CMMI for Services:
Re-introducing the CMMI for Services Constellation

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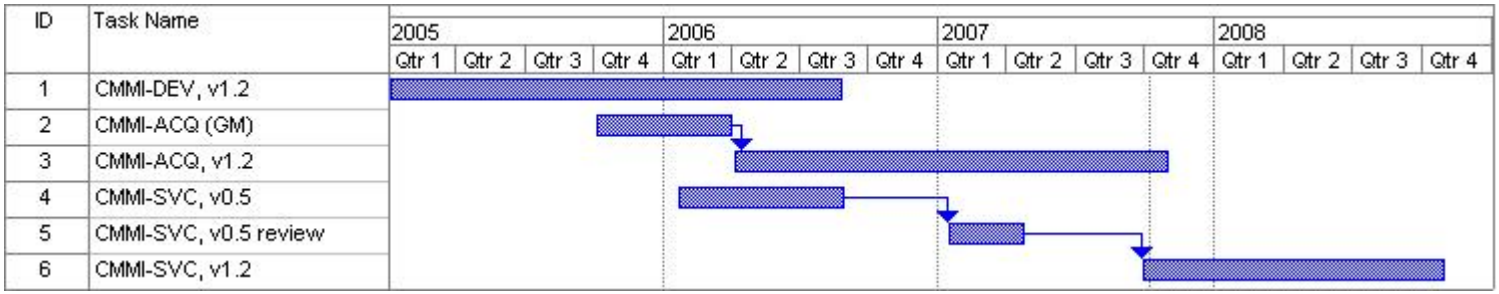
Agenda

- CMMI-SVC News
- Overview of the draft CMMI for Services (CMMI-SVC)
  - What is the CMMI?
  - Why is the CMMI-SVC needed?
  - How are services different?
  - What is the basis for the CMMI-SVC model?
  - What is the scope and content of the CMMI-SVC?
- Feedback to date
  - What was the result of the expert review?
  - What was the experience of the pilot projects?
- Next Steps
  - What is the schedule?
  - How can I participate?

ering Group OK's CMMI for Services

- There was a serious concern that concurrent development of the CMMI-ACQ and CMMI-SVC models would stress the SEI resources needed to deliver the CMMI-ACQ model on time. Now that CMMI-ACQ is almost released, the SEI resources are available to go forward with the CMMI-SVC development.

