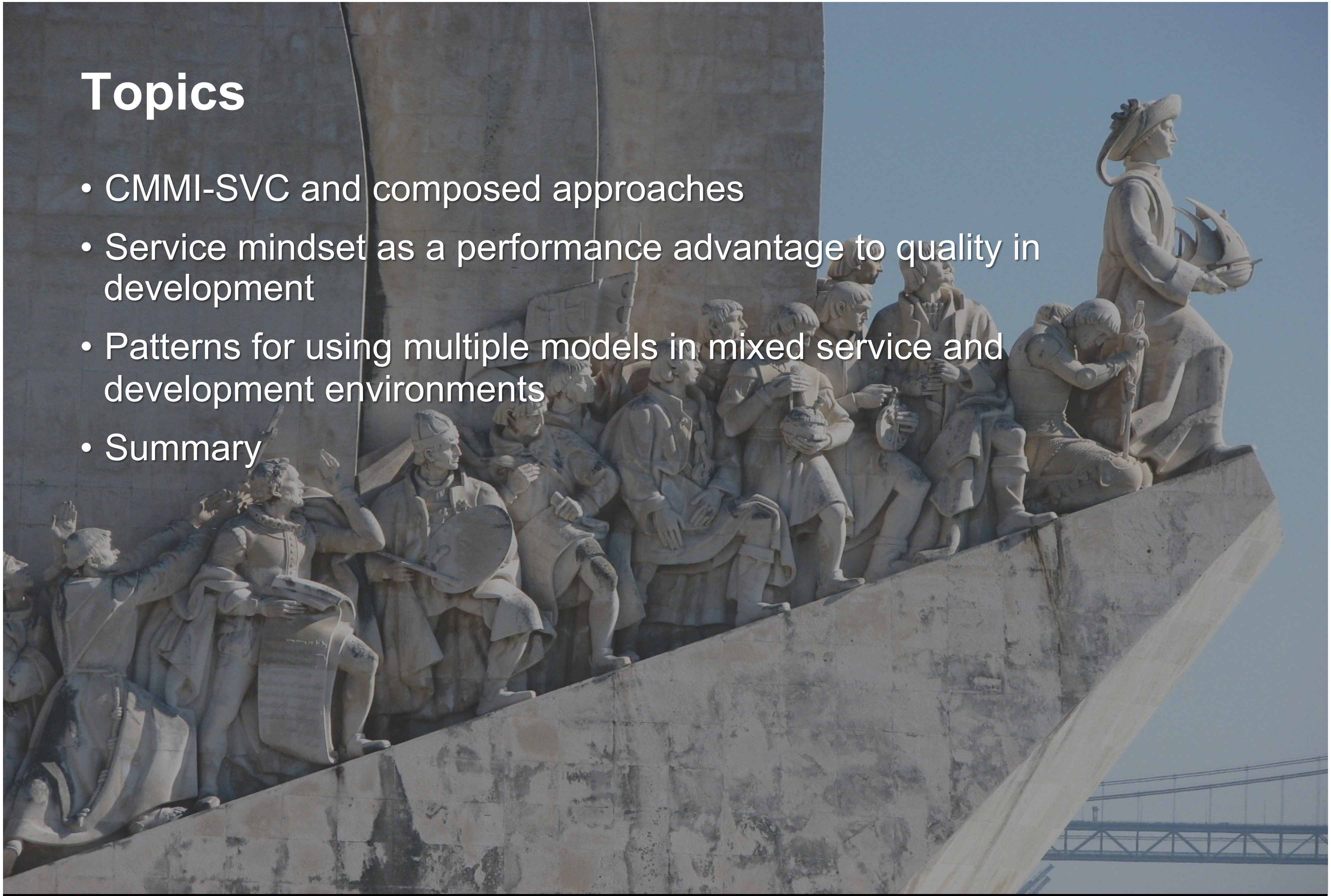
Beyond Service Management: The Next Performance Advantage for All Disciplines

Eileen Forrester

September 2012

QUATIC 2012: 8th International Conference on the Quality of Information and Communications Technology



Topics

- CMMI-SVC and composed approaches
- Service mindset as a performance advantage to quality in development
- Patterns for using multiple models in mixed service and development environments
- Summary

Partners Using CMMI in Portugal

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Innovation in software quality

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Portugal’s Service Economy

Service portion of worldwide economy is 80%, also 80% in US

Service sector is Portugal’s largest employer, with 3 of 5 working in service, and 75% of total GDP.

Service challenges and opportunities:

- mismatch of labor and education
- mobile broadband is huge, with little room left for growth; superior service may become the discriminator
- national reform plan calls for competition within service industry

Success story: Portugal was one of least friendly countries to start a business, now one of the best; achieved by a focus on process improvement

Maybe All Work is Service Work

Knowledge work, such as legal and research

Production, such as engineering and manufacturing

Disciplines and industries, such as education, health care, insurance, utilities, and hospitality

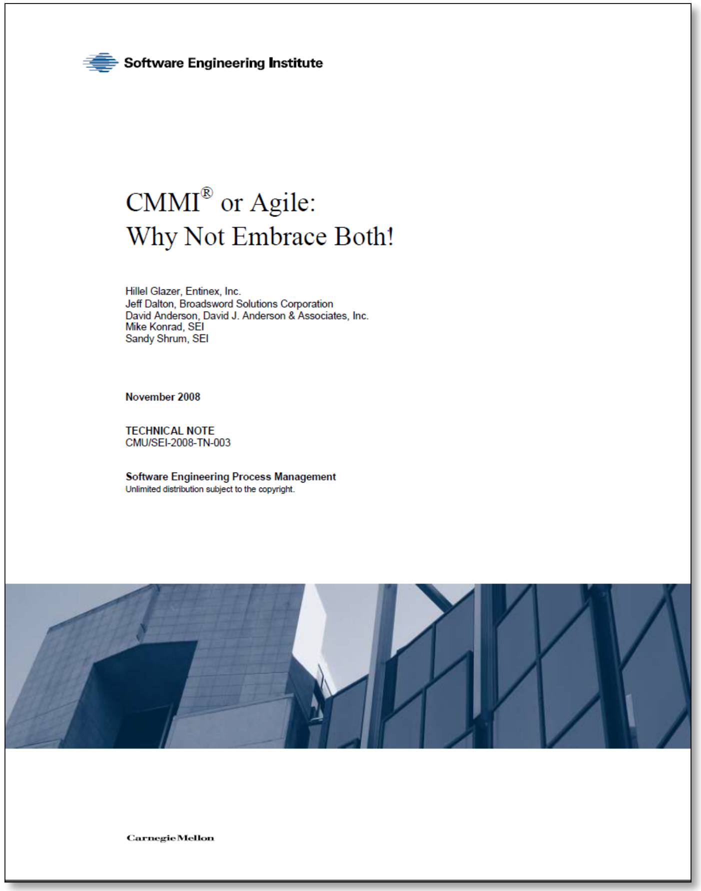
Plus, consider Bosch dishwashers and Zipcars

What about Software?

“CEOs don’t buy software anymore…they buy service level agreements”

– George Fischer, EVP and Group Executive for CA Technologies, Speaking at NASSCOM and SEPG Asia Pacific 2010

Are Services Agile?



Software Engineering Institute

CMMI® or Agile:
Why Not Embrace Both!

Hillel Glazer, Entinex, Inc.
Jeff Dalton, Broadsword Solutions Corporation
David Anderson, David J. Anderson & Associates, Inc.
Mike Konrad, SEI
Sandy Shrum, SEI

November 2008

TECHNICAL NOTE
CMU/SEI-2008-TN-003

Software Engineering Process Management
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CarnegieMellon

Perhaps Agile is an attempt to make development more like service.

Consider these features of service:

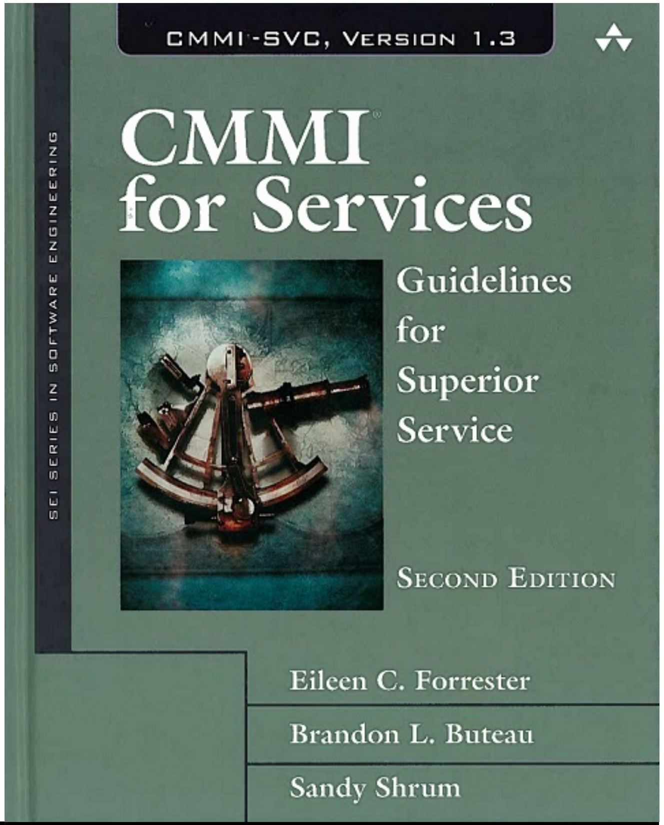
- Ongoing close relationship between provider and user to agree on the product
- Simultaneity
- Coproduction
- Many instances of the work
- Frequent production of customer-facing value

What is the CMMI for Services?

CMMI-SVC guides all types of service providers to establish, manage, and improve services to meet business goals.

Like every CMMI model, CMMI-SVC

- helps to set process improvement goals and priorities, provide guidance for quality processes, and provide a point of reference for appraising current processes
- can be applied internally or externally
- works well with other frameworks
- represents the consensus of thousands of practitioners about the essential elements of service delivery
- can be used in whole or in part



CMMI-SVC and Adoption Results

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CMMI
Pittsburgh, PA 15213-3890
Managing Quantitatively
Module 10
Sponsored by the U.S. Department of Defense
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Tom Prusak
Bill Smith
John Chasse

Why a Service Mindset for Products?

