

Introduction to Evolutionary Acquisition

Awareness 1: Why and What

Implications to program management from implementing an EA strategy.

- EA strategy will
 - Reduce costs due to:
 - Reduced Cycle time;
 - Interoperable items;
 - Faster availability of required military capability;
 - Supportability of similar items;
 - Allows adaptation of the latest technology;
 - Require earlier involvement by PM with User and contractor;

Implications to program management from implementing EA strategy

- Need to balance the new and increasing user requirements against the user's ability to support continued training and repeated deployments of new blocks (Turbulence);
- Availability of long-term contractor relationships via contract vehicles which must be periodically re-competed;

Philosophy of an EA approach; where it is appropriate and not appropriate

- **There are 2 accepted approaches for EA:**
 - Approach 1: The ultimate functionality required is **defined** at the beginning of the program with the content of each deployable block determined by the maturation of key technologies, and;
 - Approach 2: The ultimate functionality required **cannot** be defined at the beginning of the program and each increment of capability is defined by the:
 - Maturation of the technologies;
 - The evolving needs of the user, or
 - Learning from earlier development

Philosophy of an EA approach; where it is appropriate and not appropriate

The second approach is to be used for Software Development programs.

When is EA NOT appropriate?

EA is not an appropriate approach when user requirements, technologies and solutions are established and unchanging. Certain COTs programs meet the criteria.

Applying the EA Process

Awareness 2: How

Tailoring EA to New and Modified Programs:

- Acquisition Strategies must be tailored to meet the program to streamline the program, shorten development cycle and ensure cost effectiveness.

Applying the EA Process

Awareness 2: How

: Tailoring EA to New and Modified Programs

- EA used in a “New Start” program should be accomplished early with user and contractor involvement.

- EA used in a Modified program may cause turbulence, however the acquisition strategy must be adapted to meet the change caused in all aspects of the program.

Applying the EA Process Awareness 2: How

The changing evaluation of Risk:

Comparison of Risk versus uncertainty;
Criticality of risk within rapid cycle times

Comparison of Risk vs Uncertainty

- Risk is defined as a measurable probability of consequence associated with a set of conditions or actions. Generally, in DoD risk has a negative connotation—that action must be taken to avoid failure.
- Uncertainty is defined as a condition, event, outcome, or circumstance of which the extent, value, or consequence is not predictable. State of knowledge about outcomes in a decision which are such that it is not possible to assign

Comparison of Risk vs Uncertainty (Cont'd)

- probabilities in advance. Ignorance about the order of things...Uncertainty represents the unknown in a program, where the risks are the “known”. The question: how to mitigate and what is the cost of an “unknown” in terms of time and resources. For example, in an acquisition program named Future war System the means of propulsion is beyond current technology. The risk is the timely availability of technology which is one of uncertainty.

Criticality of Risk within Rapid Cycle Times

- The criticality of risk within the rapid cycle times of a program using the EA approach includes major categories of resources: time, schedule, cost and the outcome: performance. Risk lays atop each of these major categories and poses potential problems if any risk should manifest.
- EA is one of the key principles used to reduce cycle time through incremental improvements in capability rather than quantum leaps in capability.