

PROCESS MANAGEMENT

THE USE OF CMMI

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CHOOSE A DISCIPLINE

- CMMI offers 4 disciplines
 - CMMI-SW: covers software engineering (SW)
 - CMMI-SE/SW: covers system engineering (SE) and software engineering
 - CMMI-SE/SW/IPPD: adds integrated product and process development (IPPD)
 - CMMI-SE/SW/IPPD/SS: adds supplier sourcing (SS) and managing suppliers

CHOOSE A DISCIPLINE

- Your situations
- Your core business
 - Choose a discipline in line with products and services production in your organisation
 - Do you develop software?
 - Do you establish requirements
 - Do you acquire or subcontract for key elements?
 - Do you provide a service?
 - Is any engineering specialty fundamental to your success?
 - Are you constrained by security requirements?
 - Choose a discipline that is the most critical to your business success but this may also mean difficult to adapt to fast changing environment

CHOOSE A DISCIPLINE

- Your situations
- Your organisation
 - Integrated operation or concurrent operation
 - Questions to ask:
 - Do some groups want to independently implement and measure their process improvement?
 - Does your organisation support independent cost centres that might compete with each other?
 - Are you moving towards an integrated way of doing business?
- Your business environment
 - Clients' requirements
 - Stability of workforce
- Your process improvement scope and objectives
 - Business or pure technique
 - Pure internal or supplier related

CHOOSE A DISCIPLINE

- CMMI-SE/SW/IPPD
- If the answers to the following questions are “yes”, your organisation could benefit from using IPPD
 - Do you use teams for any aspect of your project?
 - Does your organisation want to know how to use teams effectively?
 - Does your organisation have any difficulty in organising and planning projects among teams?
 - Does your organisation have problems in communication between disciplines and groups?
 - Does your organisation need to know how to promote integration by improving environment that support it?
 - Do you want people to work together to get the maximum benefit of collaboration, even at the cost of some efficiency or schedule?
 - Does your organisation need to know how to nurture integrative and collaborative behaviours of an IPPD environment?

CHOOSE A DISCIPLINE

- CMMI-SE/SW/IPPD/SS
- If the answers to the following questions are “yes”, your organisation could benefit from using SS
 - In your project, does suppliers require a comprehensive and proactive effort to manage?
 - Do you have to keep a close look at the availability of any new components that will help you to satisfy the project requirements?
 - Do you have multiple suppliers for the components you acquire?
 - Is a cooperative relationship between your organisation and the suppliers critical to your success?
 - When a supplier delivers a components, do you need to thoroughly check and test is before knowing that it will do the job?

CHOOSE A PRESENTATION

- Two types of CMMI presentations
 - Staged – focusing on process improvement across an organisation
 - Also known as “single path” process improvement as it standardises process (steps towards objective goals) with the standard best practices for all processes within the organisation
 - All processes in the organisation will reach the same maturity level (ML) at the same time, so does the organisation as the whole
 - Continuous – focusing on process improvement for one or a few processes within an organisation
 - More flexible – focusing on the process(s) that affects the ML of the organisation
 - More visible – data collected from the focused process(s) presents detailed and specific features of the organisation (inside)
 - Easier to show the effects
 - Different MLs for different processes in the organisation

CHOOSE A PRESENTATION

- Benefit from choosing the staged process improvement
 - Ability to manage process improvement across the organisation
 - Good communication about process among employees
 - Improved accuracy of project estimates
 - Improved cost and quality control
 - The use of measurable data to guide problem analysis and improvement efforts
- Suitable for the organisations that just begin their process improvement journey to greater maturity
- Case study – Helping a child to tidy his/her room
 - Identify processes (books into bookcase, toys into box, rubbish into bin)
 - Provide guidance (the best practices) of tidying up one thing
 - Standardise the practices to have a common one to use to tidy up all other things

CHOOSE A PRESENTATION

- Benefits from choosing the continuous process improvement – helping to achieve:
 - The complete application of all generic practices in each process area
 - A clearer focus on risks that are specific to the targeted processes area(s) and are compatible
 - A structure that more easily facilitates the addition of new process areas with minimal efforts on the existing model structure
- Case study?
 - Identify new processes (books into bookcase, toys into box, rubbish into bin)
 - Risk of getting carpet dirty (half bottle of drink and bottle not capped)
 - Reuse the best practices of tidying up

