CMMI for Services (CMMI-SVC): Agile Strategy

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Services and Agile Strategy

- Why Service?
- At the SEI, in Pittsburgh, in Portugal, worldwide
- Agility and Service
- What's happening with CMMI-SVC now
- Agile strategy and CMMI-SVC

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

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.

Strategic Possibilities for Services & Portugal

Services and Portugal

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
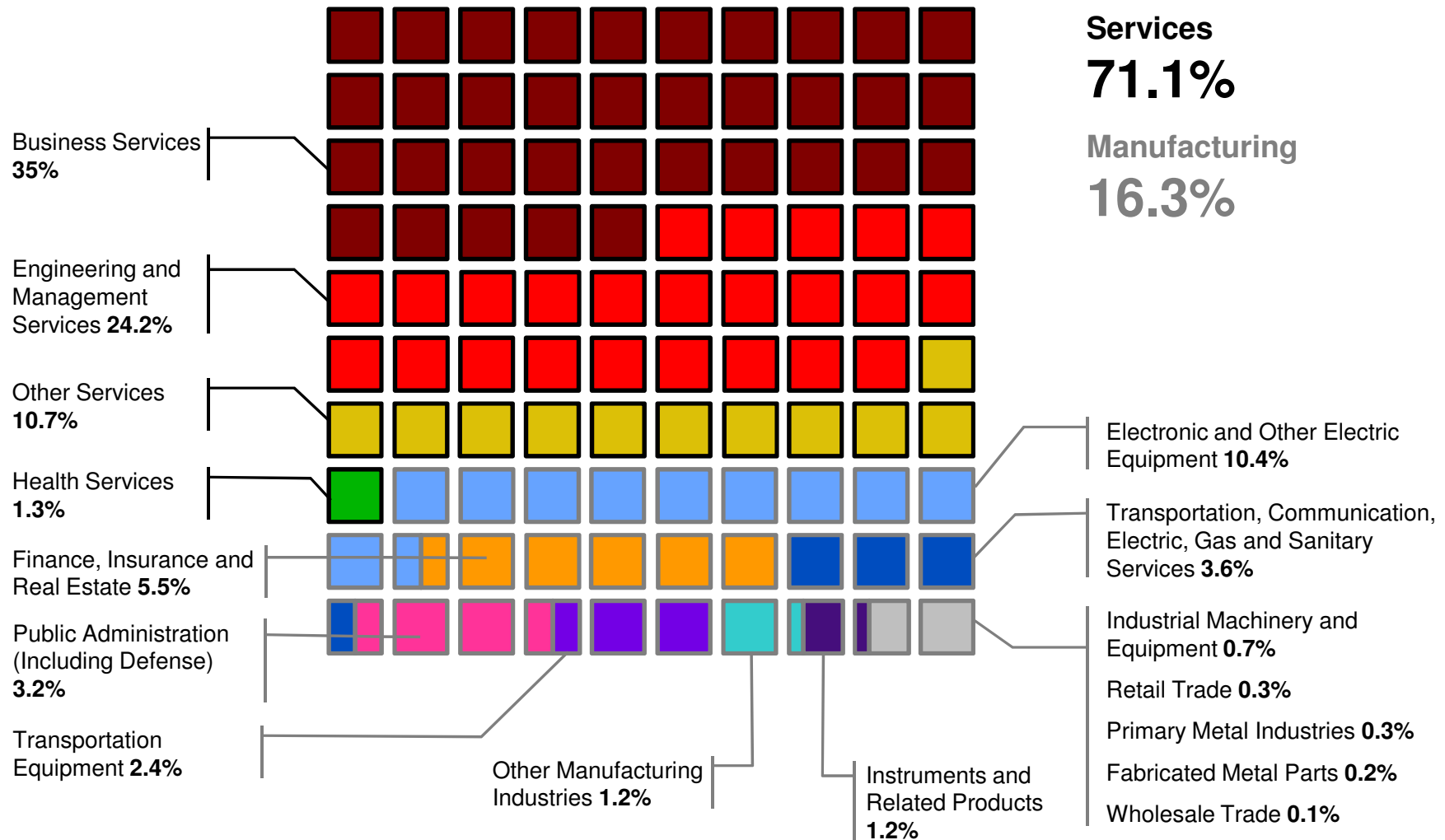
Why Service at the SEI