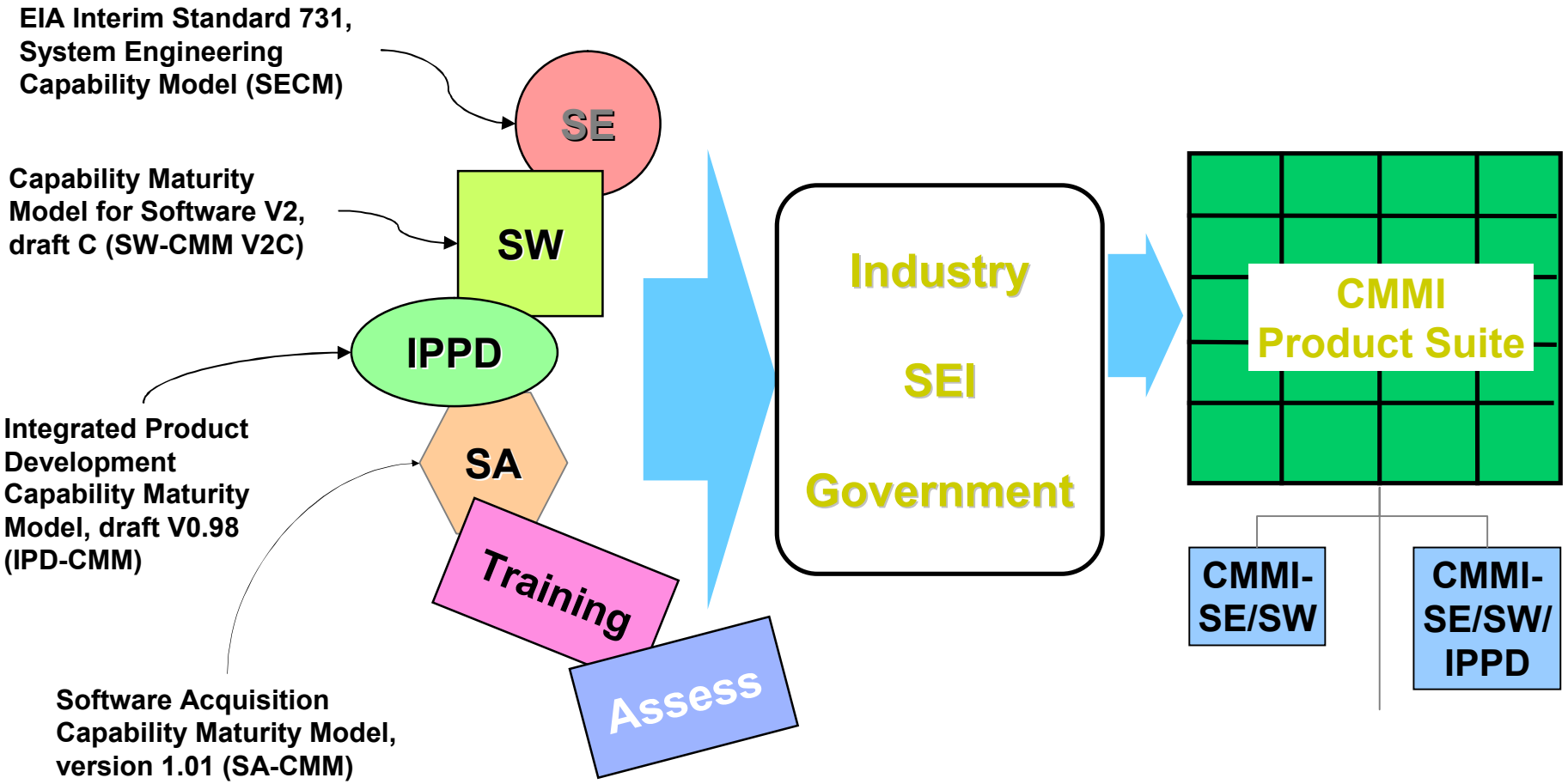


Capability Maturity Model (CMM)?

- A conceptual framework for structuring, understanding, and evaluating the capability and maturity of an organizationôs processes
  - more than a laundry list of best practices
  - more than a collection of benchmarks and metrics
- A tool that enables meaningful, in-depth organizational assessment
  - internally
  - externally
- A map that guides practical process improvement and institutionalizes it
  - How to you get from *here* to *there* and *stay there*?

What is the CMMI?

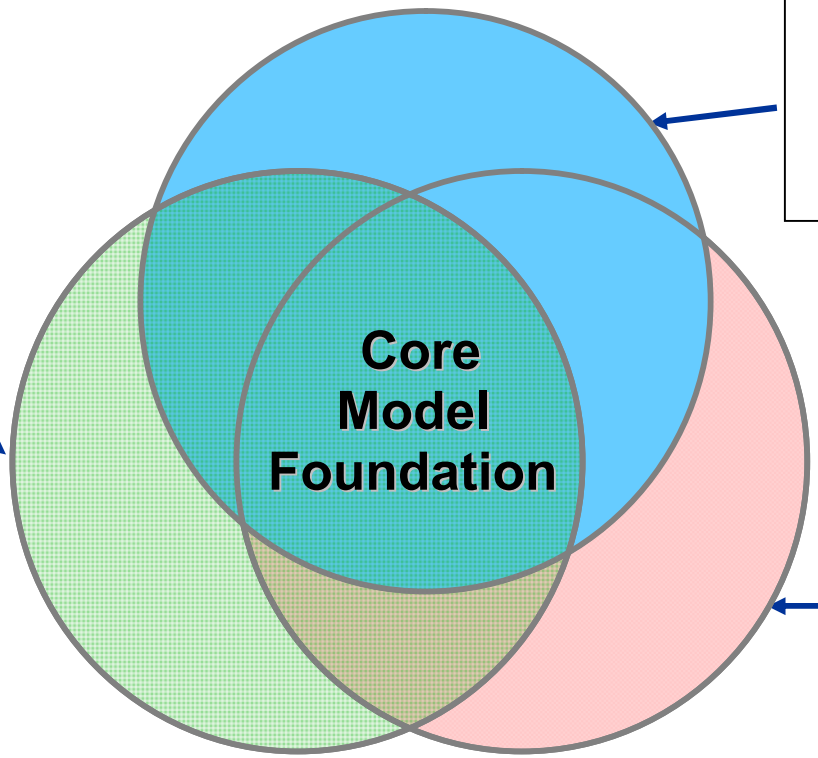
- The CMM Integration[SM] (CMMI) of multiple CMMs into a single unified framework



nplementary constellations

CMMI-DEV
provides guidance for measuring, monitoring, and managing development processes

