

Cmmi For Development Guidelines For Process Integration And Product Improvement Sei Series In Software Engineering Hardcover

Real Process Improvement Using the CMMI presents readers with non-academic, real-world approaches to process improvement via CMMI. The author provides concepts and techniques for CMMI-based process improvement which are as effective as they are innovative. Professionals at all levels from system engineers to CEOs will find a weal

An easily-digestible and fully updated view of CMMI for practitioners as well as executives, managers and the simply curious.

Today, technology has become too much a part of overall corporate success for its effectiveness to be left to chance. The stakes are too high. Fortunately, the idea of 'quality management' is being reinvigorated. In the last decade process programs have become more and more prevalent. And, out of all the available options, three have moved to the top of the chain. These three are: The 9001:2000 Quality Management Standard from the International Standards Organization; The Capability Maturity Model Integration from the Software Engineering Institute; and Six Sigma, a methodology for improvement shaped by companies such as Motorola, Honeywell, and General Electric. These recognized and proven quality programs are rising in popularity as more technology managers are looking for ways to help remove degrees of risk and uncertainty from their business equations, and to introduce methods of predictability that better ensure success. Process Improvement Essentials combines the foundation needed to understand process improvement theory with the best practices to help individuals implement process improvement initiatives in their organization. The three leading programs: ISO 9001:2000, CMMI, and Six Sigma--amidst the buzz and hype--tend to get lumped together under a common label. This book delivers a combined guide to all three programs, compares their applicability, and then sets the foundation for further exploration. It's a one-stop-shop designed to give you a working orientation to what the field is all about.

Principal Contributors and Editors: Mark C. Paulk, Charles V. Weber, Bill Curtis, Mary Beth Chrissis "In every sense, the CMM represents the best thinking in the field today... this book is targeted at anyone involved in improving the software process, including members of assessment or evaluation teams, members of software engineering process groups, software managers, and software practitioners..." From the Foreword by Watts Humphrey The Capability Maturity Model for Software (CMM) is a framework that demonstrates the key elements of an effective software process. The CMM describes an evolutionary improvement path for software development from an ad hoc, immature process to a mature, disciplined process, in a path laid out in five levels. When using the CMM, software professionals in government and industry can develop and improve their ability to identify, adopt, and use sound management and technical practices for delivering quality software on schedule and at a reasonable cost. This book provides a description and technical overview of the CMM, along with guidelines for improving software process management overall. It is a sequel to Watts Humphrey's important work, Managing the Software Process, in that it structures the maturity

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framework presented in that book more formally. Features: Compares the CMM with ISO 9001 Provides an overview of ISO's SPICE project, which is developing international standards for software process improvement and capability determination Presents a case study of IBM Houston's Space Shuttle project, which is frequently referred to as being at Level 5 0201546647B04062001

CERT® Resilience Management Model (CERT-RMM) is an innovative and transformative way to manage operational resilience in complex, risk-evolving environments. CERT-RMM distills years of research into best practices for managing the security and survivability of people, information, technology, and facilities. It integrates these best practices into a unified, capability-focused maturity model that encompasses security, business continuity, and IT operations. By using CERT-RMM, organizations can escape silo-driven approaches to managing operational risk and align to achieve strategic resilience management goals. This book both introduces CERT-RMM and presents the model in its entirety. It begins with essential background for all professionals, whether they have previously used process improvement models or not. Next, it explains CERT-RMM's Generic Goals and Practices and discusses various approaches for using the model. Short essays by a number of contributors illustrate how CERT-RMM can be applied for different purposes or can be used to improve an existing program. Finally, the book provides a complete baseline understanding of all 26 process areas included in CERT-RMM. Part One summarizes the value of a process improvement approach to managing resilience, explains CERT-RMM's conventions and core principles, describes the model architecturally, and shows how it supports relationships tightly linked to your objectives. Part Two focuses on using CERT-RMM to establish a foundation for sustaining operational resilience management processes in complex environments where risks rapidly emerge and change. Part Three details all 26 CERT-RMM process areas, from asset definition through vulnerability resolution. For each, complete descriptions of goals and practices are presented, with realistic examples. Part Four contains appendices, including Targeted Improvement Roadmaps, a glossary, and other reference materials. This book will be valuable to anyone seeking to improve the mission assurance of high-value services, including leaders of large enterprise or organizational units, security or business continuity specialists, managers of large IT operations, and those using methodologies such as ISO 27000, COBIT, ITIL, or CMMI.

