CMMI-DEV V1.3 模型构造

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Process Areas (PAs) -1

The 22 process areas (in alphabetical order by acronym) are

- Causal Analysis and Resolution (CAR)
- Configuration Management (CM)
- Decision Analysis and Resolution (DAR)
- Integrated Project Management (IPM)
- Measurement and Analysis (MA)
- Organizational Process Definition (OPD)
- Organizational Process Focus (OPF)
- Organizational Performance Management (OPM)
- Organizational Process Performance (OPP)
- Organizational Training (OT)

Process Areas (PAs) -2

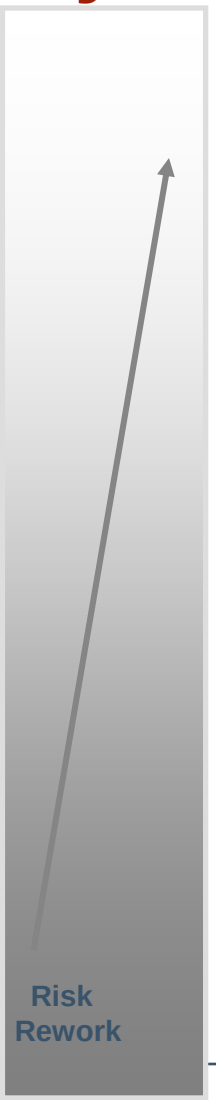
- Product Integration (PI)
- Project Monitoring and Control (PMC)
- Project Planning (PP)
- Process and Product Quality Assurance (PPQA)
- Quantitative Project Management (QPM)
- Requirements Development (RD)
- Requirements Management (REQM)
- Risk Management (RSKM)
- Supplier Agreement Management (SAM)
- Technical Solution (TS)
- Validation (VAL)
- Verification (VER)

Continuous Representation: PAs by Category

Category	Process Areas
Process Management	Organizational Process Focus Organizational Process Definition Organizational Training Organizational Process Performance Organizational Performance Management
Project Management	Project Planning Project Monitoring and Control Supplier Agreement Management Integrated Project Management Risk Management Quantitative Project Management Requirements Management
Engineering	Requirements Development Technical Solution Product Integration Verification Validation
Support	Configuration Management Process and Product Quality Assurance Measurement and Analysis Decision Analysis and Resolution Causal Analysis and Resolution

Staged Representation: PAs by Maturity Level

Level	Focus	Process Areas *Including IPPD*
5 Optimizing	*Continuous Process Improvement*	Organizational Performance Management Causal Analysis and Resolution
4 Quantitatively Managed	*Quantitative Management*	Organizational Process Performance Quantitative Project Management
3 Defined	*Process Standardization*	Requirements Development Technical Solution Product Integration Verification Validation Organizational Process Focus Organizational Process Definition Organizational Training Integrated Project Management Risk Management Decision Analysis and Resolution
2 Managed	*Basic Project Management*	Requirements Management Project Planning Project Monitoring and Control Supplier Agreement Management Measurement and Analysis Process and Product Quality Assurance Configuration Management
1 Initial		



Process and Process Area

Process – a sequence of steps performed for a given purpose (IEEE)

- It is how you perform your work.

CMMI Definition of a Process – activities that can be recognized as implementations of practices in a CMMI model.

These activities can be mapped to one or more practices in CMMI process areas to allow a model to be useful for process improvement and process appraisal. (Glossary)

Process Area

A cluster of related practices in an area that, when implemented collectively, satisfies a set of goals considered important for making improvement in that area.

All CMMI process areas are common to both continuous and staged representations.

They are organized by

- maturity level in the staged representation
- process area category (i.e., Process Management, Project Management, Support, and Engineering) in the continuous representation.

