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Software Engineering Institute | **Carnegie Mellon**

CMMI for Services (SVC): The Strategic Landscape for Service

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Services and Strategy

Why Service?

Development, agility, and service

What's happening with CMMI-SVC now

Regional service 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

- can be used in whole or in part
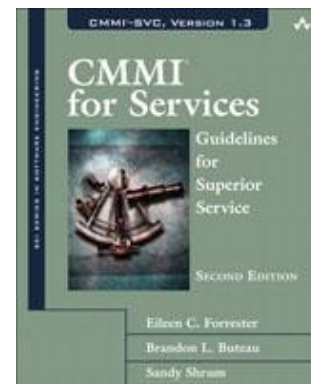
Why is the CMMI-SVC needed?

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 Service at the SEI?

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

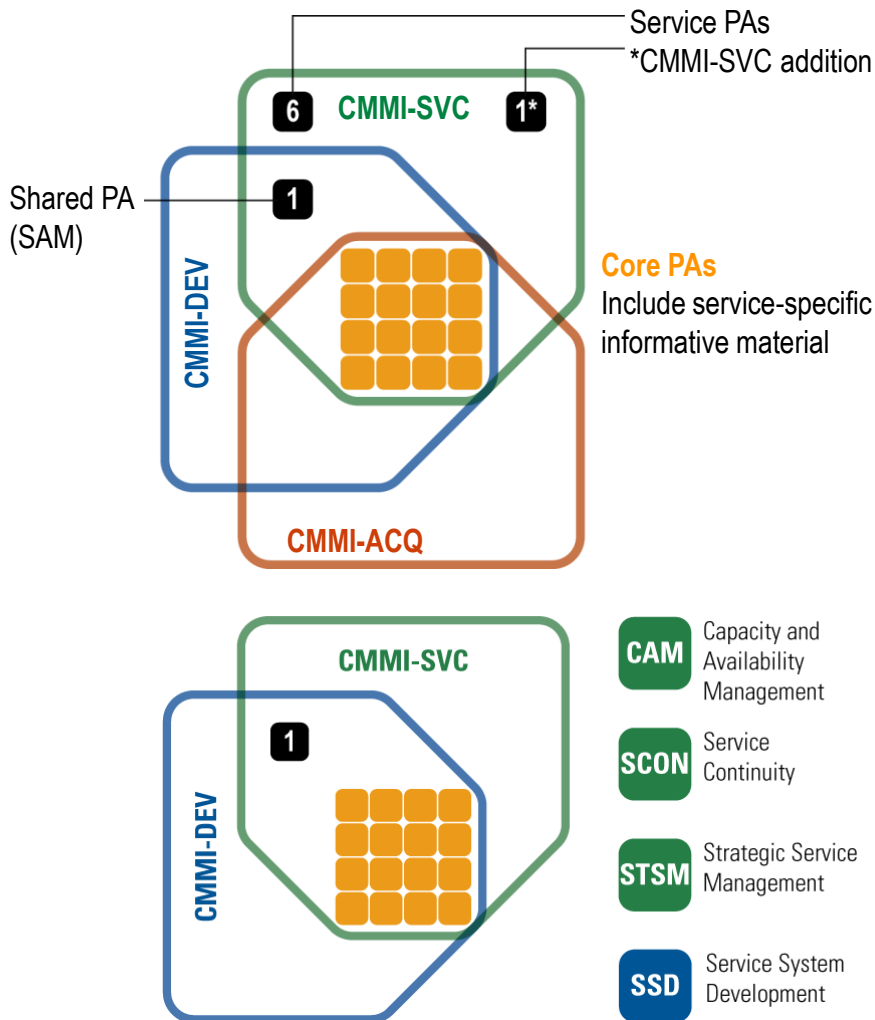Plus, consider garbage bags and Zipcars and home exchange

