CMMI for Services:
Introducing the CMMI for Services Constellation

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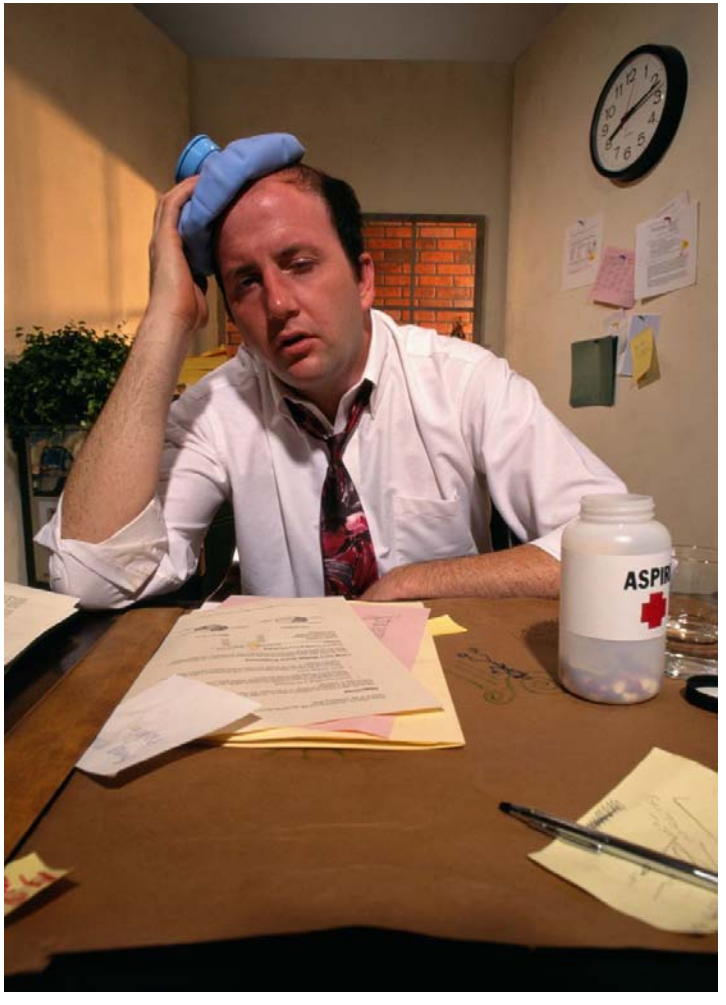
Agenda

- Main Message:
  - CMMI-SVC is a ***minimal*** and ***logical*** extension to CMMI v1.2 content, allowing current CMMI users to reuse CMMI investments to improve service performance

