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Customer Success Is Our Mission

The Use of Tailored Practice Implementation Indicators

for Process Definition and Assessment Preparation

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Quick Review of SCAMPI PIIs

- SCAMPI V1.1 Method Definition Document describes the process of verifying practice implementation and the role of something called Practice Implementation Indicators (PIIs)
- PIIs are:
  - Direct artifacts, the tangible outputs resulting directly from implementation of a specific or generic practice
  - Indirect artifacts, that are a consequence of performing a specific or generic practice or that substantiate its implementation, but which are not the purpose for which the practice is performed
  - Affirmations, oral or written statements confirming or supporting implementation of a specific or generic practice
- The SCAMPI is a verification focused method, and organizations must have well documented evidence of direct and indirect artifacts
  - Affirmations, though important and required, are largely corroboration

Practice Implementation Indicator Descriptions and Guidance

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- Organizations now must provide as input to the appraisal a PII database that can be used to verify practice implementation, and this is often in the form of PII Descriptions (PIIDs)
- SCAMPI requires projects to document their PIIs
  - Appraisals are preceded by at least one readiness review that focuses on whether the documented evidence is available, and a verification based appraisal can be accomplished
- A set of generic expected PIIDs were developed as a part of the effort to develop the SCAMPI V1.1
  - Clearer description of the typically expected direct and indirect documented artifacts characterizing each practice
  - Generic and not tailored for any specific company or business need
  - <u>Did not get published as part of the method or incorporated into the CMMI model typical work products</u>

Practice Implementation Indicator Description (PIID)

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Practice ID	IPM SP1.2-1 Use the organizational process assets and measurement repository for estimating and planning the project's activities.		
PII ID	Direct Artifacts	Indirect Artifacts	Affirmations
Example Evidence	• TWP1 • TWP2 • Additional direct artifact PIIs	• TWP3 • Additional indirect artifact PIIs	
Assessment Considerations			
CMMI Notes			

The SCAMPI PIID definitions are not part of the model or Method

Practice Implementation Indicator Description (PIID)

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Practice ID	IPM SP1.2-1 Use the organizational process assets and measurement repository for estimating and planning the project's activities.		
PII ID	Direct Artifacts	Indirect Artifacts	Affirmations
Example Evidence	• Organization's expected direct work products	• Organization's expected indirect work products artifact PIIs	
Assessment Considerations			
CMMI Notes			

The SCAMPI PIID definitions are not part of the model or Method

Use of Org's Standard Process & PIIDs

- Org's standard processes may define customary and expected work products in site specific and precise terms, interpreting the direct (and some indirect) work products and artifacts produced.
- Project tailoring of the org's standard processes may entail tailoring and describing the project specific work products
- The project's PIIs point to specific work products that the project has or will produce and place in a PII database
- PIIs may be handled in various ways
  - Org may support a standard project PII repository database
  - Org may have a PAL that accommodates project data
  - Projects may use a standard PIIDs template/tool

