



Taking the Pulse of a COTS Project

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Custom vs. COTS

Project-driven requirements

Architecture formed to meet requirements

Rate of change driven by mission needs

System designed to automate target business processes

Optimized to meet unique requirements



Requirements affected by market capabilities

Architecture evolves with product selection

Rate of change driven by marketplace

Business process adjusted to match products

Optimized to leverage marketplace

COTS-based projects are different and must be managed differently

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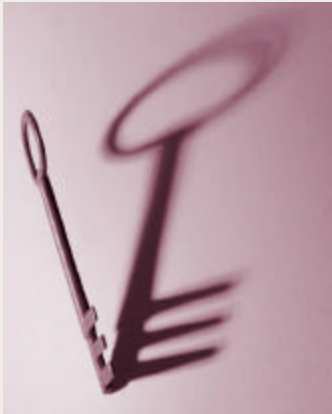
Project Insight

| Conceptual Framework | Project Insight |
|--|--|
| Keys to Success Business, management, and engineering issue awareness | Are we progressing according to plan? |
| COTS Usage Risk Evaluation Risk identification and analysis | Are we prepared for a major milestone? |
| | What should we look for? |

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Key to Understanding the Slides



This section summarizes 1 or more success criteria

- Each bullet contains information observable in program artifacts to help track the program's progress toward meeting the criteria

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Leverage the Marketplace



Before you accept their
BALLPARK PRICE
take a look at their ballpark.

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Enterprise objectives are aligned with the marketplace and product trends

- Major marketplace trends and key drivers of product development are identified
- Key product behavior is demonstrated in a relevant environment
- Organization participates in user groups, industry associations, and standards bodies

Avoid COTS Modification



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Long term consequences of modification and tailoring are considered

- Tailoring/modification decisions factors are justified
- Expected scope and complexity of tailoring is captured
- Lifecycle risks are analyzed and described
- Approach to sustaining modifications is described

Reconcile Products and Operations

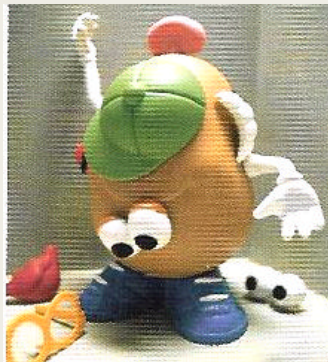


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Critical behaviors of the solution are identified, prioritized, and negotiated

- “Must have” and “want to have” are differentiated
- Marketplace coverage of critical behaviors is known and acceptable
- Mismatches are identified and negotiated resolutions are captured

Engineer an Evolvable Architecture



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Architecture responds to anticipated business, technology, and product evolution

- Target architecture is validated by a prototype
- Architectural assumptions of COTS products are analyzed
- System and technology evolution are considered critical quality attributes
- Alternate architectures are evaluated and maintained

Make Tradeoffs Simultaneously



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Accommodation has been made between requirements, architecture, and products

- All affected stakeholders are involved in tradeoffs
- Rationale is captured as conflicts are resolved
- Tradeoffs are demonstrated in operational scenarios

Live by the Business Case



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Decisions are made based on meeting business objectives

- Business rationale is current, agreed-upon, and compelling
- Measures are in place to indicate success in meeting business objectives
- Life cycle cost estimates include needed organizational change and are current

Realign Budgets for COTS



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Realistic life cycle cost estimates account for costs associated with COTS-based systems

- Impact of expected major and minor product releases is accounted for
- Resources available for market and product forecasting and evaluation
- Robust experimentation facility is funded for the life of the system
- Costs for process change and data cleansing are available

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Manage Vendor Relationships



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Roles are defined, flexible, and mutually beneficial

- Critical vendor relationships are established and supported by management
- Mutual incentives for success are in place
- Mechanisms are in place for staying current with technology and market drivers

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Summary

Projects heavily reliant on COTS products need new criteria for success and new approaches to gauge progress

Recognized “keys to success” and known risk conditions suggest an approach for redefining success criteria and measuring progress



Future Work

Refine and expand our initial set of success criteria and observables that would indicate that effective activities for COTS-based systems are underway

Define expected state of the observables at critical program decision points (e.g., Life cycle architecture, DoD Milestone B)

Additional Information

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