

# **NAVAL OPEN ARCHITECTURE CONTRACT GUIDEBOOK**

**Version 1.0  
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**Prepared by: PEO-IWS 7**

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DEPARTMENT OF THE NAVY

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From: Program Executive Officer, Integrated Warfare Systems

Subj: OPEN ARCHITECTURE CONTRACT GUIDEBOOK FOR PROGRAM MANAGERS

Ref: (a) ASN (RDA) Memorandum for Distribution, Naval Open Architecture Scope and Responsibilities of 5 Aug 04  
(b) Deputy Chief of Naval Operations (Warfare Requirements and Programs) (N6/N7) ltr 9010 Ser N6N7/5U916276 of 23 Dec 05  
(c) FIRST ENDORSEMENT on OPNAV N76E, NAVSEA, COMNAVSURFLANT Joint Ltr 3900 of 22 Feb 06

Encl: (1) Naval Open Architecture Contract Guidebook for Program Managers v1.0 of 13 Jun 06.

1. Reference (a) assigns PEO-IWS "responsibility and authority for directing the Navy's OA Enterprise Effort" and further directs the Naval Open Architecture Enterprise Team (OAET) to "define an overarching OA acquisition strategy and develop guidance that addresses incentives, intellectual property issues, contracting strategies ... and funding alternatives." Furthermore, the memorandum states that this guidance will "be utilized in future OA applicable procurements tailored as necessary to incorporate domain specific requirements." Additional requirements are contained in references (b) and (c).

2. Enclosure (1) is a Guidebook that has been crafted, building on the experience of many programs and with the assistance and input of the OAET Domains (Air, C4I, Marine Corps, Space, Submarines, and Surface) and SYSCOMS, to provide Program Managers, Contracting Officers, and their supporting organizations with guidance and example contract language to assist them in incorporating Open Architecture principles into their contracts. This Guidebook provides an extensive list of sample language that can be tailored as appropriate by each program to suit their situation and inserted in contracts and solicitations. Therefore, the specific language is not mandated, but is a useful guide.

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3. This Guidebook is intended to be a living document; we recognize that there will be improvements and extensions to the material that can, and hopefully will, be suggested by its users. In that regard, feedback is most welcome and should be provided using the directions provided on the Naval OA website (<https://acc.dau.mil/oa>) or on the feedback form found in the back of the Guidebook.

4. The Guidebook is effective for use immediately.



M. S. FRICK

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## INTRODUCTION

**Purpose:** This Contract Guidebook is recommended for Industry representatives who are incorporating Naval Open Architecture (NOA) principles into National Security System (NSS) acquisition programs as defined by 40 U.S.C § 11101 et seq. This document is divided into four chapters containing suggested language for Sections C, L and M, and Award Fee Plans, respectively, of acquisition documents; this material can be tailored for use in the specific phase of the acquisition program. It can also be tailored for use in Contract Modifications. Appendix 1 contains suggested NOA-related items for use in preparing the Contract Data Requirements List (CDRL) and for identifying other contractual deliverables. Appendix 2 contains the 23 December 2005 OPNAV Requirements letter that provides Sponsor's guidance on NOA. Appendices 3 and 4 are Checklists that can assist the Program Manager to better understand the business and technical aspects of NOA. Appendix 5 contains a Glossary of Terms.

This guidebook contains only recommendations and is offered with the understanding that individual Program Executive Offices (PEOs) and programs must have the flexibility to adapt its principles and guidance to meet their needs.

**Providing Comments and Feedback:** Development and maintenance of this guidebook is a spiral process involving a series of "build-test-build" iterations. Therefore, PEO-IWS 7 is very interested in your comments, suggestions, and feedback and has included a Feedback Form in Appendix 6. We are also very interested in any "real world" experiences you may have in using NOA principles in programs. Comments can be submitted by mail using the form provided in this document (as Appendix 6) or (preferred) by downloading and submitting the electronic version found in the Policy and Guidance section of the Naval OA Special Interest Area at the Acquisition Community Connection (<https://acc.dau.mil/oa>). Freeform emails with "Comments on NOA Contract Guidebook" in the subject line can also be sent to [NavalOA@navy.mil](mailto:NavalOA@navy.mil).

**Background:** Open Architecture (OA) is an enterprise-wide, multifaceted strategy for acquiring and maintaining National Security Systems (defined below) through joint interoperable systems that adapt and exploit open-system design principles and architectures. Elements of the OA strategy include increasing opportunities for competition and innovation, enabling rapidly fielded and upgradeable systems, and optimizing software asset reuse. The U.S. Government's (hereinafter "Government") ability to acquire at least Government Purpose Rights (GPR) to data and intellectual property and to minimize proprietary elements to the lowest component level is critical to this effort.

The Navy and Marine Corps have adopted OA as a way to reduce the rising cost of Naval warfare systems and platforms and to increase the capabilities of our systems. NOA allows for incorporating more commercial-off-the-shelf (COTS) technology in warfare systems and enabling reuse of software and related assets. In addition, NOA is an

enabler of FORCENet, the operational construct and architectural framework for Naval Warfare in the information age. More importantly, OA will contribute to greater competition among system developers through the use of open standards and standard, published interfaces. It will also require greater collaboration. Individual Domains (Air, Submarines, Surface, C4I, Space and Marine Corps) and PEOs may opt to pursue common architectures across their platforms or capabilities; the NOA principles highlighted in these materials would apply to these common architectures.

This contract language guidance is designed to assist PEOs, Program Managers, legal, and contracting officials in addressing the technical and business aspects of OA in the solicitation and award of Navy contracts. The language represents a long-term view and incorporates many of the principles of open systems mandated by the Department of Defense (DoD) Open Systems Joint Task Force (OSJTF) and the Office of the Secretary of Defense (OSD)/Networks & Information Integration (NII).

**Discussion:** This guidebook contains recommended language for Section C and associated CDRLs of contracts and Sections L and M of solicitations issued by the Navy or Marine Corps for NSS or larger “system of systems” that integrate NSS with platforms such as aircraft, submarines, land vehicles or ships. The term “NSS” refers to any telecommunications or information system operated by the United States Government, the function, operation, or use of which (1) involves intelligence activities; (2) involves cryptologic activities related to national security; (3) involves command and control of military forces; (4) involves equipment that is an integral part of a weapon or weapons system; or (5) is critical to the direct fulfillment of military or intelligence missions, but excluding any system that is to be used for administrative and business application purposes (including payroll, finance, logistics, and personnel management applications).<sup>1</sup>

Sections L and M are pre-award documents not incorporated into the actual contract but are key to ensuring Contractor understanding of and compliance with OA principles. Execution of an effective NOA strategy and/or asset reuse strategy must be considered from both a Pre-Award and Post-Award perspective. The language contained in this document should be tailored to reflect the program’s phase and the goals of the intended procurement action.

Program Managers are advised to use this recommended language and other appropriate technical documents after determining their relevance to the requirement of the specific acquisition being supported. Prior to tailoring this language to the specific needs of the acquisition program, Program Managers should have a clear understanding of NOA principles. Acquisition Programs should have a strategy and supporting plan that addresses an appropriate (business and technical) OA end state and acts as a framework for structuring contract language. The Open Architecture Assessment Tool (OAAT)<sup>2</sup> and the Open Systems Joint Task Force’s MOSA PART<sup>3</sup> are two tools that may help to

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<sup>1</sup>40 U.S.C. § 11103

<sup>2</sup> The OAAT can be found on the Naval OA website at <https://acc.dau.mil/oa>.

<sup>3</sup>MOSA PART (Modular Open System Approach Program Assessment Review Tool).

formulate a good OA strategy. Appendices 3 and 4 consist of two checklists that will also be helpful in preparing acquisition materials and proposal documents.

**Intellectual Property Rights (IPR) and Data Rights:** Program Managers are strongly encouraged to assess the IPR, in particular data rights, requirements of their program and/or community of interest.<sup>4</sup> This analysis will help Program Managers develop Acquisition Strategies that anticipate potential reuse in other programs and thus guide decisions related to intellectual property rights and data rights. These decisions include: (1) whether these rights will be procured, (2) whether it will be considered as part of the technical evaluation, and/or (3) a combination of both. The alternative selected by the Program Manager will drive different solutions in the construct of Sections C, L and M. The attached Section L and M language provides general guidance on data rights. Additional details would have to be worked with their specific program office.

Program Managers (in coordination with their PEOs and resource sponsor) should develop a post-award strategy to ensure they are exercising their intellectual property rights as defined by the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS). Historically, the Navy and Marine Corps have been disadvantaged by not enforcing data rights identified by contractors in their proposals and/or not including an effective Contract Data Requirements List (CDRL) and Data Information Description (DID) into contracts. The Statement of Work (SOW) tells the contractor what he needs to develop; the CDRL orders the delivery of the data according to the SOW, and the DID describes the format and content of the data ordered by the CDRL. These procedures are articulated in the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulations Supplement (DFARS). It is incumbent upon the Government, in general, and the Program Manager and Contracting Officer's Representative (COR) specifically, to review each deliverable and report unjustified/nonconforming or other inappropriate markings on delivered data to the Contracting Officer in order to ensure the PEO is able to take full advantage of the Government's rights. The Contracting Officer, with the assistance of Counsel, is responsible for enforcement of the DFARS provisions.

An overarching concern is reconciling 10 U.S.C. § 2320 section (a)(2)(F) "Rights in Technical Data" requirements with the proposed evaluation factors. Although the Government cannot condition award or responsiveness on relinquishing rights, under 10 U.S.C. § 2320(a)(2)(G)(i) and (iii), the Government can negotiate for additional rights or, if necessary, the development of alternative sources of supply and manufacture. Also, under DFARS 227.7103-2(b)(2) "Rights in Technical Data" and DFARS 7203-2(b)(2) "Non-commercial Computer Software and Non-commercial Computer Software Documentation," the Government can and must balance the original assessment of the Government's data needs with data prices contained in the offer. Furthermore, 10 U.S.C. § 2305(d)(4)(B) "Contracts: Planning, Solicitation, Evaluation, and Award Procedures"

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<sup>4</sup> A "community of interest" or COI is a group of organizations or entities having similar interests and goals. For example, Navy COIs can be along warfare requirements (anti-air warfare or littoral defense), families of system or components (radars or displays), or functions (acquisition or test and evaluation).

states: "[i]n considering offers in response to a solicitation requiring proposals described in paragraph (1)(B) or (2)(B), the head of an agency shall base any evaluation of items developed exclusively at private expense on an analysis of the total value, in terms of innovative design, life-cycle costs, and other pertinent factors, of incorporating such items in the system." Such factors may include the IPR specified in an offer.

As part of a best value analysis, the Government may consider an Offeror's willingness to provide greater intellectual property (IP) rights. The evaluation criteria must make clear that the Government will be evaluating the costs associated with an Offeror's restrictions on data and software-related assets that would be delivered under the contract. The Government will assess the impact of the delivery of: 1) limited rights (LR) data, 2) restricted rights (RR) software, 3) standard licenses in Commercial computer software (CS), or 4) items covered under DFARS 252.227-7015, "Technical Data – Commercial Items," in technical data related to commercial items on the Government's long term costs associated with minimum future needs with respect to the system as identified by the Government, e.g., impact of LR in data on life cycle costs (when making cost assessment keep in mind alternatives like use of form, fit, function, etc. as assessment must be "reasonable"). To avoid an unstated evaluation criteria problem, the criteria must at least specify the relative importance of costs associated with needs set forth in the "Data Rights and Patent Rights" portion of the solicitation, e.g., life cycle costs for system. Finally, the data rights and associated markings of intellectual property – including releasability statements – will impact the Government's ability to incorporate IP in asset repositories/libraries and use these assets in other systems.

**Award Fees:** Incentivizing technical excellence in the program is an important aspect of the program acquisition strategy and is usually applied with award fees. The same approach should be used in encouraging appropriate NOA business and technical practices. Award Fee earnings are briefed to the highest levels within corporate management and thus have the added benefit of reinforcing the importance of the Government's emphasis on technical leadership, technical planning and technical execution with this group of senior leaders. Award fee criteria that support NOA principles are an important mechanism for encouraging appropriate behavior.

