CMMI for Services (CMMI-SVC):
Current State

Software Engineering Institute
Carnegie Mellon University
Pittsburgh, PA 15213

Eileen Forrester
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What I will cover

Explain what the CMMI-SVC is and why we built it

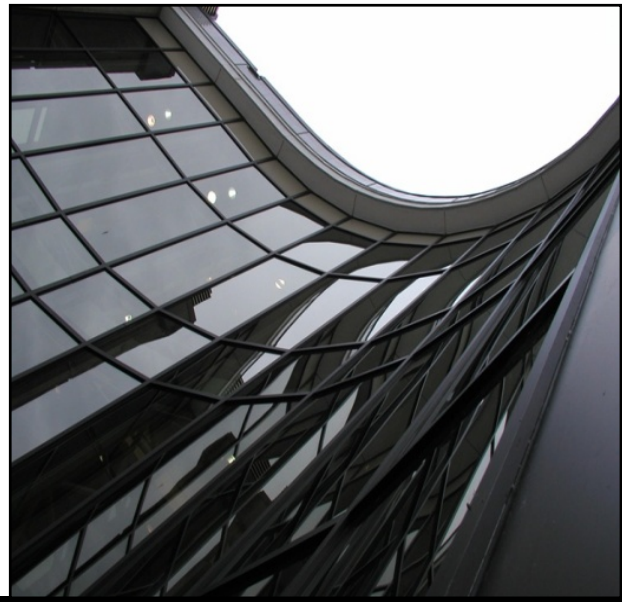
Discuss service types and market segments

Describe fit with ITIL, ISO, RMM, and other CMMI models

Cover some early user experience and considerations for applying

Consider how we might collaborate

*Note: this presentation is regularly updated. The latest version can always be found online here: www.sei.cmu.edu/library/abstracts/presentations/CMMI-for-Services-Overview.cfm

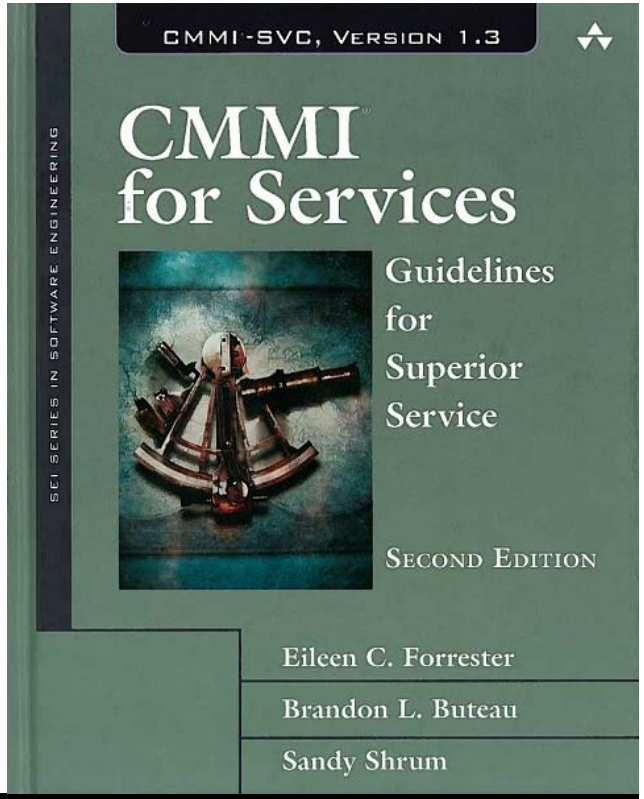


What is the CMMI for Services?

