

CMMI

Capability Maturity Model Integration [CMU - SEI]

Generic Goals and Generic Practices

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RACG

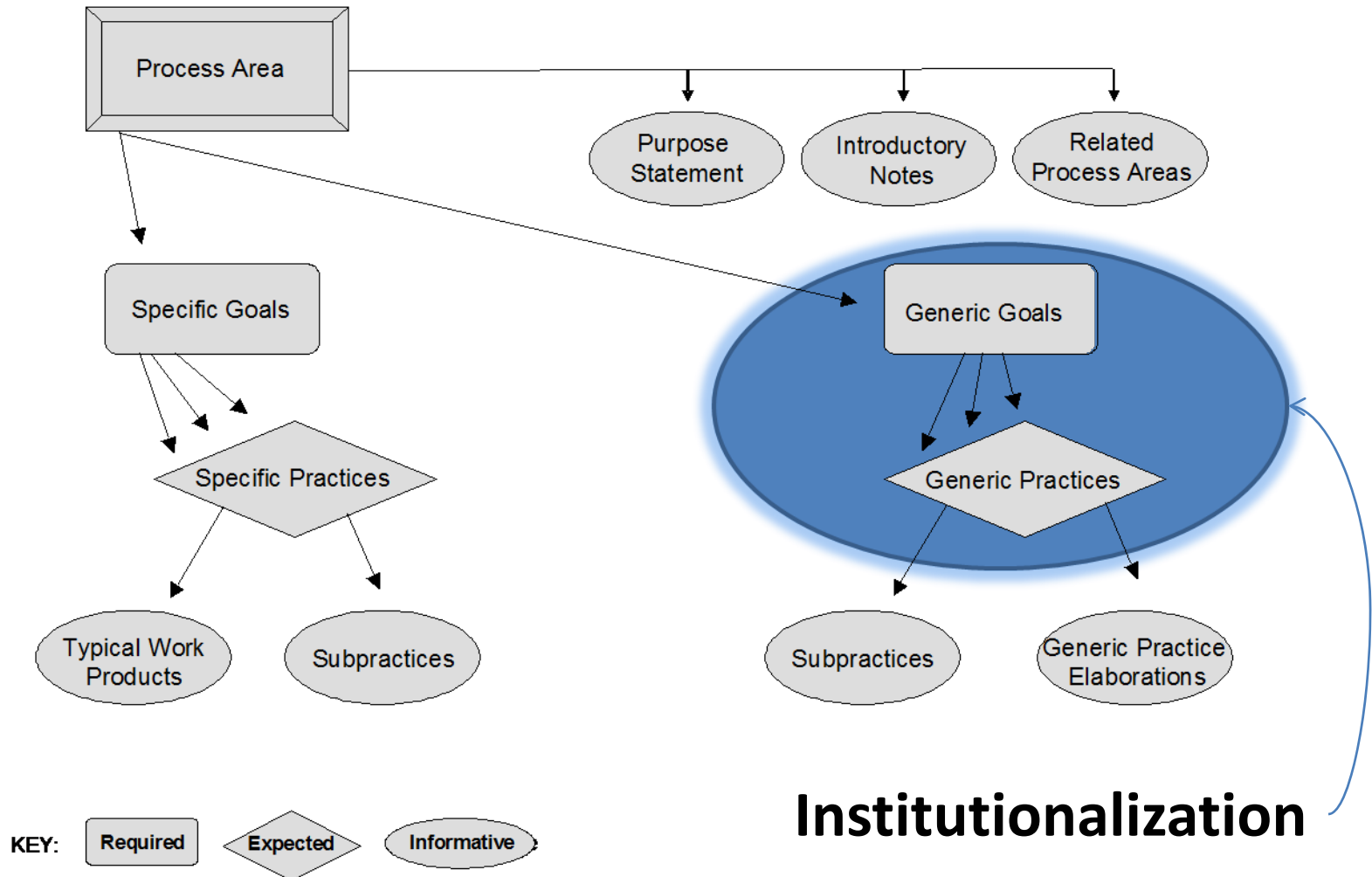
CMMI - Generic Goals and Generic Practices

Agenda:

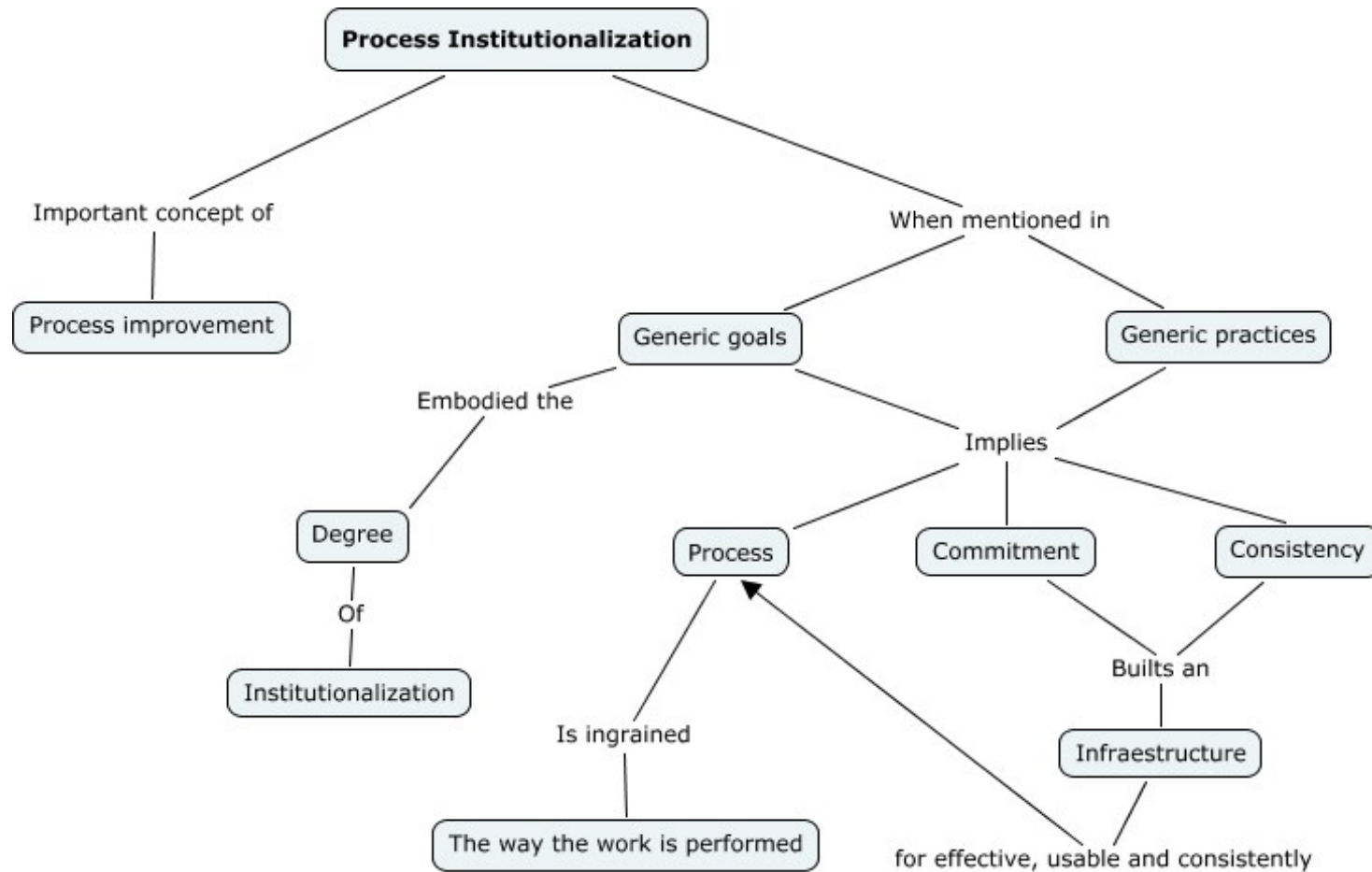
- CMMI Model Components
- Process Institutionalization
- Relationships among Processes
- Generic Goals and Generic Practices
- Generic Practice and Process Area Relationships
- Generic Goals and Generic Practices used in the Continuous and Staged Representation
- References

