

## DoD ESI White Paper

# Is Commercial Off-the-Shelf Software Maintenance a Supply or Service?

Guidance and analysis to help arrive at the right decision for your program.

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## About DoD ESI

The DoD ESI was formed in 1998 by Chief Information Officers at the DoD. To save time and money on commercial software, a joint team of experts was formed to consolidate requirements and negotiate with commercial software companies, resulting in a unified contracting and vendor management strategy across the entire department. Today, DoD ESI's mission extends across the entire commercial IT life-cycle to include IT hardware products and services. DoD ESI has established DoD-wide agreements for thousands of products and services.

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## Introduction

One question frequently asked by students in the Department of Defense (DoD) Enterprise Software Initiative (ESI) Software License Training class is whether software maintenance is a supply or a service. In the ensuing classroom discussions, students cite differences of opinions among attorneys, comptrollers, and disbursing officials. They also reference appropriations law conflicts, contract administration implications, and billing or payment problems.

Whether software maintenance is classified as a product<sup>1</sup> or service is important for several reasons:

1. It will determine the package of documents required to be drafted and approved to execute the acquisition;
2. It will affect the order or software license (EULA) terms and conditions; for example, item description and timing of payments;
3. It could impact the source of appropriated funding to pay for maintenance; and,
4. It will impact contract administration.

Commercial-off-the-Shelf (COTS) software maintenance is a large part of the Federal Government's information technology (IT) budget and buying practices vary across the DoD. This paper will address and clarify the various laws, regulations, concepts, and practices to help the reader make his or her own determination.

To accomplish these purposes, this paper is organized to address the following core elements:

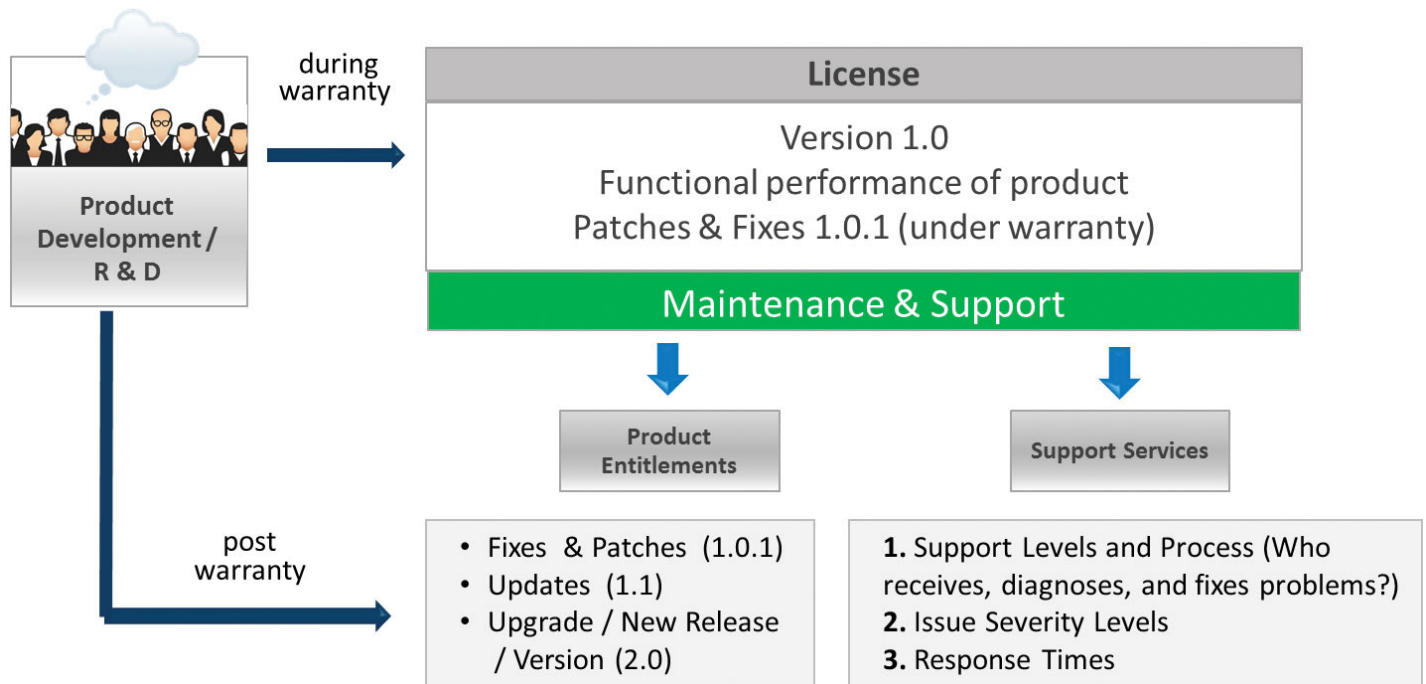
1. What is Software and Software Maintenance?
2. How Do We Analyze this Issue Using GSA's Definitions (Level One Analysis)?
3. How Do We Analyze this Issue Based on the Following (Level Two Analysis)?
  - a. How Does the Federal Acquisition Regulation (FAR) Differentiate Services and Supplies?
  - b. What are the Budget, Funding and Payment Implications of Buying Software Maintenance?
  - c. What are the Post-Award Issues that Materialize in Software Maintenance Contracts?

