

Configuration Management

The Good, the Bad and the Ugly

What could be so difficult about
Configuration Management?

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Alan S. Koch, PMP is a consultant, trainer, speaker and writer on effective Project Management methods. For over seven years, he has been President of ASK Process, Inc., a training and consulting company that helps companies to improve the return on their software investment by focusing on the quality of both their software products and the processes they use to development them.

Mr. Koch's 30+ years in software development include:

- ✓ 14 years designing, developing and maintaining software,
- ✓ 5 years in Quality Assurance,
- ✓ 10+ years in Software Process Improvement, and
- ✓ 10+ years in Management.

Mr. Koch was a Member of Technical Staff at the Software Engineering Institute (SEI) for 13 years, and his company has been a Partner since 1999. His **publications** include:

A Book: *Agile Software Development: Evaluating the Methods for your Organization*, Artech House Book, 2005, and

Peer-reviewed journal articles: Crosstalk Magazine, March 2005, Software Quality Professional, June 2005, and Better Software Magazine, May 2007.

Configuration Management CM CMMI® Support Process Area (ML2)

“The purpose of Configuration Management (CM) is to establish and maintain the integrity of work products using configuration identification, configuration control, configuration status accounting, and configuration audits.”

- **SG 1 Establish Baselines**
 - SP 1.1 Identify Configuration Items
 - SP 1.2 Establish a Configuration Management System
 - SP 1.3 Create or Release Baselines
- **SG 2 Track and Control Changes**
 - SP 2.1 Track Change Requests
 - SP 2.2 Control Configuration Items
- **SG 3 Establish Integrity**
 - SP 3.1 Establish Configuration Management Records
 - SP 3.2 Perform Configuration Audits

This presentation is rooted in Configuration Management (CM) as defined in the Capability Maturity Model Integration (CMMI). The cases described are from Mr. Koch's experiences consulting with companies that were engaged in CMM- or CMMI-based process improvement.

Well-Documented Procedures

- Goal:
 - Enough detail to ensure the right outcome
 - Minimal enough to ensure it is used
- Recommendation:
 - Checklists
 - No more than one page long
 - Training Manual
 - Assumes little knowledge

Passing a SCAMPI appraisal requires that processes be documented. But it does ***not*** require that the documentation be voluminous! Keeping process documentation simple and as small as is possible (while still communicating the requisite information) helps to ensure better compliance with processes and policies.

Tell Me Again: What is a Baseline?

- CMMI® (Capability Maturity Model Integration)
“A set of specifications or work products that has been formally reviewed and agreed on, which thereafter serves as the basis for further development, and which can be changed only through change control procedures.”
- ITIL® (IT Infrastructure Library)
“A snapshot ... that is recorded ... [and] remains fixed as the original state and is thus available to be compared with the current [state].”

The definition of “Baseline” is not uniform among organizations. Some people think more like the CMMI’s definition, while others align more with ITIL’s definition. The difference between the two definitions revolves around change. The CMMI definition expects the Baseline to be updated to reflect approved changes, while the ITIL definition *never* changes the baseline.

Within your organization, you *must* ensure that a common definition is being used. (And if you want to achieve a CMMI rating, it should be the CMMI’s definition!)

A *Very* Secure Library

- Configuration Identification:
 - Label media with unique identifiers
 - Record pertinent information in a directory
- Configuration Control:
 - Convert media as technologies change
 - Dispose of old items as appropriate
- Configuration Status Accounting:
 - Maintain records of the media through disposal

The ultimate in security is when no one can get to the information -- ever!

But that is not useful. CM processes ensure that our valuable information is available as well as protected!

The Right People

- Configuration Managers
 - Trained in Configuration Management (CM)
 - Responsible for implementing CM on projects
 - CM planning
 - Configuration Identification
 - Establishing Configuration Control procedures and ensuring they are followed!
 - Implementing Configuration Control Board (CCB)
 - Configuration Status Accounting
 - Configuration Auditing

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This organization had a Configuration Management Department that was staffed with professional Configuration Managers and was overseen by the Director of Configuration Management.