The incentive arrangement should be designed to motivate contractor performance that might not otherwise be emphasized – such as adoption and adherence to NOA business and technical principles. Award Fee incentives are applied when it is not possible to establish a predetermined target to measure desired performance and are earned by a contractor through an evaluation process described in the Award Fee Plan. The application of award fee incentives are generally associated with cost contracts and performance is evaluated periodically in accordance with the Award Fee Plan. This incentive approach allows the Government to motivate exceptional contractor performance considering the conditions under which it was achieved, normally in such

areas as adherence to NOA design tenets, business practices, and cooperative behavior with other vendors as well as the more usual quality, timeliness, technical progress, technical ingenuity, and cost-effective management requirements. The award fee criteria must be based on the requirements described in the contract. The most effective criteria are objective in nature. When possible, criteria should be expressed in quantifiable terms. Some NOA technical criteria are inherently mixed with and supportive of NOA business criteria.

The DRAFT “Guide for Contracting for Systems Engineering” promulgated by the Office of the Under Secretary of Defense (OUSD) for Acquisition, Technology and Logistics (AT&L) states that whether the Contractor has “developed an ‘open system’ design that is robust and insensitive to source variations such as environmental, manufacturing, obsolescence, or requirements volatility” should be considered when developing technical award fee criteria.<sup>6</sup>

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<sup>6</sup> DRAFT “Guide for Contracting for Systems Engineering” (v.15, 9/15/2005) Section 2.1.4.2 page 9.

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## Chapter A: RECOMMENDATIONS FOR SECTION C LANGUAGE

**[Explanation:** *Section C of the Request for Proposal (RFP) and the resulting contract contains the detailed description of the products to be delivered or the work to be performed under the contract. Section C typically includes a Statement of Objectives/Statement of Work (SOO/SOW) for the RFP/contract. The SOO is a clear and concise statement that delineates the program objectives and the overall program approach, including the outcome desired. The SOO, along with the preliminary system performance specification (covering the technical performance requirements), provides Offerors guidance for proposing a solution to meet the user's needs. An additional helpful reference is the Department of Defense Handbook for Preparation of Statement of Work (SOW).<sup>7</sup>]*

The material that follows contains recommendations for the SOW included in Section C of the RFP/contract.

### 1. Open Systems Approach and Goals

The Government intends to procure system(s) having Open Architecture designs and corresponding components. As part of this contract, the Contractor will be required to define, document, and follow an open systems approach for using modular design, standards-based interfaces, and widely-supported consensus-based standards. The Contractor shall develop, maintain, and use an open system management plan to demonstrate compliance that plan during all design reviews. As part of an open system management plan, the Contractor will be required to identify to the Government all Commercial-Off-the-Shelf/Non-development Item (COTS/NDI) components<sup>8</sup>, their functionality, and provide copies of license agreements related to the use of these components for Government approval prior to use. The proposed open system management plan will be incorporated into the contract with any changes, alterations, and/or modifications requiring Government approval.

In addition, the Contractor shall provide the Government (and/or Government support contractors) electronic access to its integrated development environment throughout the term of the contract. In satisfying the Government's requirements, the following design approach characteristics shall be utilized:

- a. Open Architecture - The Contractor shall develop and maintain an architecture that incorporates appropriate considerations for reconfigurability, portability, maintainability, technology insertion, vendor independence, reusability,

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<sup>7</sup> The DoD Handbook for Preparation of Statement of Work (SOW) is available on the web at <https://www.acqsolinc.com/mockups/7steps/library/DODhandbook.pdf>.

<sup>8</sup> The appropriate definition should be included in Section C. In this case, we define "component" consistent with the Institute of Electrical and electronics Engineers (IEEE) definition from IEEE Std 610.12-1990, "one of the parts that make up a system. A component may be hardware or software and may be subdivided into other components."

- scalability, interoperability, upgradeability, and long-term supportability as required by the 23 DEC 2005 Office of the Chief of Naval Operations (OPNAV N6/7) requirement letter. [**Explanation:** See Appendix 2 for this letter. The letter is also posted at <https://acc.dau.mil/oa>.]
- b. Modular, Open Design – The contractor shall develop an architecture that is layered and modular and uses COTS/NDI hardware, operating systems, and middleware that utilize non-proprietary or non-vendor-unique, key Application Programming Interfaces (APIs). As part of its open system management plan, the Contractor will be required, at a minimum, to describe how the proposed system architecture meets these goals, including the steps taken to use non-proprietary or non-vendor unique COTS or reusable NDI components wherever practicable.
  - c. System Requirements Accountability – The Contractor will be required to ensure that all system requirements (including those contained in the Initial Capabilities Document, Capabilities Development Document, Capabilities Production Document, and in this Section C) are accounted for through a demonstrated ability to trace each requirement to one or more modules that consist of components that are self-contained elements with well-defined, open and published interfaces implemented using open standards.
  - d. Inter-component Dependencies – The design shall minimize inter-component dependencies to allow components to be decoupled and reused, where appropriate, across various Naval programs and platforms.
  - e. Modular Open Systems Approach (MOSA) – The Contractor shall describe its rationale for the modularization choices made to generate the design. The Contractor's rationale must explicitly address any tradeoffs performed, particularly those that compromise the modular and open nature of the system.
  - f. MOSA Objectives – The Contractor shall specify how it plans to use MOSA to enable the system to adapt to evolving requirements and threats; accelerate transition from science and technology into technology and deployment; facilitate systems reconfiguration and integration; reduce the development cycle time and total life cycle cost; maintain continued access to cutting edge technologies and products from multiple suppliers; and mitigate the risks associated with technology obsolescence, being locked into proprietary or vendor-unique technology, and reliance on a single source of supply over the life of the system.
  - g. MOSA Support Plan – The Contractor shall provide a plan for supporting the proposed Modular Open System Approach, including, but not limited to, plans for integrating the systems under development both internally and externally, a strategy for maintaining the currency of the technology (through COTS and other reusable NDI insertion, technology refresh strategies, and other appropriate means) and creation of different processes necessary to support MOSA.
  - h. Design Information Documentation – The Contractor shall document and model the system or component (e.g., software, hardware, middleware) design information using industry standard formats, (e.g., Uniform Modeling Language), and how it will use tools that are capable of exporting model information in a

- standard format (e.g., Extensible Markup Language Metadata Interchange (XMI) and AP233/ISO 10303). The Contractor shall identify the proposed standards and formats to be used.
- i. Technology Insertion – The Contractor’s architectural approach shall support the rapid and affordable insertion and refreshment of technology through modular design, the use of open standards and open interfaces.
  - j. Life-Cycle Sustainability – The Contractor should consider use of COTS/NDI and open standards to enhance the system’s life-cycle supportability by implementing performance-based logistics arrangements to sustain the components through their life cycle.
  - k. Interface Design and Management – The Contractor shall:
    - i. Clearly define and describe all component and system interfaces;
    - ii. Define and document all subsystem and configuration item (CI) level interfaces to provide full functional, logical, and physical specifications;
    - iii. Identify processes for specifying the lowest level (i.e. subsystem or component) at and below which it intends to control and define interfaces by proprietary or vendor-unique standards and the impact of that upon its proposed logistics approach. Interfaces described shall include, but not be limited to, mechanical, electrical (power and signal wiring), software, firmware, and hardware.
    - iv. Identify the interface and data exchange standards between the component, module or system and the interconnectivity or underlying information exchange medium;
    - v. Consider using these interfaces to support an overall information assurance strategy that implements Information Assurance Processes (IA) in accordance with DoD Instruction 8500.2 (dated February 6, 2003) and [**Explanation:** *Insert any PEO-specified documents.*];
    - vi. If applicable, select external interfaces from existing open or Government standards with an emphasis on enterprise-level interoperability. The Contractor shall describe how its selection of interfaces will maximize the ability of the system to easily accommodate technology insertion (both hardware and software) and facilitate the insertion of alternative or reusable modular system elements.
    - vii. Describe the extent that the change or configuration management process proposed will use “community of interest” (See Appendix 5) teams in an integrated team approach to effectively identify how individual change(s) impact the system’s internal or external interfaces and information exchange standards.
  - l. Treatment of Proprietary or Vendor-Unique Elements – The Contractor shall explain the use of proprietary, vendor-unique or closed components or interfaces. If applicable, the Contractor will define its process for identifying and justifying

- proprietary, vendor-unique or closed interfaces, code modules, hardware, firmware, or software to be used. When interfaces, hardware, firmware, or modules that are proprietary or vendor unique are required, the Contractor shall demonstrate to the Government that those proprietary elements do not preclude or hinder other component or module developers from interfacing with or otherwise developing, replacing, or upgrading open parts of the system.
- m. Open Business Practices – The Contractor shall demonstrate that the modularity of the system design promotes the identification of multiple sources of supply and/or repair, and supports flexible business strategies that enhance subcontractor competition. The contractor shall conduct a market survey to identify candidate COTS and other reusable NDI capable of achieving the performance requirements of solutions that it proposes to custom build. The survey results shall be provided to support each major review. COTS and other reusable NDI selection criteria shall address the following factors, at a minimum: Electrostatic Sensitive Device (ESD) immunity; Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC); Integrated Logistics Support requirements; Safety; Reliability consistent with the environment described in the System Specification; Maintainability; Subsystem performance trade-offs; Power, cooling, and physical form factors; Open system architecture break out compatibility; Cost; Manufacturer's quality assurance provisions; Market acceptability; Obsolescence; Adequacy of available technical and intellectual property data and procurement data rights on the product; and Merits of the software supported by the product.
- n. Reuse of Pre-existing or Common Items – The Contractor shall reuse pre-existing or common items unless a determination is made to not reuse. [**Explanation:** *The specific repositories/libraries that the Contractor will review for components should be identified.*] Exceptions to reuse of pre-existing items must be accompanied by justification, such as cost (both of adoption and life cycle support), schedule, functional and non-functional performance, etc. The general objective of these efforts shall be the development of common system and/or common elements or components which meet the performance requirements of the various U.S. Navy or Marine Corps platform missions, where commonality offers the greatest technical and cost benefits.
- o. Third Party Development – The Contractor shall address how it will provide to the Government information needed to support third-party development and delivery of competitive alternatives of designs for software or other components or modules on an ongoing basis. The Contractor shall provide a list of those proprietary, vendor-unique elements that it requests be exempt from this review.
- p. Life Cycle Management and Open Systems – The Contractor's architecture shall provide for insertion of COTS into the system and demonstrate that COTS, reusable NDI, and other components are logistically supported throughout the life cycle. The Contractor shall describe and demonstrate the strategy for reducing product or system and associated supportability costs through insertion of COTS

and other reusable COTS or NDI products. The Contractor shall establish a process to logistically support COTS or NDI products. The Contractor shall describe the availability of commercial repair parts and repair services, facilities, and manpower required for life cycle support and demonstrate they are adequate to ensure long term support for COTS or NDI products. The Contractor shall provide the proposed methodology for pass through of COTS warranties to the Government.

- q. Use of Standards – In designing the system(s), the Contractor shall use the following standards in descending order of importance:
- Standards as specified within the contract
  - Commercial standards
    - Standards developed by international or national industry standards bodies that have been widely adopted by industry. Examples of widely adopted standards are:
      1. SQL for databases
      2. HTML for presentation layer
      3. XML for data transfer
      4. Web Services for remote system calls
    - Standards adopted by industry consensus-based standard bodies and widely adopted in the market place.
    - De facto standards (those widely adopted and supported in the market place).

Note: Standards that are not specified within this contract or that are modified by adding must be submitted to and approved by the Government Program Manager prior to use.

