

CMMI overview: 3 constellations



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Agenda

- Overview of CMMI
- CMMI-3 Constellations
 - CMMI Development
 - CMMI Acquisition
 - CMMI Service
- Future of CMMI-CMMI V1.3



Overview of CMMI

The purpose of CMMI is to provide guidance for improving your organization's processes and your ability to manage the development, Service, and maintenance of products or services.

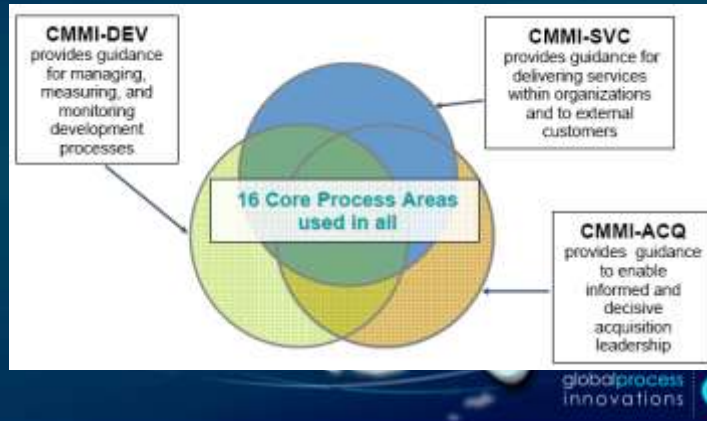
A model defines the way an organization approaches process improvement into two representations:

- Staged Representation
- Continuous Representation



CMMI Constellations

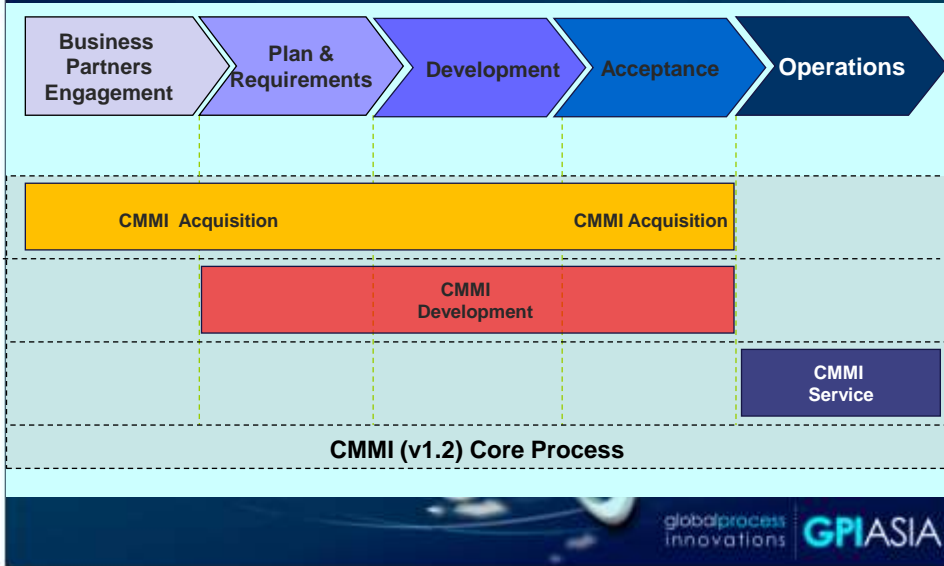
The components in the CMMI Framework are organized into groupings, called **constellations**, which facilitate construction of approved models.



CMMI Constellations

- **CMMI for Services, V1.2**
Released in February 2009, this model is designed for service provider organizations that want to improve their ability to establish, manage, and deliver services.
- **CMMI for Acquisition, V1.2**
Released in November 2007, this model is designed for acquisition organizations that want to improve their ability to acquire products and services.
- **CMMI for Development, V1.2**
Released in August 2006, this model is designed for development organizations that want to improve their ability to develop products and services.

CMMI thru the Product Lifecycle



16 Core Process Areas

LEVEL	PROCESS AREA
5 Optimizing	<ul style="list-style-type: none"> • Causal Analysis and Resolution (CAR) • Organizational Innovation and Deployment (OID)
4 Quantitatively Managed	<ul style="list-style-type: none"> • Quantitative Project Management (QPM) • Organizational Process Performance (OPP)
3 Defined	<ul style="list-style-type: none"> • Organizational Process Focus (OPF) • Organizational Process Definition (OPD) • Organizational Training (OT) • Integrated Project Management (IPM) • Risk Management (RSKM) • Decision Analysis and Resolution (DAR)
2 Managed	<ul style="list-style-type: none"> • Requirements Management (REQM) • Project Planning (PP) • Project Monitoring and Control (PMC) • Measurement and Analysis (MA) • Process and Product Quality Assurance (PPQA) • Configuration Management (CM)
1 Performed	

CMMI-Development

LEVEL	PROCESS AREA
5 Optimizing	<ul style="list-style-type: none"> Causal Analysis and Resolution (CAR) Organizational Innovation and Deployment (OID)
4 Quantitatively Managed	<ul style="list-style-type: none"> Quantitative Project Management (QPM) Organizational Process Performance (OPP)
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2 Managed	<ul style="list-style-type: none"> Requirements Management (REQM) Project Planning (PP) Project Monitoring and Control (PMC) Measurement and Analysis (MA) Process and Product Quality Assurance (PPQA) Configuration Management (CM)
1 Performed	

Specific Process Areas

Level 3

- Requirements Development
- Technical Solution
- Product Integration
- Verification
- Validation

Level 2

- Supplier Agreement Management

CMMI-Development

- CMMI-DEV is a model or collection of “best practices” that organizations follow to dramatically improve the effectiveness, efficiency, and quality of their product and service development work.
- It covers the software development lifecycles from conception through delivery and maintenance.

