

# Using SCAMPI<sup>®</sup> to Measure Organizational Capability

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# OUTLINE

- Organizational context
- Choosing a model
- Getting the right portion of SCAMPI<sup>©</sup>
- 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

95 <sup>th</sup> CS		AFFTC/IT		
FY98	FY99	FY00	FY01	FY02
<p>REDUCED MANPOWER 47% FROM FY98 LEVELS (\$2.5M) REMOVED THE MILITARY PERSONNEL (TOOK MANPOWER UP FRONT, DID LITTLE TO IMPROVE PROCESSES OR SERVICE</p>	<p>INFORMATION INFRASTRUCTURE TEAM PRODUCES “CIO HANDBOOK” DESIGNED 6 PROCESSES FOR IT.</p> <ul style="list-style-type: none"> <li>• STAFF FUNCTIONS</li> <li>• DEVELOPMENT</li> <li>• PLANNING &amp; STANDARDIZATION</li> <li>• BUSINESS MANAGEMENT</li> <li>• OPERATIONS &amp; MAINTENCE</li> <li>• CUSTOMER SUPPORT</li> </ul>	<p>IT RE TEAM CHARTERED. VALIDATED THAT CIO HB. PROCESSES WERE SUFFICIENT TO FORM A NEW ORGANIZATION AROUND. DECISION TO CREATE AFFTC/IT MADE. PROVISIONAL IT STANDUP. IOC OF AFFTC/IT</p>	<p>PROCESS REENGINEERING BEGINS. 14 PROCESSES IDENTIFIED:</p> <ul style="list-style-type: none"> <li>• MANAGE PROCESS</li> <li>• MANAGE PLANNING</li> <li>• MANAGE STANDARDS</li> <li>• MANAGE SECURITY</li> <li>• MANAGE CUSTOMNER RELATIONS</li> <li>• MANAGE CUSTOMER REQUESTS</li> <li>• MANAGE CHANGE</li> <li>• MANAGE PROJECTS</li> <li>• MANAGE DEVELOPMENT</li> <li>• MANAGE DEPLOYMENT</li> <li>• MANAGE OPERATIONS</li> <li>• MANAGE FIELD SERVICES</li> <li>• MANAGE RESOURCES</li> <li>• MANAGE KNOWLEDGE</li> </ul> <p>5 PROCESSES BEGIN IMPLEMENTATION. MEATBALL SANDWICH CONCEPT.</p>	<p>TRANSITIONED TO ORGANIC RE SUPPORT TEAM. MADE LEADERSHIP THE PROCESS OWNERS. RE TEAM ACTS AS CONSULTANTS &amp; FACILITATORS FOR ORG CHANGE. BEGAN “VALUE CHAIN” BRIEFINGS TO ALL IT CUSTOMERS.</p>

# 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

Category	Process Areas <i>Including IPPD</i>
<b>Process Management</b>	Organizational Process Focus Organizational Process Definition Organizational Training Organizational Process Performance Organizational Innovation and Deployment
<b>Project Management</b>	Project Planning Project Monitoring and Control Supplier Agreement Management Integrated Project Management ( <i>2 New Goals</i> ) Integrated Teaming Risk Management Quantitative Project Management
<b>Engineering</b>	Requirements Management Requirements Development Technical Solution Product Integration Verification Validation
<b>Support</b>	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<sup>©</sup>

- 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<sup>©</sup>

- 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

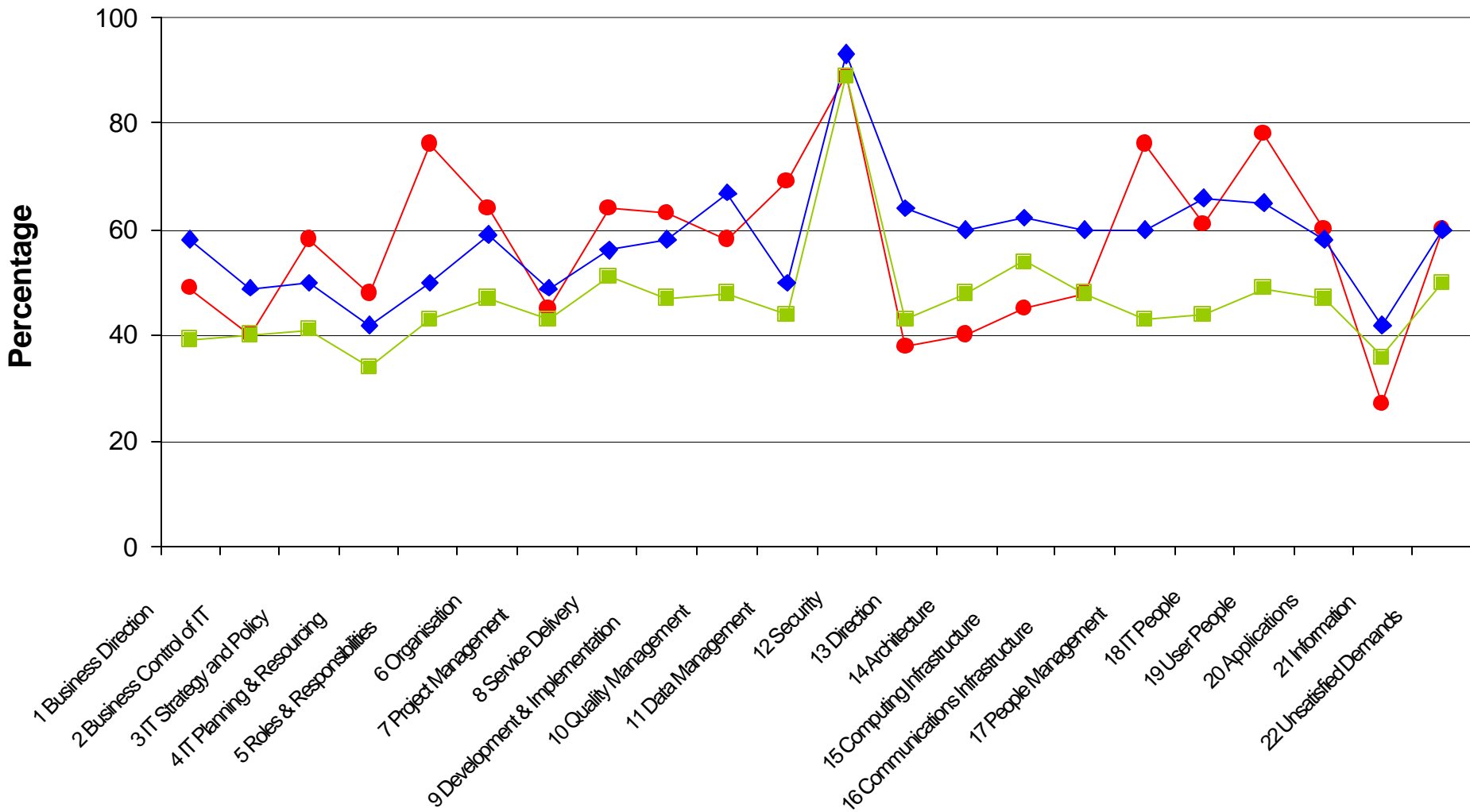


# Edwards



### IS Level 1 Effectiveness Ratings ITM-PI Edwards AFB/IT

—●— Enterprise —■— Peer Average: AFMC —◆— Peer Best In Class



# 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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