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Capability Based Evaluations



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Why Capabilities Based Evaluation



- **January 2002 SEC DEF cancelled Missile Defense Operational Requirements Documents (ORD)**
- **New capabilities were taking too long to get in the hands of the soldiers**
- **Requirement were holding up fielding of needed capabilities in the field**
- **The complete T&E process was too long**



Impact On Change

- **Patriot Advanced Capabilities 3 (PAC-3) Initial Operational Test and Evaluation (IOT&E) was in its execution phase of testing**
- **Results of the IOT&E had to be briefed in two ways**
 - **Requirements Based**
 - **Capabilities Based**



Solution after Change

- **We realized two things:**
 - We had always done Capabilities Based evaluations but it was done at the decision maker level
 - Systems were bought with requirements not met
 - Systems were sometimes not bought with requirements met
 - Met and Not Met is what “went away”
- **We used the usual system measures and the answers became means of characterization**



No Requirements?

- **PAC-3 ORD cancelled**
- **Limited Guidance**
- **No examples for Capabilities Based Evaluations**

**System ORDs were the framework
upon which evaluations had been built**



Where is the Focus Today?

- **Capabilities – Main Focus**
- **Limitations – Limited**
- **Test Conduct - Limited**
- **Unknowns - Limited**



Operational Questions?

- **Is there a measuring stick?**
- **What is the minimum?**
- **Are there Thresholds?**
- **Are there Objectives?**
- **What is Spiral Development?**
- **What is the Block approach?**
- **What are Acquisition Increments?**



Operational Utility?

- **Does the soldier determine operational utility of the new capabilities ?**
- **Does the Program Manager determine the users needs?**
- **The user can understand operational utility only after he knows in detail the new capabilities being added and the limitations associated with those capabilities.**



Decision Time

- **What constitutes a capability?**
- **Is one new capability worth fielding?**
- **Is adding 10%,20%,30%... to current capability worth fielding?**
- **Who makes the decision on what is good enough?**



What Is Good Enough?

- **How do you measure when you have no measuring device?**
- **What will the measurement mean without a standard?**
- **Will the new capability establish a new standard or will each modification become its own standard?**



Informing The User

- **The User must know how:**
 - New capabilities impact operations (Operational Terms)
 - Limitations impact operations (Operational Terms)
 - Unknowns could impact operations
- **Who explains to the user how the capabilities, limitations and unknowns were demonstrated or tested**
 - Operational Testers/Evaluators?
 - Program Managers?
 - Contractors?

User involvement throughout Test and Evaluation Process



What is Important

- **What ever capability is fielded, we must keep in mind that the user is the soldier in the field. They must trust and know their equipment's capability in order to be successful on today's modern battlefield. We the test & evaluation community have a responsibility to inform the soldier in the field on the capabilities, limitations, and unknowns. It is up to them to determine when and where to use the new capability.**

Give the user the tools to make a informed decision.