Each Configuration Manager was assigned to one or more projects and performed all CM functions for those projects.

Focused Training

For the Project Manager, how to:

- Plan Configuration Management
- Identify Configuration Items (CIs) to be tracked
- Define naming/numbering conventions
- Establish and run the Configuration Control Board

For the project Configuration Management Specialist, how to :

- Establish and maintain the repository system
- Configuration verification and auditing
- Configuration status accounting

For all other project members, how to :

- Register new CIs as they are created
- Maintain CIs as they are developed and maintained

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This organization did not have the size to establish a Configuration Management Department (as described on the previous page).

So they split the CM activities among roles as described above and ensured that each person received appropriate training.

The Right Tool for the Job

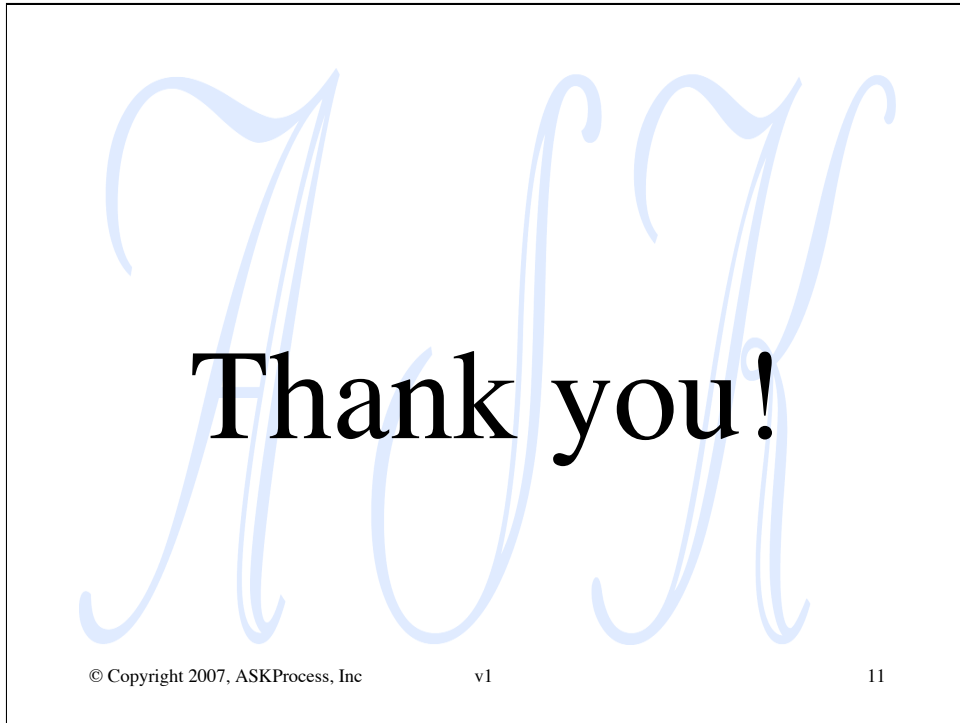
- Define CM requirements
 - Special capabilities (e.g. remote teams, branching/merging)
 - Organization CM processes and standards
- Investigate options
 - Features, functions, costs
- Choose the tool that fits your needs
 - Get training & support

Trying to make-due with an inadequate CM tool is painful! And it can compromise the integrity of the product you are trying to protect!

A Fool With A Tool is Still A Fool!

- Hold a workshop that mixes:
 - Training about Configuration Management
 - Discussion of the organization's needs
 - Agreement on standards and processes
- Follow-up the workshop with:
 - Defining CM procedures
 - Training on CM procedures
 - Definition of CM tool requirements

A good CM tool will not solve all of your problems!
(Yes, I know the sales rep told you it would, but...)



If you have any questions or comments, feel free to contact Mr. Koch at:
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ASK Process would be pleased to assist your organization with your software development or IT Management processes.