Raytheon

Customer Success Is Our Mission

Process Improvements Achieved From Using The CMMI Model: A Success Story At Raytheon's SAS Engineering Organization

Presented to National Defense Industrial Association
3nd Annual CMMI Technology Conference and User Group
Denver, Colorado

Adrio DeCicco
Space and Airborne Systems
Raytheon El Segundo, CA
November 17-20, 2003

Space And Airborne Systems (SAS) Engineering's Vision

- Integrate Common Processes Across The Organization
  - Leverage From Raytheon's Common Processes
    - Integrated Product Development System (IPDS)
      - Integrates All Functions And Processes Into A Single Set Of Activities To Accomplish The Purposes Of A Program
    - Integrated Product Development Process (IPDP)
      - Imbedded In IPDS
      - Integrated Processes For Capturing And Managing Programs
      - Used By Programs For Product Development
- Measure Process And Product Improvement To The CMMI Model
- Make Process Improvements Using Raytheon 6 Sigma (R6S)
- Implement Process Improvements Through The Enterprise Process Group (EPG)

EPG Plan And Activities For Process Improvement Using R6S

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Visualize

World Class SAS Engineering Processes (CMMI & ISO Compliant)

Commit

SAS ENGRG Executive Management

Prioritize

Process Improvements (Engineering & Support Org)