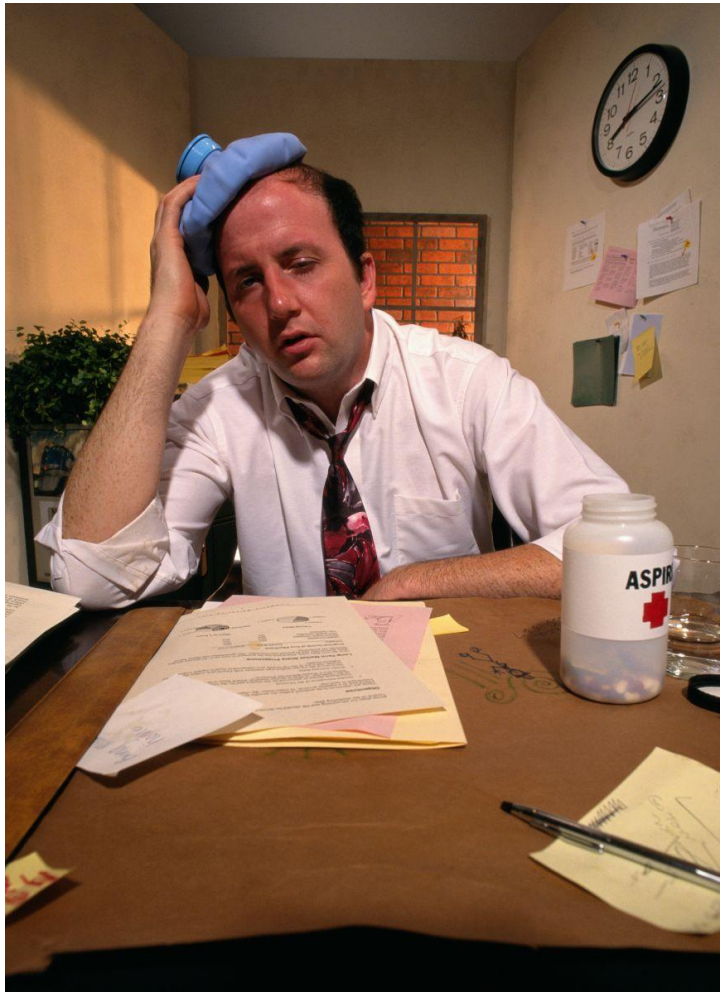
CMMI-SVC
provides guidance for those providing services within organizations and to external customers



CMMI-ACQ
provides guidance to enable informed and decisive acquisition leadership

Courtesy of the SEI

MMI for Services (CMMI-SVC) needed?



- Customer discontent
- Service society
- Legislation
- Government and industry trends

How are services different?

- Services form a distinctive category of products
  - A service is an intangible, non-storable product
  - What makes a service intangible or non-storable?
    - Customer desires a situation or state (e.g., to have high network availability) rather than a tangible artifact
    - Provider delivers value without independent, unrestricted means of generating/employing that value by the customer (e.g., leasing vehicles)
    - Product delivery requires continuing application of labor (e.g., operation of a facility)
- Services imply customer/provider relationships governed by service agreements
  - Service and non-service products may be delivered as part of a single agreement (e.g., training that includes hardcopy materials)
- Services are often delivered via the operation of a service system

Service system

- A necessary concept for understanding the effective delivery of services
- An integrated and interdependent combination of processes, resources, and people that satisfies service requirements.
- Portions are not delivered to the customer or end-user as part of service delivery
- Portions may remain owned by the customer or end-user before service delivery begins and after service delivery ends.
- Encompasses everything required for service delivery, including work products, processes, infrastructure, consumables, and customer resources.

e scope of CMMI-SVC?

- Covers practices required to manage, establish, and deliver services, in four process area categories
  - Project (service) management
  - Process management
  - Service support
  - Service establishment and delivery
- Intended to match the scope of the definition of services
- Broad applicability to a range of service domains
  - Information technology, engineering, defense, transportation, finance, health care
- Staff augmentation services need careful consideration
  - How do you evaluate process improvement for processes over which you have no control?

CMMI-SVC Process Areas

- **Process Management**
- Organizational Innovation and Deployment (OID)
- Organizational Process Definition (OPD)
- Organizational Process Focus (OPF)
- Organizational Process Performance (OPP)
- *Organizational Service Management* (OSM)
- Organizational Training (OT)

- **Service Support**
- Causal Analysis and Resolution (CAR)
- Configuration Management (CM)
- Decision Analysis and Resolution (DAR)
- Measurement and Analysis (MA)
- *Problem Management* (PRM)
- Process and Product Quality Assurance (PPQA)

Service Establishment and Delivery

- *Incident and Request Management* (IRM)
- *Service Delivery* (SD)
- *Service System Development* (SSD)
- *Service Transition* (ST)

Project Management

- *Capacity and Availability Management* (CAM)
- Integrated Project Management (IPM)
- Project Monitoring and Control (PMC)
- Project Planning (PP)
- Requirements Management (REQM)
- Risk Management (RSKM)
- Quantitative Project Management (QPM)
- *Service Continuity* (SCON)
- Supplier Agreement Management (SAM)

Services-specific PAs

Process Area	Maturity Level	Specific Goals/ Practices
Capability and Availability Management (CAM)	3	2 / 6
Incident and Request Management (IRM)	2	2 / 6
*Organizational Service Management (OSM)**	3	2 / 7
Problem Management (PRM)	3	2 / 7
*Service Continuity (SCON)**	3	3 / 10
Service Delivery (SD)	3	2 / 7
*Service System Development (SSD) **	3	3 / 12
Service Transition (ST)	3	3 / 12

* optional process areas (independent named additions)

CMMI-SVC Level 2 PAs

- Incident and Request Management
  - To ensure the timely resolution of requests for service and incidents that occur during service delivery
- Requirements Management
  - Extended from the Core Model Foundation with an additional goal
  - To include the establishment and maintenance of written agreements between service providers and customers on service requirements and service levels.
- Six other level 2 PAs from the CMF