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CMMI Model Components

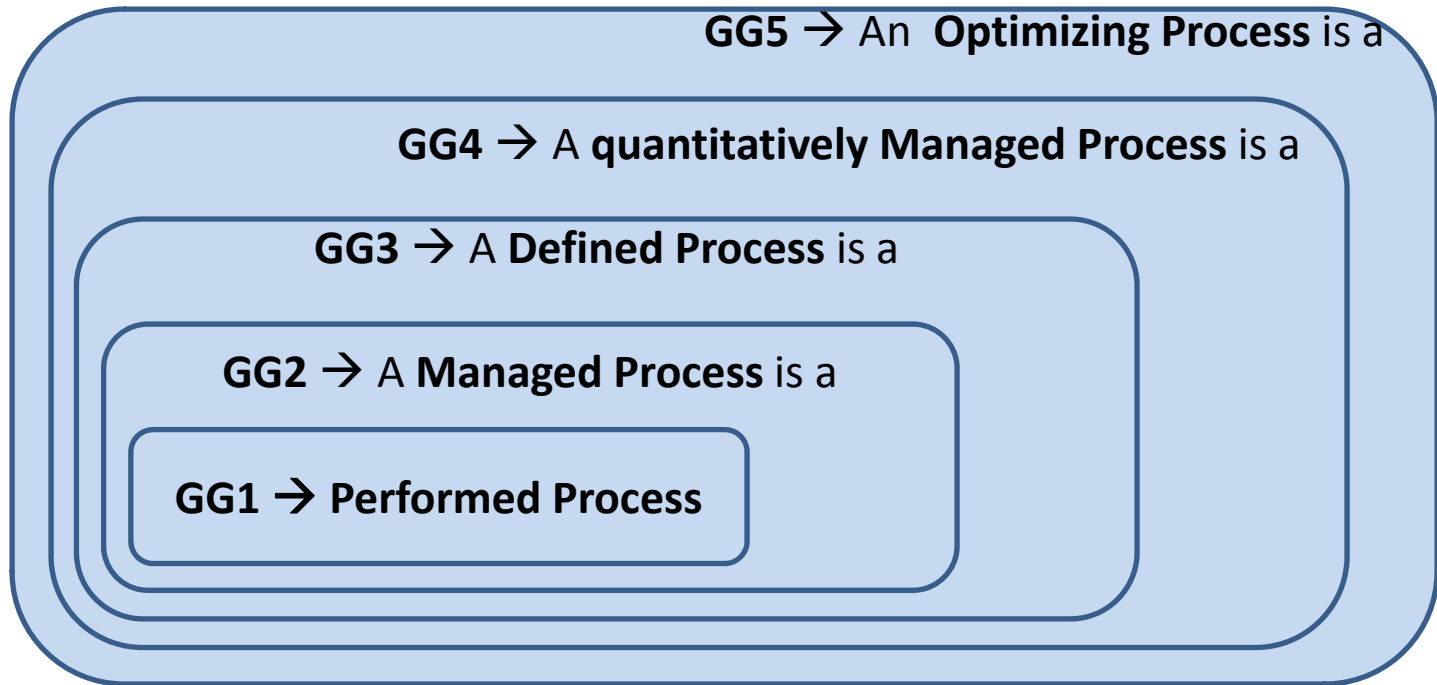


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Relationships among processes



Each GG provides a foundation for the next

- GG1** Achieve Specific Goals
- GG2** Institutionalize a Managed Process
- GG3** Institutionalize a Defined Process
- GG4** Institutionalize a Quantitatively Managed Process
- GG5** Institutionalize an Optimizing Process

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Generic Goals and Generic Practices

GG1 Achieve Specific Goals

GP 1.1 Perform Specific Practices

GG2 Institutionalize a Managed Process

GP 2.1 Establish an Organizational Policy

GP 2.2 Plan the Process

GP 2.3 Provide Resources

GP 2.4 Assign Responsibility

GP 2.5 Train People

GP 2.6 Manage Configurations

GP 2.7 Identify and Involve Relevant Stakeholders

GP 2.8 Monitor and Control the Process

GP 2.9 Objectively Evaluate Adherence

GP 2.10 Review Status with Higher Level Management

GG3 Institutionalize a Defined Process

GP 3.1 Establish a Defined Process

GP 3.2 Collect Improvement Information

GG4 Institutionalize a Quantitatively Managed Process

GP 4.1 Establish Quantitative Objectives for the Process

GP 4.2 Stabilize Subprocess Performance

GG5 Institutionalize an Optimizing Process

GP 5.1 Ensure Continuous Process Improvement

GP 5.2 Correct Root Causes of Problems

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Generic Goals and Generic Practices

GG1 Achieve Specific Goals

The process supports and enables achievement of the specific goals of the process area by transforming identifiable input work products to produce identifiable output work products.

GP 1.1 Perform Specific Practices

Perform the specific practices of the process area to develop work products and provide services to achieve the specific goals of the process area.



“The rigor with which these practices are performed depends on the individuals managing and performing the work and may vary considerably”.

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Generic Goals and Generic Practices

GG2 Institutionalize a Managed Process

- GP 2.1 Establish an Organizational Policy
- GP 2.2 Plan the Process
- GP 2.3 Provide Resources
- GP 2.4 Assign Responsibility
- GP 2.5 Train People
- GP 2.6 Manage Configurations
- GP 2.7 Identify and Involve Relevant Stakeholders
- GP 2.8 Monitor and Control the Process
- GP 2.9 Objectively Evaluate Adherence
- GP 2.10 Review Status with Higher Level Management



“A Managed Process is a Performed Process that is concerned with institutionalization and achievement of specific objectives established for the process, such as cost, schedule, and quality objectives”

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GG3 Institutionalize a Defined Process

GP 3.1 Establish a Defined Process

GP 3.2 Collect Improvement Information

“A **defined process** is a managed process that is tailored from the organization’s set of standard processes according to the organization’s tailoring guidelines; has a maintained process description; and contributes work products, measures, and other process improvement information to the organizational process assets”.

