

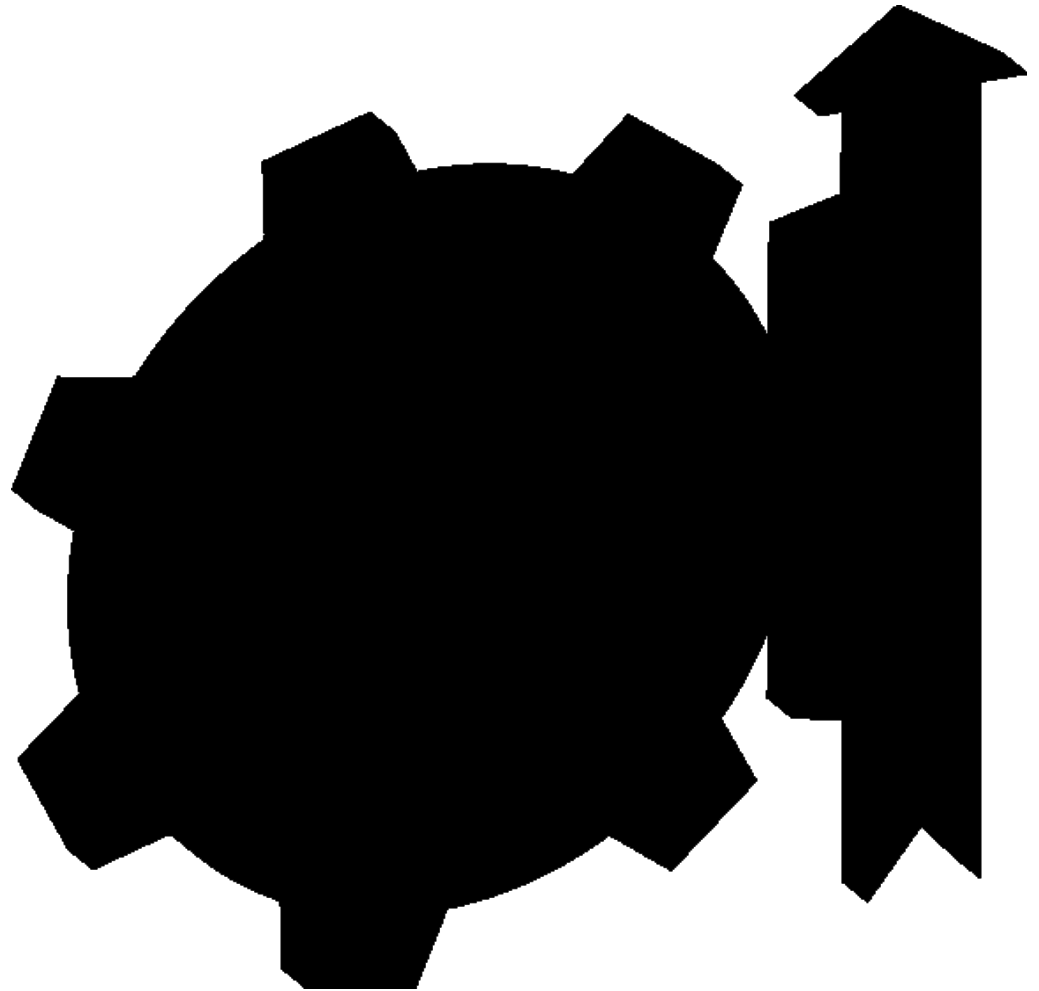
CMMI Organizational Guidelines

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Rick Hefner, TRW

rick.hefner@trw.com

(310) 812-7290

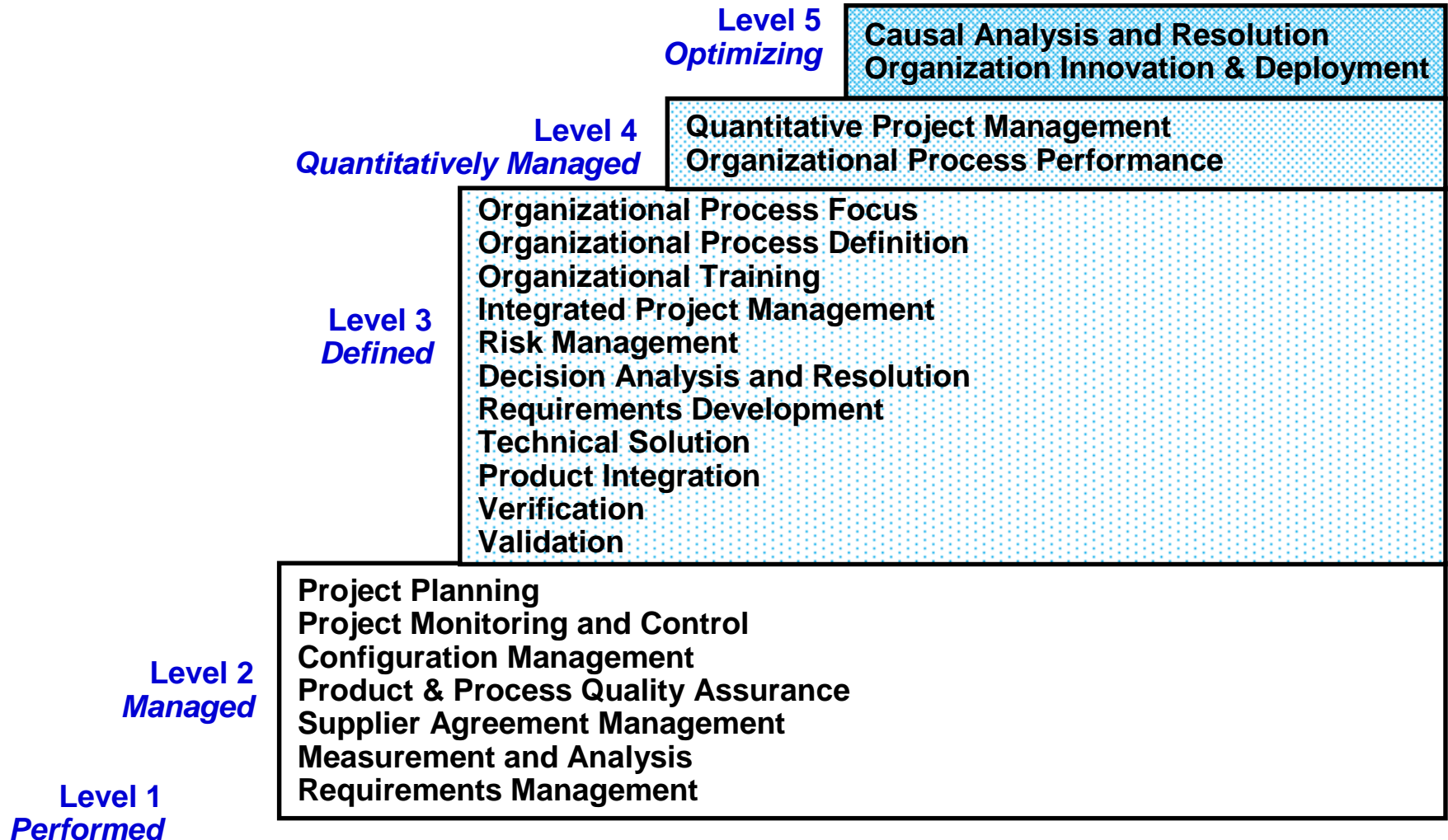


Introduction - 1

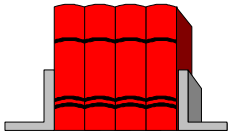
- **CMMI Structure**
- **Organizational Process Areas**
- **Organizational Assets**
- **Organizational Assessment & Improvement**

CMMI Process Areas

Staged Representation



Common Features (for all Process Areas)



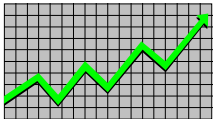
- **Commitment to Perform** includes practices that ensure the process is established and will endure.
 - Organizational policies



- **Ability to Perform** includes practices that establish the necessary conditions for implementing the process completely.
 - Plans, resources, responsibility, and training.



- **Activities Performed** includes practices that directly implement a process area.



