New CMM Math

Jack Ferguson - SEI
M. Lynn Penn - Lockheed Martin M&DS

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Agenda

• **Case 1 - Joint Projects**
  – multiple companies teamed on one project as one team
    • Scenario 1 - One high maturity, One low maturity
    • Scenario 2 - Two high maturity

• **Case 2 - Corporate Acquisitions & Mergers**
  – multiple companies must exist as one company (multiple ratings)

• **Case 3 - Prime with Multiple Expert Subs**
  – multiple companies must complete one project
  – wide range of maturity levels

• **Case 4 - Mature Developer and Immature Acquirer**
  – key players must direct one project from different disciplines
Not Quite !!
Case 1 - Joint Projects

• **Situation - Scenario 1**
  – 2 or more companies teamed on one project
    • one high maturity (Level 4) / one low maturity (Level 1)
  – IPT structure
  – Company identities go away - badgeless environment
  – Project becomes the new “organization”
Case 1 - Joint Projects

- **Problems - Scenario 1**
  - Common Terminology
    - Defects
    - Peer reviews/ walkthroughs/ inspections
    - Metrics
  - Processes Bid
    - Company’s bid work based on performance to their organization’s process standards
    - Company’s do not bid training to processes / or familiarization to new processes (with the exception of unique tool adoption)
Case 1 - Joint Projects

- **Recommendations - Scenario 1**
  - Set up a Project Process Group
    - Integrated across all disciplines avoid stove piping (CMMI)
  - Map individual company standards to each other
    - Identify similarities
    - Identify gaps
    - Use Common CMMI terminology
  - Establish a Project Process Standard
    - Integrated across all disciplines (CMMI)
      - utilize IPPD/ CMMI Methodologies
    - Utilize the best of the best
    - Adopt high maturity elements to fit project needs
      - e.g. causal analysis at end of increments versus end of life cycle phases (less frequency versus less rigor)
    - Use Team Software Process (TSP) to develop standard
8

Not Quite !!

4 ≠ 4
Case 1 - Joint Projects

• Situation - Scenario 2
  – 2 or more companies teamed on one project
    • both high maturity (Level 4)
  – IPT structure
  – Company identities go away - badgeless environment
  – Project becomes the new “organization”
Case 1 - Joint Projects

• Problems - Scenario 2
  – Common Terminology - based on interpretation
    • Defects
    • Peer reviews/ walkthroughs/ inspections
    • Metrics
    • Levels and requirements are not the same (different assessors, different practice examples)
    • Process Standards not the same
  – Processes Bid
    • Company’s bid work based on performance to their organization’s process standards
    • Company’s baseline specific to their process interpretation
Case 1 - Joint Projects

- **Recommendations - Scenario 2**
  - Set up a Project Process Group
    - Integrated across all disciplines (CMMI)
  - Map individual company standards to each other
    - Identify interpretations
    - Use common terminology as defined in CMMI
    - Map compliance issues
  - Establish a Project Process Standard
    - Utilize the best of the best
      - Integrated across all disciplines
    - Use TSP to develop standard
Not Quite !!
Case 2 - Corporate Acquisitions & Mergers

• Situation
  – Trying to merge two or more different organizations
    • Different maturity levels (Level 4 & Level 2)
    • Different cultures
    • Different customers
  – Added requirement that now they are “ONE” permanently
    • Goal - seamless integration
Case 2 - Corporate Acquisitions & Mergers

• Problems
  – Different reporting requirements
    • Senior management changes
    • How much information goes forward
    • New tool sets (labor hour reporting, training, performance management, metrics collection, CM, PM…)
  – Decision Making
    • Management changes warrant different delegation of authority
    • When can you say “NO”
    • When is an idea really being solicited
Case 2 - Corporate Acquisitions & Mergers

• **Problems (continued)**
  – Evaluation for source selection
    • Software Capability Evaluations (SCE)
      – new standard as proposed versus organizational standard previously used
    • Identification of transition risks
  – Different customer sets and expectations
    • Customer satisfied (award fees high) with current process
    • Need to make change not apparent and not funded
Case 2 - Corporate Acquisitions & Mergers

