Service Extensions to the CMMI

5th Annual CMMI Technology Conference
Denver, CO

November 14-17, 2005

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Agenda

- **Purpose**
- **Sponsors & Membership**
- **Service Coverage in Existing CMMI-SE/SW, v1.1**
- **Industry Service Models or Standards**
  - Rationale for a Services CMMI
- **Schedule**
- **Industry Participation**
- **Issues References**

Purpose & Sponsors

- **Purpose:**
  - to extend the CMMI framework to cover the provision of services
- **Sponsors:**
  - CMMI Steering Group
  - DoD OSD
  - NDIA, Systems Engineering Division
  - SEI
  - Northrop Grumman – proposed to sponsor a Services CMMI to the CMMI Steering Group in Nov 2004

Services Team Membership

- **Membership:**
  - Jeff Zeidler (Boeing)
  - Steve Stern (Lockheed Martin)
  - Brandon Buteau (Northrop Grumman)
  - Craig Hollenbach (Northrop Grumman) - Lead
  - Roy Porter (Northrop Grumman)
  - Hal Wilson (Northrop Grumman)
  - Gordon Ward (Raytheon)
  - Jerry Simpson (SAIC)
  - Drew Allison (SSCI)
  - Eileen Forrester (SEI)
  - Barbara Tyson (SEI)
  - Eileen Clark (SRA)

BOEING

Carnegie Mellon Software Engineering Institute

LOCKHEED MARTIN

NORTHROP GRUMMAN

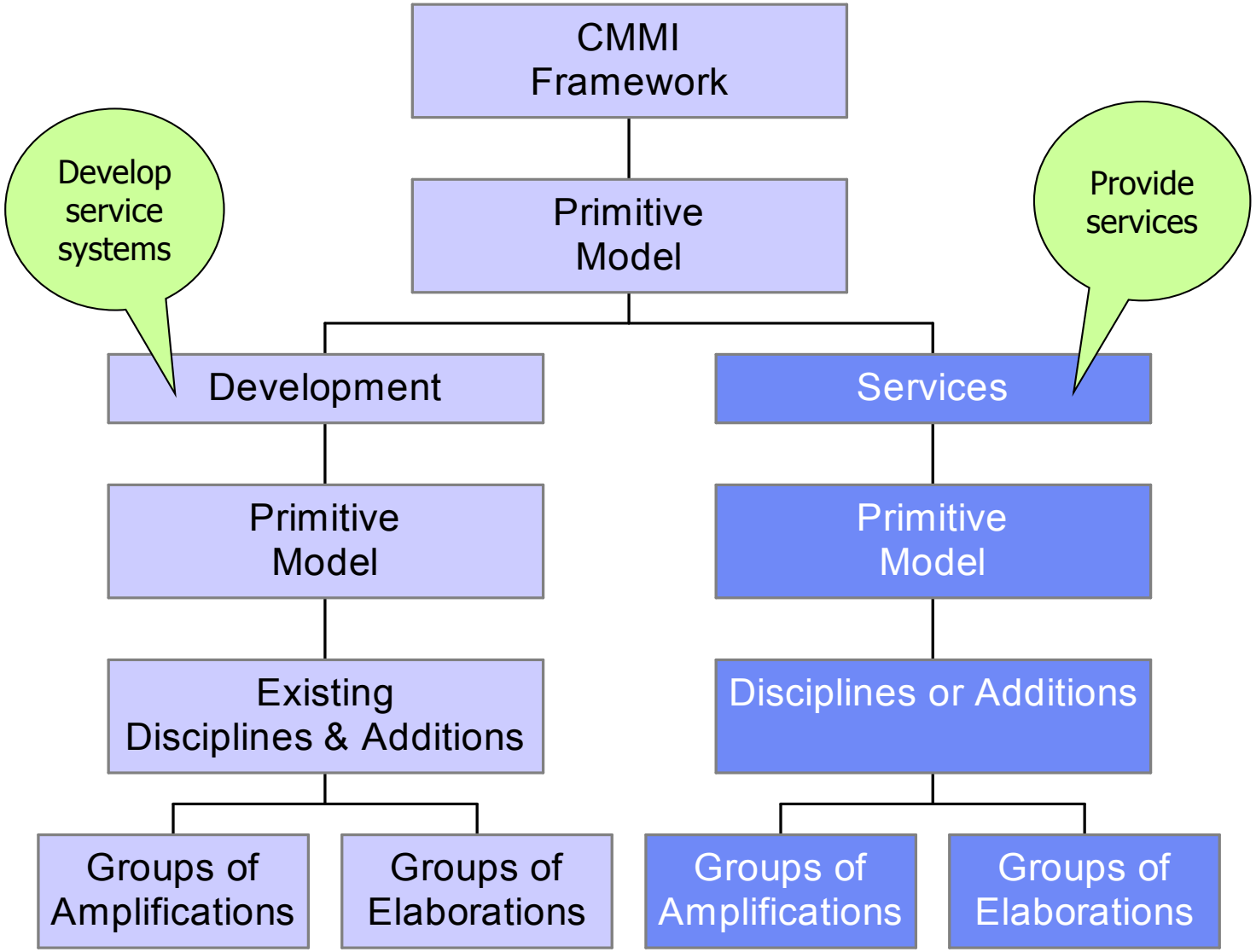
SRA INTERNATIONAL, INC.