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 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 if you can

Service Continuity (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 services, including people, processes, consumables, and equipment

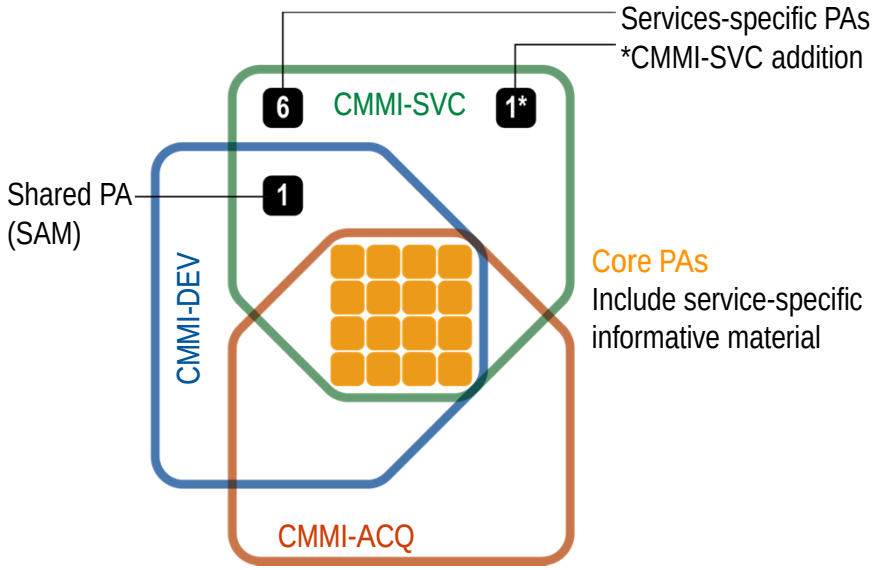
Service System Transition (SST):

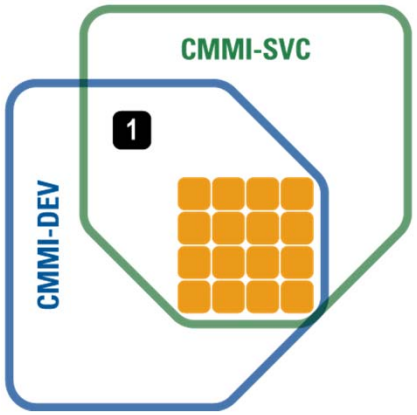
getting new systems in place, changing existing systems, or retiring obsolete systems—all while making sure nothing goes terribly wrong with the service

Strategic Service Management (STSM):

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

A Quick Look at CMMI-SVC





CAM Capacity and Availability Management

SCON Service Continuity

STSM Strategic Service Management

SSD Service System Development

IRP Incident Resolution & Prevention

SD Service Delivery

SST Service System Transition

Define, and Establish, and Deliver Services

SD REQM WP SSD

Monitor and Control Service and Work Products

CAM WMC CM

Ensure Service Mission Success

IRP RSKM SCON SST

Make Work Explicit and Measurable

MA OPP QWM CAR OPM

Manage Decisions, Suppliers, and Standard Services

SAM DAR STSM

Create a Culture to Sustain Service Excellence

PPQA OPD IWM OT OPF

Why is the CMMI-SVC needed?

Service providers deserve a consistent benchmark as a basis for process improvement that is appropriate to the work they do and is based on a proven approach.

- Demand for process improvement in services is likely to grow: services constitute more than 80% of the U.S. and global economy.
- CMMI-SVC addresses the needs of a wide range of service types by focusing on common processes.
- Many existing models are designed for specific services or industries.
- Other existing models do not provide a clear improvement path.
- Poor customer service costs companies $338 billion annually
- Services constitute more than 54% of what the US DoD acquires.
- SEI stakeholders approached us requesting a model for services.

* FY 2006 data is from “DoD throws light on how it buys services [GCN 2006].” GAO data is from GAO report GAO-07-20.

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

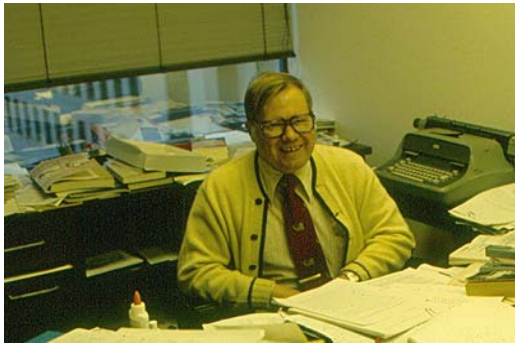
Do we provide training services to others?

