

Enhancing ACC Collaboration with DIUx

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Preface

The Defense Innovation Unit Experimental (DIUx) is a new Department of Defense (DoD) initiative intended to increase agility and innovation in defense acquisition. Air Combat Command (ACC) expressed an interest in learning how it might integrate DIUx collaborations into its existing toolkit of acquisition options and how DIUx might be leveraged in the future. RAND addressed ACC's interest with a small study that identifies paths ACC might take to build a relationship with DIUx. This document that presents a summary of the DIUx initiative, outlines a path forward for ACC to initiate collaborative ventures with DIUx, and presents issues that ACC will need to address to deftly utilize an approach like DIUx in the future.

The research reported in this document was performed in response to ACC's interest in DIUx and was conducted as part of the Project Air Force Initiatives effort within the Resource Management Program of RAND Project Air Force. We welcome your questions and comments regarding this document, which can be addressed to Carolyn Wong, RAND Corporation, 1776 Main Street, Santa Monica, California, 90401. Phone: 310.393.0411, Ext. 7843. Email: Wong@rand.org.

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Abstract

The purpose of this report is to help Air Combat Command (ACC) understand what the Defense Innovation Unit Experimental (DIUx) offers ACC and how ACC can collaborate with DIUx. It summarizes the general DIUx collaboration process and financing options. A path forward is suggested for ACC participation, along with recommendations regarding how ACC might proceed towards participating in a collaborative venture with DIUx. Issues that ACC needs address to adapt a DIUx collaboration technique into ACC's acquisition toolkit for the future are also discussed.

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Summary

The Defense Innovation Unit Experimental (DIUx) is a Department of Defense (DoD) initiative intended to increase agility and innovation in defense acquisition by serving as a bridge between DoD entities such as the military Services and companies operating at the edge of technology. The initiative attempts to more quickly match Pentagon problems the pace of innovation in the Silicon Valley and other pioneering hubs nationwide.

DIUx has built relationships with leading edge firms whose advancing technologies might be applied to improve military capabilities. DIUx uses a multi-step co-investment model where it approaches technology firms with a military problem, a flexible contracting mechanism, and money. DIUx also provides follow-thru services such as creating a contract for the government and technology firms to collaborate, performs contract administrative functions, and monitors progress of active contracts. DIUx may also choose to commit some of its own funds to a collaboration as its contribution to bring agility to the DoD acquisition process. The amount that DIUx contributes is not reimbursed by the military Service collaborator or any other party and DIUx does not take ownership or control of anything in return for its investment. DIUx has \$20M in FY17 funds to invest.

DIUx represents a new avenue that government entities such as the Air Force can use to solve technology problems and enhance capabilities. Specifically, DIUx offers the Air Force speed, access, administrative support, and money as follows:

- A quick acquisition process where problems are exposed, solutions are solicited, and contracts are signed for work to begin within 60 days after contract negotiations begin.
- Access to the world's most visionary firms, notably those that have not or usually do not do business with the military, thus encouraging new thinking to solve Air Force challenges.
- Contracting expertise to negotiate Other Transaction Agreements.
- A DIUx program manager to manage the business end of collaborations.
- Potential no-strings monetary contributions to Air Force collaborations with DIUx.

A small initial Air Force collaboration with DIUx is recommended for the Air Force to observe first-hand how DIUx collaborations can enhance Air Force military capabilities.

- Learn more first: Seek out current DIUx collaborators for tips for successful ventures.
- Start small: Begin with an incremental improvement effort to learn with minimal risk.

- Match the problem to the expertise: Take advantage of DIUx's ties to firms renowned for their innovation and success in areas such as big data analysis and integration, artificial intelligence, machine learning, cyber security, simulation, and imaging.
- Try to keep the work unclassified: Keep an initial effort simple for all parties.
- Be ready to start work: Be prepared to provide access to elements such as models, code, data, and personnel the team will need to develop solutions.

DIUx can complement the Air Force's current methods of improving its capabilities by integrating DIUx collaborations into its capability enhancement toolset. For a successful integration, we recommend some Air Force actions.