CMMI-SVC covers the widest range of work types.

CMMI-SVC has material that assists with managing work not found in the other models.

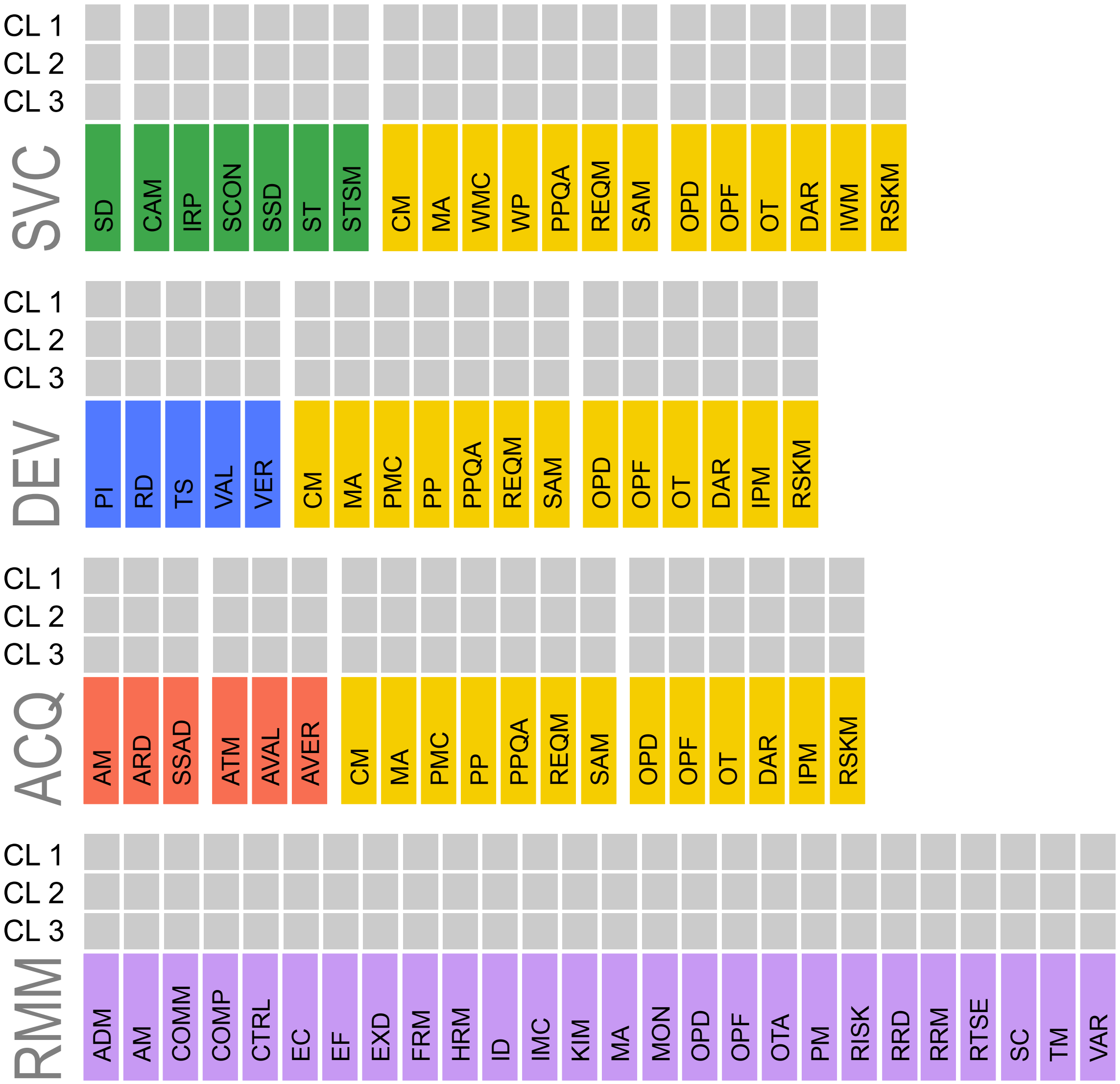
Even if you do development, what about these items?

- Is your agreement with the customer explicit?
- Ever have customers that make requests and expect unreasonable turnaround time?
- Are you satisfied with what your end user experiences during use of your product?
- Do you want to be a provider of choice—are you giving away business?
- Ever have too few resources for the development work?
- How do you handle minor and major disruptions to your development work?
- Have you had sales people commit you to work you don’t want to do?
- Does it always go smoothly when you take over for someone in your supply chain?
- How is your revenue? Fidelity and resilience among customers?

Why Can’t You Just Tell Developers to Use CMMI-SVC?

I'm an engineer, dammit! I'm no stinkin' service employee.

Multiple Models

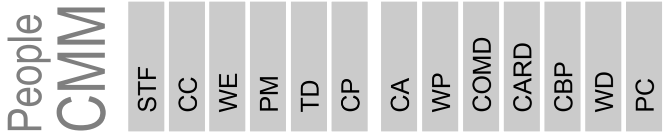


Level 2 P-CMM

STF	Staffing
CC	Communication & Coordination
WE	Work Environment
PM	Performance Management
TD	Training and Development
CP	Compensation

Level 3 P-CMM

CA	Competency Analysis
WP	Workforce Planning
COMD	Competency Development
CARD	Career Development
CBP	Competency-Based Practices
WD	Workgroup Development
PC	Participatory Culture



What is the fit with ITIL, ISO, and RMM?

We designed CMMI-SVC to be complementary and compatible with ITIL.

We did a full mapping to ISO 20K as we built the model.

CMMI-SVC is missing security and financial management, though neither is entirely absent from the model.

In part, we left security out because we knew the RMM model was on its way, with full coverage of security and continuity.

ITIL does not have an evolutionary improvement path or organizational supports, and CMMI excels at these. ITIL has more “how to” guidance particular to IT—this is why we think the models are complementary.

RMM is like SCON (service continuity) “on steroids.”

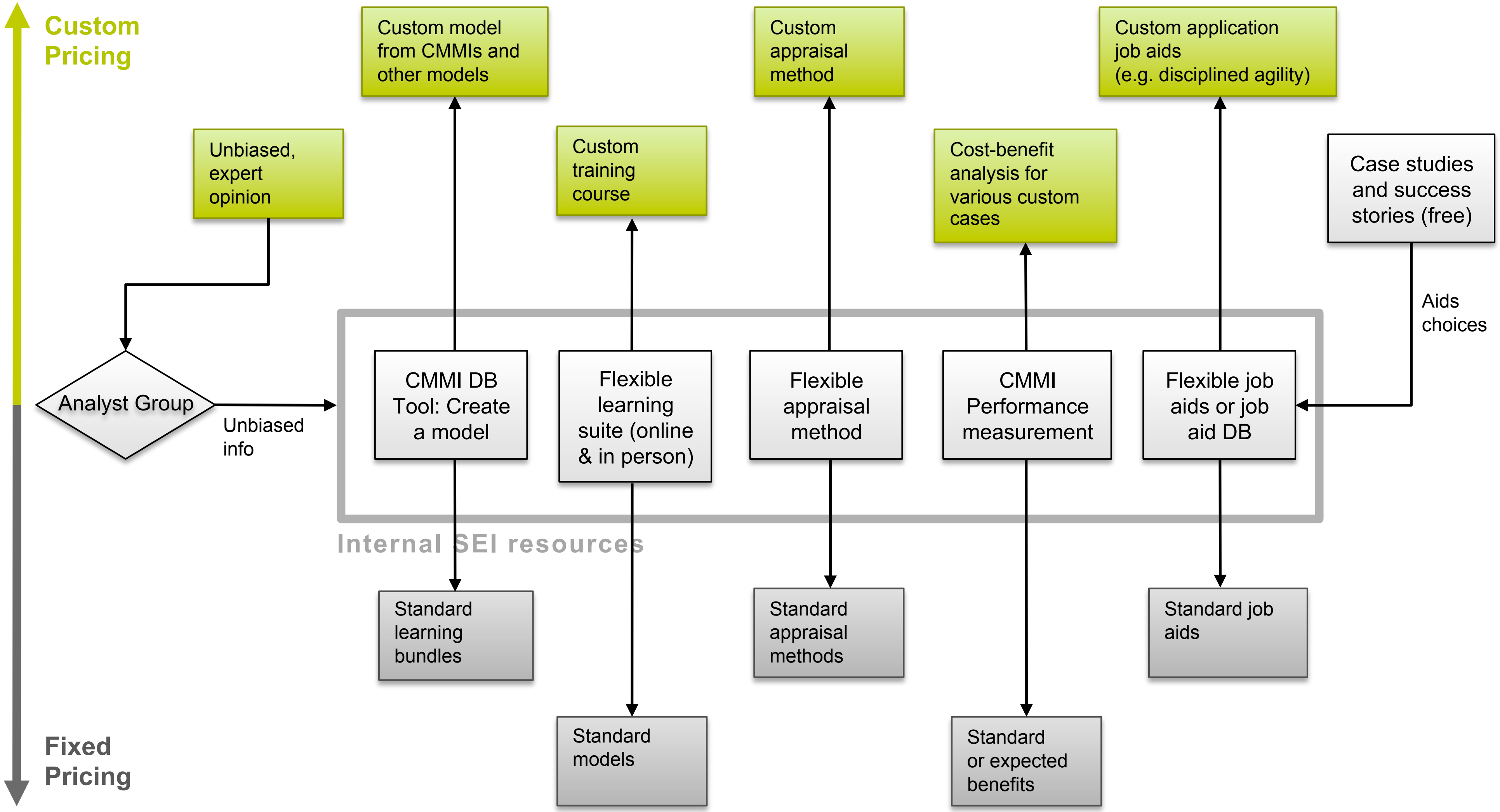
We have a working team looking at SCAMPI appraisals to include ITIL.

We have a draft PA on security management out for use and comment.

