Chapter 1 : Capability Maturity Model - Wikipedia

Are you sure you want to remove The People Capability Maturity Model from your list? Process Area Threads in the People CMM: Developing Individual.

CMMI is a process improvement approach that provides organisations with the essential elements for effective process improvement in software engineering, organisational change, and organisational development. The model defines what processes and activities need to be done and not how these processes and activities are done. It can be used to guide process improvement across a project, a division, or an entire organisation. CMMI helps to integrate traditionally separate organisational functions, to set process improvement goals and priorities, to provide guidance for quality processes, and to provide a point of reference for appraising current processes. The CMMI product suite can provide verification that processes are established, maintained, and implemented consistent with state-of-the-art understanding as to what constitutes "world class performance. However, CMMI will not provide validation that an organisation has the correct product for the customers or market or that a product itself is profitable. Use of the CMMI should therefore be undertaken only in conjunction with a complete understanding of the business goals and objectives, the market and customer base, and the overall product strategy. The CMMI framework is based on proven practices collected from various organisation and fields of application. It is applicable for any organisation. Its development and use is founded upon two premises: Capability â€" a capable process consistently produces output that is within its specifications. Execution of capable process always gives predictable results. Maturity â€" maturity means that whatever the company is doing, the company does it in a way that is well-documented, where everyone knows what is expected of them and performs accordingly, where performance is not dependent on heroes, and where decisions are made on proper analysis of the situation. Model â€" a model is a framework or way of doing something. CMMI only provides a framework to define processes at your organisation and it does not give exact process details. It only guides to implement efficient and effective processes. Integration â€" from a historical point of view CMMI was a fusion of proven practices from a number of different Software and System Development capability maturity models. Other CMMs were additionally developed, including: Some business domains also produced their own CMMs. At the long run, several issues arose from these models: The foundation for the CMMI product suite was laid. The CMMI product suite provided an integrated approach to reduce the redundancy and complexity resulting from the use of separate, multiple capability maturity models CMMs. The suite should include a framework for generating CMMI products. The generated products should be based on CMMI models for specified disciplines and discipline combinations, training products, assessment materials, glossary terms, and tailoring requirements. The focus of the CMMI v. As a result, the Steering Group determined that modernising the practices for maturity levels 4 and 5 was a priority.

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It was later published in a report in [3] and as a book by the same authors in Though the model comes from the field of software development , it is also used as a model to aid in business processes generally, and has also been used extensively worldwide in government offices, commerce, and industry. Relevant discussion may be found on the talk page. August Learn how and when to remove this template message Prior need for software processes[edit] In the s, the use of computers grew more widespread, more flexible and less costly. Organizations began to adopt computerized information systems, and the demand for software development grew significantly. Many processes for software development were in their infancy, with few standard or "best practice" approaches defined. As a result, the growth was accompanied by growing pains: Individuals such as Edward Yourdon , [5] Larry Constantine , Gerald Weinberg , [6] Tom DeMarco , [7] and David Parnas began to publish articles and books with research results in an attempt to professionalize the software-development processes. Nolan , who, in published the stages of growth model for IT organizations. At the request of the U. Department of Defense in evaluating the capability of software contractors as part of awarding contracts. Crosby in his book "Quality is Free". Humphrey based his approach on the staged evolution of a system of software development practices within an organization, rather than measuring the maturity of each separate development process independently. The CMM has thus been used by different organizations as a general and powerful tool for understanding and then improving general business process performance. The full representation of the Capability Maturity Model as a set of defined process areas and practices at each of the five maturity levels was initiated in , with Version 1. Applying multiple models that are not integrated within and across an organization could be costly in training, appraisals, and improvement activities. Though it comes from the area of software development, it can be, has been, and continues to be widely applied as a general model of the maturity of process e. Maturity models[edit] A maturity model can be viewed as a set of structured levels that describe how well the behaviors, practices and processes of an organization can reliably and sustainably produce required outcomes. A maturity model can be used as a benchmark for comparison and as an aid to understanding - for example, for comparative assessment of different organizations where there is something in common that can be used as a basis for comparison. Structure[edit] The model involves five aspects: The extent to which the goals have been accomplished is an indicator of how much capability the organization has established at that maturity level. The goals signify the scope, boundaries, and intent of each key process area. There are five types of common features: The key practices describe the elements of infrastructure and practice that contribute most effectively to the implementation and institutionalization of the area. Levels[edit] There are five levels defined along the continuum of the model and, according to the SEI: While not rigorous, the empirical evidence to date supports this belief". Repeatable - the process is at least documented sufficiently such that repeating the same steps may be attempted. Within each of these maturity levels are Key Process Areas which characterise that level, and for each such area there are five factors: These are not necessarily unique to CMM, representing â€" as they do â€" the stages that organizations must go through on the way to becoming mature. The model provides a theoretical continuum along which process maturity can be developed incrementally from one level to the next. Level 1 - Initial It is characteristic of processes at this level that they are typically undocumented and in a state of dynamic change, tending to be driven in an ad hoc, uncontrolled and reactive manner by users or events. This provides a chaotic or unstable environment for the processes. Example - a surgeon performing a new operation a small number of times - the levels of negative outcome are not known. Level 2 - Repeatable It is characteristic of this level of maturity that some processes are repeatable, possibly with consistent results. Process discipline is unlikely to be rigorous, but where it exists it may help to ensure that existing processes are maintained during times of stress. Level 3 - Defined It is characteristic of processes at this level that there are sets of defined and documented standard processes established and subject to some degree of improvement over time. These standard processes are in

