Carnegie Mellon
Software Engineering Institute

People CMM®-Based Assessment Method Description

Version 1.0

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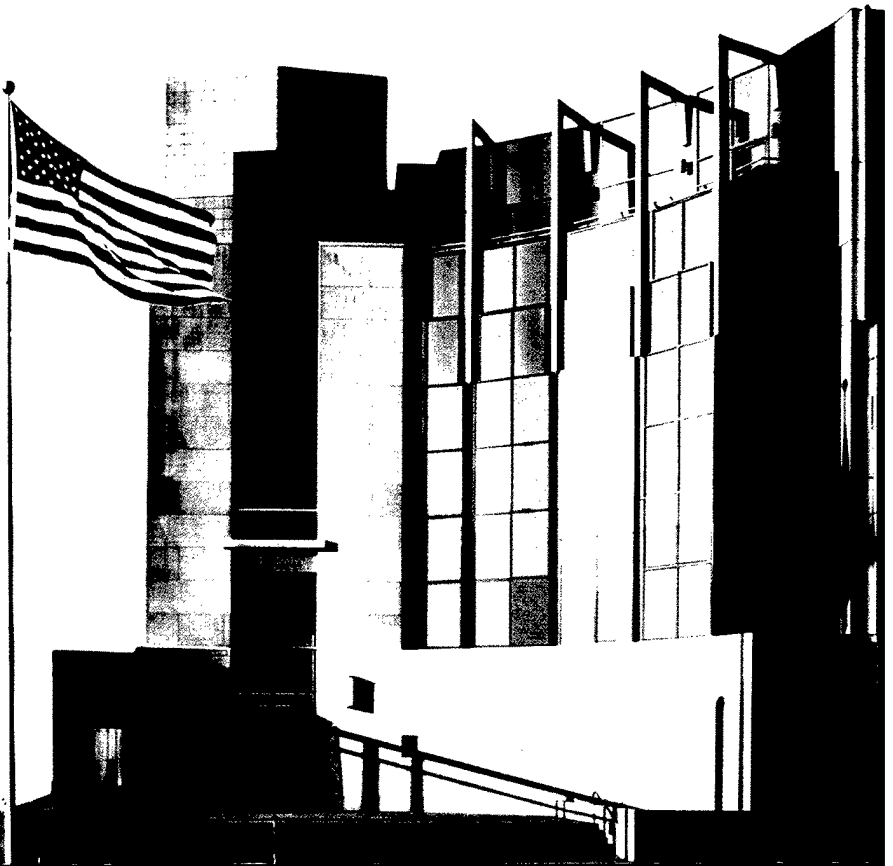
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FOR THE COMMANDER

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Abstract

This document provides a high-level overview of the People Capability Maturity Model^{SM} (CMM®)-Based Assessment Method. It introduces the People CMM as a source of guidelines for improving the capability and readiness of an organization's workforce in the context of the IDEAL^{SM} approach to process improvement. In order to measure the capability and maturity of an organization's workforce practices, an appraisal method has been developed for the People CMM. This document describes the requirements and methods for the People CMM-Based Assessment Method. This method is a diagnostic tool that supports, enables, and encourages an organization's commitment to improving its ability to attract, develop, motivate, organize, and retain the talent needed to steadily improve its organizational capability. The method helps an organization gain insight into its workforce capability by identifying strengths and weaknesses of its current practices related to the People CMM. The method focuses on identifying improvements that are most beneficial, given an organization's business goals and current maturity level. Brief descriptions of the method activities, roles, and responsibilities are provided. The SEI Appraiser Program is discussed, detailing the requirements for persons qualified to lead People CMM-Based Assessments.

Acknowledgements

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We thank the participants in the early pilot assessments that allowed us the opportunity to test this method under real-world conditions and to prove its various facets. We especially thank John Vu of the Boeing Company for his insight and assistance in conducting the first joint assessment of an organization using both the People CMM and the CMM for Software.

We also acknowledge the support of the members of the SEI's CMM-Based Appraisal Project (George Winters, Donna Dunaway, and Stephen Masters) in providing CBA IPI[1] and CAF [Masters 95] information, and Suzie Garcia for providing information regarding the SE-CMM assessment method [Kuhn 96].

We also acknowledge the comments of those who reviewed earlier versions of this document. We thank Rick Barbour (SEI), Arlene Dukanauskas (U.S. Army), Donna Dunaway (SEI), Joyce France (Office of the Assistant Secretary of Defense C^{3}I), Paul Garber (Citicorp), Watts Humphrey (SEI), Nancy Chauncey Jacobs (formerly with the U.S. Army), Steve Masters (Center for Information Systems Engineering, Carnegie Mellon University), Sally Miller (SEI), Mark Paulk (SEI), Bill Peterson (SEI), and Roger Sobkowiak (Software People Concepts, Inc.).

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[1] In addition to the *CMM-Based Appraisal for Internal Process Improvement (CBA IPI): Method Description* [Dunaway 96], the following document was used during the preparation of the *People CMM-Based Assessment Method Description* [this document]:
Dunaway, D. *CMM-Based Appraisal for Internal Process Improvement (CBA IPI) Lead Assessor's Guide* (CMU/SEI-96-HB-003). Pittsburgh, Pa.: Software Engineering Institute, Carnegie Mellon University, 1996. (**Note:** This document is available only through CBA Lead Assessor Training. It is not available through normal SEI distribution channels.)

To the Reader

This document provides a high-level overview of the People CMM-Based Assessment Method V1.0. It is primarily intended for a sponsor or an opinion leader in an organization who is considering an assessment. Additional audiences for the document include potential team members, assessment participants, and individuals who are involved in or may be interested in process improvement. The document addresses things that must be considered when planning a People CMM-Based Assessment. Also discussed are resources required to conduct a People CMM-Based Assessment.

This document is intended to provide an overview of the method, not specific information on how to conduct a People CMM-Based Assessment. Persons wishing to conduct a People CMM-Based Assessment in their organization should contact the SEI to ensure that the assessment is performed by an authorized lead assessor. Section 3 and Appendix A describe the experience, training, and qualifications required of lead assessors and the People CMM track of the SEI Appraiser Program.

The document is divided into three sections and several appendices. These sections are described in Table 1 and the appendices are described in Table 2.

Section	Title	Description
1	Overview of the People CMM-Based Assessment Method	This overview may be used as an executive summary that describes the key features of the method, the effort involved in conducting a People CMM-Based Assessment, and the components of an improvement framework that the method is intended to address.
2	Tasks in the People CMM-Based Assessment Method	The detailed descriptions of the activities which make up the People CMM-Based Assessment Method.
3	People CMM Assessment Team	Description of the People CMM Assessment team, the roles and responsibilities associated with the method, and the training that team members should receive.

Table 1: Sections in This Document

Appendices		
References	References	References cited throughout the document
Appendix A	SEI Appraiser Program	Describes the People CMM track of the SEI Appraiser Program
Appendix B	CAF Requirements	Documents the CMM Assessment Framework (CAF) requirements and provides traceability from the People CMM-Based Assessment Method to the requirements of the CAF.
Glossary	Glossary	A glossary of terms and acronyms used throughout the document
Change History	Change History	The change history of this method description and a change request form that can be used to suggest improvements

Table 2:   Appendices in This Document

1 Overview of the People CMM-Based Assessment Method

1.1 Capability Maturity Models Guide Organizational Improvement

1.1.1 Capability Maturity Model^{SM}

Capability Maturity Models (CMM®s) guide organizations in improving critical business functions by applying Total Quality Management concepts in an evolutionary approach to organizational development. CMMs assume that the quality of an outcome depends on the quality of the process used to produce it [Humphrey 89]. CMMs have been developed in numerous areas such as software development, systems engineering, software acquisition, and workforce development. The first CMM, the Capability Maturity Model for Software (SW-CMM) [Paulk 95], addressed the processes for software development, although some training issues are involved. The People CMM [Curtis 95] guides organizations in developing the capability of their workforce. These and other CMMs [Bate 95, Ferguson 96] are associated with CMM-based appraisal methods [Dunaway 96a, Kuhn 96] that allow organizations to evaluate their existing practices against the guidance provided in a CMM.

1.1.2 The People CMM

The People CMM is a maturity framework that guides an organization in managing and developing its workforce. It uses the same architectural principles and structural formatting as the Capability Maturity Model for Software (SW-CMM) [Paulk 95]. Its evolutionary principles are similar to those provided in the SW-CMM for improving the software development processes of an organization.

The People CMM guides organizations to improve their ability to attract, develop, motivate, organize, and retain the talent needed to steadily improve their organizational capability. It describes an evolutionary improvement path from ad hoc, inconsistently performed workforce practices, to a mature, disciplined development of the knowledge, skills, and motivation of the workforce. The People CMM guides an organization in implementing a series of increasingly sophisticated practices and activities for developing and motivating its workforce. These practices have been chosen from industrial experience as those that have significant impact on individual, team, unit, and organizational performance.

1.1.3 People CMM Uses

The People CMM helps organizations to

- characterize the maturity of their workforce practices

- guide a program of continuous workforce development

- set priorities for immediate actions

- integrate workforce development with process improvement

- establish a culture of software engineering excellence

Humphrey describes the use of the People CMM in an organizational improvement program [Humphrey 97]. The following section shows how the People CMM can be used to support such an improvement program.

1.2 Improvement Program Context: The IDEAL^{SM} Model

The SEI has developed a five-phase life-cycle model called IDEAL for planning and guiding improvement programs. Figure 1 depicts the IDEAL life cycle for an improvement program. The five phases of the IDEAL model include

- Initiating - establish support and responsibilities for improvement

- Diagnosing - identify the areas to be improved

- Establishing - select and plan specific improvement activities

- Acting - design, pilot, implement, and institutionalize the improvements

- Learning - identify improvements in IDEAL-based activities
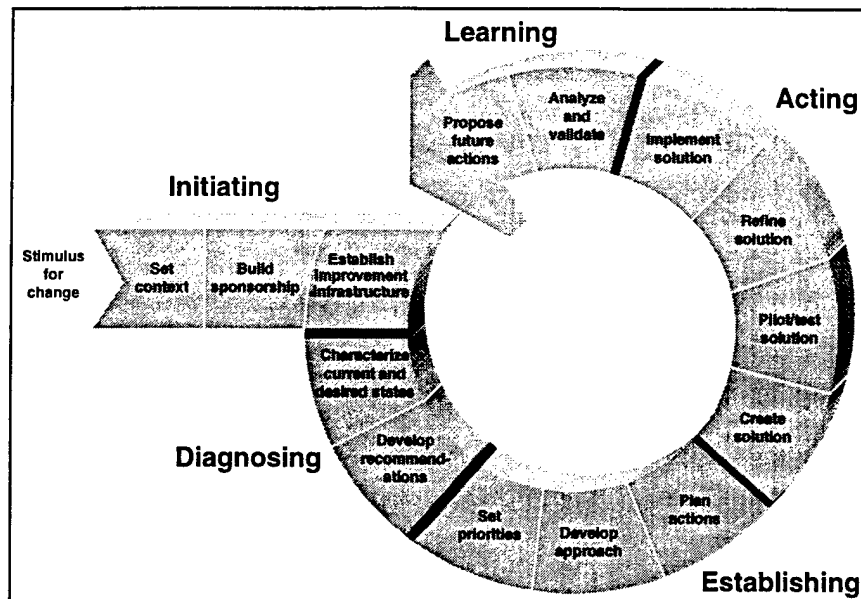
Figure 1: IDEAL Approach to Process Improvement

The People CMM-Based Assessment Method fits within the first two phases of the IDEAL life cycle, as follows:

- Initiating phase

    - Set improvement context within the organization and establish sponsorship for a People CMM-based improvement program.
    - Establish People CMM-based improvement infrastructure with responsibility for acting on assessment results.

- Diagnosing phase

    - Appraise the strengths and weaknesses of current people management practices.
    - Develop improvement program recommendations and document assessment results.

1.3 Attributes of the Assessment Method

1.3.1 Assessment Objectives

The People CMM-Based Assessment Method supports organizations in using the People CMM to guide improvements in their workforce practices. A People CMM-Based Assessment is only one component of a successful improvement program. It supports organizations in assessing their current people management practices. It is a diagnostic tool designed to achieve the following objectives:

- Identify strengths and weaknesses in workforce practices against a community standard.

- Build consensus around the fundamental workforce problems facing the organization.

- Set priorities for improvement needs so that the organization can concentrate its attention and resources on a vital few improvement actions.

- Galvanize the organization to take action on needed improvements immediately following the assessment.

1.3.2 Assessment Requirements

The SEI has defined a CMM Assessment Framework (CAF) for designing assessment methods for different CMMs. For an appraisal to qualify as a CMM-Based Assessment, it must satisfy the 40 assessment requirements described in the CAF [Masters 95]. Appendix B describes how the People CMM assessment method satisfies each CAF requirement. To qualify as a CAF-compliant People CMM assessment, an assessment must be conducted to satisfy the requirements shown in Appendix B.

To be CAF compliant, an assessment must be led by an SEI-authorized lead assessor using an SEI-approved appraisal method. Lead assessors become authorized through training in SEI-authorized lead assessor courses. Each CMM supported by the SEI has its own assessment method and authorized lead assessor training. The SEI authorizes lead assessors separately for each method. Once authorized, lead assessors are the only people permitted to acquire and use SEI assessment materials specific to the method(s) for which they have been authorized.

1.3.3 Method Attributes

The core of a People CMM-Based Assessment is an on-site investigation of people management practices conducted by a trained assessment team. Key attributes of the assessment are described below:

- The organization owns the assessment results.

- The organization will allocate resources for improvement.

- The organization is self-motivated to conduct an assessment and uses it to begin (or continue) organizational improvement activities.

- The assessment is a collaboration between the assessment team and assessment participants who provide information to the team.

- The assessment scope is determined by the organization's needs.

A People CMM-Based Assessment can be conducted as a stand-alone assessment using just the People CMM as its basis or as a joint assessment using the People CMM and another CMM (CMM for Software [Paulk 95], System Engineering CMM [Bate 95], or Software Acquisition CMM [Ferguson 96]). Section 2 describes the flow of the People CMM-Based Assessment Method and the activities that constitute an assessment.

1.3.4 Assessment Principles

To achieve the assessment objectives described above, the People CMM-Based Assessment Method was designed to observe seven principles. These seven principles are listed below:

1. Use a process reference model.

2. Apply a documented, CAF-compliant assessment process.

3. Establish assessment sponsorship.

4. Establish assessment focus.

5. Observe strict confidentiality.

6. Create a collaborative atmosphere.

7. Focus on actionable findings.

1.3.5 Assessment Team

A People CMM assessment team will include

- at least one individual with Human Resources experience

- at least one individual with specific expertise relevant to the business unit (e.g., software or application domain expertise)

- at least one SEI authorized People CMM lead assessor

Section 3 provides additional details about the composition of an assessment team and the selection of team members.

1.3.6 Confidentiality

The accuracy and usefulness of assessment results is critically dependent upon every participant's ability to speak freely and without fear of retribution. Ensuring this open communication requires confidentiality of all assessment information. Specifically, the guidelines below must be followed:

- All information gathered through or derived from questionnaire responses, interviews, and discussions with assessment participants or other assessment team members will be treated by the assessment team as confidential and will not be reported to anyone outside the assessment team with attribution to individuals, teams, projects, or units.

- All assessment participants agree not to discuss information they share or learn from assessment confidential meetings with anyone other than the assessment team.

- All assessment results (e.g., findings, recommendations, final report) will be documented and presented without attribution to individuals or specific units.