Putting All the Pieces Together

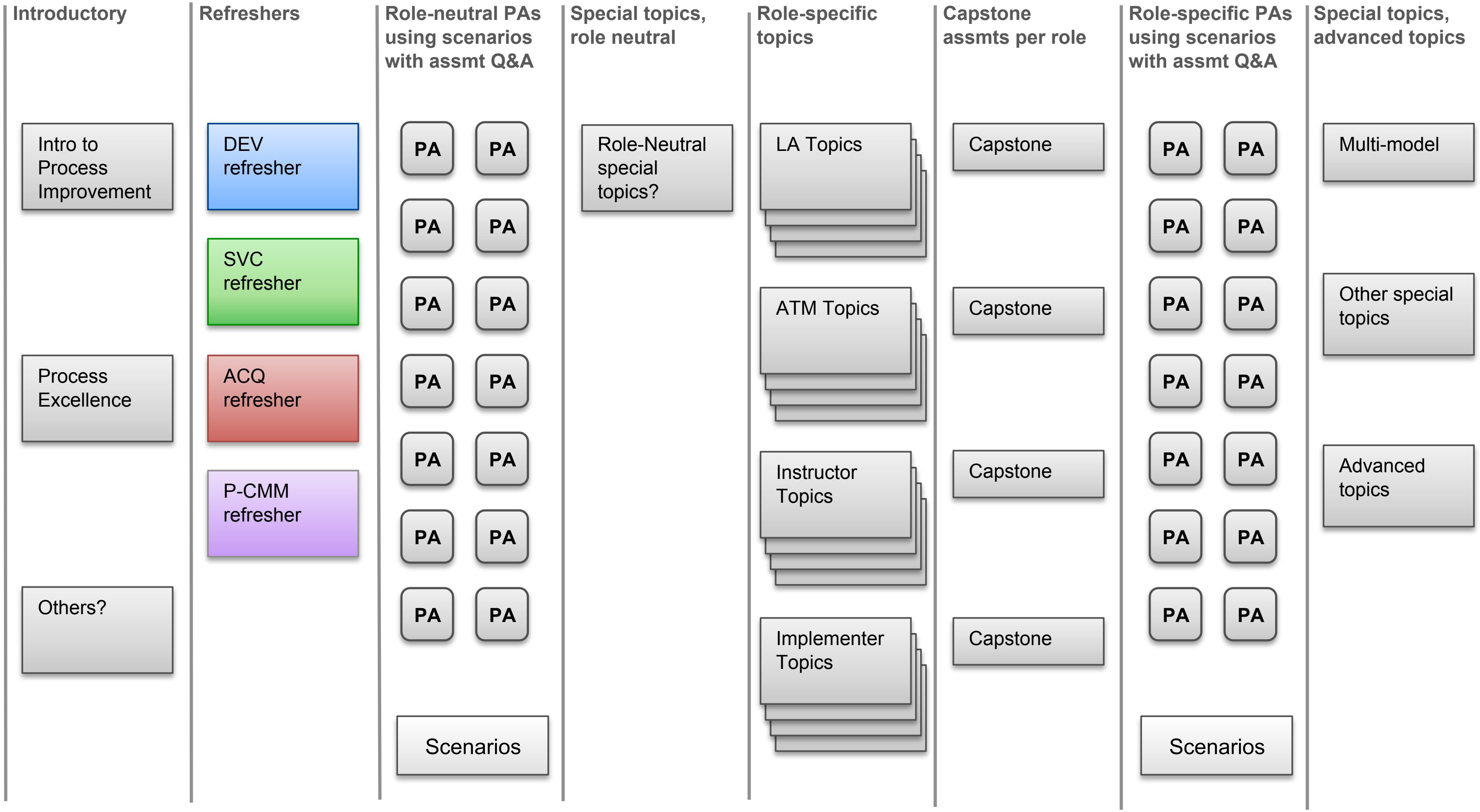
SIX SIGMA
TSP
ISO
ITIL
CMMI-SVC
CoBIT
RMM
AIM

CMMI Strategic Product Vision


Custom Pricing
Fixed Pricing
Unbiased, expert opinion
Custom model from CMMIs and other models
Custom training course
Custom appraisal method
Cost-benefit analysis for various custom cases
Custom application job aids (e.g. disciplined agility)
Case studies and success stories (free)
Aids choices
Analyst Group
Unbiased info
CMMI DB Tool: Create a model
Flexible learning suite (online & in person)
Flexible appraisal method
CMMI Performance measurement
Flexible job aids or job aid DB
Internal SEI resources
Standard learning bundles
Standard models
Standard appraisal methods
Standard or expected benefits
Standard job aids

CMMI Learning Suite

Start in many places, thread your way through. Some predefined paths for specific purposes, customized assembly available.



Introductory
- Intro to Process Improvement
- Process Excellence
- Others?

Refreshers
- DEV refresher
- SVC refresher
- ACQ refresher
- P-CMM refresher

Role-neutral PAs using scenarios with assmt Q&A
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- Scenarios

Special topics, role neutral
- Role-Neutral special topics?

Role-specific topics
- LA Topics
- ATM Topics
- Instructor Topics
- Implementer Topics

Capstone assmts per role
- Capstone
- Capstone
- Capstone
- Capstone

Role-specific PAs using scenarios with assmt Q&A
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- PA PA
- Scenarios

Special topics, advanced topics
- Multi-model
- Other special topics
- Advanced topics

The CMMI Models

The CMMI Product Suite currently has three models relevant to improvement in a particular area of interest.

Development (CMMI-DEV)

- build stuff
- tangible, storable products made to specification in a lifecycle

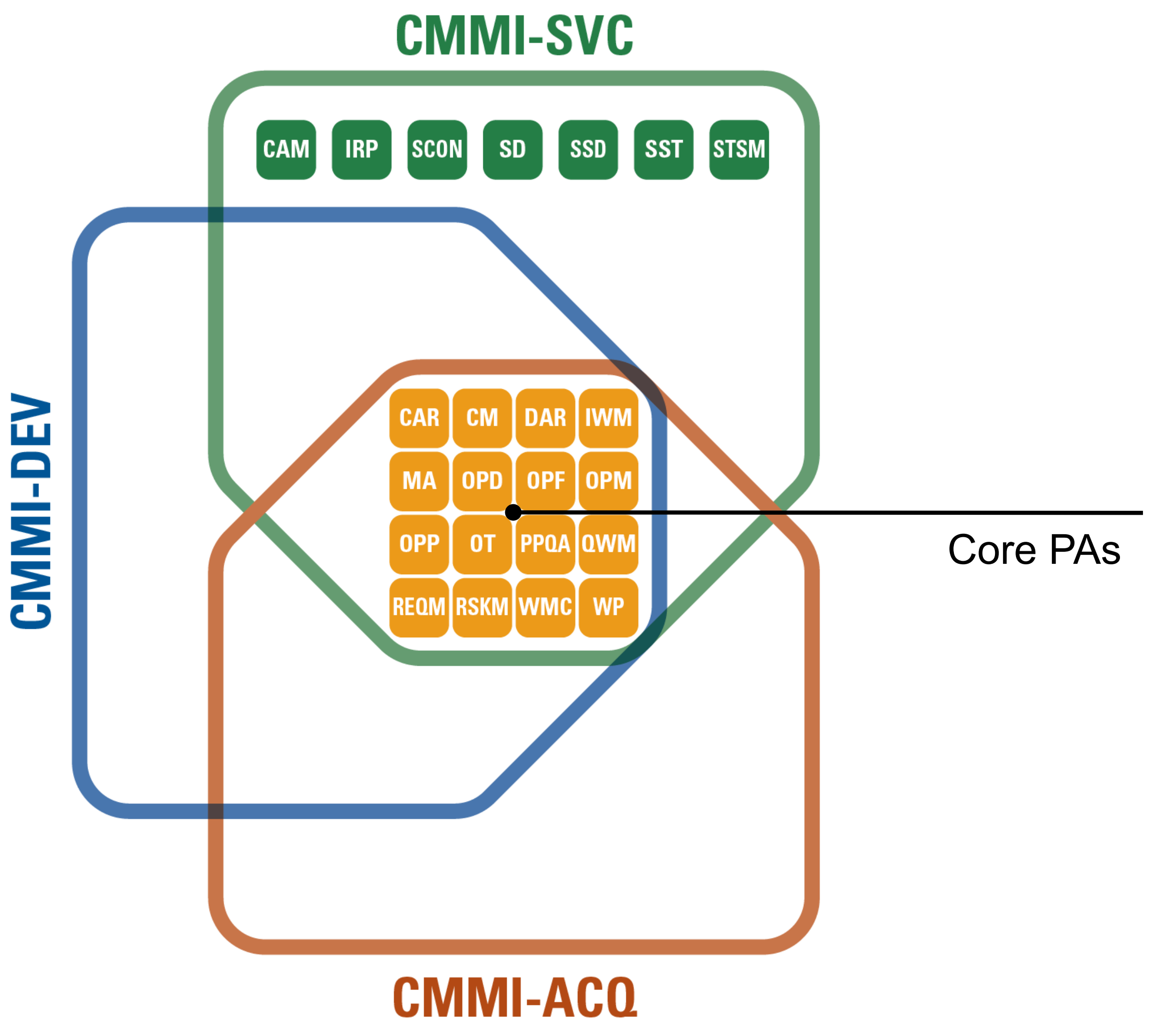
Acquisition (CMMI-ACQ)

- buy stuff
- specify, solicit, select, contract, procure, accept, transition to consumer