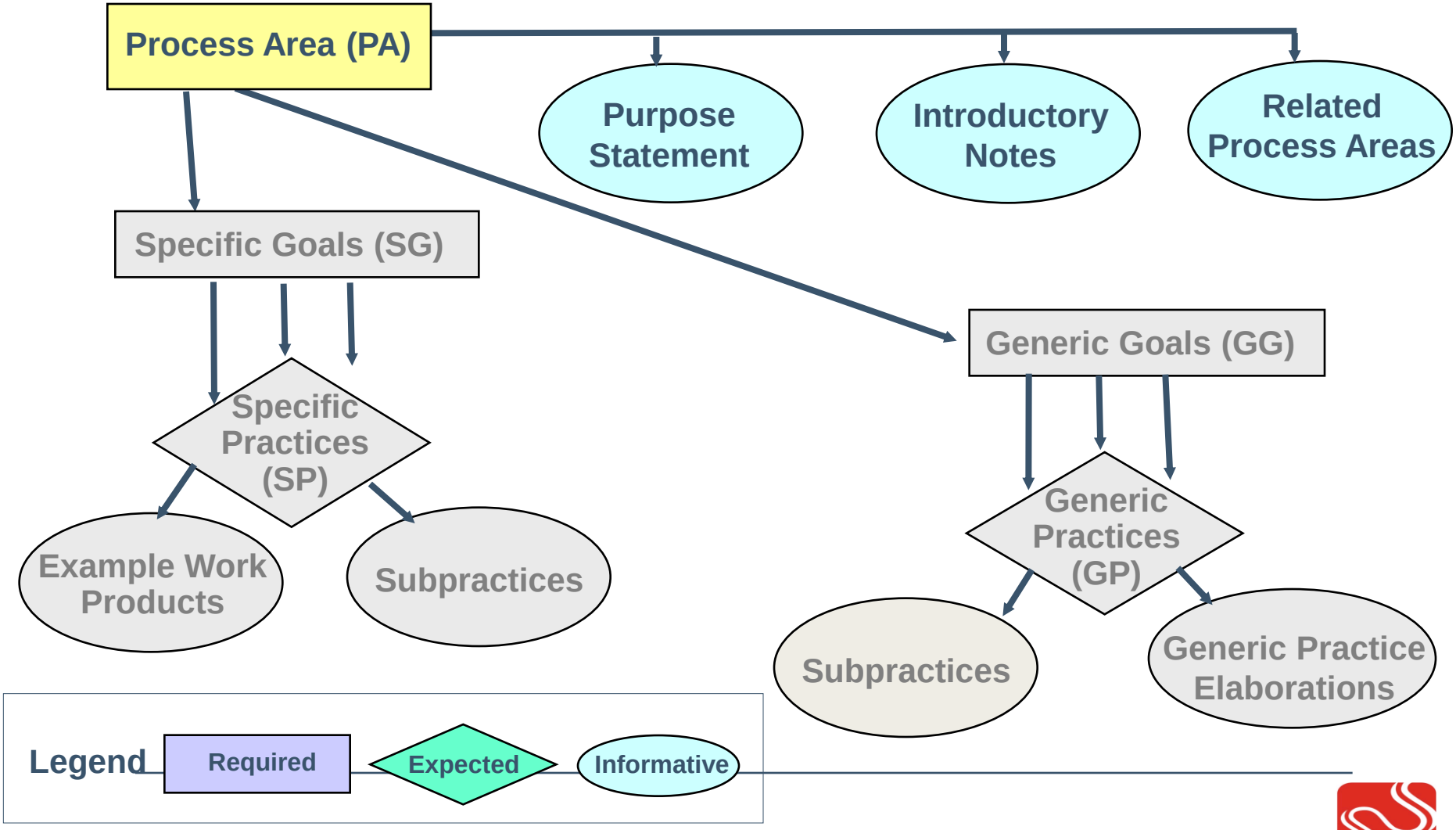
There are 22 process areas.

Process Area Contents

All process areas contain the following:

- Purpose
- Introductory Notes
- Related Process Areas
- Specific Goal and Practice Summary
- Specific Practices by Goal
  - Specific Goals and Specific Practices
- Generic Practices by Goal
  - Generic Goals and Generic Practices Elaboration

Process Area Components -1



Purpose

A purpose statement describes the purpose of the process area and is an information component

Project Planning example

Purpose

The purpose of Project Planning (PP) is to establish and maintain plans that define project activities.

Introductory Notes

This section describes the major concepts covered in the process area and is an informative componet

Project Planning example
Planning begins with requirements that define the product and project.

Related Process Areas

This section lists references to related process areas and reflects the high-level relationships among the process areas. And is an informative componet

Project Planning example
Refer to the Risk Management process area for more information about identifying and analyzing risks and mitigating risks.

