CMMI for Services (CMMI-SVC)
An Overview

Software Engineering Institute
Carnegie Mellon University
Pittsburgh, PA  15213

Eileen Forrester
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Introduction

Eileen Forrester is a senior member of the technical staff in the Software Engineering Process Management program at the SEI. She was the co-chair of the International Process Research Consortium and is the SEI lead for the CMMI for Services. Forrester is the developer of TransPlant, a transition-planning process, the editor of the IPRC Process Research Framework, and the lead author of CMMI for Services, Guidelines for Superior Service.
Polling Question 1

How did you hear about this webinar?

1. Email invitation from the SEI
2. SEI Website
3. Website with webinar calendar (ie www.webinar-directory.com)
4. Social Media site (LinkedIn, Twitter)
5. SEI Member Bulletin
What I will cover

Explain what the CMMI-SVC is and why we built it
Describe fit with ITIL and ISO and RMM
Cover some early user experience and considerations for applying
Indicate some changes to expect in V1.3
Describe current state and plans for training and appraisal
Give you information on how to qualify to teach Introduction to CMMI for Services
Let you know about opportunities to participate
What is the CMMI for Services?

CMMI-SVC extends the coverage of the CMMI product suite to cover the establishment, management, and delivery of services.

Like every CMMI model, CMMI-SVC

is a process improvement approach that provides organizations with the essential elements of effective processes (PAs)

can be used to guide improvement across a team, project, division, or an entire organization

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

represents the consensus of thousands of practitioners about the essential elements of service delivery
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 US companies $83 billion annually
- Services constitute more than 54% of what the DoD acquires.
- SEI stakeholders approached us requesting a model for services.
Polling Question 2

What most interests you about applying CMMI-SVC?

1. Within your organization to improve services
2. With your customers by training them
3. Both
What types of services does CMMI-SVC cover?
CMMI-SVC content and other constellations

CMMI-SVC (24 PAs)

- Services-specific PAs
- Shared PA (SAM)
- CMMI-SVC additions

Core PAs
- have been expanded to include 3 SPs
- include services-specific informative material

CMMI-DEV
CMMI for Development

CMMI-ACQ
CMMI for Acquisition
CMMI-SVC services-specific PAs in English

Strategic Service Management (STSM):
- deciding what services you should be providing, making them standard, and letting people know about them

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, retiring obsolete systems, all while making sure nothing goes terribly wrong with service

Service Delivery (SD):
- setting up agreements, taking care of service requests, and operating the service system

Capacity and Availability Management (CAM):
- making sure you have 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 in the first place if you can

Service Continuity Management (SCON):
- being ready to recover from a disaster and get back to delivering your service
What is the fit with ITIL and ISO and RMM?

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

We did a full mapping to ISO 20K.

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—this is why we think the models are complementary.

RMM is like SCON “on steroids.”

We have a working team looking at SCAMPI appraisals to include ITIL.
What are early users finding?

As of 17 February, 20 formal SCAMPIs were reported in SAS. Of these,

- 7 are using SSD; some of those not using SSD are for ML 2 (these wouldn’t include SSD, which is ML 3)
- 9 are using SAM
- 11 are SCAMPI As, 4 SCAMPI Bs, 5 SCAMPI Cs

Examples of people using CMMI-SVC as their foundation, but adding the engineering PAs for large, complex services

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

Discomfort with PP, PMC, and sometimesREQM

SCAMPI B with security added from other frameworks is plausible

CMMI-SVC in use for development more than we expected

High demand for multi-constellation use, and of course, multi model use!
What are early users reporting?

Dramatic returns on investment from early adopters, might be hard for later adopters to replicate: 13.5X income, 350% increase in capacity to deliver service

More use of CMMI-SVC by process groups to guide their own work (three presentations on this at CMMI User Group Conference)

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

PI practitioners from a development background try to “force” new service users to use PMC for work that fits CAM more adeptly
Considerations for applying CMMI-SVC

Using the continuous representation is recommended when getting started.

We are seeing use in small and very small settings; we’d like more experience reports, and perhaps an eventual guide to include different interpretive guidance and work products.

Many new-to-CMMI service users; the Intro course was just in time.

An authorized instructor can use the Services Supplement as an introductory course.

Beware of “service PAs only” attitudes; the core PAs have valuable content for service providers.
Recent news on CMMI-SVC

More than 100 lead appraisers have been certified.

More 100 instructors have been certified.