Service Sector Dominates CMMI Adoption

Services
71.1%

Manufacturing
16.3%

Business Services
35%

Engineering and
Management
Services **24.2%**

Other Services
10.7%

Health Services
1.3%

Finance, Insurance and
Real Estate **5.5%**

Public Administration
(Including Defense)
3.2%

Transportation
Equipment **2.4%**

Other Manufacturing
Industries **1.2%**

Instruments and
Related Products
1.2%

Electronic and Other Electric
Equipment **10.4%**

Transportation, Communication,
Electric, Gas and Sanitary
Services **3.6%**

Industrial Machinery and
Equipment **0.7%**

Retail Trade **0.3%**

Primary Metal Industries **0.3%**

Fabricated Metal Parts **0.2%**

Wholesale Trade **0.1%**

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 garbage bags 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?

Asked Hillel Glazer, one of the leading thinkers in the US on Agile, to write about this.

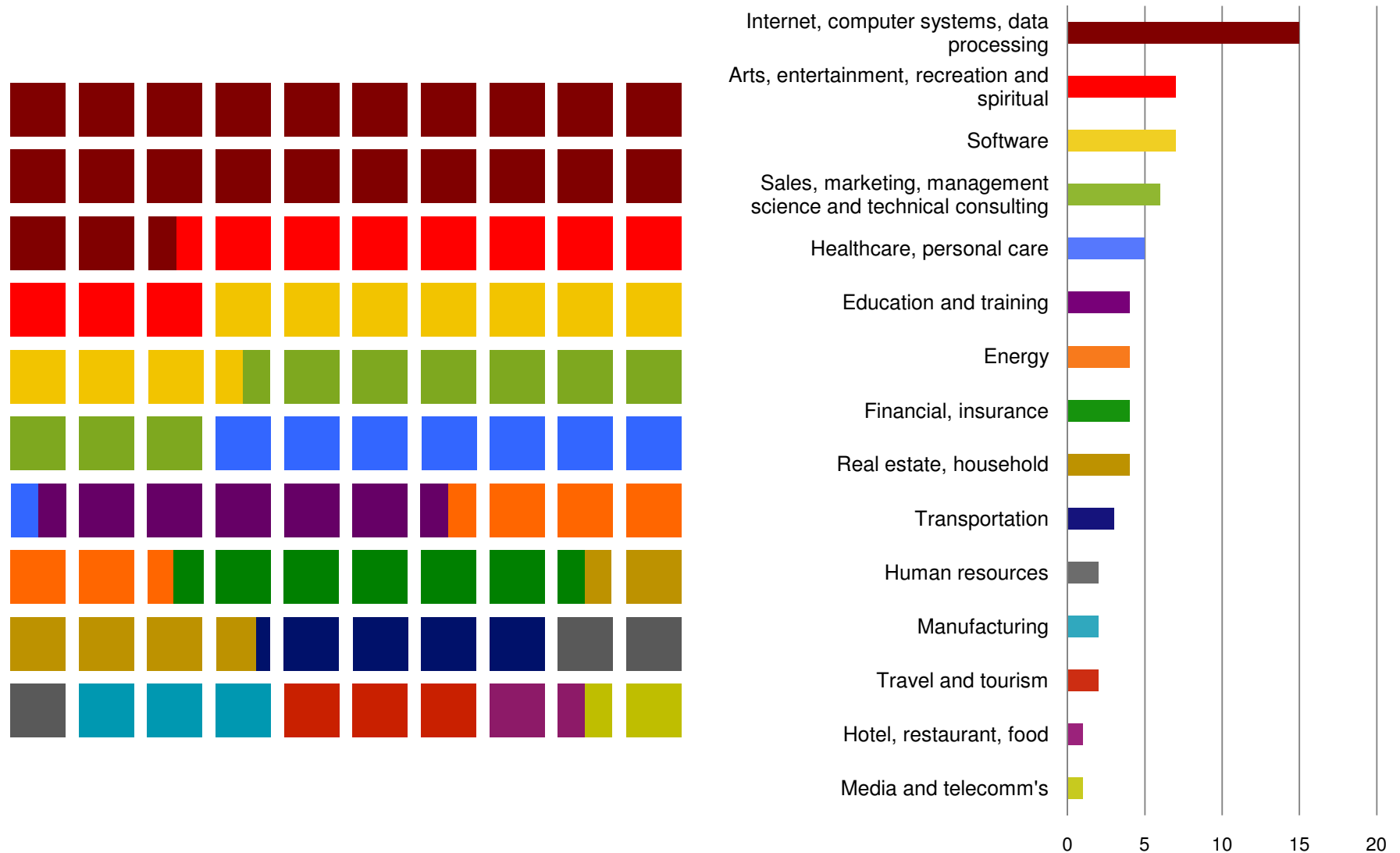Perhaps Agile is an attempt to make development more like service. Consider these features of service:

- Simultaneity

- Coproduction

- Ongoing close relationship between provider and user to agree on the product

- Many instances of the work

What types of services does CMMI-SVC cover?
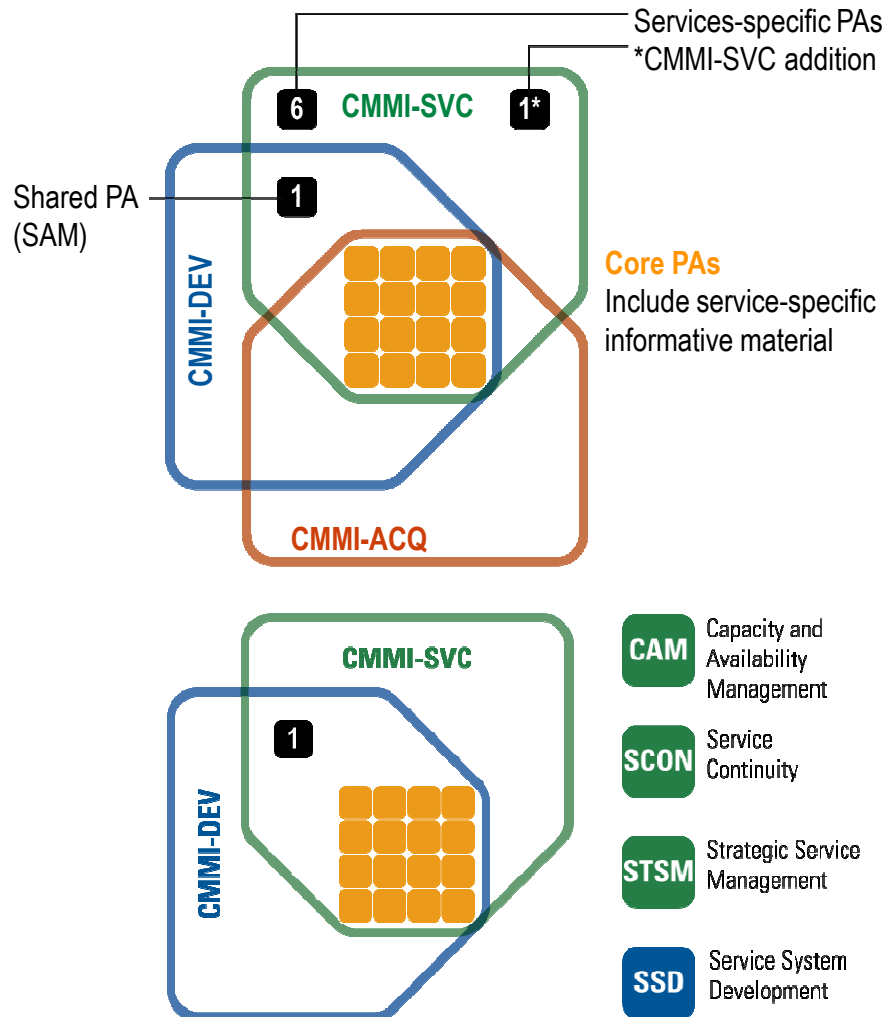
Sample Use Cases (Scenarios) by Industry - 1