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GG4 Institutionalize a Quantitatively Managed Process

GP 4.1 Establish Quantitative Objectives for the Process

GP 4.2 Stabilize Subprocess Performance

A **quantitatively managed process** is a defined process that is controlled using statistical and other quantitative techniques. The product quality, service quality, and process-performance attributes are measurable and controlled throughout the project.

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GG5 Institutionalize an Optimizing Process

GP 5.1 Ensure Continuous Process Improvement

GP 5.2 Correct Root Causes of Problems

“An **optimizing process** is a quantitatively managed process that is changed and adapted to meet relevant current and projected business objectives. An optimizing process focuses on continually improving process performance through both incremental and innovative technological improvements. Process improvements that address common causes of process variation, root causes of defects, and other problems; and those that would measurably improve the organization’s processes are identified, evaluated, and deployed as appropriate. These improvements are selected based on a quantitative understanding of their expected contribution to achieving the organization’s process improvement objectives versus the cost and impact to the organization”.

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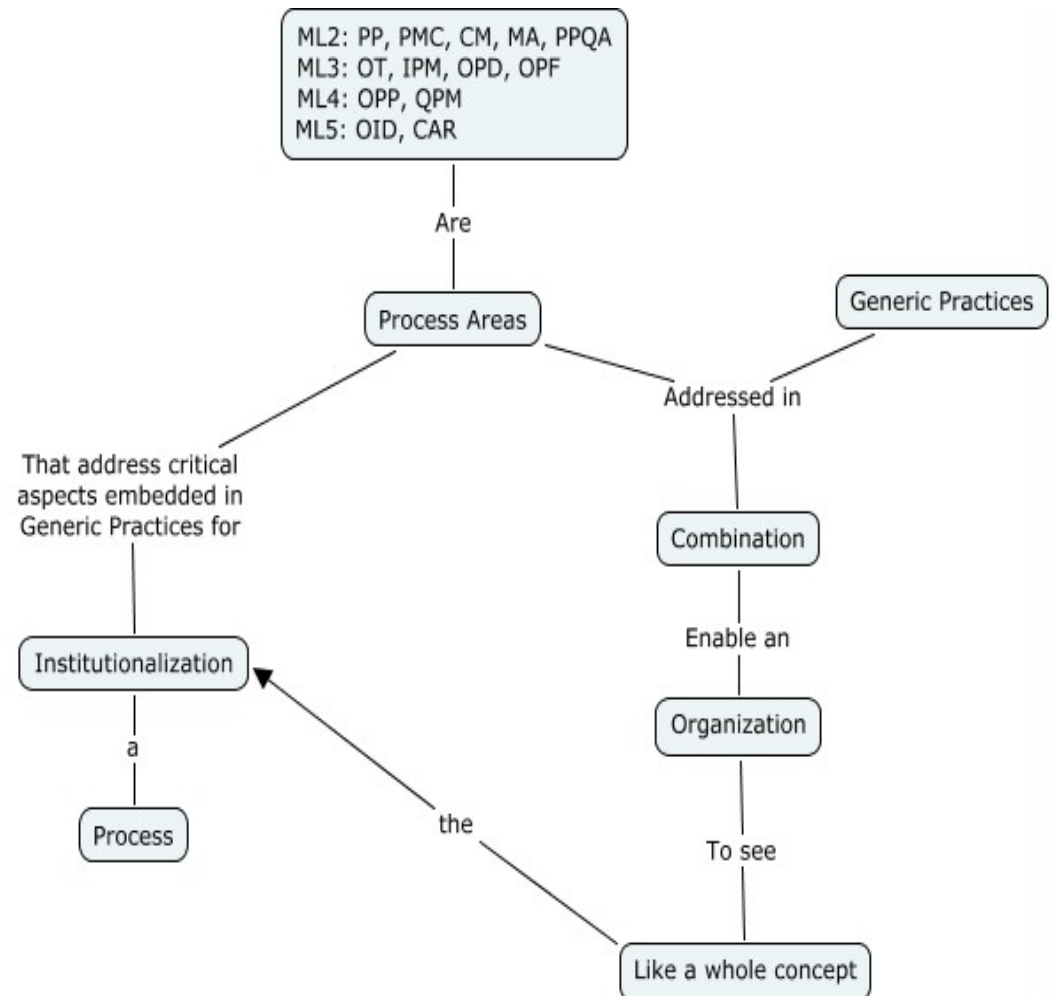
GGs and GPs:

- Contribute to process institutionalization
- Helps to build the infrastructure for effective, usable and consistently processes
- Apply to all PAs

Processes and PAs

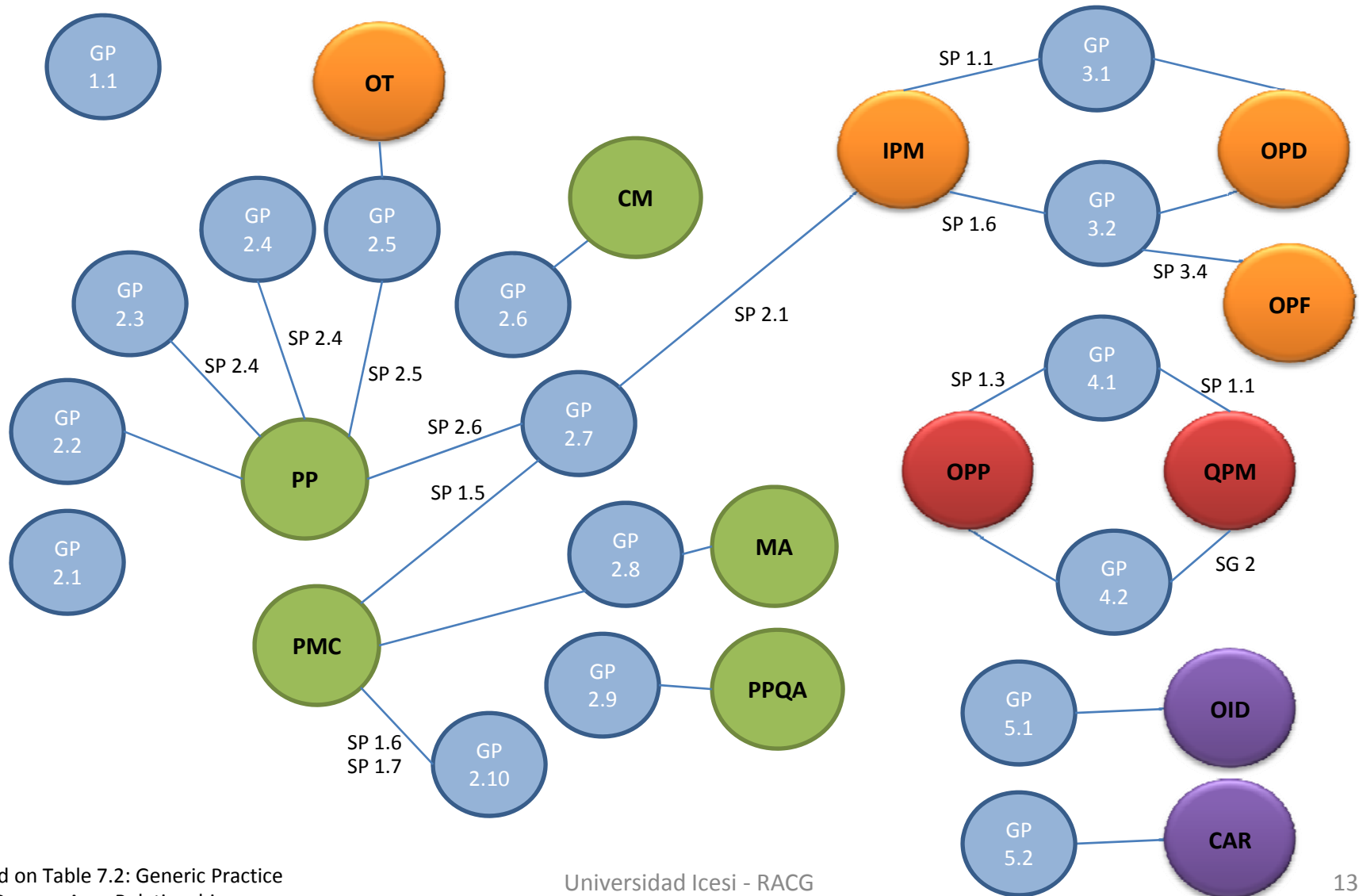
- The word “Process” mentioned in GGs and GPs refer to the process or processes that implement the PA.
- The GPs are linked to processes, not to PAs.