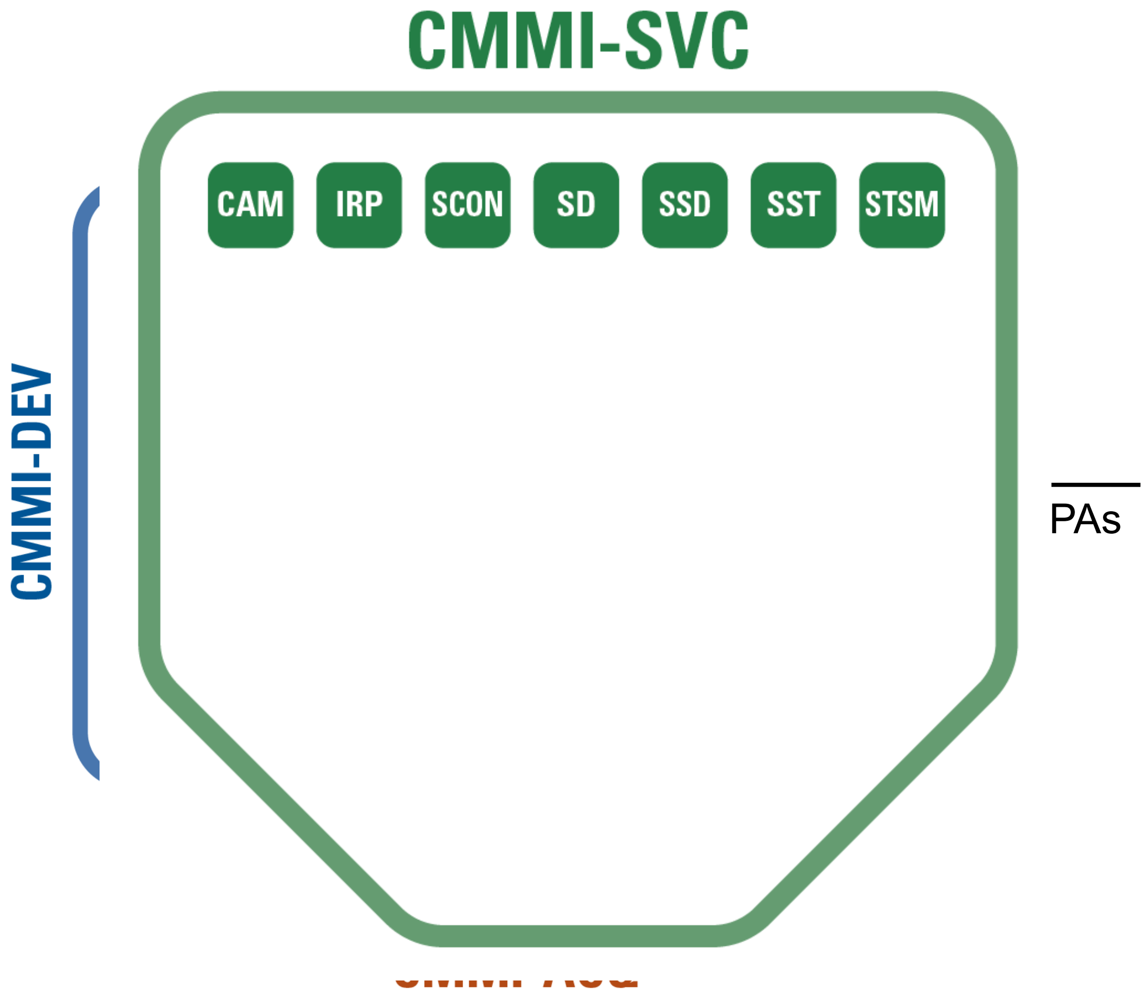
Services (CMMI-SVC)

- do stuff
- intangible, non-storable products delivered via a service system based on explicit or implicit service requests

