capture business requirements but it can also provide the backbone of the actual solution implementation. Thus, the same diagram prepared by the business analyst to describe the business's desired To-Be process can also be used to automate the execution of that process on a modern process engine.
"This book covers both theoretical approaches and practical solutions in the processes for aligning enterprise, systems, and software architectures"--Provided by publisher.
"Vivek Kale has written a great book on performance management that focuses on decision-making; on continuous, incremental improvement; and on identifying common patterns in becoming a more intelligent organization." —James Taylor, CEO of Decision Management Solutions and author of Real-World Decision Modeling with DMN "Introducing the concepts of decision patterns and performance intelligence, Vivek Kale has written another important book on the issues faced by contemporary organizations."—Gary Cokins, author of Predictive Business Analytics and Performance Management: Integrating Strategy Execution, Methodologies, Risk, and Analytics Enterprise Performance Intelligence and Decision Patterns unravels the mystery of enterprise performance intelligence (EPI) and explains how it can transform the operating context of business enterprises. It provides a clear understanding of what EPI means, what it can do, and application areas where it is practical to use. The need to be responsive to evolving customer needs and desires creates organizational structures where business intelligence (BI) and decision making is pushed out to operating units that are closest to the scene of the action. Closed-loop decision making resulting from a combination of on-going performance management with on-going BI can lead to an effective responsive enterprise; hence, the need for performance intelligence (PI). This pragmatic book: Introduces the technologies such as data warehousing, data mining, analytics, and business intelligence systems that are a first step toward enabling data-driven enterprises. Details decision

patterns and performance decision patterns that pave the road for performance intelligence applications. Introduces the concepts, principles, and technologies related to performance measurement systems. Describes the concepts and principles related to balance scorecard systems (BCS). Introduces aspects of performance intelligence for the real-time enterprises. Enterprise Performance Intelligence and Decision Patterns shows how a company can design and implement instruments ranging from decision patterns to PI systems that can enable continuous correction of business unit behavior so companies can enhance levels of productivity and profitability.

Application Performance Management (APM) in the Digital Enterprise enables IT professionals to be more successful in managing their company's applications. It explores the fundamentals of application management, examines how the latest technological trends impact application management, and provides best practices for responding to these changes. The recent surge in the use of containers as a way to simplify management and deploy applications has created new challenges, and the convergence of containerization, cloud, mobile, virtualization, analytics, and automation is reshaping the requirements for application management. This book serves as a guide for understanding these dramatic changes and how they impact the management of applications, showing how to create a management strategy, define the underlying processes and standards, and how to select the appropriate tools to enable management processes. Offers a complete framework for implementing effective application management using clear tips and solutions for those responsible for application management Draws upon primary research to give technologists a current understanding of the latest technologies and processes needed to more effectively manage large-scale applications Includes real-world case studies and business justifications that support application management investments

A collection of 24 humorous mountain man tall tales, these stories are narrated in a loose kind of verse in the voice of a tough and experienced early-19th-century Rocky Mountain fur trapper. While a few of the tales are retellings of whoppers by famous historical mountain men, most are original outrageous lies of the author's own, related in the mountaineer tradition. All of the stories contain glimpses of the difficult, dangerous life of that rowdy breed of men who challenged the uncharted wilderness and triumphed because of their courage, fortitude, and unquenchable laughter in the face of hardship and peril.

Although usually well-funded, systems development projects are often late to market and over budget. Worse still, many are obsolete before they can be deployed or the program is cancelled before delivery. Clearly, it is time for a new approach. With coverage ranging from the complex characteristics and behaviors of enterprises to the challenges the

"This book provides evidence-based insights into the management and contribution of IT in organizations, to offer practical advice & solutions, models and tools that are instrumental in getting business value from IT"--Provided by publisher.

New technologies are revolutionising the way manufacturing and supply chain management are implemented. These changes are delivering manufacturing firms the competitive advantage of a highly flexible and responsive supply chain

