## 9<sup>th</sup> Annual National Defense Industrial Association CMMI Technology Conference and User Group

November 18, 2009

Denver, Colorado, USA



# AN OVERVIEW OF CMMI-SVC FOR CMMI-DEV ENTHUSIASTS

Bill Smith, CEO Leading Edge Process Consultants LLC www.CmmiTraining.com



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## Objective of This Presentation

To provide an overview of how the CMMI for Services (CMMI-SVC) differs from the CMMI for Development (CMMI-DEV). We assume you already know and love CMMI-DEV.



## Agenda

- About the CMMI for Services
- Key Architectural Differences Between CMMI-SVC and CMMI-DEV
- An Overview of the Service-Specific Process Areas
- Conclusion



## About the CMMI for Services



## What is the CMMI for Services?

- A relatively new CMMI constellation focusing on the activities required to manage, establish, and deliver services.
- Potentially relevant to any organization that delivers services



30% of 80% of 80

of the world economy is based on services



## What Is a Service?

"...a product that is intangible and non-storable"\*

"... a work
product that is
intended for
delivery to a
customer or end
user"\*



"U Can't Touch This"

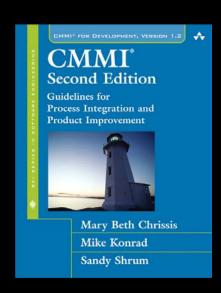


\*CMMI Glossary

## Scope of CMMI-DEV vs. CMMI-SVC



#### **CMMI-DEV**



A product can

be a service

You could

use CMMI-

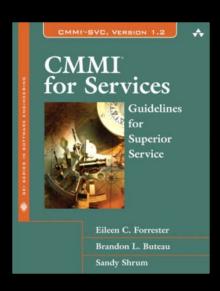
DEV to

develop a

service

**Product** development

#### **CMMI-SVC**



Service delivery

A service can include physical goods

Includes establishment & management

## Example Industries and Applications



health care



network support



consulting



training



defense



staff augmentation



transportation



call centers



finance

## Services reported by early users:

- auditing
- book shelving
- consulting
- health care
- human resources
- IT services
- IV&V
- lawn care
- logistics
- maintenance
- marketing
  - refugee services
  - research
- training

Our company is applying CMMI-SVC to these areas



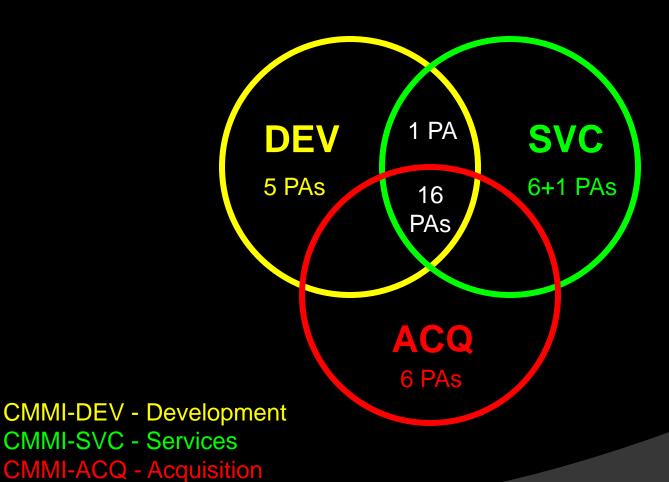




## **Key Architectural Differences Between CMMI-SVC and CMMI- DEV**



## The CMMI Constellations



PA – Process Area



	Process Mgt	Project Management	Engineering	Support
5	• OID			• CAR
4	• OPP	• QPM		
3	• OPF • OPD • IPPD • OT	• IPM + IPPD • RSKM  Start with CMMI-DEV	•RD •TS •PI •VER •VAL	• DAR
2		•PP •PMC •SAM	• REQM	• CM • PPQA • MA



	Process Mgt	Project Management	Engineering	Support
5	• OID			•CAR
4	• OPP	• QPM		
3	• OPF • OPD • IPPD • OT	• IPM + IPPD • RSKM  Keep the Core PAS	•RD •TS •PI •VER •VAL	• DAR
2		•PP •PMC •SAM	• REQM	• CM • PPQA • MA



