The CMMI℠ Framework
and the Enterprise
Adapting or Extending

A Presentation to the
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and User Group
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Track 6 – CMMI Extensions

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Agenda

- Approach
- Process Structure
- Implementation
- Plans For The Future.

Everything should be made as simple as possible, but not simpler.  
*Albert Einstein*
Objective

Establish Enterprise Processes That Will Assist in Achieving Acquisition Objectives

**Enterprise Objectives**

- Reduction in Cycle Time
- Capability to the users as quickly as possible
- Keep Cost Under Control
- Needed System Interoperability

**Process Objectives**

- Provide a Integrated Process Framework for the Management of Enterprise Systems (e.g. Use of Integrated Architectures for Requirements and Investment Planning)
- Reduce Acquisition Complexity, Span of Control, and Risks
- Life-Cycle Perspective
- Establish Nodes Responsible for Sponsor, Acquisition, Sustainment, and Test Partnership
- Synchronizes Top Down Planning, Budgeting, Direction, Acquisition, Development, Management, Testing, Delivery, Modernization, and Sustainment of System Increments
Objective

Establish an Enterprise Processes
That Will Assist in Achieving Acquisition Objectives

Collaborative Incremental Capability-Based Processes

- Reduction in Cycle Time
- Capability to deliver needed systems as quickly as possible
- Keep Cost Under Control
- Needed System Interoperability

Provide a Integrated Process Framework for the Management of Enterprise Systems (e.g. Use of Integrated Architectures for Requirements and Investment Planning)
Reduce Acquisition Completion Time and Relative Risk
Life-Cycle Perspective
Establish Nodes Responsible for Sponsoring Acquisition, Show, Sustain, Test Partnership
Synchronizes Top Down Planning, Budgeting, Direction, Acquisition, Development, Management, Testing, Delivery, Modernization, and Sustainment of System Increments
How?

- Organizational Environment for Integration
- Requirements Development
- Integrated Teaming
- Supplier Agreement Management
- Enterprise Identification, Team, and Goals
- Requirements Management
- Integrated Program Management
- Risk Management
- Scope, Focus, & Boundaries
- Requirements
- Partnering & Management
- Contracting
- Planning & Control
- Design
- Test & Deployment
- Risk
- Decision Analysis and Resolution
- Technical Solution
- Verification
- Configuration Management
- Project Planning
- Product Integration
- Validation
- Configuration
- Project Monitoring & Control
- Design Quality Assurance
- Deployment
- Operations & Maintenance
- S/W Peer Reviews
- Safety
- Information Assurance

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Agenda

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"I am not discouraged, because every wrong attempt discarded is another step forward.

Thomas Alva Edison
Enterprise to the Program

Enterprise Integration
- Synchronization of C2 Constellation Programs
- Synchronization with other Enterprises (Joint, Coalition)
- Enterprise Gap Analysis

Engineering
- Requirements Development and Management
- Integrated Testing

Support
- Configuration Management
- Integrated Logistics
- Measurement & Analysis
- QA
- Decision Analysis

Enterprise Engineering
- Enterprise Strategic Planning
- Capability Definition/Allocation/Synthesis
- Reference Model Development (NESI)
- Technical Standards
- Enterprise Engineering & Governance for C2 Spirals

Management
- Risk Management
- Program Planning
- Program Monitoring and Control
- Solicitation and Contract Monitoring
- Mission Partnering (IPPD and Integrated Project Management)

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Portfolio Allocation
(DoD Example)
Enterprise Process Levels

(Air Force Example)

- Process Framework Mapped through the Five Management Levels

- PPBE and JCIDS are Central Conduit through which the Results of Process Actions are Realized
Enterprise Processes

Step 1
Establish the Strategic Vision Based on Forcing Functions

Step 2
Developing the Operational Architecture
Architecture Based Allocation of Systems Technical Architecture Goals and Plans

Step 3
Conduct Gap Analysis of the OPS, SYS, & Tech Architectures and Develop Plans to Fill the Gaps

Step 4
Acquisition Team Conducts Acquisition Of Systems Using Plans Developed by System Engineering

Step 5
Maintain Architecture Products And Implement Configuration Management

Process Focus For Information Inputs & Outputs

Strategic Vision

Users HHQ Requirements & Funding

Change Mgmt.

Arch.

Impl.

System Eng.
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"Individual commitment to a group effort, that is what makes a team work, a company work, a society work, a civilization work."

“Vince” Lombardi
Strategic Vision
(Air Force Example)

Net Centric Warfare
C2 Task Force CONOPS
C2 Constellation CONOPS
AOC Operational CONOPS
TBMCS Operational CONOPS
Top Down Architecture Influences

DoD Integrated Architecture

Service Architecture

SoS Architecture

Program Architecture

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System/Node/Enterprise Engineering
(Arch Gap Analysis & Planning)

ENTERPRISE VALUE SYSTEM

Program Architectures

Gap Matrix

Operational System
Technical System

To Be
As Is
New
Eliminate
As Is
To Be

Program Interaction and “Deal Making”

Program Investment Strategy

R&D Gaps
O&M Gaps
Technology Gaps

With Identified

System of System Sponsor
Decision Maker

Program Management Office

Ops Requirements
Planning
Budget

Risk & Tradeoffs

Integrated Program Solution

Gaps Are Filled Collaboratively in the IPS

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Team Solution Plan

**Resource Optimization**

- Use Your Flexibility to Maximize Your Capability (Faster and Cheaper Results)
- Establish Equilibrium (Win-Win-Win)
- Requires Sharp Configuration Control
- Maintain Procurement Integrity

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Implementation
Synchronized Direction and Budget

Enterprise
- Capabilities
- CONOPS
- Budget
- Architectures
- Business Solution

INVESTMENT INCREMENT

Planning, Budgeting, & Directing

Iterate, Assess & Synchronize

Programs
- Capabilities
- CONOPS
- Budget
- Architectures
- Plan
- Specification

SoS SPIRAL

2004

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Implementation
Enterprise Investment Plan

As Is

To Be

Capabilities
2002
2004
2006
2008
2010
2012

INVESTMENT INCREMENT
A
SPIRAL
B
SPIRAL
C
SPIRAL

"As Is"

Capabilities 2002
Capabilities 2004
Capabilities 2006
Capabilities 2008
Capabilities 2010
Capabilities 2012

"To Be"

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# Implementation Processes

<table>
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<tr>
<th>Level</th>
<th>Focus</th>
<th>Function</th>
<th>Processes</th>
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</table>
| ENTERPRISE LEVEL | • Policy and Direction  
• Decision Making to Maximize ROI  
• Maximize Military Worth  
• Capability Synchronization | • Implement Enterprise Management Process  
• Establish Enterprise Partnerships and Information Sharing | Enterprise Management Process |
| NODE LEVEL      | • Execution Direction  
• Decision Making to Maximize Sync Programs  
• Deliver Capability to Warfighter | • Implement Enterprise Processes As Directed By Enterprise  
• Establish Program Partnerships and Information Sharing | Enterprise Management Process |
| PROGRAM LEVEL   | • Implement  
• Decision Making to Leverage Technology and Resources  
• Max System Worth  
• Team/Stakeholder Synchronization | • Implement Core Processes As Directed By Enterprise  
• Establish Stakeholder Partnerships and Process Sharing | Program Management Processes |

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Change Management

Subject Architecture and Program Direction to Configuration Control
Enterprise Process Toolkits
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Plans are only good intentions unless they immediately degenerate into hard work.
Peter Drucker
"Things are only Impossible until they're not."

Jean-Luc Picard, 'Star Trek: The Next Generation'