Do we provide analysis services to others?

Do we provide engineering services to others?

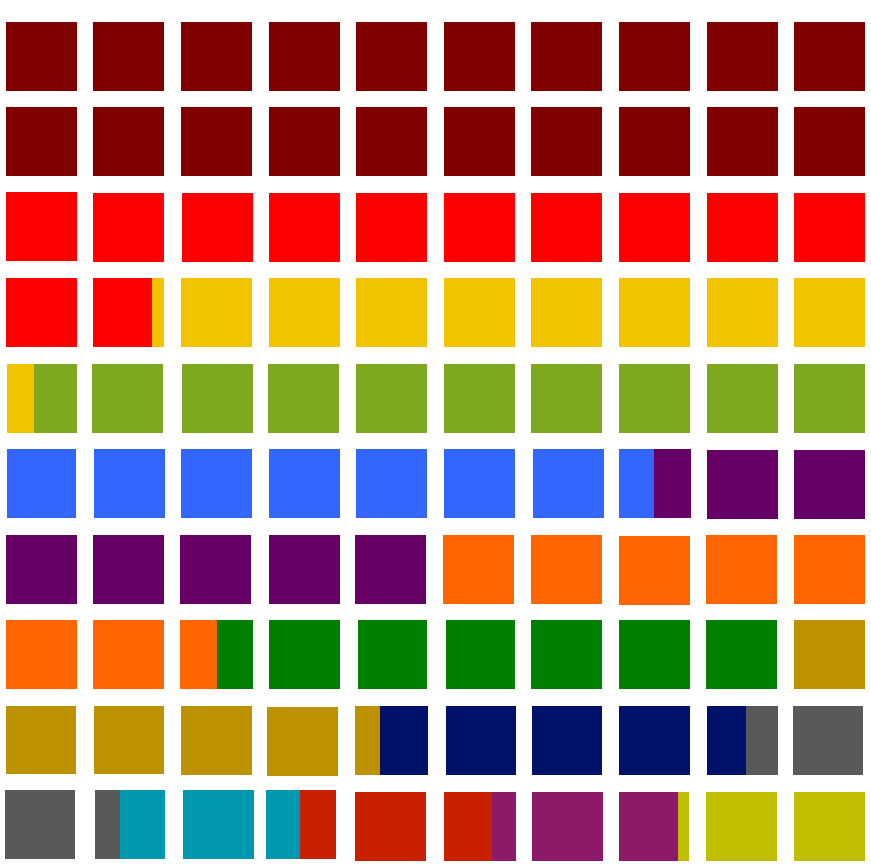
Do we provide configuration or other logistics services to others?