- Develop a process to quickly vet ideas to ensure timely realization of benefits.
- Consider the entire life cycle of proposed solutions to ensure cost effectiveness.
- Exercise central control of DIUx projects in terms of business processes and capabilities acquired to ensure continued informed decision making on critical activities such as mission planning and execution.

The Air Force uses several acquisition models to attain the capabilities it needs to execute its mission. Each model addresses capability needs differently. DIUx may be best suited for Air Force needs with characteristics such as rapid acquisition and development of innovative solutions from world-class technology firms that not only work at the edge of technological advancement, but, in fact, define those advancements and the direction of technology evolution. The Air Force has to develop an understanding of how DIUx efforts relate to existing acquisition processes, including, but not limited to the current Joint Capabilities Integration and Development System (JCIDS); the Planning, Programming, Budgeting, and Execution System (PPBES); and the Defense Acquisition System (DAS) model. In addition, the Air Force needs to comprehend how the DIUx model can complement existing rapid acquisition paradigms such as Tactical Exploitation of National Capabilities (TENCAP), Air Force Research Laboratory Open Systems Acquisition, and the techniques used by the Air Force Rapid Capabilities Office. A thorough understanding of how DIUx can complement existing acquisition models will allow the Air Force to deftly select the most effective and efficient method to attain the capabilities it needs to accomplish its mission and to heighten the effectiveness of those capabilities by modernizing them at the pace of innovation.

We recommend that the Air Force collaborate with DIUx starting with a small initial effort geared towards a technology solution that requires expertise from leading edge firms. The Air Force should also begin the process of developing a strategy to integrate DIUx-like capabilities into its acquisition toolset. The quick problem-solving DIUx method of using the world's leading technology innovators to improve warfighter capabilities is worth keeping regardless of whether the method resides within or external to the Air Force.

Acknowledgments

Muharrem Mane of RAND initially suggested the creation of this document to assist Air Combat Command (ACC) with understanding the role the Defense Innovation Unit Experimental (DIUx) might play in improving ACC capabilities in a timely and efficient manner. Obaid Younossi, the director of the Resource Management program within RAND Project Air Force supported the effort throughout its duration. DIUx personnel who wish to remain anonymous provided explanations on how DIUx operates. ACC A8 personnel who wish to remain anonymous provided an ACC perspective on the utility of a technique like DIUx. Caroline Baxter at RAND also provided information about DIUx from her investigation for another study. Finally, David Orletsky, Research Quality Assurance Manager of Project Air Force coordinated the review and he along with Nidhi Kalra and Maynard Holliday, both at RAND, reviewed the draft of this document and made useful suggestions that have been incorporated in the final version. I thank all of these individuals for their assistance with this report.

Abbreviations

ACC	Air Combat Command
DAS	Defense Acquisition
DIUx	Defense Innovation Unit Experimental
DoD	Department of Defense
JCIDS	Joint Capabilities Integration and Development System
OTA	Other Transaction Agreements
PPBES	Planning, Programming, Budgeting, and Execution System
TENCAP	Tactical Exploitation of National Capabilities

1. Introduction

The Defense Innovation Unit Experimental (DIUx) is a new Department of Defense (DoD) initiative intended to increase agility and innovation in defense acquisition. Air Combat Command (ACC) expressed an interest in learning how it might integrate DIUx into its existing toolkit of acquisition options and how DIUx might be leveraged in the future. ACC's request for basic information such as how DIUx works and how to initiate a collaboration with DIUx, was addressed by RAND through a small study that is documented in this report. This report presents a summary of the DIUx initiative¹, outlines a path forward for ACC to initiate a collaborative venture with DIUx, and presents issues that ACC will need to address to deftly utilize an approach like DIUx in the future.

Purpose

The purpose of this document is to help ACC understand what DIUx offers ACC and how ACC can collaborate with DIUx. This document explains the DIUx initiative, summarizes the general DIUx collaboration process, describes financing options, outlines potential benefits to ACC in DIUx collaborations, and synthesizes potential limitations. A path forward is suggested for ACC participation that includes recommended actions on how ACC might proceed towards participating in a collaborative venture with DIUx and a discussion of issues that ACC needs address to adapt DIUx collaboration into ACC's acquisition toolkit for the future.