		Process Mgt	Project Management	Engineering	Support
k	5	•OID			•CAR
4	4	•OPP	• QPM		
	3	• OPF • OPD + IPPD • OT	• IPM + IPPD • RSKM  Keep the core PAS (bold)	<ul><li>RD</li><li>TS</li><li>PI</li><li>VER</li><li>VAL</li></ul>	• DAR
2	2		•PP •PMC •SAM	•REQM	•CM •PPQA •MA



	Process Mgt	Project Management	Engineering	Support
5	•OID			•CAR
4	•OPP	• QPM		
3	• OPF • OPD • IPPD • OT	• IPM + IPPD • RSKM  Keep SAM	•RD •TS •PI •VER •VAL	• DAR
2		•PP •PMC •SAM	•REQM	•CM •PPQA •MA



	Process Mgt	Project Management	Engineering	Support
5	•OID			•CAR
4	•OPP	• QPM		
3	• OPF • OPD • IPPD • OT	• IPM + IPPD • RSKM  Keep SAM	<ul><li>RD</li><li>TS</li><li>PI</li><li>VER</li><li>VAL</li></ul>	• DAR
2		•PP •PMC • SAM	•REQM	•CM •PPQA •MA



	Process Mgt	Project Management	Engineering	Support
5	•OID			•CAR
4	•OPP	• QPM		
	• OPF • OPD • OT	• RSKM • RSKM  ncorporate key IPPE cepts into IPM and C	•RD •TS •PI PD	• DAR
2		•PP •PMC • SAM	•REQM	•CM •PPQA •MA



		Process Mgt	Project Management	Engineering	Support
	5	•OID			•CAR
	4	•OPP	• QPM		
MATURITY LEVEL	3	• OPF • OPD* • OT	• RSKM  ncorporate key IPPE cepts into IPM and C	•RD •TS •PI R •PD	• DAR
	2		•PP •PMC • SAM	•REQM	• CM • PPQA • MA



		Process Mgt	Project N	Management	Engineering	Support
	5	•OID				•CAR
	4	•OPP	• QPM			
MAIORITERVER	3	•OPF •OPD* •OT	• IPM* • RSKM	Re-catego REQM	•RD •TS  Prize	• DAR
	2		•PP •PMC •S	SAM	•REQM	• CM • PPQA • MA



	Process Mgt	Project Management	Engineering	Support
5	•OID			•CAR
4	•OPP	• QPM		
3	•OPF •OPD* •OT	• IPM* • RSKM  Re-catego REQM	•RD •TS  Orize	•DAR
2		•PP •REQM •PMC •SAM		• CM • PPQA • MA

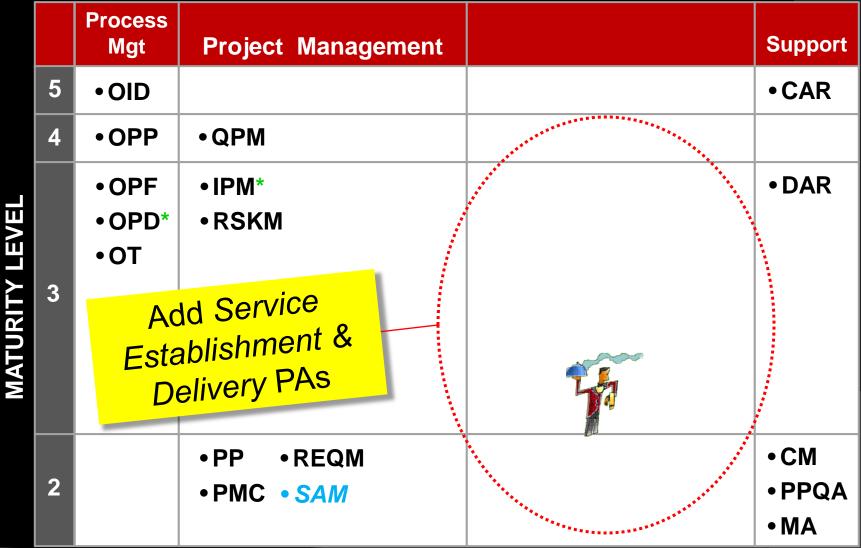


		Process Mgt	Project Manageme	nt Engineering	Support
	5	•OID			•CAR
	4	•OPP	• QPM		
MATURITY LEVEL	3	•OPF •OPD* •OT	• IPM* • RSKM	• RD • TS • PI • VER • VAL	•DAR
	2		•PP •REQM •PMC •SAM	Eliminate the Engineering PAs	• CM • PPQA • MA