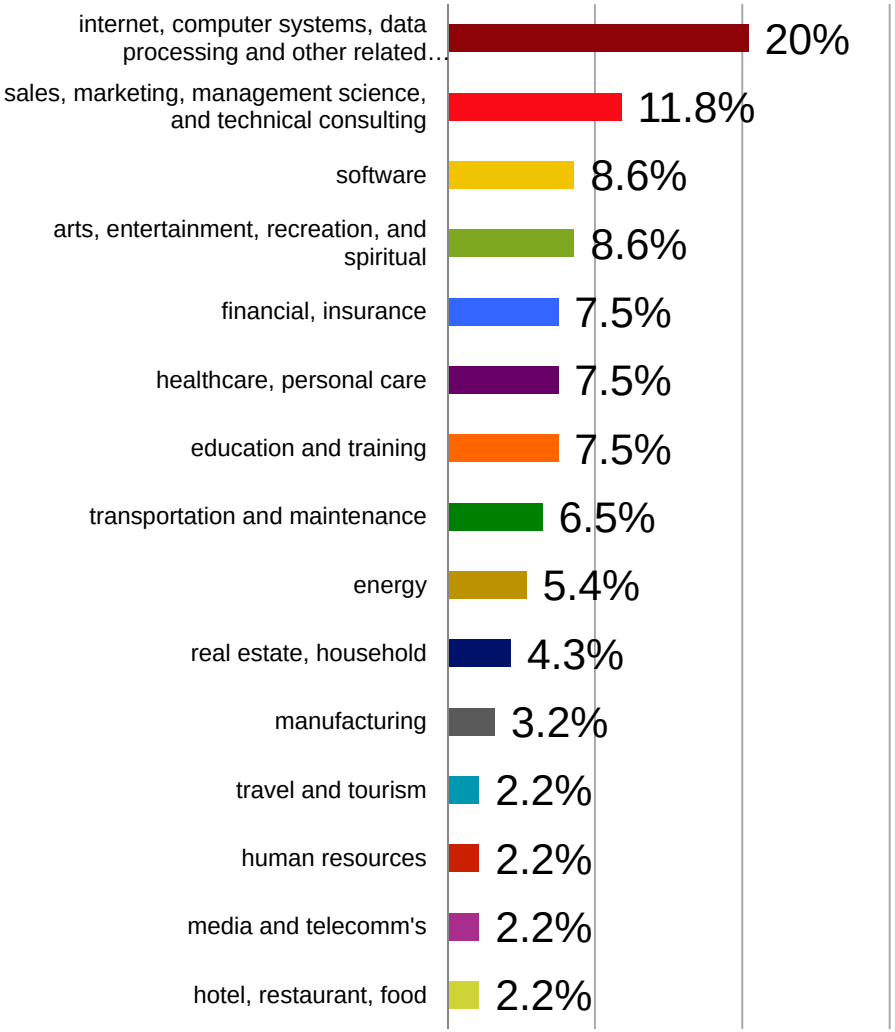
Do we do software maintenance or sustainment?



Do our customers provide acquisition services to their stakeholders?

Sample Use Cases by Industry - 1





Sample Use Cases & Scenarios by Industry - 2

Accounting services
Aircraft maintenance
Aluminum packaging manufacturer
Ambulatory
Auto service
Auto insurance
Banking
Billing
Call center
Church administration
Client staffing
Database management
Defense contractor
Education
Eldercare
Electric generation and supply
Employment
Fertilizer manufacturer
Fitness club
Fitness equipment maintenance
Food services
Gardening and lawn care
Genealogy
Gutter maintenance
Healthcare
Home health care
Home inspection
Infrastructure management
Internal process group
Internet retail
Internet cable provider
ISO audits
IT services
Letting a holiday home
Loan broker
Logistics
Maintenance
Management consulting
Military communications support
Nuclear power
Oilfield services
Organizational performance improvement
Pharmaceutical
Process consulting
Project management
Providing PCs
Public health information
Publishing
Quality assurance
Recommending technology
Securities investment
Software benchmarking service
Software development
Software testing
Sports officiating
Staff augmentation
Stock trading
Textiles
Thermal diagnostics
Training
Training and other aviation services
Training and technology deployment for COTS software
Translation services
Travel agency
Travel services
University
Voice and data services

What market segments are of interest?

Education, energy, health care, transportation, finance, insurance, and hospitality are possibilities.

I have a marketing segmentation and targeting effort under way. Branding and messaging work will follow.

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.

What are early users saying?

Dramatic returns on investment from early adopters:

- 13.5X income with one CMMI-SVC process area
- 3.5X capacity to deliver service with one CMMI-SVC practice
- Conversion from internal cost center to profit center

Other patterns in early use:

- Combined CMMI-SVC and CMMI-DEV use, with examples of people using CMMI-SVC as their foundation, but adding the engineering PAs for large, complex service systems
- SCAMPI B with security added is plausible
- CMMI-SVC in use for development more than we expected
- High maturity users of CMMI-DEV begin with ML3 of CMMI-SVC when they transition
- More use of CMMI-SVC by process groups to guide their own work
- High demand for multi-constellation use, and of course, multi-model use!

Points of confusion

Confusion about STSM: apply it to any coherent process context, not only at the corporate level.

Misapplication of SSD: the scope of SSD is the entirety of resources to support a service, not just stuff you happen to develop.