## **Chapter B: RECOMMENDATIONS FOR SECTION L LANGUAGE**

**[Explanation:** *Section L of the RFP provides proposal instructions, conditions and notices that are the basis for selecting the contractor. Offerors should be encouraged to clearly demonstrate, through their use of similar technologies previously developed, the ability to meet the design, development, testing, and production requirements of the solicitation, in particular its approach to a modular open system design, in the quantities and schedules specified in the RFP. Section L should be carefully structured to address only those elements determined to be keys to success. See also, Appendix C of A Modular Open System Approach (MOSA) to Acquisition, version 2.0 dated September 2004. The DRAFT “Guide for Contracting for Systems Engineering” (v.15, 9/15/2005) also calls for Section L to consider documentation of system interface requirements and incorporation of MOSA design considerations. The DRAFT Guide also recommends that the Offeror describe its integration approach in terms of the degree that the technology insertion/obsolescence planning processes are integrated with overall program management processes and reflect the technical approach.]*

**[Explanation:** *This section contains only recommended guidance, and is offered with the understanding that individual PEOs and programs can be flexible in selecting those items needed to meet their needs. Programs should not feel that they need to address all of the items contained in these recommendations. ]*

### **Factor ( ): Technical Approach and Processes**

The Offeror shall describe its proposed Open Architecture (OA) technical approach and processes to be employed in performing this contract. At a minimum, the Offeror shall describe its OA technical approach and processes in the following areas:

**Subfactor 1. Open Systems Approach and Goals.** The Offeror shall describe its open systems approach for using modular design, standards-based interfaces, and widely-supported, consensus-based standards to achieve the following goals. At a minimum the Offeror shall provide the following as part of its proposal:

- a. **Address OPNAV OA Requirements** – A detailed description of the Offeror’s approach for addressing a system architecture that incorporates appropriate considerations for reconfigurability, portability, maintainability, technology insertion, vendor independence, reusability, scalability, interoperability, upgradeability, and long-term supportability as defined by the Naval Enterprise in the 23 Dec 2005 Office of the Chief of Naval Operations (OPNAV) requirement letter **[Explanation:** *See Appendix 2 or <https://acc.dau.mil/oa>. It is recommended that this proposed open system management plan be incorporated into the resultant contract.*].
- b. **Design Disclosure** – Within the constraints of contractual data rights, a detailed description of the Offeror’s approach to facilitate the sharing of system or component (e.g., software, hardware, middleware) design

information in support of peer reviews and the spiral development process. [Explanation: Peer reviews are defined in Appendix 5.] The Offerors shall describe how its design will be documented and modeled using industry standard formats (e.g., Uniform Modeling Language), and how it will use tools that are capable of exporting model information in a standard format (e.g., Extensible Markup Language Metadata Interchange (XMI) and AP233/ISO 10303). The Offeror shall identify the proposed standards and formats to be used.

- c. **Technology Insertion and Refresh** – A detailed description of how the Offeror’s proposed system will allow for rapid and affordable technology insertion and refresh. For example, the Offeror should describe how the proposed system will allow incremental systems improvement through upgrades of individual hardware or software modules with newer modular components. At a minimum, the description shall address how the Offeror’s architectural approach will support this requirement including how components from third party providers and reuse sources shall be included.
- d. **Asset Reuse** – A detailed description of the steps taken to reduce acquisition of duplicative system components where possible. At a minimum, the Offeror shall describe what artifacts from the [Explanation: insert the specific asset reuse repositories/libraries that will be made available to Offerors] or common components [Explanation: these may be specified by the PEO or Program Manager] it intends to use within its proposed solution.
- e. **Modular Open Systems Approach (MOSA)** – A detailed description of the Offeror’s modular open systems approach. At a minimum, the Offeror shall address:
  - i. Plans for integrating the systems both internally and with external systems;
  - ii. The means for ensuring conformance to open standards and profiles, as discussed in Section C, throughout the development process;
  - iii. A description of how the technical approach ensures having access to mature as well as the latest technologies by establishing a robust, modular, and evolving architecture based on open standards.
  - iv. A description of the strategy for maintaining the currency of technology (e.g., through COTS or reusable NDI insertion, technology refresh strategies, and other appropriate means); and
  - v. Identification of processes for:
    - (1) Isolating functionality through the use of modular design;

- (2) Evaluating modular open system baseline standards, defining and updating profiles, and evaluating and justifying new or vendor-unique profiles;
  - (3) Validating implementation conformance to selected profiles;
  - (4) Managing application conformance to selected profiles; and
  - (5) Training in use of profiles.
- f. **MOSA as an Enabler of OA Objectives** – A detailed description of how the Offeror intends to use a modular open systems approach as an enabler to achieve the following objectives:
- i. Adapt to evolving requirements and threats as identified by the Government;
  - ii. Enhance interoperability and the ability to integrate new capabilities without redesign of entire systems or large portions thereof;
  - iii. Accelerate transition from science and technology into acquisition and deployment;
  - iv. Facilitate systems reconfiguration and integration;
  - v. Reduce the development cycle time and total life-cycle cost;
  - vi. Maintain continued access to cutting edge technologies and products from multiple suppliers; and
  - vii. Mitigate the risks associated with reliance on a single source of supply over the life of the system, to include, but be not limited to, technology obsolescence and dependence on proprietary or vendor-unique technology.
- g. **Life-cycle Supportability** – A detailed description of how the Offeror intends to enhance life-cycle supportability by implementing performance-based logistics arrangements to sustain the components through their life cycle.
- h. **Employ a Layered Modular Architecture** – A detailed description on how the proposed system architecture is layered, modular, and makes maximum use of Commercial-Off-the-Shelf/Non-developmental Item (COTS/NDI) hardware, operating systems, and middleware that utilize non-proprietary key APIs whenever practicable.
- i. **Traceability of System Requirements** – A detailed description of the Offeror's approach for ensuring that all system requirements (including those contained in the Initial Capabilities Document, Capabilities Development Document, and in Section C of this Solicitation) are accounted for through a demonstrated ability to trace each requirement to

one or more modules. Modules consist of components (one of the parts that make up a system and may be hardware and/or software) which are self-contained elements with well-defined, standards-based and published interfaces.

- j. **Minimize Inter-component Dependencies** – A detailed description of the Offeror’s approach for designing a system that, to the maximum extent practicable, minimizes inter-component dependencies and allows components to be decoupled and reused, where appropriate, across various Naval programs or replaced by competitive alternatives.
- k. **Rationale for Modularization Choices** – A detailed description of the Offeror’s rationale for the modularization choices made to generate the design. At a minimum, the rationale shall explicitly address any tradeoffs performed, particularly those that compromise the modular and open nature of the system.
- l. **Future System Upgrades** – A detailed description of how a modular design strategy will be demonstrated in all aspects of future system upgrades.
  - i. In addressing the specified requirements, the proposal, at a minimum, must demonstrate how the modular design strategy applies, and the effect it will have on future systems upgrades.
  - ii. The proposal shall describe an orderly planned process to address migration of proprietary, vendor-unique, or closed system equipment or interfaces to a modular open systems design when technological advances are available or when operational capability is upgraded. The proprietary, vendor-unique or closed systems implementation shall also be reflected in the Offeror’s system level life cycle cost estimates.
  - iii. The modular design approach shall either mitigate or partition – at the lowest subsystem or component level -- proprietary, vendor-unique or closed system implementation to avoid out-year supportability issues and diminished manufacturing and repair sources.

**Subfactor 2. Interface Design and Management.** The Offeror shall describe how it will clearly define component and system interfaces. At a minimum, the Offeror shall address the following:

- a. The Offeror shall describe how it will define and document all subsystem and configuration item (CI) level interfaces to provide fully functional, physical and electrical specifications.
  - i. The Offeror shall identify processes for specifying the lowest level (i.e. subsystem or component) at and below which it intends to control and define interfaces by proprietary, vendor-unique standards, as well

- as the impact of those standards upon the proposed modularity and logistics approach.
- ii. Interfaces described shall include, but not be limited to, mechanical, electrical (power and signal wiring), software, firmware, and hardware.
  - iii. The Offeror shall address the interface and data exchange standards between the component, module or system and the interconnecting or underlying information exchange medium.
  - iv. The Offeror shall state how these interfaces support an overall Information Assurance strategy that provides a defense in depth in accordance with CJCSI 3170.01E and [**Explanation:** *Add appropriate PEO-specified requirements.*]
- b. The Offeror shall describe how interfaces will be selected from existing open or Government standards with emphasis on system-level or enterprise-level (where applicable) interoperability. The Offeror shall describe how its selection of interfaces will maximize the ability of the system to readily accommodate technology insertion (both hardware and software) and facilitate the insertion of alternative or reusable modular system elements.
  - c. The Offeror shall describe how its system will allow for:
    - i. Quickly interconnecting, reconfiguring, and assembling existing systems, subsystems, and components;
    - ii. Interchanging and using information, services and/or physical items among components within a system;
    - iii. Interchanging and using information, services and/or physical items among systems within an integrated architecture, platform, PEO, Community of Interest, or a DoD component;
    - iv. Supporting reuse of software and the common use of components across various product lines;
    - v. Transferring a system, component, or data, from one hardware or software environment to another.
  - d. The Offeror shall describe the degree to which the defined interfaces will support an Information Assurance (IA) strategy that implements IA Processes in accordance with DoD Instruction 8500.2 (dated February 6, 2003) and [**Explanation:** *Add appropriate PEO-specified requirements.*]
  - e. The Offeror shall describe the degree to which proposed interfaces use defined commercial or Government standards as called for in Section C.

**Subfactor 3. Treatment of Proprietary or Vendor-Unique Elements.** The Offeror shall justify any use of proprietary, vendor-unique, or closed components, including but not limited to COTS, and interfaces in current or future designs. The Offeror shall define its process for identifying and justifying proprietary, vendor-unique or closed interfaces, code modules, hardware, firmware, or software to be used.

- a. The Offeror shall describe how it will employ hardware and/or software partitioning or other design techniques to isolate all proprietary, vendor-unique portions of interfaces, hardware, firmware and modules – at the lowest subsystem or component level.
- b. The proposal shall include documentation to support the rationale for a decision to integrate a proprietary, vendor unique or closed system hardware and/or software functions within the proposed system.
- c. The Offeror shall describe how the integration of closed or proprietary, vendor-unique equipment, interfaces, data systems or functions due to a unique or specific system requirement will not preclude or hinder other component or module developers from interfacing with or otherwise developing, replacing, or upgrading open parts of the system.
- d. The Offeror shall identify and take steps to prevent the open elements of the system from intertwining with proprietary or vendor-unique elements in a manner that restricts or limits the ability to replace or upgrade the open elements using an open competitive selection process.
- e. The Offeror shall describe and demonstrate that the modularity of the system design promotes identification of multiple sources of supply and/or repair, and supports flexible business strategies that enhance sub-contractor competition.
  - i. The Offeror shall conduct a market survey to identify candidate COTS and other reusable NDI, including Government IP assets, capable of achieving the performance requirements of solutions that it has proposed to custom build. [**Explanation:** *Sound “market research” will help to identify opportunities to use COTS or re-use existing components and is called for by the OSJTF.*] The COTS and other NDI selection criteria shall, at a minimum, address the following factors: Electrostatic Sensitive Device (ESD) immunity; Electromagnetic Interference/Electromagnetic Compatibility (EMI/EMC); Integrated Logistics Support requirements; Safety; Reliability (to include the hardware’s designed-in ability to accommodate such stresses as electrical power fluctuation (voltage, current, frequency)), temperature, shock, vibration, operating time (duration), changes in atmospheric pressure, and humidity consistent with the environment described in the System Specification; Maintainability; Subsystem performance trade-offs; Power, cooling, and physical form factors; Open system architecture break out compatibility; Cost; Manufacturer’s quality assurance provisions; Market acceptability; Obsolescence; Adequacy of available technical and intellectual property data and procurement data rights on the product; and Merits of the software supported by the product.
  - ii. The Offeror shall identify those pre-existing items (Government IP assets, NDI, and COTS) it intends to evaluate for reuse. At a minimum,

the Offeror shall describe what artifacts from the [**Explanation:** *insert the specific asset reuse repositories/libraries that will be made available to Offerors*] it intends to use within its proposed solution. Exceptions to reuse of pre-existing items must be accompanied by justification, such as cost (both of adoption and life cycle support), schedule, functional and non-functional performance, etc.

- f. The Offeror shall address how it will provide information needed to support third party development and delivery of competitive alternatives or designs for software or other components or modules on an ongoing basis. This information may be used as part of peer review processes, to support Integrated Product Teams (IPTs), and to facilitate competition for component suppliers. The Offeror will provide a list of those proprietary or vendor-unique elements that it requests be exempt from this review.

**Subfactor 4. Life Cycle Management and Open Systems.** The Offeror shall describe and demonstrate the strategy for reducing product or system and associated supportability costs through insertion of COTS or reusable NDI products.

- a. The Offeror shall identify and demonstrate a strategy to insert COTS technologies and other reusable NDI into the system and demonstrate that COTS, other reusable NDI, and other components are logistically supported throughout the system's life cycle.
  - i. The proposal shall identify specific hardware and software elements of the subsystem designs that are planned for COTS and other reusable NDI replacement and the supportability plans for those elements.
  - ii. The Offeror shall demonstrate how the subsystem designs or allows for timely and cost-effective replacement of subsystem elements or modules. The COTS selection processes shall be specifically addressed, including validation of those processes.
- b. The Offeror shall provide a description of processes that will be established and demonstrate that COTS and other reusable NDI products are logistically supported.
- c. The Offeror shall describe the availability of commercial repair parts and repair services, facilities and manpower required for life cycle support and demonstrate that they are adequate to ensure long term support for COTS and other reusable NDI products. The Offeror shall provide the proposed methodology for pass through of COTS warranties to the Government.