## Software Maintenance: Definitions, Policy, and Spending Trends

### What is Software and Software Maintenance?

According to the Office of Management and Budget (OMB), software is a capital asset, like "land, structures, equipment, and [other] intellectual property"<sup>2</sup>. The simplest definition of software is a set of instructions or code to tell a computer what to do and when to do it. Software maintenance, then, is the upkeep, updating, and enhancement of the instructions or code. Not all publishers define and package their maintenance and support offerings the same. Often times, maintenance and support are provided in one bundled offering, which we will refer to as just "maintenance" throughout this paper. Therefore, the analysis required to determine if maintenance is a product or service must be performed on a case by case basis.

The price for software maintenance is typically paid on an annual basis in addition to the initial license acquisition fee and it secures the software publisher's commitment to fix defects and meet customers' required service levels. As shown in the figure below, product entitlements typically include fixes, patches, updates, upgrades and/or new releases. The maintenance contract term starts at the time of entering the software license or the customer's first productive use of the software.



The policy mandate to acquire software maintenance varies across the DoD and Civilian agencies. The Department of the Navy (DON) has made software maintenance mandatory in an effort to minimize security vulnerabilities. The Air Force, Army, and other defense activities have yet to follow suit. Similarly, civilian agencies, such as the Department of Homeland Security (DHS), the Department of Veterans Affairs (VA), and the National Aeronautics and Space Administration (NASA), have not mandated software maintenance. However, given the severity and scope of attacks on Government and commercial information systems and Web sites, software maintenance may become mandatory. As such, DoD ESI generally recommends buying software maintenance to keep the product updated in all respects and to renew it as soon as possible if there is a gap in coverage. However, DoD ESI recommends agencies develop and implement a business case analysis process that considers cost vs. benefits to determine if purchasing software maintenance is in the Government's best interest.

## Level One Analysis: When Buying Software Maintenance Using a General Services Administration (GSA) Vehicle—

*The first level of analysis that should be conducted applies the determination by GSA of whether software maintenance is a product or a service. GSA has published the following determinations that can be referenced when resolving this issue:*

### **When is Software Maintenance Considered a Product by GSA?**

GSA holds that software maintenance is a supply that can be billed at the time of purchase when it is for the “purpose of maintaining the operability and usability of the software product by utilizing published fixes to bugs via patches, updates, or upgrades.”<sup>3</sup> It may also include other “no charge” support that is included in the purchase price of the product in the commercial marketplace. No charge support includes items such as user blogs, discussion forums, on-line help libraries, Frequently Asked Questions (FAQs), hosted chat rooms, and limited telephone, email and/or web-based general technical support for a user’s self-diagnostics.

