

the lower levels of a means is much greater than for higher levels. That translates into the risk that the prediction at low levels will be off. In analysis theory, these are prediction anomalies called outliers, which are ignored. In process improvement, these must be accommodated. There are some stellar software producers at CMM Level 1; therefore, at Level 1, the model is not fully predictive. However, the overwhelming odds are that Level 1 performance will be worse than the performance of organizations at higher levels.

The real key to process improvement is hidden in the first phrase of a sentence two paragraphs back: "If you know what to do, ..." Process improvement is not intuitive ("perfect practice makes perfect"). At risk of confusing my explanation of process improvement, the process that most needs implementing is the one you use for

process improvement. Once this process is good, the result will be an improved software engineering process. In other words, for process improvement to succeed, the skill level of the process improvement project team must be high, not the skill level in software engineering groups.

Most organizations do not have the requisite process improvement skills among their management or staff. No matter how motivated, facilitated, or well led, a team without the right skills is likely to fail to implement process improvement. If you are in a typical organization, process improvement has failed at least once. If you blamed the team, you were wrong—your expectations were unfounded. If you blamed process improvement merely because it is an art that is difficult to master, you were wrong, too—process improvement is alive and well and works great in the

right hands. If you brought together the right resources in the right place at the right time with the right management and right leadership, you probably did not read this far. Good Luck. ♦

About the Author



Steve Neuendorf is an independent management consultant. He has over 25 years measurement and process improvement experience, with over 15 years in software engineering process improvement. He has a bachelor's, a master's, and a doctorate from the University of Puget Sound.

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The Air Force Communications Agency (AFCA) at Scott Air Force Base, Ill. has transferred its responsibility for conducting Capability Maturity Model (CMM)-Based Appraisals for Internal Process Improvement (CBA/IPI) for Air Force organizations to the Software Technology Support Center (STSC) at Hill Air Force Base, Utah. The CBA/IPI is a method licensed by the Software Engineering Institute to assess an organization's capability to develop and maintain software. STSC consultants have experience in CMM-Based Appraisals that range from maturity Levels 2-5.

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