place. The processes may not have been systematically or repeatedly used - sufficient for the users to become competent or the process to be validated in a range of situations. This could be considered a developmental stage - with use in a wider range of conditions and user competence development the process can develop to next level of maturity. Level 4 - Managed Capable It is characteristic of processes at this level that, using process metrics, effective achievement of the process objectives can be evidenced across a range of operational conditions. The suitability of the process in multiple environments has been tested and the process refined and adapted. Process users have experienced the process in multiple and varied conditions, and are able to demonstrate competence. The process maturity enables adaptions to particular projects without measurable losses of quality or deviations from specifications. Process Capability is established from this level. Example - surgeon performing an operation hundreds of times with levels of negative outcome approaching zero. At maturity level 5, processes are concerned with addressing statistical common causes of process variation and changing the process for example, to shift the mean of the process performance to improve process performance. This would be done at the same time as maintaining the likelihood of achieving the established quantitative process-improvement objectives. There are only a few companies in the world that have attained this level 5. Critique[edit] The model was originally intended to evaluate the ability of government contractors to perform a software project. It has been used for and may be suited to that purpose, but critics[who? For each maturity level there are five checklist types:

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We know that developing new skill sets take time to learn and apply in real-world projects, and the pace of technology change is forcing industry leaders of the past to re-tool themselves more rapidly than ever before. And, I felt this was a critical challenge for my organization at the time. Back then, I wrote about the New Economyâ€"this new knowledge-based economy. If the new economy is so radically different, requiring new strategies, new ways of thinking, how will successful organizations appear in the New Economy? Many authors have suggested outlining the focus of knowledge-based organizations of the future. Organizations of all sizes must act like a small company. Organizations will have to create the urgency for innovation in all areas. And, organizations must create an energizing culture. A chameleon in all its glory. The organization of the future will be an ultimately adaptable organism. Its shape and appearance will change as its environment and the demands placed on the organization change. Looking back now 10 years later, I would say these predictions were all true. Their implementationâ€"the howâ€"may not be exactly as these authors stated, but the need to adaptation, innovation, and focus on people are all important today. So how do we do more to build the workforce of tomorrow? Hefley, and Sally A. Miller and my reference was from and it has been updated since then. The P-CMM provides a guide to successful management practices that aid in building an agile workforce with capabilities that allow it to succeed and grow within a rapidly changing technology environment. The People Capability Maturity Model focuses on five levels of maturity, which can be equated to five stages of workforce development. The following figure shows the five maturity levels as defined by the P-CMM: The second level attempts to create a professional environment by establishing basic management practices that can control daily work and provide a framework upon which common practices can be deployed. The third level attempts to identify best practices and create a common process that can be deployed across the organization. Once common best practices are in place, the fourth level begins analyzing and optimizing the performance of those practices based on the environment in which the organization operates. And finally, the fifth level begins the process of continually improving the business processes and ultimately creates an environment that empowers individuals to drive organizational changes that provide the most benefit to the organization. These maturity levels combine to form the framework for a well-managed organization in the new economy. In addition to the vertical maturity levels, the People Capability Maturity Model focuses on four process areas across each of the maturity levels. The following figure shows these process areas: These process areas address areas such as developing individual skills, culture-building, performance management, and organizational development. According to Curtis et al. In his presentation, Vu stated Boeing has been using the People Capability Maturity Model to improve workforce practices since The implementation of workforce development based on this model resulted in a significant increase in employee satisfaction and a dramatic drop in employee turnover.