Also, SSD is not just IT stuff, and not just for new services.

PI practitioners from a development background try to “force” new service users to use PMC for work that fits CAM more adeptly.

Occasional mistakes about incidents: these are disruptions to your service, not software defects and not the things your service provider responds to as a request.

Early SCAMPI results - 1

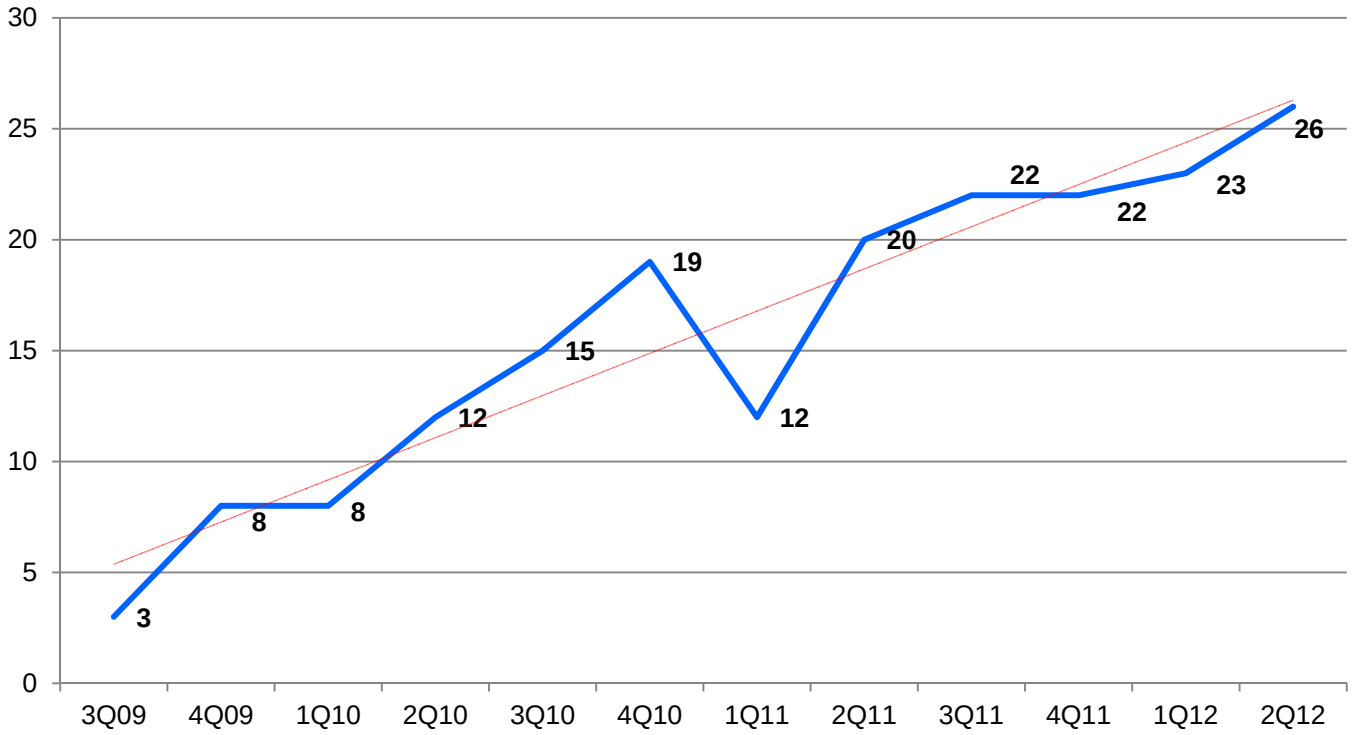
As of July 1, 2012, 215 formal SCAMPIs were reported in SAS. Of these,

- 175 are SCAMPI As, 18 SCAMPI Bs, 22 SCAMPI Cs
- 25% are using SSD
- 141 appraisals are on SEI's Published Appraisals Results (PARs) list

This represents just under 3 years of CMMI-SVC appraisals. For comparison, it took 5 years for the Software CMM to reach 100 appraisals.