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
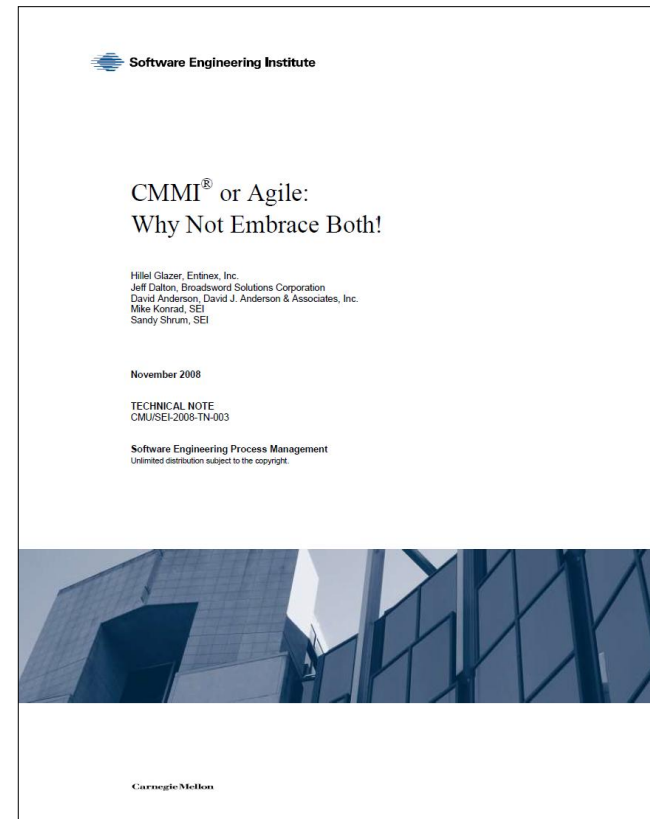
A Quick Look at CMMI-SVC

Service 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 |
| IRP | Incident Resolution & Prevention |

| SCON | Service Continuity |
| SD | Service Delivery |

| STSM | Strategic Service Management |
| SST | Service System Transition |

| SSD | Service System Development |

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

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

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

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Software as a Service

"More and more major businesses and industries are being run on software and delivered as online services—from movies to agriculture to national defense."

"With lower start-up costs and a vastly expanded market for online services, the result is a global economy that for the first time will be fully digitally wired"
– Marc Andreessen, Why Software Is Eating the World, Wall Street Journal, 2011

Impact for Organizations

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

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

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

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

CMMI-SVC and Early Adoption Results

What are early users saying?

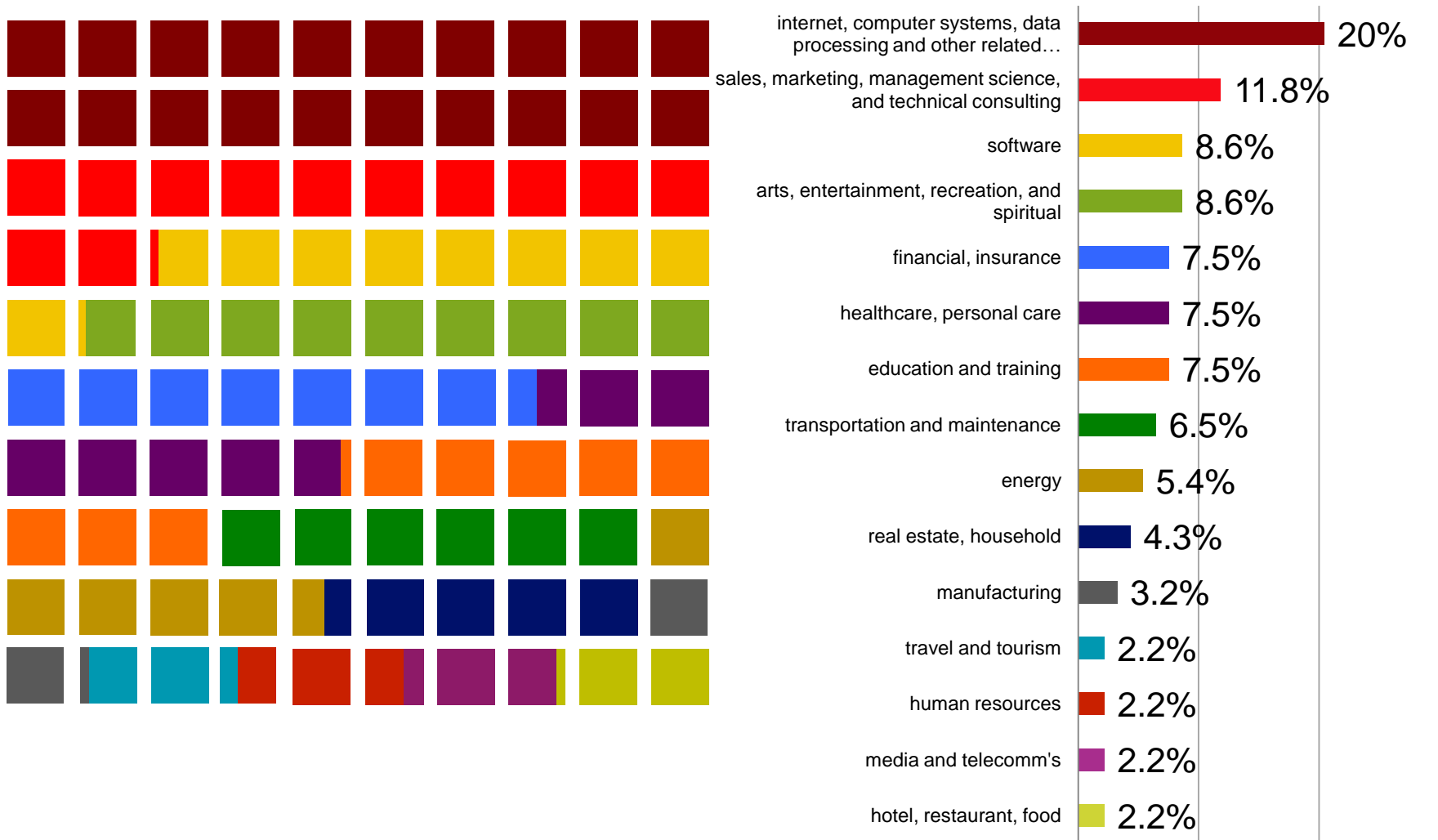Dramatic returns on investment from early adopters:

- 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!

Sample Use Cases (Scenarios) by Industry - 1

Industry	Percentage
internet, computer systems, data processing and other related…	20%
sales, marketing, management science, and technical consulting	11.8%
software	8.6%
arts, entertainment, recreation, and spiritual	8.6%
financial, insurance	7.5%
healthcare, personal care	7.5%
education and training	7.5%
transportation and maintenance	6.5%
energy	5.4%
real estate, household	4.3%
manufacturing	3.2%
travel and tourism	2.2%
human resources	2.2%
media and telecomm's	2.2%
hotel, restaurant, food	2.2%

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

Early SCAMPI results - 1

As of October 13, 2011, 132 formal SCAMPIs were reported in SAS. Of these,
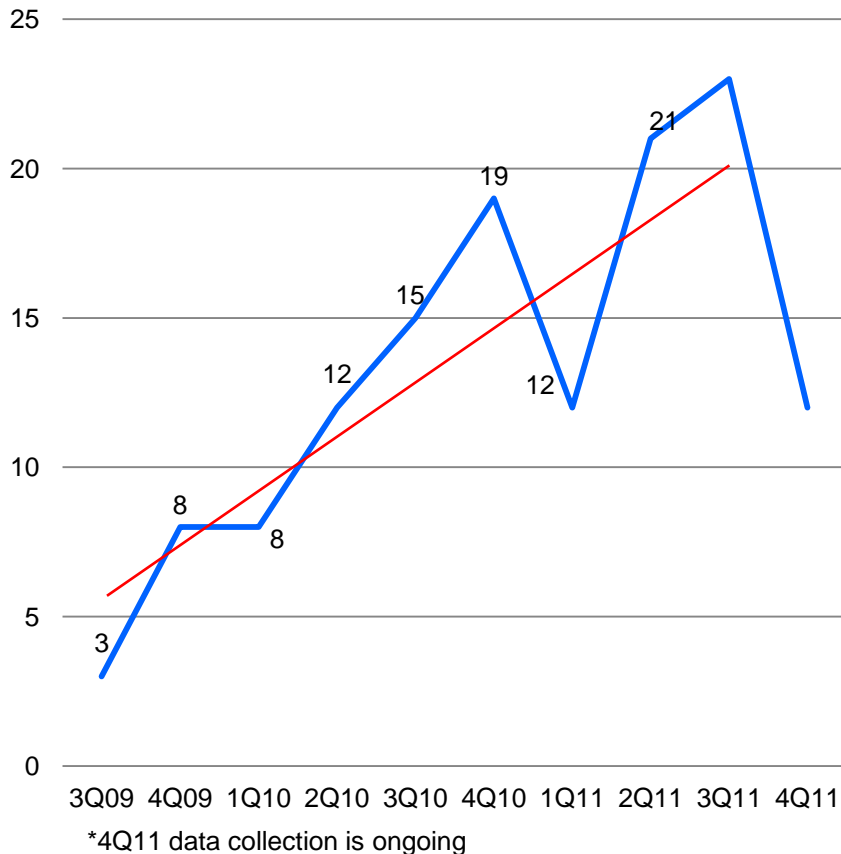
- 103 are SCAMPI As, 14 SCAMPI Bs, 15 SCAMPI Cs
- 24% of ML 3+ are using SSD
- 70 appraisals are on SEI's Published Appraisals Results (PARs) list

