

CMMI in Focus

Cruisin' the CMMI Web Site

Mike Phillips

Several recent telephone chats about CMMI have reminded me how difficult it can be to find information when you need it. I have frequently received calls from people who have questions about CMMI and don't know that the information they seek is on the CMMI Web site¹. This issue's column is dedicated to helping you navigate the CMMI Web pages to take advantage of the wealth of information found there.

If you want to navigate along as you read, you might want to either print the column or open the CMMI Web site in another browser window. To begin at the beginning, we'll first go to the CMMI Main page.

CMMI Main Page

As you scan the CMMI main page¹, notice that there are several elements to help you besides the links to the other CMMI Web pages. The CMMI News section highlights the most recent and significant events related to CMMI. The Working With Us section provides an opportunity for those of you who want to work with the SEI as you adopt CMMI to contact someone who can describe and arrange for SEI transition services. Finally, the CMMI Search section enables you to search the CMMI Web site for information. This facility is a quick way to find specific information without wading through the menus.

CMMI Models Page

One of the primary destinations on the CMMI Web site is the CMMI Models² page, where the various models and their representations can be downloaded. Each of the models is available in both PDF and Microsoft Word format. The PDF files are the official versions of CMMI models. These files always print consistently and are locked to ensure that the integrity of the model is preserved. The Word versions are provided so that you can tailor the material to support the internal process improvement efforts in your environment.

¹ <http://www.sei.cmu.edu/cmmi/>

² <http://www.sei.cmu.edu/cmmi/models/models.html>

Organizations often want to cut and paste elements of the model and its supporting information (the early chapters and the glossary or other appendices) for use in a particular project or functional area. This is possible using the Word format of the models. This format also allows teams to add notes or “organizational amplifications” that are helpful. I’ve imagined that various global replacements might be made to accommodate those who use non-American English spelling. This is not a “translation” per se but an effort to make readers more comfortable with the material.

“Errata” sheets for each model, in PDF format, are also available from this page. These sheets list the minor errors that are difficult to fully remove before publication. As the new Addison-Wesley book, *CMMI: Guidelines for Process Integration and Product Improvement*³, was being prepared, we found a few more errata items. These errors are documented in these Web pages to ensure that the most accurate documentation is always available.

CMMI General Information and Background Pages

Other Web destinations include the CMMI General Information⁴ page, which has some valuable information for those new to the concept of CMMI. The CMMI Background⁵ page allows you to view the “A” *Specification*, which determined the design of CMMI, and the *Concept of Operations*, which describes how inclusion of further disciplines in CMMI models might occur under the guidance of the CMMI Steering Group. However, most of you are reading this because you are either considering or beginning the upgrade to CMMI, so the remainder of this column will concentrate on the CMMI Adoption page⁶.

CMMI Adoption Page

The information on this page is most valuable to those of you researching the reasons for adopting CMMI. The contents of this page include pointers to information developed by CMMI users, others interested in CMMI, and the SEI.

³ <http://www.sei.cmu.edu/products/publications/process-improvement.htm>

⁴ <http://www.sei.cmu.edu/cmmi/general/general.html>

⁵ <http://www.sei.cmu.edu/cmmi/background/background.html>

⁶ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html>

Technical Notes

In the previous issue's column, I mentioned some of the technical notes in which authors have helped us explain or interpret the CMMI material from various perspectives. One, for example, describes how a CMMI model might be effectively interpreted in an operational environment. Another elucidated the compatibility between the guiding principles for Earned Value Management and CMMI best practices. A third highlights how a product-line focused organization can apply the guiding principles for product-line practices⁷ within a CMMI framework (or vice versa). There are technical notes in most of the categories on the CMMI Adoption page; look for "technical note" and a date following the report title.

Useful Contacts

The Useful Contacts⁸ section links to information about events, forums, and other ways to contact those already using CMMI. This section has several links that bear mention. The first is the link to the National Defense Industrial Association, the co-sponsor of our annual CMMI Technology Conference and User Group. This link lets you check the plans for this year's conference and peruse the briefings from the November 2002 conference. If you browse through the 2002 briefings, you'll find much useful information about adopting CMMI and how different organizations approached that task. Other briefings provide practical CMMI adoption advice or focus on appraisals.

One briefing describes the long-term value of having gathered process improvement indicators, as those will help to guide future improvement. Another noted the relatively small additional effort (about 22 staff days) to provide this enhanced picture of the process improvement effort. Another noted the enhanced business case for CMMI over the SW-CMM, because applying process discipline across the rest of the development organization multiplied the reduction of test time and defects.

Another important link from the Useful Contacts takes you to a page that lists the organizations that have volunteered to be listed as CMMI Early Adopters, with a point of contact for each. As the CMMI user community grows, you may find that you will want your organization to be listed as well. We often are asked where assistance can be found in addition to the SEI. The SEI Transition Partners link displays listings of instructors and appraisers for the CMMs and CMMI.

⁷ http://www.sei.cmu.edu/plp/plp_init.html

⁸ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#useful>

Both the Software Engineering Information Repository (SEIR) link and the Yahoo Discussion Groups link allow you to find places to ask questions of people from other active organizations about areas of concern for you. Both require a sign up, but neither have fees associated with membership. Both allow access to documents that have been provided by discussion group members.

