

***Software Process Assessment
using the Software Engineering Institute's
CMM[®] Based Appraisal for Internal Process Improvement***

Under authorization from the Carnegie Mellon University Software Engineering Institute (SEI), Davis Systems offers Capability Maturity Model[®] (CMM) Based Appraisal for Internal Process Improvement (CBA IPI).

What is a CBA IPI?

- A thorough assessment, by a trained team of experienced software professionals, of an organization's current software process, based on:
 - review of 4 or 5 key projects
 - responses to a maturity questionnaire
 - in-depth discussions with project leaders, middle managers, and practitioners
 - collective assessment team knowledge and experience
 - the SEI's Capability Maturity Model (CMM)
- It reports:
 - assessed CMM maturity level
 - detailed findings on CMM key process areas and non-CMM process issues

Assessment Objectives

- Understand the organization's current software engineering practices.
- Identify key areas for process improvement, based on the CMM.
- Facilitate the initiation or continuation of process improvement activities.
 - provide framework for action
 - help obtain management sponsorship and support
 - help establish support and buy-in at all levels for improvement efforts

The Assessment Process

- A team of 4-10 experienced software professionals is formed and receives training.
- The team plans and prepares for the assessment.
- Data is gathered and analyzed.
 - Strict confidentiality is observed.
 - Preliminary data is gathered through questionnaires.
 - Primary data is gathered through interviews and document reviews in an intense "onsite" period.
- A Final Findings Presentation is made to the organization's senior management at the completion of the on-site period.
- A Final Report is written.

The Assessment Team

- 3-8 professionals from the client organization or their choice of qualified external parties
- An SEI Authorized Lead Assessor from Davis Systems, who acts as Assessment Team Leader

Assessment Planning and Preparation Activities

- Identify the Assessment Scope
 - Identify assessment goals, scope, constraints, roles, responsibilities, and outputs
- Develop the Assessment Plan
 - Based on identified goals
 - Develop site information packet
 - Identify assessment team members, projects, and participants
 - Identify documents for initial review
- Prepare and Train the Team
 - CMM Training for all team members:
 - ◊ Two day Davis Systems CMM training, or
 - ◊ the SEI's 3 day "Introduction to the CMM" training, or
 - ◊ the equivalent to the satisfaction of the Lead Assessor.
 - Two-and-a-half day CBA IPI method training by Davis Systems for all team members
 - One-half day of team planning and preparations
- Brief Assessment Participants
 - An open meeting usually about 2 weeks in advance of assessment conduct period
 - Ensures assessment participants understand the assessment process
- Administer the Maturity Questionnaire
- Examine Questionnaire Responses
 - Provides preview of process capability to assessment team members
 - Used as basis for interviews
- Conduct an Initial Document Review

Assessment Conduct Activities

- Conduct Opening Meeting
- Data collection and consolidation.
 - Individual interviews with project leaders
 - Group interviews with middle managers and practitioners
 - Document reviews
- Draft findings presentations
- Final data collection
- Rating and preparation of final briefing
- Final findings presentation
- Executive session

Role of Findings

- Highest priority software process issues currently facing the organization
- Basis for formulating recommendations

Recommendations

- Identify what to do to address the assessment findings
- Created by the assessment team and other interested, qualified individuals from within the organization
- Serve as a link between the findings and action plans
- Presented in separate briefing to senior management and rest of organization

Typical Assessment Schedule

- Month 1 & 2 - assessment team training and planning
- Month 3 - on-site assessment
- Month 4 - final report delivery & recommendations briefing
- Month 5 - action plan review
- Months 6-24 - action plan implemented
- Months 18-30 - follow-up assessment

Typical Resource Estimates

- Team Training
 - Assessment team leader (prepares and delivers training): 6 - 9 days
 - Assessment team members (attend training): 3 - 5 days
 - Training facility costs
- Pre-Assessment Support
 - Senior site management: 3 - 4 days
 - Site coordinator: 10 - 20 days
 - Assessment team leader: 10 - 20 days
 - Assessment team members: 3 - 5 days
- Assessment On-site Period
 - Senior site management: 4 - 6 hours
 - Project leaders, middle managers, and functional area representatives: 1.5 days
 - Assessment team leader and team members: 5 - 10 days
- Recommendations, action plan development, working groups, etc.
 - Full time SEPG - 1% of software staff
 - Senior site management - 1% to 2%
 - Rest of organization - part time ranging from 1% to 3% of software management and staff

Tailoring

Major CBA IPI tailoring options include:

- Varying the scope
 - Identifying a specific entity of the organization to be assessed
 - Selecting particular types of projects
 - Examining a greater or lesser number of CMM Key Process Areas
- Varying the assessment team
 - Varying the total size from 4 to 10
 - Varying the composition as to whether members are internal or external to the organization
- Varying the participation
 - Varying the number of projects or people involved in questioning

- The minimum is a representative sample
- Varying the outputs
 - Not rating maturity level
 - Omission of the final report
 - Producing project specific reports
 - Including recommendations in the findings presentation or final report
- Varying the time onsite
- For initial improvement efforts or first-time assessments, more up-front orientation of executives or participants

For More Information

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