- All assessment results (e.g., findings, recommendations, final report) or any associated action plans or inputs to the People CMM Assessment Repository (PCAR) will not be disseminated other than by the assessed organization. Assessment results are proprietary to the assessed organization, and release of any information should be by the assessed organization.

- This confidentiality rule and non-attribution policy applies to all team members and participants.

1.3.7 Tailoring

The People CMM-Based Assessment Method can be tailored to support a variety of specific assessment goals. These tailoring options depend on the objectives of a particular assessment and the business goals of the organization. Tailoring options for a People CMM-Based Assessment include

- selecting the People CMM key process areas to be examined

- establishing the assessment scope (identifying the specific organizational units and entities to be assessed and People CMM components selected for investigation during the assessment)

- selecting the number of units and the particular characteristics of the units to be included within the scope of the assessment

- establishing the coverage sufficiency of People CMM components

- option of extending the rating to include "partially satisfied" (This would be considered "not satisfied" relative to a maturity level rating.)

- option of whether to rate the organization's maturity level

- option of providing key process area and maturity ratings for major organizational components (e.g., divisions or departments) when the maturity of people management practices appears to differ among them

- establishing assessment outputs (in particular, omitting maturity level ratings and/or including unit-specific findings)

- establishing constraints (in particular, varying the time spent on site)

- establishing the amount of time on site

- establishing the team size

- selecting the assessment team (varying the size and experience level of the assessment team so long as minimum team qualifications are met)

- preparing assessment participants (in particular, increasing orientation and facilitation activities for an organization's first assessment)

- selecting the number or percent representation of survey respondents

- selecting assessment participants (units, projects, teams, survey respondents, management interviewees, and individuals to be interviewed) to ensure a representative sample across the assessed organization

- modifying the number, size, style, or duration of planned interviews

2 Tasks in the People CMM-Based Assessment Method

2.1 Assessment Phases

A People CMM-Based Assessment consists of the following four phases of tasks and activities:

- Preparing phase - preparing for the assessment
- Surveying phase - conducting the workforce practices survey
- Assessing phase - conducting the on-site assessment
- Reporting phase - reporting the assessment results

Although these phases are sequential, tasks included in some phases may overlap with tasks in subsequent phases. A typical schedule of these phases is presented in Figure 2. The length of the boxes does not indicate the total time required by the phase, but the calendar time during which it will typically occur. For instance, the on-site assessment is designed to take one to two weeks, and these weeks will typically occur within the fourth month after the organization has initiated its assessment preparations.
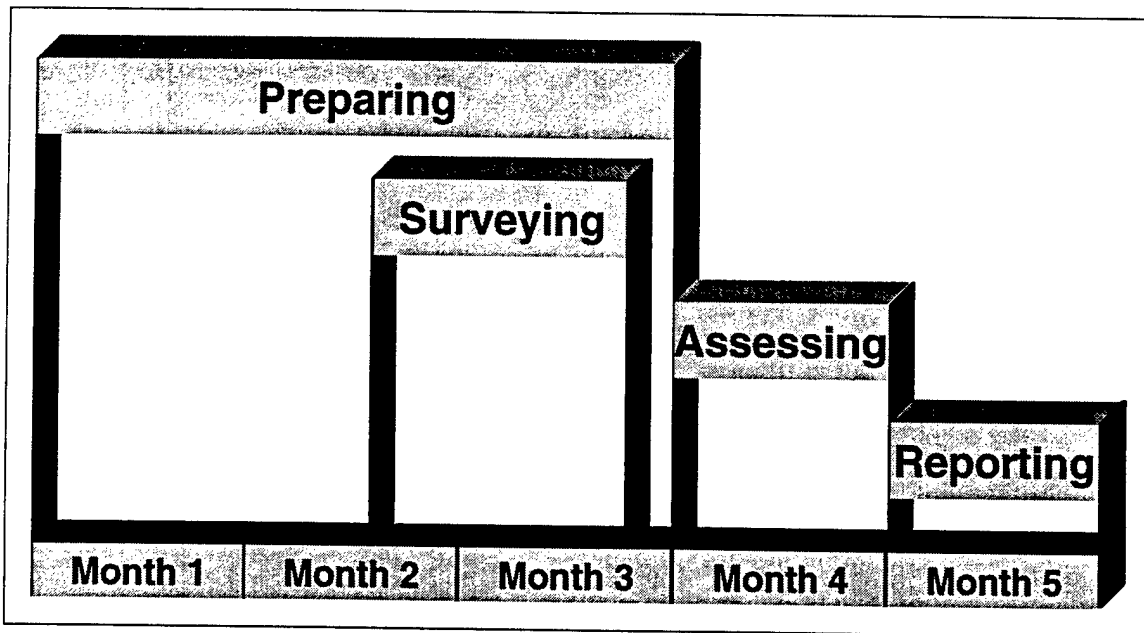
Figure 2:   Phases of the People CMM-Based Assessment Method

2.2 Assessment Activities

Table 3 describes the suggested order of assessment-related tasks in each of the four People CMM assessment phases. Task numbers have been assigned to tasks in each of the four assessment phases as follows: Preparing (P#), Surveying (S#), On-Site Assessment (A#), and Reporting (R#) tasks. The last column in Table 3 lists the typical duration of each of these tasks.

Task	Description	Duration
Preparing Phase		2 - 3 months
P1	Secure improvement sponsor	1 - 2 days
P2	Identify assessment scope	1 - 8 hours
P3	Obtain organizational commitment	1 - 2 days
P4	Define improvement infrastructure	4 - 8 hours
P5	Plan assessment tasks	2 - 3 days
P6	Train assessment team	2 - 5 days
P7	Arrange assessment logistics	2 - 4 weeks
Surveying Phase		6 - 8 weeks
S1	Select survey sample	2 - 4 days
S2	Prepare survey logistics	2 - 4 days
S3	Administer and score survey	1 - 2 days
S4	Analyze survey results	1 - 2 days
Assessing Phase		1 week
A1	Organize assessment team	0.5 - 1 hour
A2	Brief assessment participants	1 - 1.5 hours
A3	Analyze survey results	1 - 2 hours
A4	Review documents	2 - 4 hours
A5	Script interviews	2 - 4 hours
A6	Interview process owners	4 hours
A7	Consolidate process owner data	2 hours
A8	Perform follow-up interviews (ongoing)	1 - 2 hours
A9	Interview managers	2 - 3 hours
A10	Consolidate manager data	1 - 2 hours
A11	Conduct workforce discussions	2 - 4 hours
A12	Consolidate workforce data	1 - 2 hours
A13	Develop preliminary findings	2 - 4 hours
A14	Prepare preliminary findings briefing	2 - 3 hours
A15	Review preliminary findings with legal unit	1 hour
A16	Review preliminary findings with process owners	1 hour
A17	Review preliminary findings with managers	1 hour
A18	Review preliminary findings with workforce	1 hour
A19	Revise findings and rate maturity	2 - 3 hours
A20	Prepare final findings briefing	1 - 2 hours
A21	Present final findings	1 - 1.5 hours
A22	Debrief sponsor	1 - 2 hours
A23	Wrap-up assessment	1 - 3 hours
Reporting Phase		1 day - 7 weeks
R1	Complete final assessment report	1 - 4 days
R2	Report data to People CMM Assessment Repository	2 - 4 hours

Table 3:   List of Activities by Assessment Phase

2.2.1 Preparing Phase

The Preparing phase of a People CMM assessment involves all aspects of planning the assessment and making preparations based on these plans. Preparing phase tasks are displayed in Figure 3. There are many legitimate orderings of these tasks and their associated activities. This figure merely suggests how these tasks might be ordered on a calendar. However, task lengths and orderings may vary at the judgement of the lead assessor and the discretion of the organization being assessed. The seven tasks that constitute the Preparing phase include

- P1 - Secure improvement sponsor
- P2 - Determine assessment scope
- P3 - Obtain organizational commitment
- P4 - Define improvement infrastructure
- P5 - Plan assessment details
- P6 - Train assessment team
- P7 - Arrange assessment logistics
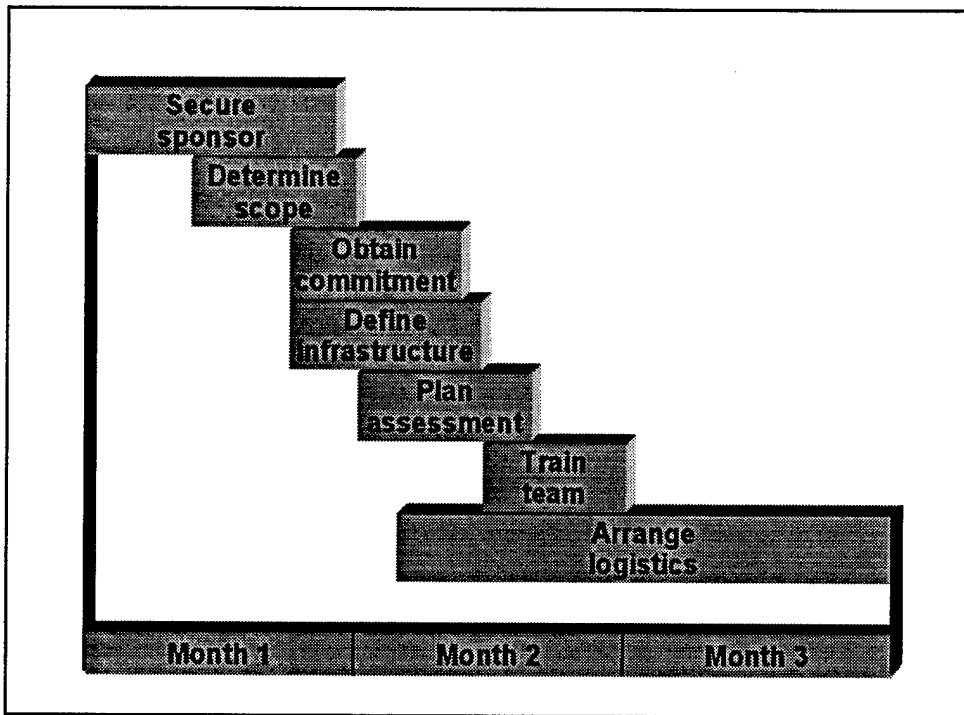
Figure 3: Tasks in the Preparing Phase

2.2.1.1 P1 - Secure Improvement Sponsor

Activities performed during this initial task are intended to ensure that there is a sponsor, typically an executive, who will commit the organization to performing an assessment and using the results to implement an improvement program. Some of the activities typically performed during this task include

- Identify sponsor.

- Assess risks and organizational readiness for an assessment and ensuing improvement program.

- Ensure sponsor awareness and knowledge.

- Establish assessment requirements and objectives.

- Set sponsor expectations.

- Obtain executive commitment and resources.

- Communicate announcement of assessment.

2.2.1.2 P2 - Determine Assessment Scope

Activities performed during this task are intended to design an assessment that supports the organization's improvement program objectives. Some of the activities typically performed during this task include

- Select the assessment implementation method.
  - People CMM Survey only
  - stand-alone People CMM assessment
  - People CMM-Based Assessment integrated with CBA IPI or other assessment method
- Specify the assessment's organizational scope.
  - Identify the specific organizational units and entities to be included in the assessed entity.
  - Select the number of units and the particular characteristics of the units to be included within the scope of the assessment.
- Specify the assessment's coverage of People CMM key process areas.

- Plan necessary coordination for integration of the People CMM-Based Assessment with other assessments methods (when appropriate).

- Prepare preliminary plan for the assessment with proposed schedule and resources.

- Obtain a People CMM assessment kit.

- Complete the Organizational Characteristics Questionnaire.

2.2.1.3 P3 - Obtain Organizational Commitment

Activities performed during this task are intended to obtain broad commitment across the organization to perform a People CMM assessment and participate in an improvement program. If the span of control of the assessment sponsor does not include the human resources (or other related functions, such as training), then the process of obtaining the sponsor's commitment should encompass gaining the support and participation of these other critical functions within the organization. Some of the activities typically performed during this task include

- Obtain commitment from the sponsor for initial assessment plans.

- Ensure the involvement of Human Resources and other related process owners.

- Identify other stakeholders affected by the assessment scope and ensure their involvement.

- Obtain commitment to participate from the assessed population.

2.2.1.4 P4 - Define Improvement Infrastructure

Activities performed during this task ensure that someone is assigned responsibility to coordinate assessment tasks on site and to take action on the results of the assessment. Responsible individuals need to be allocated the time, budget, or other resources to perform their responsibilities. Some of the activities typically performed during this task include

- Assign assessment site coordinator.

- Select assessment team members.

- Assign improvement program responsibilities.

2.2.1.5 P5 - Plan Assessment Details

Activities performed during this task result in a detailed assessment plan covering all aspects of assessment scheduling and logistics. When performing a People CMM assessment that is integrated with a CBA IPI or other assessment method, the planning for these activities should be integrated.

Figure 2 shows the typical schedule of assessment phases. The on-site assessment activities that occur during the Assessing phase can be accomplished during a single five-day on-site period. The assessment planning should determine the schedule and logistics for these activities. The planning may determine that these tasks take place over a longer duration, if organizational needs or site constraints dictate. For example, a multi-site assessment may require travel days interspersed with days of on-site assessment activities.

Some of the activities typically performed during this task include

- Plan all details of assessment tasks and activities and document in an assessment plan.
  - Document assessment goals and scope.
  - Identify assessment activities and the schedule for these activities.
  - Identify the people, resources, and budget required to perform the activities.
  - Identify the appraisal outputs and their anticipated use.
  - Identify anticipated follow-on activities.
  - Document any planned tailoring of the appraisal method and associated tradeoffs.
  - Identify risks associated with appraisal execution.
- Plan the logistics to support assessment tasks and activities.
  - all remaining preparation tasks, including team training
  - survey administration and processing
  - on-site assessment tasks
  - on-site logistics: times, rooms, food, security, computer access, printers, secretarial support, audio-visual equipment, etc.
  - report preparation
  - team travel and lodging
  - initial post-assessment improvement activities
- Select and invite survey and assessment interview participants.
  - Task S1 describes selecting survey participants.
  - On-site assessment participant selection is described in task A6 for process owner selection, A9 for manager selection, and A11 for workforce participants.
- Identify documents and forms for review.

2.2.1.6 P6 - Train Assessment Team

Activities performed during this task ensure that all members of the assessment team have knowledge both of the People CMM and of the steps of the assessment process and its underlying principles. This training is required of all assessment team members, since those who have not received this training are usually unable to execute their assessment roles effectively. This training is provided in the following two SEI-authorized courses:

- Introduction to the People CMM
- People CMM Assessment Team Training

Training in the People CMM should be received prior to training in the assessment method, and both courses should be taught no more than three months prior to the on-site assessment period.

Some of the activities typically performed during this task include

- Ensure that all team members have completed Introduction to the People CMM training.
- Ensure that all team members receive People CMM Assessment Team Training.

2.2.1.7 P7 - Arrange Assessment Logistics

Activities performed during this task ensure that adequate preparations are made for all tasks to be performed during the Surveying and Assessing phases of a People CMM assessment. The site coordinator in consultation with the lead assessor will perform most of this work. Some of the activities typically performed during this task include

- Arrange all assessment logistics.
- Collect and organize all documents and forms for review.
- Inform and remind all assessment participants of their scheduled involvement.
- Maintain organizational awareness of the assessment.
- Track progress against the assessment plan.

2.2.2 Surveying Phase

The Surveying phase of a People CMM-Based Assessment involves all aspects of collecting and analyzing data from a People CMM Survey. The purpose of the People CMM Survey is to collect information about workforce practices from a broad sample of people working in the organization.