Furthermore, GSA has placed software maintenance as a product in the GSA Schedule terms and conditions sections for Special Item Numbers (SINs) 132-32 and 132-33, which are used to cover software products. As such, this classification would seem to allow for software maintenance to be deemed a product.

### **When is Software Maintenance Considered a Service by GSA?**

Software maintenance is considered a service by GSA and placed under SIN 132-34 when it “is purchased for the purpose of solving user identified problems using technical support outside the scope of software maintenance as a product.” This usually occurs “when problems arise after software implementation, such as when the software is incompatible with the organization’s IT infrastructure.” This is separate and distinct—or over and above—the routine patches, bugs, fixes, updates, or upgrades publishers provide under the “product” classification.

Another form of software maintenance defined as a service would be when a publisher ceases to support a product, either due to the product’s age or the publisher going bankrupt. In these cases, you may need a service contract with a third party to provide patches and fixes to mitigate vulnerabilities. Software maintenance categorized as a service is billed in arrears.

So, if buying software maintenance off a GSA Schedule or a DoD ESI BPA and it’s listed under SINs 132-32 or 132-33 then it’s a supply. However, if you’re not buying off a GSA or DoD ESI BPA or approval authorities don’t agree with this determination, then see the second level of analysis.

**Some of the areas in which service contracts definition applies are found include the following areas:**

- Maintenance, overhaul, repair, servicing, rehabilitation, salvage, modernization, or modification of supplies, systems, or equipment
- Routine recurring maintenance of real property.
- Housekeeping and base support
- Advisory and assistance
- Operation of Government-owned equipment, real property, and systems
- Communications
- Architect-Engineering.
- Transportation
- Research and development
- Consulting

## Level Two Analysis:

*The second level of analysis is used when GSA's determination described above does not apply or it's not accepted by a Government attorney, comptroller, disbursing clerk, etc. In this case, you may apply the following analytical approach:*

### **Consider How the Federal Acquisition Regulation (FAR) Differentiates Services and Supplies:**

According to FAR 37.101, a service contract “directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply.” Conversely, no clear-cut definition exists for a supply or product. However, one can infer from FAR 37.101 that a product or supply contract means a contract that engages a contractor to deliver an end item of supply, which, in the case of software maintenance, would be the fixes, patches, updates, and upgrades to the licensed intellectual property.

So, this would utilize the same style of analysis that GSA suggests. If you are engaging a contractor to perform a defined task carried out by individuals rather than furnish a supply, then maintenance would be deemed a service.

IT'S A PRODUCT IF:	IT'S A SERVICE WHEN:
Contractor's primary obligations are product entitlements.	Contractor's primary obligations are solving user problems beyond the scope of product entitlements.
Contractor is delivering an end item of supply (fixes, patches, updates, and upgrades to the licensed intellectual property).	You're engaging the time and effort of a contractor whose primary purpose is to perform an identifiable task rather than to furnish an end item of supply.
	<b>EXTRA DOCUMENTATION/WORK REQUIRED:</b> Performance Work Statement (PWS), Quality Assurance Surveillance Plan (QASP), assigning a Contracting Officer's Representative (COR), Contract Administration Plan (CAP), Contractor Manpower Reporting.

### Consider How the Government Classifies Software Maintenance in Product or Service Codes

The federal Government spends hundreds of millions of dollars per year on software maintenance. No long-term data exists on software maintenance spend because the Federal Procurement Data System (FPDS) didn't start tracking this data until October 1, 2011. With GSA's FY12 introduction of Product or Service Code (PSC) D319, Service: IT and Telecom- Annual Software Maintenance Service Plans, the Federal Government created the means for contracting activities to report software maintenance plan spending data. However, the establishment of this PSC also inadvertently adds to the confusion as to whether software maintenance is a product or service. This is because PSC D319 is a **services** PSC, while the PSC for the software itself is 7030 (Automatic Data Processing (ADP) Software), is a **supply** PSC.