		Process Mgt	Project Manageme	ent	Support
	5	•OID			•CAR
	4	•OPP	• QPM	45116.	
MATURITY LEVEL	3	•OPF •OPD* •OT	• IPM* • RSKM	and the	•DAR
	2		•PP •REQM •PMC •SAM	Eliminate the Engineering PAs	•CM •PPQA •MA







		Process Mgt	Project Management	Service Establishment and Delivery	Support
	5	•OID			•CAR
	4	•OPP	• QPM		
MATURITY LEVEL	3	Ecta	•IPM* •RSKM  d Service ablishment & elivery PAs	<ul> <li>Strategic Service         Management (STSM)</li> <li>Service System         Transition (SST)</li> <li>Incident Resolution         and Prevention (IRP)</li> </ul>	• DAR
	2		•PP •REQM •PMC •SAM	Service Delivery (SD)	• CM • PPQA • MA



		Process Mgt	Project Management	Service Establishment and Delivery	Support
	5	•OID	Add SVC-specific		•CAR
	4	•OPP	Project		
MATURITY LEVEL	3	•OPF •OPD* •OT	• RSKM	<ul> <li>Strategic Service Management (STSM)</li> <li>Service System Transition (SST)</li> <li>Incident Resolution and Prevention (IRP)</li> </ul>	•DAR
	2		•PP •REQM •PMC •SAM	• Service Delivery (SD)	• CM • PPQA • MA



		Process Mgt	Project Management	Service Establishment and Delivery	Support
	5	•OID	Add SVC-specific		•CAR
	4	•OPP	Project		
MATURITY LEVEL	3	•OPF •OPD* •OT	• RSKM Service Continuity Management (SCON) • Capacity and Availability Management (CAM)	<ul> <li>Strategic Service Management (STSM)</li> <li>Service System Transition (SST)</li> <li>Incident Resolution and Prevention (IRP)</li> </ul>	•DAR
	2		•PP •REQM •PMC •SAM	• Service Delivery (SD)	•CM •PPQA •MA



	Process Mgt	Project Management	Service Establishment and Delivery	Support
5	•OID			•CAR
4	• OPP	• QPM		
3	• OPF • OPD* • OT	• IPM* • RSKM • SERVICE CONTINUITY Management (SCON) • Capacity and Availability Management (CAM)	trategic Service anagement (STSM)  • Service System Transition (SST)  • Incident Resolution and Prevention (IRP)	• DAR
2		•PP •REQM •PMC •SAM	• Service Delivery (SD)	•CM •PPQA •MA



		Process Mgt	Project Management	Service Establishment and Delivery	Support
	5	•OID			•CAR
	4	•OPP	• QPM		
MAI URII Y LEVEL	3	• OPF • OPD* • OT	<ul> <li>IPM*         <ul> <li>RSKM</li> <li>Service continuity</li> <li>Management (SCON)</li> </ul> </li> <li>Capacity and Availability</li> <li>Management (CAM)</li> </ul>	trategic Service anagement (STSM)  • Service System Transition (SST)  • Incident Resolution and Prevention (IRP)  • Service System Development (SSD)	• DAR
	2		•PP •REQM •PMC •SAM	• Service Delivery (SD)	•CM •PPQA •MA



		Process Mgt	Project Management	Service Establishment and Delivery	Support
	5	•OID			•CAR
	4	•OPP	• QPM		
MAIONII LEVEL	3	•OPF •OPD* •OT Add New to F	• IPM* • RSKM  • Cervice Continuity anagement (SCON)  SP paci Tweak SP pailab SAM  • RSKM	<ul> <li>Strategic Service         Management (STSM)</li> <li>Service System         Transition (SST)</li> <li>Incident Resolution         and Prevention (IRP)</li> <li>Service System         Development (SSD)         [ADDITION]</li> </ul>	• DAR
	2		•PP •REQM •PMC •SAM	• Service Delivery (SD)	•CM •PPQA •MA



	Process Mgt	Project Management	Service Establishment and Delivery	Support
5	•OID			•CAR
4	•OPP	• QPM		
3	• OPF • OPD* • OT  Add  New to F	SP paci Tweek	<ul> <li>Strategic Service Management (STSM)</li> <li>Service System Transition (SST)</li> <li>Incident Resolution and Prevention (IRP)</li> <li>Service System Development (SSD)</li> </ul>	• DAR
2		• PP* • REQM • PMC • SAM*	• Service Delivery (SD)	•CM •PPQA •MA



