



CMMI[®] Version 1.2 and Beyond

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Thanks to Gary Wolf and D'Ann Hunt from Raytheon, Denise Cattano of SPIRULA



CMMI Today



Selected CMMI® Data (FY06)

17,630 Trained in Introduction to CMMI

Net increase of:

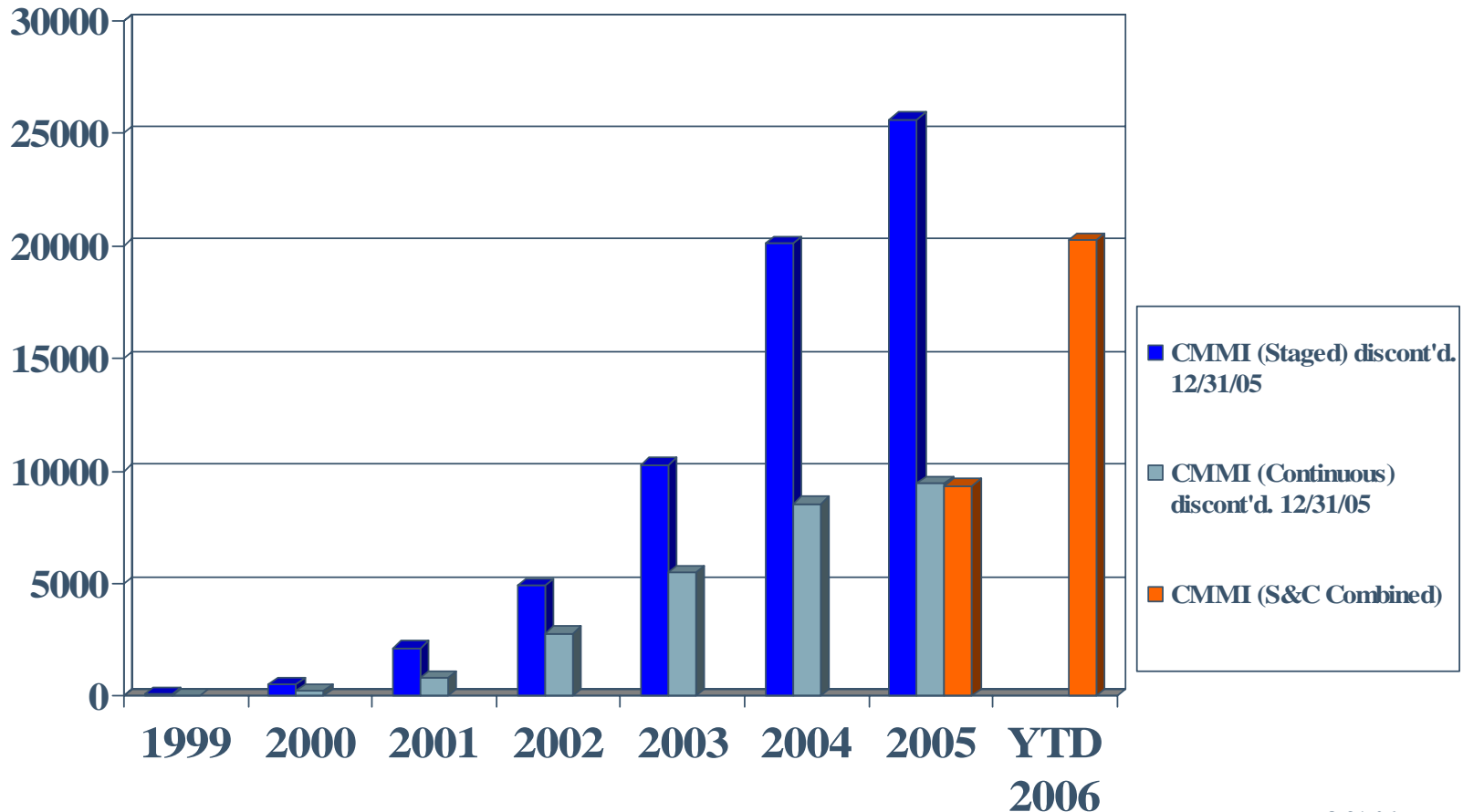
- 108 Authorized Introduction to CMMI Instructors**
 - 45 Authorized SCAMPI Lead Appraisers**
 - 84 Authorized SCAMPI B/C Team Leads**

744 SCAMPI V1.1 Class A Appraisals conducted and reported to the SEI

417 Publicly Reported SCAMPI V1.1 Class A Appraisals on the SEI Web Site



Number of CMMI Students Trained (Cumulative)





Transition from V1.1 to V1.2 Status - 10-12-06

Introduction to CMMI Students

- Registered for Upgrade Training – 464
- Upgrades Complete – 190

Lead Appraisers and Instructors

- Registered for Upgrade Training – 561
- Upgrade Training Complete – 256
- Exams
 - Passed – 159
 - Failed (and not yet retaken) – 7



CMMI Adoption Trends

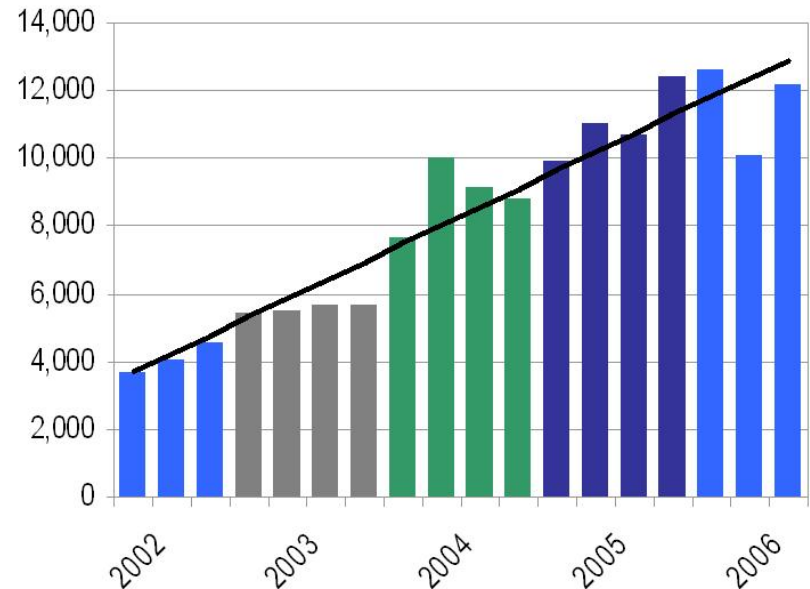
CMMI Web pages views in
September 2006

- 360K/month
- Exceeded 24K/day

The following were the most
downloaded files on the SEI
Web site in September 2006:

- CMMI-DEV, V1.2 (PDF
Version)
- CMMI V1.1 Overview
Presentation
- CMMI V1.2 Overview
Presentation
- CMMI-DEV, V1.2 (Word
Version)
- CMMI V1.2 Model Changes
Presentation

