



IT Acquisition Advisory Council

White Paper on

Assured Cyber Infrastructure Modernization

INTRODUCTION

The Information Technology Acquisition Advisory Council (IT-AAC) is a public/private partnership of concerned citizens, academia, public interest groups, standards bodies and government partners working together to serve as a catalyst for positive change and evolution in the Federal IT Acquisition Ecosystem to meet the demands of the 21st century. The IT-AAC is managed by the Interoperability Clearinghouse (ICH), a 501C (6) non-profit chartered by OSD C3I in 2000.

This white paper proposes that OUSD(AT&L) and OUSD(I) consider applying a set of Standardized Acquisition Decision “tools” targeting modernization of Legacy Infrastructure and COTS integration that will benefit from unfettered access to emerging SOA/Cloud/Mobility standards, technologies and lessons learned. The IT-AAC partnership fills the IT knowledge gap by assisting Program Managers in measuring business value of commercial solutions and mitigating risk critical achieving lower program O&M costs. Proposed pilots will apply a BTA/AF co-developed decision framework that has shown significant potential for reducing customization, shortening of capability delivery times, and improve access to commercial innovations/best practices outside the reach of the Defense Industrial Base suppliers.

Early Adopters of our Acquisition Assurance Method (AAM) have seen predictable outcomes including:

- Improved access to vetted IT standards of practice and innovative solutions (COTS/OSS)
- Greatly reduced IT acquisition time lines, risks and cost
- Significantly lower program cost overruns resulting from a robust risk metrics and decision analytics
- Significantly reduction in legacy O&M cost resulting from greater use of COTS/Open Source solutions supporting Cloud, SOA, Mobility, Large Data

IT-AAC and it’s agency partners are ready to prove out to OUSD ATL a measurable, repeatable and sustainable IT modernization decision framework that is time proven, Open and GSA certified best value. Evidence compiled suggests that these low cost, high impact capability would be critical to the successful execution of emergent C4 modernization initiatives like DI2E, JIE, and iEHR.

BACKGROUND

The IT-AAC was forged in 2008 by over a dozen public service institutions representing standards bodies, IT communities of practice, and universities with a shared goal of fundamentally transforming Federal IT acquisition and management. Congressional and Executive Branch officials have deemed Federal IT to be a major weakness and a national security threat if not addressed. These officials are seeking alternative expertise and commercial IT management and risk methods to overcome a two-decade struggle to gain the business value of IT. This public/private initiative seeks to fill IT knowledge and experience gaps of the defense acquisition core, providing reusable performance metrics, solution architectures and risk

"The deliberate process through which weapon systems and information technology are acquired by DOD cannot keep pace with the speed at which new capabilities are being introduced in today's information age"



assessments derived from benchmarked commercial practices since 2000.

IT-AAC has championed a new business model and innovation ecosystem needed to operationalize key elements of Better Buying Power 2.0, NDAA Section 804, and the Clinger Cohen Act:

1. A suite of agile, fact-based decision frameworks focused on requirements and tech assessment, matured from partner engagements with DARPA, AF, and BTA;
2. A Virtual Innovation Lab and IT Clearinghouse enabling reuse and promoting proven small/innovation capabilities in an open and inclusive setting;
3. Just-in-time IT workforce training and mentoring that leverages a pool of world-renown experts.

IT-AAC has made significant investments needed to enable Defense IT Modernization:

- Established a robust public/private partnership with the world's leading IT communities of practice;
- Conducted 49 leadership workshops over a 4 year period that pinpointed challenges and opportunities for Sustainable IT Acquisition Reform;
- Consolidated findings compiled from 40+ IT acquisition reform studies conducted by DSB, DBB, GAO, DoD IG, Congress and numerous Think Tanks;
- Completed root cause analysis of 30 of the largest federal IT program failures;
- Benchmarked commercial IT lessons learned in cooperation with SDOs and Fortune 500 companies around IT modernization and efficiency initiatives (SOA, Secure Cloud, WebServices, Mobility);
- Developed, matured and applied a set of fully documented agile frameworks proven to enable a repeatable, measurable, and sustainable IT acquisition ecosystem.

The IT-AAC founding fathers recognized the perennially challenge of change noted by Albert Einstein *"that you cannot solve today's problems with the same thinking that got you there."*

The evidence we have gathered has identified both challenges and opportunities for improved access to commercial IT innovations, standards of practice, and agile acquisition tools needed to cope with the fast-paced IT market that enable an 80% affordable solution in these lean times.

PROBLEM DEFINITION

IT-AAC's four-year study found that current DoD IT decision and risk frameworks (JCIDS, DODAF, RAM) available to program managers do not address the challenges of modernizing existing programs in sustainment, which accounts for 75% of DoD's IT budget but offers few controls or innovation injection points. Additionally, no formal methods, training or decision tools enabling effective COTS integration and tech insertion, which are key to legacy modernization, are provided to the program managers.

IT-AAC's partnership has identified five common IT management challenges found in all of the 30 IT programs that congress identified as having major shortcomings (including AF ECSS, NGA GEOSCOU, NSA STONEBREAKER, ARMY RCAS, NRO FIA, DISA NECC, FBI Virtual Case File, DHS SBinet, Army RCAS).

- Reliance on top-down, waterfall acquisition processes that take an average of 91 months and only deliver 16% of the time (HASC DAP and DSB reports).
- No formal bottom up re-engineering or tech insertion processes optimized for the largest IT spending in DoD, legacy O&M and modernization.



