



Project Team Effects from CMM

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Course Description

- **The Software Capability Maturity Model (SW-CMM or just CMM) and other Software Process Improvement (SPI) efforts have effects on Project Team Members. This course outlines many areas where Project Team Members can expect changes to their tasks.**

Course Objectives

- **To understand membership on the Project Team**
- **To understand the changes resulting from the CMM**
- **To understand the changes resulting from Integrated Product Teams**
- **To understand the changes resulting from other SPI efforts.**



Members of the Project Team, Part 1

- **Project Manager**
- **Requirements Developers**
- **Product Developers**



Members of the Project Team, Part 2

- **Project Management Analysts**
- **Technology Consultants such as Capacity Planners**
- **Configuration Management (CM) Administrators**
- **Software Quality Assurance (SQA) Analysts**

Members of the Project Team, Part 3

- **Government Employees together with**
- **Subcontractors**
- **Customer Representatives**



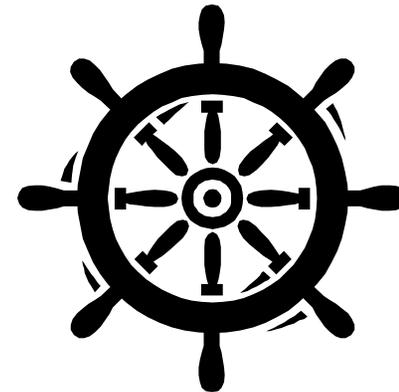
Non-members invited to some Project Team meetings

- **Outside Consultants**
- **Training Providers**
- **Line Supervisors**
- **Contractor Supervisors**



Changes from the CMM

- **DSDC is committed to steer by the CMM**
- **The top effects are listed**
- **The order is not by importance**
- **Others could have been added**



Objective written requirements

- **Documented in the System/Subsystem Specification (SSS)**
- **Reviewed by project team**
- **Basis of Work Breakdown Structure (WBS)**



Software Development Plans

Project Team Members

- **contribute**
- **review**
- **follow**
- **participate in changes**

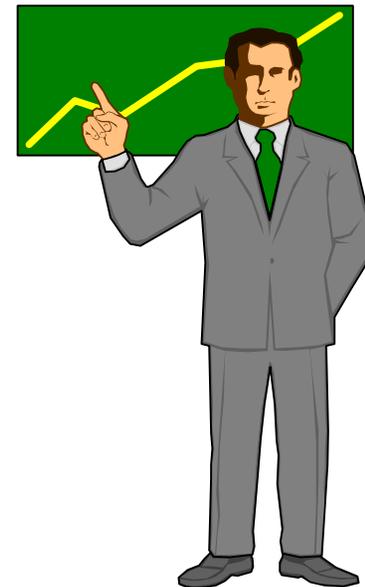


Plans are getting more elaborate

- **Size, effort and cost are separated for original work and rework**
- **Critical computer resources are managed**
- **Critical dependencies and critical paths are managed**
- **Replanning intervals are reduced**

Tracking against Plans

- **Project Status Reports**
 - Team Members provide information
 - Binary Inchpebble method
 - Whole team sees progress
- **Impact Analysis**



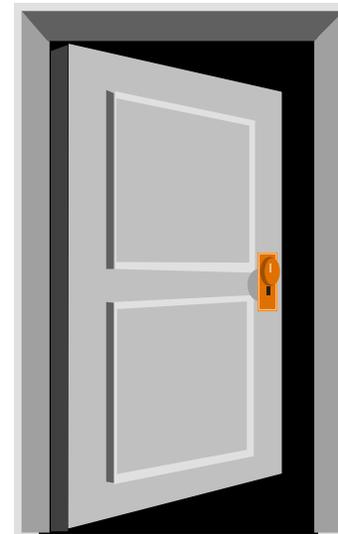
Tasks related to Risks

- **Team Members Identify Risks**
- **Team Members Mitigate Risks**



Front Door Procedure

- 1. Everyone sends work requests to the Front Door function (DSDC-CREO)**
- 2. Front Door forwards the request to a Configuration Control Board (CCB)**
- 3. CCB assigns the request to a product line manager who assigns it to a project and thus to a project team**