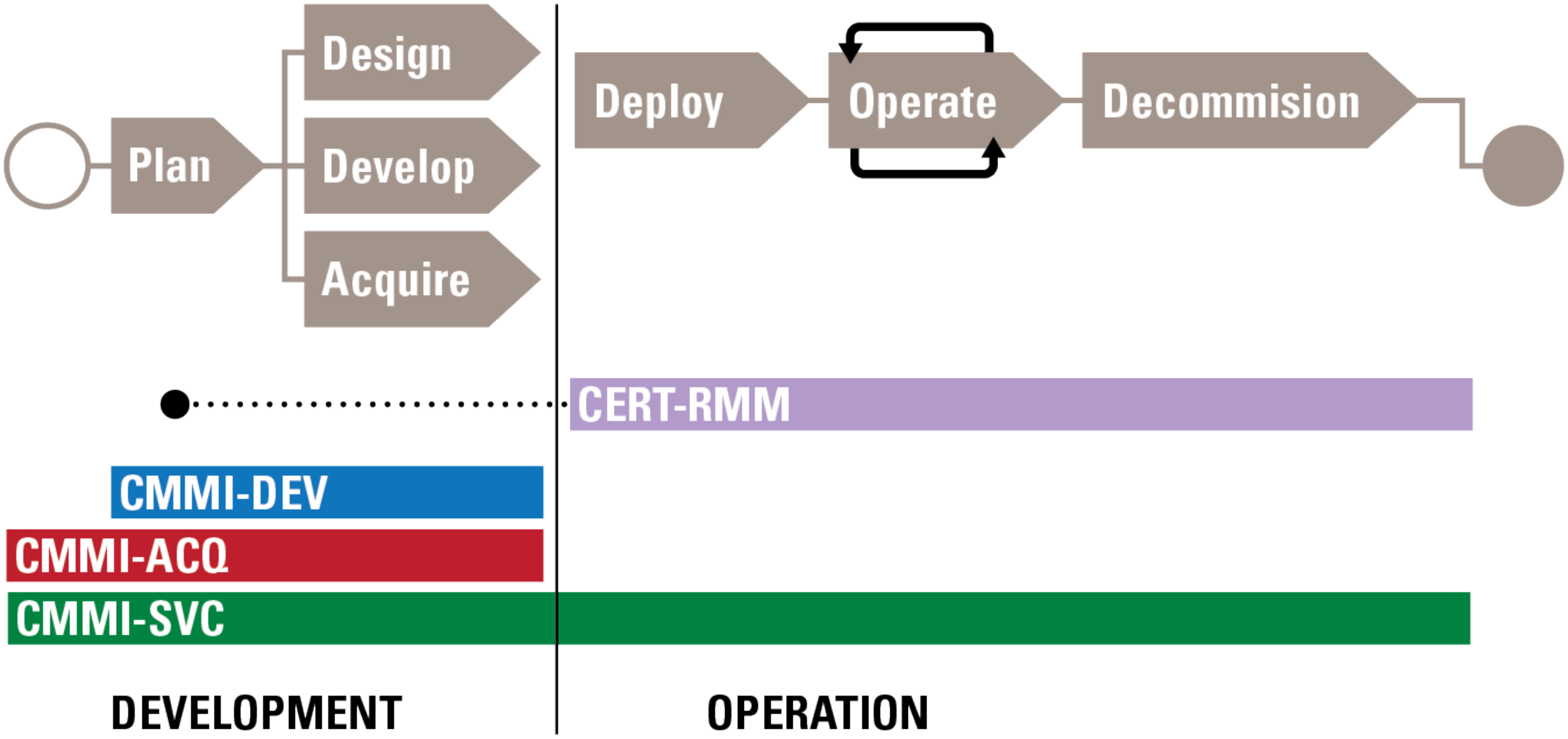
Relationships Among CMMI Models



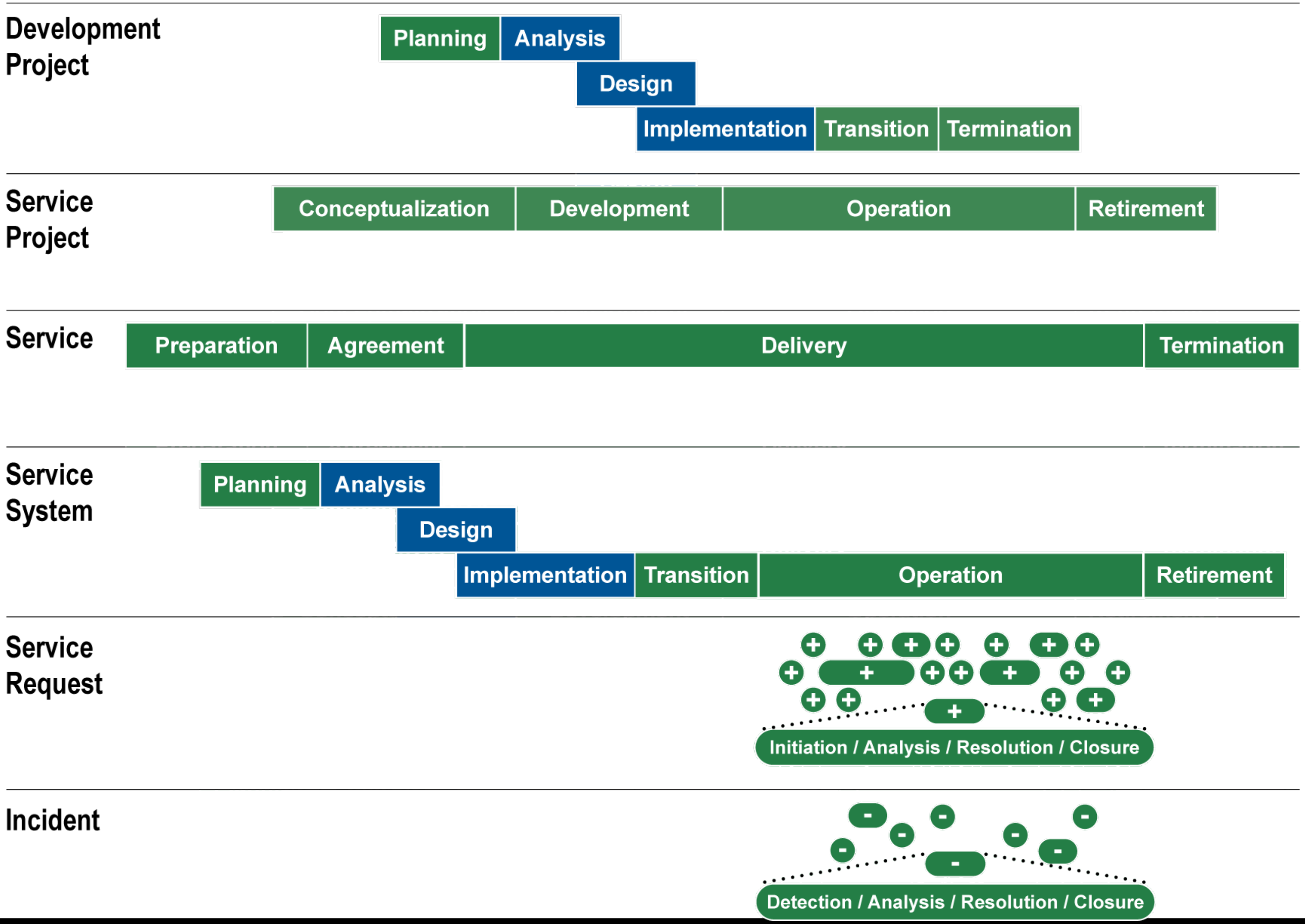
Service Specific Process Areas



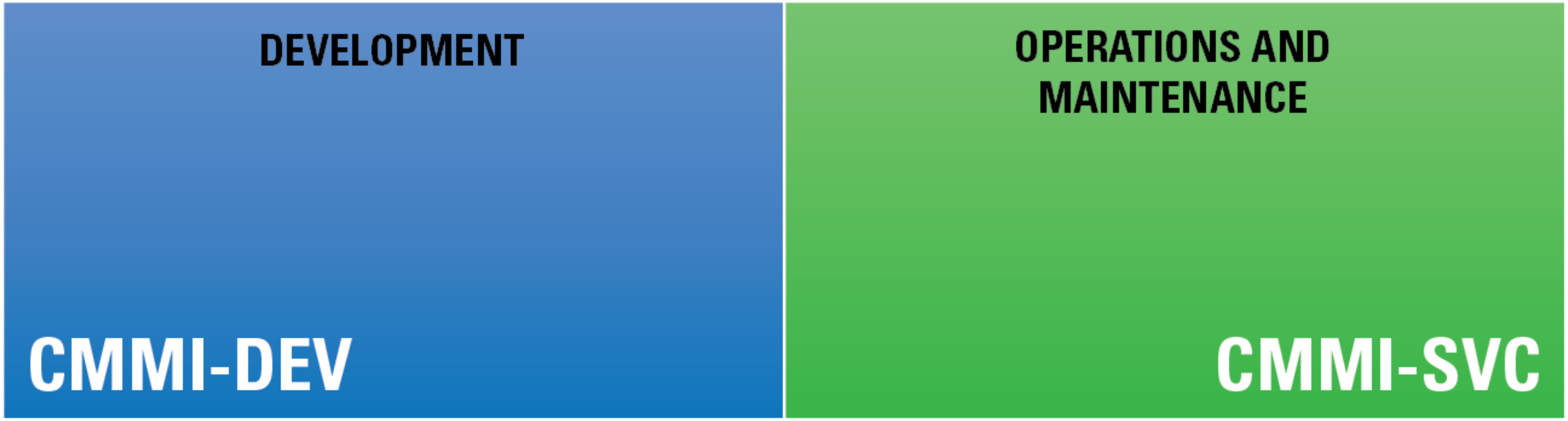
CMMI (and RMM) in the life cycle



DEV Project Lifecycle Fits Within Typical Service-Related Lifecycles



Conventional view of long lifecycle products



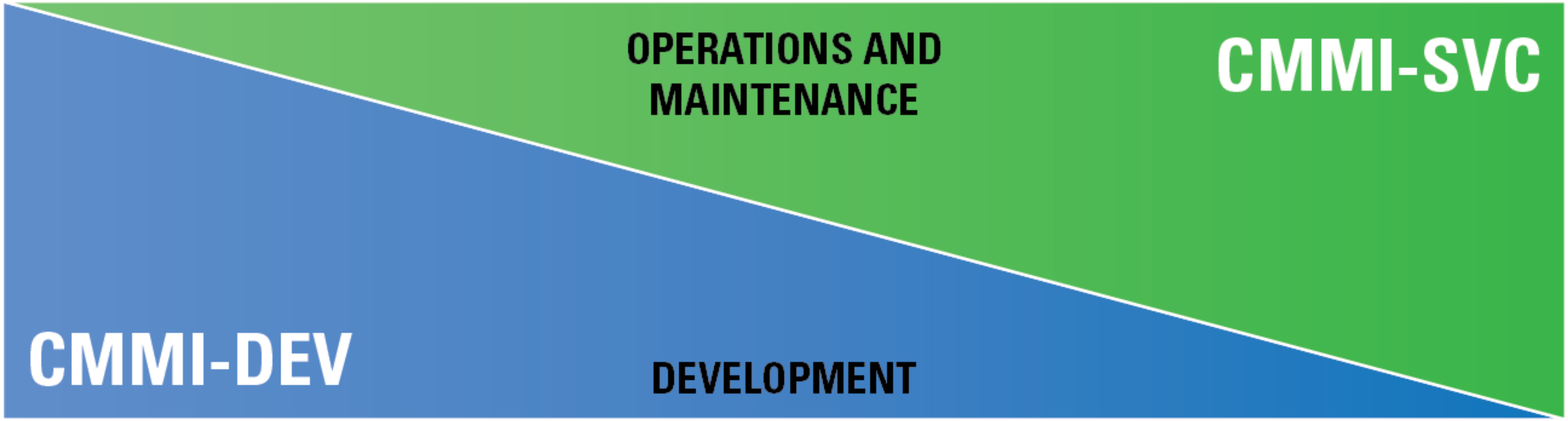
DEVELOPMENT

CMMI-DEV

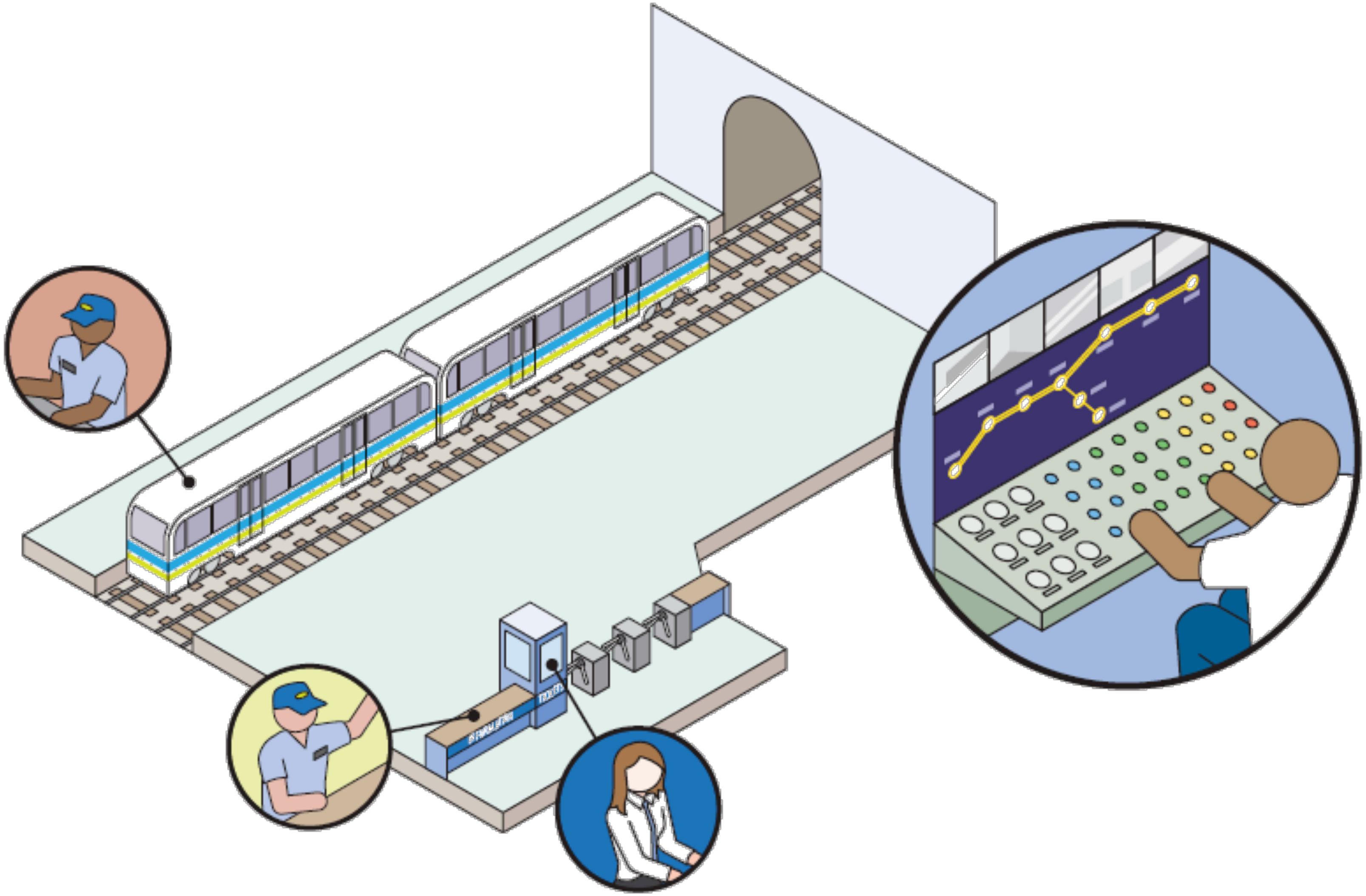
OPERATIONS AND MAINTENANCE

CMMI-SVC

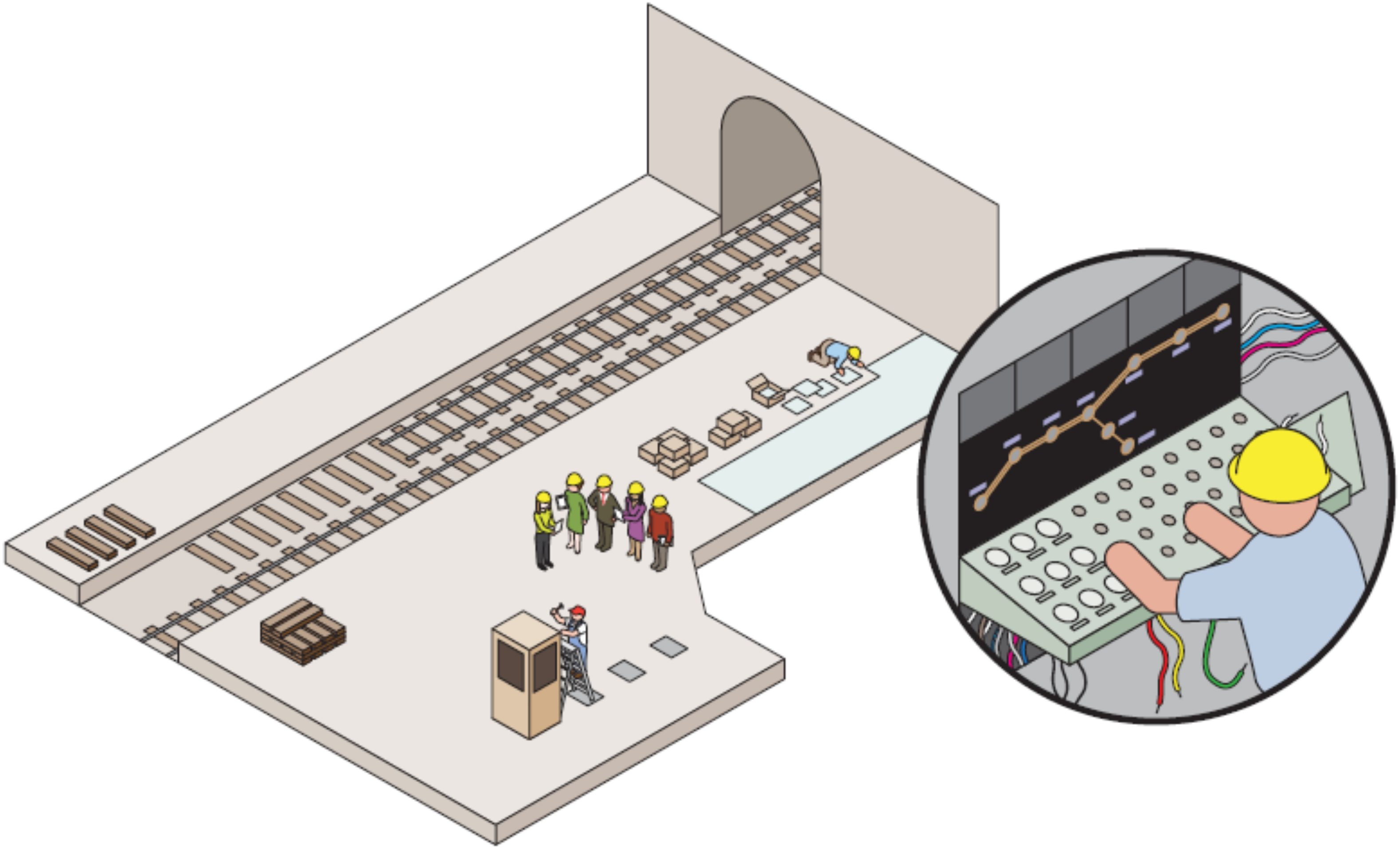
CMMI in the life cycle



One Group: Urban Transit Authority



Another Group: Suppliers of Trains, Control Systems, Entry Gates, etc.



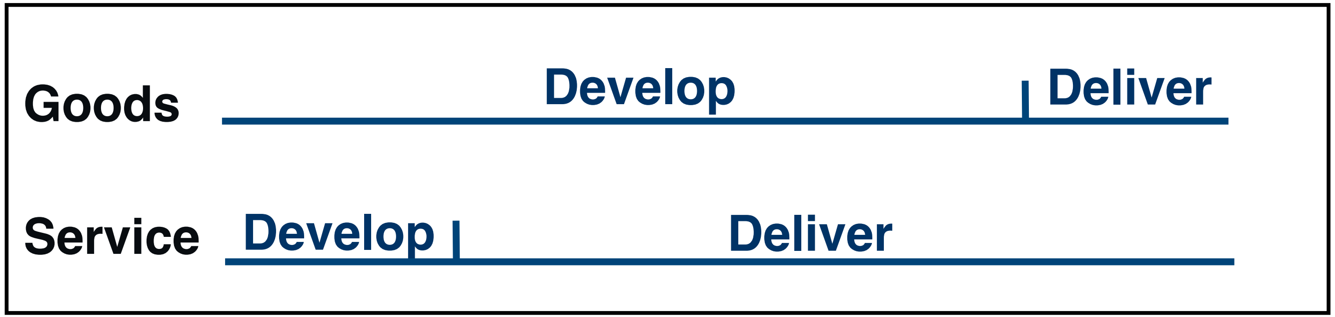
Transit Authority vs. Equipment Suppliers: How Do They Differ?

Transit Authority

- delivered solution is intangible, non-storable
- ongoing relationship based on a service agreement
- services often simultaneously produced and consumed
- more time spent on delivery

Equipment Suppliers

- delivered solution is a tangible, physical
- fixed-term relationship based on a delivery contract
- delivery of product generally takes place after development (and maybe after manufacturing)
- more time spent on development



Patterns we see in using DEV and SVC

Increasingly, CMMI-DEV and CMMI-SVC are used in the same organization, implementing and appraising together.

Choose CMMI-SVC as your base model, grab the engineering PAs for particular services.

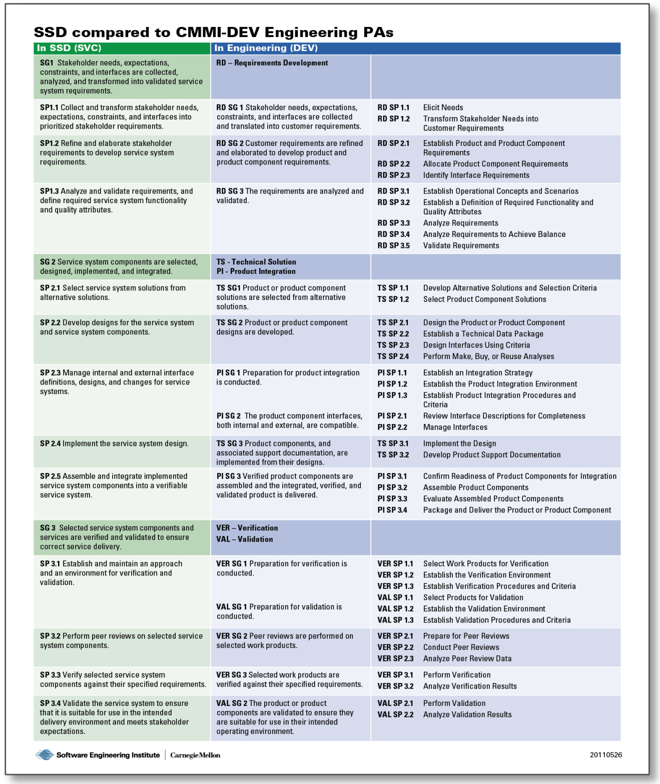
Treat development or engineering as a service, managed using the practices of CMMI-SVC, and treat the engineering PAs as informative material to SSD.

Use all of CMMI-DEV for advanced development, and then add CMMI-SVC for additional practices: SCON, SST, CAM.

Start with CMMI-DEV at the beginning of a life cycle, adding in a few SVC goals and practices. Add more in mid-life. Change over to SVC at the end for operations and maintenance.

Take a life cycle view and consider total cost of ownership, may add multiple other models, do a mash up or composition from CMMI and other models.

SSD and CMMI-DEV Engineering PAs



SSD compared to CMMI-DEV Engineering PAs

In SSD (SVC)	In Engineering (DEV)		
SG1 Stakeholder needs, expectations, constraints, and interfaces are collected, analyzed, and transformed into validated service system requirements.	**RD – Requirements Development**		
SP1.1 Collect and transform stakeholder needs, expectations, constraints, and interfaces into prioritized stakeholder requirements.	**RD SG 1** Stakeholder needs, expectations, constraints, and interfaces are collected and translated into customer requirements.	**RD SP 1.1** **RD SP 1.2**	Elicit Needs Transform Stakeholder Needs into Customer Requirements
SP1.2 Refine and elaborate stakeholder requirements to develop service system requirements.	**RD SG 2** Customer requirements are refined and elaborated to develop product and product component requirements.	**RD SP 2.1** **RD SP 2.2** **RD SP 2.3**	Establish Product and Product Component Requirements Allocate Product Component Requirements Identify Interface Requirements
SP1.3 Analyze and validate requirements, and define required service system functionality and quality attributes.	**RD SG 3** The requirements are analyzed and validated.	**RD SP 3.1** **RD SP 3.2** **RD SP 3.3** **RD SP 3.4** **RD SP 3.5**	Establish Operational Concepts and Scenarios Establish a Definition of Required Functionality and Quality Attributes Analyze Requirements Analyze Requirements to Achieve Balance Validate Requirements