CMMI-SVC Level 3 PAs

- Capacity and Availability Management
  - To plan and monitor the effective provision of resources to support service requirements
- Problem Management
  - To prevent incidents from recurring by identifying and addressing underlying causes of incidents
- Service Delivery
  - To deliver services in accordance with service agreements
- Service Transition
  - To deploy new or significantly changed service systems while managing their effect on ongoing service delivery

As for CMMI-SVC Level 3

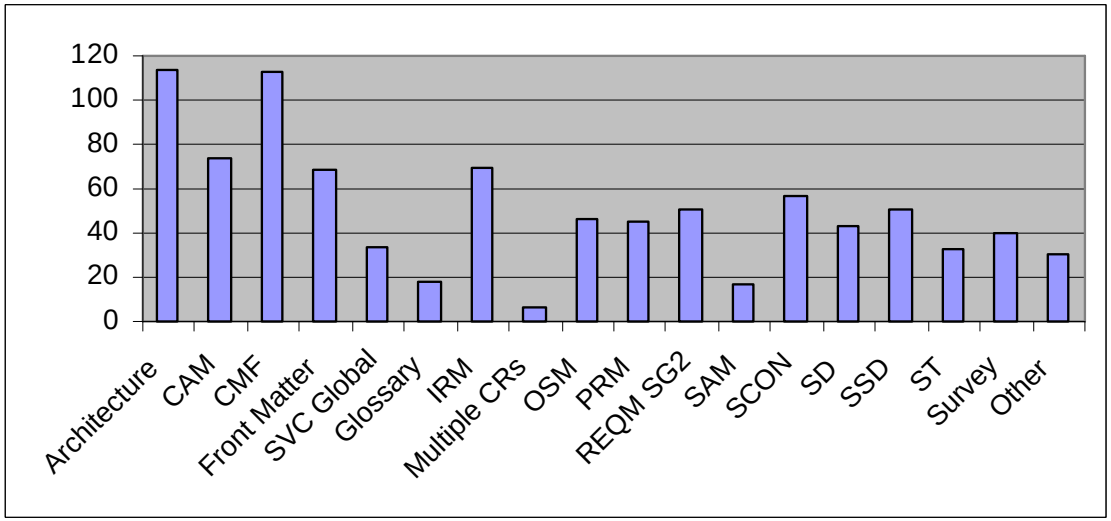
- Organizational Service Management
  - To establish and maintain standard services that ensure the satisfaction of the organization's customer base
- Service Continuity Management
  - To establish and maintain contingency plans for continuity of agreed services during and following any significant disruption of normal operations
- Service System Development
  - To analyze, design, develop, integrate, and test service systems to satisfy existing or anticipated service agreements

the result of the expert review?

- An expert review was held Jan 23 - Mar 23, 2007
  - 500+ reviewers, representing:
    - 50 companies,
    - 14 DoD organizations,
    - 4 academic institutions, and
    - 7 professional, governmental, or research centers
    - Reviewers included SEI transition partners
- Response showed strong interest in CMMI-SVC
  - 900+ change requests compares favorably to those received for CMMI-DEV
  - 50 survey responses to architectural questions

the result of the expert review? (more)

- Reviews commented most on CMM-SVC architecture & Common Model Foundation material
- CRs were distributed equally among categories related to SVC PAs
- CMMI-SVC team has analyzed all architectural CRs; most have a proposed resolution
- CRs showed excellent depth of insight and rich informative content



Sample Survey Responses

- The service practices that are covered in CMMI-SVC will enable service organizations to provide more effective support to their customers.

Strongly Agree or Agree	Neutral	Disagree or Strongly Disagree
78.9%	8.8%	12.3%

- The material in CMMI-SVC yields a useful adaptation of CMMI best practices as they relate to service deployment.

Strongly Agree or Agree	Neutral	Disagree or Strongly Disagree
66.7%	14.0%	15.8%

- CMMI-SVC does not impose constraints (derived from the needs of a specific service or market segment) that would limit or prevent other organizations from adapting the model to their own specific needs.

Strongly Agree or Agree	Neutral	Disagree or Strongly Disagree
55.6%	29.6%	27.8%

- The CMMI-SVC is easy to understand and apply to a service organization.

Strongly Agree or Agree	Neutral	Disagree or Strongly Disagree
42.8%	27.8%	29.6%

the experience of the pilot projects?

- Planned pilots were postponed
- CMMI-SVC participating companies piloted the model internally
- Characteristics of the piloted organizations:
  - Most had implemented CMMI-DEV
  - Some had separate ITIL and ISO 20000 initiatives
  - Most are moving towards integration under CMMI umbrella
- The pilots represented the following service domains:

Company	**Service Domains**
SSCI	IT Application Operations & Support
DNV-CIBIT	Banking
Northrop Grumman	Logistics, HR, IT, Applications O&M

he pilots see as benefits?

