Lockheed Martin Aeronautics, Customer Support - CMM® Overview

November 19, 2003

What Are Our Responsibilities?

Approaching 6000 LM Aero Aircraft in Service Worldwide

U-2

C-130

C-141

P-3

F-16

F/A-22

F-35

C-5

F-111

… Plus Strategic Alliance Aircraft

IDF

C-27J

F-2

T-50

S-3

F-117

Full Range of Program Life Cycles
- New Acquisition
- EMD
- Sustainment
- Major Modifications
- Follow-on Procurements
- Fleet Retirements

Opportunities
- Lessons Learned
- Proven Concepts
- Best Practices
- New Technology

Approach
- "One Company" Consolidation
- Expand Utilization of
  - *Common Tools*
  - *Common Processes*
  - *Personnel Capabilities*

Opportunity for Leveraging Program Capabilities

LM Aero - How Do We Operate?

U-2

C-130

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- Lessons Learned
- Performance Measures
- Requirements Challenges
- LM Corp
- DoD Policy
- Industry Associations
- Benchmarking
- Simulation
- Technology
- Workforce Developme

REQUIREMENTS

REQUIREMENTS

Support Integration & Systems

Technical Publications

Supply

Customer Assistance

Competency Centers

EVOLVING

SOLUTIONS

- Proven Solutions or
- Innovative Concepts Ready for Maturation

BUSINESS OPPORTUNITIES

- Spares
- Upgrades
- Support Equipment

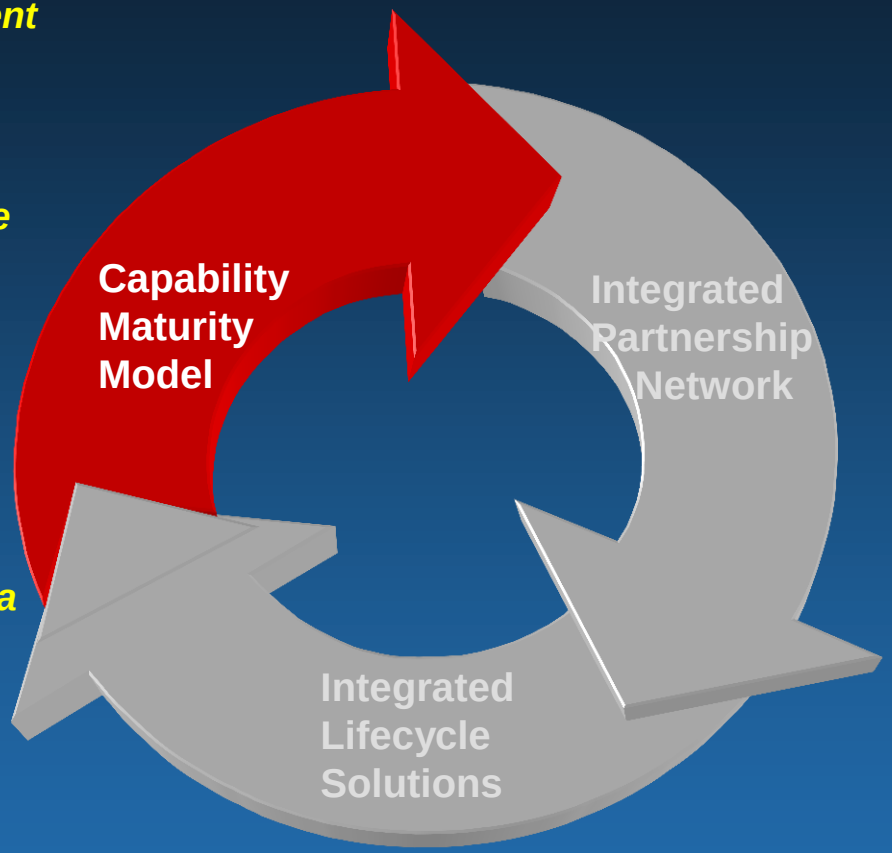
AUGMENTING

- Partnerships
- Strategic Alliances
- Template Contracting

. . . Focused on Providing Solutions Which Maximize Customer Success and Satisfaction With LM Aero Products Around the Globe

Customer Support Continuous Improvement Strategy

- *Develop CMM assessment tool for CS application*
- *Consider adjacent domains in defining world-class performance*
- *Assess programs using CMM tool*
- *Identify improvement and investment needs and plans*
- *Continue to refine the CMM assessment criteria*



- *Identify best-in-class partners in response to CMM assessment*
- *Consider LM companies and suppliers/government as competency providers*
- *Accomplish Business Case Analysis to validate partnership credibility*
- *Develop strategic agreements specifying performance and improvement expectations*
- *Burn bridges*

- *Expanded corporate level focus on aircraft post-production support*
- *Virtual LOB spanning three LM business areas established*
- *Coordinate and prioritize investment and pursuit opportunities*

- *Grow LM business while providing improved customer solutions*
- *Provide unified face to the customer*
- *Identify capability improvement needs*

Customer Support Objectives from 2001

What Drove Us!