Specific Goal and Practice Summary

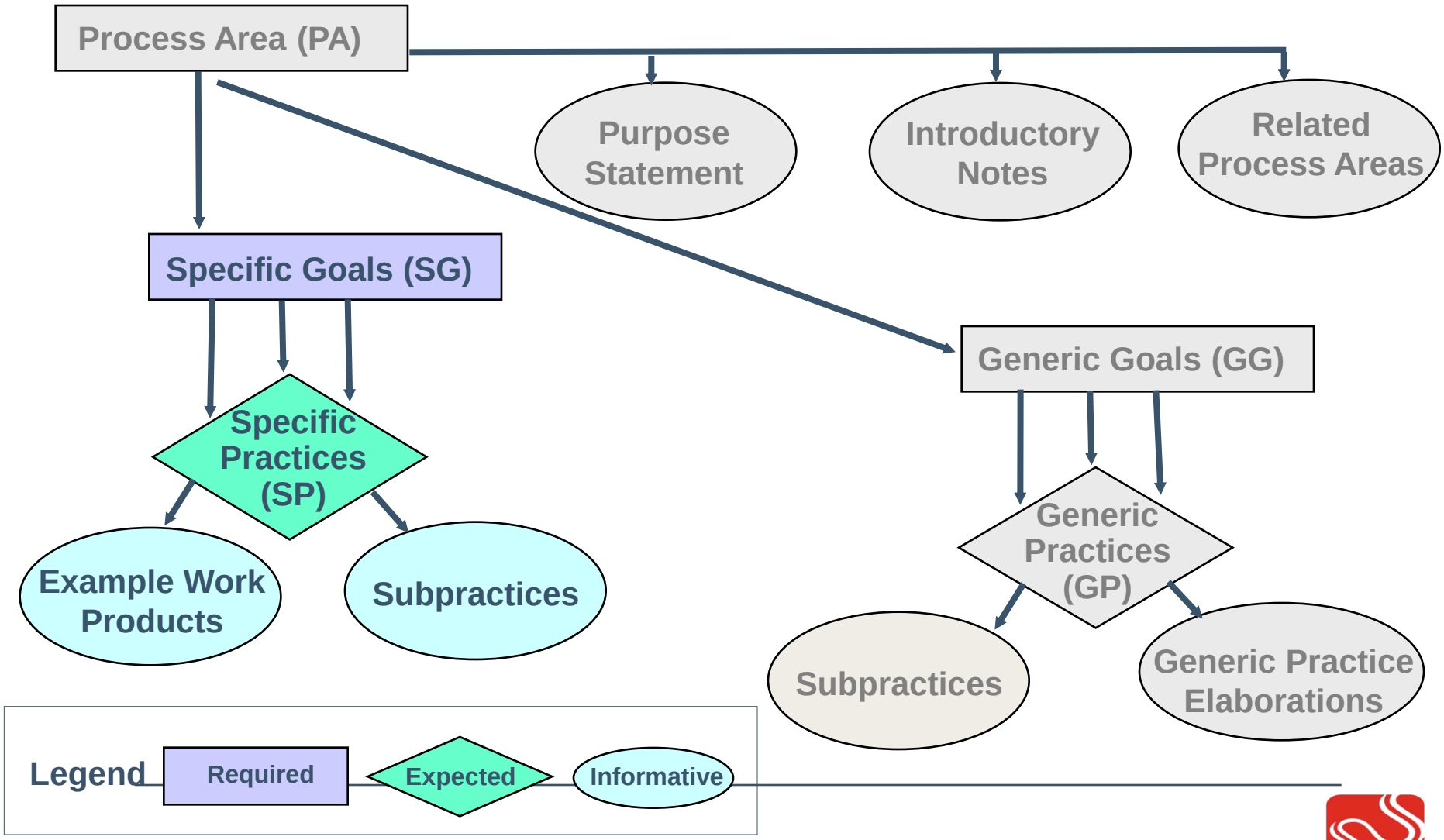
The specific goal and practice summary provides a high-level summary of the specific goals and specific practices. And is an informative componet

Project Planning example

SG 1 Establish Estimates

- SP 1.1 Estimate the Scope of the Project
- SP 1.2 Establish Estimates of Work Product and Task Attributes
- SP 1.3 Define Project Lifecycle Phases
- SP 1.4 Estimate Effort and Cost

Process Area Components -2



Specific Goals (SGs)

A specific goal describes the unique characteristics that must be present to satisfy the process area. A specific goal is a required model component and is used in appraisals to help determine whether a process area is satisfied. And considered as informative componet.

Project Planning example
SG 1: Estimates of project planning parameters are established and maintained.

Specific goals are numbered starting with the prefix SG (e.g., SG 1). The number is only there to uniquely identify the goal.

Specific Practices (SPs)

Specific practices are the description of an activity that is considered important in achieving the associated specific goal. The specific practices describe the activities that are expected to result in achievement of the specific goals of a process area. A specific practice is an expected model component.