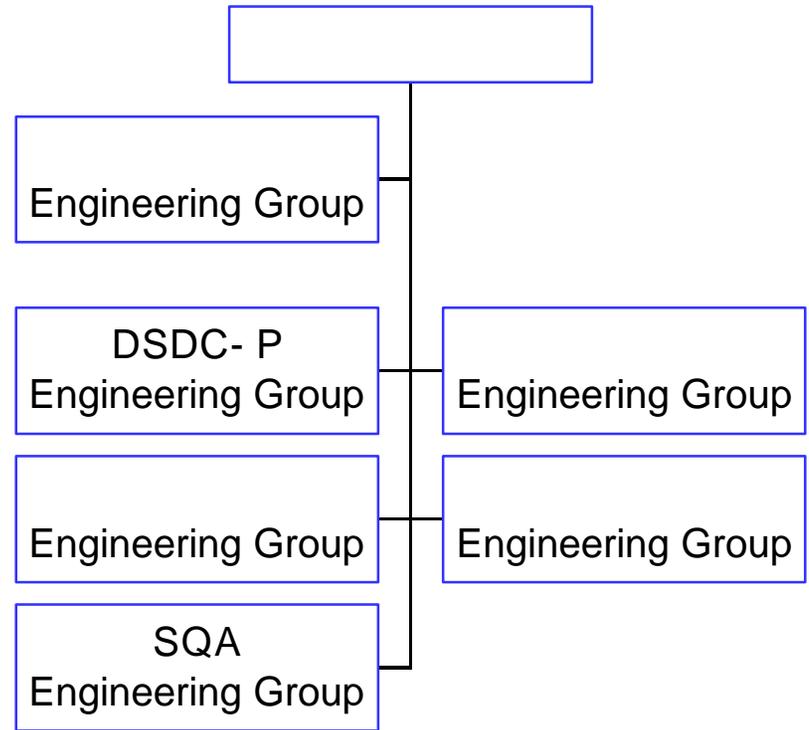
Checking In and Migration

- **Team Members Check In Code**
- **Team Members Check In Documentation**
- **CM Administrator does ALL Migration of Work Products from one environment to another**



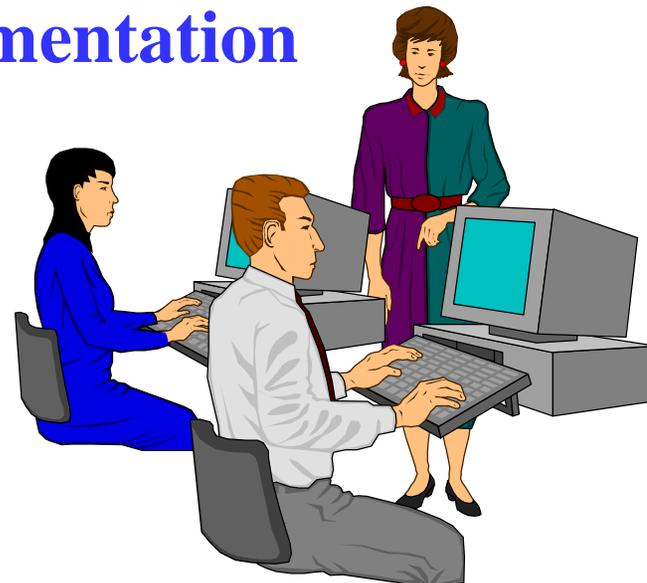
Engineering Groups are official

- Divisions of labor are coordinated
- Technical Leads are used for coordination
- Issues are resolved using a documented procedure



Tasks related to Subcontractors

- **Technical Lead is COTR**
- **Precise Statements of Work**
- **Other Acquisition Documentation**
- **Acceptance Testing**



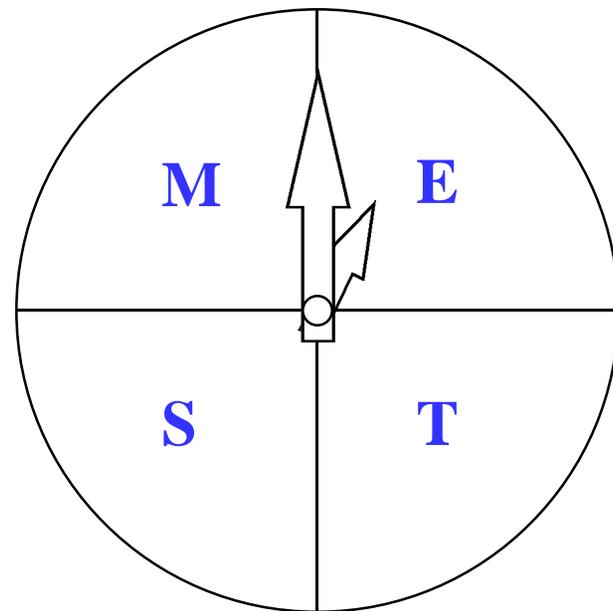
Process Improvement Training

- **Team Members must know Processes**
- **Training must be planned to support process implementation**



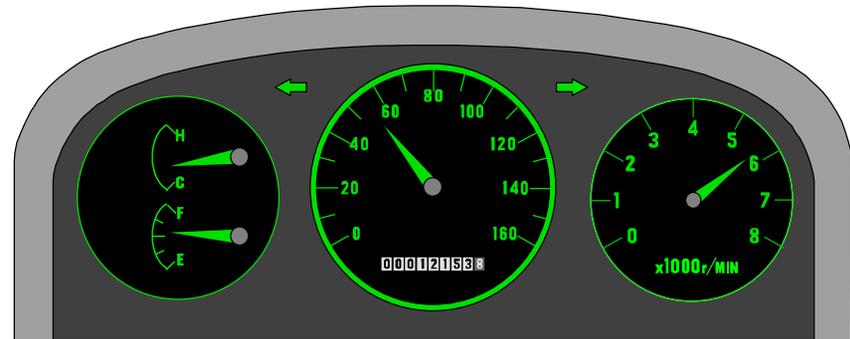
Process Implementation Model

- **Education**
- **Training (for Roles)**
- **Skil Development**
- **Mentoring**