Raytheon

SAIC An Employee-Owned Company

SYSTEMS AND SOFTWARE CONSORTIUM

Service Coverage in CMMI-SE/SW, v1.1



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What is Not Covered in CMMI-SE/SW, v1.1

Candidate model content could cover:

- **Service Request and Incident Management**
  - Service requests and incidents regarding the service are identified, registered, tracked, analyzed, and resolved.
- **Capacity Management**
  - Responsible for ensuring adequate capacity is available at all times to meet the requirements of the business.
- **Availability Management**
  - Process of managing the ability of a component or service to perform its required function at a stated instant or over a stated period of time
- **Service Continuity Management**
  - Concerned with managing an organization's ability to continue to provide a pre-determined and agreed level of IT services to support the minimum business requirements following an interruption to the business.

What is Not Covered in CMMI-SE/SW, v1.1 (cont.)

- **Release Management**
  - Process of testing and introducing together a collection of new and/or changed configuration items into the live environment
- **Service Delivery**
  - Consistently perform a well-defined service delivery process that integrates all service delivery activities to deliver correct, consistent IT services effectively and efficiently.
- **Resource Management**
  - Control of the resources (hardware and software) needed to deliver the services is maintained.

Industry Service Models or Standards

Candidate IT service models and standards include:

- Information Technology Infrastructure Library (ITIL)
- Control Objects for Information and related Technology (COBIT)
- Information Technology Services CMM (ITSCMM)
- British Standard 15000: IT Service Management (BS 15000)

The Services CMMI team is investigating non-IT service models and standards.

Rationale - If IT service models exist, why do we need a CMMI for Services?

- **The CMMI emphasizes institutionalization of process maturity.**
  - The CMMI divides improvements into incremental efforts.
- **A CMMI for Services would rapidly leverage investments by the current CMMI user base to bring process maturity to their services efforts.**
  - CMMI-based improvements have a demonstrated ROI.
  - The CMMI provides a familiar vocabulary.
- **There is little guidance for appraisers and organizations on applying the CMMI to services efforts.**
  - "Implementation models" within companies differ between SE/SW and services.
  - The CMMI is supported by standard appraisal methods.

Rationale - If IT service models exist, why do we need a CMMI for Services?

- **Current IT models do not address the development of service systems as thoroughly as the CMMI.**
- **A CMMI for Services would summarize essential elements from current IT service models.**
  - Maps from IT service models to a Services CMMI would enable organizations to refer to existing models for extensive best practices for services
  - Reduces preparation costs for appraisals against multiple models

