Integrated Product Development
Capability Maturity Model

Overview Briefing
What is the Integrated Product Development Capability Maturity Model℠ (IPD-CMM℠)?

- Describes essential elements of integrated product development
- Road map for integrated product development process improvement
- Measurement methodology to determine how well integrated product development is being done in an organization
Who Developed the IPD-CMM?

Industrial Collaboration (EPIC):
- Dayton Aerospace
- FAA
- Electric Boat Corp.
- Hughes
- Lockheed Martin (Loral)
- SECAT LLC
- SEI
- Texas Instruments

- Office of Secretary of Defense

- Project Leader
- Steering Group
- Chief Architect
- Correspondence Group
- Workshop Participants
- SEI Support
- Project Librarian
- Base Practices Team
- Appraisal Method Team
- Key Reviewers

= core team

= primary critique source
Scope of the IPD-CMM

Model assumes the existence of a strategic plan
What is the IPD-CMM Measuring?

- IPD-CMM measures both the quantitative and qualitative aspects of success

**Quantitative Aspects Include:**
- Planning
- Tracking against the plan
- Measurement
- Quantitative quality goals
- Documented process
- Peer reviews
- Allocation of resources

**Qualitative Aspects Include:**
- Leadership
- Vision
- Communication
- Decision making
- Collaboration
- Integration of processes and disciplines
IPD-CMM Architecture (V0.93+)

- Stage 1
  - Build, Verify & Test Product
  - Evolve Product Rqmnts
  - Define Product Lifecycle
  - Select & Dvlp Bsns Ops

- Stage 2
  - Involve Stakeholders
  - Provide Leadership
  - Monitor & Control Process
  - Ensure Quality
  - Manage Configurations
  - Plan the Process

- Stage 3
  - Provide Visionary Leadership
  - Evolve Org. Environment
  - Maintain Integrated Teams
  - Define Organizational Processes
  - Provide Work Environment
  - Provide Needed Skills & Knwldg

- Stage 4
  - Use Quantitative Methods

- Stage 5
  - Improve Org. Std Process

Capability Levels:
- Capability Level 1
- Capability Level 2
- Capability Level 3
- Capability Level 4
- Capability Level 5
IPD-CMM Designed to Eliminate Duplication Caused by Overlap of Existing CMMs

IPD-CMM provides one set of “support process areas” which are applicable to any domain
IPD-CMM Provides the Option of a Broad or Detailed View

Assessment Option #1
- IPD PA1
- IPD PA2
- IPD PA3
- IPD PA4
- IPD PA5
- IPD PA6
- IPD PAn
- IPD PAn+1

Assessment Option #2
- Replace IPD PA #2 with following SE-CMM PAs:
  - SE PA1
  - SE PA2
  - SE PA3
  - SE PA4

Companies can choose to replace high-level IPD PAs with more detailed PAs from other existing CMMs if desired.
Impact of the IPD-CMM to Companies Using Existing Models

Companies have a variety of options

**Ignore the IPD-CMM**
- Pro: No possible perturbation to existing improvement efforts
- Con: Continued overlap of effort if using more than 1 CMM; does not take advantage of improvement in measuring softer aspects of success

**Use Models Together**
- Pro: Benefit of IPD-CMM; benefit of detailed domain view
- Con: Small perturbation to existing improvement efforts

**Migrate to the IPD-CMM**
- Pro: Straight-forward; simplified assessment process
- Con: Loose detailed view of specific domains; perturbation to existing improvement efforts
IPD-CMM Draws From the SE-CMM

Systems Engineering CMM

- Generic Practices
- SE Domain PAs
- Management & Support PAs

Integrated Product Development CMM

- Process Capability Generic Practices
- Product Development PAs
- Management & Support PAs

~95% Overlap

Extrapolate to higher level

~80% Overlap
Formed to help companies improve their product development processes using Capability Maturity Models as a primary tool

SECAT LLC principles are authors of CMMs, including the Systems Engineering CMM and Integrated Product Development CMM

Offering CMM training, assessments, and process improvement guidance

SECAT LLC operates internationally, providing services for customers that include Motorola, Eastman Kodak, Defense Logistics Agency, Hughes, TRW, Northrop Grumman, Thomson CSF, and Computing Devices Canada
More Information or Obtaining IPD-CMM Project Products

For more on the benefits of the IPD-CMM contact SECAT LLC at 714-449-0423, secat@secat.com, or http://www.csz.com/secat