SG 2 Service system components are selected, designed, implemented, and integrated.	**TS - Technical Solution** **PI - Product Integration**		
SP 2.1 Select service system solutions from alternative solutions.	**TS SG1** Product or product component solutions are selected from alternative solutions.	**TS SP 1.1** **TS SP 1.2**	Develop Alternative Solutions and Selection Criteria Select Product Component Solutions
SP 2.2 Develop designs for the service system and service system components.	**TS SG 2** Product or product component designs are developed.	**TS SP 2.1** **TS SP 2.2** **TS SP 2.3** **TS SP 2.4**	Design the Product or Product Component Establish a Technical Data Package Design Interfaces Using Criteria Perform Make, Buy, or Reuse Analyses
SP 2.3 Manage internal and external interface definitions, designs, and changes for service systems.	**PI SG 1** Preparation for product integration is conducted. **PI SG 2** The product component interfaces, both internal and external, are compatible.	**PI SP 1.1** **PI SP 1.2** **PI SP 1.3** **PI SP 2.1** **PI SP 2.2**	Establish an Integration Strategy Establish the Product Integration Environment Establish Product Integration Procedures and Criteria Review Interface Descriptions for Completeness Manage Interfaces
SP 2.4 Implement the service system design.	**TS SG 3** Product components, and associated support documentation, are implemented from their designs.	**TS SP 3.1** **TS SP 3.2**	Implement the Design Develop Product Support Documentation
SP 2.5 Assemble and integrate implemented service system components into a verifiable service system.	**PI SG 3** Verified product components are assembled and the integrated, verified, and validated product is delivered.	**PI SP 3.1** **PI SP 3.2** **PI SP 3.3** **PI SP 3.4**	Confirm Readiness of Product Components for Integration Assemble Product Components Evaluate Assembled Product Components Package and Deliver the Product or Product Component
SG 3 Selected service system components and services are verified and validated to ensure correct service delivery.	**VER – Verification** **VAL – Validation**		
SP 3.1 Establish and maintain an approach and an environment for verification and validation.	**VER SG 1** Preparation for verification is conducted. **VAL SG 1** Preparation for validation is conducted.	**VER SP 1.1** **VER SP 1.2** **VER SP 1.3** **VAL SP 1.1** **VAL SP 1.2** **VAL SP 1.3**	Select Work Products for Verification Establish the Verification Environment Establish Verification Procedures and Criteria Select Products for Validation Establish the Validation Environment Establish Validation Procedures and Criteria
SP 3.2 Perform peer reviews on selected service system components.	**VER SG 2** Peer reviews are performed on selected work products.	**VER SP 2.1** **VER SP 2.2** **VER SP 2.3**	Prepare for Peer Reviews Conduct Peer Reviews Analyze Peer Review Data
SP 3.3 Verify selected service system components against their specified requirements.	**VER SG 3** Selected work products are verified against their specified requirements.	**VER SP 3.1** **VER SP 3.2**	Perform Verification Analyze Verification Results
SP 3.4 Validate the service system to ensure that it is suitable for use in the intended delivery environment and meets stakeholder expectations.	**VAL SG 2** The product or product components are validated to ensure they are suitable for use in their intended operating environment.	**VAL SP 2.1** **VAL SP 2.2**	Perform Validation Analyze Validation Results