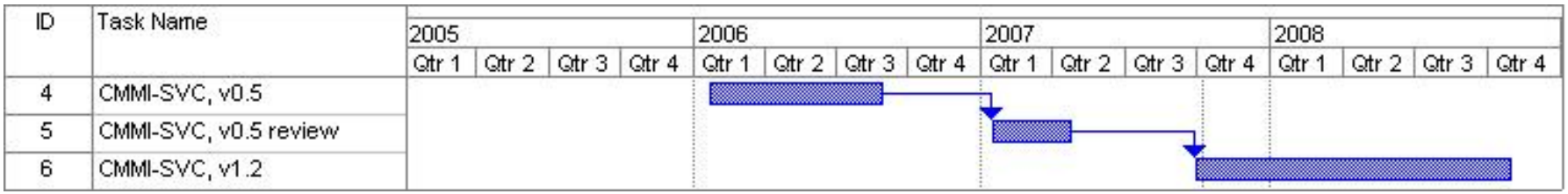
- Improved quality of services
- Encouraged a disciplined culture for service management
  - Better management visibility into services
  - Fewer surprises
  - Fosters process improvement
- Less Interpretation issues (& appraisal expense) than with CMMI-DEV
- Applying a CMMI process to the services brought credibility and buy-in from stakeholders
- Increased sharing between development and services communities
  - Common processes
  - Standard terminology
  - Integrated process improvement standards and models
- Encouraged end-to-end lifecycle process approach helping to identify service requirements, ease deployment issues, reduce stove-piped groups, and improve efficiencies of support-related groups (IT Applications)

he pilots see as challenges?

- Obtaining funding in environments that are primarily LOE-based
- Differences in terminology between development and services
  - Terms like ñProjectò (funding period), ñProductò (service), ñWork Productò, ñProduct Componentò, ñRequirementò
  - Interpreting CMMIôs ñprojectò term for services
- No standard life-cycle definition for services
- Instilling project management culture in services
  - Weak in using requirements for planning and negotiating resources and activities
- Ownership of service system components not as clear
- Release management and deployment to non-standardized, constantly changing environments
- Finding CMMI-knowledgeable individuals who also know services
- Integrating process groups and assets
- Services where customer and provider share resources and processes
- Staff augmentation

What is the schedule?

- CMMI-SVC team will meet to review additional requirements and re-plan remaining work (early Nov)
- Detailed schedule is pending
- A preliminary estimate for release of CMMI-SVC, v1.2 is 4th quarter 2008



How can I participate?

- Get more information about CMMI-SVC
  - CMMI web page - http://www.sei.cmu.edu/cmmi/
  - CMMI for Services Public Workspace (http://bscw.sei.cmu.edu/bscw/bscw.cgi/0/424939) contains:
    - Draft CMMI-SVC model, v0.5
    - Information on joining CMMI-SVC information email list
- Review draft CMMI-SVC release
- If already experienced in CMMI, consider piloting the model
- Other opportunities may exist as a result of the CMMI-SVC re-planning effort; watch CMMI-SVC public workspace for updates

Backup

References

- CMMI - http://www.sei.cmu.edu/cmmi/cmmi.html
- ITIL - http://www.ogc.gov.uk/index.asp?id=2261
- itSMF - http://www.itsmf.com/
- BS 15000 - http://www.bs15000.org.uk/
- COBIT - http://www.isaca.org/
- ITSCMM - http://www.itservicecmm.org/
- Interpreting Capability Maturity Model Integration (CMMI) for Operational Organizations, Brian P. Gallagher, Technical Note, CMU/SEI-2002-TN-006, April 2002
- Interpreting Capability Maturity Model Integration (CMMI) for Service Organizations ï a Systems Engineering and Integration Services Example, Mary Anne Herndon, SAIC, et al, Technical Note, CMU/SEI-2003-TN-005, November 2003
- Services CMMI Public Website - http://bscw.sei.cmu.edu/bscw/bscw.cgi/0/424939