Furthermore, the designated North American Industrial Classification System (NAICS) code for software, 511210 (Software Publishers), appears in the **services** range (481111 - 928120) of the NAICS structure rather than the **supply/manufacturing** range (111110 - 425120). There are no NAICS codes currently assigned to software maintenance providers.



*Who Buys Software Maintenance and How Much Do They Spend?*

Though reporters of contract actions have been slow to report in the Federal Procurement Data System (FPDS) software maintenance contracts under the new PSC, the data provide a glimpse into the federal Government spending patterns. As shown in Table 1, Defense and Veterans Affairs are far and away the largest consumers of software maintenance. The reported spend of \$747 million in 2014 demonstrates the need for a fuller understanding of software maintenance definitions, policies, and procedures.

Department	2014	2013	2012	Grand Total
Top 10	(Hundreds of millions)			
Defense	\$260.87	\$147.81	\$55.96	\$464.64
Veterans Affairs	\$136.31	\$106.11	\$30.70	\$273.12
Homeland Security	\$64.03	\$24.07	\$7.76	\$95.86
Health and Human Services	\$38.77	\$24.08	\$18.70	\$81.54
Interior	\$35.03	\$24.86	\$5.41	\$65.30
Commerce	\$49.53	\$9.94	\$5.05	\$64.52
Transportation	\$20.37	\$8.19	\$4.54	\$33.10
Treasury	\$19.47	\$8.25	\$3.69	\$31.42
Justice	\$15.92	\$7.24	\$3.88	\$27.05
Agriculture	\$7.49	\$4.65	\$11.15	\$23.28
Rest of Federal Government	\$98.91	\$55.02	\$25.42	\$179.35
<b>Grand Total</b>	<b>\$746.69</b>	<b>\$420.22</b>	<b>\$172.26</b>	<b>\$1,339.17</b>

FY11-FY14 FPDS-Reported Software Maintenance Spend

## What Are the Invoicing, Payment, and Administration Issues?

### Invoicing & Payment

Because COTS software publishers and their resellers have customarily treated software maintenance as a supply, they have structured their business operations around invoicing and payment at time of contract execution. This practice is followed when selling to the federal Government, though some publishers or resellers invoice monthly or quarterly in arrears, which is the preferred method for the Government.

When software maintenance is deemed a service, it is billed in arrears in accordance with 31 U.S.C 3324, which generally holds that the Government cannot pay for a service until after it has been rendered. Problems arise when an individual—a contracts specialist, contracting officer, attorney, financial manager, or payment officer—unilaterally determines the maintenance to be a service and considers the contract to have been awarded as such.

When this happens, the publisher or reseller, expecting payment upfront, experiences an accounts receivable interruption until the situation is resolved. Resolution can take a variety of forms; the most common is requiring the publisher or reseller to accept payment in arrears for Maintenance (and Support). Another common resolution is to modify the contract to call the maintenance contract a subscription, which can be used as the CLIN “unit of issue”. This has the effect of indicating the maintenance has been determined a product and may allow DFAS to make the payment in advance of receiving all the maintenance entitlements.

### **Administration of Services Contracts Requirements**

Service contracts whose value exceeds \$150,000, including options, require a written Contract Administration Plan and the assignment of a Contracting Officer’s Representative. The Department of the Navy imposes an additional oversight requirement in the form of a Management and Oversight Process for the Acquisition of Services (MOPAS 2). Finally, the contractor may be required to report direct labor and associated costs in one of the DoD’s Contractor Manpower Reporting applications. All of these documents or tasks take time and effort to prepare and to be approved, even though they may not be truly necessary.

See Appendix A for more information on budget, funding and payment implications.

#### **Trade Agreement Act (TAA) Compliance**

An ancillary issue buyers have encountered recently involves vendors providing support on a 24-hour basis using personnel located around the world in strategic time zones.