- Misapplication of FFRDC/DIB resources that lack dynamic access to commercial standards, innovations or lessons learned derived from the \$3.8 trillion global IT market, of which DoD comprises only 1% (1997 IATF DSB report).
- No mechanisms by which small/innovative companies can prove out their capabilities to key decision makers in DoD. *“SI disincentives further undermine the bottom end of the supply chain”* - Frank Kendall.
- No DoD approved agile methods that enable objective, fact based assessments of commercial innovations (COTS, Open Source, Cloud) that offer a greater value with improved security controls at significantly reduced O&M costs that today consume 75% of all Defense IT spending (1999 ECCWG findings).

PMs and their support contractors are not properly incentivized to consider superior methods and tools not currently employed within OUSD(AT&L) or referenced within the DoD 5000 policies. This is a cultural and governance challenge that can be addressed by decisive action of OUSD (AT&L) leadership needed to overcome barriers to innovation.

DISCUSSION

IT-AAC’s 15 public service partners have sourced a robust set of IT risk management and decision support frameworks tuned for the fast paced IT market. The proposed Agile Acquisition Toolkit targets legacy IT modernization with proven results that avert the root causes of IT program failures and cost overruns totaling tens of billions of dollars each year. As these concepts have already been successfully applied to mitigate risk by DISA, AF, Navy, USMC and BTA, the IT-AAC is encouraging OUSD(AT&L) and OUSD(I) to establish an Other Transaction Authority, where high risk C2 and ISR programs can gain access to these non-traditional resources, methods and expertise not available from traditional suppliers or FFRDCs.

Below is a sampling of successful implementations of the Acquisition Assurance Method (AAM) and collaborative knowledge exchange recommended for ATL pilots.

<p>Navy: Assessment of AFLOAT Program – CANES SOA & Security Strategy Contract Value: \$350k Eliminated hi-risk Requirements by 23%, \$100Ms in potential savings</p>	<p>USAF: Streamlined COTS Acquisition Process. Applied to Server Virtualization. Contract Value: \$500k Established optimal arch with ROI of 450% & \$458 million savings</p>	<p>USAF: Full application of AAM Modules For eFOIA (KM) Contract Value: \$150K Completed AoA, BCA, AQ Selection in just 4 months.</p>
<p>USMC: Solution Architecture, AoA and BBA for Cross Domain, Thin Client Contract Value: \$300k Greatly Exceeded Forecasted Saving in both analysis and acquisition</p>	<p>GSA: Financial Mgt System Consolidation Contract Value: \$500k Moved FMS from OMB “red” to “green”. Eliminated duplicative investments that saved \$200M</p>	<p>BTA: Build out of AAM into BTA IT360, with two completed Pilots Contract Value: \$300kM \$300 million in potential savings with minimal investment</p>
<p>BTA: Apply AAM to complete AoA and BCA for DoD SOA Project Contract Value: \$250k Reduced pre-acquisition cycle time and cost of Analysis by 80% (4 months vs. 18)</p>	<p>GPO: Developed Acquisition Strategy for Future Digital System FDSys Contract Value: \$150k Led to successful acquisition and implementation on time, on budget and 80% cheaper than NARA RMS</p>	<p>JFCOM: MNIS Evaluation of Alternatives for Cross Domain Solutions Contract Value: \$350k Evaluated 100’s of Options in 90 days, enabling stake holder buy in and source selection.</p>



RECOMMENDATION

Despite the successes we cite above, these efforts were not conducted with OUSD(AT&L) sponsorship. Accordingly, senior OUSD (AT&L) leadership has not had the opportunity to review our framework and results, and consider whether our framework is a viable alternative to the current way DoD acquires and modernizes IT programs. Therefore, we propose OUSD(AT&L) or OUSD(I) sponsorship of a “proof of concept” candidate program to allow the IT-AAC to demonstrate the validity of our risk management framework for making IT modernization business decisions. We would endeavor to build on this success and create a track record of repeatable and disciplined successes that, in turn, would lead to a set of DoD practices authorized by DoD’s senior leaders as an alternative to the way program managers modernize their IT intensive C2/ISR and Health IT programs that would benefit from commercial innovations.

NEXT STEPS

We request your assistance in asking the appropriate elements of the OUSD(AT&L) and OUSD(I) staffs to identify a “proof of concept” candidate C2/ISR or other IT programs within defined parameters that will allow us to apply our agile frameworks that demonstrate our unique abilities mitigate risk and costs. The general parameters for the selected proof of concept include:

- An IT intensive program already in sustainment and affecting multiple agencies (DCGS, iEHR, C2)
- Where legacy infrastructure was customized with rising O&M costs
- Where there is a need to share information across organizational boundaries
- Where gaps have been identified by either GAO or IG reports
- Where Congress (GAO, CRS) has encouraged action to consolidate legacy infrastructure using emergent Cloud/SOA standards

The outcome of this proof of concept will be to serve as a starting point to train and equip PMs and the Acquisition Core on the unique challenges of acquiring IT as a service versus the build to specification approach that is prevalent within legacy processes such as JCIDS, DODAF, DoD5000 and BCL. The IT-AAC Partnership has sourced alternative solution engineering and IT risk modeling tools that can fill this critical gap in IT lifecycle management, and believe immediate savings can be achieved by providing access to these sources of expertise and methods proven to deliver the promised value of commercial IT.

The IT-AAC stands ready to assist your staff as it identifies a set of “proof of concept” candidate programs seeking to better decision tools and expertise. We look forward to beginning the important and long-overdue process of establishing more efficient, more affordable IT management processes as DoD negotiates an environment that will see continuing commercial IT advancement with continuing Defense budget contractions.