

# Issues and Challenges Facing the T&E Community With Rapid Weapon System Technology Changes

## OTA Support for Advanced Concept Technology Demonstrations

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**A**re streamlined acquisition policies really able to “rapidly transition advanced technology into the hands of the unified commanders?” Or, are they just a “Rush to Failure,” forcing the test community to deflate giddy warfighter anticipation with Operational Test (OT) failure reports? Clearly, both triumphs and failures have emerged from acquisition streamlining efforts. The Test and Evaluation (T&E) community is struggling to develop innovative techniques to support streamlining efforts.

In that vein, this article proposes employing the Joint Interoperability Test Command-developed technique of a multi-Service Operational Test Agency (OTA) team in support of the Advanced Concept Technology Demonstration (ACTD) streamlining technique for rapid technology insertion.

To evaluate the usefulness of this proposal, we need to answer two primary questions. First of all, *why* do this, and secondly, *how* would you accomplish this?

### Why?

In responding to the first question, “*Why* employ a multi-Service OTA team in support of an ACTD,” a precise definition and description of an ACTD and its associated dynamics are in order, followed, by an explanation of the advantages and disadvantages of OTA support for ACTDs.

### Advanced Concept Technology Demonstrations

Currently posted to the DoD ACTD Web site at <http://www.acq.osd.mil/actd/intro.htm> is the official definition of an ACTD:

“Advanced Concept Technology Demonstrations exploit mature and maturing technologies to solve important military problems. ACTDs are designed to allow users to gain an understanding of proposed new capabilities for which there is no user experience base. Specifically, they provide warfighters an opportunity to develop and refine their concept of operations to fully exploit the capability under evaluation; to evolve their operational requirements as they gain experience and understanding of the capability; as well as to operate militarily useful quantities of prototype systems in realistic military demonstrations; and on that basis, make an assessment of the military utility of the proposed capability.”

Now the dynamics of executing an ACTD are not quite as straightforward as the definition. In brief, DoD approves the ACTD and tasks the geographic Commander-in-Chief (CINC) of a Unified Command to execute the ACTD. Normally, a government lab or office such as the Marine Corps Warfighting Lab or Office of Naval Research is also responsible for providing the hardware/software to be demonstrated during the ACTD, and that lab or office is in direct support of the CINC conducting the ACTD.

The CINC, in turn, identifies an appropriate exercise that one or more of his or her Major Subordinate Commands (MSC) will be conducting and tasks the MSC to integrate the ACTD into the exercise. Of course the MSC is, in all likelihood, already over-tasked with a high tempo of operations. The MSC’s primary concern will not be the ACTD, but rather using the exercise under design to train the MSC’s subordinate forces. As such, the MSC will optimize the exercise scenario being built to meet MSC unique training needs, and not necessarily to create a scenario that demonstrates the ACTD in a system-of-systems operationally relevant scenario.

Unfortunately, the government lab personnel in support of the CINC to provide the equipment to be demonstrated are not normally warfighters with operational backgrounds, but rather skilled technicians. They do not normally have the experience to help the MSC craft an exercise scenario that meets both the training audience needs and the ACTD’s needs, nor do these technicians normally have a complete portrait of what will constitute the system-of-systems with which the ACTD technology must interoperate when fielded in the near future. The result is normally friction where the MSC, without discretionary time, struggles with the government lab personnel who are demanding more exercise time for the ACTD.

### OTA Involvement

To turn this situation around, an OTA team could assist a harried MSC with

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help in crafting an exercise scenario that meets MSC forces' training needs, while also replicating a scenario in which the ACTD could be successfully demonstrated. Simply, the OTA team includes operators who would speak the same professional language as the MSC warfighter. Additionally, an OTA team would understand the evolving, joint system-of-systems requirements far better than the MSC, by virtue of the OTA team's day-to-day activities with multiple maturing acquisition programs. The OTA team could more realistically translate the impact of these maturing programs into the developing exercise scenario.