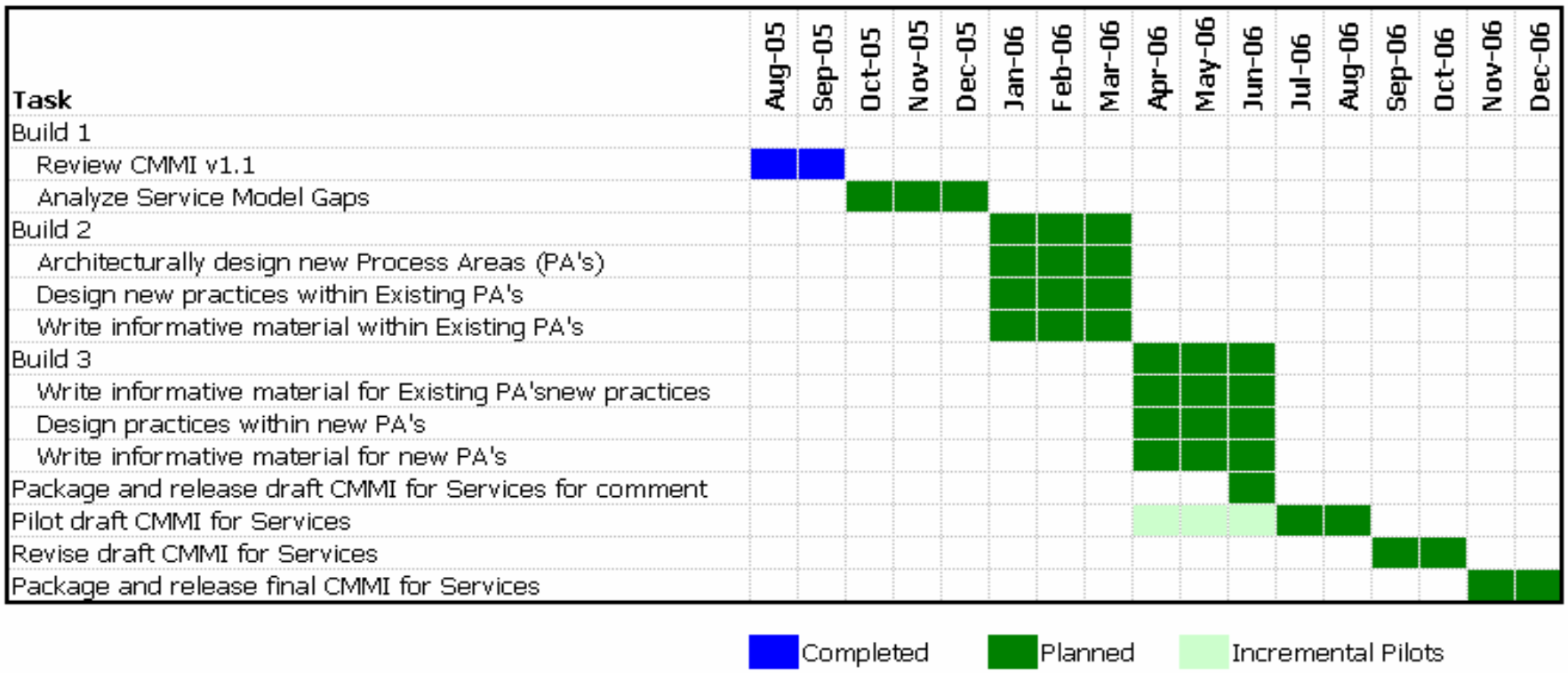
Why do we need a CMMI for Services?

- Applying the CMMI to services requires significant interpretation of appraisers and organizations, but there is no guidance.
- Current IT services models do not completely address service development and initiation.
- A CMMI for Services would re-use a familiar vocabulary and common model components.
- A CMMI for Services would summarize essential elements from current IT service models.
- "Implementation models" for development differ from those for services.

Why do we need a CMMI for Services?

- A CMMI for Services includes additional process areas necessary for full process institutionalization and innovation.
- CMMI for Services maturity levels divide improvements into incremental efforts.
- An extensive CMMI user community can leverage the CMMI framework to extend current maturity into service domains.
- A CMMI for Services would summarize essential principles from and provide maps to current IT service models, allowing for integrated improvement efforts and coordinated best practices.

Schedule



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Industry Participation

- Participate in piloting of Services CMMI
- Provide model feedback
- Visit the public Services CMMI (BSCW site)

Accomplishments To Date

- The Services CMMI Team has coordinated well with the version 1.2 team on saving the CMMI framework's common content.
- The Services CMMI Team has identified few changes or impacts in the generic content.
- Lots of interest from across the world indicates that there is value concentrating on Services as a Constellation.
- The Services CMMI Team has identified to the version 1.2 team several "thorny issues" that require interaction with other CMMI author teams.

What is the scope of the Services CMMI?

- **Processes would include both**
  - Development of systems for delivery of services (manual and automated) – applying the existing engineering PA's - and
  - Delivery of services
- **Service Domains would include**
  - Professional services (e.g., engineering services, technical support, military equipment maintenance, resupply services) typically outside the domain of IT services
  - Focus on IT services, but broadly defining services to not *exclude* other industries
    - Concern: Some industries (e.g., medical, utilities) may have specialized service models that may require additional coordination and research

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"Thorny" CMMI Terminology

- **The Services CMMI team uncovered the following 'thorny' terminology issues.**
  - Work Product (the current definition includes services)
  - Product (called tangible)
  - Project (definite beginning and end)
  - Management and Technical Roles (organizational training definition)
  - Product Quality (not consistently applied)

Challenges

- Discern the process areas and practices that are common to a wide variety of services
- Select model language that communicates to the service industry but causes as small an impact as possible to existing model content
- Maximize coordination with existing services organizations
- Manage the size and complexity of the services model
- Effectively coordinate common CMMI content with the development constellation (v1.2)
- Support organizations that perform both development and service delivery.

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/
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- 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 – 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 - https://bscw.sei.cmu.edu/bscw/bscw.cgi/0/424939

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