Internet, computer systems, data processing
Arts, entertainment, recreation and spiritual
Software
Sales, marketing, management science and technical consulting
Healthcare, personal care
Education and training
Energy
Financial, insurance
Real estate, household
Transportation
Human resources
Manufacturing
Travel and tourism
Hotel, restaurant, food
Media and telecomm's

0   5   10   15   20

Sample Use Cases (Scenarios) by Industry - 2

Accounting Services
Aircraft maintenance
Aluminum packaging manufac.
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
Insurance
Internet retailer
Internet/Cable provider
ISO audits
IT services
Letting a holiday home
Loan broker
Logistics
Maintenance
Management consulting
Oilfield services
Organizational Performance
Improvement
Process consulting
Project management
Providing PCs
Public health information
Publishing
Quality assurance

Software benchmarking service
Software development
Software testing
Sports officiating
Staff augmentation
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

A Quick Look at CMMI-SVC

Services-specific PAs
*CMMI-SVC addition

6 CMMI-SVC **1***

Shared PA (SAM)

1

CMMI-DEV

Core PAs
Include service-specific informative material

CMMI-ACQ

CMMI-SVC

1

CMMI-DEV

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

15

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 ahead of time if you can

Service Continuity Management (SCON):

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

Putting All the Pieces Together

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. 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 "pseudo PA" on security management out for comment.

CMMI-SVC and Early Adoption Results

What are early users saying?

Dramatic returns on investment from early adopters, but might be hard for later adopters to replicate:

- 13.5X income

- 3.5X capacity to deliver service

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

SCAMPI B with security added from other frameworks is plausible.

CMMI-SVC in use for development more than we expected.

More use of CMMI-SVC by process groups to guide their own work (three presentations on this at CMMI User Group Conference, a tutorial and presentation at SEPG NA)

High demand for multi-constellation use, and of course, multi-model use!