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Some mixed services and development environments use both the engineering PAs from DEV and a single SVC PA: Service System Development. The patterns:

- Stick with SSD, but grab a single engineering PA when needed
- Use SSD for simple development, add engineering PAs for complex development
- Use SSD and treat engineering PAs roughly as “informative material”
- Use engineering PAs for service systems, but add the informative material from SSD to get the service flavor

How Can Each of These PAs Apply in Development?

Capacity and Availability Management (CAM):

- making sure you have enough of the resources you need to deliver services and that they are available when needed—at an appropriate cost

Incident Resolution and Prevention (IRP):

- handling what goes wrong—and preventing it from going wrong ahead of time if you can

Service Continuity Management (SCON):

- being ready to recover from a disaster and get back to delivering your service

Service Delivery (SD):

- setting up agreements, taking care of service requests, and operating the service system

Service System Development (SSD):

- making sure you have everything you need to deliver the service, including people, processes, consumables, and equipment

Service System Transition (SST):

- getting new systems in place, changing existing systems, and retiring obsolete systems, all while making sure nothing goes terribly wrong with service

Strategic Service Management (STSM):

- deciding what services you should be providing, making them standard, and letting people know about them

Which of these PAs Cannot be Treated Like a Service?

Engineering PAs in Plain Language:

Product Integration (PI):

- putting together all the product components so that the overall product has expected behaviors and characteristics

Requirements Development (RD):

- understanding what stakeholders think they need and documenting that understanding for the people who will be designing solutions

Technical Solution (TS):

- using effective engineering to build solutions that meet end user needs

Validation (VAL):

- making sure that the solution actually meets the needs of users in the service environment

Verification (VER):

- making sure that the solution you ended up with meets your agreement about the needs

An Approach to Long-Lived Products

For more details on this approach, see Lynn Penn, *Applying SVC PAs to DEV Programs*, NDIA CMMI Users Group Conference, 2011; or forthcoming SEI technical report on Development and Service.

In US Defense Aerospace industry, large, software-intensive products may take 5-15 years to develop, but are in service for as much as 50 years. Penn reports that they are seeing value in extending CMMI-DEV based improvements with CMMI-SVC. Business benefits include these:

- Control costs during operations and maintenance phase
- Get maximum award fees
- Decrease risk of disruption and increase customer satisfaction during operation
- Win and keep the O&M business
- Become known as provider of choice for O&M as well as prime developer

What's the Approach?

Treat programs as two large phases or lifecycles: production and service.

Use CMMI-DEV as the foundation model for developers, but extend to include specific pieces of CMMI-SVC at specific times.

Think of the CMMI-SVC pieces in three buckets or sets:

- **Set one**: core process areas that start implementation under a production life-cycle but include service concerns so that they can successfully be instantiated into the service lifecycle (such as RSKM and REQM)
- **Set two**: those service process areas (or goals within a PA) that MUST be considered during the production phase and NOT wait for the service phase to commence
- **Set three**: those process areas (or goals within a PA) that will be initiated and implemented during the service lifecycle (SET 1 and SET 2 will continue to evolve during the service lifecycle)

An Example from RSKM, set one

SG 2 – Identify and Analyze Risks

Identify Development and Operational Risks

- Identification must include both life cycles
- Identification of a development risk could identify additional operational risks

Analyze Risks

- Analysis of a development risk could identify an additional operational risk

Mitigation Plans

- Mitigation plans should be seamless:
  - Including steps in development to mitigate operational risk
  - An operational risk may lead to additional development

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

An Example from REQM, set one

SG1 – Manage Requirements

Understand Requirements

- During development requirements must be prioritized to gain insight into the customer's priority needs
- This is the first step in understanding the service requirements pertaining to functionality

Manage Requirements

- As requirements change, do analysis of the service capabilities and delivery

Bidirectional Traceability

- Critical to ensure that the requirements do indeed meet the service requirements

Identify Inconsistencies

- Essential to not only look at inconsistencies when delivering the product but inconsistencies in the final delivery of service on the product

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

An Example from SST, set two

SG 1 – Prepare for Service System Transition

Analyze and Develop Transition plans

- Include this analysis during both Requirements Management and Product Integration during development
- Requirements, functions, tools, and components must all factor into transitioning the system
- Analyze warranties and technology and hardware refresh needs and relate those needs to the production phase

Prepare Stakeholders

- With considerations around warranties and refresh, production can set the expectation for service capabilities
- Customers should buy the product knowing what services are provided in association with the product during O&M

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

An Example from SCON, set two 1 of 2

SG1 – Identify Essential Service Dependencies

In keeping with both Requirements Development and during Requirements Management it is critical that the customer priorities on functionality be agreed.

Prioritization of functions may be an input to Risk Management, Decision Analysis and Resolution, and Technical Solutions as the product is being developed.

As requirements and functions are being developed, management will have an insight into the resources needed into services, such as

- number of people
- skills and knowledge of those individuals
- budget
- timeline

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

An Example from SCON, set two 2 of 2

SG2 – Prepare for Service Continuity

Continuity plans and training should be accomplished during production

- Depending on expectations of the plan, production, product design, or product integration could be affected

SG3 – Verify and Validate the Service Continuity Plan

An actual dry-run of the continuity plan would be worthwhile during production since results, good and bad, should go back into the production

- If verification and validation of continuity plans are done during production, continuity risks anticipated for operation phase can be mitigated by a change in the product configuration

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

An Example from SSD, set three

SG 3 – Verify and validate service systems

Actual verification of the *service system* will not occur until the operational phase, although the actual integration of the components and the service design can be accomplished during production phase

Development of service system can be done in concert with product

Peer reviews should include production staff as service staff should have been included in verification activities during production

- Both service and production are stakeholders in the product solution set

Adapted from: Penn, *Applying SVC PAs to DEV Programs*, 2011

What’s the Summary?

CMMI-SVC has a PA that “summarizes” the engineering PAs in DEV, but use the latter when more detailed practice information is needed.

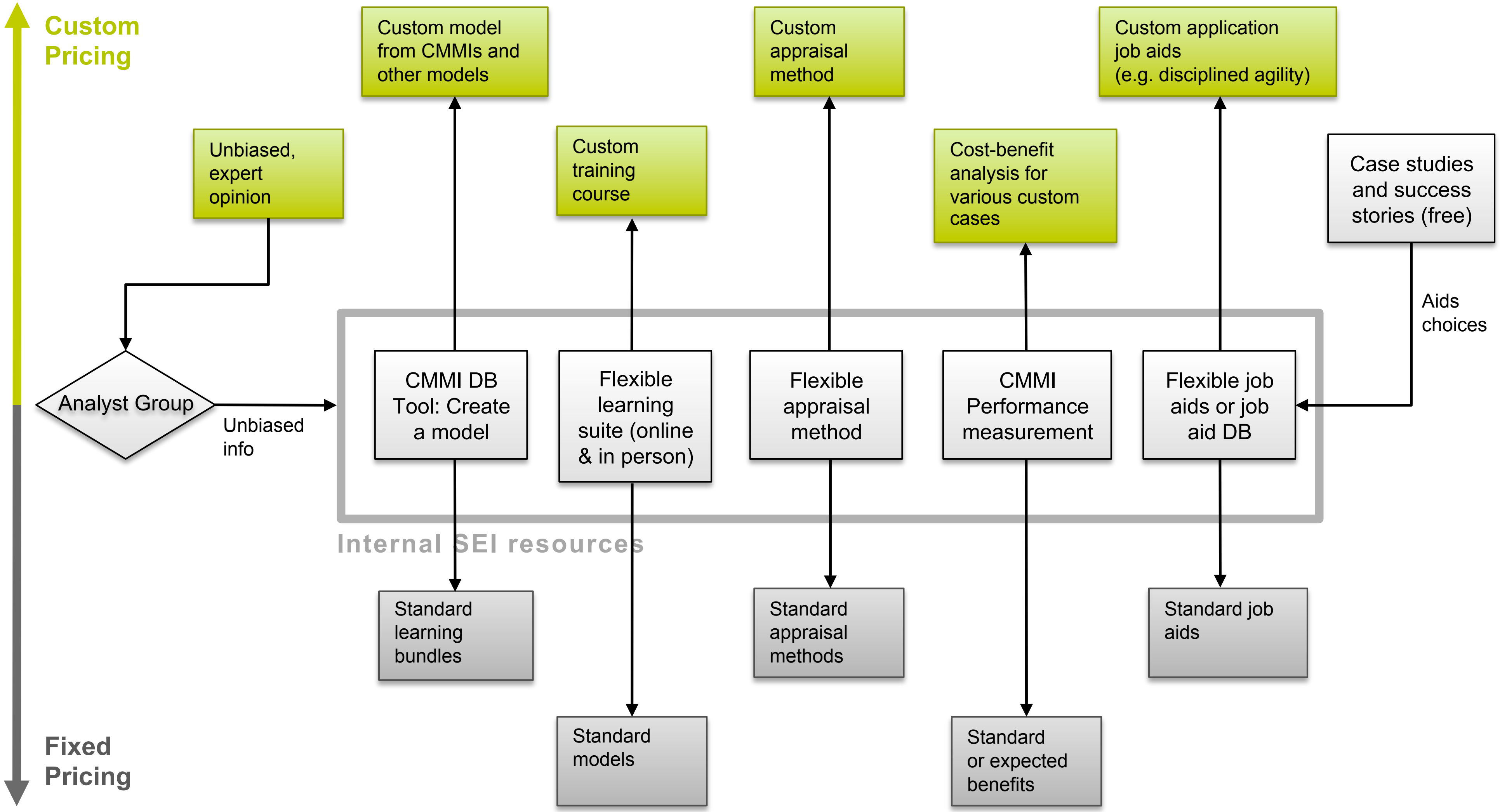
Development or engineering tasks can be treated as a service, and managed with the practices in CMMI-SVC.

