

# CMMI Organizational Guidelines

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# Introduction - 1

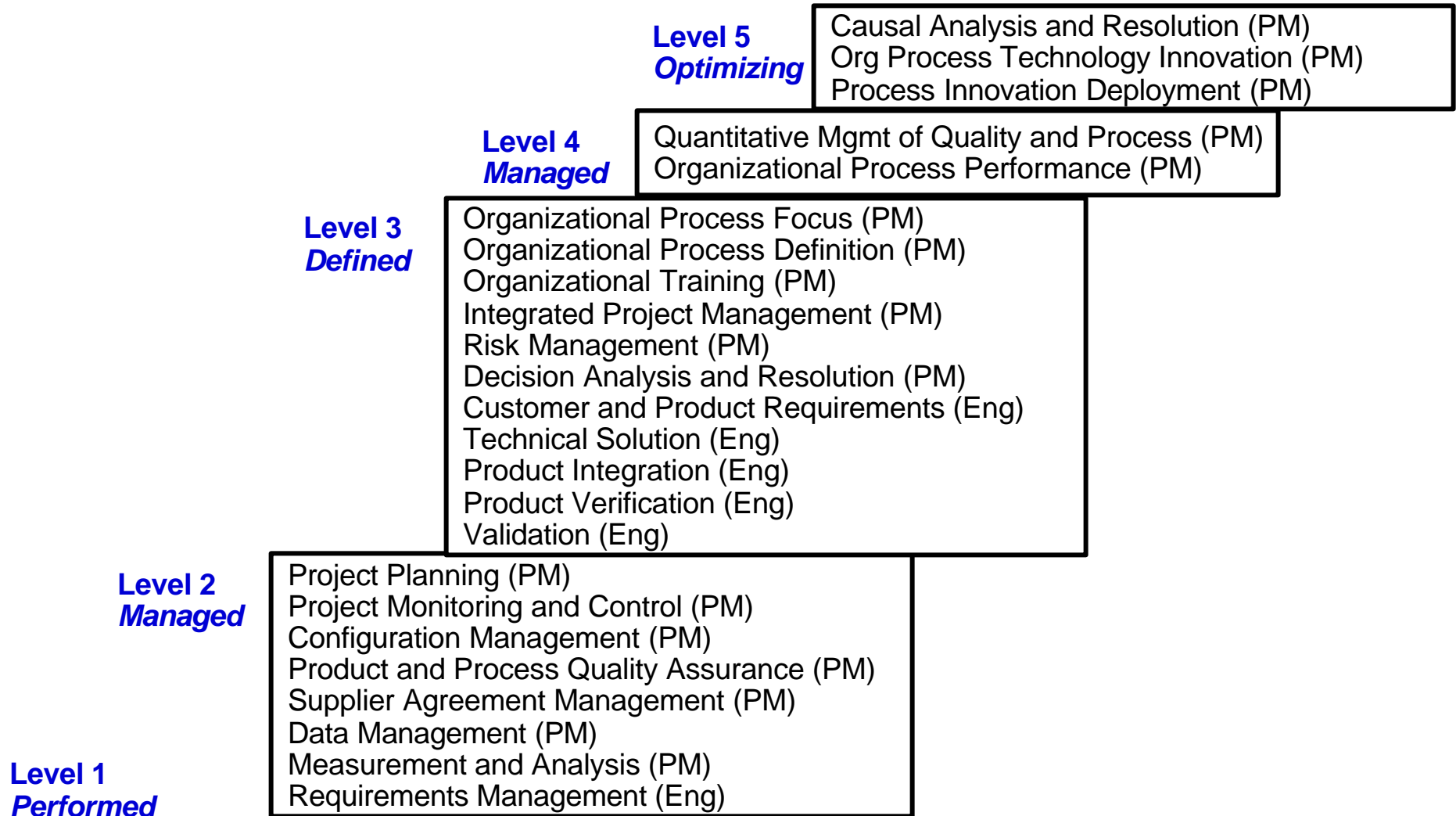
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- **CMMI Structure**
- **Organizational Process Areas**
- **Organizational Assets**
- **Organizational Assessment & Improvement**