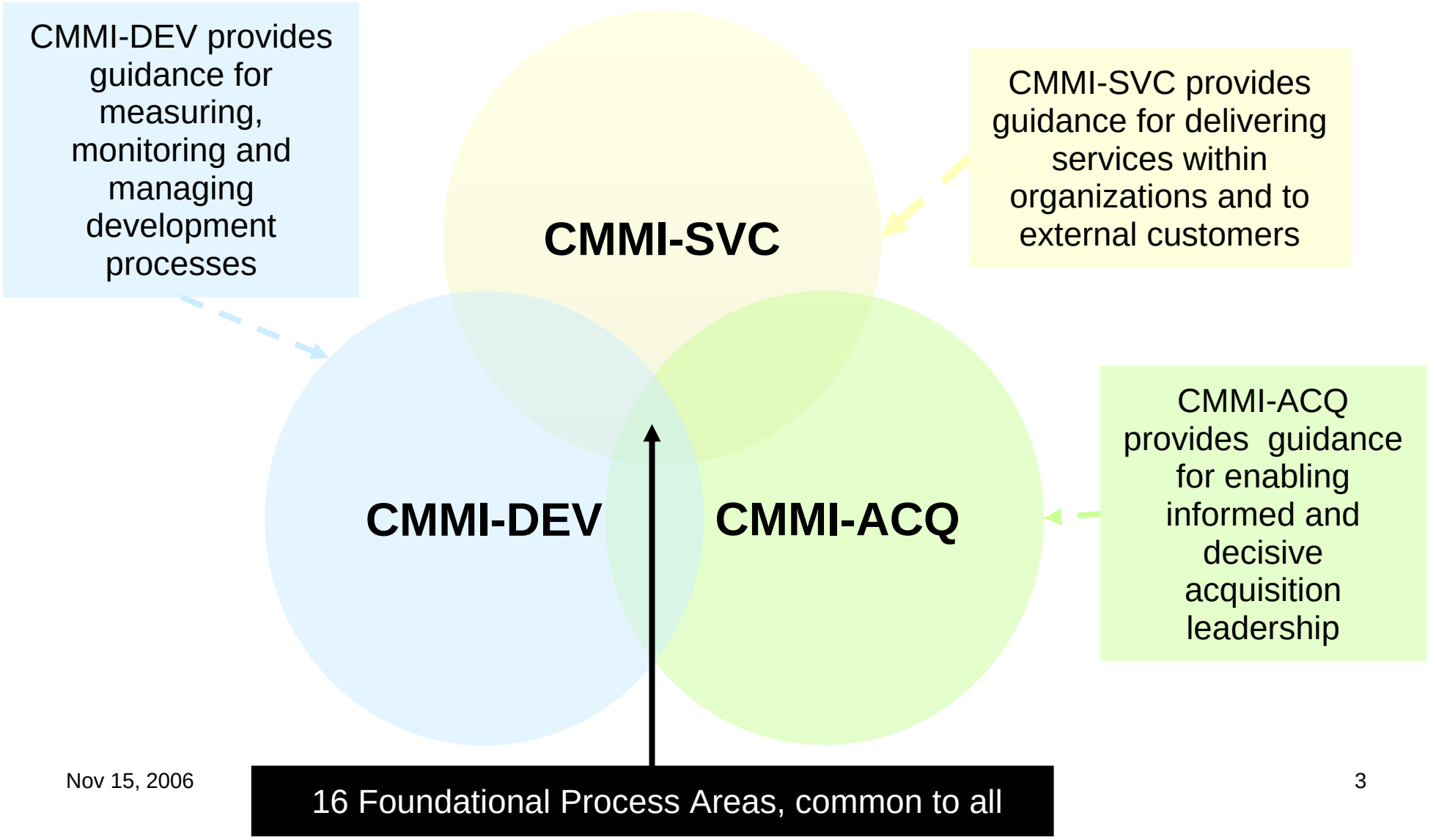
- Agenda:
  - CMMI-SVC's ***minimal*** model footprint
    - illustrating the substantial reuse of CMMI-DEV material
  - CMMI-SVC's ***logical*** construction
    - an introduction to CMMI-SVC model content

Why Services?



