



Process Changes For COTS Based Systems

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These are points for discussion purposes and
do not necessarily reflect DoD positions



DoD & COTS - Traditional

- **Fixed Requirements, Fixed Architecture**
 - Acquirers/overseers
 - Strategy for Faster, Better, Cheaper
 - Contract for Firm Fixed Requirements
 - Enforce Vague Interoperability Standards
 - Plan for Engineering Change Proposals
 - Integrators
 - Deal with Unique, Poorly Defined Interfaces and Architectures
 - No Interface or Component Standards
 - Users
 - Accept Only After All Requirements Met
 - Full Security, Training and Documentation
 - No User Tailorability
 - Maintainers
 - Keep COTS Changes at Minimum, Portable
 - COTS Vendors – Potential For
 - Create Unique DoD/Program Baseline
 - Proprietary Architecture and Non-Standard Interfaces
 - Profits in Sustainment



DoD & COTS - Evolutionary

- **Flexible Requirements, Flexible Architecture**
- **Partnership with All Stakeholders Required**

- **Acquirers/overseers**
 - Accept Evolving Requirements, Cost, & Schedule
 - No Full Up-front Plan
 - Manage User Expectations Continuously
 - Incentivize Contractor to account for evolution
 - Build 'Ilities' Into Architecture at Beginning
 - Plan for Technology Refresh
 - Structure Program Documentation for Multiple Deliveries
 - Especially Requirements, Test, and Training
 - Keep Cost and Schedule Management Reserve for Unexpected



DoD & COTS – Evolutionary (2)

- **Flexible Requirements, Flexible Architecture**
- **Partnership with All Stakeholders Required**
- **Integrator**
 - Understand and Influence Interface Stakeholders
 - Interfaces (Organizations or Systems) Can Drive COTS Software Upgrades, Replacements or Additions
 - Enforce Well Defined, Flexible, Commercial or Standard Interfaces
 - Evolve to Access New Technologies and Services
 - Experienced With COTS
 - Perform Prototyping in System Context



DoD & COTS – Evolutionary (3)

- Flexible Requirements, Flexible Architecture
- Partnership with All Stakeholders Required

- Users
 - Lead Formalized Delivery Definition Process
 - Trade Cost, Schedule, Performance, Operations and Maintenance Concepts
 - Be Flexible When Capabilities Delivered
 - Priorities vs System Impacts
 - Allow Lots of Transition Issues/workarounds
 - Need Contractor Support/Involvement
 - Require User Tailorability

DoD & COTS – Evolutionary (4)

- Flexible Requirements, Flexible Architecture
- Partnership with All Stakeholders Required

- Maintainers
 - Implement Mature Development Processes for Ongoing Upgrades
 - Perform Periodic Evaluation of COTS Software Products Using Robust Evaluation Criteria
 - Product and Service Costs Are Market Driven
 - Vendors' Strategies and Market Position May Change
 - Product Release Quality, Content and Schedules Are Subject to Change



DoD & COTS – Evolutionary (5)

- **Flexible Requirements, Flexible Architecture**
- **Partnership with All Stakeholders Required**
- **COTS Vendors –**
 - Large or Small COTS => Very Different Processes
 - Open Up Proprietary Architecture
 - Define Published or Standard API
 - Partner with DoD Customer Through User Groups, Change Control Boards, etc.
 - Inform DoD Customers

Summary

Evolutionary Acquisition

- Need Plan/Processes for CBS more than ever
 - Flexible requirements process
 - Partnership among the customer, developer/sustainer & user
 - Trade cost, schedule, performance and O&M concepts.
 - Modifiable, extensible architecture
 - Must support COTS software evolution/replacement
 - Definition through Evolution
 - Flexible Standard Interfaces