# CMMI Process Areas

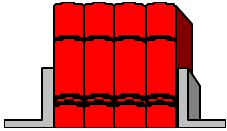
## *Staged Representation*

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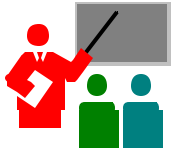


# Common Features (for all Process Areas)

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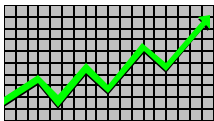
- **Commitment to Perform** includes practices that ensure the process is established and will endure.
  - Establishing organizational policies and leadership.



- **Ability to Perform** includes practices that establish the necessary conditions for implementing the process completely.
  - Resources, organizational structures, and training.



- **Activities Performed** includes practices that directly implement a process area.
  - Developing plans and procedures, performing work, tracking work, and taking corrective actions as necessary.



- **Directing Implementation** includes measurement practices that are necessary to collect and analyze data related to the process.
  - Insight into the performance of the process.



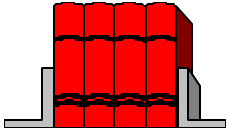
- **Verification** includes practices that ensure compliance with the process that has been established.
  - Reviews and audits.

# Typical Organizational Responsibilities

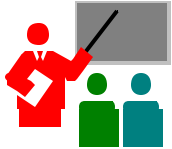
		Commitment to Perform	Ability to Perform	Activities Performed	Directing Implementation	Verification
Level 5	Causal Analysis and Resolution (PM) Org Process Technology Innovation (PM) Process Innovation Deployment (PM)					
Level 4	Quantitative Mgmt of Quality and Process (PM) Organizational Process Performance (PM)					
Level 3	Organizational Process Focus (PM) Organizational Process Definition (PM) Organizational Training (PM) Integrated Project Management (PM) Risk Management (PM) Decision Analysis and Resolution (PM) Customer and Product Requirements (Eng) Technical Solution (Eng) Product Integration (Eng) Product Verification (Eng) Validation (Eng)	Organizational policies	Organizational training		Standard metrics	Senior management review Quality Assurance organization
Level 2	Project Planning (PM) Project Monitoring and Control (PM) Configuration Management (PM) Product and Process Quality Assurance (PM) Supplier Agreement Management (PM) Data Management (PM) Measurement and Analysis (PM) Requirements Management (Eng)					

# Organizational Assets (for all Process Areas)

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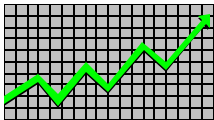
- **Organizational policies**



- **Organizational training office**



- **Organizational procedures**



- **Standard metrics**
- **Estimation process, tools & support**



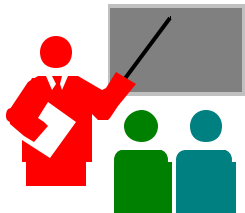
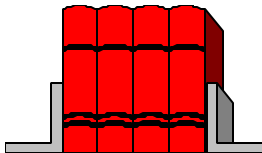
- **Senior management review process**
- **Independent quality assurance organization**

# Organizational Process Areas - Level 3

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- **Organizational Process Focus**
  - Establishes and maintains an understanding of the organization's processes and process assets, build an infrastructure to support their use, and plan and coordinate the organization's process improvement activities.
- **Organizational Process Definition**
  - Establishes and maintains a usable set of organizational process assets.
- **Organizational Training**
  - Develops the skills and knowledge of people so they can perform their roles effectively and efficiently.