Global Appraisals Reported to the SEI

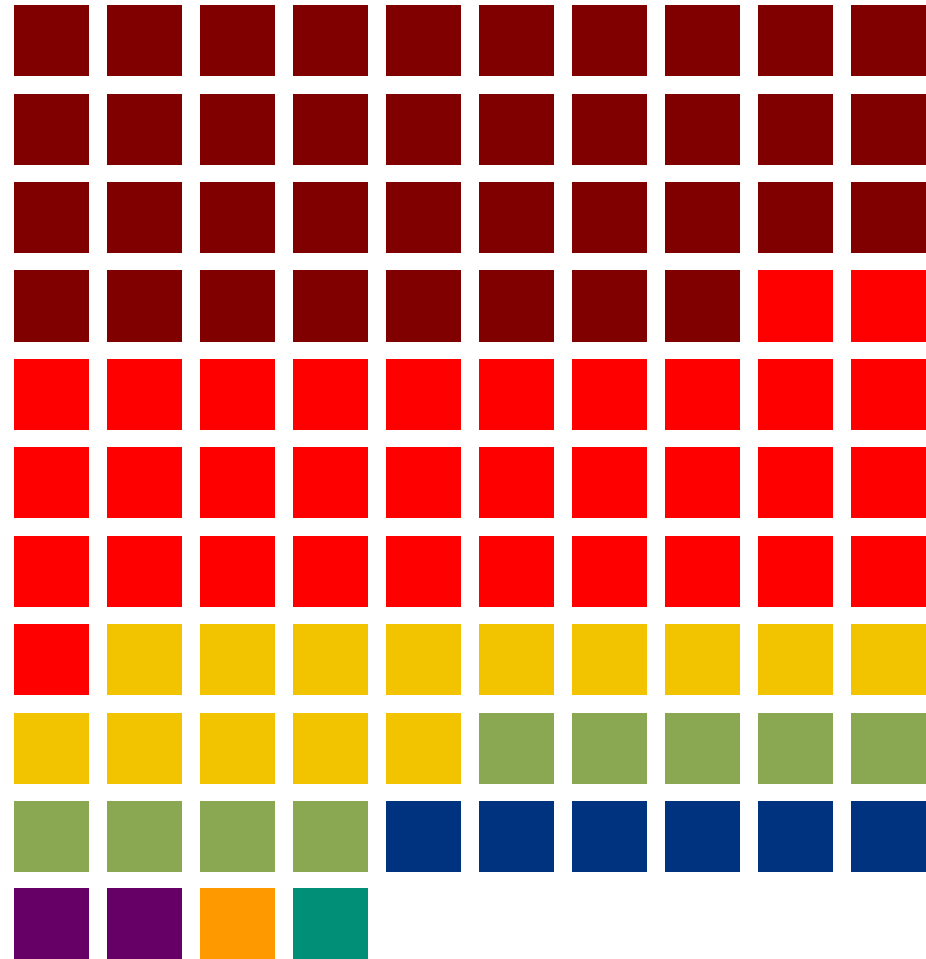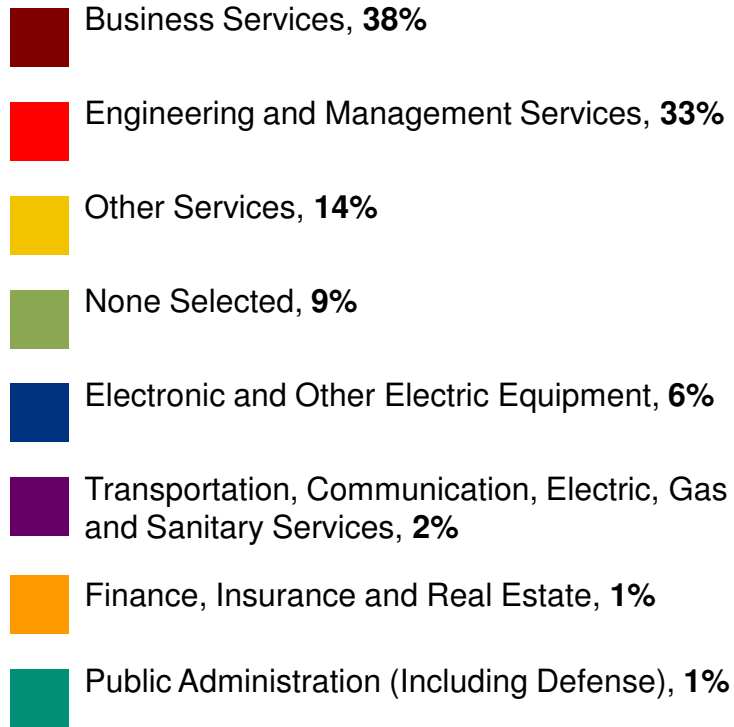|				
Argentina	Denmark	Japan	Pakistan	Sweden
Australia	Dominican Republic	Korea	Panama	Switzerland
Austria	Egypt	Republic of Latvia	Paraguay	Taiwan
Bahrain	Finland	Lithuania	Peru	Thailand
Bangladesh	France	Luxembourg	Philippines	Tunisia
Belarus	Germany	Macedonia	Poland	Turkey
Belgium	Greece	Malaysia	Portugal	Ukraine
Brazil	Guatemala	Mauritius	Romania	UAE
Bulgaria	Hong Kong	Mexico	Russia	UK
Canada	Hungary	Morocco	Saudi Arabia	USA
Chile	India	Nepal	Singapore	Uruguay
China	Indonesia	Netherlands	Slovakia	Vietnam
Colombia	Ireland	New Zealand	South Africa	
Costa Rica	Israel	Norway	Spain	
Czech Republic	Italy		Sri Lanka	

Early SCAMPI results - 1

As of March 18, 2011, 89 formal SCAMPIs were reported in SAS. Of these,

- 49* are SCAMPI As, 9 SCAMPI Bs, 14 SCAMPI Cs   *only closed appraisals

- 32% are using SSD; some of those not using SSD use the engineering PAs

- 43 appraisals are on SEI's Published Appraisals Results (PARs) list

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%**

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.