Early SCAMPI results - 2

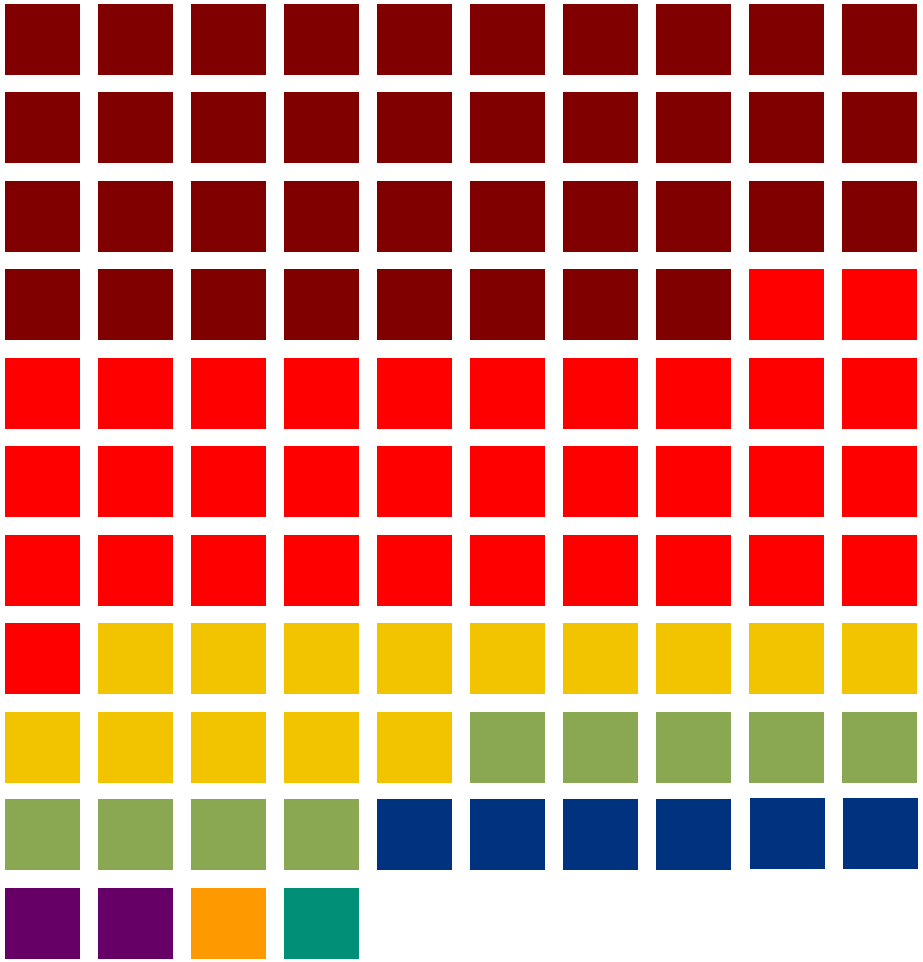
Number of Appraisals by CY Quarter



Early SCAMPI results - 3

Percentage of Appraisals by Industry

- Business Services, **38%**
- Engineering and Management Services, **33%**
- Other Services, **14%**
- None Selected, **9%**
- Electronic and Other Electric Equipment, **6%**
- Transportation, Communication, Electric, Gas and Sanitary Services, **2%**
- Finance, Insurance and Real Estate, **1%**
- Public Administration (Including Defense), **1%**



More indicators of uptake of CMMI-SVC

We have four ML5 appraisals. The first was also enterprise and multi model.

We see an increase in CMMI-SVC appraisals quarter over quarter.

More than 190 lead appraisers have been certified.

More than 280 instructors have been certified.

More than 6,000 students have been taught CMMI-SVC.

Qualification for new instructors in Intro to CMMI-SVC continues (63 in queue).

The CMMI-SVC book is available worldwide, and in second edition. Two other books featuring CMMI-SVC by partners are published, a third on its way.

Two masters theses and four doctoral dissertations are complete or ongoing.