CMMI® for Acquisition (CMMI-ACQ) describes best practices for the successful acquisition of products and services. Providing a practical framework for improving acquisition processes, CMMI-ACQ addresses the growing trend in business and government for organizations to purchase or outsource required products and services as an alternative to in-house development or resource allocation. Changes in CMMI-ACQ Version 1.3 include improvements to high maturity process areas, improvements to the model architecture to simplify use of multiple models, and added guidance about using preferred suppliers. CMMI® for Acquisition, Second Edition, is the definitive reference for CMMI-ACQ Version 1.3. In addition to the entire revised CMMI-ACQ model, the book includes updated tips, hints, cross-references, and other author notes to help you understand, apply, and quickly find information about the content of the acquisition process areas. The book now includes more than a dozen contributed essays to help guide the adoption and use of CMMI-ACQ in industry and government.

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Whether you are new to CMMI models or are already familiar with one or more of them, you will find this book an essential resource for managing your acquisition processes and improving your overall performance. The book is divided into three parts. Part One introduces CMMI-ACQ in the broad context of CMMI models, including essential concepts and useful background. It then describes and shows the relationships among all the components of the CMMI-ACQ process areas, and explains paths to the adoption and use of the model for process improvement and benchmarking. Several original essays share insights and real experiences with CMMI-ACQ in both industry and government environments. Part Two first describes generic goals and generic practices, and then details the twenty-two CMMI-ACQ process areas, including specific goals, specific practices, and examples. These process areas are organized alphabetically and are tabbed by process area acronym to facilitate quick reference. Part Three provides several useful resources, including sources of further information about CMMI and CMMI-ACQ, acronym definitions, a glossary of terms, and an index. Configuration management (CM) is frequently misunderstood. This discipline is growing in popularity because it allows project participants to better identify potential problems, manage change, and efficiently track the progress of a software project. This book gives the reader a practical understanding of the complexity and comprehensiveness of the discipline.

"In this book, I have found answers to key questions and misconceptions about the relationship between Six Sigma and the Capability Maturity Model Integration [CMMI]....Among my key takeaways is that the relationship between Six Sigma and CMMI exemplifies one of the principles of S4/IEE: CMMI provides process infrastructure that is needed to support a successful Six Sigma strategy." —Forrest W. Breyfogle III, CEO, Smarter Solutions, Inc. "Finally, a book that bridges the software and hardware process tool set. To date, there have been hardware and software engineers who for one reason or another have not communicated their process methods. And so, myths formed that convinced the hardware community that CMMI was only for software and likewise convinced the software community that Six Sigma was only for hardware. It is both refreshing and thought provoking to dispel these myths." —Jack Ferguson, Manager, SEI Appraisal Program, Software Engineering Institute CMMI and Six Sigma represent two of the best-known process improvement initiatives. Both are designed to enhance work quality and thereby produce business advantages for an organization. It's a misconception that the two are in competition and cannot be implemented simultaneously. Practitioners originally trained in either CMMI or Six Sigma are now finding that the two initiatives work remarkably well together in the pursuit of their common goal. CMMI® and Six Sigma: Partners in Process Improvement focuses on the synergistic, rather than competitive, implementation of CMMI and Six Sigma—with synergy translating to "faster, better, cheaper" achievement of mission success. Topics range from formation of the value proposition to specific implementation tactics. The authors illustrate how not taking advantage of what both initiatives have to offer puts an organization at risk of sinking time, energy, and money into "inventing" a solution that already exists. Along the way they debunk a few myths about Six Sigma applications in software. While the authors concentrate on the interoperability of Six Sigma and CMMI, they also recognize that organizations rarely implement only these two initiatives. Accordingly, the discussion turns to the emerging

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realm of "multimodel" process improvement and strategies and tactics that transcend models to help organizations effectively knit together a single unified internal process standard. Whether you work in the defense industry, for a commercial organization, or for a government agency—wherever quality and efficiency matter—you'll find this book to be a valuable resource for bridging process issues across domains and building an improvement strategy that succeeds.

