

The CMM Integration is a model that has integrated several disciplines / bodies of knowledge. Currently there are four bodies of knowledge available to you when selecting a CMMI model.

Systems Engineering

Systems engineering covers the development of complete systems, which may or may not include software. Systems engineers focus on transforming customer needs, expectations, and constraints into product solutions and supporting these product solutions throughout the entire lifecycle of the product.

Software Engineering

Software engineering covers the development of software systems. Software engineers focus on the application of systematic, disciplined, and quantifiable approaches to the development, operation, and maintenance of software.

Integrated Product and Process Development

Integrated Product and Process Development *IPPD* is a systematic approach that achieves a timely collaboration of relevant stakeholders throughout the life of the product to better satisfy customer needs, expectations, and requirements. The processes to support an IPPD approach are integrated with the other processes in the organization.

If a project or organization chooses IPPD, it performs the IPPD best practices concurrently with other best practices used to produce products *e. g. , those related to systems engineering*. That is, if an organization or project wishes to use IPPD, it must select one or more disciplines in addition to IPPD.

Supplier Sourcing

As work efforts become more complex, project managers may use suppliers to perform functions or add modifications to products that are specifically needed by the project. When those activities are critical, the project benefits from enhanced source analysis and from monitoring supplier activities before product delivery. Under these circumstances, the supplier sourcing discipline covers the acquisition of products from suppliers.

Similar to IPPD best practices, supplier sourcing best practices must be selected in conjunction with best practices used to produce products.

CMMI Discipline Selection

Selecting a discipline may be a difficult step and depends on what an organization wants to improve.

- If you are improving your systems engineering processes, like Configuration Management, Measurement and Analysis, Organizational Process Focus, Project Monitoring and Control, Process and Product Quality Assurance, Risk Management, Supplier Agreement Management etc., then you should select Systems engineering *SE* discipline. The discipline amplifications for systems engineering receive special emphasis.
- If you are improving your integrated product and process development processes like Integrated Teaming, Organizational Environment for Integration, then you should select IPPD. The discipline amplifications for IPPD receive special emphasis.
- If you are improving your source selection processes like Integrated Supplier Management then you should select Supplier sourcing *SS*. The discipline amplifications for supplier sourcing receive special emphasis.
- If you are improving multiple disciplines, then you need to work on all the areas related to those disciplines and pay attention to all of the discipline amplifications for those disciplines.

We will discuss different areas related to CMMI implementation in subsequent chapters.

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