and manufacturing system to ensure that they meet the high expectations of their customers, who, in today's economy, demand absolutely the best service, price, delivery time and product quality. To make e-manufacturing and supply chain technologies effective, integration is needed between various, often disparate systems. To understand why this is such an issue, one needs to understand what the different systems or system components do, their objectives, their specific focus areas and how they interact with other systems. It is also required to understand how these systems evolved to their current state, as the concepts used during the early development of systems and technology tend to remain in place throughout the life-cycle of the systems/technology. This book explores various standards, concepts and techniques used over the years to model systems and hierarchies in order to understand where they fit into the organization and supply chain. It looks at the specific system components and the ways in which they can be designed and graphically depicted for easy understanding by both information technology (IT) and non-IT personnel. Without a good implementation philosophy, very few systems add any real benefit to an organization, and for this reason the ways in which systems are implemented and installation projects managed are also explored and recommendations are made as to possible methods that have proven successful in the past. The human factor and how that impacts on system success are also addressed, as is the motivation for system investment and subsequent benefit measurement processes. Finally, the vendor/user supply/demand within the e-manufacturing domain is explored and a method is put forward that enables the reduction of vendor bias during the vendor selection process. The objective of this book is to provide the reader with a good understanding regarding the four critical factors (business/physical processes, systems supporting the processes, company personnel and company/personal performance measures) that influence the success of any e-manufacturing implementation, and the synchronization required between these factors. · Discover how to implement the flexible and responsive supply chain and manufacturing execution systems required for competitive and customer-focused manufacturing · Build a working knowledge of the latest plant automation, manufacturing execution systems (MES) and supply chain management (SCM) design techniques · Gain a fuller understanding of the four critical factors (business and physical processes, systems supporting the processes, company personnel, performance measurement) that influence the success of any e-manufacturing implementation, and how to evaluate and optimize all four factors The success of information backup systems does not rest on IT administrators alone. Rather, a well-designed backup system comes about only when several key factors coalesce—business involvement, IT acceptance, best practice designs, enterprise software, and reliable hardware. Enterprise Systems Backup and Recovery: A Corporate Insurance Policy provides organizations with a comprehensive understanding of the principles and features involved in effective enterprise backups. Instead of focusing on any individual backup product, this book recommends corporate procedures

and policies that need to be established for comprehensive data protection. It provides relevant information to any organization, regardless of which operating systems or applications are deployed, what backup system is in place, or what planning has been done for business continuity. It explains how backup must be included in every phase of system planning, development, operation, and maintenance. It also provides techniques for analyzing and improving current backup system performance. After reviewing the concepts in this book, organizations will be able to answer these questions with respect to their enterprise: What features and functionality should be expected in a backup environment? What terminology and concepts are unique to backup software, and what can be related to other areas? How can a backup system be monitored successfully? How can the performance of a backup system be improved? What features are just "window dressing" and should be ignored, as opposed to those features that are relevant? Backup and recovery systems touch on just about every system in an organization. Properly implemented, they can provide an enterprise with greater assurance that its information is safe. By utilizing the information in this book, organizations can take a greater step toward improving the security of their data and preventing the devastating loss of data and business revenue that can occur with poorly constructed or inefficient systems.

Addresses the field of enterprise systems, covering progressive technologies, leading theories, and advanced applications.

BPF and related observability tools give software professionals unprecedented visibility into software, helping them analyze operating system and application performance, troubleshoot code, and strengthen security. BPF Performance Tools: Linux System and Application Observability is the industry's most comprehensive guide to using these tools for observability. Brendan Gregg, author of the industry's definitive guide to system performance, introduces powerful new methods and tools for doing analysis that leads to more robust, reliable, and safer code. This authoritative guide: Explores a wide spectrum of software and hardware targets Thoroughly covers open source BPF tools from the Linux Foundation iovisor project's bcc and bpftrace repositories Summarizes performance engineering and kernel internals you need to understand Provides and discusses 150+ bpftrace tools, including 80 written specifically for this book: tools you can run as-is, without programming — or customize and develop further, using diverse interfaces and the bpftrace front-end You'll learn how to use BPF (eBPF) tracing tools to analyze CPUs, memory, disks, file systems, networking, languages, applications, containers, hypervisors, security, and the Linux kernel. You'll move from basic to advanced tools and techniques, producing new metrics, stack traces, custom latency histograms, and more. It's like having a superpower: with Gregg's guidance and tools, you can analyze virtually everything that impacts system performance, so you can improve virtually any Linux operating system or application.

Systems performance analysis and tuning lead to a better end-user experience and lower costs, especially for cloud computing environments that charge by the OS instance. Systems Performance, 2nd Edition covers concepts, strategy, tools, and tuning for operating systems and applications, using Linux-based operating systems as the primary example. World-renowned systems performance expert Brendan Gregg summarizes relevant operating system, hardware, and application theory to quickly get professionals up to speed even if they've never analyzed performance before, and to refresh and update advanced readers' knowledge. Gregg illuminates the latest tools and techniques, including extended BPF, showing how to get the most out of your systems in cloud, web, and large-scale enterprise environments. He covers these and other key topics: Hardware, kernel, and application internals, and how they perform Methodologies for rapid performance analysis of complex systems Optimizing CPU, memory, file system, disk, and networking usage Sophisticated profiling and tracing with perf, Ftrace, and BPF (BCC and bpftrace) Performance challenges associated with cloud computing hypervisors Benchmarking more effectively Fully updated for current Linux operating systems and environments, Systems Performance, 2nd Edition addresses issues that apply to any computer system. The book will be a go-to reference for many years to come and recommended reading at many tech companies, like its predecessor first edition.