Translations of CMMI-SVC into Chinese is complete for V1.2 and under way in Arabic and Spanish for V1.3.

Considerations for applying CMMI-SVC

Using the continuous representation is recommended when getting started.

You can get business results with a single practice, a single PA, or another small portion of the model.

Most common PAs to start with: SD, IRP, and CAM.

Discomfort with WP, WMC, and sometimes REQM.

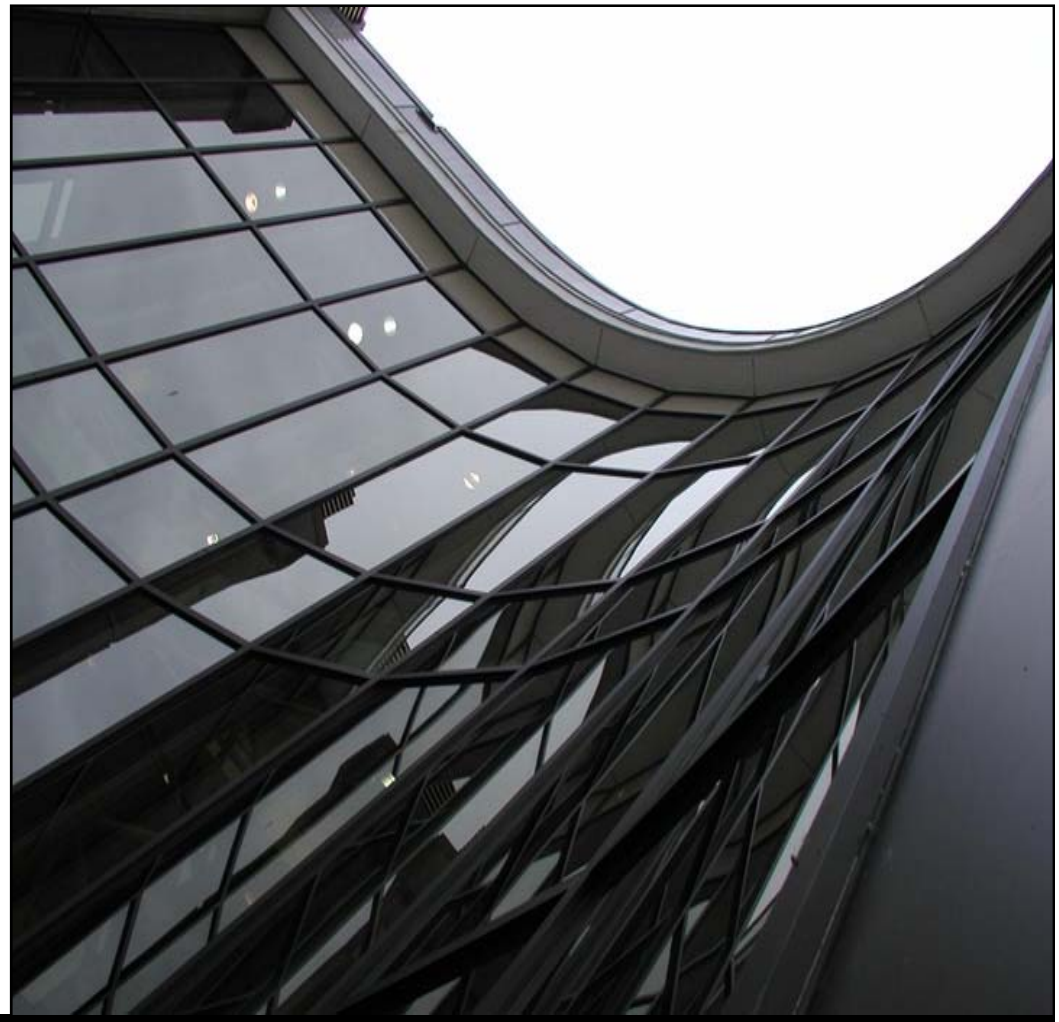
Beware of “service PAs only” attitudes; the core PAs have valuable content for service providers.

It’s not all or nothing!