Approach

To provide ACC with a summary of what DIUx is and how ACC might take advantage of this new DoD initiative, we reviewed the literature related to DIUx to gain an overall understanding of the DIUx program. We also interviewed several stakeholders as our limited resources allowed. The interviewees included the personnel at DIUx, personnel in ACC's A8 unit, and people at RAND who have familiarity with either DIUx or the inner workings of ACC. In addition, we drew on results of previous RAND research to provide a holistic perspective on the potential role DIUx might play in defense acquisition.

Organization

Chapter 2 explains what DIUx is. Chapter 3 outlines how DIUx works. Chapter 4 discusses typical funding for a military entity to participate in a collaborative venture with DIUx. Chapter

¹ DIUx is an evolving program. This document presents the DIUx processes current as of Fall 2017.

5 describes what a DIUx collaboration might offer ACC. Chapter 6 presents limitations ACC should consider in pursuing an initial collaborative venture with DIUx. Chapter 7 presents a path forward for ACC to integrate a DIUx approach to its toolkit of acquisition techniques. Chapter 8 presents some issues ACC might consider in integrating a DIUx type approach into its acquisition toolkit for the future. Chapter 9 presents conclusions.

2. What Is DIUx

The Defense Innovation Unit Experimental (DIUx) is a Department of Defense (DoD) initiative created by then Secretary of Defense Ashton Carter in 2015 to serve as a bridge between DoD entities such as the military services and companies operating at the edge of technology. The initiative attempts to more quickly match the pace of innovation in the Silicon Valley and other innovation hubs nationwide with Pentagon problem sets. DIUx focuses primarily on applying proven technology to existing national security problems. In this context, proven technology is technology that is already in use in other areas and that requires little or no further development to apply to national security issues. Hence, the DIUx outlook period is usually near term.

Within the defense community, firms that do not do business with the government are collectively known as nontraditional suppliers. Defense contractors such as Northrop Grumman are known as traditional suppliers. One of DIUx's goals is to attract nontraditional suppliers to address defense challenges. Reasons for the defense community to attract innovative nontraditional suppliers include the notion that if the government is actively working with firms that are advancing technology, the defense community will be better positioned to innovate with the pace of technology. In addition, increasing the quantity of firms working on defense issues means more talent and different talent coming up with alternative solutions that might not be uncovered by only engaging with traditional suppliers. DIUx has office locations in Silicon Valley, Boston, and Austin. These are areas with high concentrations of startups and firms known for their innovative products and services. Many of these innovative companies do not do business with the government and DIUx believes that the government and companies can mutually benefit from collaborations. Hence, through co-location, DIUx is attempting to enhance its ability to build relationships with innovative firms who do not yet do business with the government and, in doing so, attract these firms to help the defense community solve its challenges.

DIUx specializes in forging relationships with co-located leading edge technology firms, especially those that have not done or usually do not do business with the government. To help attract these firms to do business with the government, DIUx uses proposal submission formats familiar to commercial technology firms, offers quick turnaround (e.g. feedback within 30 days for submissions), and agile contracting (e.g., other transaction agreements (OTAs)). This collection of features can be especially attractive to start-up firms because it is non-dilutive capital investment that preserves the equity stake of the company's founders and employees. Preserving the equity stake of a company's founders and employees is particularly important to startup firms because conventional funding methods such as venture capitalists and angel investors often demand a substantial equity stake as a condition for providing funds for the start

up to build its business. DIIUx differs in that it will provide funds without taking an equity stake in the company if the company is willing to address a defense problem, technology gap, or other defense related challenge with its technology. DIUx also participates in events such as South by Southwest and hosts technology showcases and workshops to expand and strengthen its relationships with innovative firms.

3. How DIUx Works

Currently, DIUx uses a multi-step co-investment model where it approaches technology firms with a problem, a flexible contracting mechanism, and money. DIUx also provides follow-thru services such as creating a contract for the government and technology firms to collaborate, performs contract administrative functions, and monitors progress of active contracts. The following steps outline the DIUx approach and illustrate how a military entity such as ACC would participate in this approach.