This book shows software professionals exactly how to build high-performance, high-integrity distributed Transaction Processing (TP) systems for e-commerce, and other business-critical applications. For each product, Gorton presents in-depth coverage of system architecture, TP monitor management environments, and programming models, and walks through a complete sample application illustrating both TP monitor features and relevant programming APIs. "International Institute for Analytics"--Dust jacket.

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting

to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

Learn how Lean IT can help companies deliver better customerservice and value Lean Enterprise Systems effectively demonstrates how the techniquesderived from Lean Manufacturing, combined with the thoughtfulapplication of information technology, can help all enterprisesimprove business performance and add significant value for theircustomers. The author also demonstrates how the basic concepts ofLean Manufacturing can be applied to create agile and responsiveLean IT. The book is divided into three parts that collectively explore howpeople, processes, and technology combine forces to facilitatecontinuous improvement: * Part One: Building Blocks of the Lean Enterprise sets forth theessentials of Lean. Readers discover where, when, and how Lean ITadds substantial value to the Lean Enterprise through integratedprocesses of planning, scheduling, execution, control, and decisionmaking across the full spectrum of operations. * Part Two: Building Blocks of Information Systems explores theprimary components of an enterprise information system and howthese components may be integrated to improve the flow ofinformation supporting value streams. Readers learn how informationsystems help organize and deliver knowledge when and where it'sneeded. * Part Three: Managing Change with IT demonstrates how the skillfulcombination of process and information technology improvementsempowers people to continuously improve the Lean Enterprise.Readers develop the skills to exploit emerging informationtechnology tools and change management methods, crafting a Lean ITframework-reducing waste, complexity, and lead time-while addingmeasurable value. Executives, managers, and improvement teams across a broad range ofindustries, as well as IT professionals, can apply the techniquesdescribed in this publication to improve performance, add value,and create competitive advantage. The book's clear style andpractical focus also makes it an excellent textbook for upper-levelundergraduate and graduate courses in business, operationsmanagement, and business information systems.

Enterprise Level Security: Securing Information Systems in an Uncertain World provides a modern alternative to the fortress approach to security. The new approach is more distributed and has no need for passwords or accounts. Global attacks become much more difficult, and losses are localized, should they occur. The security approach is derived fro

Poorly performing enterprise applications are the weakest links in a corporation's management chain, causing delays and disruptions of critical business functions. This groundbreaking book frames enterprise application performance engineering not as an art but as applied science built on model-based methodological foundation. The book introduces queuing models of enterprise application that visualize, demystify, explain, and solve system performance issues. Analysis of these models will help to discover and clarify unapparent connections and correlations among workloads, hardware architecture, and software parameters.

The Oracle Solaris DTrace feature revolutionizes the way you debug operating systems and applications. Using DTrace, you can dynamically instrument software and quickly answer virtually any question about its behavior. Now, for the first time, there's a comprehensive, authoritative guide to making the most of DTrace in any supported UNIX environment--from Oracle Solaris to OpenSolaris, Mac OS X, and FreeBSD. Written by key contributors to the DTrace community, DTrace teaches by example, presenting scores of commands and easy-to-adapt, downloadable D scripts. These concise examples generate answers to real and useful questions, and serve as a starting point for building more complex scripts. Using them, you can start making practical use of DTrace immediately, whether you're an administrator, developer, analyst, architect, or support professional. The authors fully explain the goals, techniques, and output associated with each script or command. Drawing on their extensive experience, they provide strategy suggestions, checklists, and functional diagrams, as well as a

chapter of advanced tips and tricks. You'll learn how to Write effective scripts using DTrace's D language Use DTrace to thoroughly understand system performance Expose functional areas of the operating system, including I/O, filesystems, and protocols Use DTrace in the application and database development process Identify and fix security problems with DTrace Analyze the operating system kernel Integrate DTrace into source code Extend DTrace with other tools This book will help you make the most of DTrace to solve problems more quickly and efficiently, and build systems that work faster and more reliably.