This support is known as “Following –the-Sun” since live personnel are operating during the local normal business hours while the sun is up. If purchasing Software Maintenance as a supply and it employs this method of support, buyers should ensure it complies with Trade Agreement Act (TAA) requirements. See FAR Part 25 and DFARS Part 225—Foreign Acquisitions.

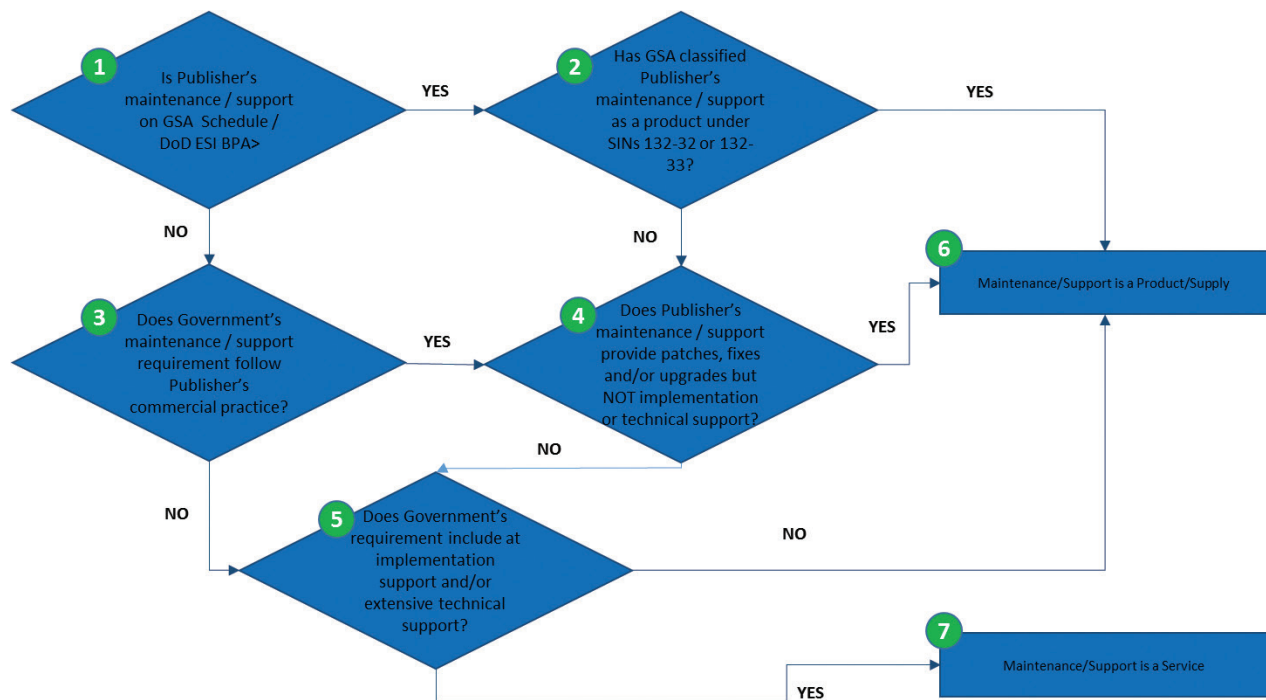
The “Follow the Sun” support can also raise security issues for DoD. As such, buyers should ensure Software Maintenance contracts address security requirements.

## **Conclusion/Recommendation**

As demonstrated, there are various conflicting rules, regulations, policies, and procedures and inconsistent applications of them when purchasing software maintenance. This paper has introduced the reader to generic and GSA definitions of software and software maintenance. Additionally, the reader has been presented with some of the FAR differentiations between services and supplies. We have covered budget, funding, and payment implications of buying software maintenance and key post-award issues that materialize in software maintenance contracts. A summary table showing several conflicting aspects of this issue is shown on the next page.