		Process Mgt	Project Management		Service Estab		Support
Н	5	•OID	• ODM	Insert inf	oformative		•CAR
l	3	• OPP • OPF • OPD* • OT	• QPM  • IPM*  • RSKM  • Service Continuity  Management (SCON)  • Capacity and  Availability  Management (CAM)		Strategic Ser Management Service Syst Transition (Service Syst and Preventi Service Syst Development [ADDITION]	t (STSM) em SST) olution on (IRP) em	• DAR
4	2		•PP* •R	REQM SAM*	• Service Deliv	very (SD)	•CM •PPQA •MA



	Process Mgt	Project Management	Service Establishment and Delivery	Support
5	•OID			•CAR
4	•OPP	• QPM		
3	• OPF • OPD* • OT	<ul> <li>IPM*</li> <li>RSKM</li> <li>Service Continuity Management (SCON)</li> <li>Capacity and Availability Management (CAM)</li> </ul>	<ul> <li>Strategic Service         Management (STSM)</li> <li>Service System         Transition (SST)</li> <li>Incident Resolution         and Prevention (IRP)</li> <li>Service System         Development (SSD)         [ADDITION]</li> </ul>	•DAR
2		•PP* •REQM •PMC •SAM*	• Service Delivery (SD)	•CM •PPQA •MA



# An Overview of the Service-Specific Process Areas



## Strategic Service Management (STSM) (1)

Purpose: To
 establish and
 maintain standard
 services in concert
 with strategic
 needs and plans.





catalog

menu

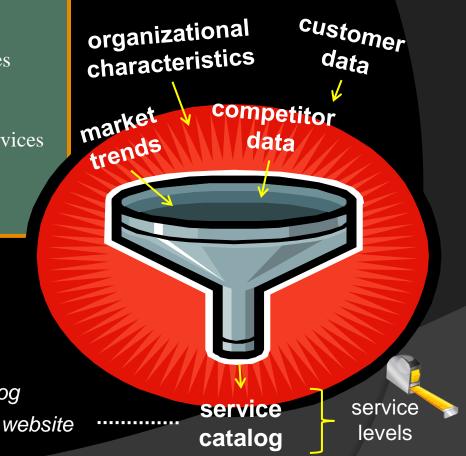
## SG 1 Establish Strategic Needs and Plans for Standard Services

**SP 1.1** Gather and Analyze Relevant Data **SP 1.2** Establish Plans for Standard Services

#### **SG 2 Establish Standard Services**

**SP 2.1** Establish Properties of Standard Services and Service Levels

SP 2.2 Establish Descriptions of Standard Services



# ADDITION



# Service System Development (SSD) (1)

• Purpose: To analyze, design, develop, integrate, verify, and validate service systems, including service system components, to satisfy existing or anticipated service agreements.



## ADDITION + (SSD)



## Service System Development (SSD) (2)

## SG 1 Develop and Analyze Stakeholder Requirements

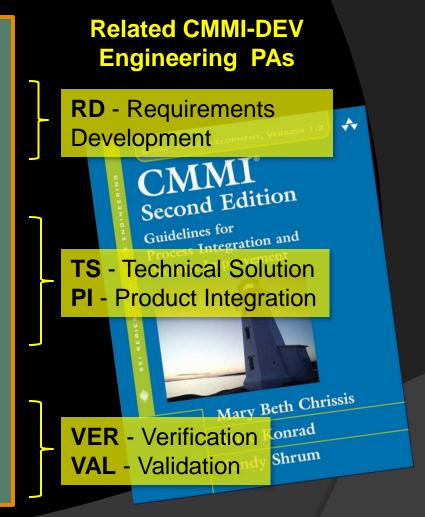
- **SP 1.1** Develop Stakeholder Requirements
- SP 1.2 Develop Service System Requirements
- **SP 1.3** Analyze and Validate Requirements

## **SG 2 Develop Service Systems**

- SP 2.1 Select Service System Solutions
- SP 2.2 Develop the Design
- **SP 2.3** Ensure Interface Compatibility
- SP 2.4 Implement the Service System Design
- **SP 2.5** Integrate Service System Components

## SG 3 Verify and Validate Service Systems

- SP 3.1 Prepare for Verification and Validation
- **SP 3.2** Perform Peer Reviews
- **SP 3.3** Verify Selected Service System Components
- **SP 3.4** Validate the Service System





## Service System Transition (SST) (1)

 Purpose: To deploy new or significantly changed service system components while managing their effect on outgoing service delivery.





