



Going The Distance

Leveraging the Benefits of Competition Throughout the Life of a Program

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The Joint Direct Attack Munition (JDAM), often referred to as the “Warfighter’s Weapon of Choice,” is a low-cost guidance kit that converts existing unguided free-fall bombs into accurately guided, near-precision “smart” weapons. Today the JDAM acquisition is considered highly successful, but in its early years the program ran into trouble. The per-unit cost of each JDAM kit was projected to be as high as \$68,000—a 70 percent increase over the \$40,000 per-unit cost originally budgeted for the program.

The JDAM program reversed this trend by implementing an acquisition strategy that emphasized competition throughout its life cycle. The program used a competitive dual source strategy to award two contracts for developing guided munitions. According to Dominique Myers in a 2002 *Acquisition Review Quarterly* article, the results included a 33 percent reduction in development time, a 42 percent reduction in development cost, and a greater than 50 percent reduction in the per-unit cost.

The JDAM experience clearly demonstrates the critical role of an enduring competitive environment in motivating outstanding contractor performance over the life of a program. So why has the government not carried forward

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this important lesson from the JDAM example and applied it throughout today's acquisition environment?

Continuous Life Cycle Competition Is Not Common Practice in the DoD

The Department of Defense (DoD) strives to foster competition; however, like many government agencies, the DoD tends to view competition as occurring only during the contracting process, rather than as a dynamic tool for achieving success over the life of a program. Most DoD programs today award

Last of all, federal contracting processes have become so drawn-out and cumbersome that programs try to minimize the number of competitions and contract actions. Today's processes make it extremely difficult to re-compete contracts. The lead-time needed to solicit proposals and award a contract is frequently as long as 12 to 18 months. As a result, contracts are pushed to their maximum periods of performance, further reducing opportunities to hold competitions over long program periods. Even when a contractor performs poorly, government programs often push forward

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development and production contracts to a single prime contractor or contractor team. Using this single-provider approach, the DoD fails to maintain "continuous life-cycle competition"—the use of competition to motivate contractor performance throughout the life of a program.

Several factors drive the DoD toward a single-provider model and reduces continuous life-cycle competition. The first is a mistaken belief that ongoing competition will increase costs. Thus, fiscal constraints (or budgetary pressure) force programs into a single-development/production environment in order—it is believed—to get the most "bang for their buck." Second, there is a concern that awarding contracts to more than one source will consume significant contracting and program management resources and that this would outweigh any benefits gained from competition.

Third, once a prime contractor is selected for initial award, government program offices have strong disincentives to switch contractors, even for poor performance. They have a well-founded concern that oversight bodies may cancel a program if there is a need to change prime contractors, since this often indicates poor program performance. Additionally, program managers fear that reporting negative contractor performance will reflect badly on their ability to manage the program. This situation creates a mutually dependent environment where the success of the program office is tied closely to the success of the prime contractor, ultimately reducing the government's ability to objectively evaluate and report contractor performance. Moreover, the costs of switching to a new contractor during program execution have become prohibitive. In addition to the funds and time required to solicit and award a new contract, the effective technical and programmatic transition to another contractor is a high-risk, resource-intensive activity.

with the current contractor instead of initiating difficult and expensive termination proceedings and starting the contracting process anew.

After initial award, the barriers to entry for a program are so high that subsequent competitions provide an unfair competitive advantage to the incumbent. The single-provider model gives the incumbent contractor monopoly-like powers that negatively impact DoD programs through all acquisition phases. It is in the prime contractor's best interest to follow a long-term strategy of becoming entrenched in all aspects of a program's operations. To do so, contractors build proprietary solutions, or posture themselves to maintain much of the day-to-day program knowledge, and in this way essentially become indispensable to the program. In addition, most contractors seek to integrate the products or services they develop within the broader system of systems, or enterprise, to better align their efforts and position themselves for future work. Once a prime has established a long-term dominant position on a program, the prime contractor has little incentive to innovate, lower costs, or increase productivity. As a result, many DoD acquisition programs encounter schedule delays and cost overruns, and fail to meet performance objectives.

How Do We Fix This Problem?