Relationships among GPs and PAs



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Generic Practice and Process Area Relationships



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GG1 – GP : Generic Practice and Process Area Relationships

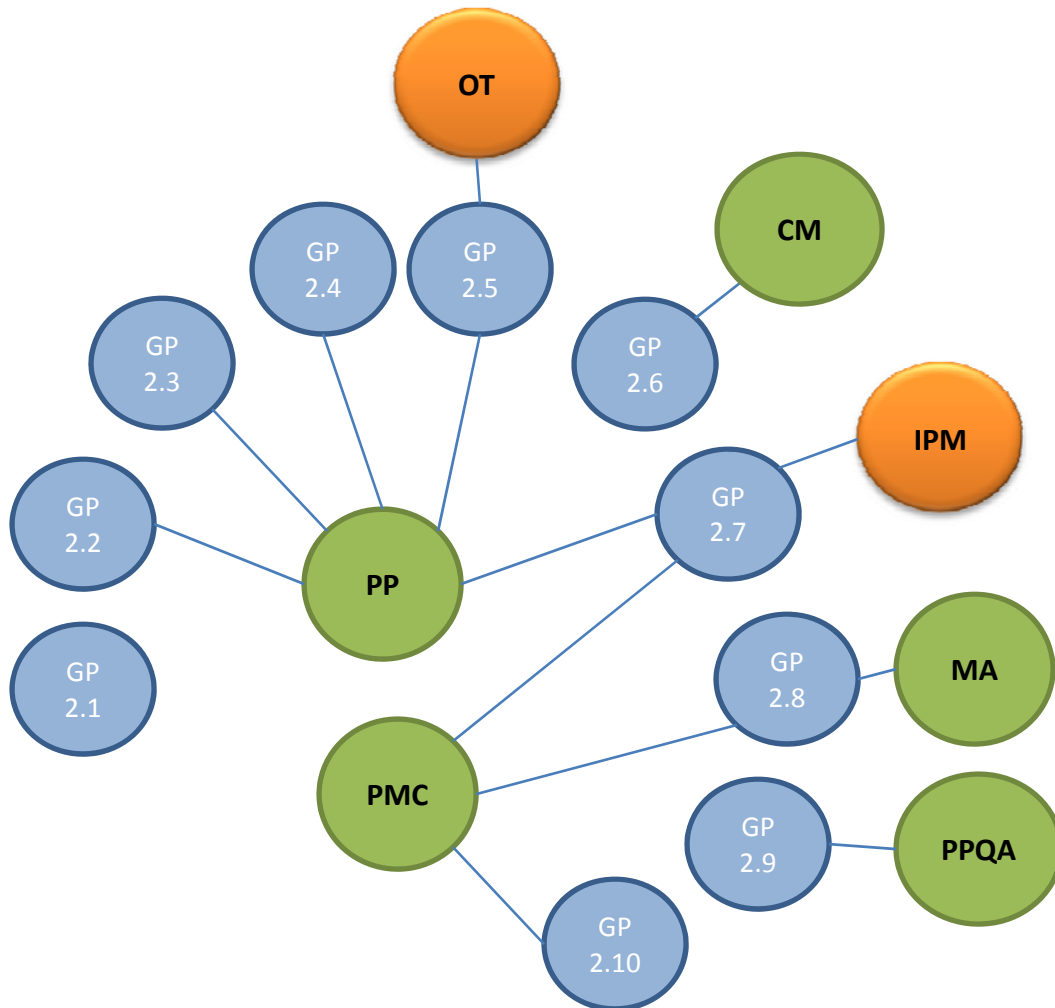


GG1 Achieve Specific Goals

GP 1.1 Perform Specific Practices

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GG2 – GP : Generic Practice and Process Area Relationships

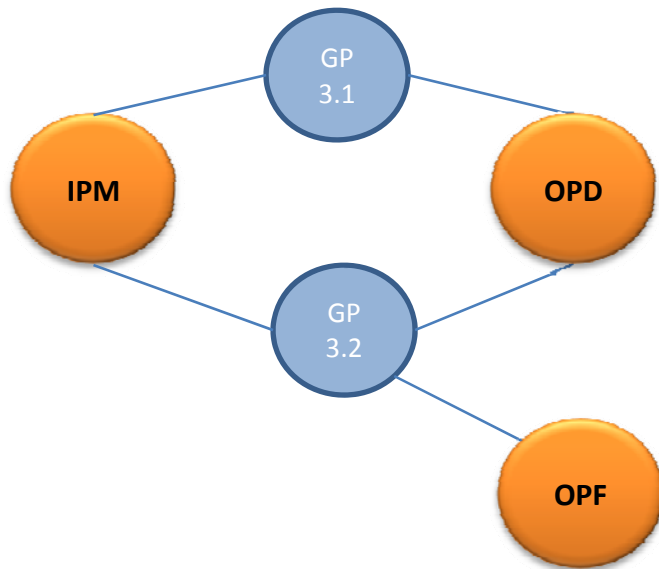


GG2 Institutionalize a Managed Process

- GP 2.1 Establish an Organizational Policy
- GP 2.2 Plan the Process
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GG3 – GP : Generic Practice and Process Area Relationships