The People CMM maturity questionnaires are designed to collect data regarding practices in each key process area of the People CMM. There are two different questionnaires administered during this phase, one for managers/supervisors and one for non-managers/individual contributors.

Tasks in the Surveying phase are displayed in Figure 4. The first two tasks can occur in any order with relation to each other. However, both tasks must be completed before People CMM Surveys can be administered in the third task. The fourth task can be completed before the on-site assessment, as depicted here, or as a task included in the Assessing phase. The four tasks that make up the Surveying phase include

- S1 - Select People CMM Survey sample
- S2 - Prepare survey logistics
- S3 - Administer and score People CMM Surveys
- S4 - Analyze People CMM Survey results
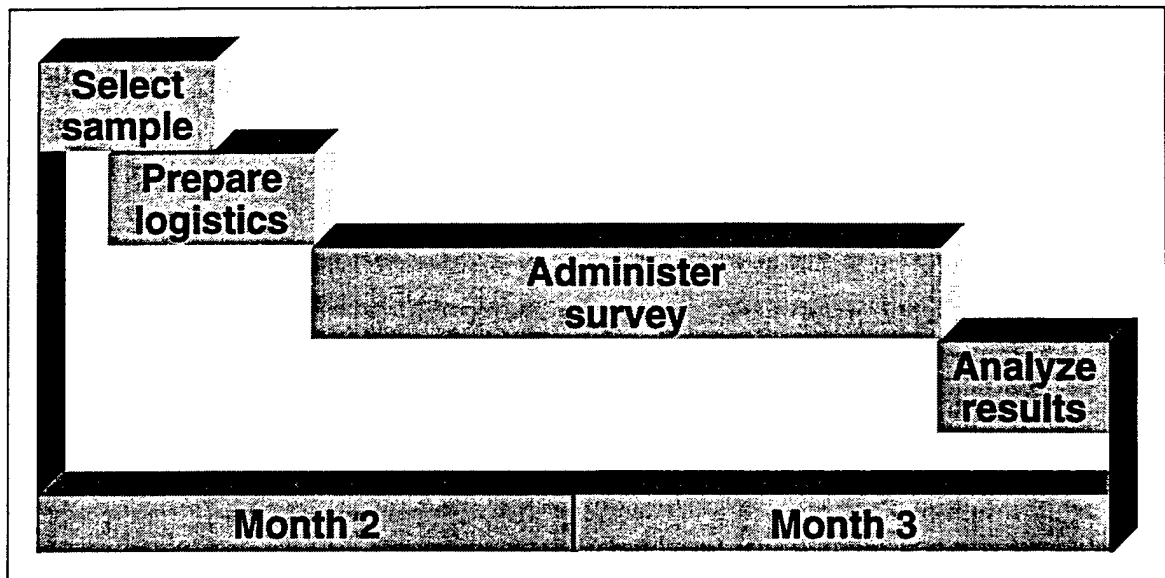
Figure 4: Tasks in the Surveying Phase

2.2.2.1 S1 - Select People CMM Survey Sample

Activities performed during this task result in a specification of the sample of people to whom People CMM questionnaires will be administered. A sample of individuals in the organization are selected to complete a People CMM questionnaire.

This sample should be carefully planned to ensure adequate balance and coverage across types of jobs and organizational units. The questionnaires should be administered to a mix of employees proportional to the organization's population as a whole. In order to select a representative cross section of survey respondents, the following guidelines should be applied in randomly selecting individuals to respond to the surveys. These guidelines include requirements based both on total organizational size and job assignment.

Sampling guidelines based on organization size are provided below.

- For organizations of 50 or fewer people, everyone should complete a questionnaire.

- For organizations of 51-200 people, questionnaires should be given to at least a 50% sample, with a minimum of at least 50 people completing questionnaires.

- For organizations of more than 201 people, questionnaires should be given to at least a 20% sample, with a minimum of at least 100 people completing questionnaires.

Sampling guidelines based on job assignment are provided below.

- Approximately 25% - 50% (and possibly up to 100% for small organizations) of the managers ranging from first-line supervisors through executives should complete questionnaires.

- At least 20% of the non-managers spanning the entire scope of the organization should complete questionnaires, with individuals being selected to ensure an unbiased sampling with respect to

  - department, division, or other major organizational component
  - assigned work group
  - grade or level
  - job type or category
  - type of work or project
  - other important characteristics over which experiences or perceptions of workforce practices may differ, such as gender

Some of the activities typically performed during this task include

- Identify sample characteristics.

- Identify the number of people to be included in the sample.

- Ensure adequate survey coverage across organization.

- Communicate an invitation to participate to the survey sample.

- Provide confirmation of the survey schedule and logistics to participants.

2.2.2.2 S2 - Prepare Survey Logistics

Activities performed during this task complete all preparations for administering the People CMM questionnaires. The lead assessor and site coordinator should plan all aspects of administering the People CMM questionnaires. All necessary arrangements should be made for administering the questionnaires.

In addition to planning the logistics, they should review the language in each question in light of local terms or jargon to identify any questionnaire terminology that is likely to be misinterpreted.

Some of the activities typically performed during this task include

- Plan survey administration and logistics.

- Arrange final questionnaire administration logistics.

- Identify questionnaire terminology that is likely to be misinterpreted.

2.2.2.3 S3 - Administer and Score People CMM Surveys

Activities performed during this task result in the collection of data from the People CMM Survey and the preparation of the data for analysis. The survey participants attend a survey administration session where they are given a briefing that explains the People CMM and its assessment process. The number of survey administration sessions depends on the number of survey participants and the size of facilities available for this session. The session is conducted by the lead assessor or designee, together with an assessment team member from the site, typically the site coordinator. The lead assessor or designee presents a short briefing describing the People CMM, the purpose of the survey, and its role in the assessment process. During this session the questionnaires or access to electronic versions will be given to respondents. Several options may be offered for completing the survey:

- in a group session
- individually outside of the group session
- online

Unless participants can complete their questionnaires online, it is best for them to complete questionnaires in a group session, since assessment team members are available to help them understand the intent of the questions and to provide directions for responding. Certain questions, such as questions regarding location or employer, may require that specific instructions that are unique to the assessment be given to participants.

Questionnaires are collected and sent for scoring. Questionnaires and scoring services are available as part of the SEI-authorized assessment kits. Responses to the People CMM Survey are scored and prepared into summary reports that describe the results for both the individual and the manager questionnaires. These reports are distributed to the assessment team prior to the on-site assessment. Some of the activities typically performed during this task include

- Brief survey participants on the People CMM, the guidelines for questionnaire completion, and the overall assessment process.
- Monitor the completion of surveys and providing necessary interpretation and guidance to participants.
- Score survey responses and distribute results to the assessment team members.

2.2.2.4 S4 - Analyze People CMM Survey Results

Activities performed during this task provide assessment team members with information about the consistency with which workforce practices are performed and about the major issues related to them. The People CMM assessment process can be organized to incorporate this task into the Assessing phase.

Prior to the on-site period, survey results are provided to each member of the assessment team, including responses to the surveys completed by managers and by non-managers. For each individual question, the report provides both summary statistical data and any written comments related to that question. Each member of the assessment team should review all responses in the survey report to develop an initial impression of the workforce issues facing the organization.

Results from analyzing survey data will be used in developing the interview scripts employed during the on-site assessment. No rating decisions are made based solely on survey responses.

Some of the activities typically performed during this task include

- Review the survey results
- Reach consensus on interpretation of the survey data
- Consolidate survey data on key process area worksheets.

If the organization is conducting a survey-only assessment, this task will complete its process. The data from the surveys can be used to estimate the results of a full assessment, but they do not constitute a basis for assigning the organization a maturity rating. Those responsible for making improvements will use the results of the surveys to prioritize improvement activities and move into the Establishing phase of the IDEAL model.

2.2.3 Assessing Phase

The Assessing phase of a People CMM assessment involves all aspects of data collection, consolidation, interpretation, and development of findings during on-site assessment activities. Since all assessment team members will usually be involved in each of these tasks, the tasks are performed sequentially in the order prescribed below. Some tasks such as interviewing managers are performed more than once. Other tasks such as follow-up interviews may not be performed at all or may have to be fit into the schedule when time or interviewees are available. Even so, the integrity of the task ordering needs to be maintained to the extent possible, since it has been developed through extensive on-site assessment experience and has been proven to bring an assessment team to accurate findings that can lead to implemented improvements. The ordering of tasks should be changed only with the concurrence of the lead assessor, and then only when it does not jeopardize the quality of the assessment data, process, or findings. The ultimate principle guiding the design or alteration of the on-site assessment process must be to ensure the accuracy and integrity of the findings presented to the organization.

The grouping of assessment tasks by day during a five-day on-site assessment is displayed in Figure 5. The 23 tasks that constitute the Assessing phase are listed below.

- A1 - Organize assessment team
- A2 - Brief assessment participants
- A3 - Analyze People CMM Survey results
- A4 - Review documents
- A5 - Script interviews
- A6 - Interview process owners
- A7 - Consolidate process owner data
- A8 - Perform follow-up interviews
- A9 - Interview managers
- A10 - Consolidate manager data
- A11 - Conduct workforce discussions
- A12 - Consolidate workforce data
- A13 - Develop preliminary assessment findings
- A14 - Prepare preliminary findings briefing
- A15 - Review preliminary findings with legal unit
- A16 - Review preliminary findings with process owners
- A17 - Review preliminary findings with managers
- A18 - Review preliminary findings with workforce
- A19 - Revise final findings and rate maturity
- A20 - Complete final findings briefing
- A21 - Present final findings
- A22 - Debrief sponsor
- A23 - Wrap-up assessment

Monday	Tuesday	Wednesday	Thursday	Friday
Organize team	Interview process owners	Workforce discussions	Review with Legal	Present findings
Brief participants	Consolidate process owner data	Consolidate workforce data	Review with process owners	Debrief sponsor
Analyze surveys	Follow-up interviews	Develop preliminary findings	Review with managers	Wrap-up assessment
Review documents	Interview managers	Prepare findings briefing	Review with workforce	
Script interviews	Consolidate manager data		Revise findings	
Interview process owners			Complete briefing	

Figure 5: Assessing Phase Tasks During a Typical Five-Day On-Site Assessment

2.2.3.1 A1 - Organize Assessment Team

Activities performed during this task allow the assessment team time to review assignments, review schedules, and complete any preparations for the assessment prior to the opening briefing for participants. During this meeting, all members of the assessment team sign the confidentiality agreement. This agreement is provided to each on-site assessment participant, and they are asked to sign it (although some organizations choose not to use this agreement with participants). Some of the activities typically performed during this task include

- Review scheduled activities, roles, logistics, and coordination needs and make necessary adjustments.

- Sign confidentiality agreement.

2.2.3.2 A2 - Brief Assessment Participants

Activities performed during this task orient all assessment participants to the assessment process and their role in it. This meeting is used to begin the on-site assessment activities with participants and to remind participants of the schedule and location of events in which they are involved. All assessment participants should attend this meeting, including

- assessment team members
- sponsor
- all people scheduled to participate in interviews or discussions
- others (occasionally customers) at the discretion of the sponsor

In addition to a presentation by the lead assessor, the assessment sponsor and site coordinator may also give presentations. Some of the topics typically presented include

- assessment objectives
- introduction of assessment team members
- assessment principles (especially confidentiality)
- assessment activities conducted to date
- assessment process flow
- times and locations of activities involving participants (including changes)
- relevant logistics

Some of the activities typically performed during this task include

- Sponsor opens meeting.
- Lead assessor conducts briefing.
- Site coordinator presents schedule.

2.2.3.3 A3 - Analyze People CMM Survey Results

Activities performed during this task provide assessment team members with information about the consistency with which workforce practices are performed and about the major issues related to them. The survey responses provide guides for workforce practices or issues that should be probed during document review and interviews. They also provide data to corroborate information found in other data-gathering tasks. Activities that constitute this task were discussed in task S4 of the Surveying phase. If these activities have already been completed prior to the on-site assessment, then this task may be shortened to involve a short review of any issues related to survey results.

2.2.3.4 A4 - Review Documents

Activities performed during this task provide one source of evidence regarding the organization's workforce practices. The review of documents and artifacts helps the assessment team

- establish an organizational context for evaluating workforce practices
- understand how workforce practices are supported by the organization
- identify workforce practices or issues to be probed during interviews
- ensure that a portion of the observations regarding each key process area goal is supported by a review of the relevant documentation described in the People CMM
- map the organization's documents to the People CMM so that this information can be used as assessment data

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These documents should be collected and organized prior to the on-site assessment period during task P7 of the Preparing phase. All collected documents should be made available to the assessment team in their secured work area during the entire on-site assessment period.[1] Examples of relevant artifacts and documentation include workforce policies, staffing plans, compensation guidelines, training records, performance review forms, competency analyses, and so forth. The assessment team may request that additional documents or artifacts be provided for inspection during the on-site period.

In some cases initial document review may be performed before the on-site assessment period. It is important that the initial document review be completed before scripting the assessment interviews. However, additional document review may occur during the on-site assessment period as needed. Some of the activities typically performed during this task include

- Manage the document repository.
- Review documents and artifacts.
- Consolidate document data.
- Identify workforce practices or issues to probe during interviews.
- Identify and request other documents or artifacts for inspection.

2.2.3.5 A5 - Script Interviews

Activities performed during this task result in the creation of scripts to guide the interviews of process owners and managers and the discussions with the workforce. Once the assessment team consolidates data from the survey results and documents, they should script questions for interviews to gather further data to corroborate the strengths and weaknesses of workforce practices. These scripted questions will allow the assessment team to probe during the on-site interviews for information regarding their preliminary observations or to elicit further information where needed. Generally, at least one question should be asked in each management interview or workforce discussion regarding each goal in each key process area included within the scope of the assessment. Additional questions should be asked in those areas where there is greater uncertainty regarding the consistency of the practices. The assessment team has the option of developing interview scripts for the process owners, managers, and workforce discussions during the same session, or in separate sessions held prior to each type of interview. If the assessment team develops all scripts in a single scripting session, they should review the scripts immediately prior to each type of interview to determine if there is a need to adjust the information being collected.

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[1] If some important documents are too sensitive to be released or copied for use by the assessment team, they can be reviewed where they are maintained, or under the supervision of the document owner during an interview session.

Some of the activities typically performed during this task include

- Write question scripts for each process owner to be interviewed.

- Write a question script to be used during manager interviews.

- Write a question script to be used during workforce discussions.

- Review interview scripts for coverage, time, and information needed.

- Determine interview roles.

- Revise scripts based on results of previous interviews.

2.2.3.6 A6 - Interview Process Owners

Activities performed during this task involve collecting information from those who are responsible for workforce practices at the organizational level. This information describes the workforce practices and support that has been put in place at the organizational level. These interviews provide the team with the organizational perspective and do not necessarily provide information on the actual implementation or consistency of these practices at the working level. These interviews may also provide an opportunity to review documentation that may be retained within a process owner's area. It is typically better to interview process owners from different functions separately to make better use of their time and carefully focus the interview objectives.

The types of process owners typically interviewed include

- human resources staff

- training department

- compensation specialists

- staffing specialists

- performance management specialists

- career development or succession specialists

- competency analysts

- team-building specialists

- building and maintenance staff

- computing facilities staff

- other individuals or groups as appropriate

Some of the activities typically performed during a process owner interview include

- explaining confidentiality and purpose of interview

- asking scripted questions

- recording responses

- asking follow-up questions and clarifications

- requesting relevant documents or artifacts

- asking for final comments from the process owner

- indicating the time and place of their next involvement

Some additional activities typically performed during this task include

- Set up the interview room.