Characterize

Perform A Gap Analysis (IPDP/CMMI/ ISO/AS9100

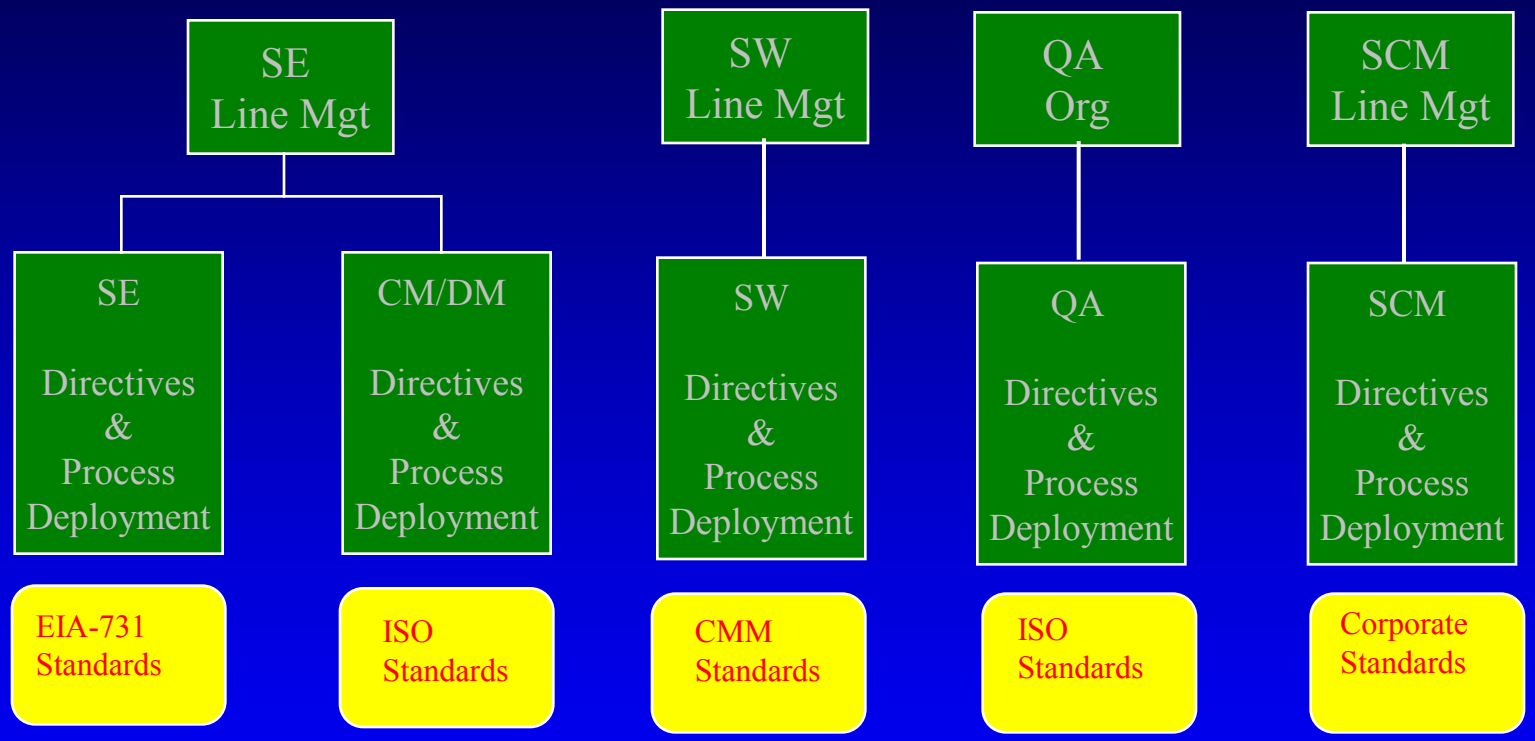
Improve

Design Org Standard Proc & Implement

Achieve

Measurable Process Improvement (CMMI & ISO Compliant)

Engineering's Process Deployment Structure Prior To CMMI



Process Development And Deployment Occurred Independently

SAS Engineering's Process Organization

Space & Airborne Systems

CMMI Project Oversight Team (CPOT)

Executive Level Team That Provides Long Range Enterprise Process Improvement

Integrated Process Steering Team (IPST)

Ensures That EPG Plans And Actions Improve IPT Performance

Enterprise Process Group (EPG)

Supply Chain Management

Quality

Engineering

Systems

Software

CM/DM

Business Areas

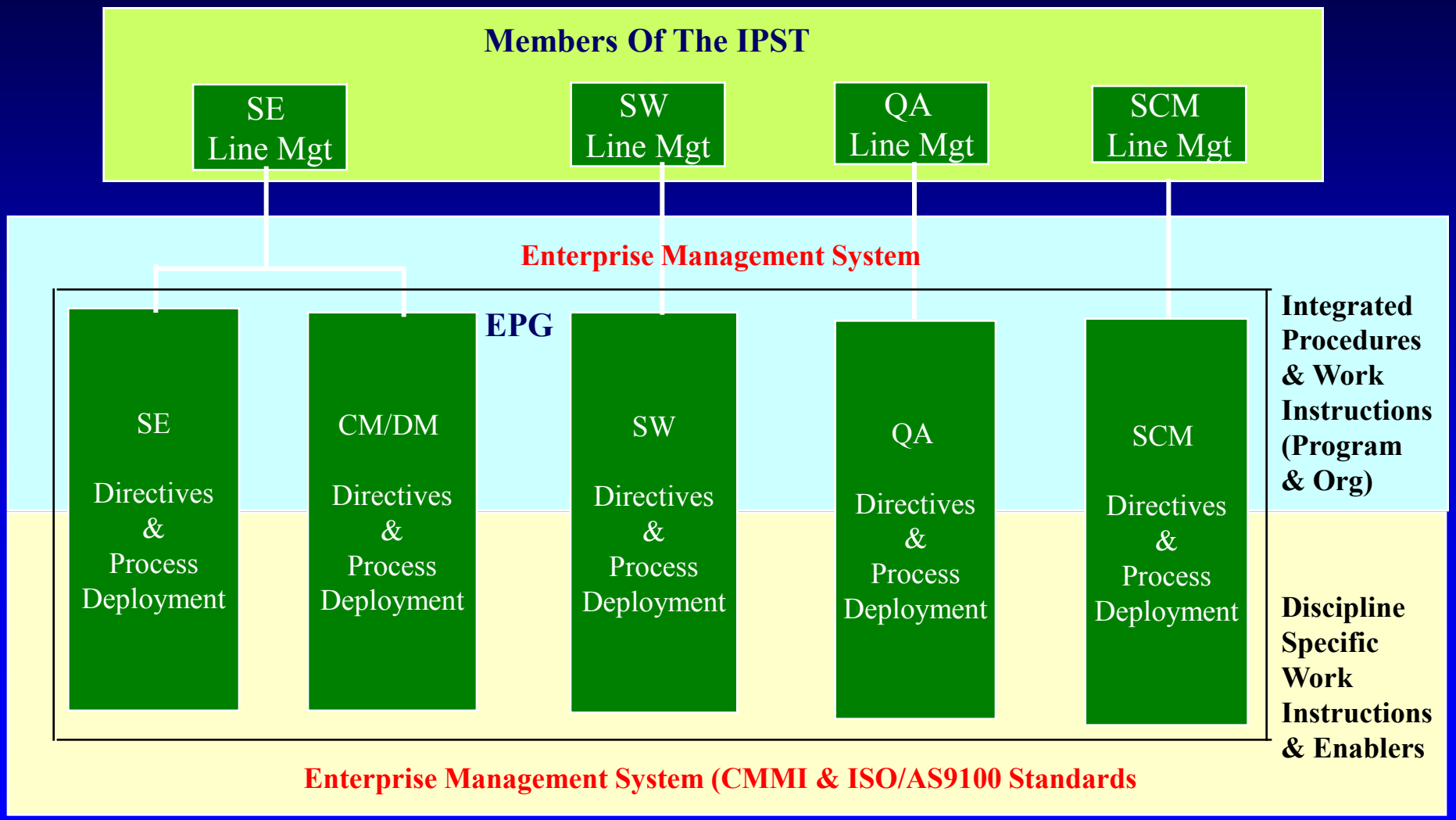
Program Management Council (PMC)