No quantitative way to measure where we are now or what constitutes "World Class"

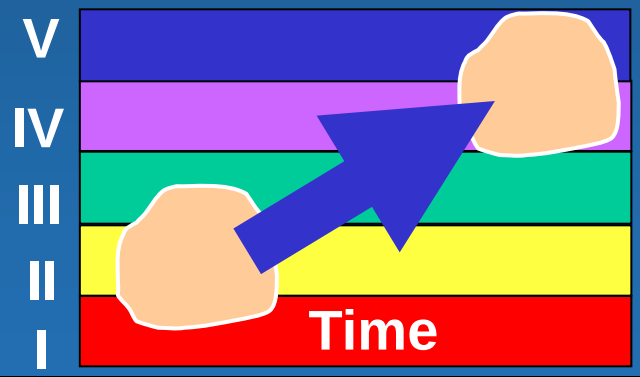
The software world tackled this exact problem through the use of a Capability Maturity Model approach

Need an Equivalent CMM Specifically for Customer Support

Performance Assurance Imperative

20. Integrated Strategic Plan for Customer Support - Includes Definition of What It Will Take to Achieve "World Class" Rating

- *2001 Objective 4.15 – Perform Process Assessment on Five Major Programs Utilizing Capability Maturity Model by 6/30/01*



Objective Established Each Year for Assessments and Improvement Plans

Overview of Model Development Process

Key Sources

- Industry
- DoD
- Universities

- CMM Method

- Customer Values

Expertise Applied

- Strategy
- Supply Chain Mgmt
- Customer Relationship Mgmt
- Knowledge Mgmt
- Organizational Learning
- Program Mgmt
- Info Technology
- Human Resources
- Systems Engineering

13 Models of World Class Capability

KPMG-Developed

LM Aero-Developed

Total Support Solutions
Support Integration
Training
Support Equipment
Supply Chain Management
Kit Management
Provisioning
Customer Support Center
Field Support
Regional Managers
MRO/Mods/Upgrades

Customer Support CMM – Quantitative, Objective, Sets a Target

Typical CMM Focuses on Process Maturity

World Class

Level 5: Optimized	***Continuous Improvement***

Predictable

Level 4: Managed	***Managed and Quantified***

Consistent

Level 3: Fully Defined	***Deployed and Measured***

Disciplined

Level 2: Repeatable	***Documented and Ready for Deployment***

Implemented

Level 1: Initially Defined	***Identified and Defined***

CS Model Focuses on Process Capability

Level 5: World Class	***Performing at Leading Edge***
Level 4: Emerging	***Implementing Leading Edge Capabilities***
Level 3: Nominal	***Satisfies Traditional Requirements***
Level 2: Marginal	***Basic Capability in Several Areas***
Level 1: Minimal	***Basic Capability in Selected Areas***

Customer Support - Capability Index Elements (Levers)

- **Capability Index Spans 5 Levels from Minimal to World Class for 7 Major Focus Areas**
  - *Business Strategy*
  - *Business Process*
  - *Technology*
  - *Organization / Infrastructure*
  - *Performance Metrics*
  - *Systems Engineering Principles*
  - *Personnel / HR*

- **Individualized Model for each Functional Area**
  - *Total Support Solutions*
  - *Support Integration*
  - *Training*
  - *Support Equipment*
  - *Supply Chain Management*
  - *Kit Management*
  - *Provisioning*
  - *Customer Support Center*
  - *Field Support*
  - *Regional Managers*
  - *MRO/Mods/Upgrades*

