Finding the Perfect Recipe:

Preparing for a CMMI SCAMPI A

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What's on the menu?

» A more traditional recipe for preparation

» Our recipe adaptation

- Creative…based on traditional but met our needs
- Included some alternative ingredients
- A little leaner and agile-like
- It was less expensive and more cost effective

» Chef tips!

Chef de Cuisine: Keymind Division

KEYMIND

» 25-person division of a 500-person umbrella organization, Axiom Resource Management, Inc.

» IT and Creative division of Axiom

» Specializes in Web-based application development

» Strong focus on employing continuous build integration, user-centered design, and full Section 508 compliance
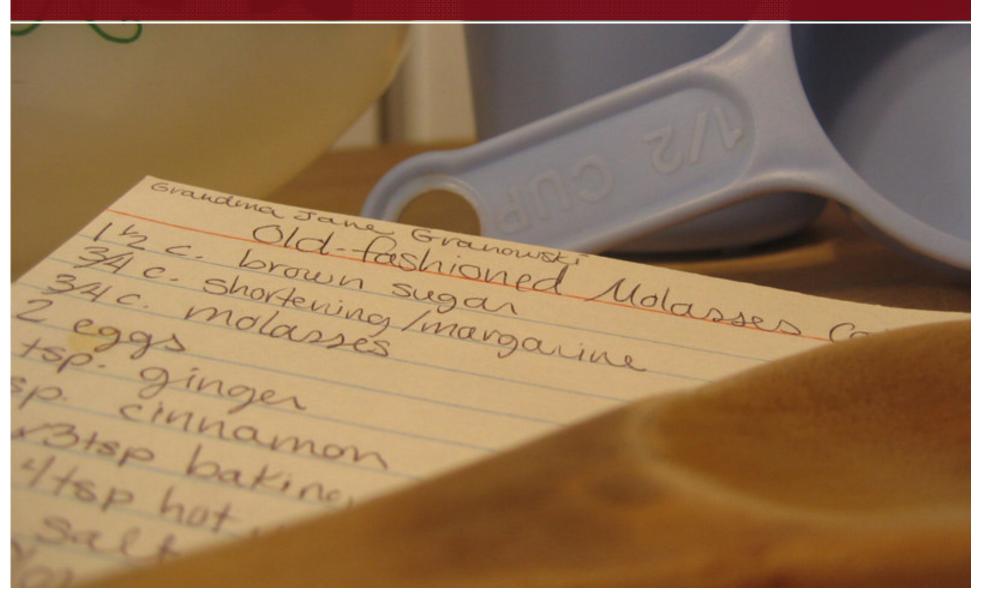
Sous Chef: Fraunhofer Center

Fraunhofer USA

» A **not-for-profit** applied research & technology transfer organization

» Affiliated with the **University of Maryland**

» Our philosophy: understanding the **context** and suggesting **appropriate** improvements

» Our Process Improvement **approach**
  - Understanding the effort (e.g., gap analyses)
  - Planning the improvement initiative
  - Implementing the improvement initiative plan
  - Conducting an assessment

» **Other Competencies**
  - Software/Systems Management, Measurement and Empirical Studies
  - Knowledge Management
  - Software Architecture, Testing, and IV&V

A Traditional Recipe

Appraisal Requirements

	Uses	Types of Objective Evidence	Coverage Reqmts	Cost	Minimum Team Size	Leader Reqmts	Ratings Received	Confidence in Results
SCAMPI C	- Planning improvement Strategy - Decision Making Guidance - Mitigate Risks	Documents **or** Interviews	No	Low	1	Trained and experienced	No	**Low**
SCAMPI B		Document and Interviews	No	Medium	2	Trained and experienced	No	**Medium**
SCAMPI A		Documents and Interviews	Yes	High	4	Authorized Lead Appraiser	Yes	**High**

SCAMPI Upgrade Team. Appraisal Requirements for CMMI ® , Version 1.2 (ARC, V1.2). Pittsburgh, PA: Carnegie Mellon Software Engineering Institute. August 2006, P. 5-6.

