CMMI and agile: a High Tech R&D Success Story

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Background

INTEL and SEI Collaborating on the development of the SCAMPI B and C Method

ARD Advantest was jointly developing test equipment with INTEL and was offered as a pilot for the new SCAMPI B method

In addition to the opportunity to pilot the SCAMPI B method, this was also an opportunity to test the applicability of the CMMI in a Small High Tech organization exploring the use of AGILE methods
ARD Background

• ARD is the U.S. R&D arm of Advantest Japan

• It is a small (50 person) high tech R&D operation specializing in the development of leading edge electronic testing and measurement equipment

• ARD requires fast efficient operational processes. It is incorporating agile methods to support rapid development of its latest platform

• ARD acknowledged that CMMI may provide process discipline but was concerned that it would be too large and burdensome
• ARD Experience
ARD and CMMI

Improving our process of on-going improvement
Introduction of CMMI into ARD

• Obstacles
  – Before CMMI could be taken on, we had to take inventory of what obstacles would prevent or undermine its use/success.

• Constraints
  – We also had to consider what limitations would we be operating under and could we be effective in implementing CMMI.
Obstacles

• Ourselves (Habits and Discipline):
  – History of past success without CMMI
    • ARD has a long history of delivering
  – A “homegrown” improvement program
    • Project Planning had already been iterated with varying degrees of success.
  – “We’re so busy, too busy to do this stuff”
    • An engineering favorite
Constraints

• Product Focus
  – Weighted heavily on early product life-cycle

• Small team size
  – No allocation for a dedicated process “group”

• Project Time
  – Clocks ticking… ARD delivers regardless if we embrace CMMI or not.
Key Drivers for Implementation

• CMMI audit
  – Progression of –C, -B, -A audits
• Mapping of the Model
  – Model concepts -> Our data
  – Our data -> Model concepts
CMMI audit and Artifacts

• Artifacts are tangible items that individuals in the organization can easily relate to, enabling institutionalization of process,
  – CMMI helped reinforce that “artifacts” are what really matter.

• CMMI audit methodology enabled hooks into Artifacts, helping to shape process capture
Mapping the Model

• ARD focused on translating the model into our own terminology.
  – Helping to prevent “hanging ourselves” with the model’s terms.

• Building our process capture
  – Using the model’s “questions and recommendations” to our artifacts and linking them to a process
Progression timeline

- B
  June

- B
  August

- A
  November
CMMI, A Roadmap for ARD

• Context
  – CMMI model provided the context in which to view our artifacts
  – This provided us a direction on how to make an artifact “concrete” and “measurable”
    • Value as an “official organization artifact”…
    • not just a data pile of interesting stuff
CMMI, A Roadmap for ARD

- Validation
  - As a reference, CMMI provided the framework to validate our artifacts, processes, policies
    - Identifying
      - Do we have the right artifact, process, policy?
    - Simplifying
      - Is this efficient?
    - Standardizing
      - Is this a template for the future?
ARD, value in CMMI

- The biggest value to ARD of CMMI is the “accounting” like audit process.
  - What is this?
  - Where is it?
  - How does it link?
  - What is it supporting? (a process -> policy)
- Together this is a “concrete”, “real method” to help us achieve results.