Workshop: Improving Software Maintenance & Sustainment Cost Estimation in Practice

Premise

Better cost estimates will drive more efficient operational software resource allocations across the defined enterprise(s), eventually resulting in more effective mission performance

Objective

Brainstorming to identify practical approaches on how to make software sustainment and maintenance cost estimation as important as software acquisition cost estimation

Projected Outcome

Recommendations/idea for improving software sustainment and maintenance cost estimation policy and practice today and into the future

Workshop Participants

- Cheryl Jones
- Robert Charette
- Chris Miller
- Steve Verga
- Jim Alstad
- Barry Boehm
- Anthony Powell
- John Bailey
- Jim Golden
- Abe Gingery
- Mike McLendon
- Joe Dean

Discussion Summary

- *There is a growing recognition that software sustainment and its cost growth are important issues that have to be addressed, for instance, the recognition that:*
  - *Approving a software-intensive system for development sets in train commitments of long-term, material future fixed costs that include more than just bug fixes and software improvements*
  - *Software sustainment is not compatible with the depot concepts that were born of WWII/Cold War government weapon systems sustainment requirements*
  - *Software sustainment is approached differently within each service based on history and its needs, and those need to be taken into account*
  - *Software sustainment is where future weapon system lethality and longevity resides*
  - *The boundaries of software sustainment and software development are increasingly artificial*

Conclusions, Recommendations, and Results

However, there needs to be someone in senior DoD leadership with the title "Chief Software & Systems Engineer" to turn that recognition into meaningful action…and make software sustainment cost estimation on par with software development cost estimation.

Conclusions, Recommendations, and Results

- *Other Ideas Discussed*
  - *Develop a Cost Estimate of Record*
  - *Explore the idea that software sustainment should be 98% of a system's cost (think DevOps), or alternatively, that it should be 25% of a system's cost (think throwaway systems)?*
  - *How can software sustainment's vicious cycle can be turned into a virtuous cycle?*

Next Steps/Action Items

- *Will continue to explore ways to increase the visibility of software sustainment's (and its cost estimation) importance within the services, DoD and contractors*
- *Focus on highlighting the idea that understanding all the implications involved in sustaining software is necessary for DoD to best position itself for the future*