Using SCAMPI© to Measure Organizational Capability

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OUTLINE

• Organizational context
• Choosing a model
• Getting the right portion of SCAMPI©
• Lessons learned
• From entree to full meal – integrating other IT disciplines into the process
• Conclusions/Recommendations
Organizational Context

• Established IT Directorate Aug 2000
  – Took operational control 4 Sep 2000

• The new IT Directorate
  – Collected IT “bits” into one organization
  – Provided an “Enterprise” focus for IT needs
  – Completed the IT value chain
  – Envisioned as a “process-centric” organization
Organizational Context

Transformation Journey – Where We’ve Been

<table>
<thead>
<tr>
<th>95th CS</th>
<th>AFFTC/IT</th>
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<tbody>
<tr>
<td><strong>FY98</strong></td>
<td><strong>FY99</strong></td>
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<tr>
<td>REDUCED MANPOWER 47% FROM FY98 LEVELS ($2.5M) REMOVED THE MILITARY PERSONNEL (TOOK MANPOWER UP FRONT, DID LITTLE TO IMPROVE PROCESSES OR SERVICE)</td>
<td>INFORMATION INFRASTRUCTURE TEAM PRODUCES “CIO HANDBOOK”. DESIGNED 6 PROCESSES FOR IT. • STAFF FUNCTIONS • DEVELOPMENT • PLANNING &amp; STANDARDIZATION • BUSINESS MANAGEMENT • OPERATIONS &amp; MAINTENCE • CUSTOMER SUPPORT</td>
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Organizational Context

• OCR Approved 19 Mar 01
  – AF/CV requested “Test” to determine IT applicability

• Example Test Plan Approved Jun 01
  – Balanced Scorecard measures cover product and service delivery capability
  – Needed a way to measure process maturity
Choosing a Model

• Goal: Match our business
  – Developing & deploying T&E mission supporting applications
  – Operating & maintaining IT systems
  – Supporting customers with:
    • Network, Phones, Wireless Comm, ILS, Weather
  – Managing resources
  – Planning for all the above

• Our developing and deploying processes were most mature and most CMMI-like
Choosing a Model

- Our choice – CMMI SW/SE v 1.1
  - Engineering PAs
    - RM, RD, TS, PI, VER, VAL
  - Support PAs
    - CM, MA
  - Project Management PAs
    - PP, PMC
## CMMI Overview - Continuous

<table>
<thead>
<tr>
<th>Category</th>
<th>Process Areas Including IPPD</th>
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</table>
| **Process Management** | Organizational Process Focus  
                   | Organizational Process Definition  
                   | Organizational Training  
                   | Organizational Process Performance  
                   | Organizational Innovation and Deployment |
| **Project Management** | Project Planning  
                     | Project Monitoring and Control  
                     | Supplier Agreement Management  
                     | Integrated Project Management *(2 New Goals)*  
                     | Integrated Teaming  
                     | Risk Management  
                     | Quantitative Project Management |
| **Engineering** | Requirements Management  
                     | Requirements Development  
                     | Technical Solution  
                     | Product Integration  
                     | Verification  
                     | Validation |
| **Support** | Configuration Management  
                   | Process and Product Quality Assurance  
                   | Measurement and Analysis  
                   | Causal Analysis and Resolution  
                   | Decision Analysis and Resolution  
                   | Organizational Environment for Integration |
Getting the Right Portion of SCAMPI©

• Tradeoff between PAs, time, and staff
  – We chose 10 PAs, Levels 1 & 2
    • 25 SGs
      – 89 SPs
    • 2 GGs
      – 11 GPs
  – Time = 10 days
    • 1.5 days training
    • 8.5 days interviewing, assessing, consensus building, briefing, reporting
Getting the Right Portion of SCAMPI

• Tradeoff factors – Things to consider
  – Staff
    • Number of staff members
    • Experience of staff members
  – Process areas
    • Number of PAs
    • Number of SPs, GPs
  – Documents
    • Number of documents to be reviewed
  – Interviews
    • Number of projects studied
    • Number of project staff interviewed
Lessons Learned

• Train just-in-time, but before the assessment
• Make PA to Mini-team assignments early
  – Especially with inexperienced staff
• Review documents before interviewing
  – Pinpoint practices needing clarification
  – Form specific questions
• Do interviews in blocks w/o interruption
• Build in large blocks of mini-team work time
• Simpler briefing format
Lessons Learned

• Things we did right
  – Teamwork
    • Hill team, David Bruce
    • Edwards team
  – Good choices for mini-teams
  – Trained on actual data
  – Built credibility with interviewees
  – Livelink repository
From Entrée to Full Meal

• CMMI not a perfect portion
  – Left us “hungry”
    • Wanted to include operations work processes
      – Detecting outages
      – Analyzing operations flow
      – Information protection operations
    • Wanted to include field service work processes for
      – Diagnosing & fixing network outage
      – Install, move, change phone service
      – Other “Field Service” processes
From Entrée to Full Meal

• Experience with other models
  – PriceWaterhouseCoopers
    • 5 Areas, 22 Processes
  – CMMI for Operational Organizations
    • Translates CMMI SE/SW into operations well
Other Models (PWC)

- Building AFFTC/IT (Results from AFMC Study)
  - IT Process Maturity
    - Edwards 10 topics > Peer Best
      8 topics > 60% maturity level
    - Next best ALC had 3 > Peer Best, 8 > 60%
- Customers more satisfied in Process-Based org
  - Edwards combined raw score in
    User People + Applications = 139;
    Next best 123,
    then drops off to 82.
Operationalizing CMMI

- Operational organizations contain mission elements or teams that do the following:
  - Plan their work
  - Carry out mission-essential and support tasks
  - Measure the effectiveness of their mission
  - Define operational procedures and processes
  - Control the configuration of these procedures and other work products
  - Identify and manage operational issues and risks
  - Make structured decisions
  - Continuously look for ways to improve mission effectiveness

- Source: Interpreting Capability Maturity Model® Integration (CMMISM) for Operational Organizations, Brian P. Gallagher, Apr 2002
Conclusions/Recommendations

• Choose a model that will give you a full meal
  – What’s your business? Business need?
• Choose PAs that you’ve worked on implementing
  – Levels less important than business needs
• Size the assessment
  – Consider tradeoffs
Conclusions/Recommendations

• Train just-in-time, but not too late
• Study documents early – beforehand
• Form mini-teams and finalize assignments early
• Do assessment activities in big blocks
  – They take lots of time, don’t multi-task
• Share knowledge – have a tool
Questions???

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