

SAIVing Acquisition Excellence

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During the 1970s and 1980s, with the Cold War as the driver, performance was the independent variable. Planning to fight against overwhelming numbers impelled developers of weapon systems to emphasize performance over other variables. To fight an enemy at a 3-to-1 deficit required precision weapon systems with little room to trade off performance characteristics. Following the fall of the Soviet Union in 1989 and the subsequent overwhelming victory over Iraq in 1991, the Department of Defense (DoD) faced

the task of downsizing military forces and programs in response to a declining defense budget. The result for the acquisition community was to shift the focus of programs from performance to cost. Program managers (PMs) began to trade off performance and to extend schedules in order to maintain their acquisition programs within cost.

In SAIV, schedule is the primary program driver. This is not, however, a license for PMs to disregard cost or to provide systems with less capability than required by the warfighter. SAIV balances schedule, cost, and requirements but maintains schedule as the primary driver.

SAIV isn't a buzzword for undisciplined cost growth. It is a multi-disciplined function bound with parameters for both cost and performance. Program managers, at all levels, must conduct intensive program cost analyses that provide realistic cost data from which to baseline programs. SAIV is also not an excuse to deliver a product that doesn't meet user performance requirements. Interaction with users in developing a time-phased, incremental approach for performance capabilities ensures that threshold capabilities are never compromised.

Why schedule? Schedule is the forcing function that drives other parameters. It is as much a matter of discipline to meet schedule in acquisition as it is for a battalion com-

Move over Performance as an Independent Variable (PAIV) and Cost as an Independent Variable (CAIV), Schedule as an Independent Variable (SAIV)—a disciplined approach to responsible acquisition leadership and management—is the latest initiative in acquisition reform.

mander to make his start point (SP) on time. Just as other units depend on the battalion commander, so PMs have both the soldier and other acquisition programs depending on them to deliver on schedule.

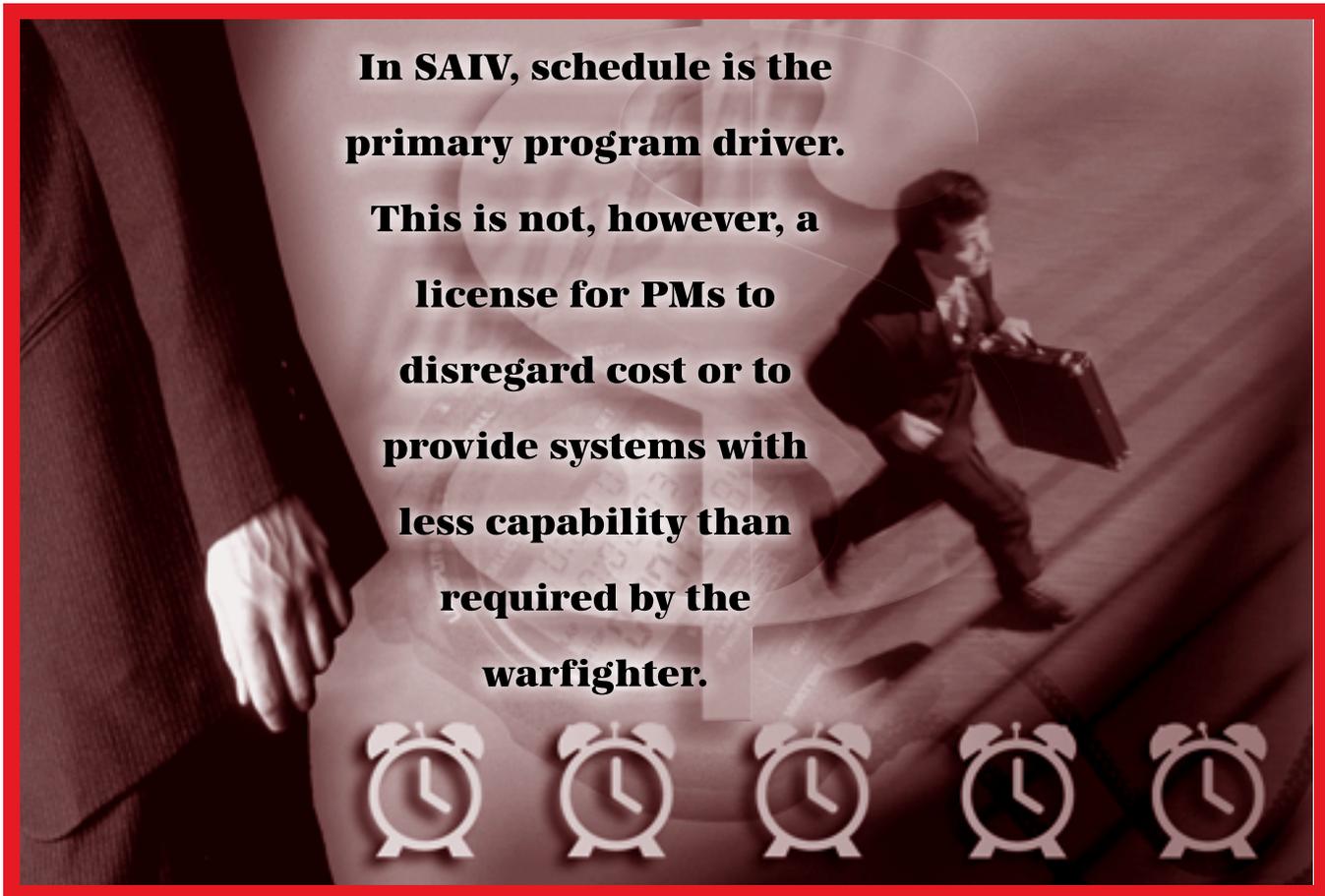
The ramifications of not making schedule are far-reaching. First, schedule cannot slip without driving up cost. Costs increase because years have been added to the program. You must maintain both the production and technology base. Closing down certain aspects of the program is usually not feasible. People with institu-