SEI's authoritative, official introduction to Version 1.3 of CMMI-SVC, the powerful process improvement framework for all service providers * *Shows how to use CMMI-SVC V. 1.3 to optimize any service-related process, avoid problems, and seize opportunities. *Covers the whole CMMI-SVC model, with practical notes and real-world case studies. *Now in two colors for greater clarity. *An official SEI publication: will be used in a growing number of CMMI-SVC courses. The CMMI framework has long provided powerful process improvement tools for organizations that build software and other products. But 80% of the global economy is now based on services, not products. To address these processes, SEI has extended its CMMI framework to reflect the unique challenges of process improvement in service industries. Three members of the CMMI-SVC development team walk through the newest version of CMMI's services model from start to finish, showing how each element can be applied in real-world services organizations. This official SEI publication is both a comprehensive reference and a hands-on tutorial. Fully updated for CMMI Version 1.3, this edition adds a second color for greater clarity and usefulness. Using it, organizations can establish, manage, and improve services that more successfully serve both customers and users. They will learn how to make better decisions, avoid problems, and seize new opportunities. First, the authors thoroughly explain CMMI-SVC Version 1.3, its concepts, and its use. Next, they present a complete reference of best practices, organized for fast access. Practical notes, tips, hints, and case studies clarify the model and show its application in diverse environments. The authors also present glossaries, acronyms, and other essential reference information available nowhere else

Why does poor software quality continue to plague enterprises of all sizes in all industries? Part of the problem lies with the process, rather than individual developers. This practical guide provides ten best practices to help team leaders create an effective working environment through key adjustments to their process. As a follow-up to their popular book, *Building Maintainable Software*, consultants with the Software Improvement Group (SIG) offer critical lessons based on their assessment of development processes used by hundreds of software teams. Each practice includes examples of goalsetting to help you choose the right metrics for your team. Achieve development goals by determining meaningful metrics with the Goal-Question-Metric approach Translate those goals to a verifiable Definition of Done Manage code versions for consistent and predictable modification Control separate environments for each stage in the development pipeline Automate tests as much as possible and steer their guidelines and expectations Let the Continuous Integration server do much of the hard work for you Automate the process of pushing code through the pipeline Define development process standards to improve consistency and simplicity Manage dependencies on third party code to keep your software consistent and up to date Document only the most necessary and current knowledge

This textbook is a systematic guide to the steps in setting up a Capability Maturity Model Integration (CMMI) improvement initiative. Readers will learn the project management practices necessary to deliver high-quality software solutions to the customer on time and on budget. The text also highlights how software process improvement can achieve specific business goals to provide a tangible return on investment. Topics and features: supplies review questions, summaries and key topics for each chapter, as well as a glossary of acronyms;

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describes the CMMI model thoroughly, detailing the five maturity levels; provides a broad overview of software engineering; reviews the activities and teams required to set up a CMMI improvement initiative; examines in detail the implementation of CMMI in a typical organization at each of the maturity levels; investigates the various tools that support organizations in improving their software engineering maturity; discusses the SCAMPI appraisal methodology. Assessments remain at the cutting edge of process improvement, but very few practitioners what they are designed to do and how they work.

The Software Engineering Institute's Capability Maturity Model(Integration (CMMI) provides best practices that span a product's life cycle, from conception through delivery and maintenance. Employing real-life examples and practical advice, authors Garcia and Turner tap their extensive experience working with diverse organizations to help readers survey the CMMI territory.

Part of The SEI Series in Software Engineering, this book offers a concise and practical guide to the standard CMMI appraisal method. This method is very important, as it is used to determine an organization's capability and maturity levels (which are often used as criteria in awarding government and defense oriented bids). SCAMPI specifically stands for: The Standard CMMI Appraisal Method for Process Improvement. These authors have considerable experience in helping their organizations appraise their respective levels of maturity in relation to the CMMI. In this handy new book, they impart their advice on not only achieving an accurate assessment, but also what next steps need to be taken for further process improvement.

Innovations and Advanced Techniques in Systems, Computing Sciences and Software Engineering includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Software Engineering, Computer Engineering, and Systems Engineering and Sciences. Innovations and Advanced Techniques in Systems, Computing Sciences and Software Engineering includes selected papers from the conference proceedings of the International Conference on Systems, Computing Sciences and Software Engineering (SCSS 2007) which was part of the International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2007).

Updated revision of the best selling book on CMMI – now covering version 1.2.