Step 1: Initiation

To initiate a collaborative venture with DIUx, a government entity such as ACC would approach DIUx with a problem, technology gap, or area of improvement. DIUx is only interested in what the problem or area of improvement is and the desired end state. DIUx specifically does not want requirements because DIUx strives to allow the technology firm to use its expertise and innovative approach to determine what is required to solve the problem. Government furnished requirements might restrict the technology's firm's freedom to "think outside the box." To proceed to the next step, DIUx requires that the government entity make two commitments. First, the government entity must commit funds towards the venture. Second, the government entity must commit equity in terms of personnel to work with the technology company on the contracted work—specifically, the government entity must agree to supply a program manager to oversee the project and "warfighter expertise" to work with the contractor team to ensure that the agreed upon end state is reached at the conclusion of the contract.

It appears fewer government or military entities have approached DIUx with their problems than DIUx would like, so DIUx has taken the proactive step of engaging warfighter units to make them aware of what DIUx can offer. For example, DIUx asked a Fort Hood general for a list of his top five problems. When DIUx received the list of five, DIUx met with Fort Hood personnel to downselect that list to a couple of problems. DIUx then requested Fort Hood's commitment of money and personnel before DIUx set out to work with Fort Hood to get technology firms on contract to solve Fort Hood's top priority problems.²

Step 2: Firm Search

With the required commitments in hand, DIUx will do all of the planning, canvassing, and market research to find the firms that are most qualified to address the problem. For example, DIUx would publicize the need for a solution through means such as posting the issue as a

² Along this same vein, A5 and A3 have both received overtures from DIUx.

current technology area of interest or helping the government entity stage events to provide interested technology firms with further details on the problem and the desired outcome of a solution. The content presented to the technology firms would be provided by the government entity though DIUx may assist with communicating the issue details. In its search for firms, DIUx only solicits firms with tier one venture capital funding because these firms have been vetted by leading venture capitalists for business soundness. Hence, the government entity has some assurance that the firms DIUx identifies will be in business in the future.

Step 3: Short Proposal Submission

DIUx invites technology firms to submit proposals to address the issue. DIUx collects these initial proposals in commercial-friendly formats such as solution briefs or short descriptions. As part of curating the problem, DIUx promises feedback within 30 days of receiving a submission.

Step 4: Full Proposal Submission

Firms that submit initial short proposals that are judged to be good matches are invited to submit full proposals. An invitation to submit a full proposal is considered the beginning of contract negotiations. DIUx does not restrict its selection to a single winning proposal—DIUx might pursue full proposals from multiple short proposals to address a single problem.

Step 5: Contract Negotiations

DIUx creates contracts with assistance from Picatinny Arsenal³. Picatinny Arsenal has the mission to negotiate DIUx OTA contracts for all of the military services, including entities such as ACC. DIUx aims for a signed contract in under 60 days.

Step 6: Contract Execution

In executing the contract, DIUx takes care of the business processes so that the government entity can focus its attention on the technical work. DIUx assigns an administrative program manager for each DIUx contract. The administrative program manager is affiliated with DIUx and this person manages the business end of the contracts. The government program manager is expected to oversee the technical work to ensure that the contracted end state is reached at the conclusion of the contract.

Figure 3.1 shows a generic diagram of the DIUx process.

³ Picatinny Arsenal is the Joint Center of Excellence for Guns and Ammunition. As such, Picatinny Arsenal provides products and services such as research, development, engineering and production support for advanced weapons systems to all U. S. military entities.