- Introduce the participant(s) to the interview process.

- Ask scripted questions.

- Record notes.

- Conclude the interview.

2.2.3.7 A7 - Consolidate Process Owner Data

Activities performed during this task involve organizing evidence drawn from the process owner interviews. The assessment team summarizes the information that was obtained during process owner interviews and records it as observations concerning specific workforce practices in the People CMM. Individual assessment team members or mini-teams may focus on consolidating results in specific key process areas. Observations are classified and strengths and weaknesses are recorded on a key process area worksheet.

As the observations are posted, the team monitors progress toward obtaining full coverage of the areas being investigated. Additional information needed to obtain full coverage of the organization, its workforce practices, and the People CMM are identified. Interview questions for interviews with managers are re-scripted, as needed, based on results from the process owner interviews.

Some of the activities typically performed during this task include

- Review process owner interview responses.

- Consolidate responses into observations.

- Record observations on a key process area worksheet.

- Identify additional information needs.

- Re-script questions for manager interviews or workforce discussions.

2.2.3.8 A8 - Perform Follow-up Interviews

Activities performed during this task ensure that the assessment team has sufficient data for evaluating workforce practices and rating goal satisfaction. Follow-up interviews are an on-

going activity of the assessment team, but a team may find that no follow-up interviews are required. They can be performed in parallel with other activities, as the needs for them are identified.

The purposes for follow-up interviews are to

- gather additional data that the team believes it needs to evaluate workforce practices or issues thoroughly
- interview critical people who were inadvertently omitted during assessment planning
- follow-up leads discovered during earlier assessment tasks
- clarify information gathered during earlier assessment tasks
- ensure adequate coverage of key process areas or areas of the organization included in the scope of the assessment
- reschedule interviews when unavoidable conflicts or emergencies arise

The activities typically performed during this task are determined by the type of interview to be conducted, and the activities prescribed for it in the relevant task description. Some of the activities typically performed during this task include

- Set up the interview room.
- Introduce the participant(s) to the interview process.
- Ask scripted questions.
- Record notes.
- Conclude the interview.

2.2.3.9 A9 - Interview Managers

Activities performed during this task involve collecting information from those who are responsible for performing workforce practices. Interviews with managers allow the assessment team to

- identify workforce practices that managers believe should be improved
- determine the consistency of the workforce practices used by managers at the unit level
- identify differences or inconsistencies in workforce practices across major organizational units
- identify any unique or unit- or site-specific workforce management practices
- understand the relationship between the workforce practices supported at the organization level and how they are performed at the unit level
- understand the middle managers' perspective on how workforce practices are performed

Managers selected for interviews could be functional or matrix managers, team leaders, project leaders, middle managers, or unit managers. The requirement for their participation is that people for whom they perform workforce practices report to the manager. Managers should be sampled to obtain adequate representation of areas and managerial levels in the organization.

To allow the fullest sampling of managers across the organization, these interviews should be conducted by mini-teams composed of two to three assessment team members. Each mini-team will typically conduct two manager interviews. Thus, two to four mini-teams each conducting two interviews will collect data from a total of four to eight managers. Each mini-team will interview a single manager at a time, unless there is a sensible reason for another manager to be included, such as shared performance of workforce practices.

A manager interview will typically last from 1 to 1.5 hours. During the interview, one mini-team member acts as the lead interviewer while other team members take notes on the manager's responses. The lead interviewer opens the session and explains the interview context and confidentiality guarantees. The lead interviewer then asks questions from the scripts prepared in advance for the manager interviews and manages progress to ensure that all required questions are completed before the scheduled close of the interview. Other mini-team members may ask follow-up questions or clarifications.

Following their initial manager interview, each mini-team should perform a minimal consolidation of the data that they have collected to identify areas they wish to highlight or de-emphasize during their second manager interview. Interview scripts are revised if necessary.

Some of the activities typically performed during a manager interview include

- Explain confidentiality and purpose of interview.
- Ask scripted questions.
- Record responses.
- Ask follow-up questions and clarifications.
- Ask for relevant documents or artifacts.
- Ask for final comments.
- Indicate time and place of next involvement.
- Partially consolidate data after the first manager interview.
- Re-script questions if necessary before the second manager interview.

Additional activities typically performed during this task include

- Set up the interview room.
- Introduce the participant(s) to the interview process.

- Ask scripted questions.
- Record notes.
- Conclude the interview.

2.2.3.10 A10 - Consolidate Manager Data

Activities performed during this task organize evidence drawn from the manager interviews. The assessment team summarizes and consolidates the information that was obtained during manager interviews into observations concerning specific workforce practices in the People CMM. Each mini-team consolidates results across all key process areas for the manager interviews it conducted. Observations of strengths and weaknesses are recorded on a key process area worksheet.

As the observations are posted, the team monitors progress toward obtaining full coverage of the areas being investigated. Additional information needed to obtain full coverage of the organization, its workforce practices, and the People CMM are identified. Interview questions for workforce discussions are re-scripted, as needed, based on results from the manager interviews. Some of the activities typically performed during this task include

- Review manager interview responses.
- Consolidate responses into observations.
- Record observations on a key process area worksheet.
- Identify additional information needed.
- Re-script questions for workforce discussions.

2.2.3.11 A11 - Conduct Workforce Discussions

Activities performed during this task involve collecting information from those who experience workforce practices. A workforce discussion typically involves a group of 8 to 12 individuals who are invited to discuss their experiences in the organization. These groups are prompted with questions from the scripts prepared for use with the workforce, but the discussion is free flowing based on how different individuals choose to participate. Workforce discussions allow the assessment team to

- understand how the workforce experiences the organization's workforce management practices
- identify workforce practices that the workforce believes should be improved
- determine the consistency of the workforce practices used by managers at the unit level
- corroborate data provided in process owner and manager interviews
- identify differences or inconsistencies in workforce practices across major organizational units

- identify any unique or unit- or site-specific workforce management practices

- understand the relationship between the workforce practices supported at the organization level and how they are performed at the unit level

Individuals selected for workforce discussions could come from any job type included in the scope of the assessment. Individuals should be sampled to obtain adequate representation of units, assignments, and job types across the organization. Discussion groups could be organized to group people by job type, work assigned, some other relevant characteristic (e.g., junior vs. senior staff), or just randomly.

To allow the fullest sampling of the workforce, these discussions should be conducted by mini-teams composed of two to four assessment team members. Each mini-team will typically conduct two workforce discussions. Thus, 2 to 4 mini-teams each conducting 2 workforce discussions will collect data from a total of 32 to 96 individuals.

A workforce discussion will typically last from one to two hours. During the discussion, one mini-team member acts as the lead interviewer while other team members take notes on the responses. The lead interviewer opens the session and explains the discussion context and confidentiality guarantees. Participants are asked not to discuss anything they heard during the discussion outside of the session to protect confidentiality. The lead interviewer then asks questions from the scripts prepared in advance for workgroup discussions and manages progress to ensure that all required questions are completed before the scheduled close of the discussion. Other mini-team members may ask follow-up questions or clarifications.

Following their initial workgroup discussion, each mini-team should perform a minimal consolidation of the data that they have collected to identify areas they wish to highlight or de-emphasize during their second workgroup discussion. Discussion scripts are revised if necessary. Some of the activities typically performed during a workforce discussion include

- Explain confidentiality and purpose of discussion.
- Ask scripted questions.
- Record responses.
- Ask follow-up questions and clarifications.
- Ask for final comments.
- Indicate the time and place of participants' next involvement.

Additional activities typically performed during this task include

- Set up the interview room.
- Introduce the participant(s) to the interview process.
- Ask scripted questions.

- Record notes.
- Conclude the interview.

2.2.3.12 A12 - Consolidate Workforce Data

Activities performed during this task involve organizing evidence drawn from the workforce discussions. The assessment team summarizes and consolidates the information that was obtained during workforce discussions into the form of observations concerning specific workforce practices. Observations should be obtained from multiple and independent sources, including interviews or presentations that include people performing the work or reviews that include documents that are products or records of that work. Observations are recorded, classified, and categorized with reference to practices in the People CMM, and the team agrees on the validity of each observation. Each mini-team consolidates results across all key process areas for the workforce discussions it conducted. Observations of strengths and weaknesses are recorded on a key process area worksheet.

Some of the activities typically performed during this task include

- Review workforce discussion responses.
- Consolidate responses into observations.
- Record observations on a key process area worksheet.
- Identify additional information needs.
- Re-script questions for follow-up interviews.

2.2.3.13 A13 - Develop Preliminary Assessment Findings

Activities performed during this task result in the creation of an initial set of findings from the assessment. These findings provide guidance to the organization on prioritizing improvements to workforce practices.

The mini-team originally assigned to each key process area can begin the process of developing the preliminary findings. The mini-team begins by reviewing the observations gleaned from the various data collection activities. It first seeks to determine if additional information is needed to complete the evaluation of a key process area goal or a critical practice. If additional information is needed, the mini-team must decide on the appropriate follow-on activity from which the information can be obtained.

Only strengths and weaknesses that have been fully corroborated and that the team has agreed are valid findings should be used in developing findings. Based on the range of observations recorded, the mini-team makes a decision about whether each key practice represents a strength or weakness. The mini-team then considers all the information gathered for a key practice area and attempts to determine a theme describing the performance of workforce practices in this area. One or two primary themes have been determined in each key process

area; specific findings are listed under each theme that elaborate the issue raised. The mini-team must reach consensus on the strengths and weaknesses regarding each key process area.

After the mini-teams have concluded developing findings for each of the key process areas they were assigned, the team reconvenes to review the results. The team must reach consensus on the findings presented for each key process area. If the assessment team cannot reach consensus with a finding, the responsible mini-team must rework the finding to help the team achieve a consensus.

Some of the activities typically performed during this task include

- Review observations for each practice.
- Determine whether the practice represents a strength, a weakness, or an acceptable alternative practice.
- Develop findings for each key process area.
- Achieve team consensus on key process area findings.

2.2.3.14 A14 - Prepare Preliminary Findings Briefing

Activities performed during this task result in the creation of a preliminary findings briefing that can be reviewed with assessment participants. This briefing is developed from the preliminary findings created in task A13. The team can use a standard preliminary findings briefing template available in the People CMM Assessment Kit. This briefing describes the People CMM, the assessment process employed, and the strengths and weaknesses observed in each key process area assessed. The preliminary briefing makes no reference to the satisfaction of goals or the maturity rating of the organization. It is limited to a presentation and discussion of the findings. These ratings cannot be determined until consensus has been achieved on the assessment findings.

The team reviews the briefing as it is presented in a dry run. This dry run should be presented by the lead assessor or another other team member who will present the preliminary findings to participants. The preliminary findings briefing is presented by the lead assessor or the person who will present the final findings presentation. Changes are made as necessary to achieve the desired message. Copies of the briefing are provided to each team member in preparation for taking notes during the preliminary findings briefings.

Some of the activities typically performed during this task include

- Create preliminary findings briefing.
- Review and revise preliminary findings briefing.

2.2.3.15 A15 - Review Preliminary Findings with Legal Representative

Activities performed during this task ensure that the final findings presentation does not have unrealized legal implications. The assessment team reviews the preliminary findings briefing with the legal counsel or a representative of the legal unit of the assessed organization. The purpose of this review is to ensure that the assessment team does not present material that would adversely affect legal actions or grievances pending in the organization. The intent of this review is not to have the legal unit sanitize the findings or alter them in any arbitrary way. However, since the findings represent documented information that could be brought into future legal proceedings (discoverable information), the legal unit should be aware of them and should have the opportunity to recommend wording. If needed, the assessment team revises the preliminary findings briefing before presenting it to process owners. Otherwise, changes requested by the legal unit are made in preparing the final findings briefing.

In addition to the preliminary findings, the legal unit should be briefed on the confidentiality aspects of the assessment process, including the confidentiality agreements that have been signed by all assessment team members. Participants at this review should be limited to the relevant legal counsel or legal department staff and the assessment team. The assessment sponsor should not attend this review session.

Some of the activities typically performed during this task include

- Review preliminary findings briefing.
- Record recommended changes and revise preliminary findings briefing, if necessary.

2.2.3.16 A16 - Review Preliminary Findings with Process Owners

Activities performed during this task ensure that process owners have an opportunity to review and comment on the accuracy and completeness of the assessment findings. The preliminary findings presentation allows the assessment team to interact with process owners in order to get feedback on the draft findings developed by the team. It also lets the assessment team request assistance in obtaining data in any areas where they need more information to achieve sufficient coverage.

The preliminary findings briefing is presented by the lead assessor or the person who will present the final findings presentation. All members of the assessment team are present and sit where they can observe and record the reactions of the process owners. This briefing should not be attended by all process owners, only those who participated in earlier interviews. A key goal of this review is to obtain consensus on findings with the process owners. Accordingly, the presenter should pause frequently and ask for feedback regarding agreement, disagreement, omitted issues, rewording, more thorough understanding of the issues, etc. The assessment team should record all comments or reactions (even non-verbal reactions). Process owners are told that their concerns will be considered in crafting the final findings, but no commitments are made to specific changes during this presentation.

Some of the activities typically performed during this task include

- Present the preliminary findings briefing.

- Record reactions, additional information, and recommended changes.

2.2.3.17 A17 - Review Preliminary Findings with Managers

Activities performed during this task ensure that managers have an opportunity to review and comment on the accuracy and completeness of the assessment findings. This review of the preliminary findings should not be attended by all managers, only those who participated in earlier interviews. The preliminary findings presentation allows the assessment team to interact with managers in order to get feedback on the draft findings developed by the team. It also lets the assessment team request assistance in obtaining data in any areas where they need more information to achieve sufficient coverage.

The preliminary findings briefing is presented by the lead assessor or the person who will present the final findings presentation. All members of the assessment team are present and sit where they can observe and record the reactions of the managers. A key goal of this review is to obtain consensus on findings with the managers. Accordingly, the presenter should pause frequently and ask for feedback regarding agreement, disagreement, omitted issues, rewording, more thorough understanding of the issues, etc. The assessment team should record all comments or reactions (even non-verbal reactions). Managers are told that their concerns will be considered in crafting the final findings, but no commitments are made to specific changes during this presentation.

Some of the activities typically performed during this task include

- Present the preliminary findings briefing.

- Record reactions, additional information, and recommended changes.

2.2.3.18 A18 - Review Preliminary Findings with Workforce

Activities performed during this task ensure that the workforce has an opportunity to review and comment on the accuracy and completeness of the assessment findings. This review of the preliminary findings should not be attended by all members of the workforce, only those who participated in earlier discussions. Individuals who completed surveys in task S3 may also be included in this presentation at the discretion of the assessment team and as space allows. The preliminary findings presentation allows the assessment team to interact with members of the workforce in order to get feedback on the draft findings developed by the team. It also lets the assessment team request assistance in obtaining data in any areas where they need more information to achieve sufficient coverage.

The preliminary findings briefing is presented by the lead assessor or the person who will present the final findings presentation. All members of the assessment team are present and

sit where they can observe and record the reactions of workforce participants. A key goal of this review is to obtain consensus on findings with the workforce. Accordingly, the presenter should pause frequently and ask for feedback regarding agreement, disagreement, omitted issues, rewording, more thorough understanding of the issues, etc. The assessment team should record all comments or reactions (even non-verbal reactions). Workforce participants are told that their concerns will be considered in crafting the final findings, but no commitments are made to specific changes during this presentation.