Given that the government has entered a period of fiscal austerity due to the heavy federal debt, it is more important than ever that an alternative to the current single-provider model be found—one that incentivizes cost efficiency, innovation, and transformative solutions. The key is to employ an acquisition strategy based on continuous life-cycle competition by using a dual- or multi-provider approach. Under this strategy, more than one contractor is selected to develop, produce, and sustain a program throughout its life cycle. In addition to the benefits of competition, having more than one contractor

provides the program with an “insurance policy” if the primary contractor fails to perform adequately. Thus, it reduces single points of failure—a critical advantage in today’s increasingly complex and interdependent acquisition environment. Also, the risks inherent in contract transition are minimized if a viable second source already is knowledgeable about program’s day-to-day operations and can quickly ramp up to fill the primary contractor’s obligations.

Several contracting approaches can be used as building blocks for dual- or multi-provider strategies. Listed below are a few examples:

Commercial Model: This open-market strategy encourages all contractors to develop products at their own cost. The government has the option to buy these products at a per-unit cost once the items are fully developed and ready for production. Firms will be willing to fund the development if they believe the government will choose to buy their products at a price and quantity that enables them to recoup costs and earn a reasonable profit in the production phase. This approach is best suited to IT systems that allow contractors to develop applications on an existing infrastructure. However, it also can be used in developing components on top of open hardware platforms. For instance, airframes, ships, and vehicle classes present a standard platform, but there could be competitions for the various subsystems (e.g., avionics, navigation, fire control systems).

Competitive Orders (Indefinite Delivery/Indefinite Quantity): The government awards contracts to multiple qualified vendors to meet a broad set of requirements. The government pre-negotiates pricing as well as terms and conditions with each vendor. The multiple awardees vie for task/delivery orders in a post-award competitive environment, keeping competitive pressures in play throughout the life of a contract. This strategy works best when requirements can be broken into several manageable tasks that different contractors can perform over a given time.

Competitive Dual Sources: The government fully funds two contractors to execute their designs or solutions to meet a capability need. The vendors fully develop and produce their designs, thus providing the government with two viable solutions to a requirement. The two sources continuously drive down prices while also improving the performance and reliability of their products over time. Of the continuous competition strategies, this approach requires the greatest upfront investment by the government, but also creates the most competition and the greatest probability of meeting program mission needs on schedule.

Competitive Multi-Sourcing with Distributed Awards: The government awards contracts to two (or more) sources, with a primary contractor receiving the majority of funding. A second contractor also is selected to create a continuous competitive environment and to provide a viable back-up if

the primary contractor fails to meet program objectives. The second source receives significantly less funding than the primary contractor, but enough to gain program expertise and to develop plans and concepts to meet program requirements (e.g., a 90/10 split).

Competitive Multi-Sourcing with Distributed Awards in Detail

Each of the above options can form the basis for a continuous competition strategy extending over the full life cycle of a program. Competitive multi-sourcing with distributed awards merits particular consideration, because this innovative strategy carries significant potential, but has not been widely used across the DoD.

Under this model, the government awards the majority of funding to a prime contractor, with smaller funding levels provided to a secondary source. Keeping a second source under contract at even a low level (e.g., 5 percent to 10 percent of prime contract costs) maintains significant competitive pressure on the prime by greatly reducing the barriers of entry into the marketplace (i.e., lowering the switching costs). It also allows the second source to refine and mature its technical approach and gain familiarity with the program’s operations. The cost of implementing this competitive multi-sourcing approach can be relatively small when compared to the benefits of competition that it provides.

The DoD can use this approach in several ways to maintain continuous competition in all acquisition life-cycle stages.

Percentage-based Distributions—A set percentage of funding is allocated to each source. For example, Vendor A submits the best offer and receives the majority of funding (e.g., 90 percent) as the primary source. Vendor B submits the second-best offer and receives a smaller percentage of funding (e.g., 10 percent) to partially develop its design or to work on a particular subset of the contract requirements. This strategy keeps a second viable source in play during the prototyping, development, production, and sustainment phases, which will provide competitive pressure to motivate the primary contractor.