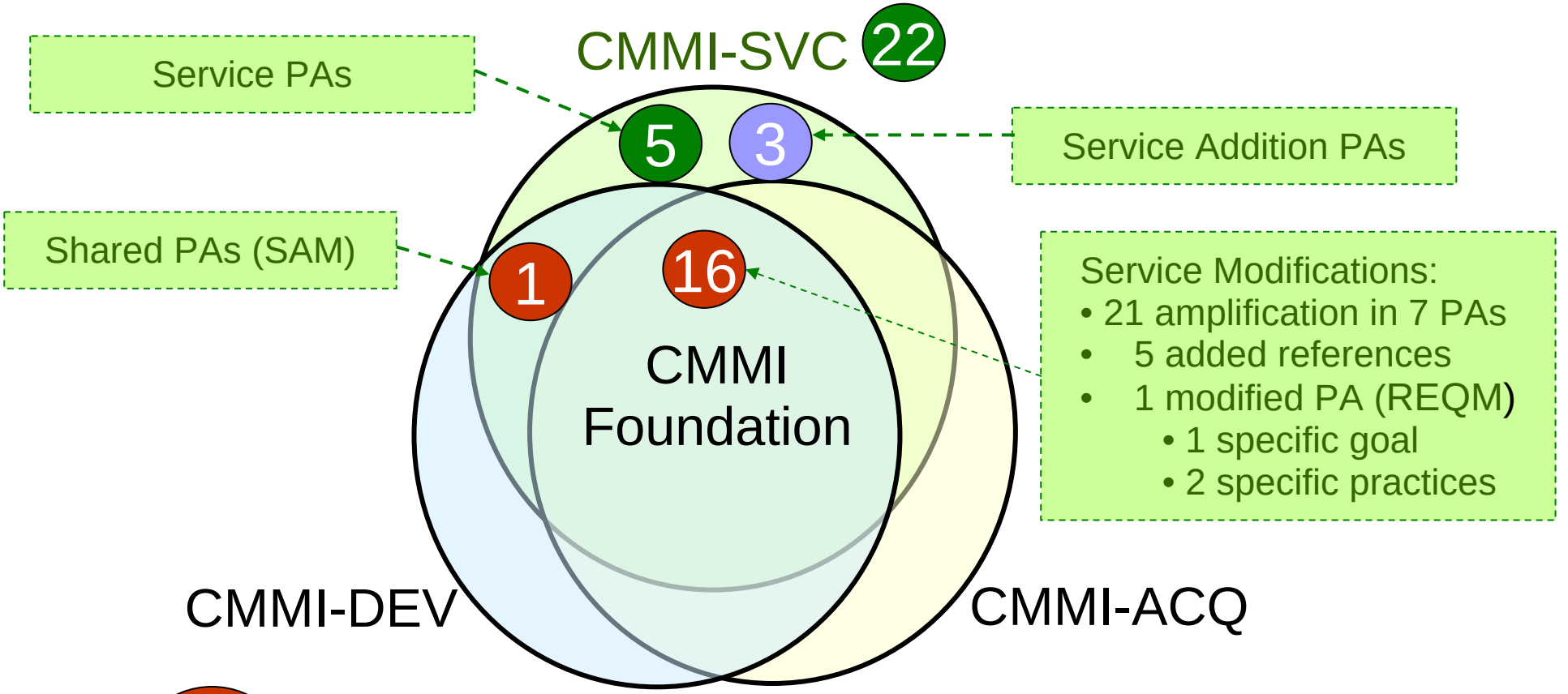
- Service society
- Customer discontentment
- Legislation
- Government and industry trends

Complementary CMMI Constellations



Reusable CMMI-SVC

CMMI for Services Constellation = 22 PAs + 3 Optional PAs



77%

% of CMMI-DEV PAs are reused;
% of Corporate Investments are potentially reusable!

What Makes Service Different?

- A service is an intangible, non-storable product
- Services can exhibit great variability regarding
  - Services requested (both number and type)
  - Incidents encountered
  - Resources needed (for a single request, over time)
  - Disruptions encountered (discontinuities including upgrades)
  - Quality of the services provided

CMMI Levels Applied to Services

- Mature service management prioritizes its improvements into 5 levels:
  1. Current, as-is services
  2. Basic service management and support discipline
  3. Organizational consistency of level 2-3 practices, including service delivery, and advanced management practices
  4. Quantitative predictors of key service qualities
  5. Optimization of key service qualities

Level 2 CMMI-SVC Practices

- At level 2, the maturing services organization adds to the foundational process areas:
  - Service requirement practices
  - Service request and incident handling

Service Requirement Practices

- Service requirement agreements are an important building block for effective service management.
- They specify terms and conditions for:
  - Provided services
  - Metrics
  - Service levels
  - Liabilities
  - Actions in specific circumstances

From http://www.iec.org/online/tutorials/service_level/

Requirements Management

- To require Service Requirements Agreements, the CMMI-SVC provides:
  - Requirements Management SVC (REQM)
    - Extends the foundational REQM to include the establishment and maintenance of written agreements between service providers and customers on service requirements and service levels.
    - The CMMI Services team chose to add a goal and two practices to REQM rather than a separate PA to reuse the requirements paradigm and to keep the model footprint smaller.

Service Request and Incident Handling

- Based upon the Service Requirement Agreement, the customer requests services and reports incidents.
  - Service request - request from a customer to deliver (part of) a previously agreed-upon service.
  - Incident - an interruption or potential interruption to the agreed level of service.
- A mature organization manages requests and incidents in an orderly fashion.
- CMMI-SVC provides:
  - Incident and Request Management PA - to ensure the timely resolution of requests for service and incidents that occur during service delivery

Level 3 CMMI-SVC Practices

- At level 3, the maturing service organization adds to the foundational process areas:
  - Advanced project management practices
    - Capacity and availability management
    - Service continuity management
  - Advanced support practices
    - Problem management
  - Service establishment and delivery practices
    - Predicated on the service system
  - Process management practices
    - Catalog of standard services and service levels