Chapter 4 : People CMM, The: A Framework for Human Capital Management, 2nd Edition | InformIT

Over the last few years, The People CMM(r) Model has become a well established framework for progressively improving the capability of an organization's workforce.

The common features are attributes that indicate whether the implementation and institutionalization of a key process area is effective, repeatable, and lasting. The five common features are listed below: Commitment to Perform describes the actions the organization must take to ensure that the process is established and will endure. Commitment to Perform typically involves establishing organizational policies and senior management sponsorship. Ability to Perform describes the preconditions that must exist in the project or organization to implement the software process competently. Ability to Perform typically involves resources, organizational structures, and training. Activities Performed describes the roles and procedures necessary to implement a key process area. Activities Performed typically involve establishing plans and procedures, performing the work, tracking it, and taking corrective actions as necessary. Measurement and Analysis describes the need to measure the process and analyze the measurements. Measurement and Analysis typically includes examples of the measurements that could be taken to determine the status and effectiveness of the Activities Performed. Verifying Implementation describes the steps to ensure that the activities are performed in compliance with the process that has been established. Verification typically encompasses reviews and audits by management and software quality assurance. The practices in the common feature Activities Performed describe what must be implemented to establish a process capability. The other practices, taken as a whole, form the basis by which an organization can institutionalize the practices described in the Activities Performed common feature. The CMMI contains 22 process areas indicating the aspects of product development that are to be covered by company processes. Specific Practices by Goal SP 1. Product Integration PI An Engineering process area at Maturity Level 3 Purpose The purpose of Product Integration PI is to assemble the product from the product components, ensure that the product, as integrated, functions properly, and deliver the product. Risk Management RSKM A Project Management process area at Maturity Level 3 Purpose The purpose of Risk Management RSKM is to identify potential problems before they occur so that risk-handling activities can be planned and invoked as needed across the life of the product or project to mitigate adverse impacts on achieving objectives. Solutions, designs, and implementations encompass products, product components, and product-related life-cycle processes either singly or in combination as appropriate. For a more detail visit the SEI homepage. The following Process Areas have been removed all on Maturity Level 3: Now you have completed all the major sessions related to CMMI. CMMI Appraisal is an examination of one or more processes by a trained team of professionals using an appraisal reference model as the basis for determining strengths and weaknesses.

Chapter 5 : CMMI â€" Capability Maturity Model Integration â€¢ Plays-In-Business

1 The People Capability Maturity Model Overview: Background, Concepts, Structure, and Process Area Threads in the People CMM 57 Evolving Practice.

Chapter 6 : Capability Maturity Model Key Practices - CMM Overview

The People CMM, as documented in this authoritative book, is a framework for human capital management. Process Area Threads in the People CMM

Chapter 7 : Curtis, Hefley & Miller, People CMM: A Framework for Human Capital Management | Pearson

Figure provides an example of the structure underlying a key practice for the Software Project Planning key process area. Figure Building the CMM Structure: An Example of a Key Practice.

Chapter 8 : The People Capability Maturity Model | Open Library

In addition to the vertical maturity levels, the People Capability Maturity Model focuses on four process areas across each of the maturity levels. The following figure shows these process areas: People Capability Maturity Process Area Threads.

Chapter 9 : People Capability Maturity Model, The: Guidelines for Improving the Workforce

The Capability Maturity Model Integration (CMMI) defines a Process Area as, "A cluster of related practices in an area that, when implemented collectively, satisfies a set of goals considered important for making improvement in that area." Both CMMI for Development v and CMMI for Acquisition v identify 22 process areas, whereas CMMI for.