- **Directing Implementation** includes measurement practices that are necessary to collect and analyze data related to the process.
 - Configuration management, stakeholder involvement, monitor and control

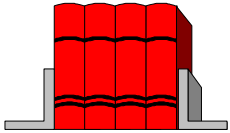


- **Verification** includes practices that ensure compliance with the process that has been established.
 - Senior management reviews, quality audits

Typical Organizational Responsibilities

		Commitment to Perform	Ability to Perform	Activities Performed	Directing Implementation	Verification
Level 5	Causal Analysis and Resolution (Support) Org Innovation and Deployment (Process)					
Level 4	Quantitative Project Management (PM) Organizational Process Performance (Process)					
Level 3	Organizational Process Focus (Process) Organizational Process Definition (Process) Organizational Training (Process) Integrated Project Management (PM) Risk Management (PM) Decision Analysis and Resolution (Support) Requirements Development (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 (Support) Product and Process Quality Assurance (Support) Supplier Agreement Management (PM) Data Management (Support) Measurement and Analysis (Support) Requirements Management (Eng)					

Organizational Assets (for all Process Areas)



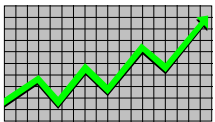
- **Organizational policies**



- **Organizational training office**



- **Organizational procedures**



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

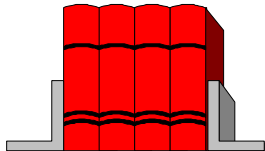


- **Senior management review process**
- **Independent quality assurance organization**

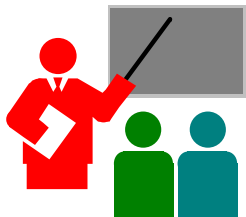
Organizational Process Areas - Level 3



- **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.

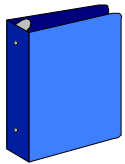
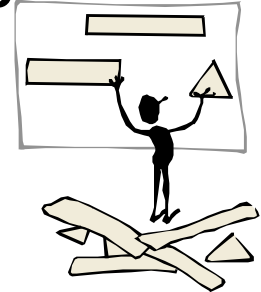


- **Organizational Training**
 - Develops the skills and knowledge of people so they can perform their roles effectively and efficiently.

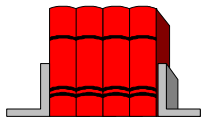
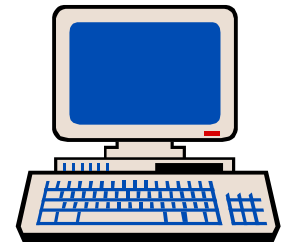
Organization's Process Assets



- Organization's standard process (including the process architecture and process elements)
- Descriptions of life cycles approved for use