tional knowledge of the program are generally moved to other programs where their skills can be immediately put back to use, and it is very difficult to regain that lost knowledge. Additionally, program delays may cause production lines to be stopped, and there is generally a large, often prohibitive, cost associated with stopping production and then restarting.

SAIV Begins Early

To ensure the warfighter is provided with required capabilities as rapidly as possible, the materiel developer must understand the tenets of SAIV and apply them to the program. SAIV begins early in the acquisition process. Once the mission needs statement (now the initial capabilities document [ICD]) is approved, the combat developer translates the need into operational requirements (capabilities description document [CDD]). It is here that the foundation for SAIV is laid. The combat developer can no longer take an all-or-nothing approach to requirements. The Joint Capabilities Integration and Development System (JCIDS) now replaces the previous requirements generation process and requires that CDDs be blocked into increments to allow the deployment of an initial military capability that meets a current operational need that is capabilities-based and anchored in proven technology. The first set of blocked requirements in the CDD must represent the minimal essential capability required by the

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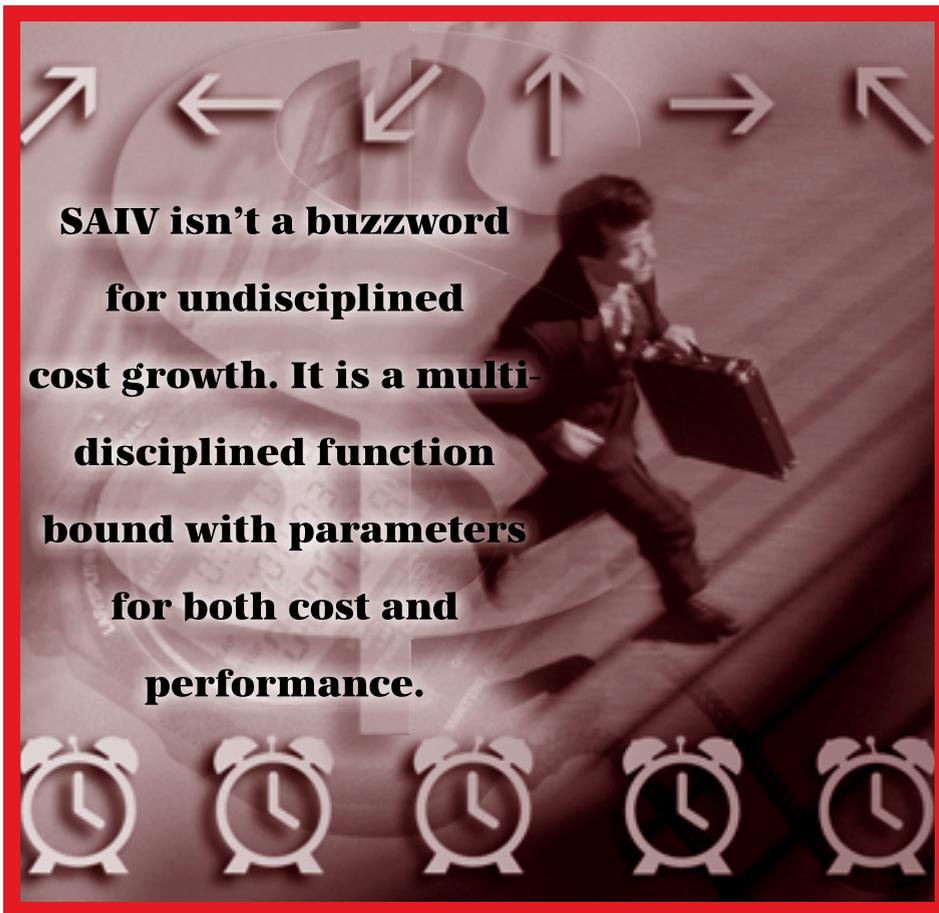
warfighter or other capabilities that enhance combat effectiveness, where technology is mature enough to meet those requirements without risk to schedule. The capabilities are based on a functional area analysis (FAA) and outlined in the ICD. Additional requirements may be added to Block I as objective requirements that allow the materiel developer to expend funds on their development if technology matures faster than anticipated, but does not jeopardize the initial procurement if those capabilities are not realized. Block II capabilities and beyond are also based on the FAA, which assesses mission needs for operational capabilities, projected threat assessment, and assessment of technologies beyond the first blocked increment. These capabilities may not be fully known yet but may be loosely outlined in a spiral development approach.