## Service System Transition (SST) (2)

## **SG 1 Prepare for Service System Transition**

**SP 1.1** Analyze Service System Transition Needs

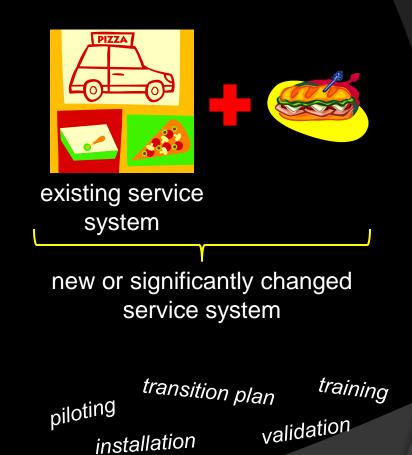
**SP 1.2** Develop Service System Transition Plans

**SP 1.3** Prepare Stakeholders for Changes

## SG 2 Deploy the Service System

**SP 2.1** Deploy Service System Components

SP 2.2 Assess and Control the Impacts of the Transition



marketing



## Service Delivery (SD) (1)

 Purpose: To deliver services in accordance with service agreements.





## Service Delivery (SD) (2)

#### **SG 1 Establish Service Agreements**

**SP 1.1** Analyze Existing Agreements and Service Data

**SP 1.2** Establish the Service Agreement

## **SG 2 Prepare for Service Delivery**

**SP 2.1** Establish the Service Delivery Approach

**SP 2.2** Prepare for Service System Operations

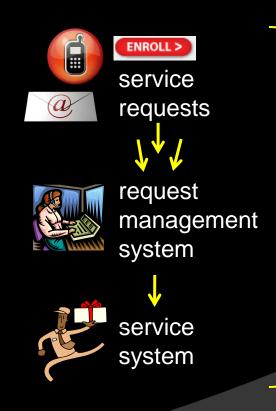
**SP 2.3** Establish a Request Management System

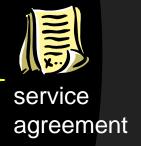
#### **SG 3 Deliver Services**

**SP 3.1** Receive and Process Service Requests

**SP 3.2** Operate the Service System

**SP 3.3** Maintain the Service System







## Incident Resolution and Prevention (IRP) (1)

Purpose: To ensure timely and effective resolution of service incidents and prevention of service incidents as appropriate.





## Incident Resolution and Prevention (IRP) (2)

#### **SG 1 Prepare for Incident Resolution and Prevention**

**SP 1.1** Establish an Approach to IRP

SP 1.2 Establish an Incident Management System

#### SG 2 Identify, Control, and Address Incidents

SP 2.1 Identify and Record Incidents

SP 2.2 Analyze Incident Data

**SP 2.3** Apply Workarounds to Selected Incidents

SP 2.4 Address Underlying Causes of Selected Incidents

SP 2.5 Monitor the Status of Incidents to Closure

**SP 2.6** Communicate the Status of Incidents

#### **SG 3 Define Approaches to Address Selected Incidents**

SP 3.1 Analyze Selected Incident Data

**SP 3.2** Plan Actions to Address Underlying Causes of Selected Incidents

SP 3.3 Establish Workarounds for Selected Incidents

#### NOW!



decide what to do

apply workarounds

address causes

#### **FUTURE**

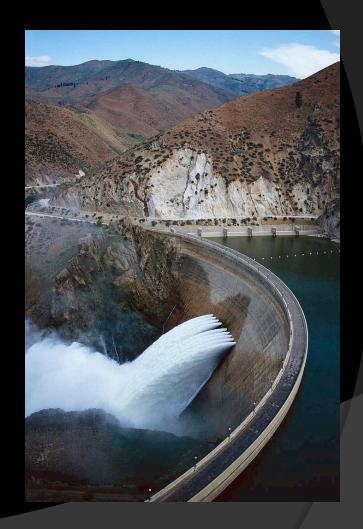
analyze causes

establish workarounds



## Capacity and Availability Management (CAM) (1)

Purpose: To ensure effective service system performance and ensure that resources are provided and used effectively to support service requirements.



