



Introducing TPAM: Test Process Assessment Model

Dr. Yuri Chernak
Valley Forge Consulting, Inc.

This article presents a Test Process Assessment Model, TPAM™, that can be used in conjunction with the Capability Maturity Model® (CMM®) Level 2 and Level 3. TPAM is fully consistent with the CMM structure. It presents the test process using three key process areas and defines their process goals and practices.

The Software Engineering Institute's (SEISM) Capability Maturity Model® (CMM®) [1] has a long and successful history of being used by software organizations for assessing and improving their software process. Another strong trend – offshore software development – has also contributed to the increased use of the CMM. American businesses use this framework as a standard approach to assess and select their offshore partners. Likewise, offshore software development companies, especially in India, use the CMM certification as a marketing tool to promote their services and compete for contracts.

One of the known limitations of the CMM is that it does not sufficiently address the software test process. The few testing-related practices defined by the key process area (KPA) Software Product

Engineering at CMM Level 3 do not provide sufficient visibility into the test process capability, nor can they be used as a framework for test process improvement. To fill this void, a number of testing maturity models have emerged since the mid 1990s. Some of them were designed to be used in conjunction with the CMM [2, 3, 4]. However, none of these models has gotten much acceptance so far, which motivates us to continue research in this area.

Even though the SEI's CMM IntegrationSM [5] covers the test process much better than its predecessor, a transition from the CMM to the CMMI is not going to happen overnight. Thus, we can expect that U.S. companies, performing either self-assessments or capability evaluations for selecting their subcontractors, will continue using the original CMM for

some time. To help these companies assess and improve their test process, this article introduces a Test Process Assessment Model (TPAM™, pronounced tee-pam) that has been developed to be a CMM companion model intended to complement the CMM framework at Level 2 and Level 3. TPAM has been primarily influenced by the Systematic Test and Evaluation Process (STEP) methodology [6]. It has been evolving over the years and reflects the author's experience with large-scale projects delivering critical systems used on Wall Street.

Due to space constraints, CROSSTALK was not able to publish this article in its entirety. However, it can be viewed in this month's issue on our Web site at <www.stsc.bill.af.mil/crosstalk> along with back issues of CROSSTALK.