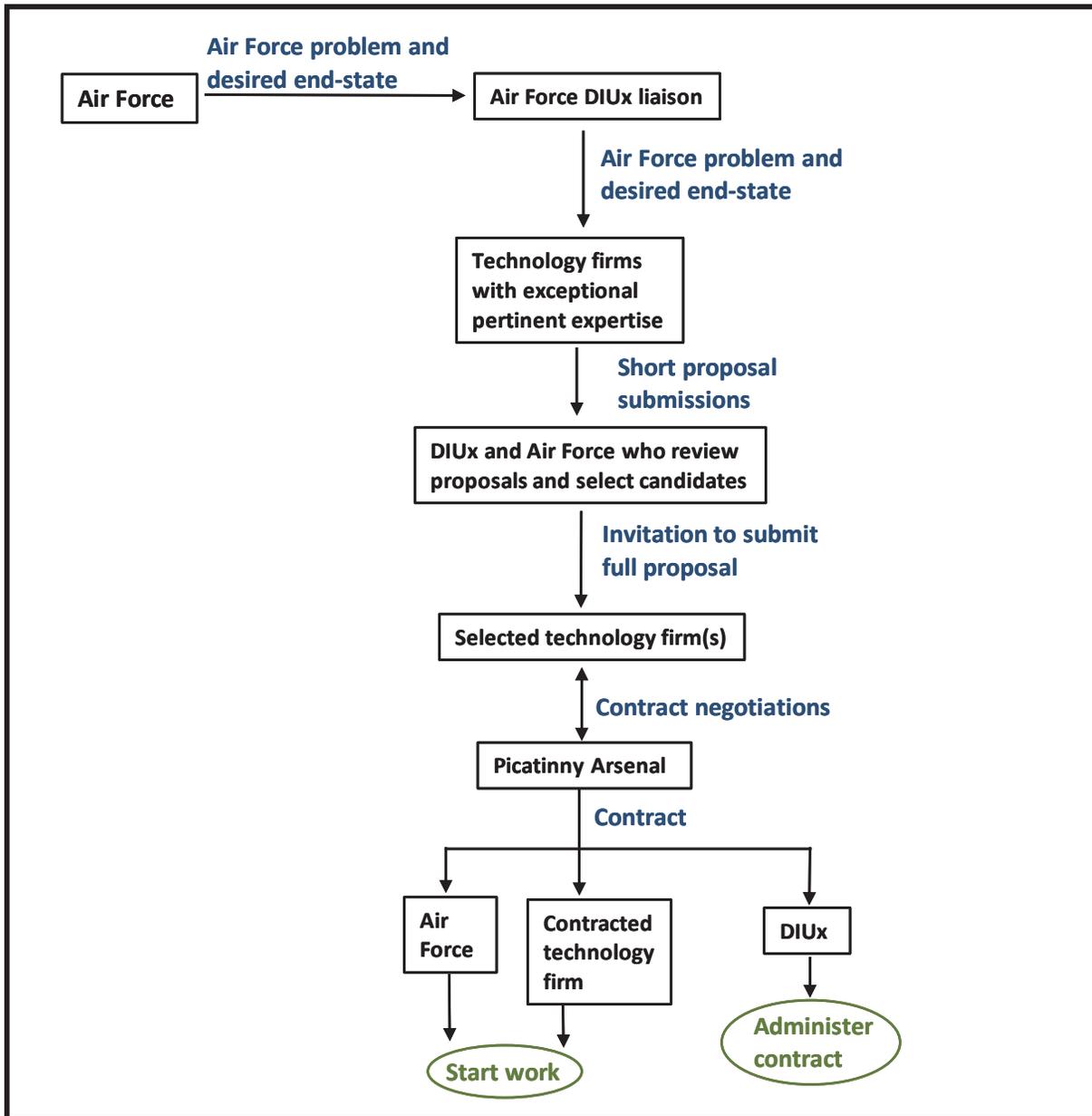


Figure 3.1: Generic DIUx Process

4. Funding a DIUx Collaboration

The level of effort and the amount of funding the government commits are negotiated on a case-by-case basis. Each DIUx collaboration is different. For example, in a government collaboration with DIUx, the government would typically commit the major share or all of the cost of a DIUx venture. DIUx may choose to commit some of its own funds as its contribution to bring agility to the Department of Defense (DoD) acquisition process. The amount that DIUx contributes is not reimbursed by the government entity or any other entity and DIUx does not take ownership or control of anything in return for its investment. DIUx has \$20M in FY17 funds to invest. An example, provided by DIUx, would be for a government entity such as ACC to commit 75% of a contract's costs, DIUx would commit 25% as its contribution. DIUx strives for a five-fold or more return in value for the contractor. For example, if ACC commits \$1.5M (75%) to a DIUx project and DIUx commits an additional \$500K (25%), the total contract would be for \$2M and DIUx would strive for a value return of at least \$10M to the contractor in terms of commercial potential from work performed under the contract. The value to the contractor is an estimate of the additional future business the contractor might expect for having done the work with DIUx. DIUx strives for a value return of at least five times the value of the contract to the contractor to make the collaboration especially attractive to the contractor.

Since its inception, DIUx offices have signed twelve contracts worth a total of \$36M.⁴ Two of the twelve contracts, worth a total of \$25.3M, went to traditional suppliers. Eight of the remaining ten contracts were for amounts of \$1M or less. These facts illustrate that DIUx is willing to work with any firm that can help resolve defense issues through innovative solutions and that DIUx's reach into the nontraditional supplier sector is succeeding.

⁴ Serbu, J., "DIU-X Touts \$36M in Rapid Contracts, But Most Dollars Went To Established Firms," 17 October 2016. Available on 14 November 2016 at <http://federalnewsradio.com/defense/2016/10/diu-x-touts-36-million-new-contracts-dollars-went-established-firms/>

5. What DIUx Collaboration Offers ACC

DIUx represents a new avenue that government entities such as ACC can use to solve technology problems and enhance capabilities. DIUx can complement ACC's current methods of improving its capabilities to execute ACC roles and responsibilities. Specifically, DIUx offers ACC speed, access, administrative support, and money as follows:

- A quick acquisition process where problems are exposed, solutions are solicited, and contracts are signed for work to begin within 60 days after start of contract negotiations.
- Access to the world's leading technology firms, and specifically those that have not or usually do not do business with the government to solve ACC problems.
