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OUSD (AT&L)
DEFENSE PROCUREMENT AND
ACQUISITION POLICY



Business Case Analysis:
Clause Logic Service

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A handwritten signature in black ink that reads "LeAntha D. Sumpter".

Approved: February 4, 2013
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Please note that wherever the term “clause” is used in this document it shall be deemed to mean both “clauses and prescriptions.” Wherever the term “contract” is used in this document it shall be deemed to mean both “contracts and solicitations.” Other terms used are defined in the glossary in Appendix A.

EXECUTIVE SUMMARY

The Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS) provide the uniform policies and procedures for procurement across all Defense components. These regulations ensure the integrity of the procurement processes for contracts issued by the Defense components to supply the goods and services to support the war fighter’s needs. Basic principles guiding the Federal Procurement procedures include conducting fair business and fulfilling public policy objectives. Within the FAR/DFARS, the instructional prescriptions direct how and when a provision or clause must be used or referenced within a contract document. While some clauses must be restated word for word in a contract (full text), others are incorporated by reference. The determination for when provisions and clauses should be used is driven primarily by the goods or services being procured and the type of contract being employed.

Capabilities have been developed in the Contract Writing Systems (CWS) utilized across the DoD to include clauses and provisions in contract documents based on their particular prescriptions and input from the Contracting Officer on contract attributes. While some CWSs utilize a template approach of pre-defined clauses for each contract type, others use system-developed business rules to produce a more custom designed “bank” or listing of clauses for review and inclusion in contractual documents.

Because the various components each employ different clause-inclusion processes, the consistency of outgoing contracts across the DoD varies greatly. Those components which individually program their clause logic into their CWSs give their users the ability to retrieve updated clauses for their contract documents. Those components without CWSs often use manually prepared template clauses for each contract type. The unique process utilized by each individual component requires interpretation of clause prescriptions, as well as independent drafting of business rules at a service-level. The replication of this system knowledge across individual agencies has caused inconsistent business rules and clause bank generation. Duplication of efforts for the various groups engaged in such analysis presents inefficiencies. Further, the system knowledge currently in place across the DoD has not been efficient or effective in narrowing down the provided clause bank for any particular action. In addition, the duplication of system knowledge produces an excess of optional clauses for user discretion, requiring excess time and resources for the individual contracting officer, and allowing more room for human error. In addition, the clauses and their respective prescriptions tend to be written in such a manner that are not always clear such that a CWS owner can appropriately and consistently apply the rule according to its intent.

In order to improve upon the current implementation of clause and prescription language, the Defense Procurement and Acquisition Policy (DPAP) plans to implement a web-based, centralized clause logic repository across all Defense components called the Clause Logic Service (CLS). This service is planned to replace the various template and logic approaches currently in use by the DoD and provide users with a state-of-the-art clause logic capability. This capability is an innovative approach to ensuring compliance with FAR and DFARS regulations. Essentially, all of the FAR and DFARS clause prescriptions will be converted from text to a common set of computer indicators and logic; a significant business process reengineering effort.

A CLS Team (PDI/DARS) has been established within DPAP/PDI to be the agent for management of the planned enterprise clause logic service. The CLS Team will work closely with all primary players including the DARS Committee, the DAR Council, the Components, and any identified business/technical experts. This close working relationship will encourage a continual working dialogue and engagement between all parties involved across the process. The accomplishment of these goals will also assist in easing the transition of clause logic related issues from policy to system implementation.

The CLS also aims to reduce the high rates of non-compliance by contracting specialists failing to include clauses required by the regulations. Recent reviews of compliance with including payment instructions and government-furnished property clauses showed a compliance rate of 19% for the former and 20% for the latter.

The CLS is based on a Service Oriented Architecture (SOA) approach, which provides a web-based service that responds to XML calls from individual applications. These XML calls, which will contain a list of standardized indicators based on contract characteristics, will be internally mapped to the associated business rules and regulatory clauses in a centralized repository. These clauses are then sent back through a return XML call with the capability to send an audit sheet, if requested. This state-of-the-art CLS is based on a Service Oriented Architecture (SOA) approach. Maintenance of enterprise logic, previously a labor intensive undertaking for the contracting community, will be managed as a service and alleviate this burden for the individual contracting activities.

A stand-alone capability that can be placed on a secure network and accessed through an intranet or other network with low-bandwidth capabilities that could be updated periodically (e.g., monthly, quarterly) with media provided by the CLS Team is also required. Additionally, the capability to access the CLS and repository directly via a website (when a contract writing system is not used) shall also be provided. The CLS will serve as the transformative service for clause logic services by incorporating the newest technologies and user-friendly applications.

A Guidebook has been developed to aid in the understanding of how the enterprise CLS will be used in the Department. This document is available upon request from the OUSD (AT&L) DPAP/PDI office.

1.0 JUSTIFICATION

1.1 Purpose

This Business Case Analysis (BCA) for a Clause Logic Service (CLS) includes a justification, Analysis of Alternatives (AoA) and recommendation to address potential inconsistencies in the interpretation and application of FAR and DFARS policies and procurement within all Defense components. The analysis will address workforce and system cost considerations. It was developed and endorsed, with Service input, by the Deputy Director, DPAP/Program Development and Implementation OUSD (AT&L).

1.2 Problem Statement

Contracting offices across the Department currently operate with no centralized capability to automatically determine which provisions and clauses should be inserted into solicitations, awards, orders, and modifications. Most offices rely on templates (that are specific to different types of purchases), decentralized clause banks which leverage logic maintained within the Service or Agency's contract writing capabilities, or a hybrid of both to arrive at a recommended set of provisions or clauses.