This represents 2 years of CMMI-SVC appraisals. For comparison, it took 5 years for the Software CMM to reach 100 appraisals.
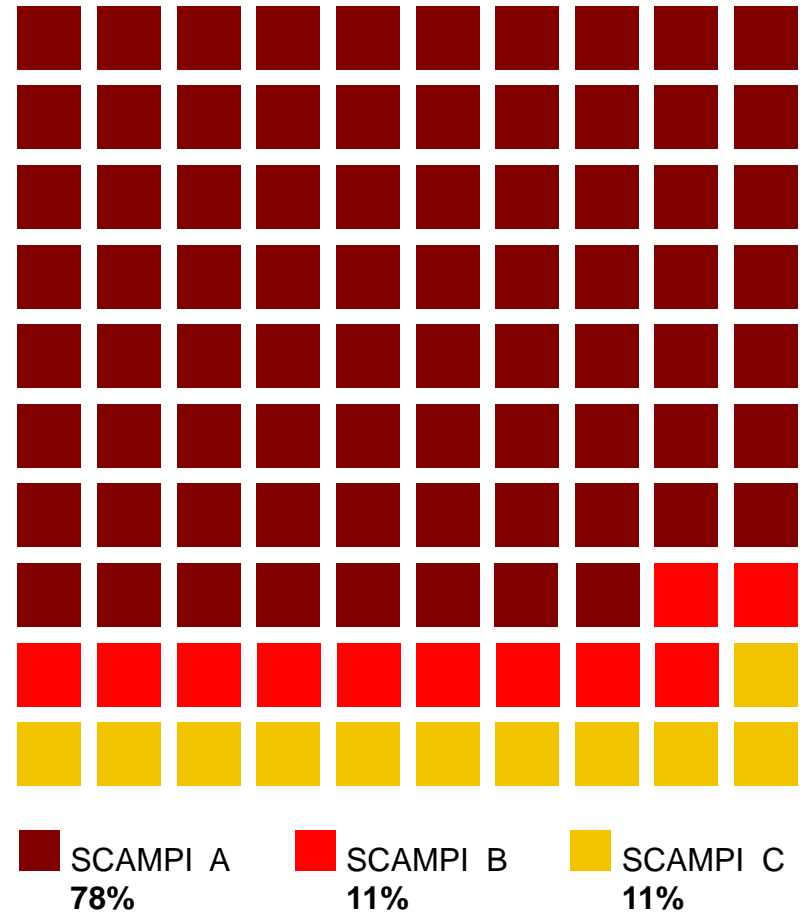