- Contracting expertise to negotiate OTAs.
- A DIUx program manager to manage the business end of collaborations.
- Potential no-strings monetary contributions to ACC collaborations with DIUx.

6. How ACC Can Collaborate With DIUx

Although DIUx offers an alternative to traditional acquisition methods to improve ACC capabilities, there are some limitations and if such collaborations are not well planned for, they can result in little benefit or even negative consequences for ACC.

Limitations

The following are limitations help define the types of problems best suited for an ACC collaboration with DIUx.

- Contract duration cannot exceed five years.
 - Most DIUx contracts use technology that already exists and that would require little or no further development to be used to solve an ACC problem. Hence, solutions that entail incremental improvements appear to be best suited for ACC collaborative efforts with DIUx.
- Contracted amount cannot typically exceed \$250M.
 - DIUx cannot enter into collaborations for more than \$250M without explicit approval from higher-level DoD executives. In reality, as described above, DIUx signed contracts are generally orders of magnitude less, so this limitation should not be an issue.
- Picatinny Arsenal negotiates OTA contracts on behalf of the government entity.
 - The traditional DoD acquisition process does not allow use of OTAs except for prototyping contracts. Hence, ACC might not have dexterous familiarity with using OTAs. However, since the work is to benefit ACC and intended to solve an ACC problem, ACC should be a party to the contract negotiations. Hence, ACC will have to be vigilant in ensuring that the desired end goal is clearly and thoroughly represented in the OTA contract. To continue to use DIUx collaborations as a method to improve ACC capabilities, ACC should endeavor to grow its own contracting expertise enough to work effectively alongside Picatinny Arsenal, DIUx, and leading commercial technology firms to negotiate contracts that meet ACC needs.
- Working with leading commercial technology firms might require adjustments.
 - ACC is probably most familiar with working with traditional suppliers. The world's leading technology firms are likely to work in a less structured manner. For example, a DIUx collaboration might not have conventional programmatic elements such as

formal work breakdown structures, configuration controls, and conventional reporting methods.. Since ACC personnel are expected to be part of the solution team, ACC needs to be sure that the personnel assigned to DIUx collaboration teams from leading commercial firms are comfortable and can effectively contribute in an avant-garde environment. The ACC people assigned to work on DIUx collaborations are responsible for ensuring that the ACC-desired end state is reached, so these folks need to be able to quickly adapt and effectively communicate with all team members.