Project Planning example
SP 1.4: Estimate the project effort and cost for the work products and tasks based on estimation rationale.

Specific practices are of the form SP x.y where

x is the same number as the goal to which the specific practice maps.

y is the sequence number of the specific practice under the specific goal.

Example Work Products

This section lists sample output from a specific practice. An example work product is an informative model component.

Example work products are samples of specific practices' outputs and are not a complete list.

For example, project cost estimates might be a example work product for the Project Planning specific practice SP 1.4, "Estimate the project effort and cost for the work products and tasks based on estimation rationale."

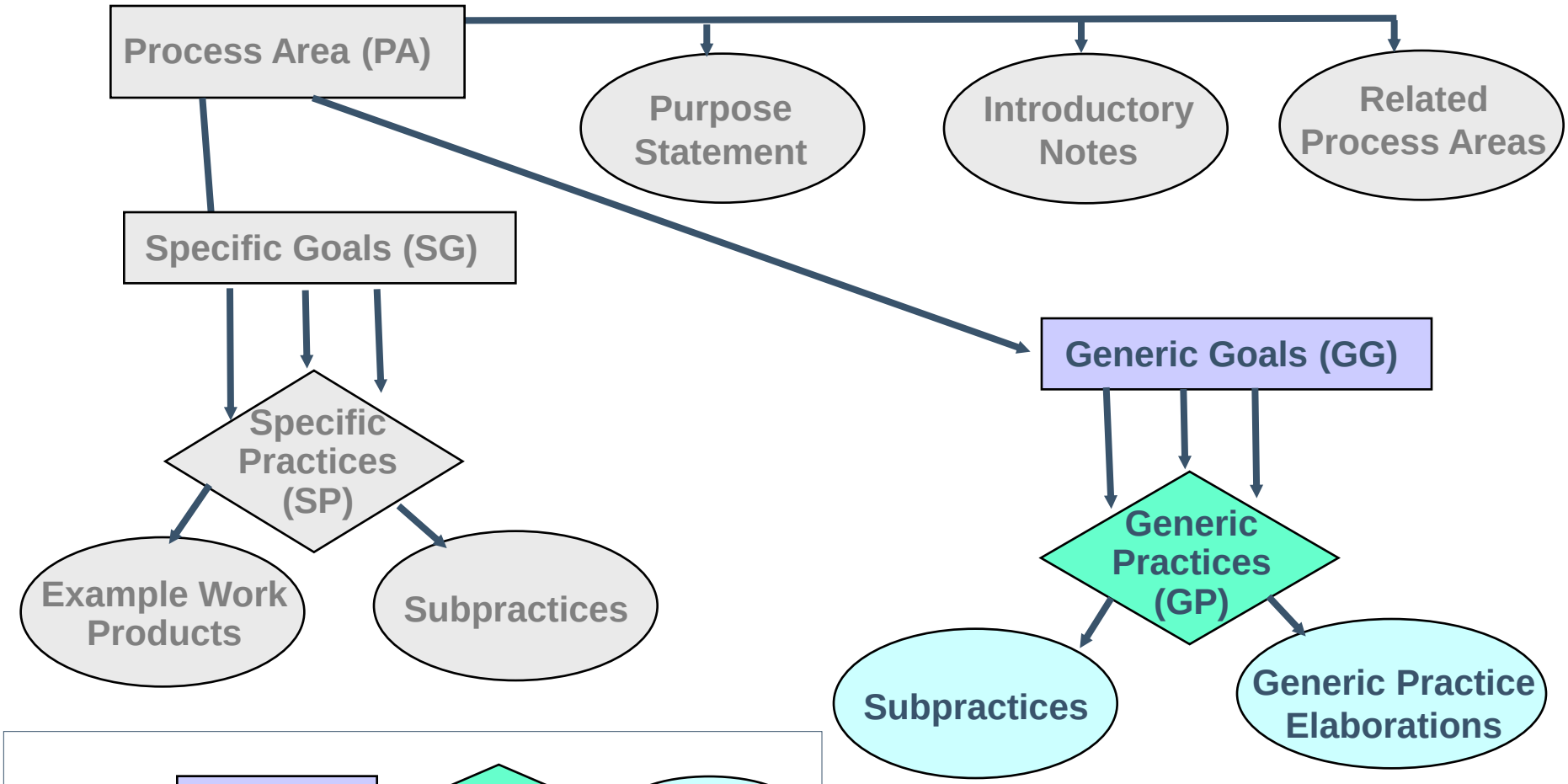
Subpractices

Subpractices are detailed descriptions that provide guidance for interpreting and implementing a specific or generic practice. And actually are informative componets.