So far, all the advantages we have discussed have been one-sided in favor of the CINC conducting the ACTD, but the OTA itself would reap benefits from this relationship. OTA involvement would provide an opportunity to reduce current friction resulting from a common misperception among OTAs that ACTDs have "complicated the test process." It would also provide OTA teams with current updates on the specifics of operational issues facing the warfighter, such as limited range availability. Additionally, it would allow the OTA team to influence incorporation of testable requirements/capabilities in development efforts subsequent to the ACTD.

For example, despite a very successful 1998 Commander in Chief Pacific (CINCPAC) ACTD – "Extending the Littoral Battlefield (ELB)" – the Government Accounting Office, in a May 2001 report entitled, *Navy Acquisitions: Improved Littoral Warfighting Capabilities Needed*, criticized the Navy for slow progress in improving "Littoral Warfighting Capabilities." Perhaps some early OTA team influence could have helped expedite developments. Most importantly, OTA support would undergird acquisition streamlining efforts by Secretary of Defense Donald Rumsfeld, who has indicated he will apply best business practices in DoD acquisition such as "Fast-Track procedures to minimize development time" and will introduce more ACTDs as a key "Fast-Track" technique.

AN OTA TEAM COULD ASSIST A HARRIED MSC WITH HELP IN CRAFTING AN EXERCISE SCENARIO THAT MEETS MSC FORCES' TRAINING NEEDS, WHILE ALSO REPLICATING A SCENARIO IN WHICH THE ACTD COULD BE SUCCESSFULLY DEMONSTRATED.

Despite all these advantages, there remain, nonetheless, three distinct disadvantages to employing multi-Service OTA teams in support of ACTDs. To be straightforward, supporting ACTDs is simply not part of an OTA's job description. It is not what OTAs were designed to do. ACTDs use demonstration prototypes and not production representative models, making an Early Operational Assessment (EOA) by an OTA team somewhat problematic. Of greater concern is that OTAs are chronically short manpower and funds across all Services and simply could not support all ACTDs while still completing their chartered duties.

### How?

As we consider these disadvantages and balance them against the advantages, also worth considering is just how we could accomplish OTA team support of ACTDs. Since the OTA would be in support of a CINC, it appears appropriate to borrow a CINC technique. Specifically, we would propose using the CINCPAC Deployable Joint Task Force Augmentation Cell model. This model provides direct, deployable expert augmentation of MSC staffs. It would also mean that OTA personnel could be tasked with more than testing activities during execution of an ACTD, since they would temporarily be part of the MSC staff. This has the advantage of breaking down functional and staff stovepipes,

while not compromising OTA objectivity – because the MSC is not the ACTD equipment developer.

Concurrently, it would foster a true team attitude between the MSC staff and the OTA team for the duration of the ACTD. It also implies early involvement by OTA teams during the planning stages to shape exercise scenario development that, in turn, could be leveraged through long-distance planning efforts capitalizing the evolving integrated digital environment. Long-distance information exchange would not be limited to the planning stages, but could also enhance production of the EOA during ACTD execution with distributed simulation test and evaluation support.

Note that this proposal is not just an example of throwing more people at a problem. It must be a focused effort. If not focused, the OTA team could create problems vice enhance performance. Focused teams tailored to ACTD-specific requirements are what will provide value added.

### OTAs Need Manpower, Funds

To conclude, we have reviewed many attractive advantages to employing OTA teams in support of ACTDs. However, until manpower and funds are made available to the OTAs, providing these value-added teams is just not feasible. If DoD is serious about improving streamlining, increasing the number of ACTDs and their quality – through provision of requisite funding and manpower to the OTAs – would *markedly* strengthen performance safety, and user satisfaction for today and tomorrow's warfighters.

Finally, the proposal presented here should not be viewed as a panacea; rather, its utility is best described as a test and evaluation technique, wholly suited for the *Program Manager's Tool Kit* of streamlined acquisition and logistics best practices.

**Editor's Note:** The author welcomes questions or comments on this article. Please contact him at [DulinPJ@MCSC.USMC.MIL](mailto:DulinPJ@MCSC.USMC.MIL).