CMMI for Development Guidelines for Process Integration and Product Improvement Pearson Education

Written by experienced process improvement professionals who have developed and implemented systems in organizations around the world, Interpreting the CMMI®: A Process Improvement Approach provides you with specific techniques for performing process improvement using the CMMI® and the family of CMM models. Kulpa and Johnson describe the fundamental concepts of the CMMI® model - goals, practices, architecture, and definitions - in everyday language, give real-world examples, and provide a structured approach for implementing the concepts of the CMMI® into any organization. They walk you through the myriad charts and graphs involved in statistical process control and offer recommendations for which tools to use. The book covers roles and responsibilities, people issues, how to generate meaningful documentation, how to overcome resistance to change, and how to track the success of your efforts. It provides examples of plans, policies, processes, procedures, and team charters. The appendices include matrices summarizing the different assessment techniques that have now been approved by the SEI for use, "pros and cons" associated with this model, some of the myths that have arisen from the marketing of the CMMI® effort, and forms and templates. The book comes with a CD-ROM that contains forms and templates that can be downloaded and customized. The authors distill the knowledge gained in their combined 60 years of experience in project management, software engineering, systems engineering, metrics, quality assurance, configuration management, training, documentation,

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process improvement, and team building. Whether you are new to process improvement or an experienced professional, Interpreting the CMMI®: A Process Improvement Approach saves you time wasted on false starts, false promises by marketers, and failed deadlines.

CMMI® for Development (CMMI-DEV) describes best practices for the development and maintenance of products and services across their lifecycle. By integrating essential bodies of knowledge, CMMI-DEV provides a single, comprehensive framework for organizations to assess their development and maintenance processes and improve performance. Already widely adopted throughout the world for disciplined, high-quality engineering, CMMI-DEV Version 1.3 now accommodates other modern approaches as well, including the use of Agile methods, Lean Six Sigma, and architecture-centric development. CMMI® for Development, Third Edition, is the definitive reference for CMMI-DEV Version 1.3. The authors have revised their tips, hints, and cross-references, which appear in the margins of the book, to help you better understand, apply, and find information about the content of each process area. The book includes new and updated perspectives on CMMI-DEV in which people influential in the model's creation, development, and transition share brief but valuable insights. It also features four new case studies and five contributed essays with practical advice for adopting and using CMMI-DEV. This book is an essential resource—whether you are new to CMMI-DEV or are familiar with an earlier version—if you need to know about, evaluate, or put the latest version of the model into practice. The book is divided into three parts. Part One offers the broad view of CMMI-DEV, beginning with basic concepts of process improvement. It introduces the process areas, their components, and their relationships to each other. It describes effective paths to the adoption and use of CMMI-DEV for process improvement and benchmarking, all illuminated with fresh case studies and helpful essays. Part Two, the bulk of the book, details the generic goals and practices and the twenty-two process areas now comprising CMMI-DEV. The process areas are organized alphabetically by acronym for easy reference. Each process area includes goals, best practices, and examples. Part Three contains several useful resources, including CMMI-DEV-related references, acronym definitions, a glossary of terms, and an index.

The official, SEI-approved guide to the CMMI-ACQ methodology for optimizing product and service acquisition - fully revised for CMMI® 1.3 * *Start-to-finish guidance for succeeding with CMMI-ACQ, including invaluable tips, hints, and case studies, plus the full CMMI-ACQ model extension. *Will be used by SEI and its partners in all CMMI-ACQ course offerings. *Includes valuable case studies from industry and government. 70% of every dollar spent on software is for software that was acquired or outsourced from external sources. CMMI® for Acquisition (CMMI-ACQ) can help any organization acquire products and services more efficiently, more successfully, and at lower cost. Many organizations in both government and industry, especially the U.S. Department of Defense, are implementing CMMIACQ, and seeking authoritative guidance to help them. This is a comprehensive guide to the newest version of CMMI-ACQ from the organization that created it: the Software Engineering Institute (SEI). Fully updated for the newly-released CMMI Version 1.3 CMMI-ACQ illuminates, the entire acquisition process, showing how to avoid common problems, manage acquisition more effectively, communicate with suppliers in language they will understand, and purchase the right products and services. This authoritative book presents the complete CMMI-ACQ along with extensive insights and practical tips, plus chapter-length case studies from both industry and government. Coverage includes; process areas and relationships among them; capability and maturity levels; and customizing CMMI-ACQ to the specific needs of any organization. This book will complement SEI's official courses on CMMI-ACQ, as well as those offered by third-party partners and internal implementers within business and government.

