

likelihood that your agency and other agencies will be able to reuse the data from any SCE you perform. This data, when combined with other SCE data and data from contractor self-assessments, can be systematically analyzed and may allow your agency to validate a contractor's assertion of a maturity level without having to perform yet another SCE on that contractor. (For details on a systematic, multiphase approach for validating contractor process maturity through reused, refreshed, and augmented appraisal data, see [4].)

It continues to be true that the SCE method is the most reliable approach available to evaluate software processes against the software CMM. However, the ongoing accumulation of data from agency- and contractor-conducted SCEs increases the probability that your agency can validate the maturity level of a contractor without requiring your agency (and the contractor) to invest the considerable time and expense required to prepare for and perform an SCE. Central to this idea is when you perform an SCE, you do so in a manner that facilitates potential reuse of the SCE data, and you provide the contractor with the detailed results of that SCE.

By performing maximum-leverage SCE techniques, you can expand the number of contractors being monitored for process maturity and expand the frequency of your monitoring without necessarily having to increase the resources needed to perform the monitoring. Additionally, by regularly and effectively monitoring contractors more closely, you can help prevent the occurrence of a contractor slipping from a higher maturity level to a lower one—an adverse situation that both you and the contractor would prefer to avoid.

Although an obvious objective of these techniques is the performance of highly successful SCEs, the most important objective is to support the performance of successful acquisitions and do so in a manner that recognizes, facilitates, and rewards successful contractor process improvement endeavors. ♦

Help for DoD Acquisition Program Managers

If you work in software acquisition, you know that the demands on you are increasing while your resources are drying up. Newer reforms and initiatives mean you must improve your processes while maintaining your workload. It can be hard to know where to turn for help.

The software acquisition team at the Software Technology Support Center can ease your workload, provide expert assistance, and help improve your processes. As a government organization, we can provide personalized, hands-on support on a simple cost-recovery basis. If our highly skilled professionals can't provide what you need, we'll connect you with someone who can.

Organizational acquisition process improvement:

- Software acquisition planning.
- Program management.
- Risk management.
- Requirements development and management.
- Help develop in-house estimation capabilities.
- Solicitation.
- Configuration management.
- Contract management and insight.
- Evaluation.
- Transition to support.

Just-in-time services:

- Evaluate deliverable software documents or products.
- Independent validation and verification.
- Help develop or review Computer Resources Lifecycle Management Plans.
- Cost and schedule estimation.
- Litigation assistance: Expert court witness, research for or creation of reports (current acquisition and post-mortem).

Assessments and evaluations in multiple CMM models (with authorized leads).

STSC Points of Contact

Tracy Stauder
801-775-5555 ext. 3032
DSN 775-5555 ext. 3032
E-mail: staudert@software.hill.af.mil

Brent Baxter
801-775-5555 ext. 3031
DSN 775-5555 ext. 3031
E-mail: baxterb@software.hill.af.mil



About the Author



Richard T. Bechtold is vice president for product development at pragma Systems Corporation. He was previously a research associate and software project management professor at George Mason University, where he spent most of his time in research, grant, and contract work. His major areas of work include process improvement, business process reengineering, CMM-compliant process evaluations and appraisals, high-fidelity process modeling, process definition, computer-based training, and distance and collaborative learning. He has 18 years experience in software engineering and software project management. He spent seven years at the Software Productivity Consortium, has held a variety of software program and project management positions, and participated in the specification, design, and development of numerous software-intensive systems. He

holds a doctorate in information technology from George Mason University.

pragma Systems Corporation
8704 Lee Highway, Suite 303
Fairfax, VA 22031
Voice: 703-560-4669
E-mail: rbechtold@pragmasystems.com

References

1. Paulk, M.C., et al., *Capability Maturity Model for Software*, CMU/SEI-93-TR-24, Carnegie Mellon University, Software Engineering Institute, Pittsburgh, 1993.
2. Holt, Kevin E., "Software Acquisition Support in the Defense Contract Management Command," *CROSSTALK*, Software Technology Support Center, Hill Air Force Base, Utah, March 1997, p. 25.
3. Paulk, M.C., et al., *Capability Maturity Model for Software*, CMU/SEI-93-TR-24, Carnegie Mellon University, Software Engineering Institute, Pittsburgh, 1993, Section L2, p. 44.
4. Bechtold, R., "Efficient Software Maturity Tracking," *Proceedings of the Ninth Annual Software Technology Conference*, Salt Lake City, Utah, April 1997.