### **Factor ( ): System Compliance with Naval OA Guidance**

**[Explanation:** *The language used in this section will be specified by the Community of Interest or PEO. For example, PEO Ships may choose to use language from the Open Architecture Computing Environment (OACE) while the PEO C4I may use language from Netcentric Enterprise Solutions for Interoperability (NESI) or the online version of the FORCEnet Consolidated Compliance Checklist (FCCC) hosted in the FORCEnet Implementation Tool Suite (FITS) (<https://fits.navy.mil>). The material that follows should be tailored by each PEO/Community of Interest to meet its specific technical requirements, when enterprise-wide Naval requirements do not exist. The language should also be tailored to address different types of contracts, levels of systems acquisition, and phases in the acquisition life cycle.]*

Offerors are required to provide a narrative to the Government entitled “Open Architecture Technical Guidance Narrative” (hereinafter referenced to as the “Narrative”). In preparation for drafting the Narrative, Offerors are requested to thoroughly review the **[Explanation:** *PEO-specified*] technical guidance points provided in Table A below. The technical guidance points represent the critical technical characteristics required to implement the NOA design for deliverables under the contract awarded pursuant to this RFP.

1. Offerors shall provide a Narrative showing how its proposal meets each technical guidance point in Table A. For those technical guidance points in Table A that the Offeror asserts are not applicable or not relevant to deliverables under the contract, the Offeror shall, in the Narrative, explain its basis for asserting non-applicability or non-relevance.
2. The NOA Compliance subfactor is directed to each of the technical guidance points in Table A below, and the Offeror's ability to provide a Narrative explaining how its proposal meets each technical guidance point as defined by the *[insert relevant reference]*. A detailed description of each of the technical guidance points in Table A is provided in the **[Explanation:** *PEO/Community of Interest-specified references and Guidance Points should be used in this table. Table A contains examples of technical guidance points from the Surface Domain]*.

**Table A**

<b>[PEO-specified] Technical Guidance Points</b>	<b>[PEO-specified] Reference Document Citation</b>
Component design	
Portability	
Location transparency	
Client server	
Data distribution	
State data coherency	
Computational flow	
Fault tolerance	
Scalability	
Real-time performance	
Process, thread & memory management	
Data brokers	
Cabling and Cabinets	
Information Transfer	
Computing Resources	
Peripherals	
Operating Systems	
Adaptation Middleware	
Distribution Middleware	
Frameworks	
Dynamic Resource Management	
Instrumentation	
Failure Management	
Information Assurance	
Time Service	
Programming Language Facilities	
Displays	
System Test and Certification	
Selection of Standards	

**Factor ( ): Management Approach**

**[Explanation:** *The first paragraph below is standard contract language with some modification to reflect the objective of facilitating competition at appropriate system or sub-system levels. While the number of contractors or subcontractors working on a contract is not necessarily a guaranty of openness, effective competition at the component-level is facilitated by NOA. The second paragraph articulates the view that*

*true competition cannot be measured by the percentage of work awarded but rather the significance of their contributions.]*

The Offeror shall describe its approach to managing the efforts required for this contract. Of particular interest to the Government is the Offeror's approach for facilitating competition at various levels (tiers) of the logical or modular subdivisions or tasks and for awarding significant portions of the overall system to third party sources.

The Offeror shall describe its approach for using Integrated Product Teams (IPT) to improve processes, proactively manage risk and increase efficiency. The Offeror shall describe steps it shall take to educate IPT members and others involved in the project on the importance and principles of NOA.

### **Factor ( ) Data Rights and Patent Rights**

The Offeror shall propose the extent to which the rights in technical data (TD), computer software (CS), computer software documentation (CSD), and inventions/patents offered to the Government ensure unimpeded, innovative, and cost effective production, operation, maintenance, and upgrade of the [SYSTEM NAME] throughout its life cycle; allow for open and competitive procurement of [SYSTEM NAME] enhancements; and permit the transfer of the [SYSTEM NAME] non-proprietary object code and source code to other contractors for use on other systems or platforms.

**[Explanation:** *The Government should include a formal analysis of its Data Rights Requirements as part of the Acquisition Strategy and use this information to develop the RFP materials.]*

The Offeror shall describe its plan for making design and interface information available as soon as possible after it is defined or established. The Offeror shall establish and maintain a process that will provide "early and often" design disclosure directly to the Government or to third-party contractors via Government-established access (e.g., the Naval Sea Systems Command Software/Hardware Asset Reuse Enterprise (SHARE) library or other Navy repository/library resources) to in-process design documentation and computer software. Access to this information shall be supported using industry standards and at minimal cost to the Government. The exchange of information shall be structured so as to protect the Offeror's and third party developers' proprietary or vendor-unique rights in the information. The Offeror shall address how it intends to resolve any comments from the Government and third party contractors. The Offeror shall describe how it intends to provide all non-proprietary licenses, source code, drawings, repair and engineering documentation to the Government and third party contractors at specified key events or at defined intervals.

**[Explanation:** *It is recommended that the Government use the CDRL as the basis for identifying specific TD, CS, and CSD data rights it intends to pursue.]*

The Data Rights and Patent Rights offered shall be provided as attachments to the proposal. The Offeror should cite specific examples of the Government's IP rights that illustrate the tenets of the offer, including an overview of the information provided in the following required attachments, as well as a discussion of how the information contained in the attachments impacts or illustrates the tenets of the proposal:

1. The Offeror shall provide the following information as attachments to its offer:

**a. Rights in Noncommercial TD, Noncommercial CS, and Noncommercial CSD.**

- i. The 7017 List. The Offeror shall attach to its offer a list identifying all noncommercial TD, CS, and CSD that it asserts should be delivered with other than unlimited rights. Specific instructions and requirements concerning this list are set forth in the DFARS 252.227-7017 "Identification and Assertion of Use, Release, or Disclosure Restrictions" (Jun 1995) clause incorporated at Section K of this solicitation. If the Offeror is awarded a contract, the 7017 List shall be attached to the contract.
- ii. The 7028 List. The Offeror shall attach to its offer a list identifying all noncommercial TD, CS, and CSD that it intends to deliver with other than unlimited rights and that are identical or substantially similar to TD, CS, or CSD that the Offeror has delivered to, or is obligated to deliver to, the Government under any contract or subcontract. Specific instructions and requirements concerning this list are set forth in the DFARS 252.227-7028 "Technical Data or Computer Software Previously Delivered to the Government" (Jun 1995) clause incorporated at Section K of this solicitation. Additionally, if there is no data or software to be identified in the 7028 list, the Offeror shall submit the list and enter "None" as the body of the list. If the Offeror is awarded a contract, the 7028 List shall be attached to the contract.
- iii. Supplemental Information. The Offeror shall attach to its offer a statement, entitled "Supplemental Information--Noncommercial Technical Data, Noncommercial Computer Software, Noncommercial Computer Software Documentation" (the statement) that, for each item of noncommercial TD, CS, or CSD that the Offeror asserts should be delivered with specifically negotiated license rights or other non-standard rights (as discussed at DFARS 252.227-7013 "Rights in Technical Data – Noncommercial Items" (NOV 1995) and/or DFARS 252.227-7014 "Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation" (JUN 1995)), sets forth a complete description of all such proposed non-standard

restrictions on the Government's ability to use, modify, release, perform, display, or disclose such TD, CS, or CSD. This information may be provided by referencing any proposed non-standard license agreement that is attached to the statement. The Offeror shall submit the statement as an attachment to its offer, dated and signed by an official authorized to contractually obligate the Offeror. If there is no information to be included in the statement, the Offeror need not submit the statement. If the Offeror is awarded a contract, any statement provided will be attached to the contract.

**b. Rights in Commercial TD, Commercial CS, and Commercial CSD.**

- i. The Offeror shall attach to its offer a list, entitled "Commercial Technical Data, Commercial Computer Software, and Commercial Computer Software Documentation-Government Use Restrictions" (the Commercial Restrictions List), that provides the following information regarding all commercial TD, CS, and CSD that the Offeror (including its sub-Offerors or suppliers, or potential sub-Offerors or suppliers, at any tier) intends to deliver with other than unlimited rights: (1) identification of the data or software; (2) basis for asserting restrictions; (3) asserted rights category; and (4) name of the person asserting restrictions. For any item designated as NDI, the Offeror is requested to provide details of the Agency and level therein that paid for development and the contract number(s) and dates wherein payments were received. For each entry in the list citing an asserted rights category other than the standard license rights applicable to commercial TD as set forth in the DFARS 252.227-7015 "Technical Data – Commercial Items" (Nov 1995) clause, the Offeror shall provide a complete description of the asserted rights (e.g., a specially negotiated license, or the license customarily offered to the public); this information may be provided by referencing any proposed non-standard or commercial license agreement that is attached to the list, but in all cases, the non-standard or commercial license will be attached for Government review. The Offeror shall submit the Commercial Restrictions List as an attachment to its offer, dated and signed by an official authorized to contractually obligate the Offeror. If there is no information to be included in the Commercial Restrictions List, the Offeror shall submit the list and enter "None" as the body of the list. If the Offeror is awarded a contract, the Commercial Restrictions List shall be attached to the contract.
- ii. The Offeror shall attach to its offer a list, entitled "Commercial-Off-the-Shelf (COTS) Licenses – Identification and Licensing" (the COTS List), providing information concerning all COTS

licenses for which it intends to pay license fees and the amount of the fees in order to perform under the contract. The Offeror shall submit the COTS List as an attachment to its offer, dated and signed by an official authorized to contractually obligate the Offeror. If there is no information to be included in the COTS List, the Offeror shall submit the list and enter “None” as the body of the list. If the Offeror is awarded a contract, the COTS List shall be attached to the contract.

**c. Rights in Background Inventions.**

- i. The Offeror shall attach to its offer a list, entitled “Background Inventions--Identification and Licensing” (the BIIL List), providing information concerning all background inventions. A “background invention” is any invention, other than a subject invention, that is covered by any patent or pending patent application in which the Offeror (including its sub-Offerors or suppliers, or potential sub-Offerors or suppliers, at any tier) (1) has any right, title, or interest; and (2) proposes to incorporate into any items, components, or processes (ICP) to be developed or delivered, or that will be described or disclosed in any TD, CS, or CSD to be developed or delivered, under the resulting contract. For each background invention, the BIIL List shall identify (1) the invention, by serial number, title, and date of the patent application or issued patent; (2) the ICP, TD, CS, and CSD that will incorporate or disclose the invention; (3) the nature of the Offeror's right, title, or interest in the invention; and (4) whether the Offeror is willing to sell to the Government a license to practice the invention, and if so, a complete description of the terms of such proposed license. The Offeror shall submit the BIIL List as an attachment to its offer, dated and signed by an official authorized to contractually obligate the Offeror. If there is no information to be included in the BIIL List, the Offeror shall submit the list and enter “None” as the body of the list. If the Offeror is awarded a contract, the BIIL List shall be attached to the contract.
- ii. The Offeror shall attach to its offer a list, entitled “Third Party Patent Rights – Identification and Licensing” (the 3PRIL List), providing information concerning all third party patent rights for which it intends to pay royalties and the amount of the royalties in order to perform under the contract. The Offeror shall submit the 3PRIL List as an attachment to its offer, dated and signed by an official authorized to contractually obligate the Offeror. If there is no information to be included in the 3PRIL List, the Offeror shall submit the list and enter “None” as the body of the list. If the Offeror is awarded a contract, the 3PRIL List shall be attached to the contract.

### **Evaluation Subfactor ( ): OA Past Performance**

The Offeror shall demonstrate, through its use of previously developed similar technologies, the Offeror's ability to meet the design, development, testing, and production requirements of this solicitation, in particular its approach to a modular open system design, in the quantities and schedules specified. The Offeror shall provide a list of all relevant contracts and subcontracts of similar work scope or technical complexity to the efforts described herein within the last five (5) years. In addition to contracts and subcontracts performed by the Offeror, relevant contracts and subcontracts of an acquired company, division, or subsidiary shall be identified. The Offeror should place particular emphasis on DoD or Government contracts and subcontracts, especially those that involved a modular open systems approach.

If the Offeror did not perform [**Explanation:** *describe the type of project here, e.g., "submarine combat control"*] projects during the last five years, the Offeror may discuss other related projects that demonstrate the Offeror's capabilities to perform work of similar nature and magnitude. Note, if the Offeror omits projects or contracts of which the Government evaluation team is aware or becomes aware, then customer assessments may be sought from the relevant program and technical support offices. Offerors are advised that (1) the Government may contact any or all references listed in the proposal and other third parties, unreferenced customers, agencies, Offerors, consumer protection organizations, etc., for performance information, or use any other data available (such as Contractor Performance Assessment Reporting System (CPARS)); (2) the Government reserves the right to use any such information received as part of its evaluation of the Offeror's past performance; and (3) if the Offeror omits projects of which the Government evaluation team is aware or becomes aware, customer assessments may be sought from the relevant organizations.

