Looking for Transition in All the Wrong Places

96th Communications Group
Eglin Air Force Base, Florida
16 Nov 2005
Sunshine State

Integrity - Service - Excellence
Purpose

- Communicate an effective method for transitioning new groups into an established Organization Software Process (OSP)

- Share process improvement experiences and lessons learned with other organizations
Goal

- Expand Process Improvement using an Effective Method by Leveraging from Established Processes
- Identify Required Process and Tool Modifications to Support New Groups
Goal (continued)

- Apply Lessons Learned from Existing Software Groups
- Institutionalize Optimizing Processes into a New Group within 18 Months
Organizational Scope
Scope

- Organization Achieved CMM® Level 5 with 6 Target Software Groups Defined
  - Primarily Software Development and/or Maintenance

- Transition New Software Group
  - 50% Software Development and/or Maintenance
  - 50% Systems Administration Support
Scope (continued)

- Transition 7 Systems Groups

- Migrate Software and Systems Groups to Software and Systems Capability Maturity Model Integration® (CMMI®)

- Transition Services Group based on Services CMMI®
Transition Process

- Execute Orientation
- Establish Training Plan
- Identify Transition Activities
- Implement Transition
- Collect Measurements
Transition Process – Execute Orientation

- Identify Support Infrastructure
- Identify Transition Team Members
- Update Documentation
  - Charters
  - Policies
- Communicate Transition Partner Activities
Transition Process – Execute Orientation (cont)

- Create a Transition Package
- Conduct Orientation Briefing
- Establish Meetings
  - Monthly Transition Status Meetings
  - Weekly Transition Working Meetings
Transition Process – Establish Training Plan

- Coordinate Transition Partner Support Activities
  - Quarterly User Group Meetings
  - Monthly Senior Management Review Meetings
  - Weekly Technical Working Group Meetings
  - Weekly Software Engineering Process Group (SEPG) Meetings

- Execute Training Process to Create an Individual Training Matrix Form (ITMF) for Each Team Member
Transition Process – Establish Training Plan (cont)

- Create a Training Plan Based Upon Team Member Expertise

- Execute Training Plan Based on Defined Approach
  - Block Learning Approach - Requires the Student be Proactive in Learning and Applying the Training Skills
  - Spiral Learning Approach - Requires the Instructor be Proactive in Teaching Concepts that Build Upon Each Process and Applying Real-World Examples to Develop the Training Skills for Each Student
Transition Process – Establish Training Plan (cont)

- Update Individual Training Matrix Forms (ITMFs) Based Upon Completed Training Courses

- Distribute Updated ITMFs to the Organization Training Manager to Update the Training Database
Transition Process – Identify Transition Activities

- Document the Meeting Minutes
- Distribute the meeting minutes to Relevant Stakeholders to Communicate the Status
Transition Process –
Identify Transition Activities (cont)

- Review Each Process Step in the Organizational Software Process (OSP)
  - Identify which Process Steps are Executed in the Transition Group
  - Create Initial Metrics to Document the Number of Process Steps Currently Executed in the Group
Transition Process – Identify Transition Activities (cont)

- Assign Complexity to Each Step using (Role Factor x Process Factor)
  - Role Factor – Who Performs the Step
    - 1 = Executive Steering Committee, Senior Management, SEPG, Organization Training Manager, Organization Software Quality Assurance (QA) Manager, or Project Support Office
    - 2 = Project Quality Assurance Manager, Configuration Management Manager, First Level Supervisor, Group Leader, Configuration Control Board (CCB), Transition Partner
    - 3 = CCB Member, Project Leader, Development Team Member
Assign Complexity to Each Step (Role Factor x Process Factor)

- Process Factor – Action Verb in the Step
  - 1 = Acquire, Attend, Submit, Provide, Update, Add, Coordinate, Distribute, Place, Schedule, Notify, Initiate, Store, Approve, Reach Consensus, Assign, Send, Proceed, Collect, Annotate
  - 2 = Record, Identify, Document, Consolidate
  - 3 = Analyze, Verify, Execute, Convene, Determine, Define, Develop, Conduct, Discuss, Process, Perform, Complete, Examine
Pre-defined Process Criticality in Transition Metrics