The following is an example of a subpractice from the “Identify and analyze project risks” specific practice (SP 2.2) in the Project Planning process area:

3. Review and obtain agreement with relevant stakeholders on the completeness and correctness of the documented risks.

Process Area Components -3



Generic Goals (GGs) -1

Generic goals describe the characteristics that must be present to institutionalize processes that implement a process area. A generic goal is a required model component and is used in appraisals to determine whether a process area is satisfied.

Achievement of a generic goal in a process area signifies improved control in planning and implementing the processes associated with that process area.

Generic goals are called generic because the same goal statement appears in multiple process areas.

Project Planning example
The process is institutionalized as a defined process.

Generic Goals (GGs) -2

Generic goals are numbered starting with the prefix GG (e.g., GG 2). The number corresponds to the capability level of the GG.

Generic Practices (GPs)

Generic practices are called “generic” because the same practice applies to multiple process areas. The generic practices associated with a generic goal describe the activities that are considered important in achieving the generic goal and contribute to the institutionalization of the processes associated with a process area. A generic practice is an expected model component.

Project Planning example
GP 2.5: Train the people performing or supporting the project planning process as needed.

Generic practices are of the form GP x.y where

x corresponds to the number of the generic goal.

y corresponds to the sequence number of the generic practice.

Generic Practice Elaborations

Generic practice elaborations appear after generic practices to provide guidance on how the generic practices can be applied uniquely to process areas. A generic practice elaboration is an informative model component.

Project Planning process area example

GP 2.9: Objectively Evaluate Adherence

Examples of activities reviewed include the following:

- Establishing estimates
- Developing the project plan
- Obtaining commitment to the project plan

Required, Expected, and Informative Model Components

Model components are grouped into three categories:

- required
- expected
- informative

These categories reflect how to interpret the process area components.

Required Components

Required components Required components are CMMI components that are essential to achieving process improvement in a given process area. This achievement must be visibly implemented in an organization's processes.

Specific goals and generic goals are the required components in CMMI models.

Goal satisfaction is used in appraisals as the basis for deciding whether a process area has been satisfied.

Expected Components

Expected Components are CMMI components that describe the activities that are important in achieving a required CMMI component.

Expected components guide

- those who implement improvements
- those who perform appraisals

Specific practices and generic practices are the expected components in CMMI models.

Before goals can be considered to be satisfied, either their practices as described, or acceptable alternatives to them, must be present in the planned and implemented processes of the organization.

Informative Components

Informative components are CMMI components that help model users understand CMMI required and expected components. These components can be example boxes, detailed explanations, or other helpful information.