For each listed contract, the Offeror shall prepare a synopsis that includes a narrative self-assessment of the contract and specific details describing why the contract was, or was not, successful. Each synopsis shall be in the following format:

- (1) Contract number;
- (2) Customer's name, address, telephone number, and a point of contact (whether Government or Commercial), and whether the Offeror was the prime Offeror or a sub-Offeror;
- (3) Contract type;
- (4) Cost information;
- (5) Brief product description, including quantities, hours, and state of acquisition (i.e., development or production);

- (6) Self-Assessment. The Offeror shall provide a self assessment of its performance under each contract identified above. The self assessment shall address (a) the degree to which the Offeror demonstrated its design approach, plans for technology insertion, and sustainment strategy were consistent with the modular open systems requirements, (b) the degree to which the Offeror managed the impact of changing requirements and evolving technology on the system's ability to continue to satisfy improved capabilities over time, (c) the degree to which the Offeror's test and evaluation planning contained the means for testing the conformance to open standards to ensure the openness of key interfaces throughout the system life cycle, and (d) the degree to which the Offeror's approach contains capabilities to easily and quickly update, revise, and change the system as threats (warfighting and information assurance threats) or technologies (COTS or reusable) evolve. Cost growth, material problems, manufacturing problems, quality problems, labor problems, facility problems, and delivery delays should be disclosed and fully explained. The Offeror shall demonstrate how it was able to resolve (or why it could not resolve) special or unexplained problems as well as difficulties in meeting delivery schedule, performance, or cost parameters. Emphasis shall be placed on the Offeror's ability to solve problems associated with critical testing, quality control, and production. Furthermore, the Offeror shall indicate any quality awards or recognition received.
- (7) Customer References. The Offeror shall request Customer questionnaires to be submitted directly to the Procurement Contracting Officer's (PCO's) representative and/or copies submitted with the Offeror's proposal and provide the following information for each described contract:
- The Procuring Contracting Officer's name, address, and telephone number.
  - The Administrative Contracting Officer's name, address, and telephone number.
  - The Government and Offeror's Program Managers' names, addresses, and telephone numbers.
  - The names, addresses, and telephone numbers of other individuals having knowledge of the Offeror's performance under each contract.

At a minimum, the Government's questionnaire for assessing an Offeror's OA past performance must address:

- The degree to which the Offeror demonstrated its design approach, plans for technology insertion, and sustainment strategy were consistent with the modular open systems requirements.
- The degree to which the Offeror managed the impact of changing requirements and evolving technology on the system's ability to continue to satisfy improved capabilities over time.
- The degree to which the Offeror's test and evaluation planning contained the means for testing the conformance to open standards to ensure the openness of key interfaces throughout the system life cycle.
- The degree to which the Offeror's approach contains capabilities to easily and quickly update, revise, and change the system as threats (warfighting and information assurance threats) or technologies (COTS or reusable) evolve.

## **COST PROPOSAL (NOA RELATED)**

### **Section ( ) Supplemental Information Concerning Cost/Price of Noncommercial Technical Data (TD), Noncommercial Computer Software (CS), and Noncommercial Computer Software Documentation (CSD)**

**(a) Cost/Price Information.** In addition to the submission requirement of DFARS 252.227-7017, the Offeror shall provide a list entitled “Supplemental Information Concerning Cost/Price of Noncommercial Technical Data (TD), Noncommercial Computer Software (CS), and Noncommercial Computer Software Documentation (CSD)” (hereinafter the Supplemental 7017 Cost/Price List). This list shall be provided as an attachment to proposal. This list shall provide supplemental information concerning the noncommercial TD, CS, or CSD identified in the DFARS 252.227-7017 “Identification and Assertion of Use, Release, or Disclosure Restriction” list (hereinafter 7017 List), as follows:

(1) License Option Price Information. For each item of noncommercial TD, CS, and/or CSD that the Offeror asserts should be delivered with less than Government Purpose Rights (GPR) (as defined in (DFARS 252.227-7013 “Rights in Technical Data – Noncommercial Items” (NOV 1995) and/or DFARS 252.227-7014 “Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation” (JUN 1995)), and for which the Offeror is willing to sell to the Government greater rights than those identified in the 7017 List, the Offeror shall identify those greater rights, provide an option price at which the Government may purchase such greater rights, and identify the period of time during which the option is available for the Government to exercise. [**Explanation:** *Evaluation of options should be addressed in Sections B and M of the RFP.*]

(2) Government Preferences. The Offeror may state any license option price as a firm fixed price, a percentage royalty rate, or any other comparable compensation scheme, provided that the Government can reasonably calculate a sum-certain price for the license option using the price information and terms and conditions information the Offeror provided. The Government prefers that any license option prices the Offeror provides in the Supplemental 7017 Cost/Price List cover all noncommercial CS, noncommercial CSD, and noncommercial TD included in any affected software and that the Offeror state them on a price-per-system basis.

**(b) Duty to Submit Negative List.** If there is no supplemental information to be submitted in the Supplemental 7017 Cost/Price List the Offeror shall submit the list and enter "None" as the body of the list. Failure to provide a list may render the Offeror ineligible for award.

**(c) Use During Source Selection.** Information provided in the Supplemental 7017 Cost/Price List, as well as the information provided in the 7017 List, may be used in the

source selection process as part of the Government's best value analysis to evaluate the impact on the Government's ability to use, reuse, or disclose the TD, CS, and/or CSD for government purposes.

**Section ( ) Supplemental Information Concerning Cost/Price of Commercial Computer Software (CS), and Commercial Computer Software Documentation (CSD) and Commercial Technical Data (TD)**

**(a) Cost/Price Information.** The Offeror shall provide a list to the Government, entitled "Commercial Restrictions List – Cost/Price Information" (hereinafter the CRLCPI List). This list shall be provided as an attachment to proposal. The CRLCPI List shall state a license option price for all commercial CS, commercial CSD, and commercial TD on the CRL List for which the Offeror is willing to sell the Government a license. If the Offeror is willing to offer a license option, the Offeror shall identify those rights it is willing to grant, and the period of time during which the option is available for the Government to exercise.

**(b) License Option Pricing: Government Preferences.** The Offeror may state any license option price as a firm fixed price, a percentage royalty rate, or any other comparable compensation scheme, provided that the Government can reasonably calculate a sum-certain price for the license option using the price information the Offeror provided. The Government prefers that any license option prices the Offeror provides in the CRLCPI List cover all commercial CS, commercial CSD, and commercial TD included in any affected software and that the Offeror state them on a price-per-system basis. [**Explanation:** *Evaluation of options should be addressed in Sections B and M of the RFP.*]

**(c) Duty to Submit Negative List.** If the Offeror has no Option License Pricing to provide in the CRLCPI List, the Offeror shall still submit the CRLCPI List and enter "None" in the body of the List. Failure to provide a list may render the Offeror ineligible for award.

**Section ( ) Supplemental Information Concerning Cost/Price of Background Inventions**

**(a) License Option Pricing: Government Preferences.** The Offeror may state any license option price as a firm fixed price, a percentage royalty rate, or any other comparable compensation scheme, provided the Government can reasonably calculate a sum-certain price for the license using the price information provided by the Offeror. The Government prefers that any license option prices stated by the Offeror in the BICPI List cover all background inventions included in any affected software, and the Offeror states them on a price-per-system basis.

**(b) Duty to Submit Negative List.** If the Offeror has no Option License Pricing to provide in the BICPI List, the Offeror shall still submit the BICPI List and enter “None” in the body of the list. Failure to provide a list may render the Offeror ineligible for award.

## **Chapter C: RECOMMENDATIONS FOR SECTION M LANGUAGE**

**[Explanation:** *This section contains only recommended guidance and is offered with the understanding that individual PEOs and programs can be flexible in selecting those items needed to meet their needs. Programs should not feel that they need to address all of the items contained in these recommendations.*]

### **EVALUATION FACTORS.**

**[Explanation:** *Program Managers are encouraged to prioritize these to meet the objectives of their programs.*] The Government will evaluate the Offeror's proposal in accordance with the factors and subfactors set forth below:

#### **Factor ( ): Technical Approach and Processes**

In evaluating the OA Technical Approach and Processes, the Government will use information provided in the proposal to assess the Offeror's ability to execute:

##### **Subfactor 1. Open Systems Approach and Goals**

##### **Subfactor 2. Interface Design and Management**

##### **Subfactor 3. Treatment of Proprietary or Vendor-Unique Elements**

##### **Subfactor 4. Life Cycle Management and Open Systems**

#### **Factor ( ): System Compliance with Naval OA Guidance**

In evaluating the System Compliance with Naval OA Guidance, the Government will use information in the proposal to assess the degree to which the Offeror's approach complies with PEO-specified (or Naval Enterprise) Technical Guidance Points as identified in Table A of Section L.

#### **Factor ( ): Management Approach**

In evaluating the Management Approach, the Government will use information in the proposal to assess the degree to which the Offeror's approach facilitates competition at various levels (tiers) of the offered modular system, awards significant portions of the overall system to third party sources, and uses Integrated Product Teams (IPT) to improve processes, manage risk, and increase efficiency.

### **Factor ( ): Data Rights and Patent Rights**

In evaluating the Data Rights and Patent Rights, the Government will use information in the proposal to assess the extent to which the rights in technical data (TD), computer software (CS), computer software documentation (CSD), and inventions/patents offered to the Government ensure unimpeded, innovative, and cost effective production, operation, maintenance, and upgrade of the [SYSTEM NAME] throughout its life cycle; allow for open and competitive procurement of [SYSTEM NAME] enhancements; and permit the transfer of the [SYSTEM NAME] non-proprietary object code and source code to other systems or platforms.

### **Factor ( ): Past Performance**

[**Explanation:** *The following are only suggested NOA-specific past performance evaluation criteria. Other past performance criteria should be added as appropriate as additional subfactors.*]

#### **Subfactor 1. Offeror's OA Past Performance Submissions**

In assessing the Offeror's past performance submissions on similar contracts, the Government will consider the following how well the Offeror implemented open architecture principles and used a modular open system approach, including:

- The degree to which the Offeror demonstrated its design approach, plans for technology insertion, and sustainment strategy were consistent with the modular open systems requirements.
- The degree to which the Offeror managed the impact of changing requirements and evolving technology on the system's ability to continue to satisfy improved capabilities over time.
- The degree to which the Offeror's test and evaluation planning contained the means for testing the conformance to open standards to ensure the openness of key interfaces throughout the system life cycle.
- The degree to which the Offeror's approach contains capabilities to easily and quickly update, revise, and change the system as threats (warfighting and information assurance threats) or technologies (COTS or reusable) evolve;

**Factor ( ): Cost Proposal (NOA Related)**

The Government will evaluate the following costs with respect to how they further Naval Open Architecture goals:

- Supplemental Information Concerning Cost/Price of Noncommercial Technical Data (TD), Noncommercial Computer Software (CS), and Noncommercial Computer Software Documentation (CSD)
- Supplemental Information Concerning Cost/Price of Commercial Computer Software (CS), and Commercial Computer Software Documentation (CSD) and Commercial Technical Data (TD)
- Supplemental Information Concerning Cost/Price of Background Inventions

## Chapter D: RECOMMENDATIONS FOR AWARD FEE PLAN

**[Explanation:** *In response to a December 2005 report and recommendations by the Government Accountability Office, “DEFENSE ACQUISITIONS: DoD Has Paid Billions in Award and Incentive Fees Regardless of Acquisition Outcomes,” the Defense Department on March 29, 2006, issued a Memorandum on Award Fee Contracts (FAR 16, DFARS 215, DFARS 216). We recommend that this memorandum be consulted when preparing an Award Fee Plan. (It is available on the Office of the Secretary of Defense’s website at <http://www.acq.osd.mil/dpap/policy/policyvault/2006-0334-DPAP.pdf>.)*

The following is guidance for developing a contract Award Fee Plan for a program seeking to implement Open Architecture principles. Additional information is found in the Department of Defense’s Open Systems Joint Task Force (OSJTF) Modular Open Systems Approach (MOSA) to acquisition and the Office of the Under Secretary of Defense (OUSD) for Acquisition, Technology, and Logistics (AT&L) draft “Guide for Contracting for Systems Engineering” (V.15, 9/15/2005).