Average daily page views per quarter



CMMI Transition Status – 10/31/06

Training

Introduction to CMMI – 58,178 trained

Intermediate CMMI – 2,280 trained

Introduction to CMMI Instructors – 449

SCAMPI Lead Appraisers – 630 trained

SCAMPI B&C-Only Team Lead -- 33

Authorized

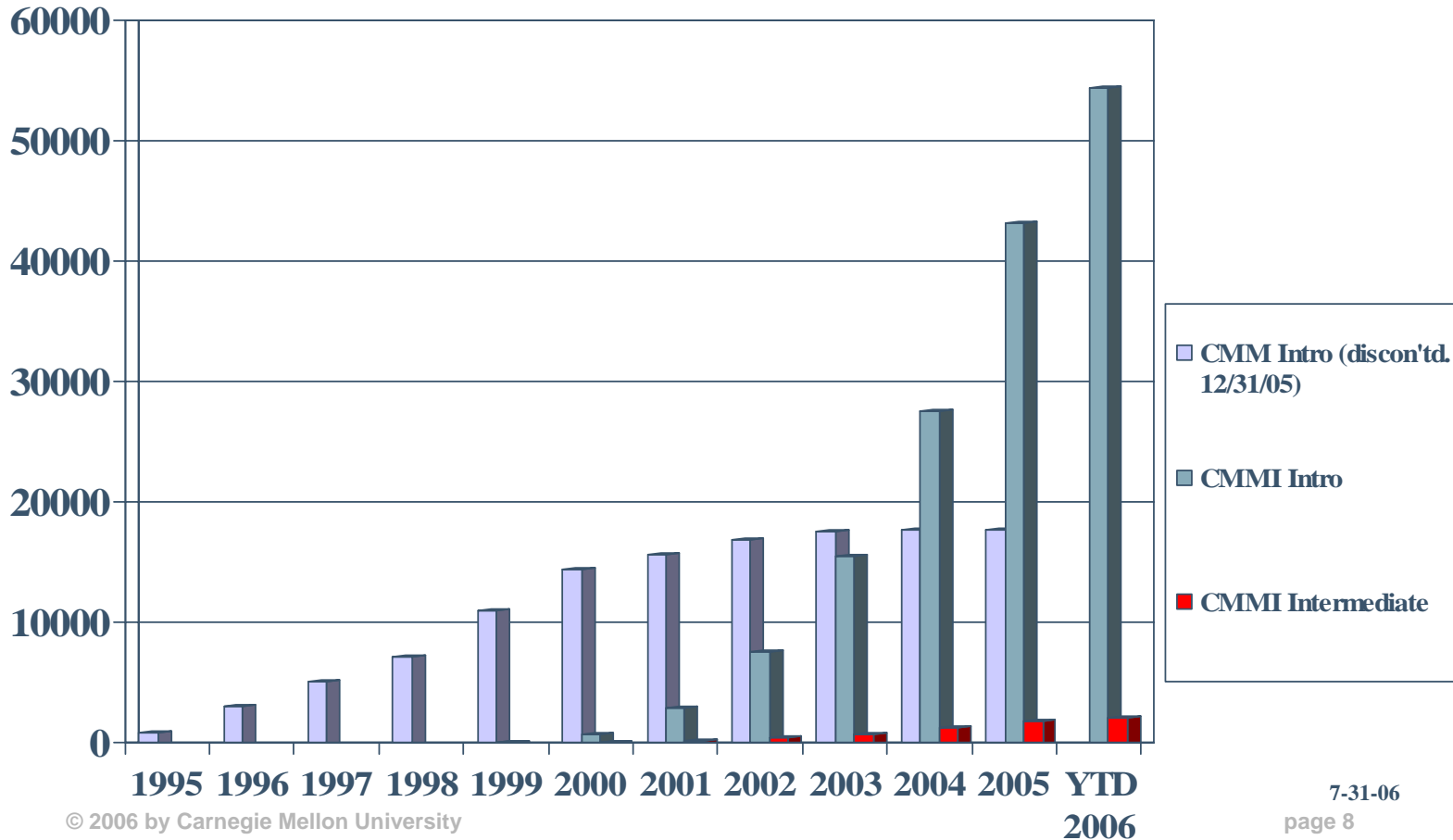
Introduction to CMMI V1.1 Instructors – 404

SCAMPI V1.1 Lead Appraisers – 451

SCAMPI B&C Team Leads -- 432



Intro to the CMM and CMMI Attendees (Cumulative)

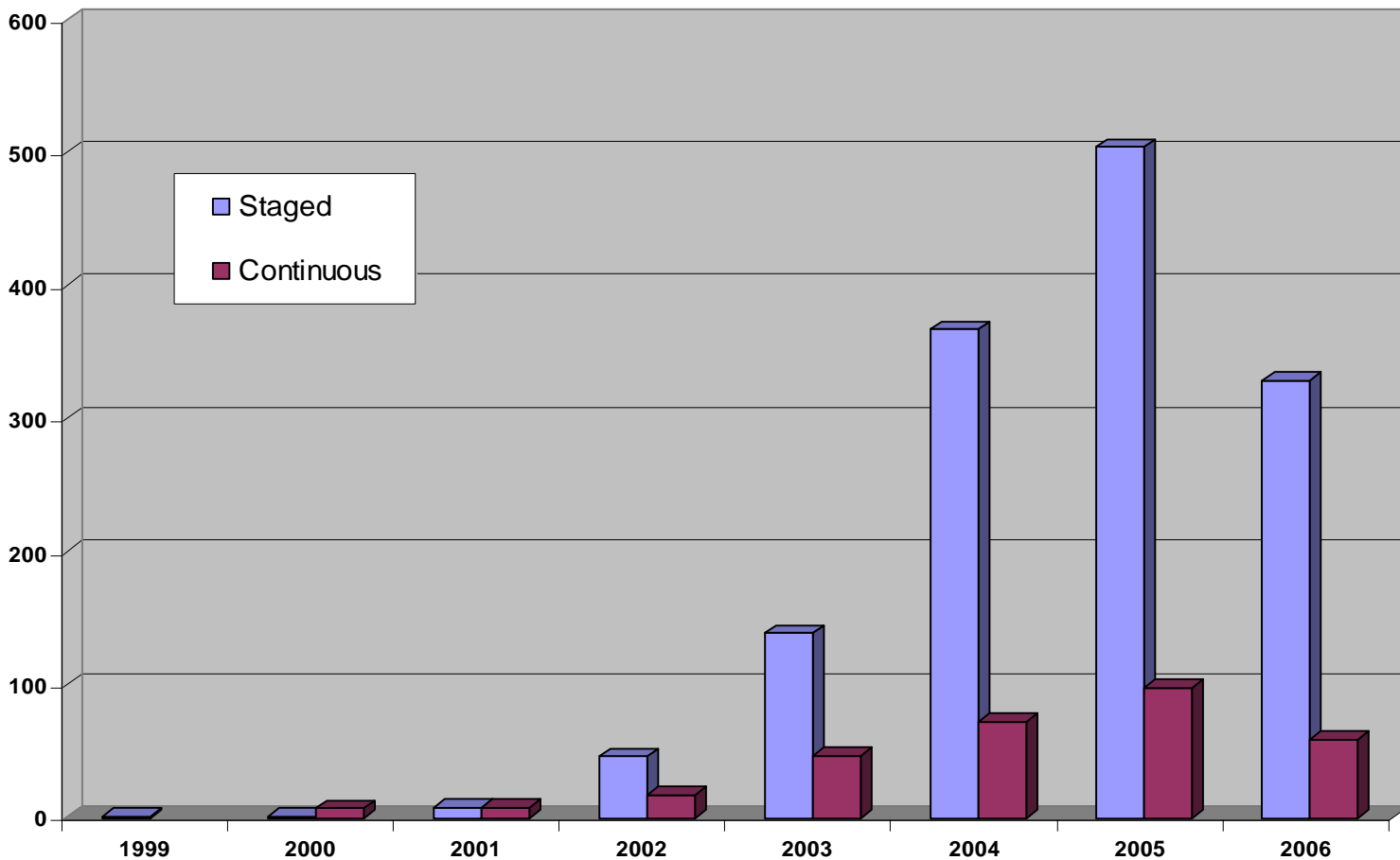




Number of SCAMPI vX Class A Appraisals Conducted by Year by Model Representation*