Some of the activities typically performed during this task include

- Present the preliminary findings briefing.
- Record reactions, additional information, and recommended changes.

2.2.3.19 A19 - Revise Final Findings and Rate Maturity

Activities performed during this task produce the information to be presented in the final findings presentation. This task allows the assessment team to adjust their preliminary findings to reflect consensus achieved with the participants during the preliminary findings presentation. Any additional information regarding workforce practices is consolidated on the key process area worksheet, and a final determination is made about the strengths or weaknesses of each key practice. Based on these results and the feedback from participants, adjustments are made to the findings as appropriate.

Based on the findings in each key process area, the team rates the satisfaction of each key process area goal within the scope of the assessment. The rating assigned to each goal is determined by the extent to which the practices that support it have been implemented and institutionalized. Based on the ratings of the goals, the team determines the maturity rating of the organization. If all of the goals of key process areas within the scope of the assessment at a given level and at each lower level are satisfied or not applicable, the organization is rated to have achieved that level. The maturity level rating assigned is consistent with the five-level scale defined in the People CMM:

- Initial level (1)
- Repeatable level (2)
- Defined level (3)
- Managed level (4)
- Optimizing level (5)

The maturity level rating is that of the highest maturity level satisfied.

Some of the activities typically performed during this task include

- Consolidate feedback from participants.
- Make revisions to findings, if necessary.
- Rate organizational maturity.

2.2.3.20 A20 - Prepare Final Findings Briefing

Activities performed during this task produce the final findings presentation. The team incorporates revisions to the findings into the presentation and creates charts describing goal satisfaction and the maturity rating. The team completes the production of all slides to be included in the presentation and reviews them for accuracy. The lead assessor or the person who will be presenting the final findings performs a dry run of the presentation so that the team can review its flow and impact. Copies of the presentation are made for the team, the assessment sponsor, and anyone else the team believes should have a copy during the final findings presentation.

Some of the activities typically performed during this task include

- Create the final findings briefing.
- Conduct a review of the briefing.
- Make copies of the briefing.

2.2.3.21 A21 - Present Final Findings

Activities performed during this task involve presenting and discussing the final findings of the assessment and the maturity rating of the organization with the assessment sponsor and other members of the organization. The sponsor chooses how much of the organization's workforce attends the presentation of final findings. To achieve the maximum motivational impact of this presentation, the sponsor should invite as much of the workforce as is available and will fit into the room where the final findings are presented. If segments of the workforce are unable to attend this presentation, it should be repeated the following week by on-site members of the assessment team to major organizational components so that all members of the workforce have had an opportunity to attend.

The final findings presentation is delivered to the assessment sponsor who should be sitting in the front of the room. The assessment team should sit where they are visible and can be easily introduced. The lead assessor or designee presents the final findings and maturity rating. Prior to the presentation the sponsor should be asked to make a few remarks regarding the assessment results and the importance of the activities required to address them. This is an excellent opportunity for the sponsor to exhibit leadership and commitment in initiating improvement activities.

Some of the activities typically performed during this task include

- Deliver the final findings presentation and maturity rating.
- Allow the sponsor to make closing remarks.

2.2.3.22 A22 - Debrief Sponsor

Activities performed during this task ensure that the sponsor understands the assessment findings and their implications. This is a private session attended by the assessment sponsor, the sponsor's invited staff, and the assessment team to allow the sponsor to clarify any issues and confirm understanding of the findings. The sponsor or members of the sponsor's staff may informally ask questions about the findings that they did not want to ask in front of the workforce or that they were not able to formulate during the briefing. To protect confidentiality, the assessment team should not provide any answers in this session that they would not have provided in front of the entire workforce. The assessment team should provide answers that help set the stage for improving workforce practices. The assessment team should provide advice on actions that the sponsor can take to lead a successful improvement program.

Some of the activities typically performed during this task include

- Confirm that the sponsor understands the findings.
- Clarify any issues that the sponsor may raise.
- Ensure sponsor commitment for improvement activities.

2.2.3.23 A23 - Wrap-Up Assessment

Activities performed during this task complete the work of the assessment team during the on-site assessment phase and set the stage for completing the final assessment report.

First, the team should plan for how it will produce the final report. There are several options that range from having mini-teams write and expand on the findings for the key process areas assigned to them during the assessment, to the lead assessor producing the entire first draft. The organization need not wait for the production of the final report to initiate improvement activities. The final findings briefing contains all the information needed to prioritize improvement needs and actions.

Second, the team should conduct a post-mortem analysis of their assessment process to identify its strengths and weaknesses and any lessons learned. This list can be developed through brainstorming techniques and should be used both to improve future assessments within the organization and to help the SEI identify needed improvements in the People CMM assessment method.

The team may choose to brainstorm recommendations for improvement actions to be taken in relation to the findings. However, this is not required by the method, and many teams do not

find that they have the time to provide more than superficial or unanalyzed improvement recommendations. Information that is considered important for developing improvement recommendations should be included in the final report.

Finally, the team should complete all on-site assessment business and make arrangements for closing down its operations. The librarian or site coordinator arranges for documents and artifacts to be returned to their sources or destroyed, as appropriate. Some information or artifacts may be retained to support preparation of the final findings report or action planning. The lead assessor also initiates completion of the forms that must be submitted to the People CMM Assessment Repository. Forms to be filled out and submitted by the site coordinator or team members are distributed during this session.

Some of the activities typically performed during this task include

- Plan for producing the final report.
- Analyze lessons learned about the assessment process.
- Brainstorm improvement recommendations.
- Close down on-site assessment team operations.

2.2.4 Reporting Phase

The Reporting phase of a People CMM assessment involves all aspects of completing the formal record of the assessment results and providing assessment information to the People CMM Assessment Repository. Reporting phase tasks are displayed in Figure 6. The two tasks included in this phase occur in parallel, and their activities overlap. The two tasks that constitute the Reporting phase include

- R1 - Complete final People CMM assessment report
- R2 - Report data to the People CMM Assessment Repository
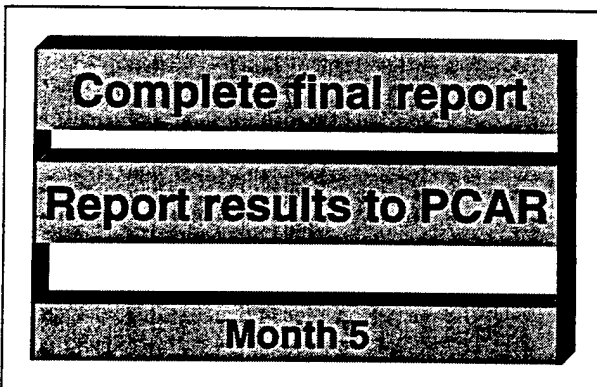
Figure 6: Tasks in the Reporting Phase

2.2.4.1 R1 - Complete Final People CMM Assessment Report

Activities performed during this task involve producing the final report to be presented to the assessment sponsor. The assessment report documents the process used during the assessment and the results obtained. It serves as a baseline against which future assessment results can be compared. It also serves as a bridge between the assessment and action planning for the improvement program. The final assessment report is presented to the assessment sponsor. The sponsor owns the report and any decisions about how widely and in what manner results of the assessment are to be communicated.

The assessment team should prepare a first draft of the report and circulate it among themselves for review. There are several options for producing this draft that range from having mini-teams write the sections describing the findings for the key process areas assigned to them during the assessment, to the lead assessor producing the entire first draft. Usually the site coordinator takes responsibility for coordinating the review process. Once the review comments have been received, the draft can be updated into its final form or revised and resubmitted for review. When the report has been completed and the assessment team is satisfied with their product, it can be produced for dissemination according to the instructions of the sponsor.

The organization should not wait for the production of the final report to initiate improvement activities. The final findings briefing contains all the information needed to prioritize improvement needs and actions.

Some of the activities typically performed during this task include

- Complete the final report.
- Distribute the final report to the sponsor and others as authorized.

2.2.4.2 R2 - Report Data to People CMM Assessment Repository (PCAR)

Activities performed during this task provide the SEI with the information needed to characterize the current state of the practice and to improve the People CMM and its assessment method.

The lead assessor begins to fill out the reporting template to send to the SEI during the on-site assessment. However, reports are completed and submitted after the on-site assessment phase has been completed. All assessment team members should complete the team member evaluation forms and return them to the People CMM Assessment Repository, while the lead assessor submits the People CMM assessment feedback form. The lead assessor should ensure that assessment information is submitted to the People CMM Assessment Repository within 30 days of concluding the assessment.

The information to be submitted to the People CMM Assessment Repository includes

- People CMM assessment feedback report
- final findings presentation
- key process area and maturity rating forms
- final assessment report
- assessment team member evaluation forms
- site coordinator evaluation form
- improvement action plans
- lessons learned report

The materials provided to the People CMM Assessment Repository may contain proprietary data. The SEI is committed to protecting the confidentiality of such information and ensuring that any reports based on this information can not be attributed to its source. Assessment information is kept confidential by the People CMM Assessment Repository and is never attributed to any organization or project.

This information is used by the SEI to improve the People CMM assessment method resulting in the availability of improved diagnostic tools. This information may also be used in preparing reports on the state of workforce practices.

Some of the activities typically performed during this task include

- Complete all assessment report forms.
- Submit forms and reports to the People CMM Assessment Repository.

3 People CMM Assessment Team

3.1 Assessment Team Composition

3.1.1 Team Requirements

A People CMM assessment team is composed of an SEI-authorized People CMM lead assessor and a number of assessment team members. A People CMM assessment team should consist of at least four team members (including the lead assessor) and should generally not include more than eight team members. The qualifications for becoming an SEI-authorized lead assessor are described in Section 3.2. The criteria for selecting assessment team members are described in Section 3.3.

Only team members are involved in evaluating questionnaire responses, reviewing documentation, conducting assessment interviews, consolidating assessment data, developing findings, and rating maturity. Other individuals may support the team, but they should not be actively involved in the assessment process. Any individual who participates on or supports the assessment team must sign a confidentiality statement and protect the privacy and confidentiality of all assessment information with which they come in contact.

A People CMM assessment is a highly collaborative process among all members of the assessment team. Individual assessment team members may assume multiple roles during the assessment, and roles may rotate as appropriate. Some of the typical roles performed in a People CMM assessment are described in Section 3.4. The lead assessor is responsible for coordinating the process and involving team members in all the assessment activities required for them to contribute fully to development of the findings and ratings.

3.1.2 Team Composition

The People CMM assessment team should meet specified appraisal team qualification criteria. Specific team selection criteria for assignment to the team include

- an SEI-authorized People CMM lead assessor
- at least one member from the organization being assessed
- the improvement team lead or software engineering process group (SEPG) member most closely associated with workforce improvement activities [The owner of the improvement effort (SEPG leader) may be considered.]

At least one team member should have a minimum of five years experience in one or more of the following areas:

- human resources management
- staffing for senior positions
- implementing workforce training, policies, and practices

Team members must each have the knowledge, skills, and ability to contribute effectively to assessment activities. Team members should have a mix of backgrounds (systems engineering, software engineering, etc.) that are representative of the primary discipline(s) or domain(s) of the organization's business. Team members are selected so that their combined experience and skills match what is required for a specific assessment.

No team member should manage one of the selected assessment units or be in the supervisory chain of any assessment participant.

3.1.3 Team Training

All team members must have successfully completed necessary training prior to the on-site period of the assessment. All members of the assessment team must be trained in the three-day Introduction to the People CMM course. They should also be trained in the two-day People CMM Assessment Team Member Training. The lead assessor is responsible for ensuring that all team members have received the appropriate training. This training should be provided either by a SEI-authorized People CMM lead assessor or by another SEI-authorized source.

3.2 Lead Assessor

3.2.1 Lead Assessor Role

People CMM-based assessments should be conducted by SEI-authorized People CMM lead assessors. An SEI-authorized People CMM lead assessor must

- possess deep knowledge of the People CMM
- have mastered all aspects of the People CMM-Based Assessment Method

Since knowledge of the model and assessment method is so critical for conducting successful assessments, the SEI manages a program for authorizing People CMM lead assessors. SEI-authorized People CMM lead assessors may conduct People CMM assessments either for their own organization or for other organizations.

The lead assessor is responsible for all aspects of conducting a People CMM-Based Assessment. The lead assessor is an experienced individual who manages the assessment process and keeps the team coordinated and on track. During the assessment planning phase, the lead assessor is responsible for soliciting sponsor input, explaining the impact of assessment scope and constraints on assessment goals, providing cost and schedule estimates, setting expectations, and obtaining a commitment to proceed. The lead assessor is also responsible for ensuring that all planning activities and preparations for the assessment have been completed. The lead assessor is responsible for ensuring that all members of the assessment team have been trained in the People CMM and its assessment method. During the surveying and assessing phases, the lead assessor assigns responsibilities for assessment tasks, manages questionnaire administration, facilitates interviews, monitors team member and participant performance, acts as timekeeper (or assigns one), and manages adherence to the assessment process and schedule.

3.2.2 SEI-Authorized Assessors

To ensure the fidelity of the People CMM assessment method and the accuracy of findings and ratings, People CMM assessments should be led only by SEI-authorized People CMM lead assessors. Under some circumstances, assessment findings and ratings may not be recognized as official unless the assessment was led by a SEI-authorized People CMM lead assessor or a candidate lead assessor under observation.

People interested in becoming SEI-authorized People CMM lead assessors should apply for candidacy to the SEI. If they satisfy the minimum qualifications for education, work experience, and assessment experience described in the paragraphs below, they are approved to become candidate assessors. To become SEI-authorized People CMM lead assessors, candidate assessors must

- complete the three-day Introduction to the People CMM course. Those who have taken the SEI's two-day Introduction to the People CMM course prior to August 1998 will be approved as having met this training requirement.

- complete the five-day People CMM Lead Assessor Training

- lead a People CMM assessment under the observation of an SEI-authorized People CMM lead assessor who files an observation report with the SEI

3.2.2.1 Lead Assessor Candidacy Qualifications

The minimum qualifications for becoming a candidate People CMM lead assessor are provided below:

Education

- bachelor's degree

Work Experience

Appropriate work experience in one of the following areas:

- Management - Candidates for entry into People CMM lead assessor training must have had at least 10 years of professional work experience beyond the receipt of their bachelor's degree. At least two years of their professional experience must have been in a management position where they were responsible for supervising direct reports.

    OR

- Human Resources - Candidates for entry into People CMM lead assessor training must have at least 10 years of professional work experience beyond the receipt of their bachelor's degree in one or more of the following areas:
    - human resources management
    - staffing
    - compensation
    - training
    - other position involved in implementing people management policies and practices within an organization

OR

- Organizational Development - Candidates for entry into People CMM lead assessor training must have had at least 10 years of professional work experience beyond the receipt of their bachelor's degree. This experience should have been in one or more of the following areas:
    - human resources consulting
    - organizational improvement consulting
    - Total Quality Management consulting
    - implementing team building, organizational communication, or change management within an organization

OR

- Combination - a combination of two or more of the above totaling at least 10 years of professional work experience beyond the receipt of their bachelor's degree.

Assessment Experience

Individuals wishing to become a candidate People CMM lead assessor must have prior experience with the People CMM assessment method, typically obtained through participation in at least one People CMM-Based Assessment led by an SEI-authorized People CMM lead assessor.