Examples of informative components include

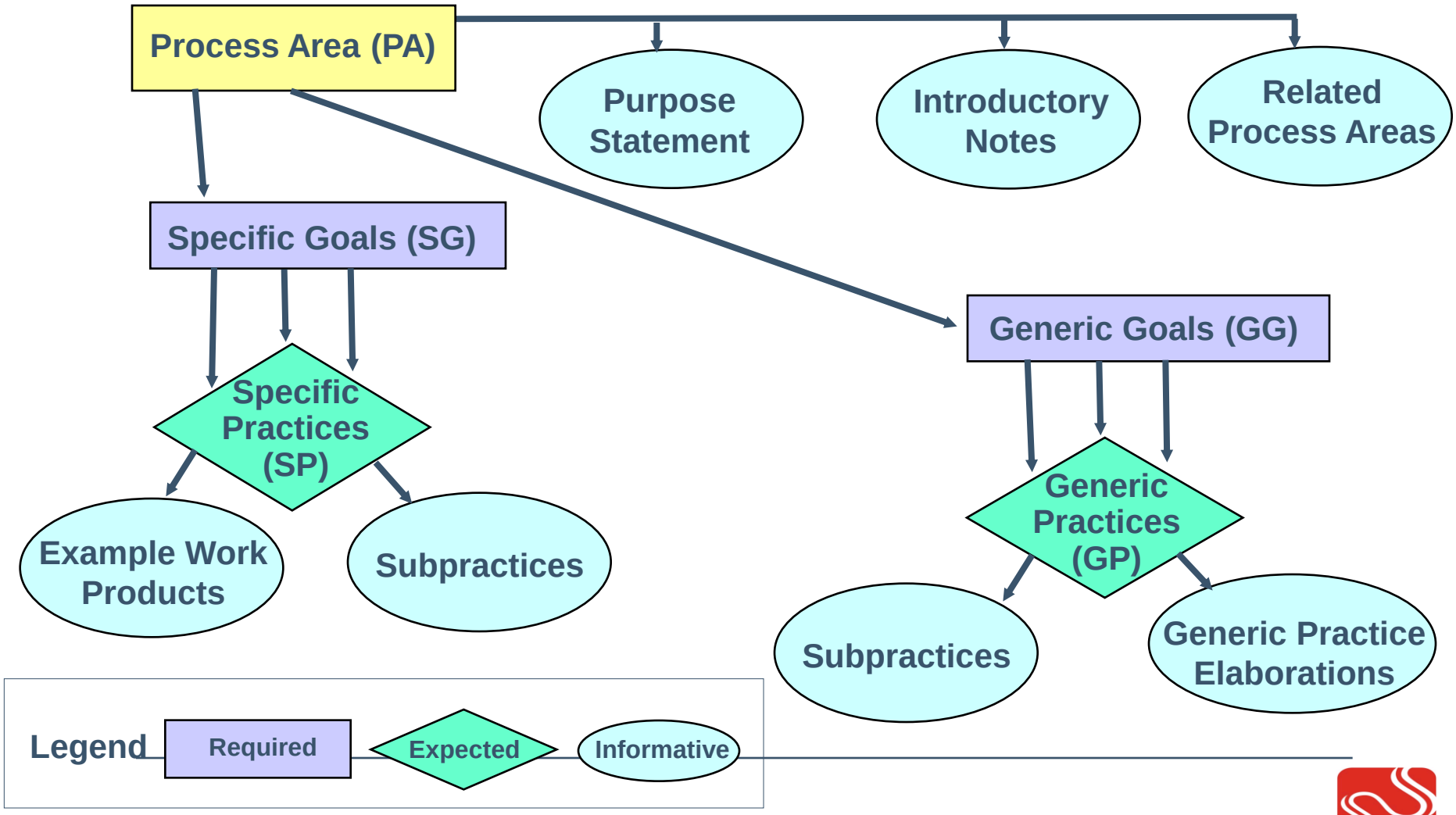
- Subpractices,
- notes,
- references,
- goal titles,
- practice titles,
- sources,
- example work products
- generic practice elaborations

- The informative material plays an important role in understanding the model. The model's informative material provides information necessary to achieve the correct understanding of goals and practices and thus cannot be ignored.

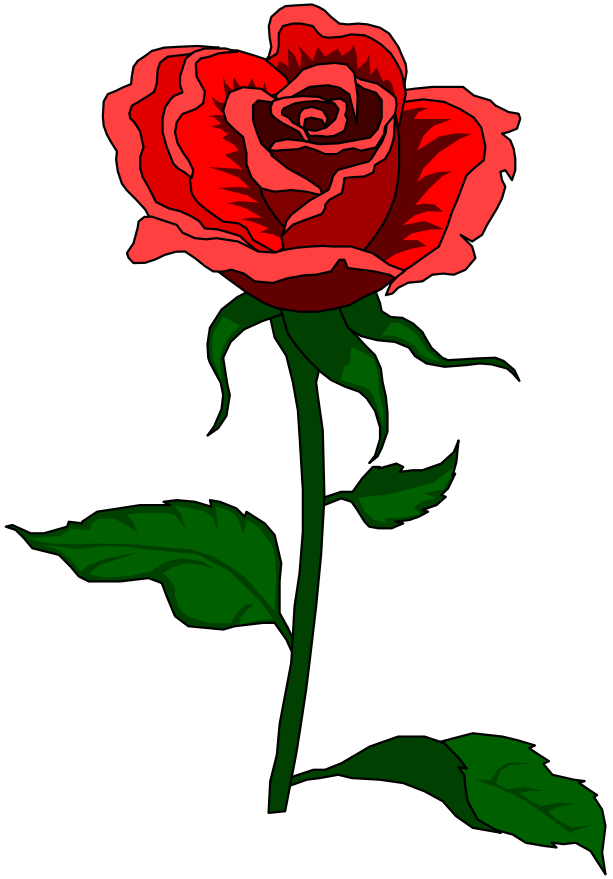
Summary of CMMI Model Components

Purpose Introductory Notes	Informative
Specific Goals Generic Goals	Required
Specific Practices Generic Practices	Expected
Subpractices notes references goal titles practice titles sources example work products generic practice elaborations	Informative

Reviewing Process Area Components



问题与回答



谢谢

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