How well does your organization respond to changing market conditions, customer needs, and emerging technologies when building software-based products? This practical guide presents Lean and Agile principles and patterns to help you move fast at scale—and demonstrates why and how to apply these paradigms throughout your organization, rather than with just one department or team. Through case studies, you'll learn how successful enterprises have rethought everything from governance and financial management to systems architecture and organizational culture in the pursuit of radically improved performance. Discover how Lean focuses on people and teamwork at every level, in contrast to traditional management practices Approach problem-solving experimentally by exploring solutions, testing assumptions, and getting feedback from real users Lead and manage large-scale programs in a way that empowers employees, increases the speed and quality of delivery, and lowers costs Learn how to implement ideas from the DevOps and Lean Startup movements even in complex, regulated environments

This is a story of reinvention. Jim Whitehurst, celebrated president and CEO of one of the world's most revolutionary software companies, tells first-hand his journey from traditional manager (Delta Air Lines, Boston Consulting Group) and "chief" problem solver to CEO of one of the most open organizational environments he'd ever encountered. This challenging transition, and what Whitehurst learned in the interim, has paved the way for a new way of managing—one this modern leader sees as the only way companies will successfully function in the future. Whitehurst says beyond embracing the technology that has so far disrupted entire industries, companies must now adapt their management and organizational design to better fit the Information Age. His mantra? "Adapt or die." Indeed, the successful company Whitehurst leads—the open source giant Red Hat—has become the organizational poster child for how to reboot, redesign, and reinvent an organization for a decentralized, digital age. Based on open source principles of transparency, participation, and collaboration, "open management" challenges conventional business ideas about what companies are, how they run, and how they make money. This book provides the blueprint for putting it into practice in your own firm. He covers challenges that have been missing from the conversation to date, among them: how to scale engagement; how to have healthy debates that net progress; and how to attract and keep the "Social Generation" of workers. Through a mix of vibrant stories, candid lessons, and tested processes, Whitehurst shows how Red Hat has blown the traditional operating model to pieces by emerging out of a pure bottom up culture and learning how to execute it at scale. And he explains what other companies are, and need to be doing to bring this open style into all facets of the organization. By showing how to apply open source methods to everything from structure, management, and strategy to a firm's customer and partner relationships, leaders and teams will now have the tools needed to reach a new level of work. And with that new level of work comes unparalleled success. The Open Organization is your new resource for doing business differently. Get ready to make traditional management thinking obsolete.

In practice, many different people with backgrounds in many different disciplines contribute to the design of an enterprise. Anyone who makes decisions to change the current enterprise to achieve some preferred structure is considered a designer. What is problematic is how to use the knowledge of separate aspects of the enterprise to achieve a glob

Electro-optical and infrared systems are fundamental in the military, medical, commercial, industrial, and private sectors. Systems Engineering and Analysis of Electro-Optical and Infrared Systems integrates solid fundamental systems engineering principles, methods, and techniques with the technical focus of contemporary electro-optical and infrared optics, imaging, and detection methodologies and systems. The book provides a running case study throughout that illustrates concepts and applies topics learned. It explores the benefits of a solid systems engineering-oriented approach focused on electro-optical and infrared systems. This book covers fundamental systems engineering principles as applied to optical systems, demonstrating how modern-day systems engineering methods, tools, and techniques can help you to optimally develop, support, and dispose of complex, optical systems. It introduces contemporary systems development paradigms such as model-based systems engineering, agile development, enterprise architecture methods, systems of systems, family of systems, rapid prototyping, and more. It focuses on the connection between the high-level systems engineering methodologies and detailed optical analytical methods to analyze, and understand optical systems performance capabilities. Organized into three distinct sections, the book covers modern, fundamental, and general systems engineering principles, methods, and techniques needed throughout an optical system's development lifecycle (SDLC); optical systems building blocks that provide necessary optical systems analysis methods, techniques, and technical fundamentals; and an integrated case study that unites these two areas. It provides enough theory, analytical content, and technical depth that you will be able to analyze optical systems from both a systems and technical perspective.