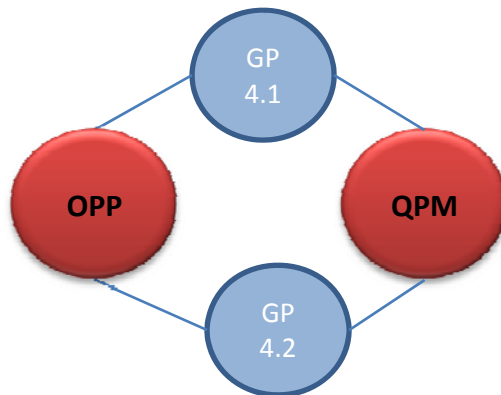
GG3 Institutionalize a Defined Process

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GG4 – GP : Generic Practice and Process Area Relationships



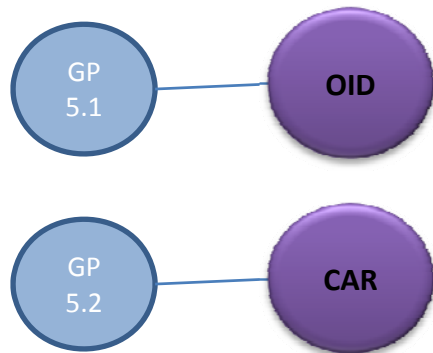
GG4 Institutionalize a Quantitatively Managed Process

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GP 4.2 Stabilize Subprocess Performance

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GG5 – GP : Generic Practice and Process Area Relationships



GG5 Institutionalize an Optimizing Process

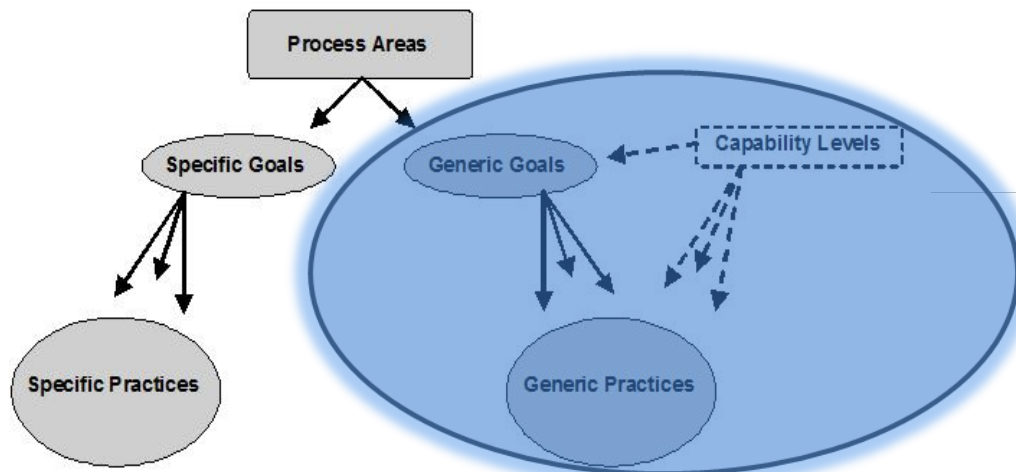
GP 5.1 Ensure Continuous Process Improvement

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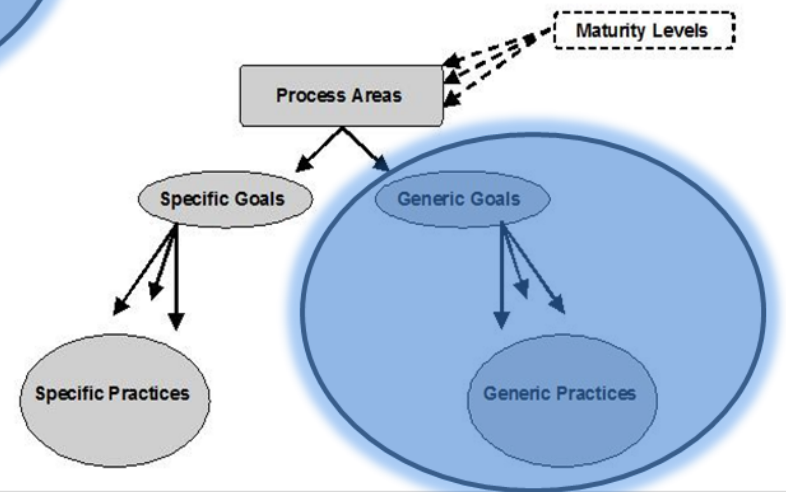
Generic Goals and Generic Practices used in the Continuous and Staged Representation

Continuous Representation



- GGs are required model components that apply to all the PAs.
- All the GGs and GPs are used in the Continuous Representation.
- Only GG2 and GG3 and their GPs are used in the Staged Representation.