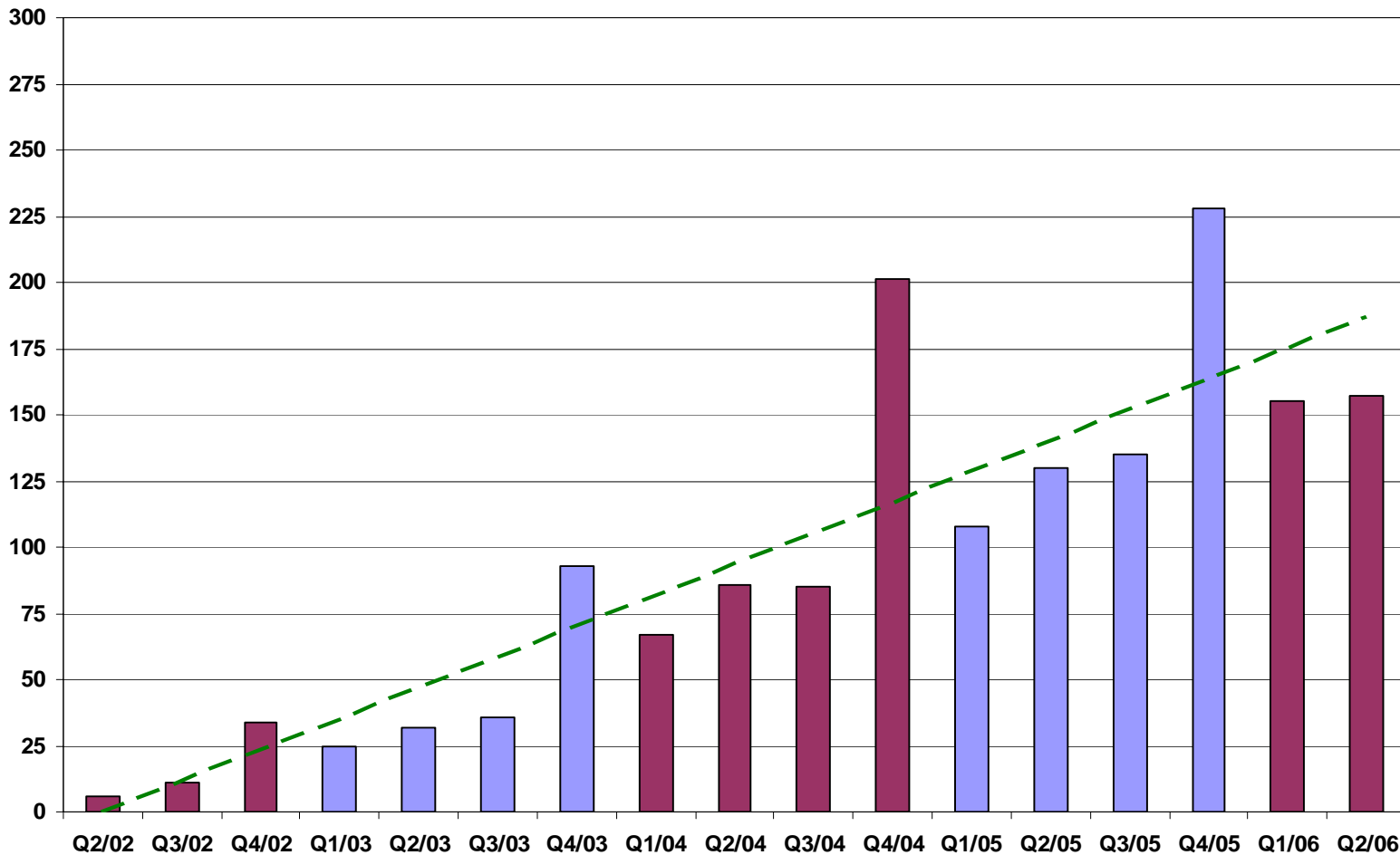
Reported as of 31 August 2006

*Where Representation is reported



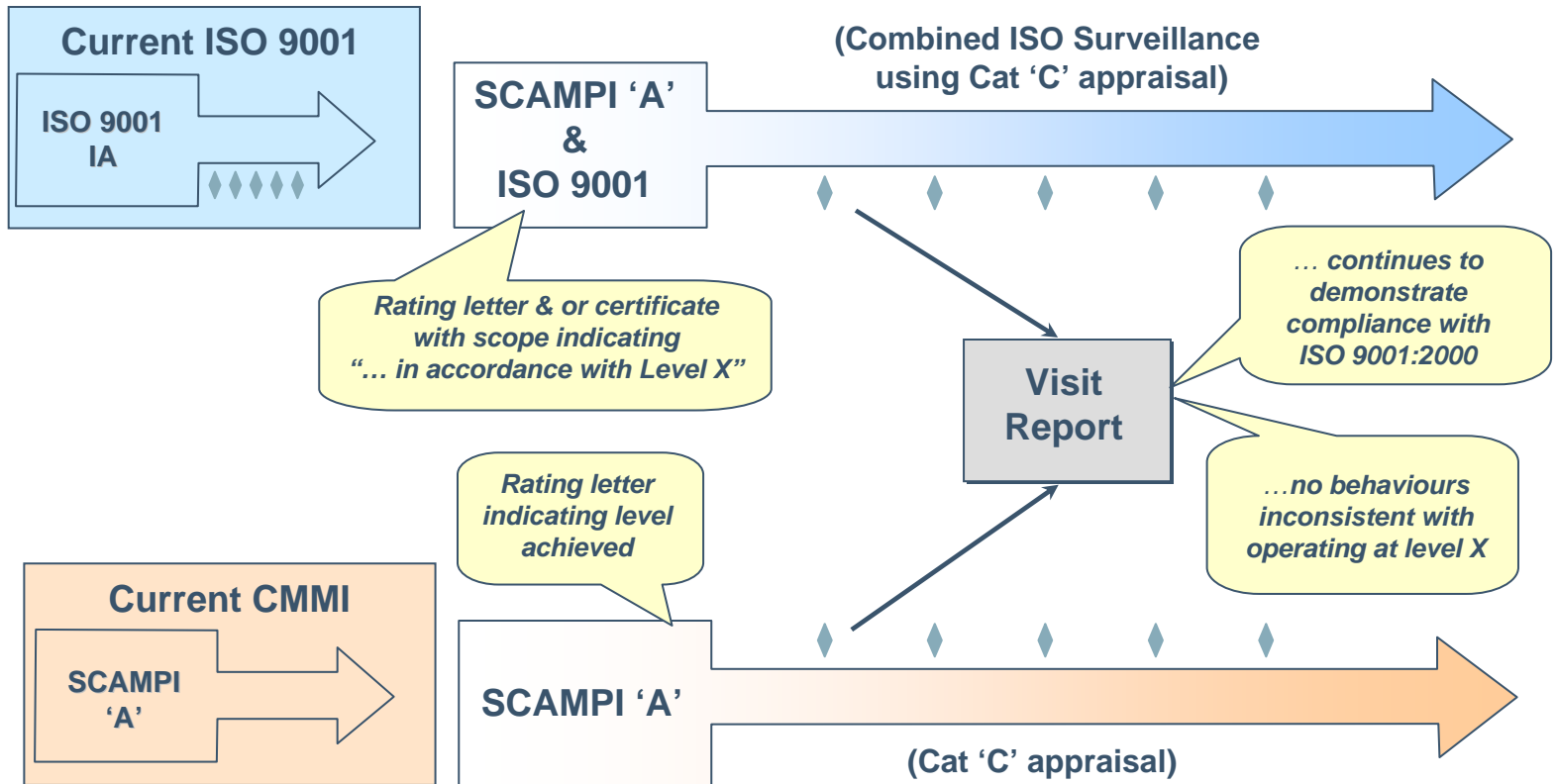


Number of SCAMPI v1.1 Class A Appraisals Conducted by Quarter Reported as of 31 August 2006





Combined Appraisal Opportunities



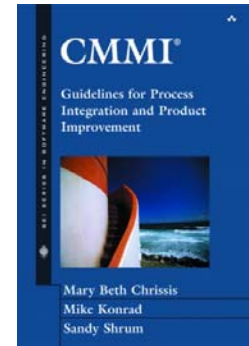
The possible options for assessment and surveillance



Adoption: What Else Is Happening?

The Addison-Wesley SEI Series Book and:

- A Guide to the CMMI
- CMMI: A Framework...
- CMMI Assessments
- CMMI Distilled: Second Edition
- CMMI SCAMPI Distilled
- CMMI: Un Itinéraire Fléché
- De kleine CMMI
- Interpreting the CMMI
- Making Process Improvement Work
- Practical Insight into CMMI
- Real Process Improvement Using the CMMI
- CMMI Survival Guide
- Systematic Process Improvement Using ISO 9001:2000 and CMMI
- Balancing Agility and Discipline



How about SEI Publications?

Technical notes and special reports:

- Interpreting CMMI:
 - for Operational Organizations
 - for COTS Based Systems
 - for Service Organizations
 - for Marketing (in progress)
- Using CMMI with:
 - Earned Value Management
 - Product Line Practices
 - Six Sigma
- Supplementing CMMI for Safety Critical Development (in progress)
- Demonstrating the Impact and Benefits of CMMI (and web pages – www.sei.cmu.edu/cmml/results)

CMMI Today

Version 1.1 CMMI Product Suite was released January 2002.

- **CMMI Web site visits average over 12,000/day**