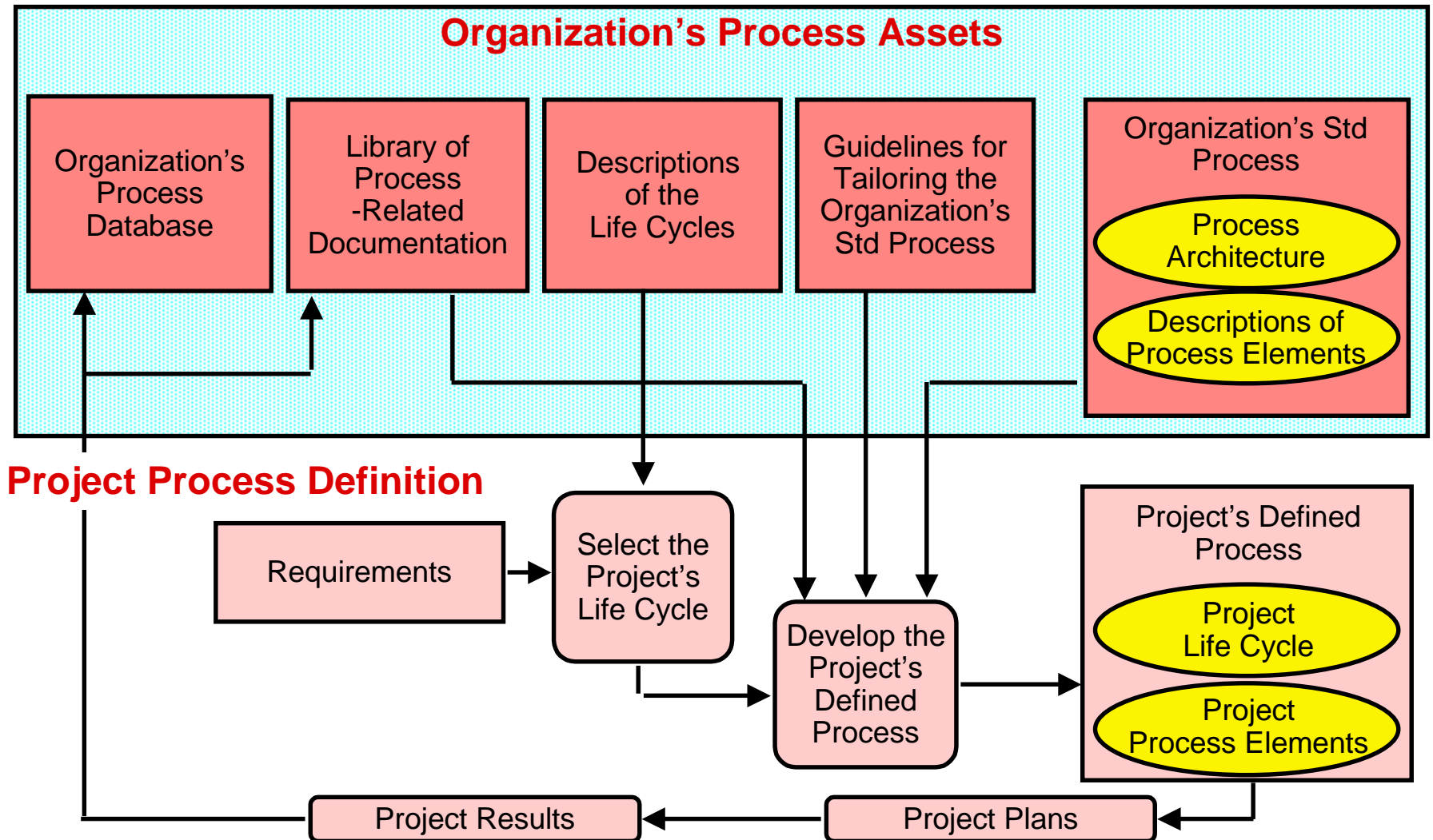
- Guidelines and criteria for tailoring the organization's standard process
- Organization's process database (historical cost and schedule data)



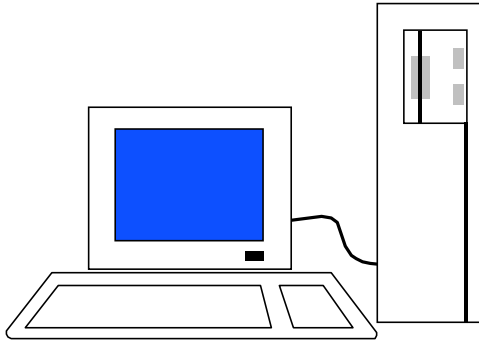
- Library of process-related documentation

