Improving Productivity in your CSE SoftwareProject

The IDEAS Scientific Software Productivity Project

Overview: TBD

Target Audience: CSE SW Project leaders and developers who are facing significant refactoring efforts due to HW architecture changes, increased demands for multiphysics and multiscale coupling, and who want to increase the quality and speed of development and reduces development and maintenance costs.

Purpose: Show how focusing on improved productivity can lead to more effective project decisions, giving a team better faster and cheaper.

Prerequisites: This document is for people who need and want to do a better job of producing, supporting and maintaining CSE software products.

- Willingness to invest time and resources into efforts that are important but not urgent. Focusing on productivity means investing in changes that will have long-term payoff.
- Resources (staff, funds) to dedicate to productivity improvement. Separate this effort from the mainstream daily activities.

Steps:

1. Develop a working definition of productivity for your team: Discuss and define productivity through discussions with your team. The term "productivity" is often fuzzy when first presented. Through education and discussion come up with a good *working* definition. If you cannot define productivity in a meaningful way for your team, you will not be able to improve it.
2. Identify productivity goals for your team:
3. Define questions that clarify what must be done to reach your goals:
4. Define metrics that track progress in answering your questions.
5. Record baseline values for your metrics.
6. Develop strategies and plans to reach goals by answering questions and tracking progress via your metrics.
7. Execute plan.
8. Record progress compared to baseline.

FAQ: TBD

References: TBD

This material is based upon work supported by the U.S. Department of Energy Office of Science, Advanced Scientific Computing Research and Biological and Environmental Research programs.

Version 0.2, April 25, 2016