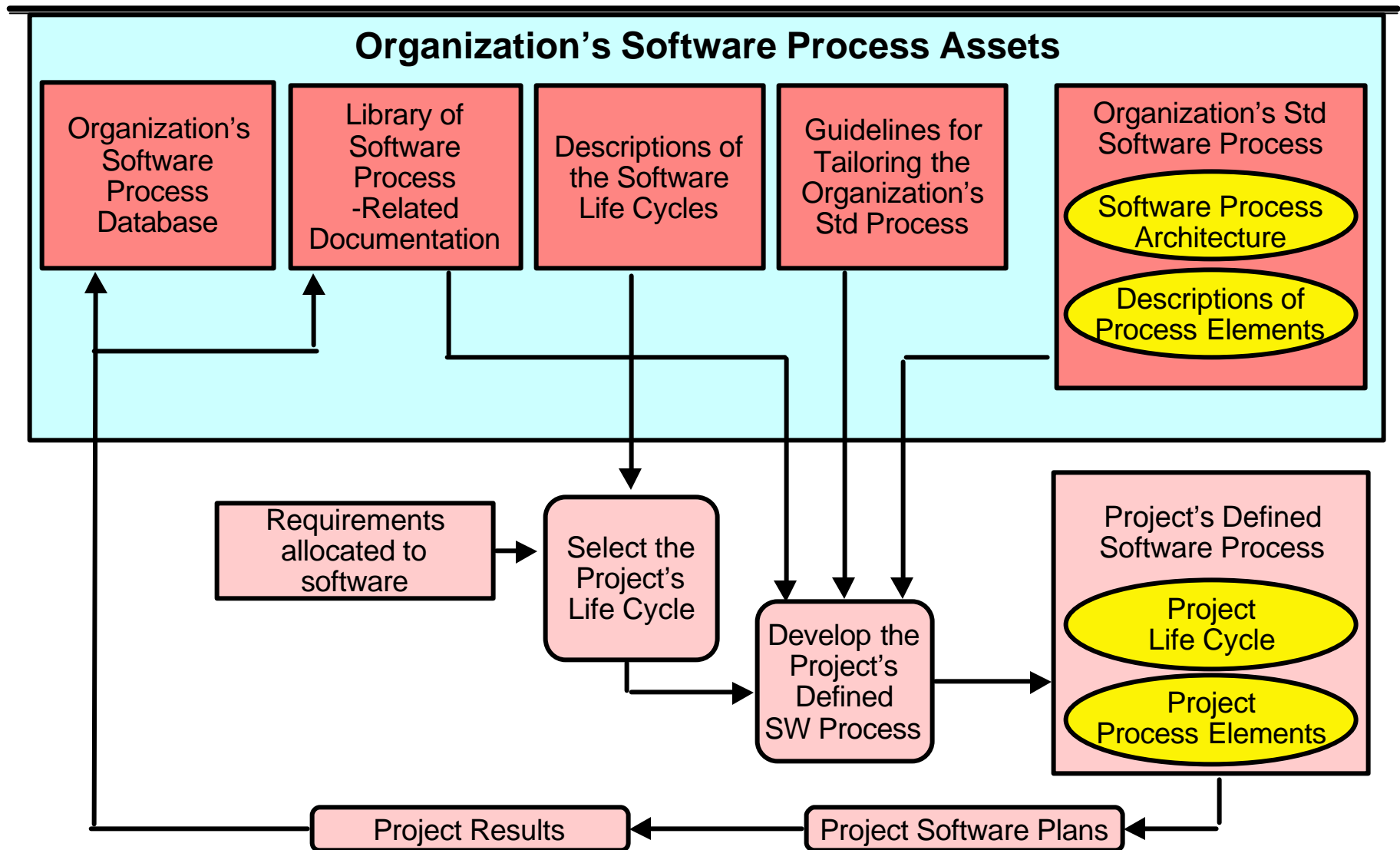
# Organization's Software Process Assets

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- The organization's standard software process (including the software process architecture and software process elements),
- The descriptions of software life cycles approved for use,
- The guidelines and criteria for tailoring the organization's standard software process,
- The organization's software process database, and
- The library of software process-related documentation.