APPRAISALS WITH CMMI

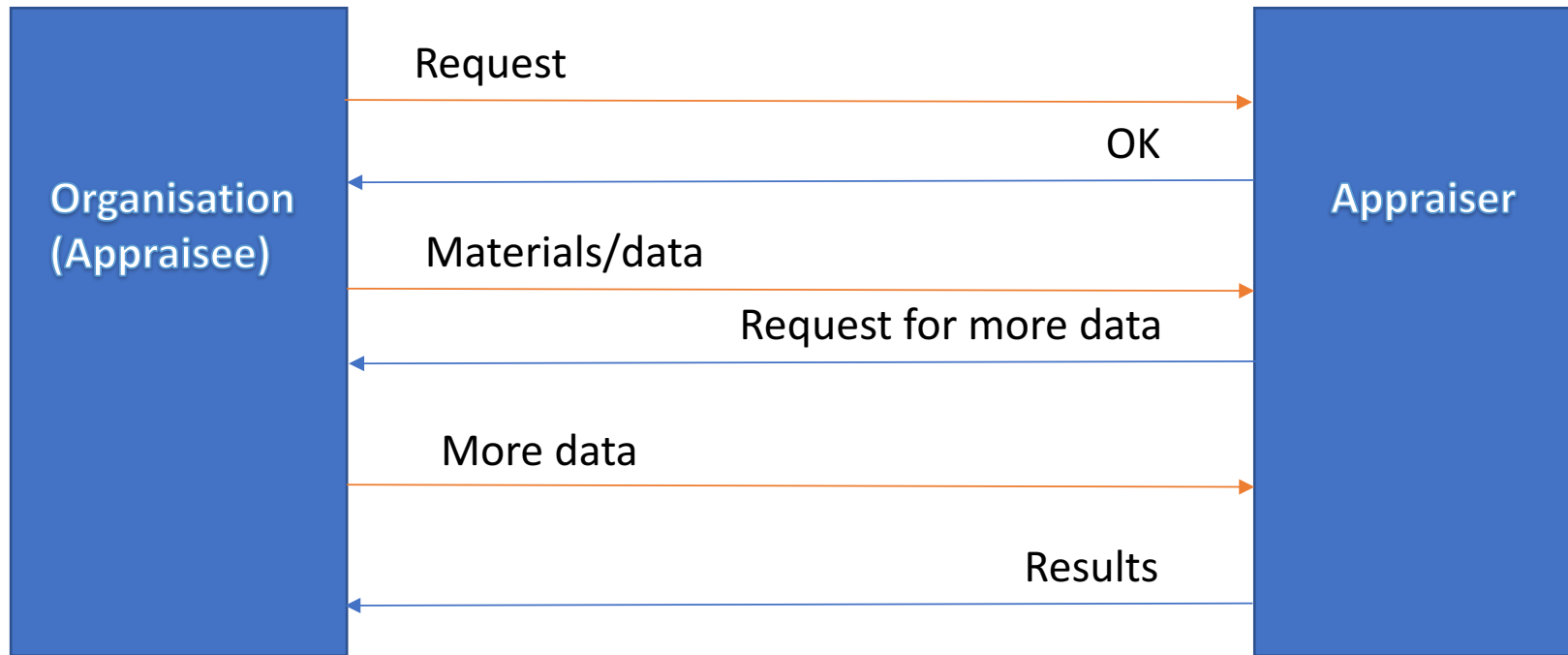
- Appraisal requirements for CMMI (ARC) defines the aspects for evaluate process improvement with CMMI
- ARC defines 7 categories of 42 requirements
 1. Responsibility
 2. Appraisal method documentation
 3. Planning and preparing for appraisal
 4. Appraisal data collection
 5. Data consolidation and validation
 6. Rating
 7. Reporting results

APPRAISALS WITH CMMI

- ARC principles
- Key principles
 - Senior management sponsorship
 - Focus on organisation's business goal
 - Use a documented appraisal method
 - Use a process reference model
 - Confidentiality for interviewees
 - Collaborative team approach
 - Focus on follow-up actions for process improvement

APPRAISALS WITH CMMI

- SCAMPI process



APPRAISALS WITH CMMI

- SCAMPI process
 - From organisation side:
 - Prepare materials/data/documents
 - Direct artefacts – outcomes of process areas, e.g. a plan
 - Indirect artefacts – documents that record the process of e.g. planning, e.g. planning meeting minutes
 - Affirmations – confirmation of practice of the process has been done
 - KEY – NOT let appraiser discover evidence from data provided!!!
 - Planning
 - Purpose
 - Scope
 - Options – single rating across all process areas or individual rating for individual process areas

APPRAISALS WITH CMMI

- SCAMPI process
 - From appraiser side:
 - Forming an appraiser team, led by a senior appraiser trained and authorised by CMMI
 - Initial planning and preparation
 - Analysing the requirements
 - Planning
 - Analysing received evidence (materials, data, etc.)
 - Preparing on-site visit
 - On-site visit
 - Aim to collect more evidence
 - Collecting and verifying the evidence
 - Reporting the results

APPRAISALS WITH CMMI

- Three classes of ARC appraisal
 - Class C – “quick look” checks for specific risk areas, is inexpensive and needs little training
 - Class B – less comprehensive, less expensive, initial, partial self-appraisal, focusing on areas needing attention, no maturity level rating
 - Class A – full comprehensive, thorough model coverage and providing maturity rating