CMMI® for Services (CMMI-SVC) is a comprehensive set of guidelines to help organizations establish and improve processes for delivering services. By adapting and extending proven

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standards and best practices to reflect the unique challenges faced in service industries, CMMI-SVC offers providers a practical and focused framework for achieving higher levels of service quality, controlling costs, improving schedules, and ensuring user satisfaction. A member of the newest CMMI model, CMMI-SVC Version 1.3, reflects changes to the model made for all constellations, including clarifications of high-maturity practices, alignment of the sixteen core process areas, and improvements in the SCAMPI appraisal method. The indispensable CMMI® for Services, Second Edition, is both an introduction to the CMMI-SVC model and an authoritative reference for it. The contents include the complete model itself, formatted for quick reference. In addition, the book's authors have refined the model's introductory chapters; provided marginal notes to clarify the nature of particular process areas and to show why their practices are valuable; and inserted longer sidebars to explain important concepts. Brief essays by people with experience in different application areas further illustrate how the model works in practice and what benefits it offers. The book is divided into three parts. Part One begins by thoroughly explaining CMMI-SVC, its concepts, and its use. The authors provide robust information about service concepts, including a discussion of lifecycles in service environments; outline how to start using CMMI-SVC; explore how to achieve process improvements that last; and offer insights into the relationships among process areas. Part Two describes generic goals and practices, and then details the complete set of twenty-four CMMI-SVC process areas, including specific goals, specific practices, and examples. The process areas are organized alphabetically by acronym and are tabbed for easy reference. Part Three contains several useful resources, including CMMI-SVC-related references, acronym definitions, a glossary of terms, and an index. Whether you are new to CMMI models or are already familiar with one or more of them, this book is an essential resource for service providers interested in learning about or implementing process improvement.

This book looks at the two most popular ways of using Java SE 6 to write 3D games on PCs: Java 3D (a high-level scene graph API) and JOGL (a Java layer over OpenGL). Written by Java gaming expert, Andrew Davison, this book uses the new Java (SE) 6 platform and its features including splash screens, scripting, and the desktop tray interface. This book is also unique in that it covers Java game development using the Java 3D API and Java for OpenGL--both critical components and libraries for Java-based 3D game application development

Gathering customer requirements is a key activity for developing software that meets the customer's needs. A concise and practical overview of everything a requirement's analyst needs to know about establishing customer requirements, this first-of-its-kind book is the perfect desk guide for systems or software development work. The book enables professionals to identify the real customer requirements for their projects and control changes and additions to these requirements. This unique resource helps practitioners understand the importance of requirements, leverage effective requirements practices, and better utilize resources. The book also explains how to strengthen interpersonal relationships and communications which are major contributors to project effectiveness. Moreover, analysts find clear examples and checklists to help them implement best practices.

The book is organized around basic principles of software project management: planning and estimating, measuring and controlling, leading and communicating, and managing risk. Introduces software development methods, from traditional (hacking, requirements to code, and waterfall) to iterative (incremental build, evolutionary, agile, and spiral). Illustrates and emphasizes tailoring the development process to each project, with a foundation in the fundamentals that are true for all development methods. Topics such as the WBS, estimation, schedule networks, organizing the project team, and performance reporting are integrated, rather than being relegated to appendices. Each chapter in the book includes an appendix that covers the relevant topics from CMMI-DEV-v1.2, IEEE/ISO Standards 12207, IEEE Standard

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1058, and the PMI® Body of Knowledge. (PMI is a registered mark of Project Management Institute, Inc.)

A new edition of this title is available, ISBN-10: 0321461088 ISBN-13: 9780321461087 This book will help you to manage and control the quality of your organization's software products. Continually dealing with the problems caused by software defects can be both time-consuming and demanding but Sami Zahran's pragmatic approach will take you from reactive fire-fighting to a preventative culture of disciplined and continuous process improvement. This book will help you: establish a process-focused software development organization design and implement procedures for developing quality software in time and within budget benchmark your organization against the industry standards for the software process, including the Capability Maturity Model (CMM), ISO 9001, the new standard ISO/IEC 15504 (originally known as SPICE) and Bootstrap.