CMMI-Acquisition

LEVEL	PROCESS AREA
5 Optimizing	<ul style="list-style-type: none"> Causal Analysis and Resolution (CAR) Organizational Innovation and Deployment (OID)
4 Quantitatively Managed	<ul style="list-style-type: none"> Quantitative Project Management (QPM) Organizational Process Performance (OPP)
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2 Managed	<ul style="list-style-type: none"> Requirements Management (REQM) Project Planning (PP) Project Monitoring and Control (PMC) Measurement and Analysis (MA) Process and Product Quality Assurance (PPQA) Configuration Management (CM)
1 Performed	

Specific Process Areas

Level 3

- Acquisition Technical Management
- Acquisition Verification
- Acquisition Validation

Level 2

- Acquisition Requirements Development
- Solicitation and Supplier Agreement Development
- Agreement Management

CMMI-Acquisition

- CMMI-ACQ is a best practices model that can help you improve relationships with your suppliers by helping you improve your own processes.
- It can be used to increase your control of projects, better manage global sourcing of products and services, and more successfully acquire solutions that meet your organization's needs.

CMMI-Service

LEVEL	PROCESS AREA
5 Optimizing	<ul style="list-style-type: none"> Causal Analysis and Resolution (CAR) Organizational Innovation and Deployment (OID)
4 Quantitatively Managed	<ul style="list-style-type: none"> Quantitative Project Management (QPM) Organizational Process Performance (OPP)
3 Defined	<ul style="list-style-type: none"> Organizational Process Focus (OPF) Organizational Process Definition (OPD) Organizational Training (OT) Integrated Project Management (IPM) Risk Management (RSKM) Decision Analysis and Resolution (DAR)
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1 Performed	

Specific Process Areas

Level 3

- Capacity and Availability Management
- Incident Resolution & Prevention
- Service Continuity
- Service System Development
- Service System Transition
- Strategic Service Management

Level 2

- Service Delivery
- Supplier Agreement Management

CMMI-Service

- CMMI-SVC is a guide to help service provider organizations reduce costs, improve quality, and improve the predictability of schedules.
- It extends the coverage of the CMMI Product Suite to cover the establishment, management, and delivery of services.

Future of CMMI

CMMI Version 1.3 will include updates to the entire CMMI Product Suite and will focus on, but not be limited to:

- Clarity of high maturity
- More effective generic practices
- Appraisal efficiencies
- Commonality across the constellations: Development, Acquisition, and Services

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Criteria for Product Suite Changes

All changes to the CMMI Product Suite must meet the following primary criteria, which will likely be of the following nature:

- Correct identified model, training material, or appraisal method defects or provide enhancements.
- Incorporate amplifications and clarifications as needed.
- Accommodate potential additions to model coverage (e.g., safety, security, life cycle) only by specific direction of the CMMI Steering Group.

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Criteria for Product Suite Changes

- Decrease overall model size in V1.3 if possible; increases, if any, must not be greater than absolutely necessary.
- Model and method changes should avoid adversely impacting the legacy investment of adopting companies and organizations.
- Changes to model architecture will only be incorporated with specific CMMI Steering Group authorization.



Criteria for Product Suite Changes

- Changes may only be initiated by Change Requests or the CMMI Steering Group.
- Editorial changes to training may be released in advance of V1.3.
- Changes must not cause retraining of the nearly 100,000 (as of December 2008) personnel already trained in CMMI. Upgrade training may be needed, especially for Instructors, Lead Appraisers, and appraisal team members.



Major Elements of V1.3

- High Maturity Clarifications
- Constellation Commonality
- Translations
- Expanded Coverage
- Multi-Constellation Coverage
- Appraisal Efficiency
- Model Sizing
- Schedule
- Beta testing



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High Maturity Clarifications

focuses on the four high maturity process areas:

- Organizational Process Performance (OPP)
- Quantitative Project Management (QPM)
- Causal Analysis and Resolution (CAR)
- Organizational Innovation and Deployment (OID).



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Constellation Commonality

Determine how best to provide teaming information in a single approach in all three CMMI constellations.

To ensure commonality of the approach to teaming has gained importance since the Team Software Process has demonstrated the performance potential of high-performing teams.



Translations

To improve the models' ease of translation e.g. eliminating the use of words such as "stovepipe," which is difficult to interpret into different languages appropriately because its literal meaning is different from how we use it in CMMI models.



Expanded Coverage

Expansion of CMMI models in new directions such as adding some of the current information on architecture, software assurance, Agile, and Lean Six Sigma or more emphasis on activities to assure customer satisfaction.



Multi-Constellation Coverage

To enable as much sharing of best practices across the constellations as possible and improve the SCAMPI Method Definition Document to facilitate appraisals that use process areas from multiple.



Appraisal Efficiency

Modified the appraisal method associated with the SW-CMM from its discovery focus to a verification focus, it was intended to save appraisal time.



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Model Sizing

To meet the fourth criterion that limits the overall size of CMMI models, we are looking for ways to balance model additions with deletions.



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Schedule & Beta testing

Not yet decided on a release schedule for the various elements of CMMI Version 1.3

Organizations can use Version 1.3 development drafts (during the piloting period) and give the feedback on proposed changes for the upgrade to Version 1.3



Reference

- SEI Official Website: <http://www.sei.cmu.edu/>
 - Tools and methods related to CMMI
 - CMMI Version 1.3



Q&A

Thank you.

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