Advanced Project Management Practices

- CMMI-SVC provides:
  - Capacity and Availability Management (CAM)
    - Purpose: to plan and monitor the effective provision of resources to support service requirements
    - Addresses the resources necessary for supporting service request and peak demand, as well as service project tasks.
    - Based on measurements collected during level 2 activities
  - Service Continuity Management (SCON)*
    - Purpose: to establish and maintain contingency plans for continuity of agreed services during and following any significant disruption of normal operations
    - Addresses the actions in specific circumstances as laid out in the service requirements agreement

* optional process area (independent named service addition)

Advanced Support Practices

- CMMI-SVC provides:
  - Problem Management (PRM)
    - Purpose: to prevent incidents from recurring by identifying and addressing underlying causes of incidents
    - Dynamically and proactively handles known problems
    - Problem - a situation in the service system that is the underlying cause of incidents. All incidents have one or more underlying causes, regardless whether the service provider is aware of the cause or not.

Service System

- Service System is a necessary building block for understanding the effective delivery of services
- Service System – An integrated and interdependent combination of components, consumables, and people that satisfies service requirements.
  - A service system encompasses everything required for service delivery, including work products, processes, infrastructure, consumables, and customer resources.
  - The quality of a service is often dependent upon the quality of the service system.
  - A service system should be developed in a mature way.

Service Establishment and Delivery Practices

- The CMMI-SVC provides for:
  - Service Transition (ST)
    - Purpose: to deploy new or significantly changed service systems while managing their effect on ongoing service delivery
  - Service Delivery (SD)
    - Purpose: to deliver services in accordance with service agreements
  - Service System Development (SSD)*
    - Purpose: to analyze, design, develop, integrate, and test service systems to satisfy existing or anticipated service agreements

* optional process area (independent named service addition)

Process Management Practices

- Mature service management uses:
  - Catalog of standard services and service levels
- The CMMI-SVC provides for:
  - Organizational Service Management (OSM)*
    - Purpose: to establish and maintain standard services that ensure the satisfaction of the organization's customer base

* optional process area (independent named service addition)

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 Management* (SCON)*
- Supplier Agreement Management (SAM)

** Service Addition (optional)*

Process Area Staging

Process Area	Maturity Level	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 Management (SCON)**	3	3 / 10
Service Delivery (SD)	3	2 / 7
*Service System Development (SSD) ** *(Used in place of Development Model for small organizations)*	3	3 / 12
Service Transition (ST)	3	3 / 12

* optional process areas (independent named additions)

Conclusion

- CMMI-SVC is a ***minimal*** and ***logical*** extension to CMMI v1.2 content, allowing current CMMI users to reuse CMMI investments to improve service performance

Appendices

- Industry Participation
- Schedule
- References
- Authors & Contributors
- Referenced Service Models or Standards

Industry Participation

- Visit the public Services CMMI web pages
  - CMMI web page - http://www.sei.cmu.edu/cmmi/
  - CMMI for Services Public Workspace - http://bscw.sei.cmu.edu/pub/bscw.cgi/0/424939
- Participate in pilot and review period for the draft CMMI for Services (tentatively Nov 06 - Feb 07)
  - Submit change requests to draft release
  - Appraise your organization internally against the draft model and submit appraisal questionnaire

Tentative Schedule

- Oct-Nov 2006 — Steering Group review
- Nov-Feb 2007 — Piloting to refine practices
- Mar-May 2007 — Updates written and reviewed
- Jun-Aug 2007 — QA and final review
- Sep 2007 — Release of CMMI-SVC Product Suite

Subject to CMMI Steering Group Approval

References

- CMMI: The New Architecture - http://www.sei.cmu.edu/news-at-sei/columns/cmmi-in-focus/2006/05/cmmi-in-focus-2006-05.htm
- CMMI for Services Architecture – to be released with draft CMMI for Services model

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Referenced Service Models or Standards

- IT service models and standards included in mapping and gap analysis:
  - Information Technology Infrastructure Library (ITIL)
  - British Standard 15000: IT Service Management (BS 15000)
  - Control Objects for Information and related Technology (COBIT)
  - Information Technology Services CMM (ITSCMM)