This document is intended to serve as a guide for those programs seeking to incentivize their contractors to implement open architecture business and technical principles in both development and production contracts. The award fee criteria are drawn from the business and technical principles embodied in the MOSA principles, and OUSD (AT&L)’s draft guide.

For “Performance and Schedule” portion of the Award Fee Plan, the Government should consider applying the following OA-related award fee criteria:

- Ability to incorporate considerations for reconfigurability, portability, maintainability, technology insertion, vendor independence, reusability, scalability, interoperability, upgradeability, and long-term supportability as defined by Naval Open Architecture.
- Ability to implement a layered and modular system that makes maximum use of non-proprietary Commercial-Off-the-Shelf / Non-developmental Item (COTS/reusable NDI) hardware, operating systems, and middleware.
- Ability to minimize inter-component dependencies and allow components to be decoupled and reused, where appropriate.
- Early and often disclosure of data related to the design of designated components or subcomponents.
- Ability to adapt to evolving requirements and threats.
- Modularity of products.
- Use of open, standards-based interfaces.
- Interoperability with joint warfighting applications and secure information exchange.
- Reduction of development cycle time and total life-cycle cost.
- Ability to achieve commonality and reuse of components within the system.

- Ability to identify potential candidates for reuse from outside the contractor's own organization for inclusion in selection of design alternatives.
- Ability to enable rapid technology insertion.

For "Work Relations" portion of the Award Fee Plan, the Government should consider applying the following OA-related criteria:

- Ability to collaborate with the Government, Contractors and Vendors to develop a highly performing system.
- Ability to work with the Government, Contractors and Vendors to incorporate revised schedules and meet changing Government requirements.
- Ability to work with Contractors and Vendors to improve PROGRAM X performance.
- Ability to identify and incorporate innovative methods with Contractors and Vendors to provide development assets without procuring unique assets.
- Ability to identify and work with Contractors and Vendors who possess innovative technologies and methods.
- Ability to work with Contractors and Vendors to identify new technology and functionality.
- Ability to work with Contractors and Vendors to identify innovative ways to incorporate new technology that improves performance.
- Ability to work with Contractors and Vendors to mitigate the risks associated with technology obsolescence, being locked into proprietary or vendor-unique technology, and reliance on a single source of supply over the life of a system.

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## **Appendix 1: RECOMMENDED NOA CDRL AND DELIVERABLE ITEMS**

**[Explanation:** *The following are examples of CDRLs and other deliverable items that support NOA and can be incorporated into contracts. This is not a complete list and can be augmented/reduced as the Program Manager believes is appropriate. The frequency and delivery dates of the deliverables must be specified, along with a list of deliverable recipients.*]

1. An open system management plan addressing architecture openness that describes, but is not limited to: the Offeror's approach to open architecture, modular, open design; inter-component dependencies; design information documentation; technology insertion; life-cycle sustainability; interface design and management; treatment of proprietary or vendor-unique elements; and, reuse of pre-existing items including all Commercial-Off-the-Shelf/Non-development Item (COTS/NDI) components, their functionality, and copies of license agreements related to the use of these components for Government approval. The initial plan shall be submitted with the CDRL.
2. Results of [*periodic or milestone-based*] NOA assessments using Government-specified tools and methodologies (e.g., OAAT, MOSA PART, or FITS).
3. Results of [*periodic or milestone-based*] market surveys conducted to identify candidate Government IP assets, COTS and other reusable NDI capable of achieving the performance requirements of solutions that it has proposed to custom build.
4. [*Semi-annual, annual, etc.*] Open Architecture-related updates to the System Management Plan.
5. Results of regular [*semi-annual, annual, etc.*] reviews of the Contractor's plan for addressing exceptions to reuse.
6. Results of regular [*semi-annual, annual, etc.*] reviews of the Contractor's plan for addressing (and minimizing the use of) proprietary or vendor-unique elements.
7. Documented results of product demonstrations that exhibit the OA aspects of the system or component.
8. Regular [*semi-annual, annual, etc.*] review and update of the Contractor's rationale for the modularization choices made to generate the design. These updates shall explicitly address any tradeoffs performed, particularly those that compromise the modular and open nature of the system.
9. Documents that provide a detailed tracing of all system requirements (including those contained in the Initial Capabilities Document, Capabilities Development Document,

and in Section C of this Solicitation) to one or more design modules. **[Explanation:**  
*See Section L, Paragraph 1, subparagraph c.]*

10. The Offeror shall demonstrate that their system design meets MOSA and other requirements identified in Section C/SOW and can facilitate component reuse by conducting a series of demonstrations.
11. The Offeror shall deliver a notional test plan, test protocol, test design, testing software, testing tools, etc. necessary to support the independent Government testing and assessment of the \_\_\_\_\_ components and demonstration of the interoperability of the components.
12. The Offeror shall deliver to the Government, specifically the activity \_\_\_\_\_ a copy of the \_\_\_\_\_ software application(s) including all testing devices, testing software, results and materials, along with all supporting documentation, for the Government to use for testing.
13. The Offeror will develop and maintain a Common Data Model for the system and will provide the Government with updates at [*monthly, quarterly, etc.*] intervals.
14. Executable code and binaries (including the specified programming languages, libraries, and tools).
15. Software version description, including the specified programming languages and tools.
16. Package description: makefiles. "Makefiles" is a set of software code that performs a set of actions in a sequence. Normally a "makefile" is a (plain text) script file that a compiler uses to compile and link files to make an executable. The file lets the compiler know the order to compile. Specifically, "make" is a command to use the makefile to compile a C++ file. For example, Java uses a program called Ant (<http://ant.apache.org/>) which uses an XML file to do the same thing.
17. Environment description.
18. Ownership / licensing and permission information.
19. Installation script files in uncompressed segment installer format.
20. Software test programs and source code, including tools.
21. Software and system test report(s), test data (if available) and test metrics.
22. Software requirements specification.
23. Software design description.

## Appendix 2: 23 DEC 05 OPNAV REQUIREMENT LETTER



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
2000 NAVY PENTAGON  
WASHINGTON, DC 20350-2000

IN REPLY REFER TO  
9010  
Ser N6N7/ 5U916276  
23 Dec 05

From: Deputy Chief of Naval Operations (Warfare Requirements and Programs) (N6/N7)

Subj: REQUIREMENT FOR OPEN ARCHITECTURE (OA) IMPLEMENTATION

Ref: (a) ASN(RDA) Memorandum on Naval Open Architecture Scope and Responsibilities dated 05 August 04

Encl: (1) OA Enterprise Team

1. **Purpose**. This letter establishes the requirement to implement Open Architecture (OA) principles across the Navy Enterprise. To deliver timely, affordable, interoperable warfighting capability to the fleet, made sustainable by the flexible integration of emerging capabilities, we must incorporate OA processes and business practices now.
2. **Background**. Warfare systems include hardware, software and people. Human factors, (i.e. such as training, education and doctrine) factor heavily in warfighting effectiveness. Naval OA transformation must match the rapid evolution in commercial and military technology. Not only must we shorten the kill chain across the family of systems; we must also shorten the time and cost it takes to deliver capability improvements. Our current process takes nearly a decade, costs hundreds of millions of dollars and delivers products that are commercially obsolete and have only incremental improvements in warfighting capability. That is not good enough, and must change in POM08. Acquisition processes and business practices must transition now in order to support POM 08 and implement agile changes that support rapidly evolving requirements.

OA Principles include:

- a. Modular design and design disclosure to permit evolutionary design, technology insertion, competitive innovation, and alternative competitive approaches from multiple qualified sources.

Subj: REQUIREMENT FOR OPEN ARCHITECTURE (OA) IMPLEMENTATION

b. Reusable application software, selected through open competition of 'best of breed' candidates, reviewed by subject matter expert peers and based on data-driven analyses and experimentation to meet operational requirements. Design disclosure must be made available for evolutionary improvement to all qualified sources.

c. Interoperable joint warfighting applications and secure information exchange using common services (e.g. common time reference), common warfighting applications (e.g. OA track manager) and information assurance as intrinsic design elements.

d. Life cycle affordability including system design, development, delivery and support while mitigating COTS obsolescence by exploiting the Rapid Capability Insertion Process/Advanced Processor Build (RCIP/APB) methodology.

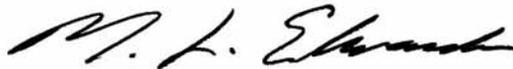
e. Encouraging competition and collaboration through development of alternative solutions and sources.

3. **OA Requirements and Actions.** OA principles shall be incorporated into all Navy System requirements. Reference (a) describes policy and established the Open Architecture Enterprise Team (OAET). N76 shall represent N6/N7 on the OAET and all N6/N7 Division Directors shall appoint O-6 representatives to an OA Council (OAC), chaired by N766, to work with the OAET in meeting these requirements.

a. The OAC will convene as required to communicate Naval requirements and POM/PR guidance to the acquisition community.

b. Enclosure (1) contains near-term guidance for PEOs, the OAC and the OAET, in support of POM08 planning. I plan to issue additional guidance supporting additional enterprise efforts such as OA/FORCENet risk reduction testing, RCIP, and OA initiatives such as Common Network Interface (CNI).

4. **Effective Date.** Effective upon receipt.



M. J. EDWARDS  
Rear Admiral, U.S. Navy

Subj: REQUIREMENT FOR OPEN ARCHITECTURE (OA) IMPLEMENTATION

Distribution:

PEO IWS  
CNO (N71, N75, N76, N77, N78)

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COMMARCORSYS COM

OA Enterprise Team

Ref: (a) ASN RD&A Memorandum for Distribution of 05 August 2004, Summary of OA EXCOMM of June 2, 2004  
(b) DoD Directive 5000.1, The Defense Acquisition System, 12 May 2003  
(c) DoD Instruction 5000.2, Operation of the Defense Acquisition System, 12 May 2003  
(d) DoD Directive 4630.5, Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS), 11 January 2002 CJCSI  
(e) SECNAVINST 5000.2C Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System, 19 November 2004  
(f) 3170.01C, Joint Capabilities Integration and Development System, 24 June 2003  
(g) CJCSM 3170.01M, Joint Capabilities Integration and Development System, 24 June 2003  
(h) CJCSI 6212.01C, Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS), 20 November 2003  
(i) DoD Directive 8500.1, Information Assurance, 24 October 2002  
(j) DoD Instruction 4630.8, Procedures for Interoperability and Supportability of Information Technology and National Security Systems (NSS), 2 May 2002  
(k) DoD Instruction 8500.2, Information Assurance (IA) Implementation, 6 February 2003  
(l) DoD Instruction 8500.2, DoD Information Technology Security Certification and Accreditation Process (DITSCAP), 30 December 1997  
(m) USD Memo on Instructions for Modular Open Systems Approach (MOSA) Implementation, 7 July 2004

Reference (a) describes the OA policy, and references (b) through (m) are associated documentation. SECNAVINST 5200.32B (OPEN ARCHITECTURE AND OPEN ARCHITECTURE ENTERPRISE TEAM (OAET) PROCESSES AND PROCEDURES) is currently in draft for staffing. When issued, this instruction specifies the policy, guidance and direction necessary for the successful implementation of an Open Architecture (OA) strategy. This strategy is essential as a key enabler and pillar of DoD's focus on joint, integrated architectures and evolutionary acquisition. The OPNAV N6/N7 OA Council (OAC), chaired by N766, shall provide representation to the OAET, and conduct direct, ongoing liaison at all venues.

a. The OPNAV OAC will convene as required to communicate Naval requirements to the acquisition community. The OPNAV OAC is intended to identify requirements for rapid, cost-effective, interoperable warfighting improvements with the objectives of supporting OA by:

- (1) Identifying operationally significant cross-domain components and opportunities for cost reduction and reuse; and
- (2) Leveraging technical, business, and organizational solutions from all participating communities; and
- (3) Harmonize standards and guidance across domains, to include efforts like Net-Centric Enterprise Solutions for Interoperability (NESI). Where inconsistencies exist, identify these discrepancies to process owners and work to find bridging solutions.

b. The OPNAV OAC will coordinate POM/PR guidance across the combat system and C4ISR communities, exploiting synergies across existing program of record domains (Air, Surface, Subsurface, C4I & Space) to support Sea Power 21 pillar (Sea Strike, Sea Shield, Sea Basing & FORCEnet) priorities. OPNAV requires the OAET to focus on determining the best return on investment that increases warfighting capabilities, improves joint interoperability, and provides for cost-effective software reuse practices within, and across warfare system programs.

c. The OPNAV OAC will coordinate with PEO-IWS 7.0 and the OAET to assist the Milestone Decision Authority (MDA), program manager, and resource sponsor in assessing a program's openness, where appropriate.

d. PEO IWS 7.0, in coordination with the OAET, shall:

Provide assessment tools and assistance to PEOs and SYSCOMs as they perform OA assessments of their portfolio of ACAT programs. Each PEO shall coordinate a schedule for performing these OA assessments and complete them in order to support the POM 08 and subsequent budget cycles.