A waiver may be available during the first three years following the release of this method for individuals who have documented experience in performing some other type of defined, process-oriented, organizational assessment. Such assessment methods, although designed for other purposes, may also provide acceptable preparation for People CMM lead assessor training. Such assessments must follow a documented method and contain at least the following components in the assessment process:

- assessment planning
- data from multiple sources (interviews, questionnaires, documents, etc.)
- interviewing multiple members of the organization
- preparing findings based on assessment data
- documenting and presenting assessment results

Examples of such methods include CBA IPI, ISO 9000 compliance audits, Malcolm Baldridge National Quality Award or other quality award evaluations, organizational climate evaluations, competency or knowledge and skills analyses, organizational change management evaluations, or the like. Candidates would ordinarily be expected to provide the documented method description and the final report of an assessment in which the candidate led or participated. The preferred experience would involve participation in a CMM-Based Assessment Method such as a CBA IPI.

Additional Recommended Knowledge and Skills

An individual wishing to become a candidate People CMM lead assessor is expected to have knowledge and skills in the following areas:

- oral and written communication skills
- ability to interact with management and technical people
- demonstrated knowledge and experience in process management
- good technical and instructional presentation skills for training
- consulting experience
- ability to work effectively in a team

3.2.2.2 Responsibilities

A lead assessor has the following responsibilities:

- Verify that the assessment team meets the team selection criteria and that the members have met the qualifications.
- Conduct assessment team training for assessment teams.
- Verify that assessment team members have met training requirements.

- Conduct one assessment during the first year of authorization and then one every two years during a People-CMM lead assessor's authorization.

- File a complete assessment report with the People-CMM Assessment Repository (PCAR) for each completed assessment.

- Obtain and use SEI-authorized materials for People CMM-Based Assessments.

- Successfully complete any upgrade courses and examinations, when and if required by the SEI.

- Use upgraded materials when available.

- Cooperate in random audits by the SEI and take any remedial action recommended.

A lead assessor is also encouraged to

- present assessment awareness classes for educational purposes

- observe candidate lead assessors and complete observation reports

3.2.2.3 Leading an Integrated Assessment

Lead assessors who will conduct a joint CBA IPI-People CMM assessment, SE-CMM-People CMM assessment, or similar integrated assessment must be authorized lead assessors. If they are not SEI-authorized People CMM lead assessors, they must either (a) successfully complete the People CMM assessment team member training, or (b) be a candidate People CMM lead assessor.

3.3 Assessment Team Members

3.3.1 Team Member's Role

Assessment team members collaborate in performing the assessment process. At least one of the assessment team members must be from the organization being assessed. They represent the organization's ownership of the assessment process and results. They also represent the organization's commitment to identifying its strengths and weaknesses and taking action to improve them. Having team members from the assessed organization is critical for interpreting data within the context of the organization's environment and culture.

Each team member is responsible for reviewing the site information package and identifying documents for initial review. Each team member is also responsible for asking questions during interview sessions, reviewing notes, identifying and classifying significant information obtained during interviews and document review, and identifying additional information required. Team members are responsible for coming to consensus on the assessment findings and ratings. After the assessment, they can help the organization interpret the findings and identify effective improvements.

3.3.2 Team Qualifications

At a minimum a People CMM assessment team should meet the following technical and management experience requirements:

- at least five years of professional experience in the business competencies of the assessed organization for the majority of the team members

- at least 25 years of professional experience in the business competencies of the assessed organization for the team as a whole

- at least six years of management experience for one team member

- at least 10 years of management experience for the team as a whole

At least one team member should have a minimum of five years experience in one or more of the following areas:

- human resources management

- staffing for senior positions

- implementing workforce training, policies, and practices within an organization

It is also desirable that the team composition include, if possible, at least one team member with organizational development (OD) experience, including experience in areas such as team building, organizational communication, and the activities of a change agent.

Assessment team members are required to have successfully completed a three-day introductory course on the People CMM and have received People CMM Assessment Team Training from the assessment team leader.

For an integrated assessment, the composite team must meet both the appraisal team qualification criteria for the People CMM method and the assessment method with which the People CMM method is being integrated (e.g., CBA IPI or SE-CMM assessment).

3.3.3 Selection Factors

Team members are selected so that their combined experience and skills match what is required for a specific assessment. Team members must each have the knowledge, skills, and ability to contribute effectively to assessment activities. All team members must have successfully completed necessary training prior to the on-site period of the assessment. Factors in selecting team members include

- domain expertise - For example, in a software or information systems organization, the team must have experience working in a software-producing (or maintaining) organization. The average domain experience for individual team members must be at least six years with no team member having less than three years of experience in the competencies of the organization.

- management experience - The team must have a minimum of 10 years of combined management experience, and at least one team member must have 6 years of management experience.

- organizational environment - At least one team member must have a minimum of five years of human resources or similar process owner experience. At least one team member must be knowledgeable in the organization's working environment and applications. Although team members from the assessed organization are important for interpreting the data, they must not have a vested interest in the assessment results.

- knowledge of organizational improvement concepts - All team members must be familiar with organizational improvement concepts. Participation in an organization's software process improvement effort can provide additional strength to the team.

- knowledge of the People CMM - At least one team member must have deep knowledge of each KPA within the organization's anticipated maturity level and below. This knowledge includes the ability to explain the KPA and its intent and to provide examples relevant to the appraised entity.

- experience in the assessment process - The team leader should be a SEI-authorized People CMM lead assessor. It is beneficial if other team members have experience in conducting assessments.

- team skills - Each team member must have good written and oral communication skills, the ability to facilitate free flow of information, the ability to participate as team players, and the ability to negotiate consensus.

- credibility - Each team member must have credibility with senior management, respect within the organization, and the ability to influence people.

- motivation and commitment - Each team member must demonstrate the motivation to improve the organization's workforce practices, the commitment to act as a change agent, and the willingness to do what it takes to achieve assessment goals.

3.4 Other Assessment Team Roles

A number of roles, in addition to the lead assessor, can assist the team in efficiently performing an assessment. Each of these roles, with the exception of the coach, librarian, observer, and administrative assistant roles, should be assumed only by assessment team members. As described below, the coach, librarian, observer, and administrative assistant roles may be filled by individuals who are not assessment team members.

3.4.1 Site Coordinator

The site coordinator is usually an assessment team member from the assessed organization who is responsible for handling assessment logistics. The site coordinator is responsible for notifying assessment participants of the assessment schedules and locations, ensuring that adequate rooms have been reserved, making sure that all necessary supplies and equipment are available when needed, scheduling contingency interviews, requesting additional documentation, and making provisions for meals, among other things.

The site coordinator role may be allocated to an individual who is not an assessment team member, but who is working closely with the assessment team. If this role is allocated to an individual who is not an assessment team member, then this individual should also sign a confidentiality agreement.

3.4.2 Coach (Optional)

An SEI-authorized People CMM lead assessor may share the responsibilities of the assessment team leader with another qualified person. An assessment coach is often used to evaluate adherence to assessment procedures and the quality of the assessment process. It must be made clear to the assessment team members and to the sponsor, however, which responsibilities are being shared and by whom. An SEI-authorized lead assessor has the ultimate responsibility for the assessment activities and results.

3.4.3 Questionnaire Facilitators

Preferably, the assessment team leader and an assessment team member from the site conduct all sessions where questionnaire data are collected. However, once members of the assessment team have been trained in the People CMM and its assessment method, they may be able to conduct questionnaire data collection sessions. The questionnaire facilitators are responsible for briefing questionnaire respondents on the People CMM and the assessment process, managing the questionnaire administration, interpreting and responding to questions from participants, and submitting the questionnaires for scoring.

3.4.4 KPA Mini-Teams (Optional)

Assessment team members may be assigned to collect data and develop findings for specific key process areas. They can perform this role during the entire assessment or during a specific assessment activity. KPA mini-teams are a method of using the assessment team's resources more efficiently and ensuring that no member of the team is overloaded with assessment responsibilities. It also allows the team to assign the most knowledgeable people to work in an area of their expertise. KPA mini-teams check that the information collected during a data gathering activity covers their KPAs, request additional information needed relative to their KPAs, consolidate data, and record the work performed by individual assessment team members pertaining to their KPAs.

3.4.5 Librarian

The librarian is an assessment team member who coordinates document requests, maintains the list of documents requested, creates and maintains a repository of documents for the team to inspect, and ensures that the documents are returned or destroyed at the end of the on-site assessment. The librarian should also ensure that the team library has a reference copy of the People CMM, the questionnaire, and the information provided in the site information package.

The librarian role may be allocated to an individual who is not an assessment team member, but who is working closely with the assessment team. If this role is allocated to an individual who is not an assessment team member, then this individual should also be sign a confidentiality agreement.

3.4.6 Session Facilitator

For each interview or discussion session, one assessment team member is designated as the session facilitator. The session facilitator welcomes the session participant(s), explains the purpose of the session and the confidentiality guarantees, asks the scripted and follow-up questions, and terminates the session. The session facilitator may invite others to enter into participation, or may close off discussion if necessary. The session facilitator may or may not take notes during the session. The session facilitator is responsible for the process quality of the session and for completing all scripted questions within the time allowed.

3.4.7 Recorder

Since the session facilitator is primarily responsible for leading the session, the session facilitator may not have time to record the information provided by the participant(s). Accordingly, at least one team member is assigned responsibility for recording the responses of participants. Generally all team members will be recording information during the session, but the recorder will be responsible for providing a copy of their notes to the session facilitator. Responsibility for recording information relevant to different key process areas may be assigned to different team members depending on how many are present in a session, especially if KPA mini-teams are used.

3.4.8 Timekeeper (Optional)

The timekeeper assists the session facilitator in managing the pace of the interview or discussion. The timekeeper and the session facilitator plan the rate at which questions should be asked to ensure that all scripted questions are asked during the interview or discussion session. The timekeeper works with the session facilitator to devise a mutually agreed-upon method for keeping the facilitator apprised of planned versus actual session progress. The timekeeper works with the facilitator to manage progress during the interview or discussion session.

3.4.9 Observer (Restricted)

Due to the confidentiality required during an assessment and the cohesiveness needed on the assessment team, observers are not permitted to participate in any assessment activities. There are two exceptions to this ban on observers. First, an SEI-authorized People CMM lead assessor may observe a candidate lead assessor's performance as part of their authorization process. Second, a representative of the SEI may audit the assessment either to ensure assessment quality or to collect data on assessment issues under study. An observer is considered to be an assessment team member from the perspective of the entity being assessed.

Even so, observers should not participate in the mechanics of the assessment, or in determining findings or ratings.

3.4.10 Administrative Assistant

The site coordinator may assign team administrative responsibilities to an assistant who will support the team with logistics and arrangements. This administrative assistant is not a member of the assessment team, but works closely with the assessment team to ensure that all support requirements are met. The administrative assistant will most likely be exposed to assessment confidential information and must sign the confidentiality agreement.

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Appendix A: SEI Appraiser Program

A.1 SEI Appraiser Program

The SEI Appraiser Program is designed to maintain the quality of participants in CMM-based appraisal technology. The goals of the program are

- to maximize the value and use of SEI appraisal methods, designed and facilitated by qualified, trained individuals, as part of a systematic improvement program within organizations that produce software

- to transition appraisal technology to SEI clients in an effective manner, maintaining consistency and quality in the process

The SEI strives to ensure the continued confidence in the quality of SEI process appraisal technologies. The SEI Appraiser Program selects and trains the highest quality candidates to lead appraisals. Persons meeting the requirements of the program have credentials that distinguish them. They have access to SEI appraisal methods, training materials, technical support, and upgrade training. Through their participation in appraisals and through feedback mechanisms built into appraisal methodologies, they participate in the advancement of appraisal technologies. The Appraiser Program is intended in time to encompass multiple appraisal methods. Lead assessors are authorized within the program to perform assessments.

A.2 People CMM Lead Assessors

People CMM lead assessors are authorized to market and perform assessments either for third-party organizations or for their own organizations' internal use. Lead assessors are trained in the People CMM-Based Assessment Method. This method is an SEI product that provides a reliable assessment of an organization's workforce practices and provides guidance for improving these practices. Lead assessors commit to

- sign an agreement with CMU/SEI and TeraQuest that identifies lead assessor responsibilities

- verify that People CMM assessment team members have met the People CMM training requirement. Assessment team members must successfully complete an SEI-authorized offering of the Introduction to the People CMM course before receiving People CMM assessment team training.

- conduct People CMM assessment team training for assessment teams. Training teams to conduct independent assessments without a lead assessor is not permitted.

- lead one assessment during the first year of authorization and then one every two years during a People CMM lead assessor's authorization and, for each completed assessment, file a complete assessment report with the People CMM Assessment Repository

- obtain and use SEI approved materials for People CMM-Based Assessments

- use a new lead assessor's kit for each assessment or purchase a lead assessor multi-assessment kit according to a quantity price (with permission to reproduce these materials for a designated period of time)

- complete successfully any required upgrade courses and examinations, and accept and use upgraded materials when available

- cooperate in random audits of assessments by the SEI and take any recommended remedial action as a result of the audit

Lead assessors are encouraged to

- present educational assessment awareness classes

- observe candidate lead assessors and complete observations reports

A.3 Becoming a Lead Assessor

To participate in the SEI Appraiser Program and become an authorized People CMM lead assessor, applicants must meet certain prerequisites which are described in Section 3.2.

There are seven steps of the People CMM lead assessor qualification process.

Step 1. Candidate obtains People CMM lead assessor application package from the SEI and submits a completed application form to the SEI.

Step 2. SEI reviews candidate's application form and informs candidate of (a) acceptance or (b) rejection with steps/recommendations for remediation. Only candidates whose application forms are accepted by the SEI can go on to step 3.

Step 3. Candidate registers for the TeraQuest Metrics, Inc.'s five-day People CMM lead assessor training. Candidate submits registration form for People CMM lead assessor training to

> TeraQuest Metrics, Inc.
> 12885 Research Blvd.
> Suite 207
> Austin, TX 78750
> phone: 1 512 219 9152
> FAX: 1 512 219 0587
> World Wide Web: www.teraquest.com

Step 4. Candidate successfully completes TeraQuest's five-day People CMM lead assessor training, including the required post-test.

Successful candidates receive their SEI People CMM lead assessor agreement, unless the candidate's organization already has an agreement on file with the SEI. All successful candidates must sign a lead assessor agreement. Unsuccessful candidates receive steps or recommendations for remediation. Only candidates who successfully complete step 4 can go on to step 5.

Step 5. While leading a People CMM assessment, the candidate is successfully observed by an SEI-authorized People CMM lead assessor. The authorized lead assessor completes the candidate's observation form and submits it to the SEI for confirmation. Unsuccessful candidates receive steps/recommendations for remediation. Only candidates who successfully complete step 5 can go on to step 6.

Step 6. The SEI People CMM lead assessor agreement is signed by all parties. A fully signed agreement must be in place in order for step 7 to occur.

Step 7. Candidate receives the People CMM lead assessor authorization certificate from CMU/SEI. Upon receipt of this certificate of authorization, the candidate becomes an SEI-authorized People CMM lead assessor under the terms and conditions of the SEI People CMM lead assessor agreement.

Authorization Terms for Lead Assessors

Authorization as a People CMM lead assessor is open ended, provided terms and conditions of the agreement are met. This includes payment of an annual support fee, if applicable.