Full Development with Scaled Production—Under this strategy, the two or more contractors are completely funded to develop prototype products. After the two prototypes have been completed, the government selects one contractor for full-scale production and a second source for limited production. This strategy works best for complex systems that carry significant risk during the design phase of the program.

Next Increment Prototype Model—The DoD uses a primary source to maintain engineering capability for the current production unit. Less funding is provided to a secondary source to build a prototype for the next program increment. In addition to getting a head start on the next spiral of development, the DoD has introduced a second

capable source and positioned it to compete with the prime for the next program increment.

Partial Contractor Funded Development Model—The DoD caps the amount of development funding to a second contractor for a limited amount (e.g., 30 percent of proposed costs). The contractor has the option to invest its own funding to fully develop its proposed design and has the potential to recapture these development costs during the production phase if the government decides to pursue production of the second contractor's design.

Benefits Outweigh the Cost of Competition

In this period of fiscal austerity, funding a second source may appear to be a luxury. However, the benefits of competition

start of a contract. However, this burden should be more than offset by shorter development and production schedules driven by competitive pressures. Competition is an extremely strong motivator: the forces of competition act as an "invisible hand" to self-regulate contractor performance. Contractors tend to keep each other in check, and the government greatly benefits from, and is protected by, the nature of competition.

Extensive historic data on DoD programs have shown that costs consistently decline in a competitive environment, while performance and reliability increase. By contrast, a single-provider environment produces smaller performance improvements, longer schedules, and higher costs. Schedule delays and cost overruns consume significant resources; for example, a 2010 Center for Strategic and International Studies (CSIS) re-

In addition to the benefits of competition, having more than one contractor provides the program with an "insurance policy" if the primary contractor fails to perform adequately.

greatly outweigh the additional costs. To maximize the benefits of continuous life-cycle competition, the DoD needs to adopt a dual- or multi-provider strategy from the outset of the program planning process. While these approaches may require greater upfront funding, they have the potential to save far more over the long term and to provide nonmonetary program benefits.

As an example, according to a 2001 study "Assessing Competitive Strategies for the Joint Strike Fighter" by the RAND Corp., the introduction of a second source during the production of the Tomahawk missile led to estimated savings of \$630 million, while improving the missile's reliability from approximately 80 percent to 97 percent. The same study also revealed that the 10 DoD aircraft programs that involved no competition during the production phase experienced an average 46 percent increase in cost over the original budget.


Before adopting continuous life-cycle competition, programs should conduct a formal cost-benefit analysis. This will help to ensure that a continuous competition strategy will pass the "Washington Post Test" (i.e., avoid public perception that funding a second source will waste taxpayer dollars). Aside from the monetary cost of introducing a second source, such an analysis should consider additional factors such as impacts on schedule, innovation, technical integration, and interoperability. Programs should adopt a continuous competition strategy only if the analysis concludes that the advantages of competition will exceed the costs of identifying, sustaining, and managing a second source to develop products.

A continuous competition strategy may create additional workload for a program management office, at least at the

port titled *Cost and Time Overruns for Major Defense Acquisition Programs* found that 32 percent of the single-award contracts, awarded after full and open competition with multiple offers, experienced overruns at a net cost to the government of \$19 billion. Since programs experience fewer overruns and delays in a continuous competition environment, the DoD can invest less time and money overall in managing its programs.

Conclusion

The value of competition has been incorporated into every major piece of legislation on acquisition reform and is touted continually in political speeches and public engagements. However, the vast majority of DoD programs continue to rely on a single-provider acquisition approach and spend most of their life cycles without real and enduring competition. As a result, too many DoD acquisition programs fail to achieve their cost, schedule, and performance objectives.

Continuous life-cycle competition offers the DoD a valuable tool to achieve success over the life of a program. The benefits gained from competition often vastly outweigh the initial costs. The DoD needs to redefine competition so it is no longer viewed merely as an upfront activity limited to the contracting process. The new definition should focus on ongoing competition, and competition should be the rule, not the exception. Instituting continuous competition throughout DoD acquisition programs could replicate the success of the JDAM model at a far grander scale, yielding significant benefits to our nation's warfighters as well as to the program offices that deliver capabilities to them. 

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