# Leading = = Edge

## Capacity and Availability Management (CAM) (2)

# SG 1 Prepare for Capacity and Availability Management

SP 1.1 Establish a Capacity and Availability Management Strategy SP 1.2 Select Measures and Analytic Techniques SP 1.3 Establish Service System Representations

# SG 2 Monitor and Analyze Capacity and Availability

**SP 2.1** Monitor and Analyze Capacity

**SP 2.2** Monitor and Analyze Availability

**SP 2.3** Report Capacity and Availability Management Data

## **Capacity**

the degree to which one thing may support, hold, process, or produce another thing

## **Availability**

the degree to which something is accessible and usable when needed

calls per day that can be handled by a call center



call center staff

sq ft of floor space that can be cleaned per hr



maintenance supplies

# of classes that can be conducted per yr



instructors



## Service Continuity (SCON) (1)

Purpose: To ensure establish and maintain plans to ensure continuity of services during and following any significant disruption of normal operations.





## Service Continuity (SCON) (2)

# **SG 1 Identify Essential Service Dependencies**

**SP 1.1** Identify and Prioritize Essential Functions

**SP 1.2** Identify and Prioritize Essential Resources

## **SG 2 Prepare for Service Continuity**

SP 2.1 Establish Service Continuity Plans

SP 2.2 Establish Service Continuity Training

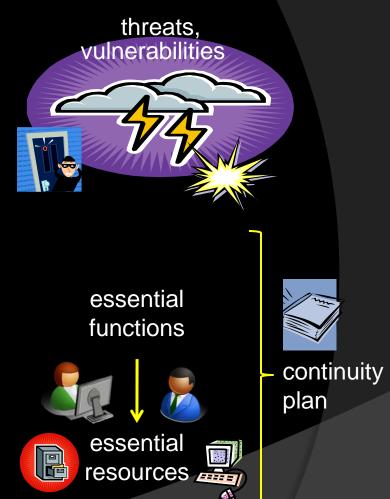
**SP 2.3** Provide and Evaluate Service Continuity Training

## SG 3 Verify and Validate the Service Continuity Plan

**SP 3.1** Prepare for the Verification and Validation of the Service Continuity Plan

**SP 3.2** Verify and Validate the Service Continuity Plan

SP 3.3 Analyze Results of Verification and Validation





# Conclusion



# Conclusions (1)

- Virtually any service organization can benefit from the CMMI for Services
- CMMI-SVC consists of 16 core CMMI PAs, 1 "shared" PA, and 7 service-specific PAs - including one "addition"
- A few core PAs have been modified slightly
- Services-specific informative material has been added





# Conclusions (2)

- The new PAs are:
  - ML2, Service Establishment & Delivery Category
    - Service Delivery (SD)
  - ML 3, Service Establishment & Delivery Category
    - Strategic Service Management (STSM)
    - Service System Transition (SST)
    - Incident Resolution and Prevention (IRP)
  - ML3, Project Management Category
    - Capacity and Availability Management (CAM)
    - Service Continuity Management (SCON)
  - Addition ML3, Service Establishment & Delivery Category
    - Service System Development (SSD)

# My Other Presentations This Week

- Creatively Applying CMMI-SVC in a Very Small Consulting Firm
  - Tuesday 7
  - DONE
  - Koom

- Shrinking the Elephant: If
  Implementing CMMI
  Practices Looks Like More
  Effort Than It's Worth, Let's
  Look Again
  Sam Fogle, ACE Guides
- CMMI in the Social Media (for the Social Media-Challenged!)
  - Wednesday 8/18
  - 10:45-11:30 a.m.
  - Grand Mesa F





# Any Questions?



Website: www.CmmiTraining.com

Blog: www.CmmiForServicesDiary.com

**Twitter:** CmmiRox

LinkedIn: www.linkedin.com/in/

billsmithleadingedge



Upcoming Public Classes In Reston, VA (DC Metro Area)

#### **SEI Introduction to CMMI**

- Dec 8-10, 2009 → enrolled
   Mar 9-11, 2010 so face
- Apr 13-15, 2010

# SEI Services Supplement for CMMI (CMMI-SVC)

Mar 12, 2010

#### **Private Classes?**

Bill@CmmiTraining.com