Contact information

Eileen Forrester
ecf@sei.cmu.edu

General
info@sei.cmu.edu



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Backup Slides

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Core and Shared PAs in Plain Language – 1 of 3

Causal Analysis and Resolution (CAR):

getting to the sources of selected work results and taking effective action to enable good results and prevent bad results in other work

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):

getting the most from defined processes and all participants when managing complex service

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 spreading 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 inconsistencies or mismatched expectations

Risk Management (RSKM):

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

Core and Shared PAs in Plain Language – 3 of 3

Supplier Agreement Management (SAM):

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

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, figuring out how you'll provide the service, and involving the right people—all while watching your risks and making sure you've got the resources 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

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 and home exchange

What about Software?

"CEOs don't buy software anymore…they buy service level agreements"

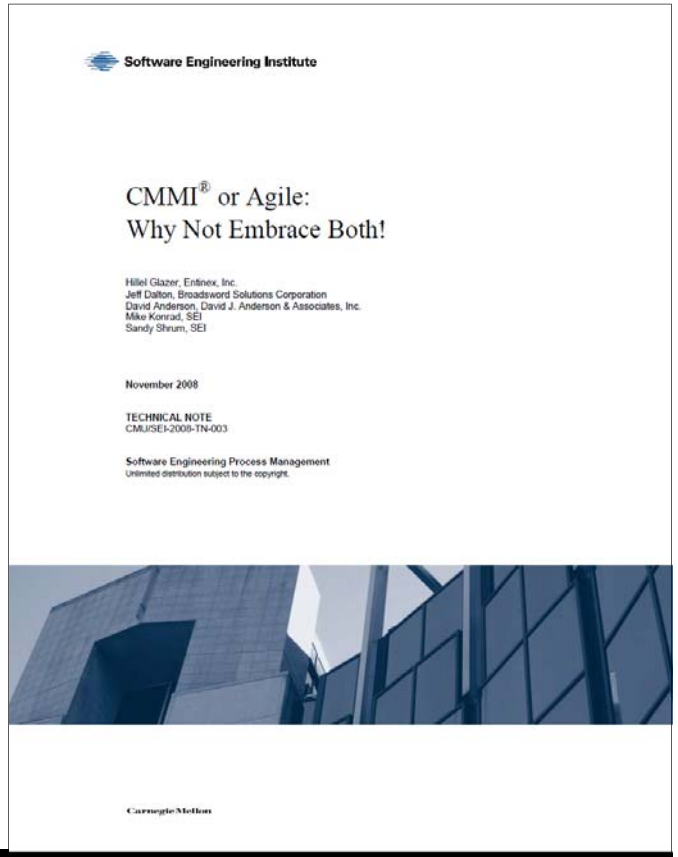
– George Fischer, EVP and Group Executive for CA Technologies, Speaking at NASSCOM and SEPG Asia Pacific 2010

Are Services Agile?

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



Impact for Organizations

SIEMENS

Productivity improved by 25% using CMMI over a three-year period

Raytheon

42% decrease in the costs of rework at CMMI Level 3

GM

Met milestones improved from 50% to 85% with focus on CMMI

LOCKHEED MARTIN

20% reduction in software costs by integrating its engineering processes using CMMI

Putting All the Pieces Together

CMMI-SVC is a Perfect Fit

What does the CMMI-SVC deliver?

The CMMI-SVC offers a proven approach to

- maintaining competitiveness
- increasing revenue
- improving efficiency

by strengthening service delivery and service management.

- Promotes assured, consistently high-quality service delivery that cements, retains, and increases customer loyalty
- Provides a roadmap for continuous service improvement: benchmark, set goals, prioritize activities, take action, measure progress
- Supports efficiency and reduces complexity through an enterprise-wide common service improvement vocabulary that is critical for multi model use and outsourcing
- Reduces time-to-market (or field) delivery of new services to customers
- Enables the rapid fine-tuning of existing service performance and quality
- Fosters stronger employee motivation and better retention, as they participate in making service coordination and delivery better
- Can be the basis for regional and global strategies, as all work becomes service