SCAMPI V1.1 Method Process Flow

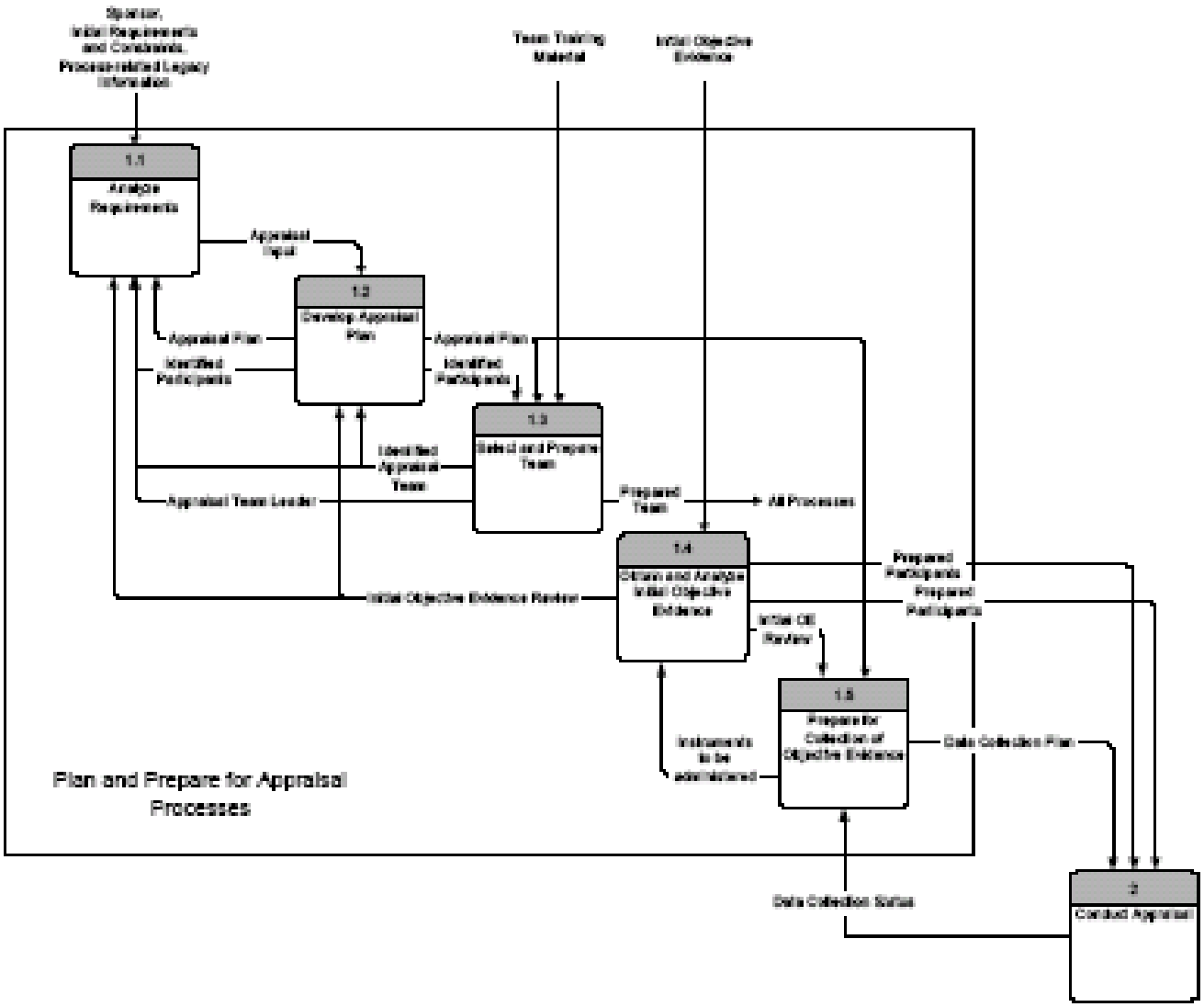


Figure I-3: Process Flows, Plan and Prepare Processes

From SCAMPI V1.1 Method

- Lead Appraiser engaged in process step 1.1

PIIDs for Appraisal Preparation

- Determining if an project's PIIs are appropriate and adequate is left up to the CMMI appraisers
  - But developing appropriate PIIDs are key to an organizational understanding of:
    - The model's intent
    - How to document compliance with the model in preparation for an appraisal
- PIIDs are central in how we improve processes
  - They should be incorporated in a site's process descriptions
  - They should be central to data collection and documentation practices
  - The criteria for selecting the 'right' objective evidence include identifying appropriate 'Direct' and 'Indirect' artifacts from each focus project
- Collection and documenting PIIs should follow a disciplined data collection and scorecarding process