A Traditional Recipe

	Objective	Scope	Timeframe	Duration	Team Size	Tools Used
SCAMPI C	Informal, quick look to identify gaps	All practices of the organization with a focused on indirect evidence	18-24 months prior to SCAMPI A	1 to 2 days	1	CMMI "blue" book
SCAMPI B	Systematic analysis to identify gaps	Practices from selected process areas on a few projects	6-8 months prior to SCAMPI A	1-2 weeks	2	Process Implementation Indicator Descriptions (PIIDs)
SCAMPI A	Formal analysis of organization at a single point in time using select projects with the goal of provide quality rating benchmarks relative to the CMMI	All practices for focus projects of the organization being appraised	When you are highly confident you will get the desired outcome	2-3 weeks	4	Lead appraiser tools

Our Recipe

How Our Recipe Started

» Initially planned to follow a more traditional recipe

» Appraisal preparation activities were incorporated in the Process Improvement (PI) Plan

chef's TIP

Treat PI just like any other project

Adapting the Recipe

» Went shopping: Found a lead appraiser via Decision Analysis and Resolution (DAR)

- Three candidates
- Evaluated each approach
- Compared cost proposals

» Interviewed each lead appraiser

chef's TIP

Leverage your SCAMPI preparation activities to show process evidence at the organizational level

Adapting the Recipe

» Lead appraiser suggested holding an ARC*-compliant event as opposed to a SCAMPI B

» Tested it out (just like a new recipe)

» Discovered we needed to make some "fixes" to the recipe

» Went so well, planned, and did it again

*ARC = Appraisal Requirements for CMMI v.1.2

chef's TIP

Don't be afraid to test the process

Key Ingredients:
ARC-Compliant Events

June 2007
Project 1

January 2008
Project 2

April 2008
SCAMPI A

» Conducted Two ARC-Compliant Events

- All projects in the organization used the same practices
- Needed to ensure our interpretation of each practice was the same as the lead appraiser's

» Each event focused on a different project

» Examined all L2 and L3 practices on each project

Further Recipe Refinements:
Handling of Findings

» Estimated the time and effort to complete each finding

» Updated PI Schedule for the appraisal activities given the finding results

» Identified and prioritized findings – not all findings were critical

» Verified implementation of critical "fixes" in the next ARC B/C compliant event

chef's TIP

Status PI sponsor to maintain buy-in and obtain specific support needed as per the event findings

Further Recipe Refinements:
SCAMPI Team Selection

» Planned for four SCAMPI Team participants but wanted at least one additional participant

» Lead appraiser had called for volunteers in the past

» More shopping!

chef's TIP

Screen volunteers carefully to ensure that they can deliver on with your organization's appraisal approach

Adaptation and Creativity Can Be a Good Thing!

» Our Recipe
  - Was initially planned as more traditional
  - But, evolved and adapted over time

» CMMI Level 3!

» Saved at least $42K

» Onsite period was much shorter…

To Go Traditional or To Adapt?

» It depends!

- On the organization needs, the lead appraiser, etc…

» For our approach it helped when:

- A standard methodology was implemented on projects in the organization appraised

- The types of projects in the organization were similar--or if dissimilar, the ARC-compliant events should be conducted for each project type (e.g., software development, maintenance)

- ARC-Compliant events were implemented on the projects targeted for the SCAMPI A (focus projects)

In Summary

» Examine the rationale, feasibility, and effectiveness of the appraisal plan

» Conduct iterative ARC-compliant events on key projects

» Recruit SCAMPI A team members

» Work creatively with your lead appraiser

» Use your defined Decision Analysis and Resolution (DAR) processes when you have tough decision to make.

References

» SCAMPI Upgrade Team. Appraisal Requirements for CMMI ® , Version 1.2 (ARC, V1.2). Pittsburgh, PA: Carnegie Mellon Software Engineering Institute. August 2006.

» SCAMPI Upgrade Team. Standard CMMI® Appraisal Method for Process Improvement (SCAMPI) A, Version 1.2: Method Description Document. Pittsburgh, PA: Carnegie Mellon Software Engineering Institute. August 2006

» Basili, V., Dangle, K., Shaw, M. CMMI ® Second Edition: Guidelines for Process Integration and Product Improvement. pp. 49-52.

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Questions?