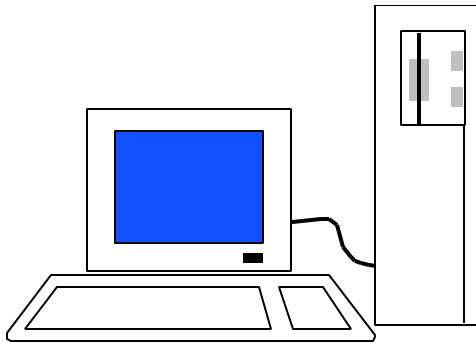
**The software process assets  
are available for use by the projects  
in developing, maintaining, and implementing  
their defined software process.**

# Conceptual Software Process Framework



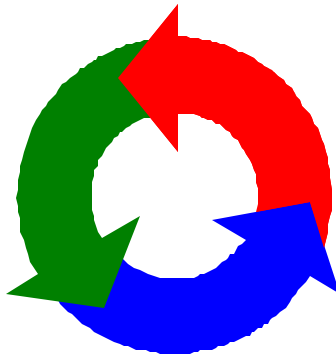
# Organizational Process Areas - Level 5

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- **Organizational Process Technology Innovation**

- Identifies process improvements that would measurably improve the organization's processes. These improvements support the organization's process improvement goals as derived from the organization's business objectives.