EPG - Defines, Maintains, Deploys, & Improves SAS Engineering Processes

Integrated The Process Organization

Engineering's Process Deployment Structure And EMS Development With CMMI

Process Development And Deployment Are Integrated



Enterprise Management System (EMS) Structure

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EMS Was Developed By The EPG (Systems, Software, CM/DM, Quality, & SCM With HW Participation)

SAS IPDP	Tailorable What To Do How To Do It
Policy Procedure	Not Tailorable What To Do
Work Instructions	Tailorable What To Do How To Do It
Enablers Task Descriptors	Guides Information

Enterprise Management System (EMS)

SAS Engineering's Process Improvements From Utilizing CMMI

Raytheon

- Developed EMS
  - Used For Product Development And Execution On All SAS Programs
    - Based On Raytheon's IPDS And It's Common Process For Product Development (IPDP)
      - Local Implementation Of IPDP
      - More User Friendly Process Documentation Interface
  - Systems And Software Engineering Worked Together
    - Leveraged From One Another's Process Assets
      - Software Engineering Directives
      - Systems Engineering Requirements Development Processes
      - Also Integrated CM/DM, Quality, And SCM Directives Into EMS
      - Hardware Is An Active Participant
  - CMMI And ISO/AS9100 Compliant Standard Process

SAS Engineering's Process Improvements From Utilizing CMMI

Raytheon

- Implemented EMS And Deployed To Programs
  - Standardized Method Of Tailoring And Product Development
    - Integrated Systems, Software, CM/DM, Quality, And SCM
      - Can More Easily Move Engineers And Support Personnel Among Programs
  - Improved Program Planning
    - Improved Cost Estimating
    - Integrated Plans
    - Stakeholders Identified

- Improved Communication Between And Within The Organization And Programs
  - Increased Involvement Of Line Management On Program Issues
  - More Robust Team Of "X" Meetings
  - Defined And Deployed Measurement And Analysis Processes
  - Better Understanding Of Skills Needed, Staffing And Training Needs
  - IPT Commitment And Buy In

In Summary

- Utilizing The CMMI Model Has Significantly Improved Process And Product Development
  - Formed An Integrated/Enterprise Process Group Within SAS
  - Developed An Integrated Organization Standard Process That Allows Both Common And Discipline Specific Process And Product Development
    - A Means For Improving Process And Program Performance
    - Improves Consistency And Expected Results Throughout The Organization
    - Tailorable And Flexible To Meet Program Needs
  - Improved Communication Between And Within The Organization And Programs