7. Path Forward for ACC

The advantages DIUx offers outside of the traditional acquisition process are worth developing. For ACC to take advantage of the opportunity DIUx presents, we recommend that ACC consider the following guidelines.

An Initial ACC Collaboration with DIUx

- Learn more first.
 - ACC can contact DIUx⁵ to identify military units who already have DIUx contracts to learn additional details about collaborating with DIUx. If ACC finds characteristics that are not likely to work in an ACC setting, ACC can discuss these concerns with DIUx personnel before formally initiating a potential DIUx collaboration.
- Start small.
 - Since ACC has not yet worked with DIUx and DIUx is itself still in learning mode, we recommend that ACC start with a small DIUx collaborative effort that will bring an incremental improvement to one of ACC's problem areas. Such a project can serve as a learning experience, so ACC can observe first hand how such collaborations work. Also, as the current selection of DIUx signed contracts shows, DIUx has limited experience with executing large projects, so ACC might not want to risk a large amount without trying out the process first.
- Match the problem to the expertise.
 - A beneficial action might be for ACC to identify a handful of high priority problems. In doing so, ACC might consider that one of DIUx's fortes is that DIUx has cultivated relationships with co-located technology firms. Co-located firms in the Silicon Valley are world renown for their innovation and success in areas such as big data analysis and integration, artificial intelligence, machine learning, cyber security, simulation, and imaging. Hence, a DIUx project that addresses an ACC problem in areas requiring the types of expertise that co-located leading technology firms have might be a good starting point. DIUx, however, does not impose conditions on the types of problems warfighters submit.

⁵ Current contact information is available on the DIUx website. Current as of 26 April 2017, the website is as follows: <https://www.diux.mil>. In addition, general questions can be sent by email to questions@diux.mil. Warfighters who wish to discuss mission-essential problems can send messages to ideas@diux.mil. Media can contact DIUx at media@diux.mil.

- Try to keep the work unclassified.
 - DIUx contracts to date have been unclassified. While DIUx appears to be in the process of retaining a security officer, it is not clear that DIUx has experience in quickly clearing contractor personnel to work with classified material. To prevent classification from delaying the work, an unclassified initial project might be the simplest for all parties in an initial ACC collaboration with ACC.
- Be ready to start work.
 - DIUx has found that delays in beginning work have usually rested with the government. Since work can start as soon as 60 days from the onset of contract negotiations, ACC should consider identifying or developing OTA expertise now, so that someone is ready to participate in negotiations as soon as DIUx finds a match to an ACC problem. In addition, ACC should consider identifying or training personnel to work on DIUx contracts in what might be unconventional working environments. Such personnel should include candidate ACC program managers to oversee “warfighter expertise,” as well as those who would be contributing the warfighter expertise. In addition, when submitting problem areas to DIUx, ACC should have also identified the databases, code, frameworks, models, etc. that will be used in developing a solution. The contractor team and the ACC employees assigned to work on the project will need immediate access. Also, if contractor personnel are to work at an ACC site, the personnel will need a place to work.

8. Integrating ACC Collaborations with DIUx into ACC Acquisition

For ACC to successfully integrate DIUx collaborations into its toolset for improving ACC capabilities, ACC has to plan for the future. Some issues ACC needs to consider for an integration strategy are discussed below. The issues listed stem from analyzing input from interviewees and synthesizing the input with results from studies RAND has performed for the Air Force.

Vetting Project Ideas and Considering Project Lifecycles

DIUx is essentially a broker that matches warfighter problems from customers like ACC with technology firms that can provide solutions to the problems. DIUx has taken a proactive approach to jumpstarting its activities. For example, DIUx is presenting Air Force entities with project ideas that can be executed by firms with which DIUx has cultivated relationships. In particular, DIUx has presented the idea that A3 enter into a DIUx agreement for a leading technology company to develop a drone that can mimic enemy aircraft maneuvers. Such a drone would be used improve Air Force pilot training. The value of the contract might be in the \$50M range.