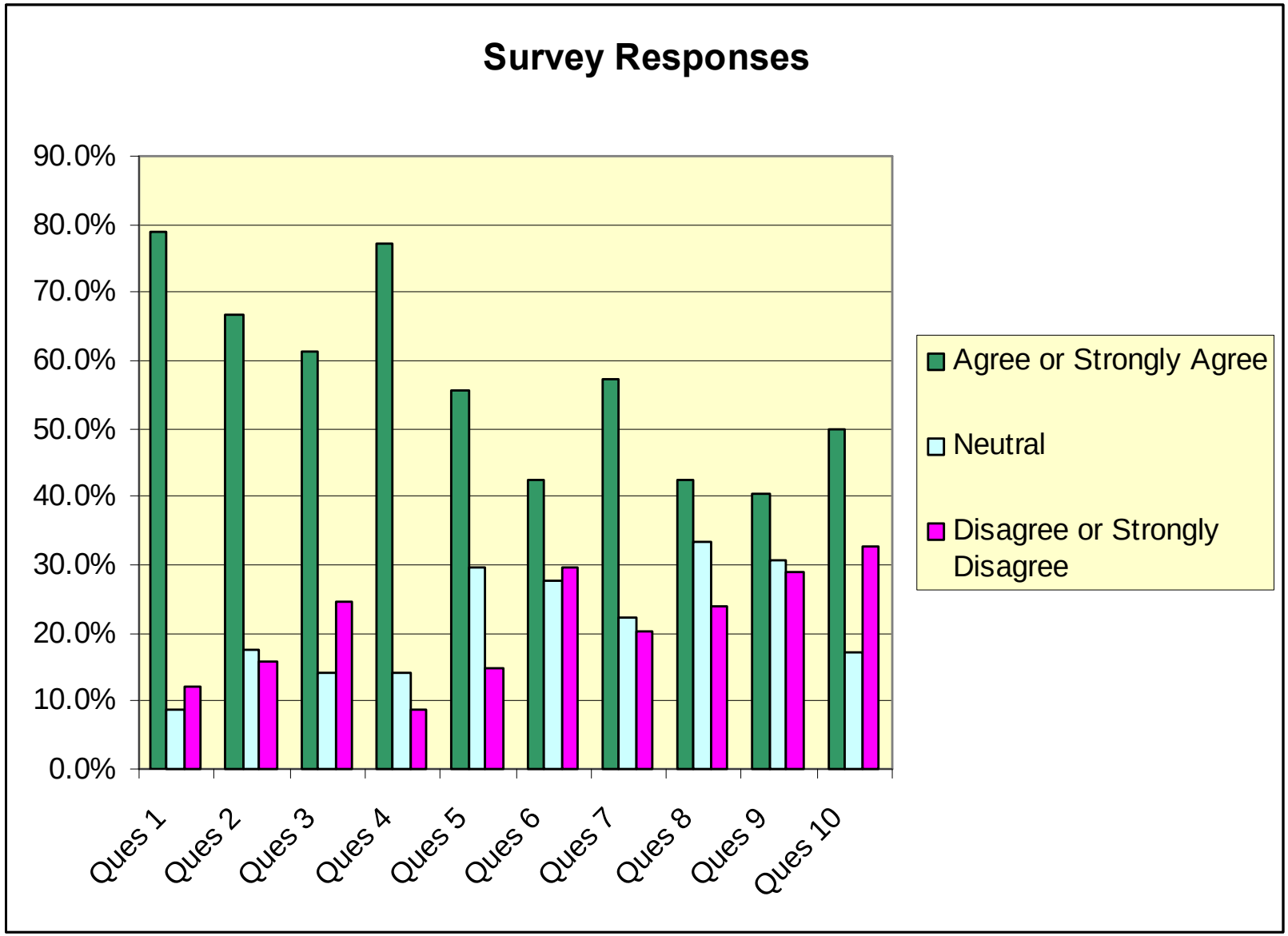
rking on CMMI-SVC?

- Development Team
  - Craig Hollenbach (Northrop Grumman) - Lead
  - Roy Porter (Northrop Grumman)
  - Brandon Buteau (Northrop Grumman)
  - Lynn Penn (Lockheed Martin)
  - Frank Niessink (DNV/CIBIT)
  - Jerry Simpson (SAIC)
  - Drew Allison (SSCI)
  - Eileen Forrester (SEI)
  - Barbara Tyson (SEI)
  - Eileen Clark (SRA)
- Other contributors
  - Jeff Zeidler (Boeing)
  - Rich Raphael (Mitre)
  - Joanne O'Leary (SEI)

General Survey Questions

1. The service practices that are covered in CMMI-SVC will enable service organizations to provide more effective support to their customers.
2. The material in CMMI-SVC yields a useful adaptation of CMMI best practices as they relate to service deployment.
3. The CMMI-SVC appropriately uses the CMMI framework.
4. CMMI-SVC includes process areas that must be satisfied for process improvement and institutionalization.
5. CMMI-SVC does not impose constraints (derived from the needs of a specific service or market segment) that would limit or prevent other organizations from adapting the model to their own specific needs.
6. The CMMI-SVC is easy to understand and apply to a service organization.
7. The process areas in CMMI-SVC cover all significant service-specific requirements and effectively reflect activities that a service organization should be accomplishing.
8. Additions and amplifications that exist in other models and are also used within the CMMI-SVC constellation are appropriate.
9. Notes and examples in CMMI-SVC clearly apply to service organizations and meet their specific needs.
10. References in PAs to related process areas are clear and consistently applied.

Results to General Survey



Process Area Questions

A. Problem management practices that are common within the service industry are appropriately addressed in the process area Problem Management and are distinguished from the practices in the Causal Analysis and Resolution process area.

B. The Project Management category is the most appropriate classification for the Service Continuity Management and Capacity and Availability Management process areas.