The approach to developing PIIs should closely parallel the Appraisal Method

Pre-Appraisal Scorecarding

Scope & Prepare for Scorecarding

Team Preparation

SCORECARDING GUIDELINES

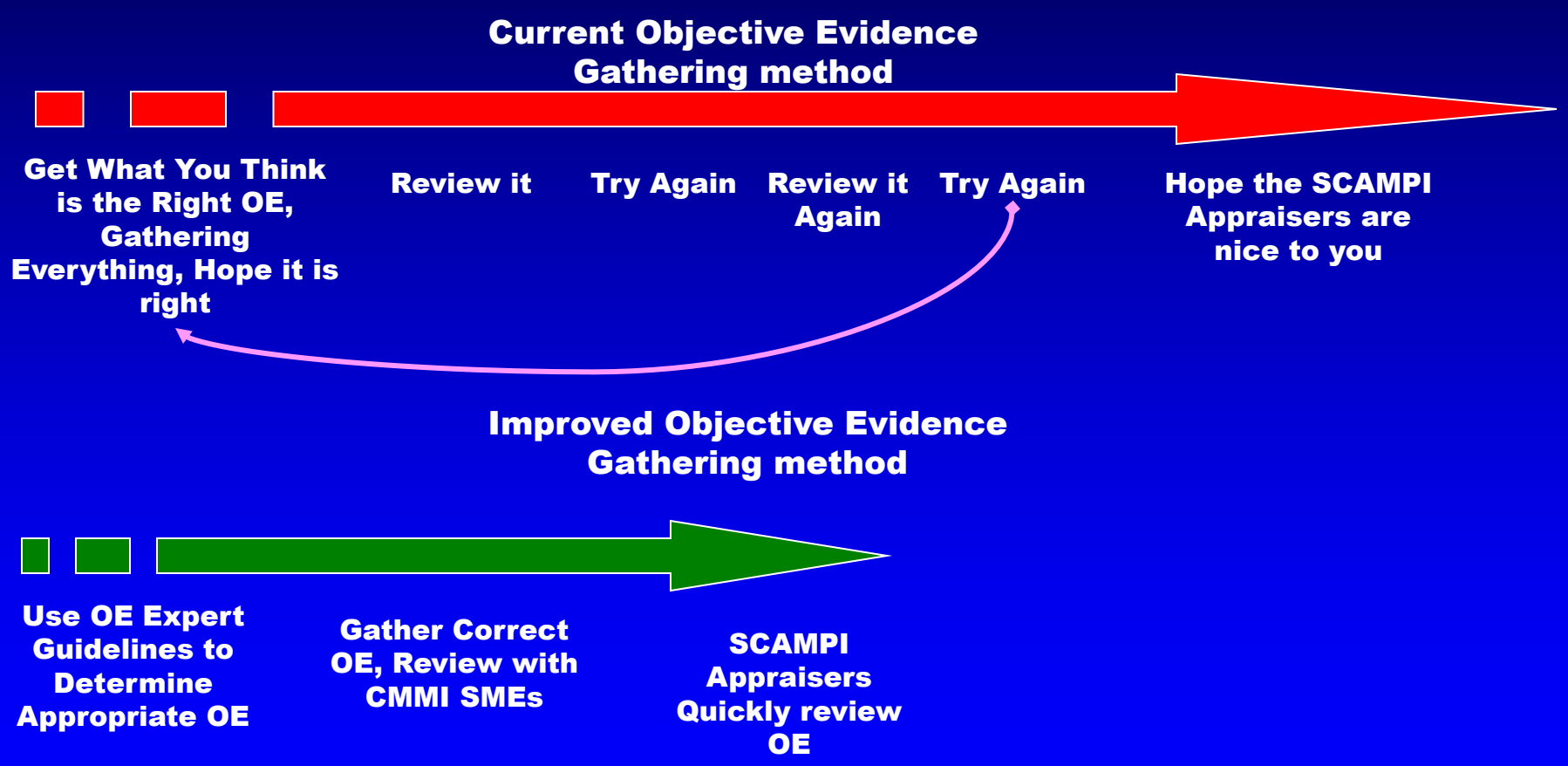
SCORECARD EVIDENCE GUIDE

Obtain & Analyze Objective Evidence
- Indentify PIIDs
- Collect PIIs
- Review & Characterize PIIs

Develop Action Plans

Implement Action Plans

Value Stream



Organizational Process Enablers

- CMMI SCORECARDING GUIDELINES
  - Scorecarding Effort Preparation
  - Scorecarding Team Preparation
  - Review of Project Artifacts
  - Characterization of the Practices
  - Rating of Goals
  - Rating the Process Area
- CMMI SCORECARD EVIDENCE GUIDE
  - Tailored PIID defining organizational work product expectations for each process in its Organizational Assets
  - May be a standalone document or integrated into org's standard process descriptions
    - supports PII data gatherers, auditors of the processes, and the internal EPG or other process entity tasked with scorecarding activities

Main take-away message (copy and paste)

Internal PIID, Scorecarding Tool

		Comments/Clarifications
PA, Practice designation (i.e. PP SP 1.1-1) Practice Description (i.e. Establish and maintain a top-level work breakdown structure (WBS) to estimate the scope of the project.) Sub-practices of the practice. 1) 2) 3) Typical Work Products of the practice. (i.e. from the model and/or PII's … • Task Descriptions • Work product descriptions • Work Breakdown Structure) Assessment Considerations CMMI Notes	Organizational Directive/Process	
	Project Directive/Process	
	Direct Work Products Objective Evidence	
Project's assessment of practice implementation (justified by OE and Comments and Clarifications) ❑ Fully Implemented ❑ Largely Implemented ❑ Partially Implemented ❑ Not Implemented ❑ Not Applicable ❑ Alternative Practice	Indirect Work Products Objective Evidence (e.g. footprints)	

In Summary

- The CMMI appraisal method is PII-based, and organizations must develop tailored PIIDs
- One of the most difficult and costly components of preparing for a SCAMPI is collecting the 'right' objective evidence
  - The approach to developing PIIs should closely parallel the Appraisal Method, and begin long before a SCAMPI
  - It is difficult to do without a clear and detailed understanding about the model and appraisal method
  - Experts in the model and method need to work hand-in-hand with organizational and project personnel to prepare in an efficient and cost effective manner
- Different approaches to PIIDs and preparing for appraisals may be taken
  - An approach emphasizing PII collection and scorecarding using experience in the SCAMPI method is key