Indicators of uptake

We have our first new instructor.

We have our first ML5 appraisal.

More than 150 lead appraisers have been certified.

More 225 instructors have been certified.

More than 3200 students have been taught.

Qualification for new instructors in Intro to CMMI-SVC has begun (about 75).

Three qualification classes in US this year, one in Asia Pacific, one in Latin America. Next one in Europe.

The CMMI-SVC book is available worldwide, and in second edition.

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

Translations into Chinese and Arabic are under way.

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

What's a PPM in service?

Considerations for applying CMMI-SVC

Using the continuous representation is recommended when getting started

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

Discomfort with PP, PMC, and sometimes REQM.

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
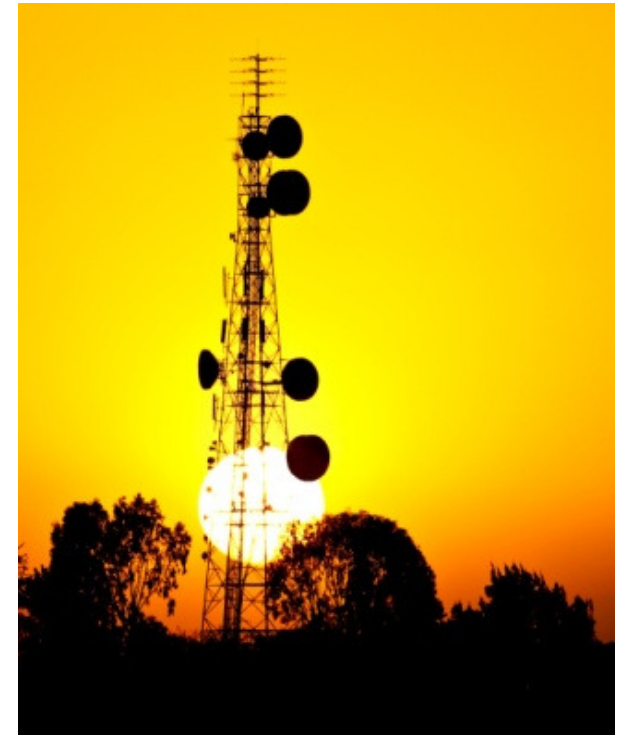
Other product and collaboration needs

Seeking guides for particular disciplines: education, health care, insurance, and maintenance are hottest topics

In focus groups with partners, instructors, and appraisers, discussing whether an optional practitioner certificate is needed; opinions are polarized; what about a six sigma credential

People want actionable guidance on model choice, transition DEV to SVC, using DEV and SVC together, using ITIL and SVC together

Need executive and introductory components, brief and focused on benefits and results

Need publishable cases and results and ROI

Want to consider joint marketing with partners—maybe shared segmenting and targeting is a first step

Looking for pilots on tough issues like combined and multi appraisal, appraising ITIL with SCAMPI, etc.

Agile Application of Services

Applications published in book or about to be published as reports, for example:

- **IT services**
- **software testing**
- **landscaping**
- **food service**
- **insurance**
- **telecom**
- **health care**

Development and acquisition can both be treated as a service

Use of CMMI-SVC PAs as the next innovation among ML5 users: especially ML SOS: CAM, SCON, SST

Security "pseudo PA" out as a white paper for use and comment

CMMI for Services (CMMI-SVC)
Forrester, 2011

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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

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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

Causal Analysis and Resolution (CAR):

getting to the sources of important mistakes and problems and taking effective action to correct 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

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

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

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