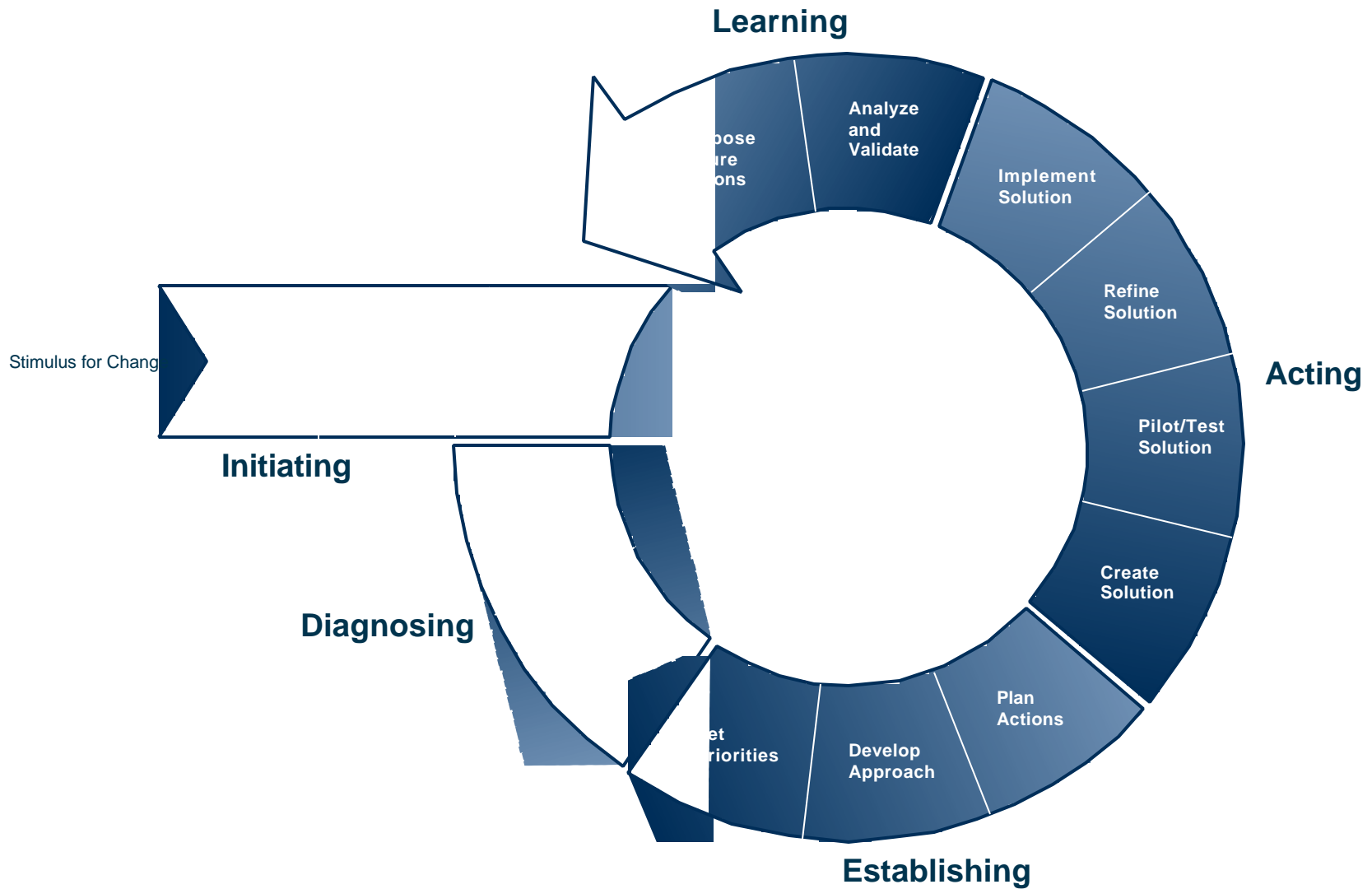


- **Process Innovation Deployment**

- Continually and measurably improves the organization's processes by systematically transitioning incremental and innovative improvements into use.

# Organizational Assessment & Improvement

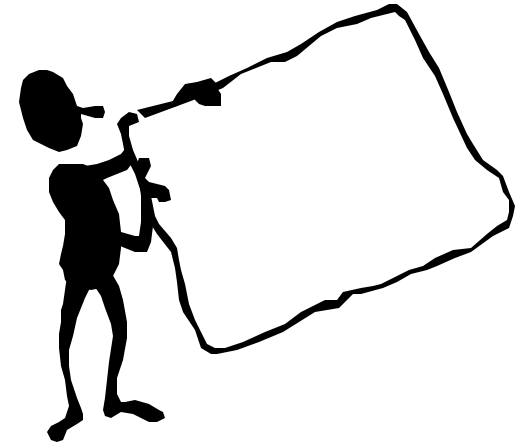
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# Assessment Principles

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- **Start with a process reference model.**
- **Use a formalized assessment process.**
- **Involve senior management as assessment sponsor.**
- **Focus assessment on sponsor's business goals.**
- **Observe strict confidentiality and non-attribution.**
- **Approach assessment collaboratively.**
- **Focus on follow-on process improvement activities.**



# Classes of Assessment Methods

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## **Class A:**

- Full comprehensive method
- Thorough model coverage
- Provides maturity level

## **Class B:**

- Less comprehensive, less expensive
- Initial, partial, self-assessment
- Focus on areas needing attention
- No maturity level rating

## **Class C:**

- Quick look
- Checking for specific risk areas
- Inexpensive, little training needed

## **Standard CMMI Assessment Method for Process Improvement (SCAMPI)**

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- **Based on CMM®-Based Appraisal for Process Improvement (CBA IPI) and EIA/IS 731 Appraisal Method**
- **Must be led by authorized SCAMPI Lead Assessor**
- **Tailorable to organization and model scope**
- **Artifacts:**
  - **SCAMPI Method Description**
  - **Maturity questionnaire, work aids, templates**
- **Assuming an organization of 3-6 projects, 6-9 team members, experienced Lead Assessor**
  - **SCAMPI assessment of all process areas through Levels 2-5 in 2-3 weeks**
  - **SCAMPI assessment of process areas through Levels 3 in 1-2 weeks**

# SCAMPI Lead Assessors

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- **Prerequisites in relevant disciplines :**
  - Educational background in technical area
  - Work experience in systems engineering and/or software engineering (10 years)
- **Introductory model training**
- **Assessment team training and experience**
- **Intermediate model training, Lead Assessor training**
- **Lead SCAMPI while being observed by authorized CMMI Lead Assessor**