- **Over 58,000 people have been trained**
- **Almost 1600 “class A” appraisals have been reported to the SEI**

Now we want to continuously improve...



CMMI V1.2...and Beyond

Major Themes

Reduce complexity & size

Increase coverage

Increase confidence in appraisal results

Reduced Model Complexity & Size

Eliminated the concepts of **advanced practices** and **common features**

Incorporated **ISM into SAM**; eliminated **Supplier Sourcing (SS)** addition

Consolidated and simplified the **IPPD material**

All definitions consolidated in the glossary

Adopted a **single book approach** (i.e., will no longer provide separate development models)

Report size reduced 15% from either predecessor; PAs reduced 12%

Supplier Agreement Management

Specific Goal

Specific Practice

Establish Supplier Agreements

- 1.1 – Determine Acquisition Type
- 1.2 – Select Suppliers
- 1.3 – Establish Supplier Agreements

Satisfy Supplier Agreements

- 2.1 – Execute the Supplier Agreement
- 2.2 – Monitor Selected Supplier Processes
- 2.3 – Evaluate Selected Supplier Work Products
- 2.4 – Accept the Acquired Product
- 2.5 – Transition Products

v1.1 SP2.1 “Review COTS Products,” was eliminated. “Identify candidate COTS products that satisfy requirements” is a new subpractice under the Technical Solutions Process Area SP1.1, “Develop Alternative Solutions and Selection Criteria.”

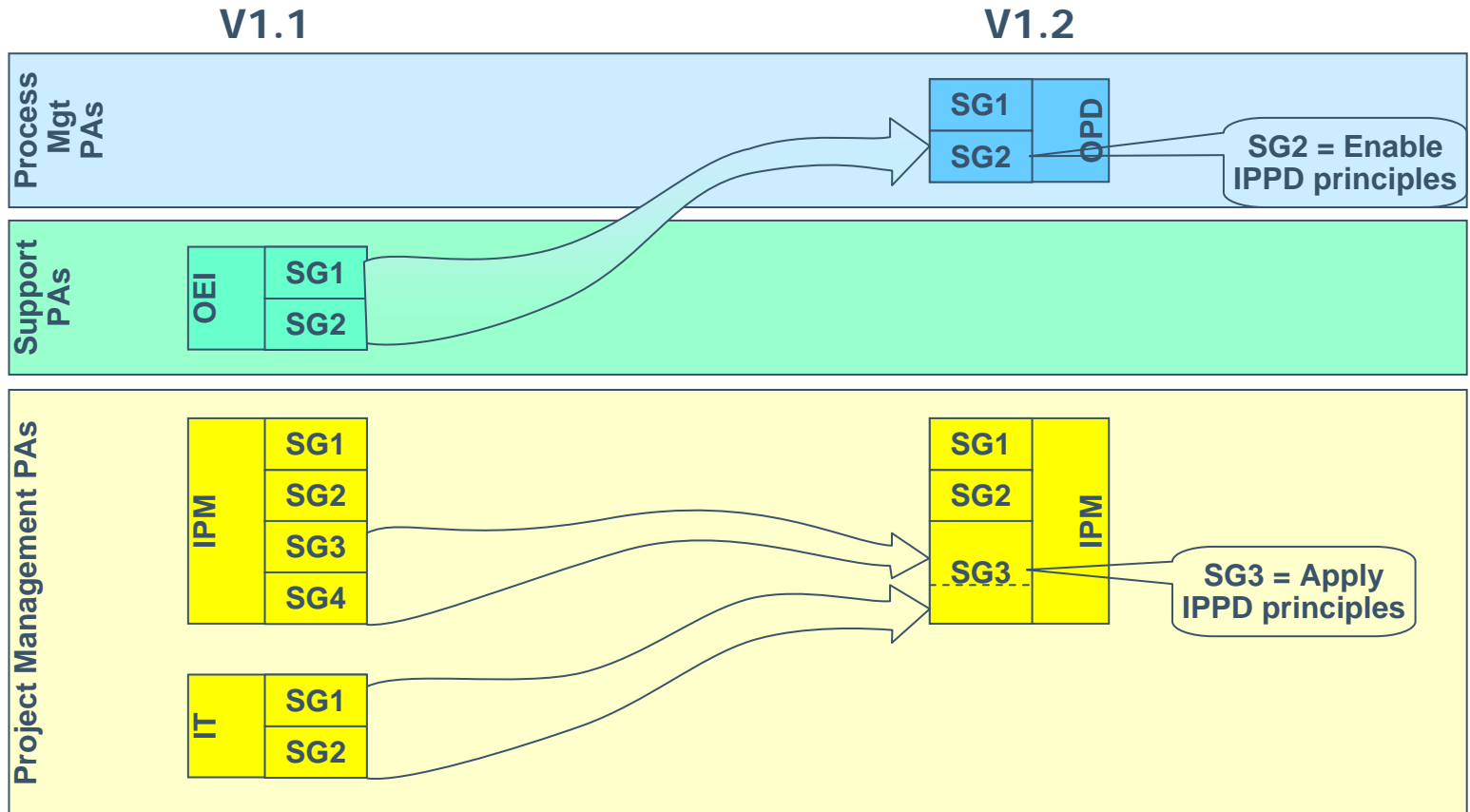
Integrated Product and Process Development (IPPD) Changes