- (1) Provide quarterly briefs to the resource sponsor on program status, including Core OA funding, deliverables performance, and adherence to the OA principles
- (2) Develop a process that aligns appropriate common requirements across disparate programs, within domain constraints, to achieve commonality and interoperability;
- (3) Take maximum advantage of software and hardware reuse where applicable, by building an OA asset repository capability that incorporates an enterprise configuration management process that is open and accessible to all Naval and Joint programs and qualified DoD vendors;
- (4) Leverage ideas from best practices from the commercial industry and incorporate them within the Naval Enterprise as and where applicable; and,
- (5) Ensure the Naval Open Architecture process remains relevant to Science & Technology (S&T) advancement.

e. PEO IWS 7.0, in partnership with SEA 62 and associated NAVAIR/SPAWAR Distributed Engineering Plant (DEP) teams, shall coordinate end-to-end force level system engineering experiments to identify and resolve issues related to interoperability and Open Architecture implementation. The experiments will leverage existing open/collaborative engineering environments in both industry and government sites to assess and facilitate integration of components across systems and domains. This ongoing effort will provide a mechanism for identifying and resolving interoperability issues early in the design and development process, foster team work throughout the Naval Enterprise, and prototype new business and engineering processes. The resultant data and analyses will provide objective, measurable, performance based underpinnings as the basis for future system changes and spiral development. The experiments will use existing netted environments of land-based test sites and live assets (via the SEA TRIAL process) where applicable.

f. The OAC, PEO IWS 7.0, and the OAET shall focus assessment priorities in support of the following capabilities:

- (1) Track management
- (2) Combat ID (CID)
- (3) Data fusion
- (4) Time-critical Targeting & Strike
- (5) Integrated Fire Control (IFC)

In short, collaborate to shorten the kill chain across the family of systems.

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### **Appendix 3: NOA CHECKLIST (short)**

The items below are intended to be a quick check on a system's programmatic that, when properly applied, will yield the benefits of an open system.

- For components which are expected to evolve to meet new or unforeseen performance requirements, does the Government have at least GPR in any software or documentation being developed or used to build the system?
- Are proprietary components well defined, limited in scope, and designed so that others are not precluded from interfacing with the component or other parts of the system?
- Are your program's design artifacts disclosed "early and often" and freely available for re-use by another program or third parties?
- Does the program use widely-accepted and supported standards to define interface definitions or key interfaces that are published and maintained by recognized organizations?
- Does your program encourage continuous competition for components, modules, and tasks? Is it easy for your follow on contract to go to anyone other than the incumbent?
- Does your program utilize commodity products (i.e. COTS products with a large user base)?
- Does your program use modules or components that are also being used by other programs with different product vendors?
- Does your program use an integrated team approach to identify how changes affect the system?
- Is the infrastructure of your system open? (Operating System, Data Bases, Communications, Interfaces, Tools)
- Does porting to a new hardware platform require minimal time and resources?

Distribution Statement A:  
Approved for Public Release;  
Distribution is unlimited. .

NOA Contract Guidebook v1.0  
7 July 2006

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## **Appendix 4: NOA CHECKLIST (long)**

OPNAV has established five principles of Open Architecture (OA) that form the basis for system design and program management of weapons systems. The items below are intended to be a quick check on a system's programmatics that, when properly applied, will yield the benefits of an open system.

### **Modular Design and Design Disclosure**

- Has the system design separated hardware from operating system from middleware from applications?
- Are the system's applications functionally segregated to provide separability and the ability to function as independent entities?
- Can the computing plant be upgraded without the necessity to change operating system, middleware or applications?
- Are the functional components of the system well defined with clearly specified functions and interfaces?
- Are the system/subsystem/component/application specifications and design data available to a broad cross section of potential providers?
- Is design disclosure accomplished on a frequent basis throughout the development process?

### **Reusable Application Software**

Reuse practices by the program:

- Has the program investigated potential reuse components from other programs?
- Has the contract/RFP required the prospective integrator to conduct market research to identify potential reuse candidates from a broad spectrum of providers?
- Does the program participate in Domain/Community of Interest asset reuse repository/library capabilities?

Creating assets suitable for potential reuse:

- Are applications created with well defined and documented interfaces?

- Have widely accepted standards been used in application design?
- Are the application functional requirements clearly defined and well documented?
- Have the test cases for each application been documented and made available?
- Is the development environment for each application an industry standard, openly available product?
- Have the appropriate data rights been obtained with each application (normally Government Purpose Rights)?
- If a product contains proprietary elements, are the license requirements for use clearly documented, and those proprietary elements segregated with well defined interfaces such that modification of another component will not require modification of the proprietary product?
- Does the RFP/Contract require that the vendor provide deliverables that are structured to provide for discovery and potential reuse of the asset?
- Have the asset packages (i.e., the deliverable) been audited prior to Government acceptance to ensure that they contain only the agreed upon license and data rights markings?

### **Interoperable joint warfighting applications and secure information exchange**

- Have the functions of the application been well defined to facilitate commonality with other service programs?
- Has the application/system been designed to conform to a community of interest/joint warfighting data/information model?
- Does the application/system comply with current information assurance standards and requirements?
- Is the application/system designed to function in a net-centric environment according to well-defined net-ready KPPs?
- Has the system design considered and does it comply with a higher-level architecture to facilitate interoperability?

### **Life Cycle Affordability**

- Has the system/program leveraged common development and maintenance of applications with another system/program to reduce life cycle software maintenance costs?
- Has the program executed Performance Based Logistics (PBL) agreements for life cycle support that leverage the advantages of COTS hardware?
- Do PBL agreements employ distance support techniques to reduce down time and reduce cost?
- Is operator and maintenance training optimized to support shortened cycle times and leverage commercial training?
- Are training systems designed to leverage the COTS nature of open architecture systems to provide better fidelity to operational systems and reduce cost?
- Has the program built in incentive structures to reward reduction in total ownership cost over the life cycle?
- Has the system design reduced life cycle cost by leveraging modularity to reduce the effort and cycle time of system modernization?
- Has the program made use of commodity COTS computing and networking hardware to reduce procurement and maintenance cost?
- Has system modularity been leveraged to provide a hardware modernization and obsolescence mitigation path?
- Have proprietary products been avoided to avoid vendor lock-in and sole source environments?

### **Encouraging Competition and Collaboration**

- Has the acquisition plan separated functions (e.g., architect, integrator, application provider) to permit separate contracts for components of the system?
- Has a peer group process been established to provide for independent evaluation of alternative components and selection of best of breed components for the system?
- Has a collaborative environment been established to promote cooperation and collaboration among government and industry partners in the system development?

- Are logical points in the development cycle established at which competitive processes can be leveraged to expand the vendor base where advantageous to the Government?
- Can a different vendor be chosen to provide any component of the system if advantageous to the Government?
- Have incentive structures been built into the program plan and contracts to reward cooperation and collaboration among the architect, integrator, and component providers?
- Has the program leveraged the Science and Technology (S&T) program to identify innovative concepts and new participants?
- Is there a SBIR and technology transition plan in place to encourage participation by qualified small businesses?
- Has the program sought opportunities for joint development or component reuse with other Naval and Joint programs?

## Appendix 5: GLOSSARY OF TERMS

**Please Note:** The definitions of the following terms are included as guidance for the Preparer and were compiled from the sources indicated in brackets and italics following each definition and were provided in this Appendix for the user's convenience. It is not intended to be authoritative or comprehensive. For the definitions of additional terms or clarification of these definitions, please refer to the Defense Federal Acquisition Regulation Supplement (DFARS) and other source documents.

**“APP233/ISO 10303”** – APP233 an “Application Protocol” for Systems Engineering that is based on the ISO 10303 Standard. AP233 is specific to Systems Engineering, but its purpose, like all of the 10303 standards, is to allow data exchange of SE models between tools -- it does not limit what “language” the tools use to represent a system. Neither is it meant to be a human-readable language, so using it directly for "tool neutrality" is not likely to work. ISO 10303 “is an International Standard for the computer-interpretable representation and exchange of industrial product data. The objective is to provide a mechanism that is capable of describing product data throughout the life cycle of a product, independent from any particular system. The nature of this description makes it suitable not only for neutral file exchange, but also as a basis for implementing and sharing product databases and archiving.” [*Source is Wikipedia*].

**“Commercial component”** means any component that is a commercial item. [*FAR §2.101(b)*]

**“Commercial item”** means:

(1) Any item, other than real property, that is of a type customarily used by the general public or by non-governmental entities for purposes other than Governmental purposes, and:

- (i) Has been sold, leased, or licensed to the general public; or
- (ii) Has been offered for sale, lease, or license to the general public;

(2) Any item that evolved from an item described in paragraph (1) of this definition through advances in technology or performance and that is not yet available in the commercial marketplace, but will be available in the commercial marketplace in time to satisfy the delivery requirements under a Government solicitation;

(3) Any item that would satisfy a criterion expressed in paragraphs (1) or (2) of this definition, but for:

- (i) Modifications of a type customarily available in the commercial marketplace;  
or
- (ii) Minor modifications of a type not customarily available in the commercial marketplace made to meet Federal Government requirements. Minor modifications mean modifications that do not significantly alter the nongovernmental function or essential physical characteristics of an item or

component, or change the purpose of a process. Factors to be considered in determining whether a modification is minor include the value and size of the modification and the comparative value and size of the final product. Dollar values and percentages may be used as guideposts, but are not conclusive evidence that a modification is minor;

(4) Any combination of items meeting the requirements of paragraphs (1), (2), (3), or (5) of this definition that are of a type customarily combined and sold in combination to the general public;

(5) Installation services, maintenance services, repair services, training services, and other services if:

- (i) Such services are procured for support of an item referred to in paragraph (1), (2), (3), or (4) of this definition, regardless of whether such services are provided by the same source or at the same time as the item; and
- (ii) The source of such services provides similar services contemporaneously to the general public under terms and conditions similar to those offered to the Federal Government;

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed or specific outcomes to be achieved and under standard commercial terms and conditions. This does not include services that are sold based on hourly rates without an established catalog or market price for a specific service performed or a specific outcome to be achieved. For purposes of these services—

- (i) “Catalog price” means a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or vendor, is either published or otherwise available for inspection by customers, and states prices at which sales are currently, or were last, made to a significant number of buyers constituting the general public; and
- (ii) “Market prices” means current prices that are established in the course of ordinary trade between buyers and sellers free to bargain and that can be substantiated through competition or from sources independent of the Offerors.

(7) Any item, combination of items, or service referred to in paragraphs (1) through (6) of this definition, notwithstanding the fact that the item, combination of items, or service is transferred between or among separate divisions, subsidiaries, or affiliates of a contractor; or

(8) A non-developmental item, if the procuring agency determines the item was developed exclusively at private expense and sold in substantial quantities, on a competitive basis, to multiple State and local governments. [*FAR Part 2.101(b)*]

**“Component”** is one of the parts that make up a system. A component may be hardware or software and may be subdivided into other components. [*IEEE Std 610.12-1990*]

**“Community of Interest (COI)”** means a collaborative group of users that must exchange information in pursuit of its shared goals, interests, missions, or business processes, and therefore must have shared vocabulary for the information it exchanges. [DoD 8320-2]

**“Design Disclosure”** means making data related to the design of a component, sub-system or system available to qualified recipients. This data is sufficient to allow the third party to develop and produce a competitive alternative.

**“Domain”** represents an administrative structure based on a common sphere of activities. In relations to NOA, the Naval Enterprise is divided into six Domains: Surface, Subsurface, Air, C4I, Space, and Marine Corps. As specified in the 5 August 2004 ASN (RDA) memorandum, the Domain Leads are PEO IWS (Ships), PEO Subs (Subsurface), PEO T (Air), PEO C4I (C4I) and PEO (Space). PEO IWS will act in collaboration with PEO Ships, PEO Carriers, and PEO LMW. PEO T will collaborate with the other Air PEOs and COMNAVAIR.

**“Government Purpose Rights” (GPR)** means the rights to—

- (i) Use, modify, reproduce, release, perform, display, or disclose intellectual and technical data within the Government without restriction; and
- (ii) Release or disclose intellectual and technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States Government Purposes.