More than 1000 students have been taught CMMI-SVC in the Services Supplement to Intro to CMMI-DEV. Another 150 have been taught the pilot Intro to CMMI-SVC, including 3 pilots with CMMI-SVC plus DEV.

Qualification for new instructors in Intro to CMMI-SVC has begun.

European partners lead the way in providing input to the qualification path for CMMI-SVC and qualifying as instructors (first 6 outside the team).

The CMMI-SVC book is out early, available worldwide, and in second printing.

A masters thesis on CMMI-SVC has been completed in Germany and is published. Two doctoral dissertations are under way: one on ITIL and CMMI-SVC, another on using CMMI-SVC in education.

A team on ITIL, ISO, and CMMI-SVC is working.
What changes to expect in V1.3?

Most changes to service-specific PAs are extremely modest, and have already been approved by the CCB.

The board has also approved slightly more substantial changes to IRP to clarify the creation of solutions to incidents and the prevention of incidents altogether.

Changes to the core PAs could be significant in high maturity PAs, and will be the same in all three models.

A SCAMPI Upgrade Team is making changes to the SCAMPI method as well.

A V1.3 team is currently working on eliminating many of the instances of “project” in the CMMI-SVC based on user input. The words “work” and “work group” will replace “project” in CMMI-SVC V1.3.

Changes to the normative material to mitigate the problematic use of “project” substantially affect only five PAs: PP, PMC, REQM, IPM, and QPM. Of the other core PAs, most have 0, 1, or 2 uses of “project” and these are easily eliminated, often to the benefit of all three models.
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<td>SP 2.1</td>
<td>Identify incidents and record information about them.</td>
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<td>SP 2.2</td>
<td>Analyze incident data to determine the best course of action.</td>
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<td>SP 2.3</td>
<td>Apply workarounds to selected incidents.</td>
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<td>SP 2.4</td>
<td>Address underlying causes of selected incidents.</td>
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<td>SP 2.5</td>
<td>Monitor the status of incidents to closure and escalate if necessary.</td>
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<td>SP 2.6</td>
<td>Communicate the status of incidents.</td>
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<th>SG 3 Approaches to address selected incidents are defined to prevent the future occurrence of incidents or mitigate their impact.</th>
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How can you participate?

Pilot or implement the CMMI-SVC. Write to customer-relations@sei.cmu.edu to get the experience report template. Piloting draft of CMMI-SVC V1.3 is available next month.

Write additional scenarios for service types.

Contribute exercises and examples for appraisal training.

Suggest typical work products and other informative material for specific service types.

Provide mappings to other frameworks and models that you use.

Contact partner-info@sei.cmu.edu if you aren’t a partner and would like to learn about becoming one. We are accepting licensing requests now.

Come to a focus group and respond to surveys.
CMMI-SVC focus groups available at SEPG

Attending SEPG North America or SEPG Europe?
Interested in sharing your thoughts about CMMI-SVC?
Have a free hour to participate in a focus group session?

Please contact:

Tara Reinoehl

 tmk@sei.cmu.edu
CMMI-SVC exam

Passing the competency exam is required for lead appraisers, SCAMPI B&C team leaders, and instructors using CMMI-SVC.

We do not require the exam for SCAMPI team members, though this is frequently requested. We may develop a different exam for them later.

The exam is available in person at some conferences, and at exam centers worldwide.

Visit this link to register for the exam: https://www.webassessor.com/wa.do?page=publicHome&branding=SEI

The exam assesses a candidate’s understanding of CMMI-SVC—both core and service-specific PAs. Thorough self study plus the course are needed to successfully pass the exam.
CMMI-SVC training

We have built an *Introduction to CMMI for Services V1.2*. Those who take it do NOT need to attend the Service Supplement for CMMI V1.2.

Either Intro to CMMI-SVC or the one-day training, *Services Supplement for CMMI V1.2*, is required for lead appraisers, SCAMPI B&C team leaders, instructors, and SCAMPI team members using CMMI-SVC.

Current information on offerings of the training is available here: [http://www.sei.cmu.edu/products/courses/p69.html](http://www.sei.cmu.edu/products/courses/p69.html)

*Introduction to CMMI [DEV] V1.2* is required in addition to attending the one-day *Services Supplement for CMMI V1.2* (4 days total), or you may attend only the pilot *Introduction to CMMI-SVC V1.2* (3 days total).