IPPD material is being revised significantly.

- Organization Environment for Integration PA removed and material moved to Organizational Process Definition (OPD) PA.
- Integrated Teaming PA removed and material moved to Integrated Project Management (IPM) PA.
- IPPD goals have been consolidated.
 - “Enable IPPD Management” in OPD
 - “Apply IPPD Principles” in IPM
- Overall material condensed and revised to be more consistent with other PAs.



IPPD Changes



Increased Model Coverage

Added **hardware amplifications**

Added two **work environment practices** (i.e., one in OPD and one in IPM)

Added goal and two practices in OPF to emphasize importance of **project startup**

Updated notes (including examples) where appropriate so that they also address **service development** and **acquisition of critical elements**

Updated name to **CMMI for Development** (CMMI-DEV) to reflect the expanded coverage

Added Hardware Amplifications and Examples

Six hardware amplifications were created to add emphasis on hardware engineering. Here is an example from TS.

SP 2.1 Design the Product or Product Component

Develop a design for the product or product component.

For Hardware Engineering

Detailed design is focused on product development of electronic, mechanical, electro-optical, and other hardware products and their components. Electrical schematics and interconnection diagrams are developed, mechanical and optical assembly models are generated, and fabrication and assembly processes are developed.

Hardware examples were also added to emphasize hardware engineering.

Added Work Environment Coverage

Work environment standards are established at the organizational level in OPD.

SP 1.6 Establish Work Environment Standards
Establish and maintain work environment standards.

The project's work environment is established at the project level in IPM.

SP 1.3 Establish the Project's Work Environment
Establish and maintain the project's work environment based on the organization's work environment standards.



Organizational Process Focus

V1.1

SG1 – Determine Process Improvement Opportunities

- 1.1 – Establish Organizational Process Needs
- 1.2 – Appraise the Organization’s Processes
- 1.3 – Identify the Organization’s Process Improvements

SG2 – Plan and Implement Process Improvement Activities

- 2.1 – Establish Process Action Plans
- 2.2 – Implement Process Action Plans
- 2.3 – Deploy Organizational Process Assets
- 2.4 – Incorporate Process-Related Experiences into the Organizational Process Assets

V1.2

SG1 – Determine Process Improvement Opportunities

- 1.1 – Establish Organizational Process Needs
- 1.2 – Appraise the Organization’s Processes
- 1.3 – Identify the Organization’s Process Improvements

SG2 – Plan and Implement Process Improvement

- 2.1 – Establish Process Action Plans
- 2.2 – Implement Process Action Plans

New

SG3 – Deploy Organizational Process Assets and Incorporate Lessons Learned

- 3.1 – Deploy Organizational Process Assets
 - 3.2 -- Deploy Standard Processes
 - 3.3 -- Monitor Implementation
 - 3.4 -- Incorporate Process Related Experiences into the Organizational Process Assets
-

Model Changes - Other

Improved the **Overview** section (Part One)

Improved clarity of how GPs are used

- Moved generic goals and practices to Part Two
- Added explanation of how process areas support the implementation of GPs
- Added GP elaborations for GP 3.2

Improved the **glossary** (e.g., higher level management, bidirectional traceability, subprocess)

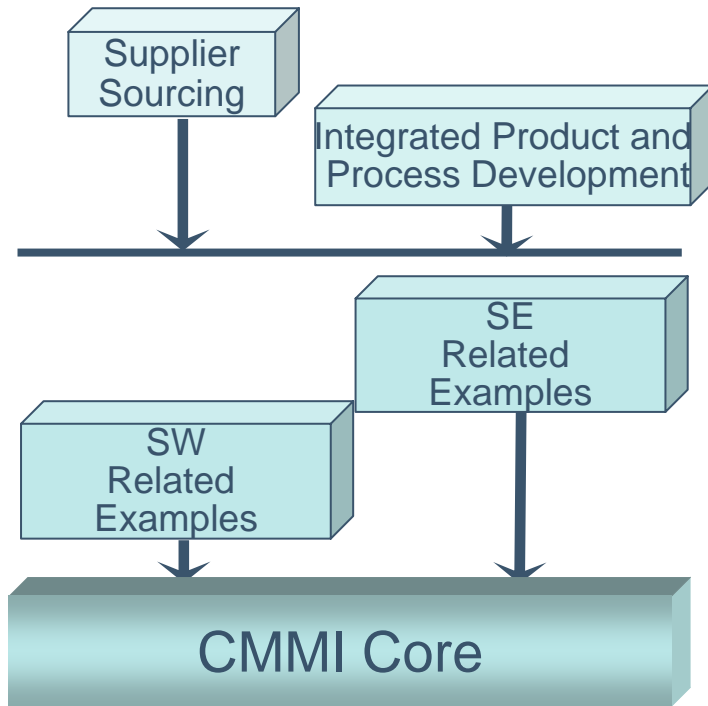
Limited the process areas that can be considered “**not applicable**” to SAM.