[DFARS §252.227-7013(a)(12)]

**“Government purpose”** means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose intellectual property and technical data for commercial purposes or authorize others to do so. [DFARS §252.227-7013(a)(11)]

**Note: In order for a software/intellectual property/technical data asset to be a viable Re-Use Candidate, the Government must have at least Government Purpose Rights in the asset.**

**“Information Assurance”** is information operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for the restoration of information systems by incorporating protection, detection, and reaction capabilities. [CJCSI 3170.01E] Information Assurance compliance requirements are contained in CJCSI 3170.01E and PEO-specified requirements.

**“Integrated Project Team”** is a group composed of representatives from appropriate functional disciplines working together to build successful programs, identify and resolve issues, and make sound and timely recommendations to facilitate decision making. There are three types of IPTs: 1) Overarching IPTs (OIPTs) that focus on strategic guidance, program assessment, and issue resolution; 2) Working-level IPTs (WIPTs) that identify and resolve program issues, determine program status, and seek opportunities for acquisition reform; and, 3) Program-level IPTs (PIPTs) that focus on program execution and may include representatives from both Government and after contract award industry. [*DAU Glossary of Defense Acquisition Acronyms and Terms, 12th Edition*]

**“Layered”** means a system in which components are grouped, *i.e.*, layered, in a hierarchical arrangement, such that lower layers provide functions and services that support the functions and services of higher layers. *Note:* Systems of ever-increasing complexity and capability can be built by adding or changing the layers to improve overall system capability while using the components that are still in place. [*The Alliance for Telecommunications Industry Solutions (ATIS) web site, <http://www.atis.org>.*]

**“Limited Rights” (LR)** means, in part, the right to use, modify, reproduce, release, perform, display, or disclose intellectual property and technical data, in whole or in part, within the Government. The Government may not, without permission, release or disclose the intellectual property and technical data outside the Government, use the intellectual property and technical data for manufacture, or permit the intellectual property and technical data to be used by another party, except:

- When necessary for emergency repair and overhaul;
- When used for evaluation or informational purposes by foreign governments;
- Subject to prohibitions on further reuse;
- When the contractor asserting the restriction is notified of such use.

[*DFARS §252.227.7013(a)(13)*]

**“Markings”** refers to software and other Intellectual Property Rights (IPRs) legends, distribution statements, security classifications, and appropriate export control statements. It is important that Program Managers audit the markings of all deliverables prior to acceptance to ensure that the Government will obtain the IPRs it has contracted for.

**“Module”** is a discrete, small-grained unit of functionality, either hardware or software, with a well-defined, open and published interface. Modules are combined with other modules to create components, services, and packages.

**“Modular Design”** means a design (organization) where functionality is partitioned into discrete, cohesive, and self-contained units with well-defined, open and published interfaces that permit substitution of such units with similar components or products from alternate sources with minimum impact on existing units. [*A Modular Open Systems Approach (MOSA) to Acquisition document, OSJTF*]

**“Modular Open Systems Approach or MOSA”** is the DoD’s implementation of Open Systems. Within the MOSA context, programs should design their system based on adherence to the following five MOSA principles:

- Establish an Enabling Environment.
- Employ Modular Design.
- Designate Key Interfaces.
- Use Open Standards.
- Certify Conformance.

*[A Modular Open Systems Approach (MOSA) to Acquisition, OSJTF]*

**“Open Architecture (OA)”** is an enterprise-wide, multifaceted strategy for acquiring and maintaining NSS through joint interoperable systems that adapt and exploit open-system design principles and architectures.

**“Open Standards”** means widely accepted and supported standards set by recognized standards organizations or the marketplace. These standards support interoperability, portability, and scalability and are equally available to the general public at no cost or with a moderate license fee. *[Defense Acquisition Guidebook]*

**“Open System”** means a system that employs modular design tenets, uses widely supported and consensus based standards for its key interfaces, and is subject to validation and verification tests to ensure the openness of its key interfaces. *[A Modular Open Systems Approach (MOSA) to Acquisition, OSJTF]*

**“Open Systems Approach”** means an integrated business and technical strategy that employs a modular design and, where appropriate, defines key interfaces using widely supported, consensus-based standards that are published and maintained by a recognized industry standards organization. *[A Modular Open Systems Approach (MOSA) to Acquisition, OSJTF]*

**“Peer Review”** (as used in connection with Naval Open Architecture) is a refereed, open process used to assess technical approaches proposed by or being used by vendors. Reviewers are normally drawn from a cross section of the community of interest with government, academia, or private sector entities such that the membership is unbiased and impartial. An “independent peer review” is one where the membership includes individuals from outside of the program being reviewed. Membership is structured to achieve a balanced perspective in which no one organization is numerically dominant. Consensus is a goal, but the Peer Review Group’s findings or recommendations to the decision maker normally consist of a majority opinion and a documented dissenting opinion if the minority chooses to formalize their concerns. This assessment process normally results in findings or recommendations presented to the decision maker with the authority and responsibility to select or make the final course of action or decision.

**“Performance-based Logistics”** is the purchase of support as an integrated, affordable, performance package designed to optimize system readiness and meet performance goals for a weapon system through long-term support arrangements with clear lines of authority and responsibility. Application of Performance Based Logistics may be at the system, subsystem, or major assembly level depending on program unique circumstances and appropriate business case analysis.

**“Restricted Rights” (RR)** applies only to noncommercial software and means, in part, the Government’s rights to use the computer program:

- With one computer at a time;
- To transfer the program to another computer subject to restrictions;
- To make minimum copies for safekeeping, modification or backup;
- To modify the software for the above purposes;
- To permit contractors or subcontractors performing services in support of this or a related contract to use the software to diagnose and correct deficiencies or to respond to urgent tactical situations, subject to subject to non-disclosure and restrictions against reverse engineering and other restrictions.
- To permit contractors or subcontractors performing emergency repairs or overhaul of items or components of items procured under this or a related contract to use the computer software when necessary to perform the repairs or overhaul or to modify the software to reflect the repairs/overhaul, subject to non-disclosure and restrictions against reverse engineering.

[DFARS §252.227-7014(a)(14)]

**“Software Reuse”** is the process of implementing or updating software systems using existing software assets. [DAU Glossary of Defense Acquisition Acronyms and Terms, 12<sup>th</sup> Edition] The DoD 5000.1 Acquisition Guidebook states that the “program manager should base software systems development on robust systems engineering principles. The following best practices for software systems also apply in general to any system. ... Identifying and exploiting, where practicable, Government and commercial software reuse opportunities before developing new software.” Potential software assets include:

1. **Computer Software** - Computer programs, procedures, and possibly associated documentation and data, pertaining to the operation of a computer system.
2. **Software Development Plan (SDP)** - A management plan usually generated by the developer outlining the software development effort.
3. **Computer Software Documentation** - Technical Data (TD) information, including computer listings and printouts, which documents the requirements, design, or details of computer software, explains the capabilities and limitations of the software, or provides operation instructions for using or supporting computer software during the software's operational life.
4. **Software Product Specification** - Detailed design and description of Software Items (SIs) comprising the product baseline. Analogous to the Item Detail

Specification of a hardware Configuration Item (CI) in the product baseline of a hardware system.

5. **Software Requirement Specification (SRS)** - A type of Item Performance Specification that documents the essential requirements (functions, performance, design constraints and attributes) of a given Software Item (SI). Typically accompanied by the Interface Requirements Specification (IRS) for that SI. Analogous to the Item Performance Specification of a Configuration Item (CI) in the allocated baseline of a hardware system.
6. **Software Specification Review (SSR)** - A life cycle review of the requirements specified for one or more Software Configuration Items (SCIs) to determine whether they form an adequate basis for proceeding into preliminary design of the reviewed item. See Software Requirement Specification (SRS) and Interface Requirement Specification (IRS).
7. **Interface Requirement Specification (IRS)** - A type of Item Performance Specification that defines the required software interfaces for a given Software Item (SI) in the allocated baseline, the requirements for which are described by a Software Requirements Specification (SRS). The IRS is frequently combined with the SRS.
8. **Computer Software Component (CSC)** - Under some software development standards, a functional or logically distinct part of a Computer Software Configuration Item (CSCI), or Software Configuration Item (SCI)
9. **Software Item (SI)** - An aggregation of software, such as a computer program or database, that satisfies an end use function and is designated for purposes of specification, qualification, testing, interfacing, Configuration Management (CM), or other purposes. An SI is made up of Computer Software Units (CSUs).
10. **Software Resources Data Report (SRDR)** - SRDR is intended to improve the ability of the DoD to estimate the costs of software intensive programs. SRDR reporting is required by DoD Instruction 5000.2, Enclosure 3, for major contracts and sub-contracts (regardless of contract type) associated with high-cost software elements within Acquisition Category I and Acquisition Category IA programs. Data collected from applicable contracts include type and size of the software application(s), schedule, and labor resources needed for the software development.
11. **Analysis of Alternatives** - The evaluation of the performance, operational effectiveness, operational suitability, and estimated costs of alternative systems to meet a mission capability. The analysis assesses the advantages and disadvantages of alternatives being considered to satisfy capabilities, including the sensitivity of each alternative to possible changes in key assumptions or variables. The AoA is normally conducted during the Concept Refinement phase of the Defense

Acquisition Framework and the results of the AoA align with the system concept contained in the Initial Capabilities Document (ICD) approved prior to Milestone A.

12. **Initial Capabilities Document** - Documents the need for a materiel approach, or an approach that is a combination of materiel and non-materiel, to satisfy specific capability gap(s). The ICD defines the gap in terms of the functional area; the relevant range of military operations; desired effects; time and Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF); and policy implications and constraints. The outcome of an ICD could be one or more DOTMLPF Change Recommendations (DCRs) or Capability Development Documents.
13. **Systems Engineering Plan** - A description of the program's overall technical approach including processes, resources, metrics, applicable performance incentives, and the timing, conduct, and success criteria of technical reviews.
14. **Test and Evaluation Master Plan** - Documents the overall structure and objectives of the Test and Evaluation (T&E) program. It provides a framework within which to generate detailed T&E plans and it documents schedule and resource implications associated with the T&E program. The TEMP identifies the necessary Developmental Test and Evaluation (DT&E), Operational Test and Evaluation (OT&E), and Live Fire Test and Evaluation (LFT&E) activities. It relates program schedule, test management strategy and structure, and required resources to: Critical Operational Issues (COIs), Critical Technical Parameters (CTPs), objectives and thresholds documented in the Capability Development Document (CDD), evaluation criteria, and milestone decision points. For multi-service or joint programs, a single integrated TEMP is required. Component-unique content requirements, particularly evaluation criteria associated with COIs, can be addressed in a component-prepared annex to the basic TEMP.
15. **Capability Development Document** - A document that captures the information necessary to develop a proposed program(s), preferably using an evolutionary acquisition strategy. The CDD outlines an affordable increment of militarily useful, logistically supportable, and technically mature capability. The CDD supports a Milestone B decision review.
16. **Acquisition Program Baseline** - Prescribes the key cost, schedule, and performance parameters, each with an objective and threshold, to which the program will be executed in the phase succeeding the milestone for which the APB was developed. The APB constitutes an agreement between the program manager, OPNAV sponsor, and milestone decision authority, and the breaching of any one parameter threshold will necessitate a re-baselining with a new APB agreed to by those three parties.

17. **Training Plan** – Outlines the level of learning required to adequately perform the responsibilities designated to the function and accomplish the mission assigned to the system.

*[DoD 5000.1 Acquisition Guidebook]*

**“Unlimited rights” (UL)** means rights to use, modify, reproduce, perform, display, release, or disclose intellectual property and technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so. *[DAU Glossary of Defense Acquisition Acronyms and Terms, 12<sup>th</sup> Edition]*

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## Appendix 6: FEEDBACK FORM

Program Manager, Future Combat Systems Open Architecture (PEO-IWS 7.0 )  
1333 Isaac Hull Avenue SE  
Washington Navy Yard  
Washington, DC 20376-2301

Name:

Organization:

Phone Number:  Email:

Page/Paragraph  Section/Subsection

Issue:

Recommended Change:

This form may be submitted electronically if accessed at <https://acc.dau.mil/oa>. If submitting manually, please mail to PEO-IWS 7.0, attention PEO-IWS 7B1, or fax to (202) 781-4754.

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*For additional information on the Naval Open Architecture Contract Guidebook or the Naval Open Architecture (NOA) effort, please visit:*

<https://acc.dau.mil/oa>