WIDELY ACCEPTED STANDARD: ENABLERS OF COMPETITION - 18891

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Bill Decker
bill.decker@dau.mil
DAU South
256-937-9590

DAU
Defense Acquisition University

www.DAU.mil

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AGENDA

Introduction

Competition

Robust government/industry standards

Enabler of competition

Modular Open Systems Approach

Challenges to be overcome

Wrap-up/Discussion

COMPETITION

- **Desired by Congress and DoD**
  - Weapons Systems Acquisition Reform Act 2009 – encourages competition throughout product life cycle
  - Better Buying Power Initiatives
    - Further reinforce desire for competition
    - "Real competition is the single most powerful tool available to the Department to drive productivity." - Frank Kendall
  - Assumption: Competition is good

3

CHALLENGES TO COMPETITION

- **Industry desire to use company (proprietary) standards**
- **Lack of applicable industry standards**
  - Performance
  - Interfaces
  - Materials
  - Processes
  - Quality
- **Government failure to define above**

INTELLECTUAL PROPERTY

- **Company standards may be protected:**
    - By patent (utility patent)
        - Government may use a "Patent Licensing Agreement" to use patent
    - By treating as a trade secret
        - Developed at private expense
            - If challenged, gov't must provide evidence (new)
        - Government may be able to license process
        - Company has option to decline to license

5

INDUSTRY (NON-PROPRIETARY) STANDARDS

- **Provide a non-proprietary way to specify:**
  - Performance
  - Interfaces
  - Materials
  - Processes
  - Quality
- **Wikipedia lists more than 50 international standards organizations**
- **ASTM, ISO, SAE, IEEE and NIST are some of the more common**
- **MIL-STDs, MIL-SPECs**

6

WHAT IS CHANGING

- **Government S&T and Acquisition organizations assume role as systems integrators**
  - Change to prior approach of contractor role as "lead systems integrator," or "total systems performance responsibility" (TSPR)
- **Places major responsibilities on government systems engineers to:**
  - Define the architecture down to the individual modules (Line replaceable units - LRU)
  - Define "form, fit and function" for each LRU
  - Interfaces defined with non-proprietary standards
  - If left to contractor to define, must delivery of all interfaces with Unlimited Rights

NON-PROPRIETARY STANDARDS

- **Enable Modular Open Systems Approach (MOSA) initiatives (BBP 2.0 & 3.0)**
- **Government provides architecture**
  - Department of Defense Architectural Framework (DoDAF) 2.02
  - Standards included in StdV-1 and StdV-2 viewpoints
- **Industry may propose an architecture, with military/industry standards used to enable MOSA**
  - Some contractors may elect to propose architectures that use company/proprietary standards
  - Should be justified by lower cost/improved performance
  - Evaluation factors for award (Section M of Uniform Contract Format) should include assessment (both positive and negative) of proposed use of proprietary standards

IMPACT ON PROGRAM MANAGERS/SE

- **Systems engineers must:**
  - Have sufficient knowledge/experience
  - Be proficient in developing architectures
  - Define architecture down to LRU – may be well below level 3 on WBS
  - Identify appropriate standards
- **Coordination with potential contractors**
  - Benefit from industry expertise
  - Gain insight into weaknesses of architecture
  - Incorporate contractors "good ideas" while protecting contractors intellectual property

WHAT WILL BE REQUIRED OF SYSTEMS ENGINEERS

- **Implementing MOSA**
    - Define design to low enough level
        - Support acquisition strategy (upgrades, tech refresh)
        - Support life cycle support plan (provide for changes to plan)
    - Requiring delivery of TDP and any additional required information for LRUs that will be supported by DoD depots
    - Requiring delivery software (source code, design documents, coding notes, etc.) for SW modules for use by software support agency (SSA)
    - Interfaces (preferably defined by standards) specified for all LRUs

SUMMARY/RECOMMENDATIONS

- **A robust set of standards will:**
    - Facilitate implementation of MOSA
    - Reduce dependency on proprietary data
    - Be required for government to serve as systems integrator
- **Hiring/training government systems engineers critical**
- **DoD should actively support all standards initiative**

11