Clarified material throughout the model based on over 1000 change requests

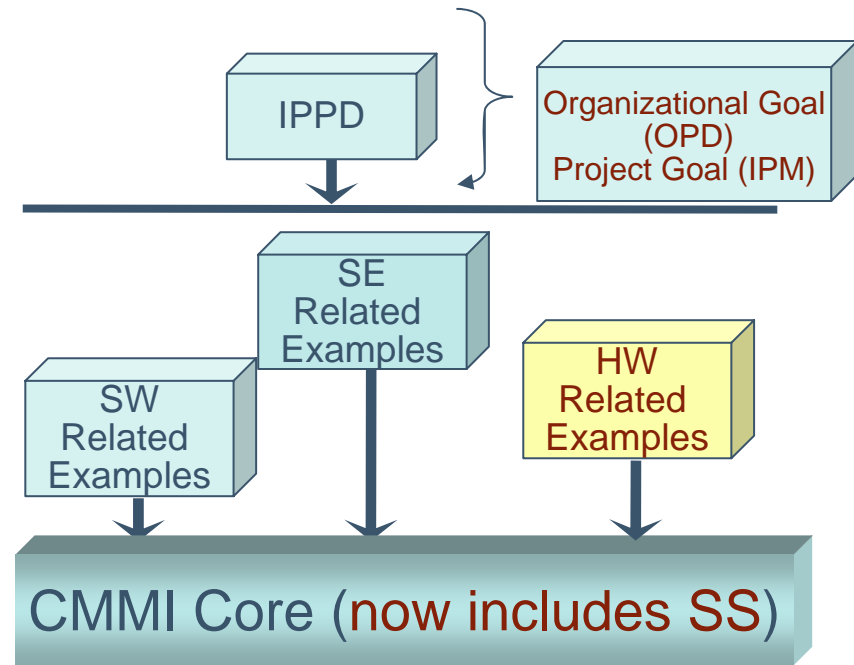


CMMI Model Combinations

V 1.1



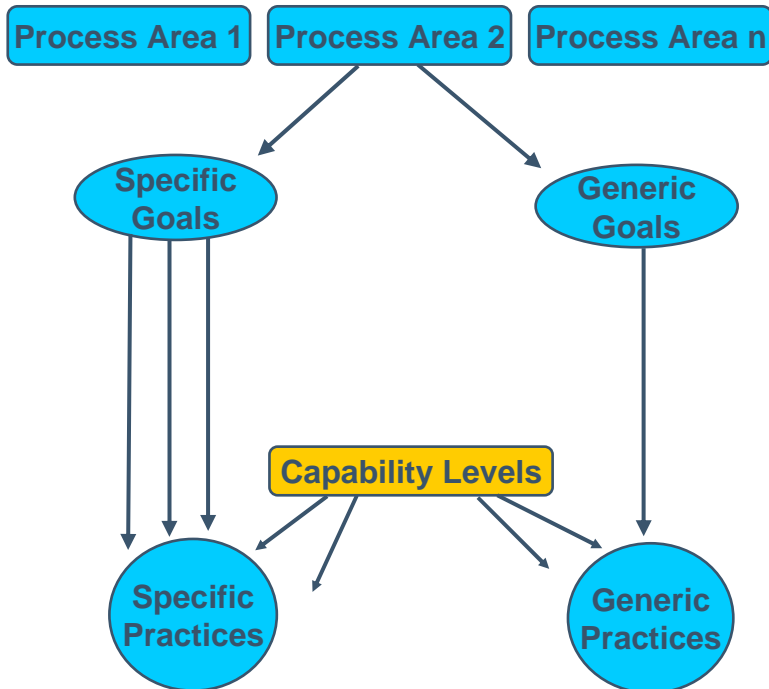
V 1.2



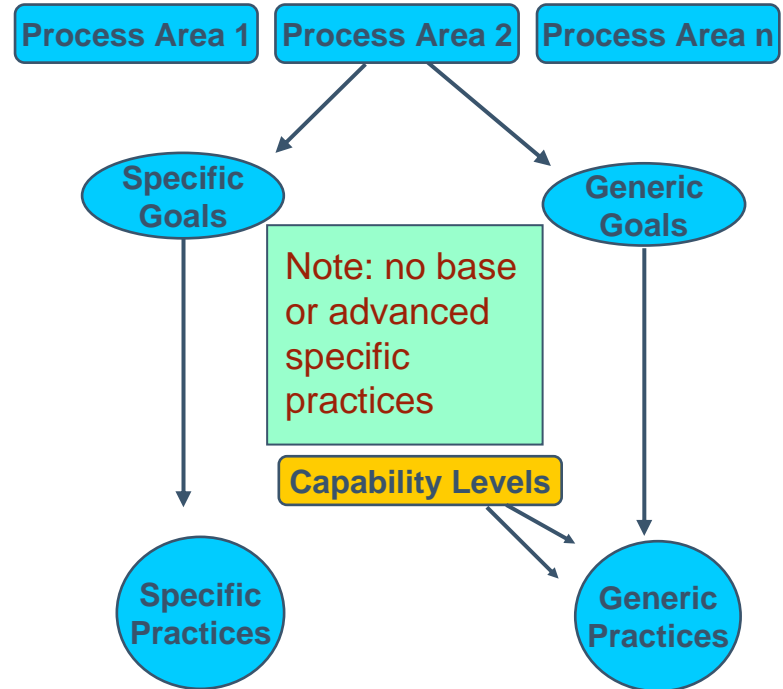


Model Structure¹

Continuous V1.1



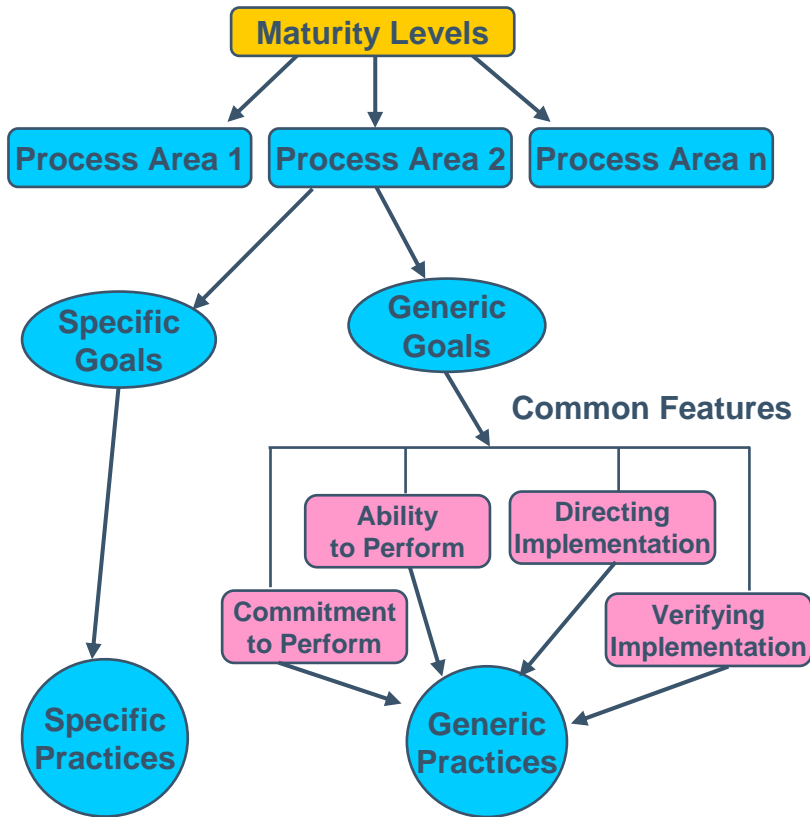
Continuous V1.2



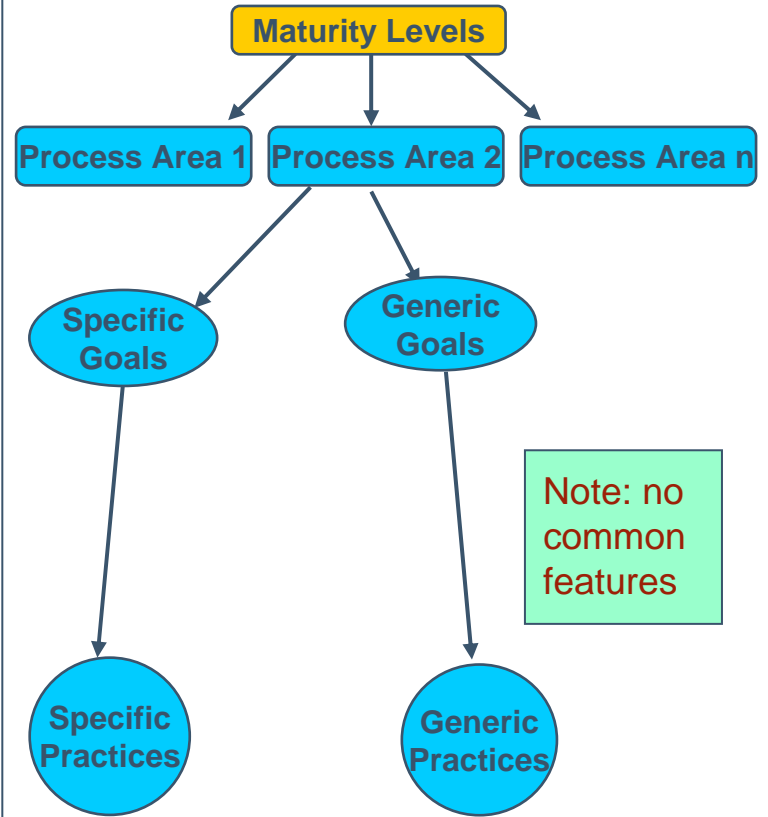


Model Structure²

Staged V1.1



Staged V1.2





CMMI V1.2 Schedules

Version 1.2 CMMI Product Suite release	August 25, 2006