C. The Process Management category is the most appropriate classification for the Organizational Service Management process area

D. The practices within the Service Continuity process area should build upon the practices within the Risk Management process area similar to the manner in which the Integrated Project Management process area builds upon maturity level 2 project management practices.

E. The Service System Development process area must be required for an organization to be a mature service organization.

F. The specific practices in the Service System Development process areas are presented with the appropriate rigor and detail for a mature service organization.

G. The Project Monitoring and Control process area adequately addresses service level management.

H. Material about the collection of customer satisfaction information is adequately covered as a specific practice in Organizational Service Management (an optional process area) and as informative material in the Service Delivery process area.

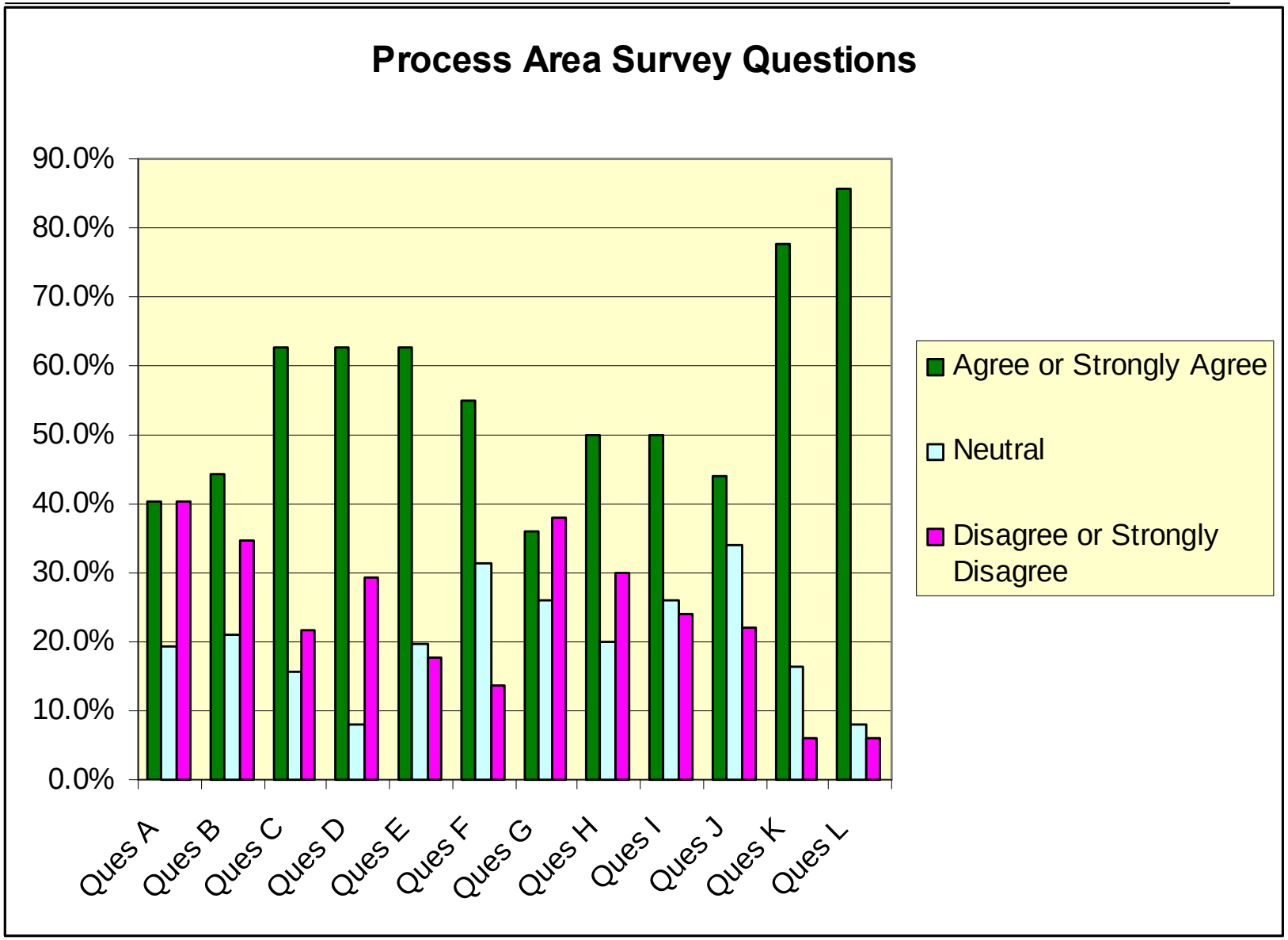
I. Maintenance found in the Service Delivery process area is adequately differentiated from product maintenance covered by CMMI-DEV.

J. The IPPD addition is as appropriate or as applicable for CMMI-SVC as it is for CMMI-DEV and should be added.

K. The Supplier Agreement Management process area is appropriate both for organizations with tangible products and service organizations with supplier agreements solely for services.

L. The Supplier Agreement Management process area should be required to reach maturity level 2 for service organizations with supplier agreements solely for services (as it is for organizations with suppliers of tangible products).