Contact Information

If you have questions or would like more information about the SEI Appraiser Program, contact

> P-CMM® Track Coordinator
> SEI Appraiser Program
> Software Engineering Institute
> 4500 Fifth Avenue
> Pittsburgh, PA 15213-3890
> fax: 412 268 5758
> Internet: p-cmm@sei.cmu.edu

Or

> Customer Relations
> Software Engineering Institute
> Carnegie Mellon University
> Pittsburgh, PA 15213-3890
> Phone 412 268-5800
> Internet: customer-relations@sei.cmu.edu
> World Wide Web: http://www.sei.cmu.edu

Appendix B: CMM Appraisal Framework (CAF) Requirements

The People CMM-Based Assessment Method is a CAF-compliant appraisal method. This appendix describes the requirements for the People CMM Assessment Method. Section B.1 provides a summary of the requirements for the People CMM-Based Assessment Method. Section B.2 presents the traceability of the People CMM-Based Assessment Method to the CMM Appraisal Framework (CAF) requirements and identifies any tailoring of these requirements in the People CMM-Based Assessment Method.

B.1 CAF Compliance

In order to be considered a People CMM assessment, an assessment must meet the minimum requirements shown below. Assessment phases and the activities in each phase are specified along with participants and artifacts that are a part of each activity.

- Identify goals and constraints
- Identify scope of the assessment
- Establish commitment from sponsor
- Develop assessment plan
- Select and prepare assessment team
- Select and prepare assessment participants
- Administer People CMM questionnaires
- Review documents
- Interview participants
- Consolidate data
- Develop findings
- Make ratings
- Report results

B.2 CAF Requirements

This appendix lists (in *italics*) each CAF requirement [Masters 95]. Where appropriate, the tailoring required to adapt the requirement from the current CAF to its specific People CMM equivalent are also included to provide traceability from the CAF document to the requirements for the People CMM-Based Assessment Method.

Requirement 1

A CAF compliant appraisal method shall be documented, including at a minimum:

- *identifying the version of the CMM and the CAF on which it depends.*

- *documenting the manner in which it has implemented appraisal method activities, artifacts and guidance required by the CAF.*

People CMM Requirements Tailoring:

The People CMM, Version 1.0, is the reference model for the People CMM assessment method. Throughout this appendix, all CAF requirements making reference to the CMM should be interpreted as making reference to the People CMM.

This appendix documents the means by which the People CMM-Based Assessment Method achieves compliance with the CAF, Version 1.0.

Requirement 2

A CAF compliant method shall provide guidance for three phases of appraisal execution:

- *Plan and Prepare for Appraisal.*
- *Conduct Appraisal.*
- *Report Results*

This is accomplished in Section 2.

Requirement 3

A CAF compliant appraisal method shall provide guidance for:

- *Identifying an appraisal's goals and constraints.*
- *Determining its suitability for the appraisal in light of those goals and constraints*

This is accomplished in tasks P1, P2, and P3.

Requirement 4

A CAF compliant appraisal method shall provide guidance for selecting an appraisal's CMM scope.

This is accomplished in task P2.

Requirement 5

A CAF compliant appraisal method shall provide guidance for choosing an appraisal's organizational scope.

This is accomplished in task P2.

Requirement 6

A CAF compliant appraisal method shall provide guidance for obtaining an organization's commitment to proceed with the appraisal process.

This is accomplished in tasks P3 and P4.

Requirement 7

A CAF compliant appraisal method shall document appraisal team qualification criteria that conform at a minimum to the following technical and management experience requirements:

- *At least five years of technical experience for the majority of the team members.*
- *At least twenty five years of technical experience for the team as a whole.*
- *At least six years of management experience for one team member.*
- *At least ten years of management experience for the team as a whole.*

People CMM Requirements Tailoring:

Section 3.3 describes the experience that should be targeted in selecting People CMM assessment team members. However, since the People CMM may be applied to organizations that are not software developers, the technical experience requirements have been interpreted to require the requisite years of professional experience in the business competencies of the organization. A level of professional experience in managing and applying workforce practices is also required, since this is the content of the People CMM.

This is accomplished in Section 3.3.

Requirement 8

A CAF compliant appraisal method shall specify the qualifications of the team leader that at a minimum include experience in using the appraisal method, managing teams, facilitating group discussions, and making presentations.

This is accomplished in Section 3.2.

Requirement 9

A CAF compliant appraisal method shall provide guidance for determining appropriate team size.

This is accomplished in Section 3.1.

Requirement 10

A CAF compliant appraisal method shall provide guidance for preparing an appraisal team to conduct an appraisal, including applying the CMM.

This is accomplished in task P6.

Requirement 11

A CAF compliant appraisal method shall provide guidance for site selection.

This is accomplished in tasks P2 and P5.

Requirement 12

A CAF compliant appraisal method shall provide guidance for project selection.

People CMM Requirements Tailoring:

The practices covered in the People CMM are not project-based practices, and the People CMM may be applied in many organizations that are not project based. Accordingly, projects may not be the appropriate or only organizational unit of interest during a People CMM-Based Assessment. The People CMM-Based Assessment Method provides guidance for selecting the organizational scope of the assessment. Task P2 provides guidance on selecting the organizational scope of the assessment. Tasks S1, A6, A9, and A11 provide guidance on selecting participants.

This is accomplished in tasks P2, S1, A6, A9, and A11.

Requirement 13

A CAF compliant appraisal method shall provide guidance for participant selection.

This is accomplished in tasks S1, A6, A9, and A11.

Requirement 14

A CAF compliant appraisal method shall provide guidance for appraisal participant orientation.

This is accomplished in tasks S3 and A2.

Requirement 15

A CAF compliant appraisal method shall provide guidance for developing and documenting an appraisal plan that, at a minimum:

- *Identifies the appraisal goals.*
- *Identifies the appraisal scope.*
- *Identifies the appraisal activities.*
- *Provides a schedule for the activities.*
- *Identifies the people, resources and budget required to perform the activities.*
- *Identifies the appraisal outputs and their anticipated use.*
- *Identifies anticipated follow-on activities.*
- *Documents any planned tailoring of the appraisal method and associated trade-offs.*
- *Identifies risks associated with appraisal execution.*

This is accomplished in tasks P1, P2, and P5.

Requirement 16

A CAF compliant appraisal method shall provide guidance for determining the amount of time required to conduct an appraisal.

This is accomplished in task P5.

Requirement 17

A CAF compliant appraisal method shall provide guidance for appraisal logistics.

This is accomplished in tasks P5 and P7.

Requirement 18

A CAF compliant appraisal method shall define a set of artifacts to support the following appraisal activities:

- *Recording observations.*

- *Categorizing observations (with respect to the CMM).*

- *Classifying observations (as strengths or weaknesses).*

- *Validating observations.*

- *Recording coverage.*

- *Making rating decisions.*

- *Reporting findings and ratings.*

- *Managing logistics.*

This is accomplished in tasks P7, A3, A4, A7, A10, A12, A13, A14, A19, A21, R1, and R2.

Requirement 19

A CAF compliant appraisal method shall provide guidance for implementing data collection techniques to be used in conducting an appraisal and classify them with respect to the following four categories:

- *Administering instruments.*

- *Conducting presentations.*

- *Conducting interviews.*

- *Reviewing documentation.*

This is accomplished in tasks S2, S3, A4, A5, A6, A8, A9, and A11.

Requirement 20

A CAF compliant appraisal method shall provide guidance for consolidating the data collected during an appraisal that addresses at a minimum:

- *Extracting information from data gathered during data collection sessions.*

- *Recording them as observations.*

- *Classifying the observations (e.g., as potential strengths or weaknesses).*

- *Categorizing the observations in terms of the CMM or categorizing them as non-CMM findings.*

This is accomplished in tasks S4, A3, A4, A7, A10, and A12.

Requirement 21

A CAF compliant appraisal method shall provide guidance for validating observations that includes corroboration of the observation by data obtained at a minimum from:

- *Multiple and independent sources.*

- *Interviews or presentations that include people performing the related work or reviews that include documents that are products or records of that work.*

This is accomplished in tasks S4, A3, A4, A7, A10, and A12.

Requirement 22

A CAF compliant appraisal method shall provide guidance for validating observations that requires at a minimum that a portion of the observations related to each of the KPA goals within the scope of the appraisal are supported by a review of related documentation.

This is accomplished in task A4.

Requirement 23

A CAF compliant appraisal method shall provide guidance for evaluating and documenting the sufficiency of findings relative to the scope of the appraisal, including coverage criteria that adhere to the following minimum set of rules for determining whether sufficient data exists to support rating:

- *A goal is covered if sufficient findings exist to judge the extent of its implementation and institutionalization relative to the CMM, the appraised entity, and the appraised entity's life cycle(s) (including the existence of acceptable alternatives).*

- *A Key Process Area is covered if all of its goals are covered.*
- *A maturity level is covered if all of its Key Process Areas and all those of lower level KPAs are covered.*

This is accomplished in tasks A3, A4, A7, A10, A12, A13, and A19.

Requirement 24

A CAF compliant appraisal method shall define mechanisms for adjusting data collection plans to obtain sufficient coverage.

This is accomplished in tasks S3, A4, A6, and A8.

Requirement 25

A CAF compliant appraisal method shall provide guidance for recording traceability between the data collected during the appraisal and the appraisal outputs.

This is accomplished in tasks A3, A4, A7, A10, A12, A13, A19, and R1.

Requirement 26

A CAF compliant appraisal method shall require rating of the following categories of CMM components provided they fall within the scope of the appraisal:

- *KPAs*
- *Goals*

This is accomplished in task A19.

Requirement 27

A CAF compliant appraisal method, if it calculates a maturity level rating, shall require that the maturity level rating is consistent with the five level scale provided in the CMM.

This is accomplished in task A19.

Requirement 28

A CAF compliant appraisal method shall define a rating process using the following rating values:

- *A KPA or goal is satisfied if this aspect of the CMM is implemented and institutionalized either as defined in the CMM, or with an adequate alternative.*

- *A KPA or goal is unsatisfied if there are significant weaknesses in the appraised entity's implementation or institutionalization of this aspect of the CMM, as defined, and no adequate alternative is in place.*

- *A KPA or goal is not applicable if the KPA is not applicable in the organization's environment.*

- *A KPA or goal is not rated if the associated appraisal findings do not meet coverage criteria or if this aspect of the CMM falls outside the scope of the appraisal.*

People CMM Requirements Tailoring:

Based on the assessment team's judgment, a KPA or goal may be rated as "not applicable" if relevant practices are outside the control of the assessed organization. For instance, relevant practices could be performed by the parent organization rather than by the assessed organization, or the assessed organization's practices could be constrained by corporate policy. In cases where KPAs or goals are rated "not applicable," but relevant findings or observations are available to the assessment team, the team may choose to report these observations as meta-findings (i.e., findings that are outside the scope of the assessment, but should be factored into improvement activities).

This is accomplished in task A19.

Requirement 29

A CAF compliant appraisal method shall define a rating process which specifies that:

- *An appraisal team can rate a goal when valid observations related to the goal meet the method's defined coverage criteria.*

- *An appraisal team can rate a KPA when it has rated each of the associated goals.*

- *An appraisal team can determine a maturity level rating once it has rated all of the KPAs within that level and each level below.*

This is accomplished in task A19.

Requirement 30

A CAF compliant appraisal method shall define a rating process that requires full participation of all appraisal team members in reaching consensus in all rating decisions.

This is accomplished in task A19.

Requirement 31

A CAF compliant appraisal method shall require that ratings be based on the CMM as defined in Capability Maturity Model for Software, Version 1.1 [Paulk 93a] and Key Practices of the Capability Maturity Model, Version 1.1 [Paulk 93b].

People CMM Requirements Tailoring:

This is accomplished in task A19 using the People CMM [Curtis 95].

Requirement 32

A CAF compliant appraisal method shall define a rating process that requires appraisal teams to base ratings on their findings (observations that they have validated).

This is accomplished in tasks A13 and A19.

Requirement 33

A CAF compliant appraisal method shall define a rating process which specifies that each goal is rated in accordance with the following rules:

- *Rate the goal "satisfied" if the associated findings indicate that this goal is implemented and institutionalized either as defined in the CMM with no significant weaknesses or that an adequate alternative exist.*

- *Rate the goal "unsatisfied" if the associated findings indicate that there are significant weaknesses in the appraised entity's implementation and institutionalization of this goal as defined in the CMM and no adequate alternative is in place.*

- *Rate the goal "not applicable" if the KPA is not applicable in the organization's environment.*

- *Rate the goal "not rated" if the associated findings do not meet the method's defined criteria for coverage or if the goal falls outside of the scope of the appraisal.*

This is accomplished in task A19.

Requirement 34

A CAF compliant appraisal method shall define a rating process which specifies that each KPA is rated in accordance with the following rules:

- *Rate the KPA "satisfied" if all of the goals are rated "satisfied."*

- *Rate the KPA "unsatisfied" if any goal is rated as "unsatisfied."*

- *Rate the KPA "not applicable" if the KPA is not applicable in the organization's environment.*

This is accomplished in task A19.

Requirement 35

A CAF compliant appraisal method shall define a rating process which specifies that maturity level, if determined, is determined in accordance with the following rules:

- *A maturity level is satisfied if all KPAs within that level and each lower level are satisfied or not applicable,*

- *The maturity level rating is that of the highest maturity level satisfied.*

This is accomplished in task A19.

Requirement 36

A CAF compliant appraisal method shall identify the reports that the appraisal team provides as the result of the appraisal process.

This is accomplished in tasks A20, A21, R1, and R2.

Requirement 37

A CAF compliant appraisal method shall require that the appraisal team report the following data, at a minimum, to the sponsor:

- *Appraisal scope.*

- *Appraisal selections (site, projects, participants, team members).*

- *Findings.*

- *Ratings.*

- *Risks associated with the accuracy and completeness of appraisal outputs.*

This is accomplished in tasks A21 and R1.

Requirement 38

A CAF compliant appraisal method shall report appraisal results to the SEI.

People CMM Requirements Tailoring:

Appraisal results will be reported by SEI-authorized lead assessors to the People CMM Assessment Repository.

This is accomplished in task R2.

Requirement 39

A CAF compliant appraisal method shall provide guidance for protecting the confidentiality of appraisal information.

This is accomplished in Section 1.3 and various tasks throughout Section 2 that use the People CMM assessment confidentiality agreement.

Requirement 40

A CAF compliant appraisal method shall provide guidance for retention of appraisal records.

This is accomplished in tasks A23, R1, and R2.

Glossary

Ability to perform
One of five common features. The preconditions that must exist in the organization to implement the software process competently. *Ability to perform* typically involves resources, organization structures, and training.

Accuracy
An attribute of the assessment results. Observations are considered to be accurate if the assessment team agrees by consensus that the observations are based on information provided; are worded appropriately; are relevant, significant, and non-redundant.

Activities performed
One of five common features. A description of the roles and procedures necessary to implement a key process area. *Activities performed* typically involve establishing plans and procedures, performing the work, tracking it, and taking corrective action as necessary.

Activity
A key practice of the *activities performed* common feature. Any step taken or function performed, both mental and physical, toward achieving some objective. Activities include all the work the managers and staff do to perform the tasks of the unit and organization.

Alternative practice
An alternative practice to those described in the People CMM that may satisfactorily accomplish the goals of a key process area.

Appraisal
A diagnostic performed by a trained team to evaluate aspects of an organization's software development process, e.g., CMM-Based Appraisal for Internal Process Improvement (CBA IPI), Software Capability Evaluation (SCE^{SM}).

Assessed entity
The organizational units to which assessment outputs apply. An assessed entity may be any portion of an organization including an entire company, a selected business unit, a specific geographic site, units supporting a particular product line, units involved in a particular type of service, an individual project, or a multi-company team.