Suitable as a reference for industry practitioners and as a textbook for classroom use, Case Studies in System of Systems, Enterprise Systems, and Complex Systems Engineering provides a clear understanding of the principles and practice of system of systems engineering (SoSE), enterprise systems engineering (ESE), and complex systems engineering (CSE). Multiple domain practitioners present and analyze case studies from a range of applications that demonstrate underlying principles and best practices of transdisciplinary systems engineering. A number of the case studies focus on addressing real human needs. Diverse approaches such as use of soft systems skills are illustrated, and other helpful techniques are also provided. The case studies describe, examine, analyze, and assess applications across a range of domains, including: Engineering management and systems engineering education Information technology business transformation and infrastructure engineering Cooperative framework for and cost management in the construction industry Supply chain modeling and decision analysis in distribution centers and logistics International development assistance in a foreign culture of education Value analysis in generating electrical energy through wind power Systemic risk and reliability assessment in banking Assessing emergencies and reducing errors in hospitals and health care systems Information fusion and operational resilience in disaster response systems Strategy and investment for capability developments in defense acquisition Layered, flexible, and decentralized enterprise architectures in military systems Enterprise transformation of the air traffic management and transport network Supplying you with a better understanding of SoSE, ESE, and CSE concepts and principles, the book highlights best practices and lessons learned as benchmarks that are applicable to other cases. If adopted correctly, the approaches outlined can facilitate significant progress in human affairs. The study of complex systems is still in its infancy, and it is likely to evolve for decades to come. While this book does not provide all the answers, it does establish a platform, through which analysis and knowledge application can take place and conclusions can be made in order to educate the next generation of systems engineers.

How to get the most out of Enterprise Resource Planning (ERP) systems.

"This book focuses on providing readers a comprehensive understanding of the development cycle of enterprise service computing. Covered

topics range from concept development, system design, modeling, and development technologies, to final deployment. Both theoretical research results and practical applications are provided"--Provided by publisher.

"Large-scale enterprise, cloud, and virtualized computing systems have introduced serious performance challenges. Now, internationally renowned performance expert Brendan Gregg has brought together proven methodologies, tools, and metrics for analyzing and tuning even the most complex environments. Systems Performance: Enterprise and the Cloud focuses on Linux® and Unix® performance, while illuminating performance issues that are relevant to all operating systems. You'll gain deep insight into how systems work and perform, and learn methodologies for analyzing and improving system and application performance. Gregg presents examples from bare-metal systems and virtualized cloud tenants running Linux-based Ubuntu®, Fedora®, CentOS, and the illumos-based Joyent® SmartOSTM and OmniTI OmniOS®. He systematically covers modern systems performance, including the "traditional" analysis of CPUs, memory, disks, and networks, and new areas including cloud computing and dynamic tracing. This book also helps you identify and fix the "unknown unknowns" of complex performance: bottlenecks that emerge from elements and interactions you were not aware of. The text concludes with a detailed case study, showing how a real cloud customer issue was analyzed from start to finish."--Back cover.

The increasing penetration of IT in organizations calls for an integrative perspective on enterprises and their supporting information systems. MERODE offers an intuitive and practical approach to enterprise modelling and using these models as core for building enterprise information systems. From a business analyst perspective, benefits of the approach are its simplicity and the possibility to evaluate the consequences of modeling choices through fast prototyping, without requiring any technical experience. The focus on domain modelling ensures the development of a common language for talking about essential business concepts and of a shared understanding of business rules. On the construction side, experienced benefits of the approach are a clear separation between specification and implementation, more generic and future-proof systems, and an improved insight in the cost of changes. A first distinguishing feature is the method's grounding in process algebra provides clear criteria and practical support for model quality. Second, the use of the concept of business events provides a deep integration between structural and behavioral aspects. The clear and intuitive semantics easily extend to application integration (COTS software and Web Services). Students and practitioners are the book's main target audience, as both groups will benefit from its practical advice on how to create complete models which combine structural and behavioral views of a system-to-be and which can readily be transformed into code, and on how to evaluate the quality of those models. In addition, researchers in the area of conceptual or enterprise modelling will find a concise overview of the main findings related to the MERODE project. The work is complemented by a wealth of extra material on the author's web page at KU Leuven, including a free CASE tool with code generator, a collection of cases with solutions, and a set of domain modelling patterns that have been developed on the basis of the method's use in industry and government.

This book presents an integrated systems approach to manufacturing and business enterprise. Traditionally, these topics are treated as separate and independent subjects, but the practical fact is that the manufacturing and the business enterprises are intertwined. Currently, there is no book on the market that addresses both subjects from an integrated systems engineering approach with a manufacturing engineering foundation. Topics covered include engineering process, systems modeling, business enterprise, forecasting, inventory management, product design, and project management. Features Provides in-depth treatment of modern manufacturing processes, systems, and tools Uses an integrated systems life-cycle approach to manufacturing and business Includes business proposals Discusses prototype manufacturing and/or business development processes Presents concepts, steps, and procedures for achieving an integrated enterprise of

manufacturing and business

The convergence of knowledge, technology, and human performance which comprises today's enterprise allows creative business process design. Thus, an organization can create new and innovative ways to service customers or to do business with suppliers and make itself a leader in its field. This capability relies on a successful strategy that integra