In addition to the training, tutorials, workshops, and presentations are regularly offered at conferences, online, and to SPINs and other groups.
# Team members, Intro to CMMI-SVC

<table>
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<tr>
<th>Name</th>
<th>Role</th>
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<tr>
<td>Eileen Forrester, leader</td>
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<td>Drew Allison</td>
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<td>Mike Bridges</td>
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<td>Paul Byrnes</td>
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<td>Sandra Cepeda</td>
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<td>Eileen Clark</td>
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<td>Kieran Doyle</td>
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<td>Suzanne Garcia-Miller</td>
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<td>Hillel Glazer</td>
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<td>Christian Hertneck</td>
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<td>Pat Kirwan</td>
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<td>Judah Mogilensky</td>
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<td>Heather Oppenheimer</td>
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<td>Pat O’Toole</td>
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<td>Agapi Svolou</td>
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<td>Barbara Tyson</td>
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<td>Jeff Welch</td>
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Principles for Intro to CMMI-SVC

Working principles for developing this course:

- Learner-centered (not SEI-centered, not model-centered, not instructor-centered)
- Tangible and concrete ideas first, abstract later
- Improved match for true introductory uses, including treatment of high maturity, generic practices, and model representations
- Whole product components to relieve pressure to do it all in Intro
- Appropriately qualified instructors
- Outcome-based design, tailoring guidelines, and variation
- More visuals and interaction and book, less reliance on text-heavy slides
- Decisions based on data; gather better feedback and use it routinely
- More incremental, agile development involving partners and users
- Use available science on learning
- Use partners to develop
How do you get qualified for Intro to CMMI-SVC?

This is preliminary information on a provisional qualification until V1.3 release in November 2010. We provide full information on our web site, in a February webinar, and at SEPG NA.

Current certified CMMI-SVC instructors in good standing do the following:

1. Secure sponsorship from a partner and send the partner name, business point of contact, and your resume reflecting 10 or more years of service experience to cmmi-svc-app@sei.cmu.edu. Two of those 10 years must be service management. Three of those 10 years must be something beside CMMI-based service.

2. Write a scenario applying service-specific PAs and at least two core PAs to a service. Submissions of no more than 10 pp in Word are preferred. You may also prepare and present training modules covering the same content and send us the recording.

3. Complete the Introduction to CMMI for Services or watch the recorded version for instructors when it is available.

4. Complete an orientation session.

5. Ensure your agreement with the SEI is current.
Track 1A- Existing SEI-Certified CMMI for Services Supplement Instructors

- SEI-Certified CMMI for Services Supplement Instructor
- Submit Resume
- Review of Course via DVD or attend live offering
- Complete the Introduction to CMMI for Services Course Orientation or Co-Teaching Event
- Complete a Scenario Based Exercise

CERTIFIED
Track 1B - Existing SEI-Certified Introduction to CMMI v1.2 Instructors or SCAMPI Lead Appraisers

1. SEI-Certified Intro to CMMI v1.2 Instructor or SCAMPI LA
2. Submit Resume
3. Review of Course via remote method or attend live offering
4. Complete the Introduction to CMMI for Services Course Instructor Orientation or Co-Teaching Event
5. Complete a Scenario Based Exercise
6. Complete the CMMI for Services Advanced Qualification Exam
7. Certified
Track 2 - General Qualification Track

1. Attend and complete the Intro to CMMI for Services and Intermediate Concepts of CMMI for Services Courses
2. Obtain SEI Partner Sponsorship
3. Submit Resume
4. Attend the CMMI for Services Instructor Orientation
5. Complete a Scenario Based Exercise
6. Complete the CMMI for Services Advanced Qualification Exam
7. Certified
Other whole product considerations

We have demand for and Intermediate and Train the Trainer course earlier than expected

Not clear whether practitioner series is also needed—new Intro course is more focused on practitioners, Intermediate could be too

Need a true introductory one-day course

Will build a Development Supplement by December 2010

In focus groups with partners, instructors, and appraisers, discussing whether an optional practitioner certificate is needed; opinions are polarized

SLAK will come after SUT completes work; PIID is available now

Looking into guides for particular disciplines: education, health care, and construction, and maintenance are hottest topics
Contact information

Eileen Forrester
ecf@sei.cmu.edu

http://www.sei.cmu.edu/cmmi/tools/svc/
CERT's Podcast Series: Security for Business Leaders

www.cert.org/podcast/
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SEI Training

www.sei.cmu.edu/training
For more than 20 years, the SEI has been at the forefront of software engineering.

By becoming an SEI Partner, you join forces with a software engineering pioneer and an institute whose credibility provides a solid foundation during uncertain economic times.

SEI Partner Network

www.sei.cmu.edu/partners