Measurements

- **Used to Improve Processes**
- **Mostly Provided by Project Team Members thru the Project Manager**
- **Include both Estimates and Actuals**
- **Include CMM Self-Assessments**
 - Quarterly by Project Manager
 - Final by Team
- **Include SQA Audits**



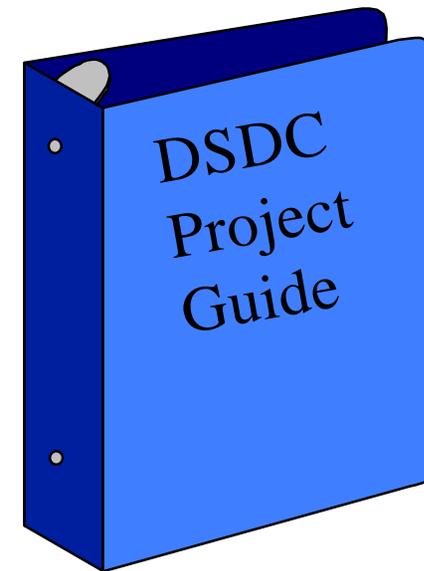
Lessons Learned

- **Provided by Team Members after every Project**
- **Includes Final Self-Assessment**
- **Sent to SEPG**



The SEPG provides a Big Blue Book

- **One Book for both PMs and Team Members**
- **Book now Moving from CMM Level 2 to Level 3**
- **Team Members can use Web Browsers with <http://www.dsdcdla.mil>**





DSDC is building an OSSP

- **DSDC Organization's Standard Software Process (OSSP) will be documented in Big Blue using models**
- **Options based on life cycle models, size of project and method of funding**
- **Project Team Members may assist in Tailoring**
- **Resulting Project's Defined Software Process goes into Project Book**

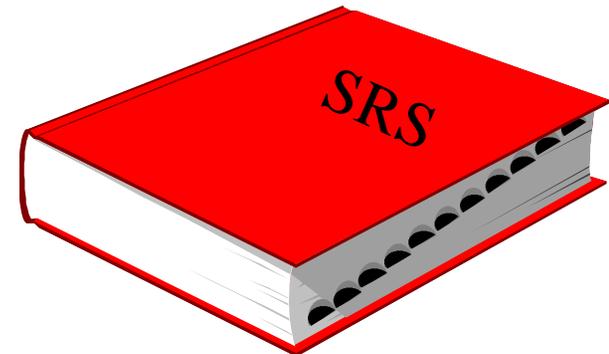
Virtual Databases kept by SEPG

- **For software processes**
- **For metrics**
- **For planned and actual schedules**
- **For lessons learned**
- **For critical computer resources**



Each Work Product has a procedure

- **Inputs, Entry Criteria, Activities, Measurements, Products, and Exit Criteria**
- **Specifications, designs and user documentation are work products**
- **Five levels of testing produce testing work products**



Defect reduction provides ROI

- **Must have good data on defects to show Return On Investment (ROI)**
- **Management must look at Removal Efficiency**





Work Products are reviewed routinely

- **Milestone reviews are usually walkthroughs or briefings**
- **Work product reviews are formal inspections**
- **Formal Inspection data is analyzed for ROI**
- **Training and project standards improve Removal Efficiency**



Changes from Integrated Product Teams

- **Customer, DSDC and Subcontractor employees work together**
- **DoD Policy in DoD Directive 5000.1**
- **Instructions in DoD Regulation 5000.2-R**



Partners not competitors

- **Qualified, empowered team members**
- **Consistent, success-oriented, proactive participation**
- **Open discussions with no secrets**
- **Commitments and critical dependencies are documented and tracked**



Milestone reviews are simplified

- **Technical interchanges are frequent**
- **Issues raised and resolved early**
- **Reasoned disagreement**
- **Continuous "up-the-line" communications**



Establish and track System Requirements

- **Joint Application Development**
- **Systems Design is discussed jointly**
- **Software Development traceable to System Requirements**

Software Acquisition Capability Maturity Model

- **Looks at the customer's side**
- **Fits with the Software CMM**
- **Insights into System Integration**



Changes from other SPI efforts

- **SPI emphasizes teamwork**
- **SPI emphasizes Product Line Management**
- **SPI only coordinates the process aspects of technology infusion**
- **SPI emphasizes the process aspects of people considerations**

Teamwork

- **Effective meetings need agendas and minutes, team roles, and team rules**
- **Decision making rules need to be clearly understood**
- **Outside facilitation may be needed at times**



Product Line Management

- **Reuse is most appropriate at this level**
- **Continuity is most important at this level**
- **Customer relations are most important at this level**

People Capability Maturity Model

- **Outlines people considerations**
- **Supervisors need to lead the effort to make people more effective through training**
- **Awards and accountability need to align with goals and objectives**
- **Sponsorship of changes is critical**



Summary

- **Project Team Members will see numerous effects based on the CMM**
- **Project Team Members will be informed about the effects**
- **The effects are intended to improve DSDC**