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

Conceptual Software Process Framework

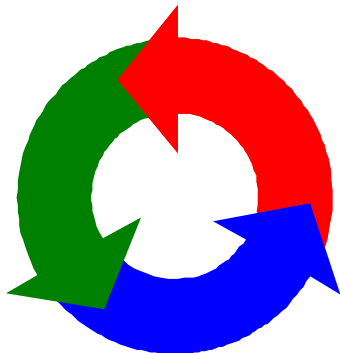


Organizational Process Areas - Levels 4 & 5



- **Organizational Process Performance**

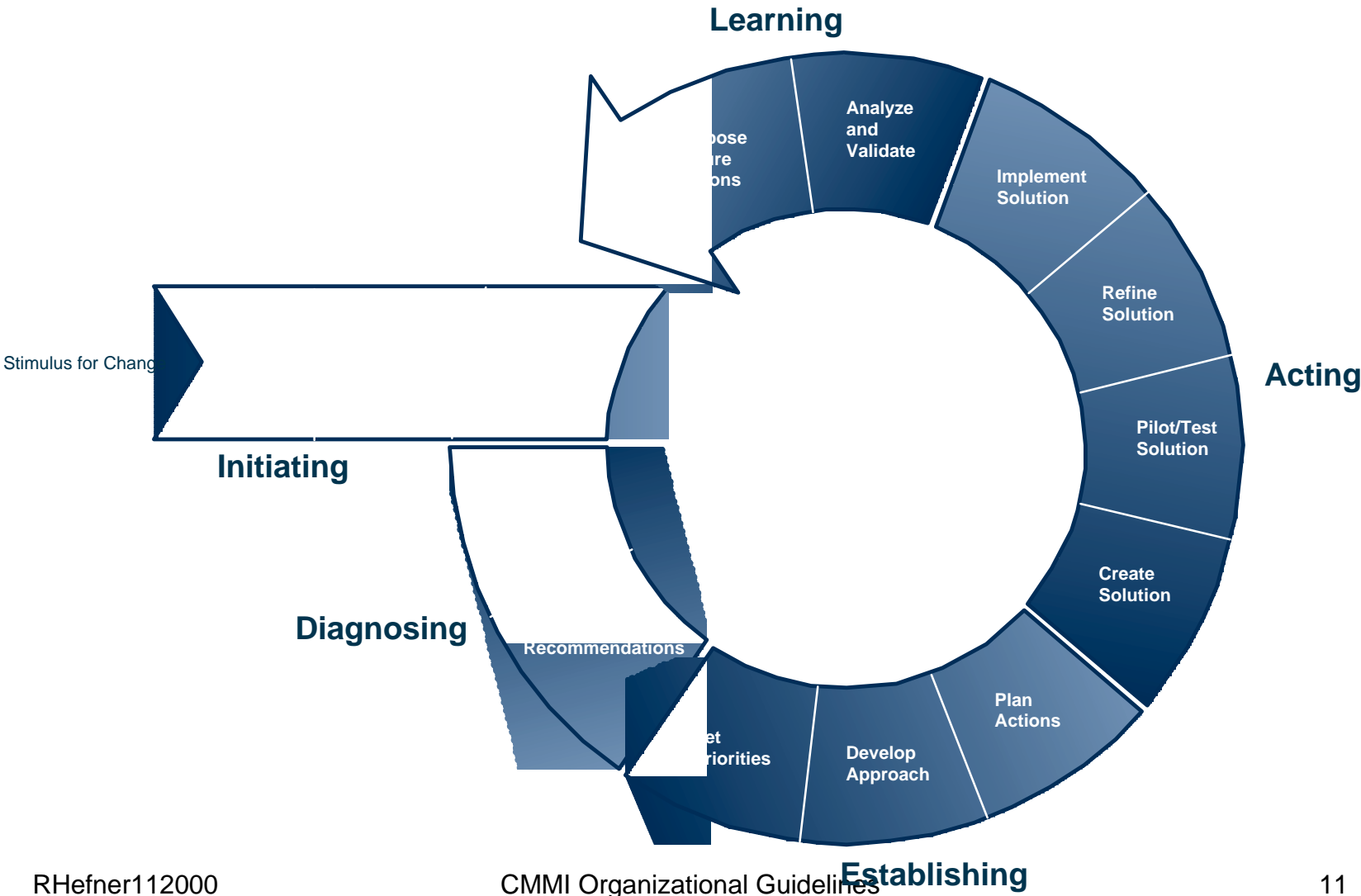
- Establishes and maintains a quantitative understanding of the performance of the organization's set of standard processes
- Provides the process performance data, baselines, and models to quantitatively manage the organization's projects.



- **Organizational Innovation and Deployment**

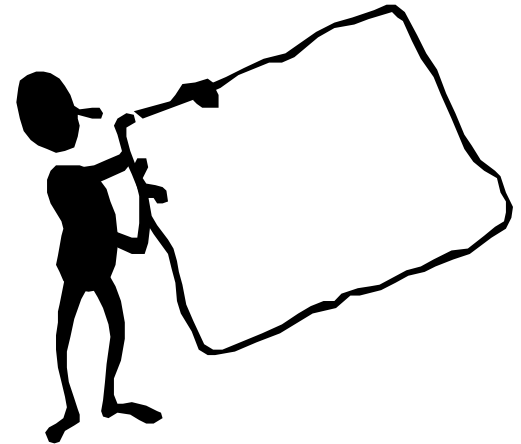
- Selects and deploys incremental and innovative improvements that measurably improve the organization's processes and technologies.

Organizational Assessment & Improvement



Assessment Principles

- **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

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)

- **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

- **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**

