Been There Done That
Or
How I Learned to Love
Defense Acquisition

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To understand what to fix, you have to understand what is actually broken

OR

In God We Trust, all others must bring data
DOD Acquisition Programs: Its All About The Incentives

• How to get a program started
  – Sell/demand unrealistic performance (What is a “requirement” anyway?) unconstrained by cost
  – Budget unrealistic costs
  – Plan to unrealistic schedules
  – Embrace the latest fad (spiral development, TQM, concurrency, lack of concurrency, fixed price development, streamlined acquisition, lean manufacturing, etc.) to justify your projections

• How to get a program in trouble
  – See the above

• This is a recipe for inefficiency
The Unique Nature of DOD Acquisition

- DoD is not a commercial customer and defense industry is not a commercial supplier
  - Small production quantities
  - Sporadic and extended design cycles
  - Increasingly limited and specialized suppliers
  - Largely customer funded S&T and R&D
  - Pervasive political considerations
  - Virtually no true marketplace competition or incentives

- This is a recipe for inefficiency
Some Artifacts of DOD Testing

- Focus on final phases of development and early production
  - Full up system level testing
  - Government dominated testing
  - Highly visible and political
    - Particularly OTE, LFTE
- This is the most inefficient time in the design process to discover problems
- BUT: It is much easier to fund fixing problems (convert the production money) then it is to get the funds to avoid them in the first place
Priorities in the Acquisition and Testing Processes

- The rules are (or should be) different when you are at war
  - Cut every corner you can rationally justify cutting
  - Accept less than contracted performance if it is “good enough”
  - Fix things in the field if feasible and necessary
  - Rely on projected design fixes to problems
  - Go straight to Full Rate Production, skip full OT

- But usually we are not at war
  - Long term major acquisitions are almost never wartime priorities, unless they are already close to fielding
  - Time is less important than maximizing the return on DOD investments
  - Major acquisition test programs should be structured to be efficient; a combination of speed and other factors
Comments on Accelerating Technology Insertion

• Urgent Needs (IEDs and RPG Defeat)
  – Throw out the “rules” and apply common sense
  – Tailor everything to the risk benefit relationship, particularly test programs
  – Try lots of things
  – Buy whatever level of performance the real operators will accept

• Not So Urgent Needs (P3I opportunities)
  – Insist on and pay for open architectures and design for growth
Addressing the Problems

- Keep the “requirements” reasonable and flexible
  - Better cooperation between requirements and acquisition communities
  - Identify true minimums
  - Force the user to prioritize based on cost performance relationships

- Get the risk out before committing to design for production (haste makes waste)
  - Whatever happened to 6.3b?

- Test to verify the design, not to fix it
  - Avoid test, fix, test cycles
  - Invest in better design tools and processes (CAD, high fidelity modeling and simulation)
  - Create and maintain capable experienced design teams

- Testing Strategy
  - Don’t skimp on the number of test assets
  - Tailor testing to avoid inefficiencies
    - Structure testing around nature of risk and consequences of failure
A Final (but not original) Thought

There is no free lunch