It is critical for the materiel developer to be involved up front and early with the ORD or capabilities production document (CPD) development. This is not so that the materiel developer can provide less capability than the combat developer requires in order to facilitate meeting ORD/CPD requirements. The materiel developer is there to act as an advisor to the combat developer on the state of technology. The PM can alert the combat developer to requirements that are not technologically feasible within the stated time frame of the increment or block. He can also assist the requirements community in determining

the best requirements block to insert advanced technology requirements. It is crucial that combat and materiel developers not push the limits of technology in a Block I CDD/CPD requirement. However, if that capability is a key performance parameter for the system to meet operational needs, then realistic cost estimates and developmental schedules must be established to avoid cost overruns and schedule slips.

Parallel with the development of the CDD/CPD is the development of the acquisition plan and/or strategy. This is another foundation product that will determine the PM's ability to provide combat-critical systems to the warfighter in a timely manner. In planning the contract strategy, the PM mustn't lose sight of the fact that program budgets are never really secure. Numerous demands are placed against limited resources, and rarely are a program's funds untouched throughout its lifespan. Understanding this, PMs must develop contract strategies that allow for the successful execution of the program even if funds previously allotted to the program are not available.

Contract strategies should maximize the use of options to the greatest extent possible. The number and size of options will likely depend on several factors, such as low rate initial production (LRIP) quantities and economic order quantities. However, contracts should be broken down into options that allow the PM to buy the lowest



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After the CDD/CPD has been completed, the materiel developer has to translate the operational requirements into performance-based specifications. The DoDD 5000.1 states: "When using performance-based strategies, contractual requirements shall be stated in performance terms, limiting the use of military specifications and standards to Government-unique requirements only." Performance-based specifications allow for multiple alternative technical approaches to achieve the stated requirement. The implication is that when not constrained by restrictive specifications, the military can maximize the use of commercial off-the-shelf (COTS) and government off-the-shelf (GOTS) items as well as the creativity of industry. This reduces the risk of both cost overruns and schedule slips for the development of military-unique equipment.

number of systems reasonable without driving up costs. Costs can be kept under control if these options are identified during the contracting phase where competition between vendors will tend to keep costs under control. Contracts that have large options may jeopardize their ability to meet schedule if the funding available is not sufficient to cover the entire option. In this case, contract modifications have to be made, and this will both delay deliveries and increase cost.

The Schedule is Key

The second part of the acquisition plan/strategy that is paramount to the foundation of SAIV is the schedule. Military officers, with their aggressive Type A personalities, tend to be unrealistic in the development of schedules. It is essential to strike a balance between the warfighter's needs to get operational capabilities to the field as rapidly as possible, and realistic developmental time lines, based on either proven or maturing technologies. Technology readiness levels are excellent tools a PM can use to determine when technology is ready for insertion or production development. Materiel developers should never underestimate the hidden challenges of software development and integration, hardware development and integration, or testing, certification, and qualification. Since "schedule" is the cornerstone of SAIV, the importance of developing a realistic schedule on which to base the program cannot be overstated.

Developing the Budget

The final step is the development of a budget that is sound and reflects the financial requirements to meet the needs of the program. Loss of some current year funding should never jeopardize the ability of the program manager to execute the program. It should represent only a quantity of systems (under options) that cannot be procured during that acquisition cycle. The PM should also develop an unfunded requirements (UFR) strategy to replace current year funding in order to meet military quantity or capability requirements.

Discipline Drives Success

The foundation for SAIV must be laid in the acquisition plan, contract strategy, CDD/CPD, performance-based specification, and budget. Once the foundation for SAIV has been put into place, program managers will be able to execute programs that provide useful military capabilities to the operational user as rapidly as possible. Program managers will be able to trade off quantities and capabilities responsibly without jeopardizing program schedule or execution. SAIVing acquisition excellence is a disciplined approach to responsible acquisition leadership and management.

Editor's note: The author welcomes comments and questions. He can be reached at anthony.potts1@us.army.mil.