• Recommendations
  – Review organizational Process Standards
    • Recommend finding Lowest Level of Commonality
    • Try not to lose maturity but may raise requirements in order to meet
      – leave the how up to the individual “companies”
    • New organization should structure standard around the “WHAT”
  – Define contents of new Process Asset Library
    • Change names so everyone feels part of a “new” organization (e.g. policies versus directives)
    • Build a Joint Team with equal representation to define/ write/ structure process assets
    • Determine hard date for organization to roll over to new processes
  – Adopt IPPD methodologies
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Not Quite !!
Case 3 - Prime with Multiple Expert Subs

• Situation
  – Prime with multiple domain expert subs
    • multiple levels prime (Level 4), sub 1 (Level 1), sub 2 (Level 2)
  – Prime has chosen or been forced to use subs because of their expertise/ political connections
  – Project must capitalize on culture/ expertise and NOT CHANGE IT
Case 3 - Prime with Multiple Expert Subs

• Problems
  – Reporting Requirements
    • subs senior management
    • prime
    • customer interface
  – Decision Making/ Risk Management
    • recognize responsibilities of home organization versus membership in project team
  – Definitions and interpretation
    • terminology
      – consistency within similar levels and acceptance of different levels
Case 3 - Prime with Multiple Expert Subs

- Problems (cont.)
  - Marginal commitments
    - success of project
    - overall cost/schedule
    - customer satisfaction
  - Future competition issues/proprietary issues
    - reluctance to share processes or divulge process implementation to prime
  - Weakest link can drive performance
Case 3 - Prime with Multiple Expert Subs

• **Recommendations**
  – Prime should allow subs to follow own process
    • Giver/ receiver relationship
    • Common process for managing interfaces, risks, CM and V&V
    • Insight to potential risks and changes
    • Implement strong Supplier Agreement Management and IPPD concepts or interfaces as described in CMMI
    • Implement Supplier Sourcing processes as utilized in CMMI
4 \times 1
Not Quite !!
Case 4 - Mature Developer and Immature Acquirer

• Situation
  – Immature acquisition agency *(Level 1)* awards contract to a mature developer organization *(Level 4)*
  – Initially impressed with ability to perform/basis of estimate/cost and schedule projects
  – Lack of understanding of the importance of the process adoption on the quality and production of product
Case 4 - Mature Developer and Immature Acquirer

- **Problem**
  - Schedule and budget dictated, not developed
  - Unconstrained requirements direction and changes
    - Importance of requirements development and management not understood by the acquirer
  - Conflicting direction as to process implementation
    - Acquirer does not see need
    - Home organization requires process be complied with
  - Lack of appreciation/understanding of high maturity practices
    - Metrics beyond Cost/Schedule not applied nor understood
    - Causal analysis of no benefit to this contract
  - Results in unrealistic schedule and budget
Case 4 - Mature Developer and Immature Acquirer

- **Recommendations**
  - Developers
    - Just say NO
    - Educate and train acquirer - set expectations up front
    - Put acquirers on team as IPT members - use them
      - Invite to participate in inspections
      - Members of process groups, review boards, risk management boards, trade studies
    - Use real data for requirements flow/ change
    - Negotiate functionality/ trade offs as change requests are received
Case 4 - Mature Developer and Immature Acquirer

- **Recommendations (cont)**
  - Incentivize acquirer to improve
    - Compete maintenance management to instill a desire to improve
    - Compete programs among acquirers, esp for joint programs
    - Set up policy to improve
    - Require software acquisition education and training
      - utilize and require minimum level within CMMI for Supplier Sourcing
    - Develop Return On Investment for acquisition process improvement
      - show worth of their effort to improve
      - build business cases
    - Investigate Acquisition Model under CMMI
General Recommendations

- Look Beyond Own Borders
  - Investigate the best of the best
  - Be willing to change
- Adopt CMMI
  - Common Language
  - Framework includes - software, systems engineering, acquisition, IPPD
$4 + 1$
Contacts

Jack Ferguson
Software Engineering Institute
jrf@sei.cmu.edu

M. Lynn Penn
Lockheed Martin Management & Data Systems
mary.lynn.penn@lmco.com