"By following the guidance contained in [the CMMI-ACQ and this book], you'll be able to build an organic acquisition capability that will position your organization to successfully set the scope of engagements with suppliers, keep suppliers and in-house users focused on a common picture of success, and deliver capabilities that will position your organization as a leader in your market or mission for years to come." --From the Foreword by Brian Gallagher Director, Acquisition Program, Software Engineering Institute Increasingly, both commercial and government organizations are acquiring key software, systems, and IT functions instead of building them. Yet all too often, the technology solutions they purchase cannot be sustained successfully. Now there is a comprehensive solution: the CMMI for Acquisition (CMMI-ACQ) model, which connects the widely adopted CMMI 1.2 framework with established industry best practices for acquisition and outsourcing. This book is a practical introduction to the initial CMMI-ACQ and its use in all phases of technology acquisition. Developed under the leadership of the Software Engineering Institute (SEI) and General Motors (GM), the CMMI-ACQ combines CMMI's successful process discipline with techniques proven to work in GM's own extensive outsourcing program. Reflecting the unique insights of key players in the development and early implementation of the CMMI-ACQ, the book covers the entire acquisition project lifecycle, presenting real-world stories as they might occur in your own organizations, insider experiences, tips, tricks, and pitfalls to avoid. The topics discussed here include: determining when outsourcing is and is not appropriate; developing acquisition strategies and aligning organizational structure with them; capturing accurate requirements; specifying realistic design constraints; writing effective RFPs; selecting, managing, and collaborating with suppliers; negotiating contracts; managing risk; and "measuring for success." CMMI for Outsourcing® will be valuable to any organization that wants to achieve better results from technology acquisition. It will be especially helpful to organizations already involved with CMMI-related process improvement and to companies that partner with them. Foreword Preface Chapter 1: Introduction to the CMMI-ACQ Chapter 2: Getting Started Chapter 3: Engineering Solutions Chapter 4: Delivering Solutions Chapter 5: Accelerating Acquisition Improvement Appendix: Overview of CMMI-ACQ Bibliography About the Authors Index

Big Agile leaders need an empirical, "high-trust" model that provides guidance for scaling and sustaining agility and capability throughout a modern technology

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organization. This book presents the Agile Performance Hierarchy (APH)—a "how-ability" model that provides agile leaders and teams with an operating system to build, evaluate, and sustain great agile habits and behaviors. The APH is an organizational operating system based on a set of interdependent, self-organizing circles, or holons, that reflect the empirical, object-oriented nature of agility. As more companies seek the benefits of Agile within and beyond IT, agile leaders need to build and sustain capability while scaling agility—no easy task—and they need to succeed without introducing unnecessary process and overhead. The APH is drawn from lessons learned while observing and assessing hundreds of agile companies and teams. It is not a process or a hierarchy, but a holarchy, a series of performance circles with embedded and interdependent holons that reflect the behaviors of high-performing agile organizations. Great Big Agile provides implementation guidance in the areas of leadership, values, teaming, visioning, governing, building, supporting, and engaging within an all-agile organization. What You'll Learn Model the behaviors of a high-performance agile organization Benefit from lessons learned by other organizations that have succeeded with Big Agile Assess your level of agility with the Agile Performance Hierarchy Apply the APH model to your business Understand the APH performance circles, holons, objectives, and actions Obtain certification for your company, organization, or agency Who This Book Is For Professionals leading, or seeking to lead, an agile organization who wish to use an innovative model to raise their organization's agile performance from one level to the next, all the way to mastery

CMMI(Registered) (Capability Maturity Model(Registered) Integration) models are collections of best practices that help organizations to improve their processes. These models are developed by product teams with members from industry, government, and the Carnegie Mellon(Registered) Software Engineering Institute (SEI). This model, called CMMI for Development (CMMI-DEV), provides a comprehensive integrated set of guidelines for developing products and services.

Process Improvement and CMMI for Systems and Software provides a workable approach for achieving cost-effective process improvements for systems and software. Focusing on planning, implementation, and management in system and software processes, it supplies a brief overview of basic strategic planning models and covers fundamental concepts and appr

CMMI-ACQ® (Capability Maturity Model® Integration for Acquisition) describes best practices for the successful acquisition of products and services. Providing a practical framework for improving acquisition processes, CMMI-ACQ addresses the growing trend in business and government for organizations to purchase or outsource required products and services as an alternative to in-house development or resource allocation. Modeled after CMMI®, Second Edition, which documented CMMI for Development, this book is the definitive reference for the current release of CMMI for Acquisition (version 1.2). In addition to the entire CMMI-ACQ model, the book includes tips, hints, cross-references, and other author notes to help you understand, apply, and find more information about the content of the acquisition process areas. The authors also have added two chapters to illustrate the application of CMMI-ACQ in industry (a case study from General Motors) and government. Whether you are new to CMMI models or are already familiar with one or more of them, you will find this book an essential resource for managing your acquisition processes and improving your overall performance. The