SUPPORTING INFO THAT MAINTENANCE IS A PRODUCT	SUPPORTING INFO THAT MAINTENANCE IS A SERVICE
The proper PSC Code for the initial purchase of software, 7030, indicates software is a supply.	The proper—or most accurate—PSC Code for software maintenance, D319, indicates that software maintenance is a service.
OMB considers software a capital asset, which by its very nature is a supply, and, since software maintenance is just more of the same, it, too, is a supply.	The proper way to buy software maintenance in one fiscal year, when most of the performance will be in the following fiscal year, is to treat it as a service.
GSA treats most software maintenance contracts as supply buys.	The appropriate NAICS code, 511210, indicates that software maintenance is a service.
The FAR definition for services does not apply to the product entitlements publishers provide with standard, commercial software maintenance contracts.	

Interpretation of law, regulation, policy, and procedure governing software maintenance vary from agency to agency. As such, DoD ESI recommends buyers carefully consider the information presented herein, analyze their requirement following the decision process illustrated in the figure below, and develop and document their determination.



Software maintenance and support are usually provided as a package by software Publishers either directly or through their Resellers<sup>4</sup>. While maintenance is the source of fixes, patches and fix-packs for correcting defects, support is generally the mechanism for identifying and reporting those defects so fixes can be created. It often includes product enhancements in addition to fixes and the EULA will define licensee entitlements to both by virtue of paying for maintenance and Support. Support often has more frequently and commonly become self-service, which enables licensees to search defect databases, selecting fixes and applying them.

This description of maintenance and support indicates it is a product, since the essence of what is being purchased is enhanced or corrected software code tied to the original code licensed that makes the base product work better. Conversely, when maintenance or support is procured from a third, it is a service, because what will be received is not corrected or enhanced source code. Rather, the essence of what is being procured is a service intended to enhance the base code with work-around solutions.

With these definitions, DoD ESI concludes, publisher-provided Maintenance and Support (directly or through authorized resellers) that results in fixes and enhancements are products; Maintenance and Support provided by others is a service.

Then, whether the buyer has determined the software maintenance is a supply or service, he or she should select PSC D319 (indicating it is a service) and NAICS Code 511210 (also indicating it is a service) for the purpose of small business coordination and reporting in FPDS.

Finally, the buyer should seek to make payments in arrears on a monthly or quarterly basis whether maintenance is deemed a product or a service.

Now, if the buyer determines the software maintenance is a service, then the acquisition strategy and associated documentation should include all the management, oversight, and administration best practices or requirements necessary to effective services acquisitions: Clear and concise maintenance requirements, meaningful performance objectives and standards, and stringent oversight plans.

Readers are cautioned that this guidance is meant to be illustrative of possible solutions; it is not intended to be legal or fiscal advice. Rather, it is designed to highlight potential concerns, present recommendations for managing those concerns and encourage further research or discussions with legal counsel or comptrollers. Readers who might need additional subject matter expertise support should use the “Ask an Expert” resource on the ESI web site ([www.esi.mil](http://www.esi.mil)).

## APPENDIX A

### What Are the Budget, Funding, & Payment Implications?

When determining if a contract is awarded for a supply/product or a service, it is important to identify how funding originates and ultimately winds up on a contract for software maintenance.

Funding authority originates in the U.S. Constitution, Article I, Section 9, first clause, which states: “No money shall be drawn from the treasury, but in consequence of appropriations made by law...”<sup>5</sup> The legislative and executive branches act to pass a budget and appropriate the funding in a National Defense Authorization Act (NDAA). Various appropriations laws and rules restrict the timing, purpose, and amount of the funding.

#### *Color of Money*

Students rightly wonder which type of appropriated funds is most suitable for software maintenance. Commercial Software is often purchased as a supply using Other Procurement (OP) or Research, Development, Test, and Evaluation (RDT&E) funds. In some cases, Government agencies have also used Operations and Maintenance (O&M) or Working Capital Funds (WCF) to acquire software. Software maintenance, on the other hand, is typically purchased using O&M funds, but can be funded using RDT&E appropriations.