Early SCAMPI results - 2
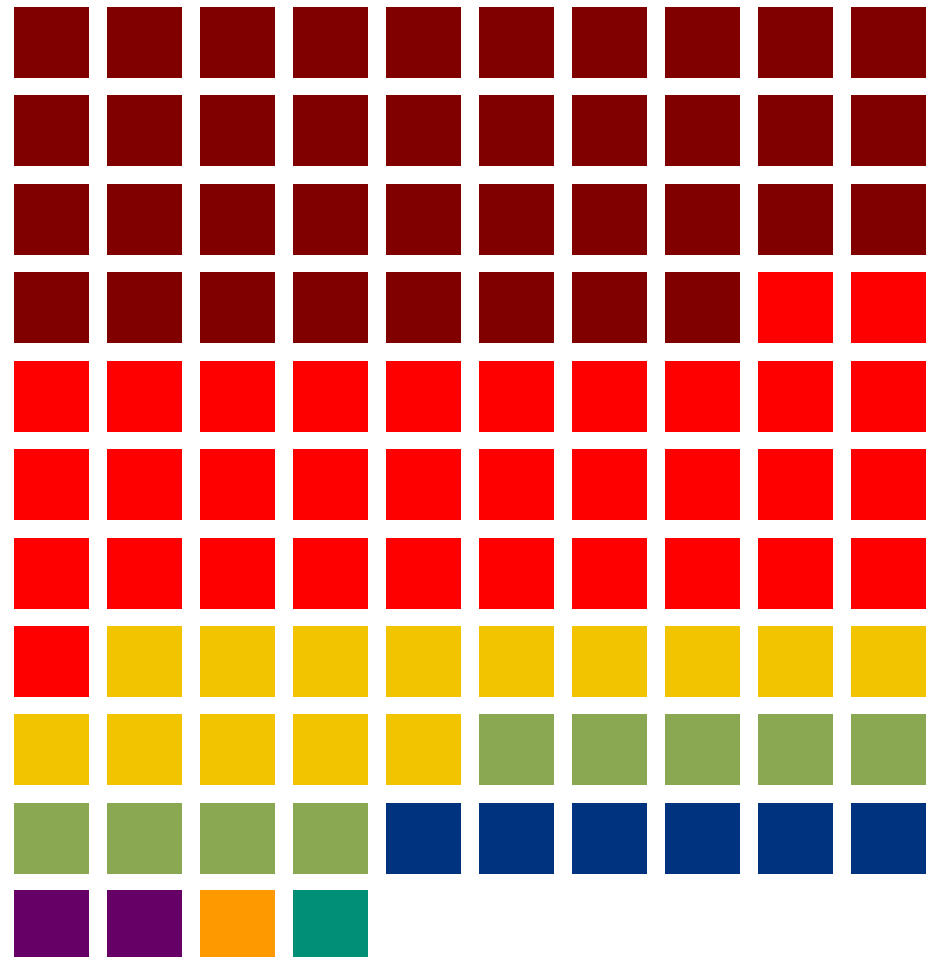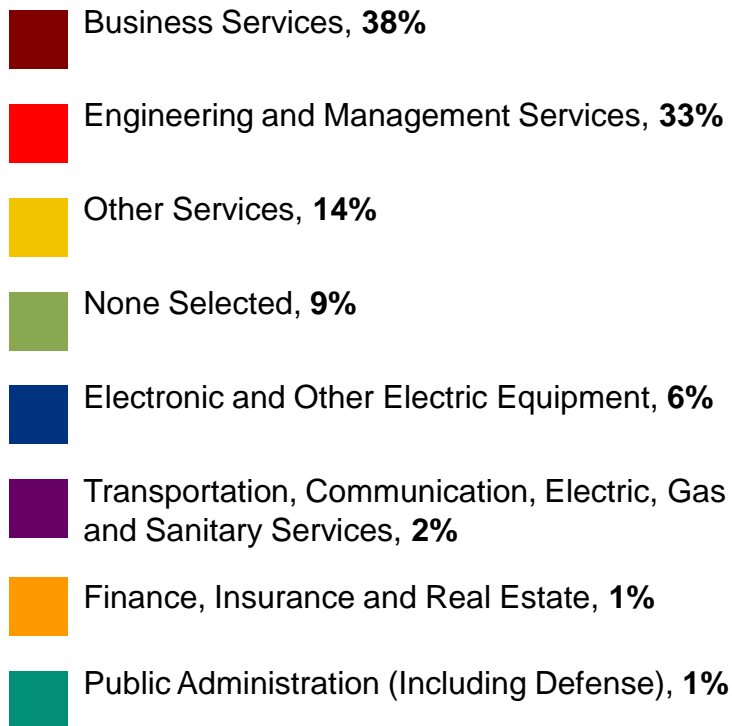
Number of Appraisals by CY Quarter