- C = Consistency Failure if Step is not Executed
- D = Data Collection Failure if Step is not Executed
- P = Performance Failure if Step is not Executed
Transition Process – Identify Transition Activities (cont)

- Document and Prioritize Steps not Performed in the Group

- Document Effort, Duration, Software, Affected Personnel and Hardware Resources Based Upon Complexity Factor
Transition Process –
Identify Transition Activities (cont)

- Conduct Transition Overview Briefing with the Team to
  - Review Organization’s Process Improvement Journey
  - Train the Transition Process
  - Show the Way Ahead
Transition Process – Implement Transition

- Select a Project within the Transition Partner Group to Pilot the Organizational Software Process
- Identify a Project Mentor from an Existing Group
- Acquire Feedback for Process Updates Based Upon the Pilot Project
Submit Change Request for Feedback Requiring Organizational Software Process (OSP) Modifications to the SEPG

Update the OSP to Support the Transition Partner

Coordinate Training for the OSP Modifications
Transition Process – Implement Transition (cont)

- Provide Training Matrix Updates to the Organizational Training Manager to Update the Training Database

- Pilot the updated Organization Software Process (OSP) within an existing (experienced) group
Transition Process – Implement Transition (cont)

- Acquire Feedback and Lessons Learned Based Upon the Pilot

- Submit the Organizational Software Process (OSP) Change Request to the SEPG as Applicable
Transition Process – Collect Measurements

- Document the Actual Effort (in hours) Expended to Complete the Transition Tasks

- Document the Estimated, Planned and Actual Changes to the OSP
Results

- Allocated 10% - 20% Effort to SEPG Mentor assigned for Process Facilitation

- Showed Process Changes Expected during Initial Analysis; however, Showed No Process Changes Required from Piloting Feedback

- Established a New Target Software Group in less than 1 year, which indicates Transition Process is Extremely Successful
Results (continued)

Percentage of Expected Changes (Base %)

Percentage Work Remaining

Initial
Proj Pilot
Group Pilot

TIM Training
Audit
RIP CCB Meeting
SMR
PMR
Requirements
SMR Initiation
Project Planning
PMR Integration/System
Review
Technical Review
Completion
Delivery
Test
Acceptance
Design
Implementation
Test
Integration/Project
Planning
PMR
Implementation
SMR
PMR
Requirements
CCB Meeting
Audit
RIP
Initial
Proj Pilot
Group Pilot

I m p o r t a n t  T i m e  S c h e d u l e  D a t e  -  S e r v i c e  -  E x c e l l e n c e
### Transition Process Complexity Analysis Form (TPCAF)

#### As of: 30 December 2004

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<th>Role Factor</th>
<th>Process Factor</th>
<th>Process Complexity Factor</th>
<th>Work Remaining</th>
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- **Criticality Factor**
  - C – Consistency
  - D – Data Collection
  - P – Performance

- **Role Factor (who)**
  - 1 – Management
  - 2 – Support
  - 3 – Team

- **Process Factor (verbs)**
  - 1 – Simple
  - 2 – Average
  - 3 – Difficult

- **Step Complexity**
  - Role * Process Factors

- **Process Complexity**
  - Add up Step Complexities

- **Work Remaining**
  - Base % * Process Complexity Factor
Lessons Learned

- Tailor the Training Plan Based Upon Personnel Skills and Experience

- Demonstrate Tool Functionality using an Example Project During Training Sessions
Communicate Activity Status and Schedule Changes on a Periodic Basis

Identify a Process Champion to Regularly Mentor to Other Team Members
Introduction to Require Updates to the Organizational Software Process and Associated Artifacts, but we were “Looking for Transition in all the Wrong Places” because

- Basic Engineering Principles implemented within the Organization provided a means to Utilize Existing Processes
- New Processes do not need to be created for each Discipline
- Cultural Change versus Documentation/Process Change is a More Effective Means for Transitioning
Plan to Utilize the Transition Process to

- Expand Process Improvement to Groups with Systems Engineering (SE), Supplier Sourcing (SS) and Integrated Process and Product Development (IPPD) Disciplines

- Leverage Existing Processes to Reduce the Cycle Time for Developing Processes that Support the Software Engineering, Supplier Sourcing, and Integrated Process and Product Development
Floridian Transition Process