Supplier’s Perspective on CMMI-ACQ

Reflections from Supplier’s perspective
“Adapting CMMI for Acquisition Organizations: A Preliminary Report”

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Agenda

- Challenges in outsourcing/acquisition management
- CMMI-ACQ
- Model Highlights
- CMMI-ACQ and CMMI-DEV
  - Interfaces
  - Maturity in tandem
Outsourcing World

- One off
- Multi-year
- Transaction based
- Relationship based
- Single suppliers
- Multi-suppliers
- Services
- Maintenance
- Development
- Extensions
Sourcing Strategy?


- No documented strategy for acquiring IT goods and services - >40%
- IT specific strategy - >10%
- Limited IT services and products - >20%
- Strategy as part of corporate sourcing strategy – 16%
Outcome of Outsourcing

Satisfaction with Current Outsourcing

- Very satisfied – 22%
- Somewhat satisfied – 57%
- Somewhat dissatisfied – 19%
- Very dissatisfied – 2%

Base: 184 IT Decision-Makers at North American Enterprises that are currently outsourcing.

Source: Business Technographics® November 2005 North American and European Enterprise Software and Services Survey
Challenges

• Scope definition
• Monitoring and Management
• Technical feasibility
• Multiple suppliers
• Shared and independent risk management
• Impact on supplier and acquirer’s processes
• Requirement for new metrics and measures
• Acquirer maturity vs. supplier maturity
• Relationship management
Attempts at Acquirer Maturity Path

- ‘Fix’ existing implementation of SW CMM or CMMI to manage suppliers
- Acquirer closely monitoring supplier work
- Supplier required to adhere to two process standards
- Undefined or constantly shifting lines of control and management between acquirer and supplier
CMMI for Acquisition - Intent

- Develop an acquirer specific framework
- Help focus on and improve areas critical to acquirer and supplier management
- Enable better management through targeted interfaces for outsourced activities
- Leverage existing maturity framework and industry acceptance of CMMI
- Leverage existing SCAMPI appraisal framework
- Promote in-tandem maturity and value for acquirer and supplier communities
Development Approach

- Sponsored by GM, in collaboration with SEI
- Industry wide participation in development and reviews
  - Participants from SEI, DOD, other industries (e.g., banking, entertainment)
  - GM and GM suppliers (EDS, HP)
  - SEI
  - DOD, NASA and industry representatives
  - NASSCOM Quality Forum nominees from India
- Based on other models and best practices
  - Aligned with CMMI v1.2
  - CMMI-AM, SA-CMM, CMMI SE/SW v1.1
## Initial CMMI for Acquisition: Project Execution

<table>
<thead>
<tr>
<th>Life Cycle / Roles</th>
<th>Acquisition &amp; Project Planning</th>
<th>Analyze &amp; Design Solution</th>
<th>Supplier Evaluation &amp; Selection</th>
<th>Project Oversight / Supplier Mgmt</th>
<th>System Acceptance</th>
<th>Transition</th>
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<tbody>
<tr>
<td>Supplier Management</td>
<td>Solicitation &amp; Supplier Agreement Development</td>
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<td>Acquisition Management</td>
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<tr>
<td>Project Management</td>
<td>Project Planning</td>
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<td>Project Monitoring &amp; Control</td>
<td>Integrated Project Management</td>
<td>Risk Management</td>
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<td>Standards and Architecture</td>
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<td>Quantitative Project Management</td>
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<tr>
<td>Engineering Management</td>
<td>Acquisition Technical Solution &amp; Organizational Process Definition</td>
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<td>Requirements Management</td>
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<td></td>
<td>Acquisition Requirements Development</td>
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<td>Acquisition Verification &amp; Acquisition Validation</td>
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**Levels:**
- **Level 2**: Initial CMMI for Acquisition: Project Execution
- **Level 3**: Acquisition Technical Solution & Organizational Process Definition
- **Level 4**: Acquisition Requirements Development
Initial CMMI for Acquisition: A Lean Model

- Solicitation & Supplier Agreement Development
- Acquisition Requirements Development
- Acquisition Validation
- Acquisition Management
- Acquisition Technical Solution
- Acquisition Verification
- Project Management
- Core Processes
  - Acquisition Management
Acquisition Requirements Development (ARD)

Clarifies Acquirer’s Responsibility for:

- Gathering, analyzing and validating requirements
  - Focus on business needs and requirements
  - Not detailed requirements that pre-determine a specific solution

- Development of contractual requirements
Acquisition Technical Solution (ATS)

Clarifies Acquirer’s Responsibility for:

- Identification of design constraints
  - Establishment of acquirer’s technical standards and architecture

- Analysis and verification of supplier’s detailed technical solution
  - Design conforms to acquirer’s technical standards, product interfaces complete
Clarifies Acquirer’s Responsibility for:

- Acquisition and sourcing strategy
  - *Capabilities* sought, *business* considerations
  - *Type of agreement*, *potential* suppliers

- Establishment of sound supplier agreements
  - *Detailed responsibilities*, *performance measures*, *dispute* resolution
Acquisition Management (AM) vs. Project Monitoring and Control

- Management Based on Contract and Agreement
- Part of contract management
- Focus on measurable Service Levels
- Dispute and issue resolution

- Management Based on Integrated Project Plan
- Part of ongoing project management
- Focus on schedule, status, deliverables etc.
- Corrective actions
Acquisition Verification (AVER)

Clarifies Acquirer’s Responsibility for:

- **Acquirer’s own work products**
  - *Examples: Requirements, solicitation packages, integrated project plans*

- **Supplier work products**
  - *Methods, standards, criteria established in supplier agreement*
  - *Verification results of supplier*
Acquisition Validation (AVAL)

Clarifies Acquirer’s Responsibility for:

- **Acquirer’s own work products**
  - *Example: Requirements*
- **Supplier Deliverables**
  - *Example: Prototypes, Training Materials, Software*
- **Establishment of validation procedures, criteria, environment**
Key Project Interfaces

ARD

ATS

SSAD

PP

AM, PMC

Other Core Processes

AVER

AVAL
Supplier Considerations: Agreement Development and Management

• Impact on supplier’s methodology
• Specific interaction points
• Multi-supplier interactions
• Acceptance Criteria
• Level, frequency of reporting
• Service Levels, penalties
Supplier Considerations: Product Development and Delivery

- Development from non-technical and functional requirements
- Architecture and Technology standards
- Requirements for validation and verifications
- Monitoring through metrics
Supplier Considerations - Transition

- Transition of software
- Integration into acquirer production environment
- Warranty considerations
- Closing of agreements
- Transition to new agreements
### Acquirer Maturity Ladder

<table>
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<tr>
<th>Level</th>
<th>Description</th>
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| 5     | -- continuous improvement  
       | -- improvement involving supplier processes  
       | -- incremental and innovative process and technological improvements  
       | -- improve quality, capability and performance of the entire supply chain |
| 4     | -- Joint variation control through quantitative management  
       | -- Statistical control may also involve supplier process improvements and statistical control |
| 3     | -- Organizational standard processes, including acquisition management processes  
       | -- Standard supplier agreements, supplier interfaces and metrics  
       | -- Organizational technology and architecture standards |
| 2     | -- Basic project management and supplier management practices  
       | -- Stable acquisitions through local process management  
       | -- Disciplined processes for managing requirements and accepting the solutions |
| 1     | -- chaotic, unpredictable acquisition outcomes |
High Maturity Considerations

- Pro-active performance improvement across entire supply chain
  - Analysis of performance across acquirer-supplier (s) processes
  - Better collaboration between suppliers
  - Focus on long term relationship management
- Shared cost savings between acquirer/suppliers over long term
- Smoother interaction between acquirers and suppliers due to common architecture of CMMI-ACQ and CMMI-DEV
- With improved acquirer maturity, supplier can make faster capability improvements
## Possibilities of CMMI-ACQ

<table>
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<th>Supplier</th>
<th>Acquirer</th>
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<tr>
<td><strong>Implements capability to deliver</strong></td>
<td><strong>Delivers better value to</strong></td>
</tr>
<tr>
<td><strong>better value to acquirer by</strong></td>
<td><strong>the business by focusing on</strong></td>
</tr>
<tr>
<td>—Streamlined interactions</td>
<td>—Business and functional requirements</td>
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<tr>
<td>—Improved internal efficiencies</td>
<td>—Evaluation of performance based on quantitative data</td>
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<tr>
<td>—Focus on engineering, development capabilities</td>
<td>—Management of architecture, technology standards</td>
</tr>
<tr>
<td>—Well defined metrics, quantitative data</td>
<td>—End to end project outcome, acquirer tasks</td>
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<tr>
<td>—Focus on innovations in development of solutions</td>
<td>—Collaboration and value across the supplier network</td>
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<tr>
<td>—Constructive collaboration</td>
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Promise of CMMI-ACQ

- Maturity framework for acquirer
- Productive relationships with suppliers
- Synergy through collaboration
- Better value technology solutions

Setting the platform to bring together the value streams of the CMMI-DEV and CMMI-ACQ models

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