Update <u>material</u> available	August 25, 2006
Upgrade <u>course</u> available on-line	August 25, 2006
First Lead Appraiser “face to face”	October 16, 2006
V1.2 ADS required for all SCAMPis	October, 2006
Last V1.1 Intro training	December, 2006
First expiration of V1.1 appraisals (3 year validity)	August 25, 2007
Last V1.1 appraisal	August 31, 2007

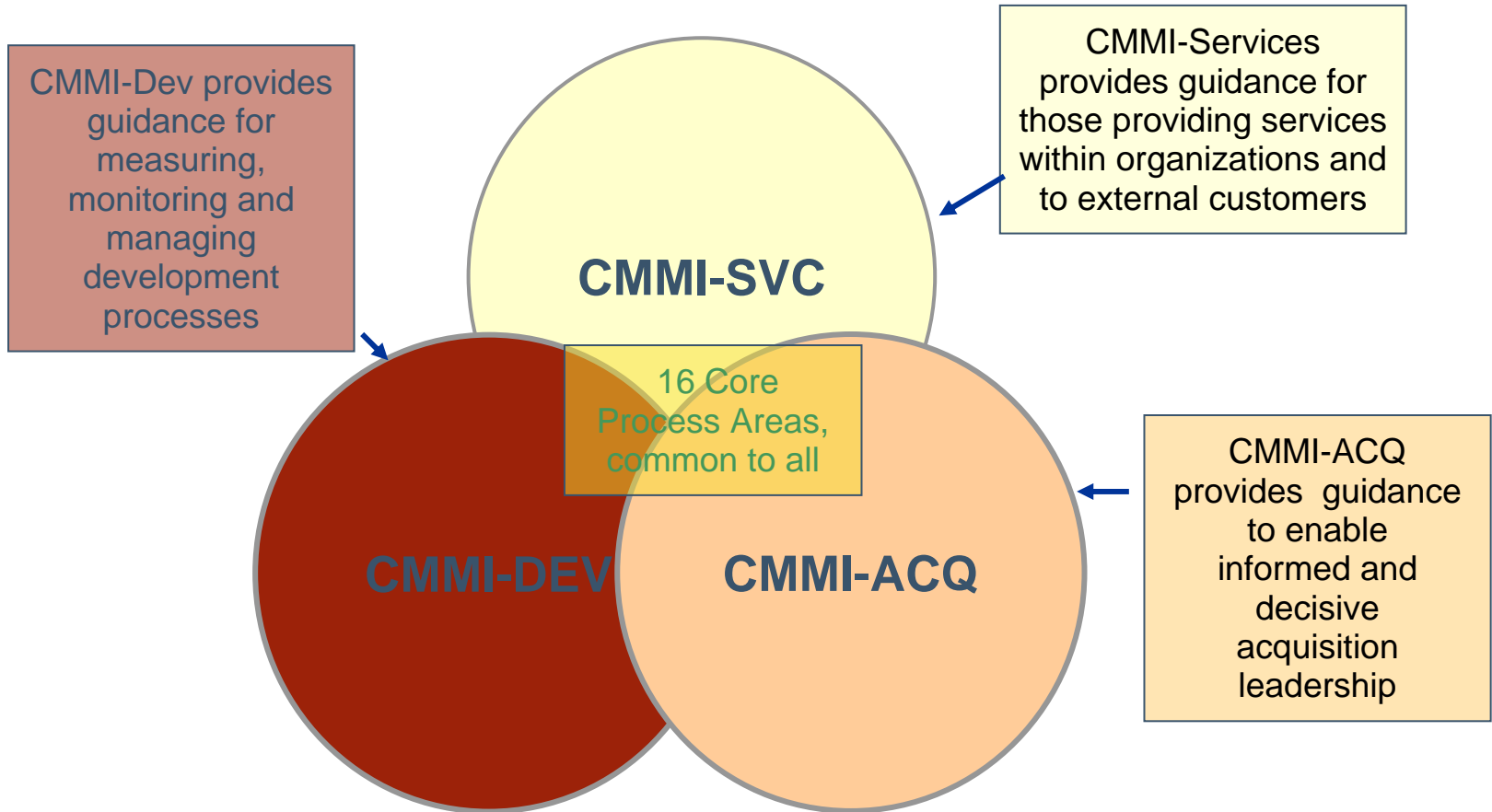
Beyond V1.2₁

Improved architecture will allow post-V1.2 expansion.