Customer Support - Example Capability Model: Customer Support Center

	Minimal Capability	Marginal Capability	Nominal Capability	Emerging Capability	"World-Class" Capability
Business Strategy	• No common me customers			d	• Information creates competitive advantage • Service supercedes policy • Profiling and segmentation • Lifetime value management
Business Process	• Few common p • Task oriented • Functional silos • Department foc • Informal commu within departme			egration hers	• Processes designed based on how the customer conducts business • Pro-active, consultative support • Workflow automation • Contact management tools • Issue management tools • Customer change programs • Continuous support
Personnel/ HR	• No training • Subject matter • Culture is adver mutual distrust			training ertise	• Cross-value chain training • Deep technical experience • Problem-solving skills • Ability to pre-qualify and route potential service opportunities
Technology	• Each departme own data sourc • Islands of autor • Legacy enterpri system(s)				• Single customer database • Incoming call automation: ACD, IVR, CTI • Real-time, searchable knowledgebase for rapid issue resolution • Scripting and rules-based engines to identify potential additional service opportunities • Supply chain visibility • Multi-channel integration • Web-based self-service
Organization/ Infrastructure	• No structure	• Internally-focused structure	• Structured by product lines	• Structured by customer	• Single call center infrastructure to handle all product lines • Structured in customer-centric alignment across value chain • "Strategic Account" alignment • Flat structure: manager, coaches, and line. • Call center is an integrated Contact Center
Performance Measurements	• No metrics • No planning • No reporting	• Few metrics • Limited reporting	• Metrics, • Reporting • Accountability	• Customer-driven metrics • Reporting • Accountability	• Review and planning with customer • Strategic-focused communications/surveys • Real-time reporting and accountability • Rewards balance service and cost to serve

- **Single customer database**
- **Incoming call automation: ACD, IVR, CTI**
- **Real-time, searchable knowledgebase for rapid issue resolution**
- **Scripting and rules-based engines to identify potential additional service opportunities**
- **Supply chain visibility**
- **Multi-channel integration**
- **Web-based self-service**

Focus is on Emerging Capability and World Class Categories

Customer Support - Assessment Phase

- **Questionnaires based on the structure of the model.**
  - ***Major Driver are the Comments Generated by the Survey.***
- **Assessment Representation Includes All Three LM Aero Sites and Spans Program Lifecycle**
- **Five Programs Assessed in 2001 & 2002**

F-16 USAF	***F-117***	***P-3/S-3***
C-130J	***F-22***	

- **Expanded to Seven Programs for 2003**

F-16 USAF	***F-117***	***AMS***	
C-130J	***F-22***	***JSF***	***C-5***

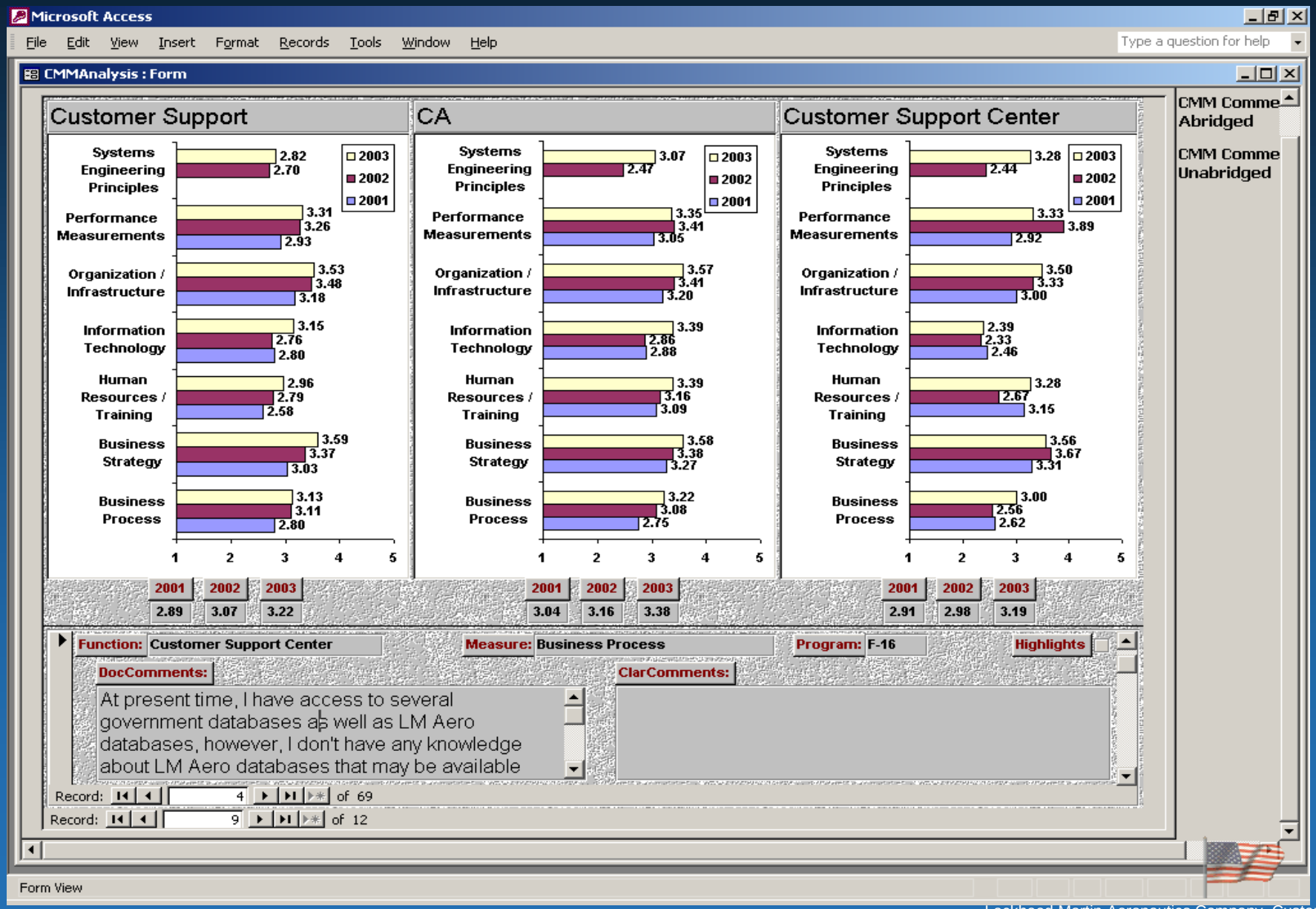
- **Assessment Participation Involves**
  - ***Customer Support Functions***
  - ***Customer Support Program Integrators & Subject Matter Experts (SMEs)***
  - ***LM Aero, Process Integrity***