Buyers should ensure the funds they've received for the software maintenance are obligated according to their time, purpose, and amount restrictions. For example, when purchasing software for a major automated information system (MAIS) and using RDT&E funds, buyers could use the funds for the initial license buy and the maintenance. However, once the MAIS has been fielded and is in full production, the buyer would need to use OP funds for additional licenses and O&M funds for maintenance on the existing and new licenses.

Type	Avail	Definition/Purpose
O&M <sup>6</sup>	1	Finances things whose benefits are derived for a limited period of time (e.g., expenses, rather than investments): Headquarters operations; civilian salaries and awards; travel; fuel; minor construction (<\$750K); expenses of operational military forces; training and education; recruiting; depot maintenance; purchases from Defense Working Capital Funds (DWCF); base operations support; and assets with a system unit cost <\$250K.
RDT&E <sup>7</sup>	2	Finances research, development, test and evaluation efforts performed by contractors and Government installations to: develop equipment, material, or computer application software; purchases end items, weapons, equipment, components, and materials as well as performance of services to develop and test the system; operating costs of RDT&E facilities; investment-type costs (e.g., sophisticated laboratory test equipment); and expense-type costs (e.g., salaries of employees at R&D-dedicated facilities).
OP <sup>8</sup>	3	Finances investment items, and should cover all costs necessary to deliver a useful end item intended for operational use or inventory: Items whose system unit cost exceeds \$250K; centrally managed end items not purchased from DWCF; purchases from the DWCF furnished as part of a system acquisition or modification, major service life extension program and initial spares; and cost of fabricating and installing additions or modifications to existing end items.
WCF <sup>9</sup>	N/A	Allows the federal Government purchase and repair activities to account for costs and revenue as if it were a commercial business. Provides a funding mechanism for the DoD corporate structures to absorb risk in planning investment programs for maintenance and supply. This allows DoD organic maintenance and supply activities to make investments in the near term and recoup the costs through future year pricing structure.

<sup>1</sup> Please note that for the purpose of this paper, the terms "Supply" and "Product" are used interchangeably because GSA utilizes the term "Product" when referencing capital assets, as do acquisition coding conventions. On the other hand, standard and optional contract forms use the term "Supply" when referencing capital assets.

<sup>2</sup> Office of Management and Budget. (2015, June). CIRCULAR NO. A-11. PREPARATION, SUBMISSION, AND EXECUTION OF THE BUDGET. Washington, DC.

<sup>3</sup> <http://gsa.gov/portal/content/122123#general4>. Accessed 8/2/2015.

<sup>4</sup> When provided through Resellers, Level III support and source code fixes can be provided only by the Publisher. Buyers should consider the DoD ESI Privy recommendations.

<sup>5</sup> <https://www.law.cornell.edu/constitution/articlei>. Accessed July 16, 2015 8:50 a.m.

<sup>6</sup> <https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=2a9cba84-43bf-43ff-af23-4b6451e7c1bd>. Accessed 8/2/2015.

<sup>7</sup> <https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=e933639e-b773-4039-9a17-2eb20f44cf79>. Accessed 8/2/2015.

<sup>8</sup> <https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=9be81897-aae7-4b76-8887-f9334c6d77af>. Accessed 8/2/2015.

<sup>9</sup> <http://acqnotes.com/acqnote/careerfields/defense-working-capital-fund>. Accessed 8/2/2015.

## About the Author

Dan McMullan, Principal Consultant at BuySide Partners, is a 10-year USMC veteran with 15 years' experience as a Department of the Navy Contracting Officer. From 2011-2013, Dan held an Unlimited Contracting Officer's Warrant, supervised nearly 20 contracting employees, and managed a portfolio of IT hardware, software, and services contracts worth nearly \$1 billion. In October 2013, he was singled out by Naval Supply Systems Command leadership to develop standard operating procedures governing the "deep diving" and "rewiring" of high risk, high-dollar service contracts worth several billion dollars.



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