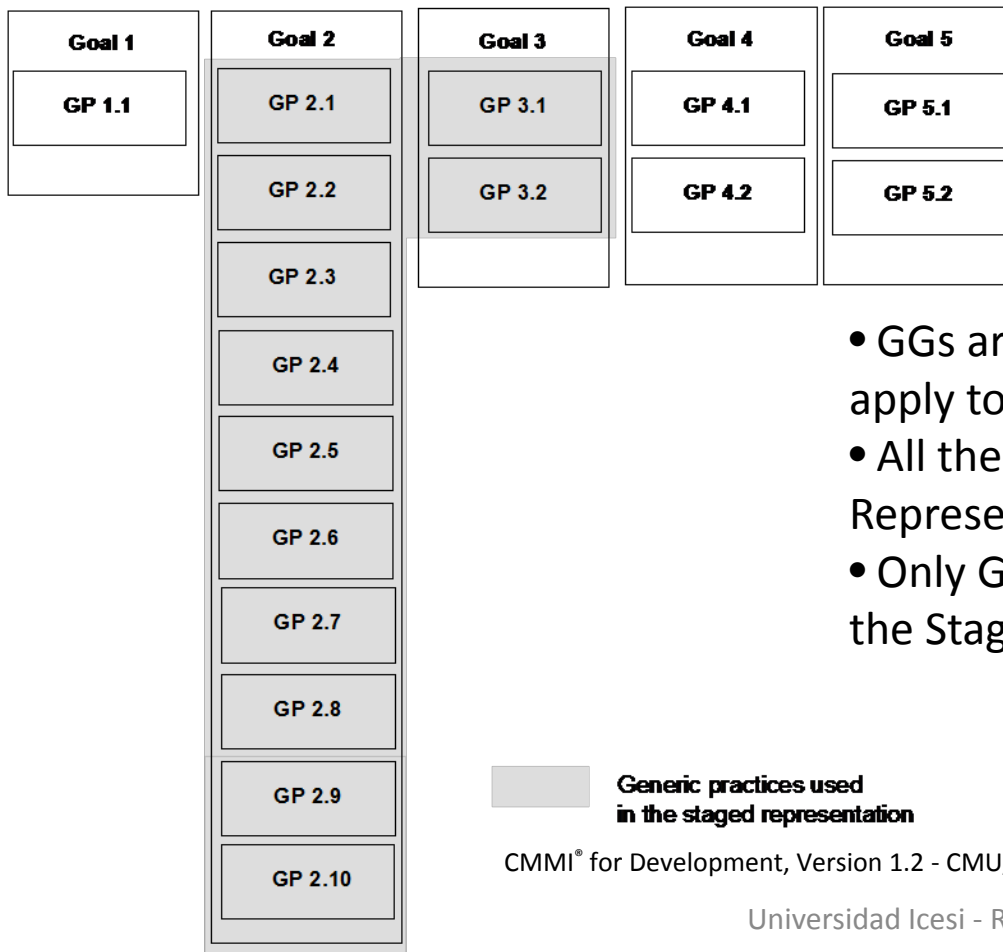
Staged Representation



CMMI - Generic Goals and Generic Practices

Generic Goals and Generic Practices used in the Continuous and Staged Representation

Generic Goals and Practices



- GGs are required model components that apply to all the PAs.
- All the GGs and GPs are used in the Continuous Representation.
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Why?

■ Generic practices used in the staged representation

CMMI® for Development, Version 1.2 - CMU/SEI-2006

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References

- CMMI, guidelines for process integration and product improvement/ Chrissis, Mary Beth; Konrad, Mike; Shrum, Sandy. - 2. ed. - Upper Saddle River, New Jersey : Addison Wesley, c2007. (SEI Series in Software Engineering).
- CMMI® for Development, Version 1.2 - CMU/SEI-2006
- Website <http://www.sei.cmu.edu/cmmi/>
- Introduction to CMMI DEV Version 1.2 – [Training material]
- Intermediate Concepts of CMMI DEV Version 1.2 – [Training material]
- CMMI survival guide, just enough process improvement/ Garcia, Suzanne; Turner, Richard. - Upper Saddle River, New Jersey : Addison Wesley, c2007. (SEI Series in Software Engineering).