Customer Support - Assessment Phase

Summary of 2002 CMM Assessment, 2003 Interim Assessment
Target and Best Practice Goal by Functional Organization

		Advanced Support Concepts	Support Planning	Supply Chain Management	Kit Management	Provisioning	Technical Publications	Training	Support Equipment	Customer Support Center	Field Support	Regional Managers	MRO, Mods & Upgrades
Business Strategy	2002 Assessment	3.6	3.3	3.0	2.6	3.2	4.1	2.8	4.2	3.6	3.6	3.4	2.9
	2003 Target	4.0	3.5	3.6	3.1	3.5	4.5	3.5	4.6	4.0	3.6	3.5	3.5
	Best Pract Goal	5.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Business Process	2002 Assessment	2.8	2.6	3.0	2.5	2.8	3.9	3.3	3.7	2.4	3.3	2.7	3.5
	2003 Target	3.0	2.8	3.8	3.1	3.1	4.3	3.5	4.1	3.0	3.6	3.0	4.0
	Best Pract Goal	4.0	5.0	4.0	4.0	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Perf Measurements	2002 Assessment	3.0	3.0	3.0	2.1	3.5	3.8	3.0	3.9	3.9	3.5	3.0	3.1
	2003 Target	3.3	3.2	3.8	3.1	3.7	4.2	3.5	4.3	4.0	3.5	3.0	3.5
	Best Pract Goal	4.0	5.0	4.0	4.0	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Personnel/HR	2002 Assessment	2.6	2.2	1.6	2.3	2.7	3.7	2.7	3.2	2.6	4.3	3.6	2.5
	2003 Target	2.9	2.3	3.0	3.1	2.9	4.1	3.5	3.5	3.0	4.3	3.8	3.0
	Best Pract Goal	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	3.0	4.0	4.0	4.0
Information Technology	2002 Assessment	2.5	1.7	2.4	2.7	2.4	3.4	3.0	3.2	2.2	3.6	3.7	2.4
	2003 Target	2.8	1.8	3.3	3.1	2.7	3.7	3.5	3.5	3.0	4.0	3.8	3.0
	Best Pract Goal	5.0	3.0	4.0	4.0	4.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0
Organizat'n/Infrastructure	2002 Assessment	3.3	2.8	3.4	3.3	3.0	4.2	3.8	4.3	3.2	3.4	3.3	3.5
	2003 Target	3.6	3.0	3.4	3.5	3.3	4.6	4.0	4.8	3.5	3.4	3.5	3.5
	Best Pract Goal	4.0	3.0	4.0	4.0	4.0	5.0	4.0	5.0	4.0	4.0	4.0	4.0
Systems Engineering	2002 Assessment	2.5	3.0	2.3	2.4	2.0	3.7	2.5	3.8	2.2	N/A	N/A	2.5
	2003 Target	2.7	3.1	3.0	3.1	2.2	4.1	3.0	4.0	3.0	N/A	N/A	3.0
	Best Pract Goal	4.0	4.0	4.0	4.0	4.0	5.0	4.0	5.0	3.0	N/A	N/A	4.0