Assessment	An appraisal by a trained team of professionals to determine the state of an organization's current process, to determine the high-priority process-related issues facing an organization, and to obtain the organizational support for process improvement, e.g., People CMM-Based Assessment Method, Software Process Assessment (SPA), CMM-Based Appraisal for Internal Process Improvement (CBA IPI).
Assessment constraints	Constraints that affect assessment conduct such as budget limitations, schedule limitations, and resource limitations (people and facilities).
Assessment goals	The desired outcome of an assessment process.
Assessment requirements	Assessment constraints and goals.
Assessment scope	The organizational entities and People CMM components selected for investigation.
Assessment sponsor	The individual who authorizes an assessment, defines its goals and constraints, and commits to the use of the assessment outputs.
CAF	Acronym for CMM Appraisal Framework.
CAF-compliant method	An appraisal method that conforms to CAF-defined appraisal method requirements.
Categorize observations	Identify the key practices, common features, goals, and KPAs related to the observation.
CBA	Acronym for CMM-Based Appraisals.
CBA IPI	Acronym for CMM-Based Appraisal for Internal Process Improvement.
Classify observation	Classify an observation as evidence of • a strength in implementation of CMM key practices • a weakness in the implementation of CMM key practices • the existence of an alternative practice that meets KPA goals • the existence of a practice that is not applicable or not significant in an organization's business context

CMM®

Acronym for Capability Maturity Model[SM].

CMM Appraisal Framework

A framework for planning, conducting, and completing CMM-based appraisals.

CMM-based appraisal (CBA)

An appraisal conducted using a CMM-based appraisal method. Such methods include the CBA IPI [Dunaway 96] and the People CMM-Based Assessment Method [this document].

CMM-Based Appraisal for Internal Process Improvement (CBA IPI)

An assessment developed at the SEI to determine an organization's current state of the software development process in order to further the organization's own internal software process improvement program. CBA IPIs are based on the CMM for Software V1.1 [Paulk 95] and comply with the CAF [Masters 95].

CMM-based appraisal method

An appraisal method that uses a CMM as its framework for evaluating an organization's processes.

CMM fidelity

The use of CMM components and CMM components alone as the basis for rating an organization's process maturity.

CMM scope of the assessment

The portion of a CMM used as a framework for evaluating an organization's processes during an assessment. See also *People CMM scope of the assessment*

Coach

An authorized lead assessor who shares the responsibilities of the assessment team leader with another qualified person. It must be made clear to the assessment team members and to the sponsor which responsibilities are being shared and by whom. An authorized lead assessor has the ultimate responsibility for the assessment activities and the results, whether acting in the role of assessment team leader or coach.

Commitment

A pact that is freely assumed, visible, and expected to be kept by all parties.

Commitment to perform

One of five common features. The actions that the organization must take to ensure that the process is established and will endure. *Commitment to perform* typically involves establishing organizational policies and senior management sponsorship.

Common feature
The subdivision categories of the CMM key process areas. The common features are attributes that indicate whether the implementation and institutionalization of a key process area is effective, repeatable, and lasting. The People CMM common features are the following:

- commitment to perform
- ability to perform
- activities performed
- measurement and analysis
- verifying implementation

Confidentiality
An agreement by which data will not be attributed to a particular individual, unit, or organization, or be disclosed without prior agreement or authorization.

Consensus
A method of decision making that allows team members to develop a common basis of understanding and develop general agreement concerning a decision.

Consistency
The degree of uniformity, standardization, and freedom from contradiction among documents or system components. Consistency of an assessment method refers to the ability of different assessment teams using the same method to conduct assessments of the same scope to produce non-conflicting results.

Consolidation
The activity of collecting and summarizing the information provided into a manageable set of data, to determine the extent to which the data are corroborated and cover the areas being investigated, to determine sufficiency of the data for making judgments, and to revise the data gathering plan as necessary to achieve this sufficiency. This activity is repeated following data collection activities during the on-site period.

Corroboration
Confirmation. All assessment observations must be confirmed by information from different sources and different data gathering sessions prior to use as findings.

Coverage
The extent to which data gathered address CMM components, organizational units, and life-cycle phases within the scope of an assessment. See *sufficiency of coverage.*

Coverage criteria	A CMM component is considered to be covered if the data gathered relevant to the component

- are representative of the organizational units within the scope of the assessment

- are representative of the life-cycle phases within the scope of the assessment

- address each of the key practices of the activities performed and the institutionalization common features in enough depth to determine the extent of their implementation, in the collective opinion of the assessment team

Document	A collection of data, regardless of the medium on which it is recorded, that generally has permanence and can be read by humans or machines.

Effective process	A process that can be characterized as practiced, documented, enforced, trained, measured, and able to improve.

Finding	An observation or collection of observations that have been accepted by the team as valid. A finding includes strengths, weaknesses, evidence of alternative practices, and evidence of non-applicable practices. A set of findings should be accurate, corroborated, and consistent within itself.

Findings	The conclusions of an assessment, evaluation, audit, or review that identify the most important issues, problems, or opportunities within the area of investigation.

Goal	A summary of the key practices of a key process area that can be used to determine whether an organization or project has effectively implemented the key process area. The goals signify the scope, boundaries, and intent of each key process area.

IDEAL^{SM} approach	A life cycle approach for process improvement. IDEAL stands for the five phases of the approach: Initiating, Diagnosing, Establishing, Acting, and Learning.

Institutionalization	The building of infrastructure and corporate culture that support methods, practices, and procedures so that they are the ongoing way of doing business, even after those who originally defined them are gone.
Institutionalization common feature	One of these four common features: commitment to perform, ability to perform, measurement and analysis, and verifying implementation. These common features, when implemented, support institutionalization of the practices in a key process area.
Instrument	Questionnaire or survey used to collect data using formal, written questions.
Interview	A formal face-to-face meeting in which facts or statements are elicited from another individual or individuals.
Key practices	The infrastructures and activities that contribute most to the effective implementation and institutionalization of a key process area.
Key process area	A cluster of related activities that, when performed collectively, achieve a set of goals considered important for establishing process capability. The key process areas have been identified by the SEI to be the principal building blocks to help determine the software process capability of an organization and understand the improvements needed to advance to higher maturity levels.
KPA	Acronym for key process area.
MQ	Acronym for maturity questionnaire.
Manager	A role that encompasses providing technical and administrative direction and control to individuals performing tasks or activities within the manager's area of responsibility. The traditional functions of a manager include planning, allocating resources, organizing, directing, and controlling work within an area of responsibility.
Maturity level	A well-defined evolutionary plateau toward achieving a mature organizational process. The five maturity levels in the Capability Maturity Model for Software and the People Capability Maturity Model are initial, repeatable, defined, managed, and optimizing.

Maturity questionnaires	A set of questionnaires that sample the key practices in each key process area of the People CMM. The maturity questionnaire is used as a springboard to gather data across an organization and appraise the capability of an organization to execute its processes reliably.
Measurement and analysis	One of five common features. A description of the need to measure the process and analyze the measurements. *Measurement and analysis* typically includes examples of the measurements that could be taken to determine the status and effectiveness of the *activities performed* common feature.
Middle managers	The site representatives who fall between the project leaders and the senior site manager in the organizational hierarchy.
Non-People CMM observation	An observation that is believed to have a significant impact on the organization's capability but is not related to a particular component of the People CMM.
Not applicable	Rating given to a People CMM component that is either not applicable or insignificant in an organization's business environment.
Not rated	Rating given to a People CMM component that falls outside the scope of an assessment and to People CMM components for which the assessment team did not obtain coverage.
Observation	Information extracted from the notes of data collection sessions.
Organization	A unit within a company or other entity (e.g., government agency or branch of service) within which many projects are managed as a whole. All projects within an organization share a common top-level manager and common policies.
Organizational scope	The organizational units that constitute the entity being assessed.
PCAR	Acronym for People CMM Assessment Repository.
People CMM scope of the assessment	The portion of the People CMM used as a framework for evaluating an organization's workforce practices during an assessment.
Process	A sequence of steps performed for a given purpose; for example, the software development process. [IEEE 90].

Process capability   The range of expected results that can be achieved by following a process. (See *process performance* for contrast.)

Process capability baseline   A documented characterization of the range of expected results that would normally be achieved by following a specific process under typical circumstances. A process capability baseline is typically established at an organizational level.

Process description   The operational definition of the major components of a process. Documentation that specifies, in a complete, precise, verifiable manner, the requirements, design, behavior, or other characteristics of a process. It may also include the procedures for determining whether these provisions have been satisfied. Process descriptions may be found at the task, project, or organizational level.

Process development   The act of defining and describing a process. It may include planning, architecture, design, implementation, and validation.

Process maturity   The extent to which a specific process is explicitly defined, managed, measured, controlled, and effective. Maturity implies a potential for growth in software development capability. It indicates both the richness of an organization's software process and the consistency with which the process is applied on projects throughout the organization.

Process measurement   The set of definitions, methods, and activities used to take measurements of a process and its resulting products for the purpose of characterizing and understanding the process.

Process performance   A measure of the actual results achieved by following a process. (See *process capability* for contrast.)

Rating   A characterization of an organization's processes relative to a component of a CMM.

Rating components   Components of a CMM that can be rated. These include goals, KPAs, and maturity level.

Rating scale   The rating scale for goals and KPAs is satisfied, unsatisfied, not applicable, and not rated. The rating scale for maturity level is 1 through 5.

Reliability	The ability to attain assessment results that accurately characterize an organization's processes.
Repeatability	The ability to attain the same assessment results if an assessment of identical scope is conducted more than once in the same time period.
Relevant	Related to the matter at hand; pertinent. An observation must be relevant to a particular activity, set of activities, or common feature to be associated with a particular key process area.
Rules of corroboration	Rules that define the requirements for confirming observations through the use of multiple data sources and sessions of prescribed types.
Sampling	A set of elements drawn from and analyzed to estimate the characteristics of a population. During an assessment, data collection is planned to provide a sampling of the process data related to the People CMM key process areas, organizational units, and individuals and managers within the scope of the assessment.
Satisfied	Rating given to a People CMM component that is applicable in an organization's business environment and is performed either as defined in the People CMM or with an adequate alternative.
SCE	Acronym for Software Capability Evaluation.
Scope	See *assessment scope*.
SEI	Acronym for Software Engineering Institute.
Senior site manager	Senior manager, in charge of the assessed entity and usually the sponsor of the assessment, who identifies the business goals that bear on the organization's software development and maintenance activity, identifies the scope of the assessment and any constraints that will exist, gives the team leader the authorization to proceed, and personally participates in the opening meeting and final findings presentation.
SEPG	Acronym for software engineering process group.

Significant
Having or expressing a meaning; meaningful; notable; valuable. An observation is significant if it is evidence of a strength or a weakness of a People CMM component. If an observation is not a strength or weakness, it could be significant as an acceptable alternative to the defined People CMM practice.

Site
A geographic location of one or more of an organization's units.

Site coordinator
A member of the assessment team who is responsible for handling the logistics of the assessment, including developing the schedule, notifying assessment participants, reserving rooms, scheduling contingency interviews, and handling supplies and meals.

Site information packet
Information to help ensure that assessment team members are prepared to gather, interpret, and understand the information they receive during the course of an assessment. The package assists the team members who may not be from the site in understanding the organization's culture, the language of the site's software practitioners, and the context within which they operate.

Software Capability Evaluation
An appraisal by a trained team of professionals to identify contractors who are qualified to perform the software work or to monitor the state of the software process used on an existing software effort.

Software engineering process group
A group of specialists who facilitate the definition, maintenance, and improvement of the software process used by the organization. In the key practices, this group is generically referred to as "the group responsible for the organization's software process activities."

Sponsor
See *assessment sponsor* and *senior site manager*.

Strength
Implementation of practices which, in an assessment team's judgment, improve an organization's process capability. People CMM related strengths are effective implementation of one or more of the People CMM key practices or one or more alternative practices that contribute equivalently to the satisfaction of KPA goals.

Subpractice	Description of what one would expect to find implemented for the top-level key practice. The subpractices are listed beneath top-level key practices in the People CMM and can be used to assist in determining whether or not the key practices are implemented satisfactorily. Subpractices are not *rating components* of the People CMM.
Sufficiency of coverage	The extent to which findings meet the assessment method's coverage criteria and, thus, satisfy the prerequisites for rating.
Traceability	The degree to which a relationship can be established between two or more products of the assessment process, especially products having a predecessor-successor relationship to one another.
Unsatisfied	Rating given to a People CMM component that is both applicable and significant in an organization's business environment, is either not performed or is performed as defined in the People CMM with significant weaknesses, and for which no adequate alternative exists.
Valid	An attribute of the assessment results. An observation is determined to be valid when the assessment team has by consensus determined that the observation is accurate, corroborated, and consistent with other valid observations.
Verifying implementation	One of five common features. The steps to ensure that the activities are performed in compliance with the process that has been established. Verification typically encompasses reviews and audits by management and software quality assurance.
Weakness	Ineffective implementation of or lack of practices which, in an assessment team's judgment, interfere with effective performance of software development tasks. People CMM-related weaknesses are an ineffective implementation or lack of implementation of one or more People CMM key practices with no acceptable alternative practices in place.

Change History

Version History

The following table shows the version history of this document.

Date	Version	Change Description
June 30, 1995	0.1	Version for review by People CMM® Advisory Board and selected reviewers. Documented method requirements, first draft of method description.
October 31, 1995	0.2	CDRL A008 - Draft for "expert try- out" pilot use.
August, 1998	1.0	Baseline version for public release by SEI-authorized People CMM® lead assessors.

Table 4: Version History of People CMM-Based Assessment Method

Submitting Change Requests

We encourage feedback on how the *People CMM-Based Assessment Method Description* [this document] can be improved. Please use the following template to inform us of errors in or proposed enhancements to this document.

Note: For the SEI to take appropriate action on a change request, we must have a clear description of the recommended change, along with a supporting rationale.

A change request form is found on the next page. It may be used for suggesting changes or improvements to the People CMM-Based Assessment Method.

Change Request Form - People CMM-Based Appraisal Method Description

Tell Us About Yourself	
Name:	
Organization:	
Division:	
Street:	
City:	
State:	
Postal/Zip Code:	
Country:	
Phone:	
FAX:	
E-mail:	

Tell Us About Your Suggestion	
Short Title:	
Location Tag: (use section #, key process area ID, practice #, etc.)	
Proposed Change	
Rationale for Change	

Instructions for Submitting
Change Request Form - People CMM-Based Appraisal Method Description

Please submit any change requests

- via the Internet at: http://www.sei.cmu.edu/activities/cmm-p/change.request.html

- via email to: p-cmm-change@sei.cmu.edu

- via postal mail to:

  People CMM Change Requests
  Software Engineering Process Management
  Software Engineering Institute
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13. ABSTRACT (MAXIMUM 200 WORDS)

This document provides a high-level overview of the People Capability Maturity Model℠ (CMM®)-Based Assessment Method. It introduces the People CMM as a source of guidelines for improving the capability and readiness of an organization's workforce in the context of the IDEAL℠ approach to process improvement. In order to measure the capability and maturity of an organization's workforce practices, an appraisal method has been developed for the People CMM. This document describes the requirements and methods for the People CMM-Based Assessment Method. This method is a diagnostic tool that supports, enables, and encourages an organization's commitment to improving its ability to attract, develop, motivate, organize, and retain the talent needed to steadily improve their organizational capability. The method helps an organization gain insight into its workforce capability by identifying strengths and weaknesses of its current practices related to the People CMM. The method focuses on identifying improvements that are most beneficial, given an organization's business goals and current maturity level. Brief descriptions of the method activities, roles, and responsibilities are provided. The SEI Appraiser Program is discussed, detailing the requirements for persons qualified to lead People CMM-Based Assessments.

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