*4Q11 data collection is ongoing

Percentage of Appraisals by Class

■ SCAMPI A **78%**   ■ SCAMPI B **11%**   ■ SCAMPI C **11%**

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 our first ML5 appraisal. This appraisal was also enterprise and multi model.

We see an increase of 24% in CMMI-SVC appraisals quarter over quarter.

More than 160 lead appraisers have been certified.

More than 280 instructors have been certified.

More than 4,300 students have been taught CMMI-SVC.

Qualification for new instructors in Intro to CMMI-SVC continues (153 in queue).

Four qualification classes in US over the past year, two in Asia Pacific, one in Latin America. One in Europe. Next is at Partner Workshop in Minneapolis.

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 and Arabic are under way.

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.

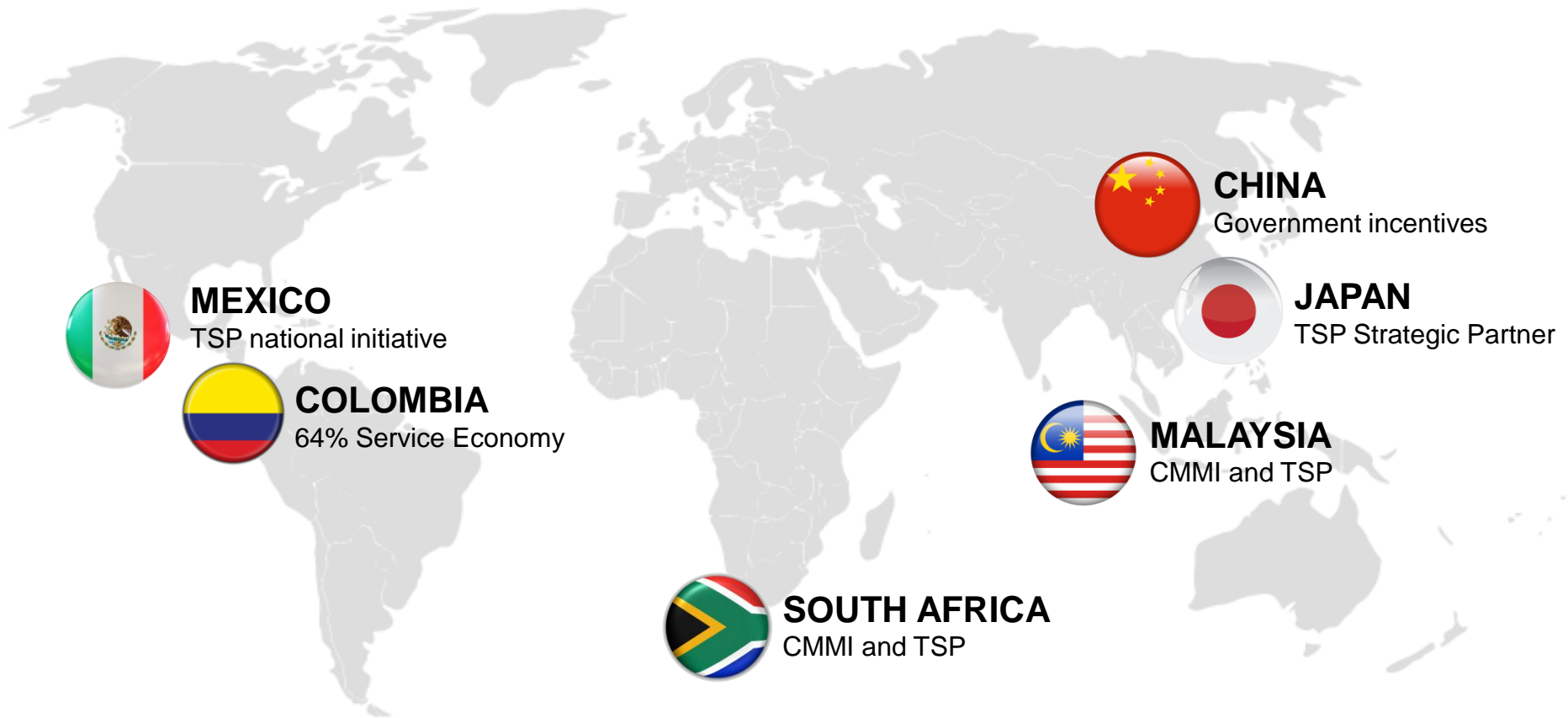Most common PAs to start with: SD, IRP, and CAM.

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!

Achievements in Growing Economies

CHINA
Government incentives

JAPAN
TSP Strategic Partner

MEXICO
TSP national initiative

COLOMBIA
64% Service Economy

MALAYSIA
CMMI and TSP

SOUTH AFRICA
CMMI and TSP

Strategic Possibilities for Services & Portugal

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

Colombia's Service Economy

Colombia's economy is 64% service:

Financial: 18.1%

Government, personal, and other: 17.5%

Commerce: 13.4%

Transportation & communication: 7%

Construction & public works: 5%

Utilities: 2.7%

Services and Huntsville

Drivers include: outsourcing, cuts in federal support, disasters, customer retention

Notable services in Huntsville region include:

- Engineering services
- Health care (life sciences and bio tech related and growing)
- Aerospace and defense, including Army and other services
- Technical and scientific research services
- IT services
- Finance
- Academic service
- Government services
- Church and religious
- Telecommunications

Huntsville and CMMI for Services: on the Road to Superior Service

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It's All About Focus

The Story of Pittsburgh: From Steel to Education and Health Care Services

CMMI Services Team:
Working this year on health care, education, and insurance segments

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

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