Customer Support - Assessment Phase



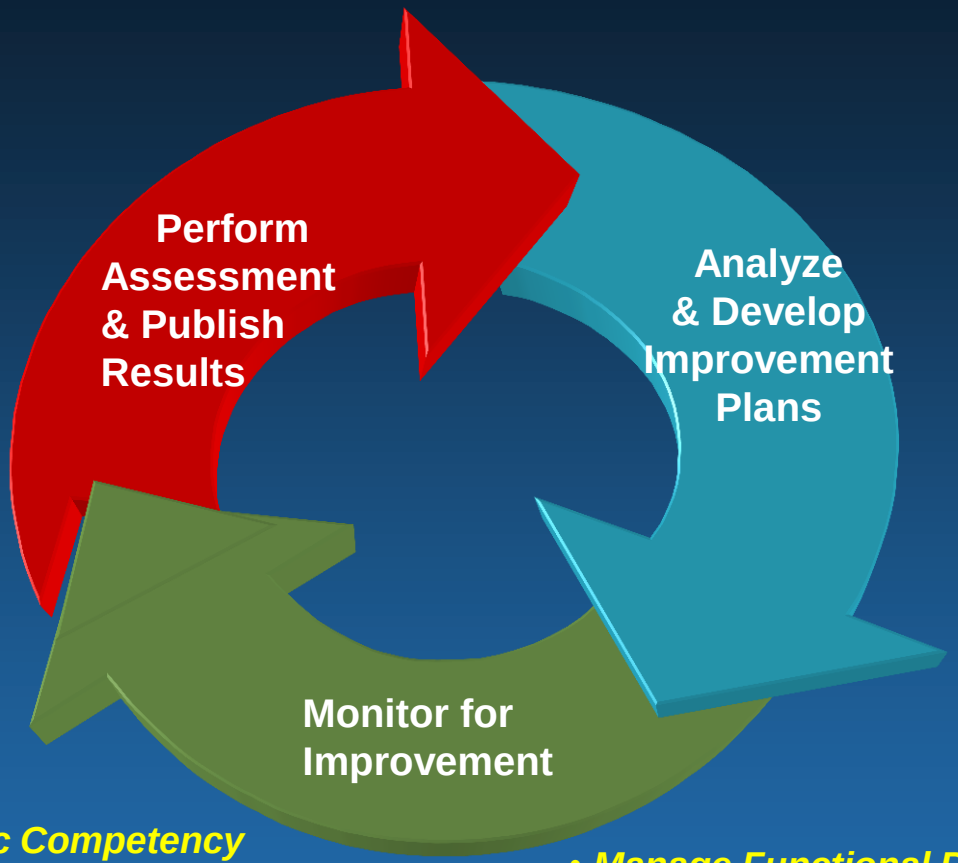
CMM Based Process Improvement Plan

- **Based on Survey Scores and Comments each Functional Area is Responsible for the Development of Improvement Plans**
- **Improvements shall have traceability to “Emerging” & “World Class” Capabilities**
- **Improvement Plans Placed Under Configuration Control and Managed for Future Changes to the Plans**
- **Status Improvement Plans at Customer Support Process & Metrics Meeting (V.P. Level Meeting)**
- **Evaluate Current Model Information for Possible Changes**

Manage the Process Improvement Plans

Customer Support CMM Assessment Environment

- *Continue to refine the CMM assessment criteria*
- *Assess programs using CMM tool*
- *Consider adjacent domains in defining world-class performance*



- *Identify Trends Associated with Scores & Comments*
- *Identify improvement and investment needs and plans*
- *Develop Plans for Added Value to the Programs*

- *Manage for Systematic Competency Improvement for:*
  - *Financial Investment*
  - *Technology & Process Roadmaps*
  - *Workforce Development*

- *Manage Functional Plans at the VP Level*
- *Apply Configuration Management to Plans*

Provide framework for managing the implementation of improvements