Organizational Synthesis - CMMI®, The Glue That Binds

Synthesizing:
- Business Process Model,
- ISO Standards,
- Life Cycle Management,
- Program Direction and
- CMMI®

into a Business Process Management System

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ASD’ S
Concurrent Initiatives
The major concurrent initiatives and business drivers used for illustration of our organizational system synthesis as presented here include:

- ASD’s Business Process Model
- ISO Standards
- BAE Systems Operational Framework and Life Cycle Management Process
- CMMI®
Change Is Inevitable

The pace at which change transpires and the complexity of that change is dependent upon the:

1) Number of concurrent change drivers
2) Degree to which the drivers are instituted
3) Cultural acceptance of the drivers
4) Capacity (Resources) to implement the change, and
5) Application of system synthesis
Our Business Approach

Compliant with ISO; Utilizes CMMI® Best Practices; Leverages Assets (PEOPLE, TOOLS)

Goal  EBIT Growth Productivity

Focus  Improvement Teams (PATs)

Strength  Skills Trng Educ Exp

Methods  TQM LEAN

Foundation  SMRG QESC

Customer Satisfaction

Continual Process Improvement

Knowledgeable Employees (KM)

Using Effective Tools, Processes

Dedicated Leadership (at all levels)

CMMI® provided the suite of best practices applicable to software and systems engineering
ASD Process Improvement & History Milestones

- ISO 9001:1994 Certified
- BPM Project Began
- BPM Integrated With ISO
- SW CMM L3
- SW CMM Level 4
- SW CMMI ML5
- SW/SE CMMI ML 3
- ISO 14001 Certified
- CMMI Level 5 (Planned)


Business and Product Development Process Improvement

Movement from CMM to CMMI® triggers the start of synthesis – The “glue process” begins
ASD’ S

Business Process Model Initiative
The Architecture Helps Us Understand The Roles Of Various Customers
And Continually Improving
ASD Business Process Model

Manage Resources

- Manage Human Resources
- Manage Facilities
- Manage Financial Resources
- Manage Physical Resources
- Manage Information Systems

Current synthesis focus

Develop Business

Develop Tech.

Get Work

Develop Products

Produce Products

Service & Support Product

BPM - CMMI® Process Area Mapping

CMMI® institutionalization - the glue to cement the initiatives together under the BPM
ISO Standards Initiatives
ISO 9001 and ISO 14001

ISO 9001 standard emphasized

- Defining sequence and interaction of processes
- Customer requirements and customer satisfaction, for both external and internal customers
- Process measurement and/or monitoring; data-driven decision making
- Continual improvement
- Increased emphasis on management responsibility
ISO 9001: Implied Process Hierarchy

Fits Well With ASD’s BPM
CMMI® and ISO are looked upon as people and process enablers to accomplish performance sharing, lean initiatives, safety, and other critical business support initiatives
BAE Systems
Operational Framework (OF)
Life Cycle Management (LCM)
Business Process
Acquisition by BAE Systems

BAE Systems Operational Framework (OF) (governance framework for all Business Units)
Life Cycle Management (LCM)

Operational Framework

WHAT

LCM - The Framework for the Management of Projects in BAE SYSTEMS
Reviews
Phase - Contract - Design - Bid

Guidance

HOW

LCM Supporting Material and Best Practice

Project Management  Engineering  Commercial  Procurement  Business Winning

Mandated

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Another Synthesis Opportunity - OF

1) All employees have an awareness of the Operational Framework

2) Local policies and processes are in place to implement the requirements of the Operational Framework and all mandated policies and processes

3) Appropriate training and monitoring processes are put in place to ensure proper implementation of the Operational Framework

CMMI® institutionalization provides a common language basis and processes in place
Synthesizing Activities
ASD’s Process Based Management Vision

The Workforce

Procedures Are Executed In The Conduct Of Business Operations And Results Are Measured

Process Maps

The Architecture Shows The Pieces That Comprise The ASD “System”

Procedures Are Executed In The Conduct Of Business Operations And Results Are Measured

Process Maps

Training

Continuous Improvement

EER Review

Business Results Are Reviewed And Improvements Implemented
SEI’s IDEAL™ Approach to Process Improvement

- Set Context
- Build Sponsorship
- Charter Infrastructure
- Characterize Current & Desired States
- Develop Recommendations
- Set Priorities
- Develop Approach
- Plan Actions
- Create Solution
- Pilot/Test Solution
- Refine Solution
- Implement Solution
- Propose Future Actions
- Analyze and Validate

Stimulus for Change
Initiating
Diagnosing
Establishing
Learning
Acting

CMMI® Appraisals, ISO Audits, BAE OAS support this activity
Legacy Documentation (Stove Pipe Initiatives)

Business Process Model

ISO 2000 Policies And Processes

ISO – HW Oriented

Organization Standard Processes

CMM – SW Oriented

CMMI® for Systems Engineering and Software Engineering v1.1
And CMMI® for Development v 1.2 reduces overlap
General Approach For Synthesis


Requirements

Structure

Terminology

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Why Focus on Processes?

Major determinants of product cost, schedule, and quality
Process Institutionalization

Process institutionalization has been achieved when:

- A policy relating to the process exists
- The process is defined and documented
- Training exists and has been delivered
- Required resources are allocated
- The majority of the process is or has been exercised frequently (as appropriate to the project lifecycle)
- The execution of the process is measured, managed, and verified, and corrective actions are taken
- It is clear that the staff understand their processes, can discuss related artifacts, and believe in the effects

**Institutionalization:** The ingrained way of doing business that an organization follows routinely as part of its corporate culture.

*Source: CMMI Version 1.2*
Process Influence on EBIT

CMMI Displayed Advantages:
- Optimizes entire system not just parts
- Process skills easily transferred
- Provides consistency, eases skill transfer, efficient ops
- Resolved system-software integration

Business and Product Development Process Improvement Correlates with financial performance
Business Advantages of Organizational Synthesis

- More efficient use of resources in developing, documenting, deploying, maintaining, and knowledge management
- Consistency in understanding, less confusion – unified process alignment
- Improved communication due to common language, processes
Summary
In Summary

1) Synthesis of the Organizational System presents an opportunity to operate in an effective business manner, improving coordination by reducing redundancy.

2) For ASD, CMMI® and the need for institutionalization provided the glue to bind the organizational initiatives into a synthesized operation.

3) Change happens – embrace the opportunity.
Key Enabler – CMM Practices

ISO
9000
9001
14000

Customer Influence

ASD Business Process Model

CMM
PCMM
CMMI
CMM-X

• Organization
• Culture
• Governance
• Core Business Processes

• Organization
• Culture
• Business Objectives

Laws and Regulations

ASD
The Glue Results In …

- Stronger Business Process Model
- OF Standard Processes
- Increased Success of Business Goals
Organizational synthesis is a journey, not a destination.

Integrating the organizational system is an evolutionary activity even if the company maintains its current initiatives, driven by the business need to change and improve.