Advanced development may use all of the CMMI-DEV, and then add CMMI-SVC for additional practices: SCON, SST, CAM.

Developers of long-lived products can selectively choose SVC PAs to anticipate full lifecycle needs and costs.

Shifting our mental model from pure product development to product development within the service of supporting an operational need demonstrates a multi-dimensional commitment to quality throughout the development and operations life cycle that end users particularly value.

CMMI Strategic Product Vision


Custom Pricing
Fixed Pricing
Custom model from CMMIs and other models
Custom appraisal method
Custom application job aids (e.g. disciplined agility)
Unbiased, expert opinion
Custom training course
Cost-benefit analysis for various custom cases
Case studies and success stories (free)
Aids choices
Analyst Group
Unbiased info
CMMI DB Tool: Create a model
Flexible learning suite (online & in person)
Flexible appraisal method
CMMI Performance measurement
Flexible job aids or job aid DB
Internal SEI resources
Standard learning bundles
Standard appraisal methods
Standard job aids
Standard models
Standard or expected benefits

Some Useful Links

CMMI for Services Model

www.sei.cmu.edu/cmmi/solutions/svc

CMMI for Services and Security Whitepaper

www.sei.cmu.edu/cmmi/tools/svc/upload/Security-and-CMMI-SVC.pdf

CMMI for Services Book

www.informit.com/store/product.aspx?isbn=0321711521

Making Process Improvement Work for Service Organizations: A Concise Action Guide by Neil S Potter and Mary E Sakry

www.informit.com/store/product.aspx?isbn=0132929600

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CMMI-SVC Service PAs in Plain Language

Capacity and Availability Management (CAM):

making sure you have enough of the resources you need to deliver services and that they are available when needed—at an appropriate cost

Incident Resolution and Prevention (IRP):

handling what goes wrong—and preventing it from going wrong ahead of time if you can

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making sure you have everything you need to deliver the service, including people, processes, consumables, and equipment

Service System Transition (SST):

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Strategic Service Management (STSM):

deciding what services you should be providing, making them standard, and letting people know about them

Core and Shared PAs in Plain Language – 1 of 3

Causal Analysis and Resolution (CAR):

getting to the sources of important outcomes and taking effective action to correct or repeat them

Configuration Management (CM)

controlling changes to your crucial work products

Decision Analysis and Resolution (DAR):

using a formal decision making process on the decisions that matter most in your business

Integrated Work Management (IWM):

making the most of your participants and defined processes, even when it's complex

Measurement and Analysis (MA):

knowing what to count and measure to manage your service

Organizational Performance Management (OPM):

managing your improvements and innovations using a statistical understanding of your process performance

Organizational Process Definition (OPD):

establishing standard processes and relaying them throughout your organization

Core and Shared PAs in Plain Language – 2 of 3

Organizational Process Focus (OPF):

figuring out your current process strengths and weaknesses, planning what to do to improve, and putting those improvements in place

Organizational Process Performance (OPP):

making sure you understand your process performance and how it affects service quality

Organizational Training (OT):

developing the skills and knowledge your people need to deliver superior service

Process and Product Quality Assurance (PPQA):

checking to see that you are actually doing things the way you say you will in your policies, standards, and procedures

Quantitative Work Management (QWM):

managing service to quantitative process and performance objectives

Requirements Management (REQM):

keeping clear with your customers and other stakeholders about the service you provide, and adjusting when you find inconsistency or mismatched expectations

Supplier Agreement Management (SAM):

getting what you need and what you expect from suppliers who affect your service

Core and Shared PAs in Plain Language – 3 of 3

Risk Management (RSKM):

supporting the success of your service mission by anticipating problems and how you will handle them—before they occur

Work Monitoring and Control (WMC):

making sure what's supposed to be happening in your service work is happening and fixing what isn't going as planned

Work Planning (WP):

estimating costs, effort, and schedules; getting commitment to the work plan; and involving the right people—all while watching your risks and making sure you've got the resources you think you need

CMMI-DEV Engineering PAs in Plain Language

Product Integration (PI):

putting together all the product components so that the overall product has expected behaviors and characteristics

Requirements Development (RD):

understanding what stakeholders think they need and documenting that understanding for the people who will be designing solutions

Technical Solution (TS):

using effective engineering to build solutions that meet end user needs

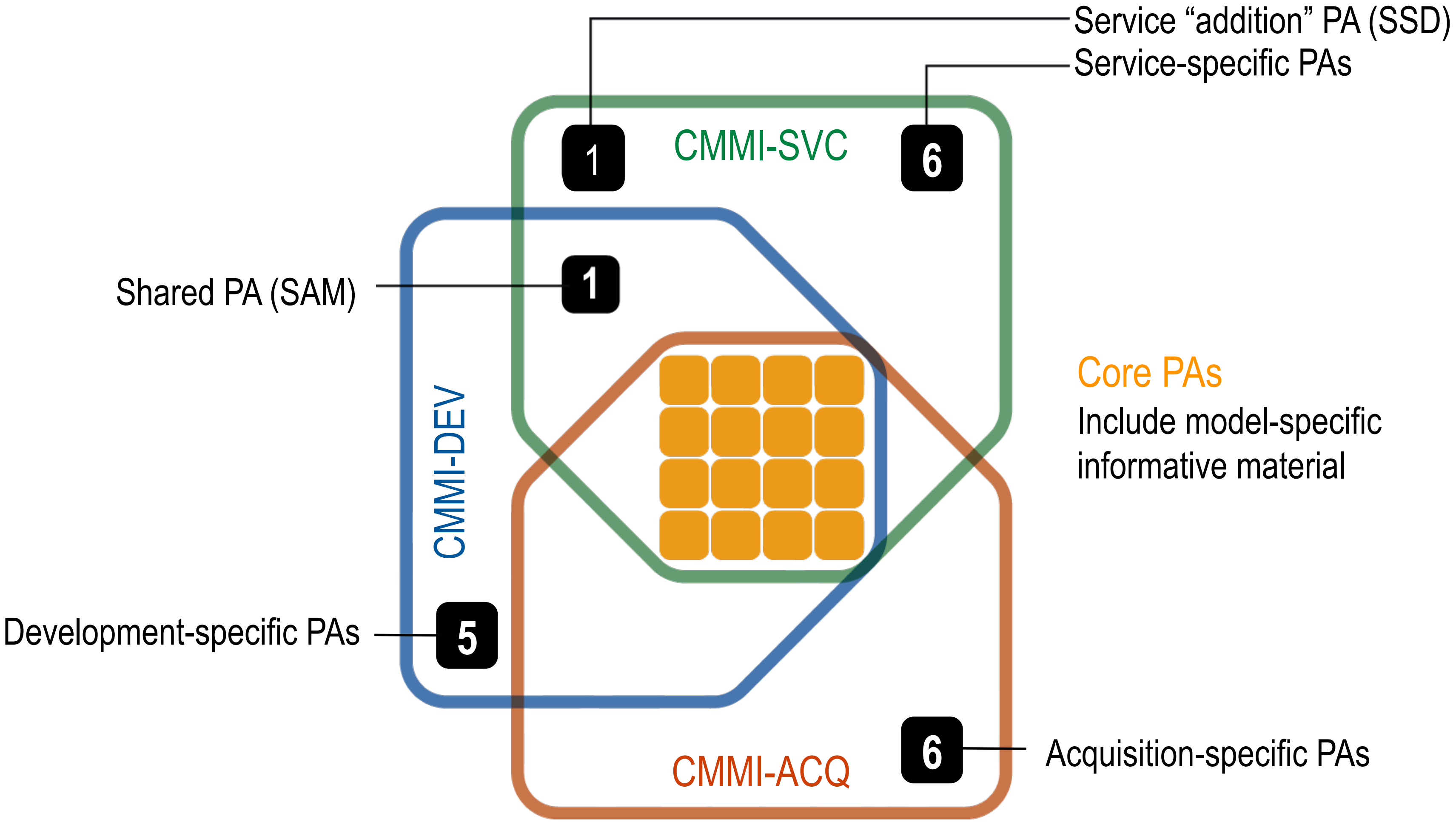
Validation (VAL):

making sure that the solution actually meets the needs of users in the service environment

Verification (VER):

making sure that the solution you ended up with meets your agreement about the needs

Relationships Among CMMI Models



Process Areas Organized by Maturity Level and Category

	Project and Work Management	Process Management	Service Establishment and Delivery	Support
5 Optimizing		Organizational Performance Management		Causal Analysis and Resolution
4 Quantitatively Managed	Quantitative Work Management	Organizational Process Performance		
3 Defined	Capacity and Availability Management Integrated Work Management Risk Management Service Continuity	Organizational Process Definition Organizational Process Focus Organizational Training	Incident Resolution and Prevention Service System Development Service System Transition Strategic Service Management	Decision Analysis and Resolution
2 Managed	Requirements Management Supplier Agreement Management Work Monitoring and Control Work Planning		Service Delivery	Configuration Management Measurement and Analysis Process and Product Quality Assurance

Legend: Core PAs in yellow type; Services-Specific PAs in green type; Additions in blue type; Shared in purple type.

Why think about adopting a service mindset if you're a product developer?

Do we provide training services to others?

Do we provide analysis services to others?

Do we provide engineering services to others?

Do we provide configuration or other logistics services to others?

Do we do software maintenance or sustainment?

Do our customers provide acquisition services to their stakeholders?