Neither ACC nor A3 has a process to vet DIUx ideas, so decisions might be based on limited expertise. For example, there is no process to consider whether a variation on the DIUx idea would be more appropriate or beneficial. In addition, all systems do traverse the acquisition path from idea origination through development to operations and maintenance and, finally, to disposal. DIUx projects may traverse parts of the path much quicker, but no steps are omitted. If such a drone were acquired, what party has considered the longer-term issues of how the drone is to be used and the resources that might be required to operate and maintain the capability? To successfully integrate DIUx into the acquisition system, ACC needs a way to quickly vet project ideas and to consider the entire life cycle of problem solutions however fast transitions through the life cycle occur.

Centralized Control

While DIUx offers a very attractive way to solve some ACC problems, ACC needs some type of centralized control of the DIUx projects both in terms of business processes and in terms of capabilities acquired. In terms of business processes, it is unclear who pays for the DIUx projects. Do all DIUx projects go through A8, the entity responsible for developing new capabilities? If not, how does ACC know what capabilities it has or even an accounting of how government funds are being spent?

Perhaps even more problematic is that without some kind of centralized awareness, DIUx has the potential of pushing warfighting capabilities into an arena similar to that of Air Force enterprise information technology (IT). With enterprise IT, no one Air Force agency has central control or even awareness of all enterprise IT that has been acquired or in operation. Interoperability and security are some of the problems with the lack of centralized oversight of enterprise IT.⁶ If DIUx enables each Air Force warfighting entity to quickly acquire capabilities without awareness by some centralized party such as ACC or a group of representatives from all stakeholder groups, then informed decision making regarding mission planning and execution might be jeopardized.

How DIUx Fits In

ACC uses several acquisition models to attain the capabilities it needs to execute its mission. Each model addresses capability needs differently. DIUx may be best suited for ACC needs with characteristics such as rapid acquisition and development of innovative solutions from world-class technology firms that not only work at the edge to technological advancement, but, in fact, define those advancements and the direction of technology evolution. ACC has to develop an understanding of how DIUx efforts relate to existing acquisition processes, including, but not limited to the current Joint Capabilities Integration and Development System (JCIDS); the Planning, Programming, Budgeting, and Execution System (PPBES); and the Defense Acquisition System (DAS) model. In addition, ACC needs to comprehend how the DIUx model can complement existing rapid acquisition paradigms such as Tactical Exploitation of National Capabilities (TENCAP), Air Force Research Laboratory Open Systems Acquisition, and the techniques used by the Air Force Rapid Capabilities Office. A thorough understanding of how DIUx can complement existing acquisition models will allow ACC to deftly select the most effective and efficient method to attain the capabilities it needs to accomplish its mission.

⁶ Camm, F., L. Mayer, A. Narayanan, M. Vasseur, C. Wong, K. Gierlack, D. Tierney, *Capital Planning and Investment Control and Portfolio Management in the Air Force Information Environment Mission Area: Summary of Findings and Recommendations*, Santa Monica, CA: RAND, TBD.

9. Conclusions

This investigation points to two suggested actions regarding Air Force collaboration with DIUx.

- Make a small initial investment in a DIUx collaborative effort.
Use the opportunity to work with a new leading-edge firm to develop a technology solution to a current Air Force issue. Such an effort can be viewed as both a learning experience as well as a chance to communicate Air Force needs to a new potential supplier.
- Formally begin the process of developing a strategy to integrate DIUx-like capabilities into the Air Force acquisition toolset.

The DIUx model employs the world's leading technology firms to potentially develop solutions to the most challenging Air Force issues. Exploring how to best integrate such a paradigm into the Air Force acquisition toolset and adapting it to the Air Force environment will ensure that the Air Force acquisition methods span the spectrum of problem solving techniques that can bring improvements to warfighter capabilities in the most efficient and effective manner.

The quick problem-solving method using the world's leading technology firms that DIUx currently offers is worth keeping regardless of whether it resides in DIUx, within ACC, or elsewhere within the Air Force.

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