As our focus moved forward from development to adoption and upgrade, we began accepting documents from a variety of sources that the CMMI Implementation team determined would be helpful to the leaders of organizations beginning the CMMI journey. The BSCW Shared Workspace site contains a variety of documents and presentations that have proven valuable in initial efforts. For example, one organization found it helpful to provide a Microsoft PowerPoint summary of the required and expected elements of a CMMI model. Another found it better to prepare a Microsoft Word table version that would help before and during a SCAMPI appraisal. Another company performed a study on the potential return on investment of CMMI-based process improvement. Each of these is found on this site, as well as a variety of presentations that may provide useful material for your internal briefings.

One file that we have made available on the BSCW site requires some explanation: the Draft Practice Implementation Indicator Documents (PIIDs). As we sought to move orientation of the SCAMPI appraisal method from discovery to verification, we realized that we needed some form of data capture to organize the information more effectively. The PIIDs are templates that organizations can use to record data pertinent to an appraisal. They are described in the SCAMPI Method Definition Document V1.1 (MDD), and we initially considered providing the documents themselves as part of the MDD. But we have discovered that an example provided in our documents often gets interpreted as a requirement. Therefore the PIIDs are offered separately as a tool that might help organizations gauge their readiness for any progress review such as a full SCAMPI.

Overview of CMMI

The Overview of CMMI⁹ section is a good place for those relatively new to CMMI to read detailed information about the CMMI concept and learn how CMMI can benefit their organizations.

CMMI Appraisals

⁹ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#overview>

The entries in the CMMI Appraisals¹⁰ section cover appraisal-related information, including a summary of appraisal results, discussion of appraisal methodologies, details of the SEI Appraiser Program, and lists of SEI transition partners.

Adoption and Transition

The Adoption and Transition¹¹ section contains case study information and guidelines for upgrading from the SW-CMM or EIA 731 to CMMI. A particularly valuable link in this section is the link to the results of “The Road to CMMI” workshop, containing information shared by organizations that have adopted CMMI.

Learning Resources

The Learning Resources section¹² points to training courses offered by the SEI and workshops available to increase your knowledge of CMMI.

Tools and Techniques

The entries in the Tools and Techniques¹³ section provide practical tools you can use to ease your adoption of CMMI. A powerful tool that may benefit your organization is the Generic Database Model, which contains CMMI model framework components in Microsoft Access format.

CMMI Comparisons

The CMMI Comparisons¹⁴ section is especially useful for those who want to compare CMMI to other standards, approaches, or improvement models. Comparisons are made between CMMI and the SW-CMM, EIA 731, Earned Value Management, product line practice, LESAT, and Balanced Scorecard.

IPPD

¹⁰ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#appraisal>

¹¹ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#adoptrans>

¹² <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#learning>

¹³ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#tools>

¹⁴ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#comparisons>

The IPPD¹⁵ section introduces the concept of integrated product and process development, including a bibliography of further reading.

Process Areas

The Process Areas¹⁶ section presents information specific to individual CMMI process areas, including Decision Analysis and Resolution, Measurement and Analysis, Configuration Management, and Risk Management.

We Want to Hear From You

As time goes on, the character of the CMMI Product Suite will build and develop based on what you, the CMMI users, find useful about it. The messages you send us will shape how CMMI can meet organizations' needs and influence the practice of software engineering throughout the world. Please let us know your needs and wants concerning CMMI. We'd like to hear from you. Send email to cmmi-comments@sei.cmu.edu.

About the Author

Mike Phillips is the Director of Special Projects at the SEI, a position created to lead the Capability Maturity Model[®] Integration (CMMI[®]) project for the SEI. He was previously responsible for transition-enabling activities at the SEI.

Prior to his retirement as a colonel from the Air Force, he managed the \$36B development program for the B-2 in the B-2 SPO and commanded the 4950th Test Wing at Wright-Patterson AFB, OH. In addition to his bachelor's degree in aeronautical engineering from the Air Force Academy, Phillips has masters degrees in nuclear engineering from Georgia Tech, in systems management from the University of Southern California, and in international affairs from Salve Regina College and the Naval War College.

¹⁵ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#ippd>

¹⁶ <http://www.sei.cmu.edu/cmmi/adoption/adoption.html#process-areas>

The views expressed in this article are the author's only and do not represent directly or imply any official position or view of the Software Engineering Institute or Carnegie Mellon University. This article is intended to stimulate further discussion about this topic.

The Software Engineering Institute (SEI) is a federally funded research and development center sponsored by the U.S. Department of Defense and operated by Carnegie Mellon University.

® Capability Maturity Model, Capability Maturity Modeling, Carnegie Mellon, CERT, CERT Coordination Center, CMM, and CMMI are registered in the U.S. Patent and Trademark Office by Carnegie Mellon University.

SM Architecture Tradeoff Analysis Method; ATAM; CMM Integration; COTS Usage Risk Evaluation; CURE; EPIC; Evolutionary Process for Integrating COTS Based Systems; Framework for Software Product Line Practice; IDEAL; Interim Profile; OAR; OCTAVE; Operationally Critical Threat, Asset, and Vulnerability Evaluation; Options Analysis for Reengineering; Personal Software Process; PLTP; Product Line Technical Probe; PSP; SCAMPI; SCAMPI Lead Assessor; SCAMPI Lead Appraiser; SCE; SEI; SEI-Europe; SEPG; Team Software Process; and TSP are service marks of Carnegie Mellon University.

TM Simplex is a trademark of Carnegie Mellon University.