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# C1.3

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## **1. How does the company promote CMMI within the organization?**

The first key step to apply CMMI is the involvement of management. The first to participate was the senior management in USA, including the American software process owner and the assistant project manager of the flight software project element. In addition, NASA technical management representatives participated in the discussion and decision-making of this work.

Each year, executive managers establish goals to support the organization's vision and mission. Process owners establish the company-level goals for their disciplines. The owner of each company goal must define the goal, collect requirements, and track comments for that goal.

Managers then use these higher-level goals to develop supporting goals and initiatives for their areas. The Vision Support Plan goal-deployment process requires a standard metric for measuring the progress of each goal/objective/initiative and each related year-end metric target. This same process of refining higher level goals to supporting goals continues until each employee's goals are defined.

The involvement of the key participators makes USA able to establish goals and expectations, determine the scope of work and communicating plans, get sponsorships and resource commitments. To ensure the success of CMMI case study, it is managed as a project. A timetable was established and planned to obtain commitments, resources, tools and training.

They have made a detailed plan for the project. Such a plan is very important for the successful execution of such projects and is particularly critical for early identification of risks. And they hold internal meetings to select projects, identify project members and assign them to tasks, and determine the appropriate scope of support required for case studies. What's more, relevant stakeholders have participated in the develop and review of the plan.

## **2. How does the company use CMMI as an evaluation system to evaluate the organization's own capability level or maturity level?**

In 2001, USA began investigating the use of CMMI within the company. To determine the feasibility of using CMMI, USA piloted CMMI in part of the company through an informal assessment of specific projects following SEI's IDEAL guidelines for instituting process improvement. The IDEAL model is an organizational improvement model that serves as a road map for initiating, planning, and implementing improvement actions [SEI 2]. During the CMMI case study, the initiating and diagnosing phases of the IDEAL model were launched.

Every year, the executive manager sets goals to support the organization's vision and mission. Process owners will establish company-level goals for their disciplines. The owner of each company goal must define the goal, collect requirements. and track comments for that goal.

Managers will use these higher-level goals to develop support goals and plans for their areas. The vision support plan goal deployment process requires a standard indicator to measure the progress of each goal/objective/initiative and each related year-end indicator.

Before determining the goals of each employee, the same process is to raise higher-level goals to support the goals.

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Each owner of a goal/objective/initiative must monitor the status of progress using stoplight colors (red, yellow, and green).

- **Green:** Performance met the target or is projected to meet the target.
- **Yellow:** Performance is projected to miss the target, but a corrective action plan is in place.
- **Red:** Performance did not meet the target or is projected to not meet the target.

If the status is yellow or red, a plan of action must be available for review and attention is given to the goal/objective/initiative.

In addition to entering information into the Vision Support Plan Web-based system, managers display information on bulletin boards known as Vision Support Plan wall boards. Each department maintains a Vision Support Plan wall board that displays its progress toward its goals and stimulates discussion of related work. Progress toward USA goals is reviewed periodically by management at all levels of the company. Once a quarter, the senior management team formally reviews progress by reviewing the wall boards with all members of the department.

### **3. If you come to formulate a CMMI implementation specification for the company, and maturity level 2 is taken as an example, how will you formulate it?**

At maturity level 2, the organization's project ensures management requirements and plans, executes, measures and controls processes.

The process rules reflected in maturity level 2 help ensure that existing practices are retained during periods of stress. When these practices are in place, the project will proceed and manage according to its documented plan.

At the same time, management can see the status of work products and the provision of services at certain points (for example, when major milestones and major tasks are completed).

In addition, commitments are established among relevant stakeholders and revised as needed, work products are properly controlled, and products and services meet their specified process descriptions, standards and procedures.

A maturity level 1 process group should be established to guide the maturity level 1 organization to maturity level 2. The improvement of maturity level 1 process may mainly depend on the insights and capabilities of the process group employees until it can support more rigorous and more extensive improved infrastructure.

The company should improve staffs' ideological awareness and first understand the necessity and urgency. And company should determine a reasonable goal to develop and improve the software process, CMM training, consulting, and establish a working group.

At the CMMI maturity level 2, the process is institutionalized through the following work:

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- a) Follow the organization's guide lines.
  - b) Record the implementation of the plan and process description.
  - c) Use sufficient and sufficient resources (including funds, personnel and tools).
  - d) Maintain appropriate assigned responsibilities and authorities.
  - e) Train personnel who implement and support the process.
  - f) Appropriate product configuration management.
  - g) Monitor and control the performance of the process and take appropriate corrective actions.
  - h) Objectively review the process, its work products and services to deal with non-compliance issues.
  - i) The activities, status and results of the process are reviewed by appropriate management and appropriate corrective actions.
  - j) Identify and cooperate with relevant stakeholders.

**4. If you come to formulate CMMI implementation specifications for this company, and capability level 2 is taken as an example, how will you formulate it?**

The capability level 2 process is characterized as a "managed process".

The managed process is an execution (functional level 1) process with an infrastructure to support the process. It is planned and executed according to policy.

- Hire technical personnel with sufficient resources to produce controlled output
- Involve stakeholders
- Be monitored, controlled and reviewed
- Evaluate whether the process description is complied

The company needs to ensure that the strategy of the process is executed first. And then it should search for resources, assign responsibilities and train its employees to execute it. The selected work products that execute the process are controlled, etc. In other words, the capability level 2 process should be able to be planned and monitored like any project or support activity.