- Extensions of the life cycle (Services, Outsourcing/Acquisition) could expand use of a common organizational framework:
 - allows coverage of more of the enterprise or potential partnering organizations
 - adapts model features to fit non-developmental efforts (e.g., CMMI Services, CMMI Acquisition)

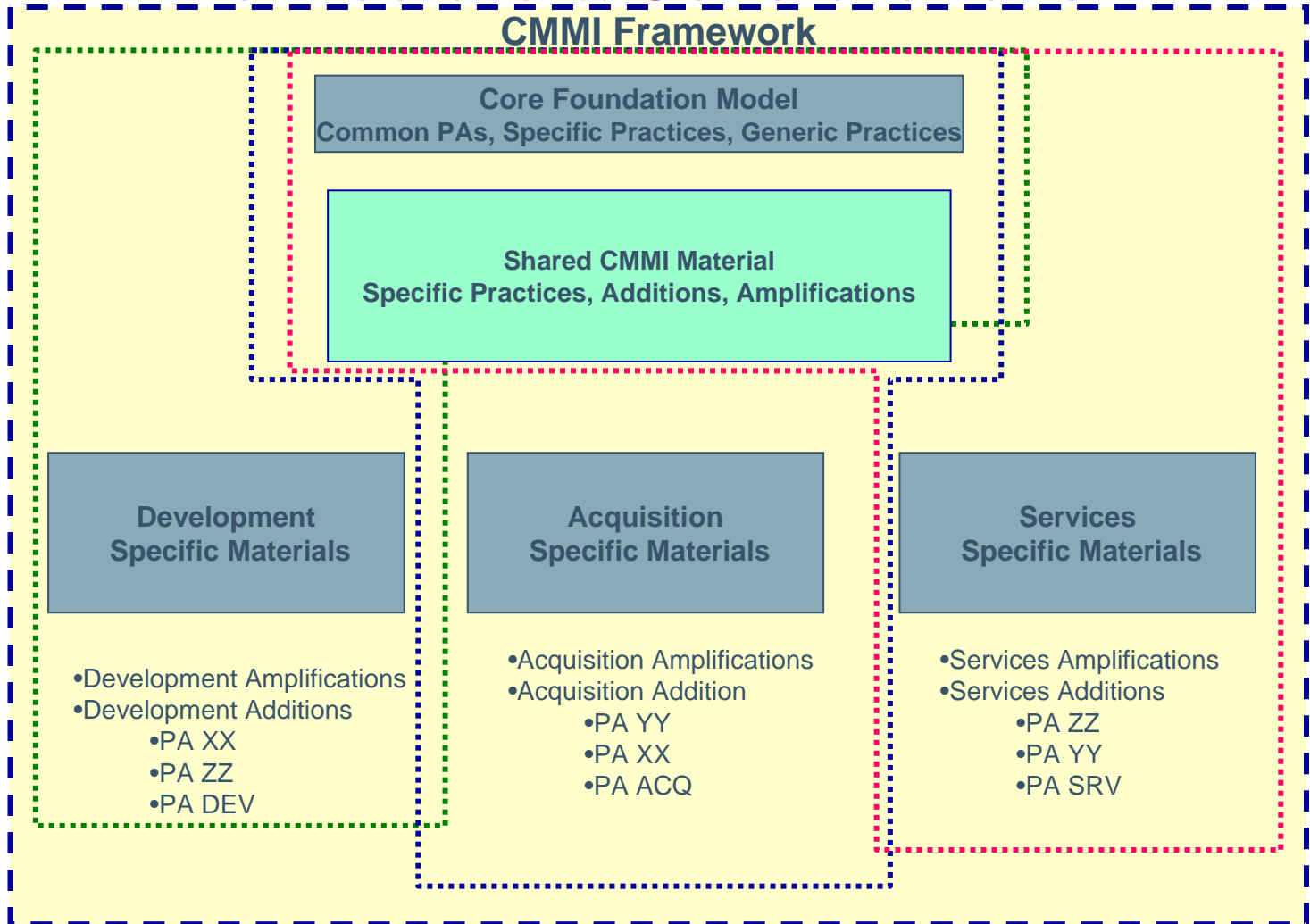


3 Complementary “Constellations”





Architecture & Constellations



Beyond V1.2₂

First two new “constellations,” CMMI for Services and CMMI for Acquisition, have been “commissioned” by CMMI Steering Group. Development will be in parallel with V1.2 effort; publication sequenced after V1.2 rollout.

Northrop-Grumman is leading industry group for CMMI Services.

- Initial focus will be for organizations providing “DoD services” as well as internal IT:
 - System maintenance
 - Network Management, IT Services
 - IV&V

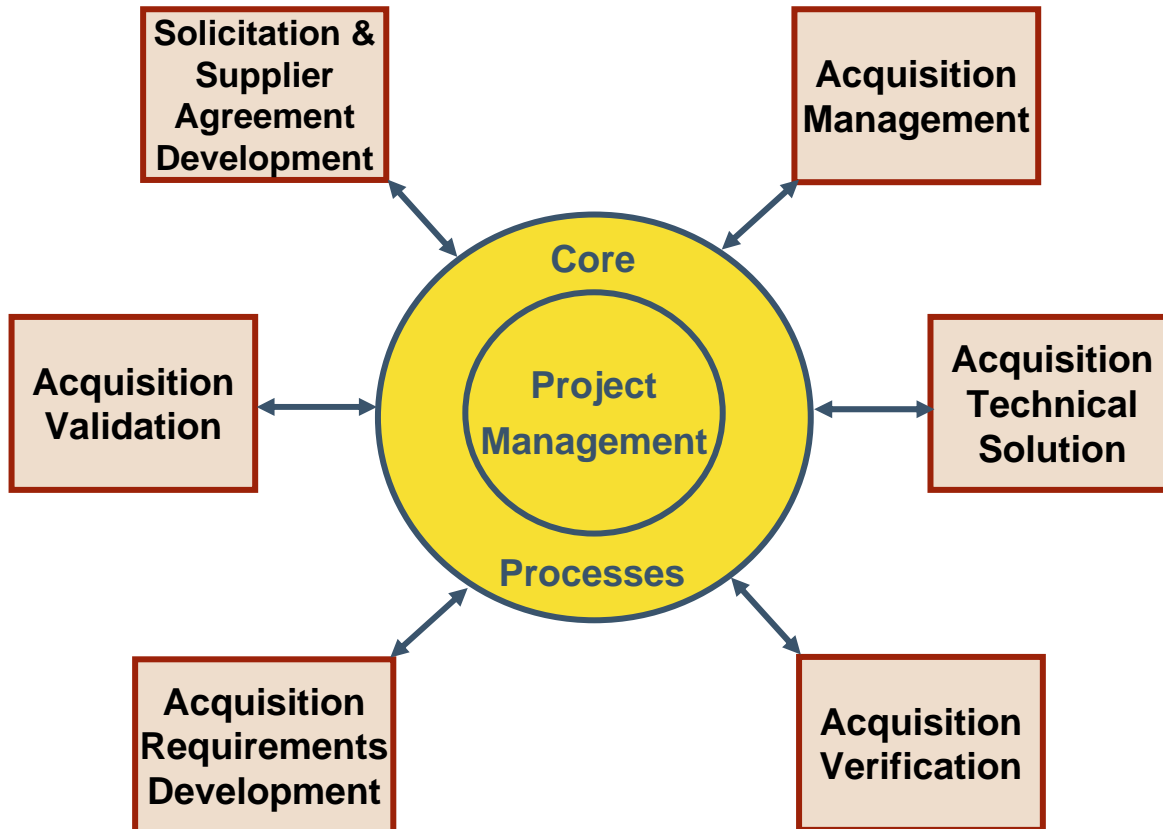
Beyond V1.2₃

SEI is coordinating development of CMMI-ACQ.

- Will build upon General Motors IT Sourcing expansion
- Will add government perspectives from both DoD and civil agencies



Initial CMMI-ACQ Key Acquisition Processes*





Planned Sequence of Models