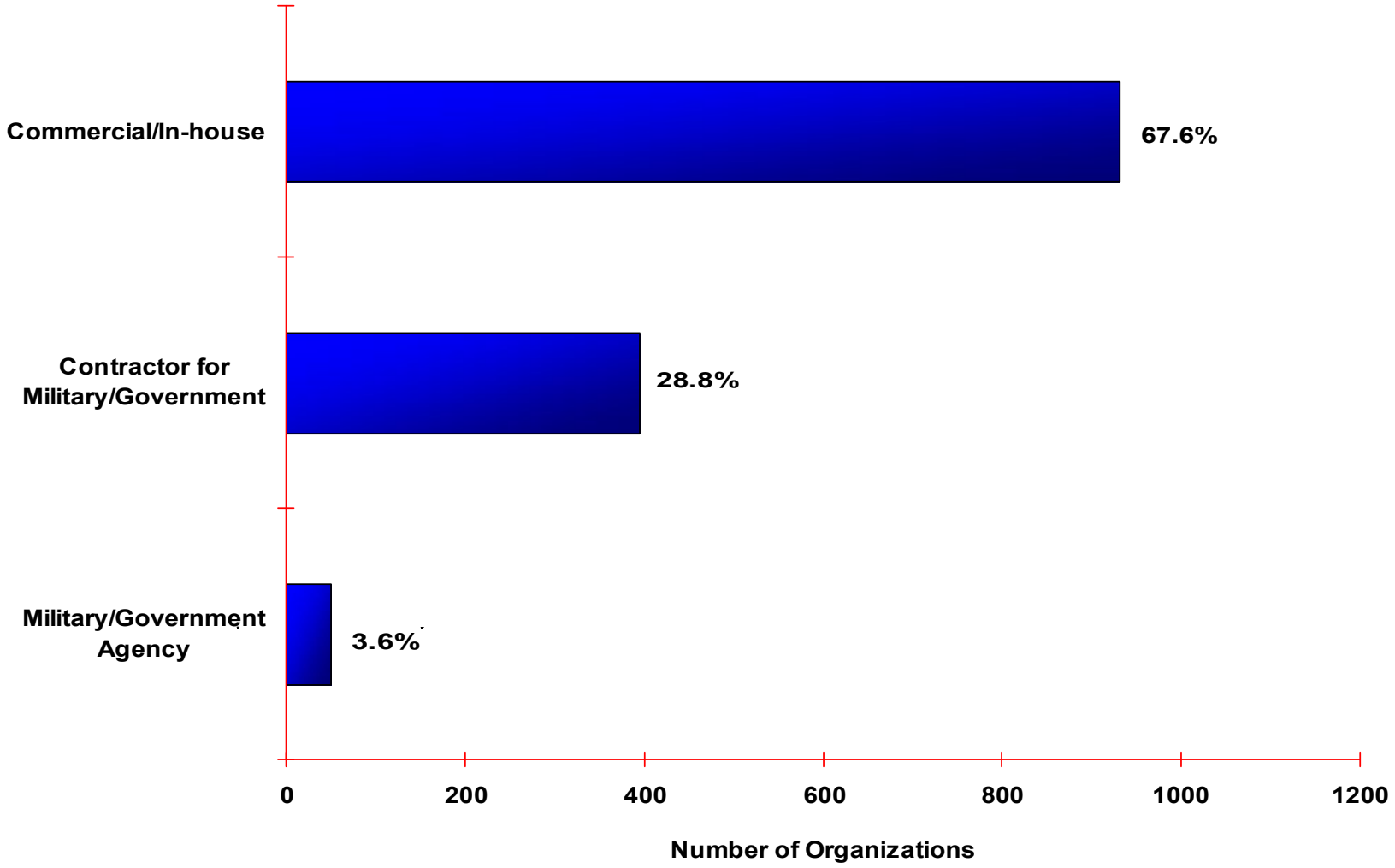
Process Area Survey Questions



e relationship between CMMI-SVC and ITIL?

- CMMI-SVC complements ITIL
  - Summarizes ITIL best practices into a small set of specific practices.
  - Reuses about 80% of the current CMMI model, allowing users to leverage their investments in development-based process training, improvements, and infrastructure to service-based offerings.
  - Provides an industry-accepted maturity model, helping organizations to plan and track their incremental progress toward high maturity.
  - Uses the same SCAMPI appraisal method that is used with the current CMMI model, allowing organizations to leverage appraisal expertise, preparation methods, and selected artifacts.

Who uses CMMs?



Courtesy of the SEI

Why do CMMs *really* matter?

Improvements	Median	Data Count	Low	High
Cost	34%	29	3%	87%
Schedule	50%	22	2%	95%
Productivity	61%	20	11%	329%
Quality	48%	34	2%	132%
Customer Satisfaction	14%	7	-4%	55%
ROI	4.0 : 1	22	1.7 : 1	27.7 : 1

- N = 30, as of August 2006
- Organizations with results expressed as change over time

Courtesy of the SEI