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book is divided into three parts. Part One introduces CMMI-ACQ in the broad context of CMMI models, including essential concepts and useful background. It then describes and shows the relationships among all the components of the CMMI-ACQ process areas, and explains paths to the adoption and use of the model for process improvement and benchmarking. Finally, two separate chapters describe special acquisition needs in a government environment and real experiences with CMMI-ACQ from industry. Part Two first describes generic goals and generic practices, and then, in twenty-two sections, details each of the CMMI-ACQ process areas, including specific goals, specific practices, and examples. These process areas are organized alphabetically by process area acronym to facilitate quick reference. Part Three provides several useful references, including sources for further information about CMMI and CMMI-ACQ, acronym definitions, a glossary of terms, and an index. Apply best practices and proven methods to ensure a successful CMMi implementation. This practical book shows you which implementation hurdles to avoid and which CMMi best practices to apply in your work areas. You'll experience how easy the CMMi practice description is and how quickly and efficiently it can be implemented into your work processes. CMMi is a popular software process improvement model developed by the US department of Defence Software Engineering Institute (Carnegie Mellon University). This model is extensively used by software professionals and organizations worldwide. CMMI for Development: Implementation Guide is a step by step guide to change the way people interpret and implement CMMi in their organizations. What You'll Learn Use itDetect to rectify common mistakes Define your processes using CMMi Collect improvement data Prepare your work area for CMMi appraisal Who This Book Is For Program Managers, Project Managers, Development Leads, Test Leads, Quality professionals, and Training professionals.

SQA (software quality assurance) is a critical factor that all software engineers and developers need to master, and this thoroughly revised fourth edition of the popular book, Handbook of Software Quality Assurance, serves as a one-stop resource for complete and current SQA knowledge. Emphasizing the importance of CMMI registered] and key ISO requirements, this unique book discusses a wide spectrum of real-world experiences and key issues presented in papers from leading experts in the field. The fourth edition is a significant update to past editions, providing the very latest details on current best practices and explaining how SQA can be implemented in organizations large and small. Practitioners find an updated discussion on the American Society for Quality (ASQ) SQA certification program, covering the benefits of becoming an ASQ certified software quality engineer. The book also helps readers better understand the requirements of the ASQ's CSQE examination.

Many organizations that have improved process maturity through Capability Maturity Model Integration (CMMI®) now also want greater agility. Conversely, many organizations that are succeeding with Agile methods now want the benefits of more mature processes. The solution is to integrate CMMI and Agile. Integrating CMMI® and Agile Development offers broad guidance for melding these process improvement methodologies. It presents six detailed case studies, along with essential real-world lessons, big-picture insights, and mistakes to

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avoid. Drawing on decades of process improvement experience, author Paul McMahon explains how combining an Agile approach with the CMMI process improvement framework is the fastest, most effective way to achieve your business objectives. He offers practical, proven techniques for CMMI and Agile integration, including new ways to extend Agile into system engineering and project management and to optimize performance by focusing on your organization's unique, culture-related weaknesses.

Watts Humphrey, inventor of CMM, PSP, and TSP provides team leaders with a whole new way of leading an effective development team.

In this age of globalization, process improvement practitioners must be able to comprehend and work with the different standards and frameworks used around the world. While many systems and software engineering organizations rely on a single standard as the primary driver of process improvement efforts (CMMI-based process improvement in the U.S. an

Practical guidelines for an effective implementation of software development processes Designed to ensure effective software development processes, the Capability Maturity Model (CMM)--North America's leading standard for software development--requires companies to complete five steps, or levels, in the development process. But while it is widely adopted by Fortune 500 companies, many others get stuck at the initial planning stage. Focusing on Levels 2 and 3 of the CMM, this book helps readers to get over the hurdle of the two most problematic areas in this process--the project management and software development steps. It offers clear, step-by-step guidance on how to establish basic project management processes to track costs, schedules, and functionality; how to document, standardize, and integrate software processes; and how to improve software quality.

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