These inefficient methods perpetuate inconsistent applications of the provisions and clauses in contract actions resulting in differing interpretations of the FAR or DFARS. The decentralized approach to maintaining these methods creates duplicative activity on behalf of Component resources, which has been estimated to collectively cost the Components approximately \$1M in government labor each year. This estimate is conservative as the overall cost to design, administer and manage clauses across DoD was not targeted in the initial scope of this BCA. The systems cost to manage and administer clause logic in each CWS was also not included. It is also not feasible to project the costs of inefficiencies that occur during contract administration as a result of inconsistent application of clauses, particularly those that impact the payment process.

1.3 Background and Context

Because the various components each employ different policies and procedures interpretation and clause-inclusion processes, the clauses in outgoing contracts across the DoD lack enterprise-wide consistency and accuracy. As a result, a need exists to have one central DoD clause selection application for all DoD Components to use.

1.4 Project Initiative Description

DPAP plans to implement a web-based, centralized clause logic repository across all Defense components. This service is planned to replace the various and differing template and logic approaches currently in use. The CLS will be available for Beta testing in the 4th quarter of 2012 with availability to all DoD components for limited use during the 2nd quarter of 2013. Because of the complexity of both the system architecture and the prescription of FAR and DFARS policies and procedures, the complete and permanent implementation of the CLS will not be complete until 2015.

1.5 Benefits

Ultimately, the transition into a shared CLS should enable increased efficiency, lower costs, increased consistency, and increased uniform accuracy of clause selection in contracts across all Defense components.

1.6 Scope

The CLS shall provide a connectivity capacity that is scaled based on an estimated number of users in the DoD-wide environment (approximately 25,000). Three recently-fielded CWSs, EProcurement, oContrax, and PRISM (ONR), are anticipated to be initial testers of the CLS. For other CWSs, an implementation timeline is planned from an Initial Operational Capability (IOC) in FY13 to FOC in 2015. It is also anticipated that DoD Assisting Agencies (non-DoD agencies awarding contract actions on DoD's behalf) will use the CLS to determine which DFARS-level clauses must be included in those actions. The first release of CLS will exclude the management of the following capabilities: local clauses, government fill-ins and multiple line items.

1.7 Assumptions and Constraints

- 1.7.1 The GSA FAR site (<http://acquisition.gov/far/>) is the clause site of record, and will be used as the source of current FAR clauses.
- 1.7.2 The DPAP Defense Acquisition Regulations System (DARS) site (<http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>) is the clause site of record, and will be used as the source of current DFARS clauses.
- 1.7.3 All CWSs not using the stand-alone capability will have access to a network connection in order to make XML calls to the web-based clause service.
- 1.7.4 There will be a standard format for system logic that can be utilized by all Defense CWSs and other federal agency CWSs used by DoD Assisting Agencies.
- 1.7.5 CLS will maximize the use of open source code and architecture.
- 1.7.6 DPAP will establish policies that support and enforce the use of the centralized CLS.
- 1.7.7 Each CWS will migrate from their current clause logic application to the centralized service (CLS) as their development schedule permits, as negotiated with DPAP.
- 1.7.8 CLS will contain one common set of clause logic for FAR and DFARS with the possibility to add component-unique rules at a future date.

1.7.9 CLS will not make any changes in the central capability to accommodate the legacy systems that cannot connect. For any legacy system that does not plan to migrate to the web services, their users will be expected to use the web-site capability and return to the required clause bank.

1.7.10 Rendering of the clauses and their insertion into the contract action itself remains the provenance of the CWS.

1.7.11 Discretionary decision-making on the part of the contracting specialist as to which optional clauses should be included into a contract will remain.

1.8 Funding Requirements

The funding required for this effort will be approximately \$560K to begin development of this service, with an estimated \$6.65M required across the remaining years of the future years defense program (FYDP) (FY12-FY17). Contract support will be for the development of the service with the procurement expertise being organic to DPAP. The initial developmental funding estimate above includes the estimated cost of DPAP procurement expertise. Additional analysis of forecasted funding and costs can be found in Section 4.0 of this document.

1.9 Point of Contact

The following DPAP contact was involved with the development of this BCA and may be contacted:

Ms. Donna Hairston
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Phone: (703) 697-4389

2.0 REQUIREMENTS

The following section briefly outlines the technical and functional requirements necessary for the successful interoperability between CLS and each CWS. These requirements shall be further defined in the implementation plan. Because the type of CWS calling up the CLS varies between new and legacy systems, several responsibilities lie on the front-end of this functional process, rather than the service-end. Because each DoD component is individually responsible for the integrity of its contracts, it may be necessary for the CWS to notify all service users of clause updates that may have recently occurred. This notification will alert users they have saved contracts at some point during the development process to re-run their XML call against CLS prior to actual award of the action. Requiring this 'pre-award evaluation' for all saved contracts mitigates the possible risk of releasing a contract with outdated clauses.

2.1 Statutory, Regulatory and other Compliance Requirements

CLS's capabilities include the ability to retain a record of the ongoing transactions between CLS and CWS. This capability will provide an audit trail, summarizing the clauses added, deleted, moved, or otherwise edited from the baseline results provided by CLS. In addition, it will ensure the ability for successful audit reporting at any point in time. It is expected that any CWS using CLS will employ business rules to ensure that 'required' clauses returned by CLS shall not be allowed to be deleted on an action.

See paragraph 2.3.11 for a list of security directives/certifications that apply to the CLS.

2.2 Functional Requirements

The CWS shall be responsible for setting its own unique process for user profiling, access, and usage privileges. The user roles and permission currently in place within the CWS will remain unchanged by the CLS. The transactions between the CLS and CWS occur at a site level, and involve no individual access rights other than XML calls between sites.

2.3 High-Level System Overview and Architecture

The centralized, web-based CLS will be presented as a service that can be utilized by any CWS. The CLS will:

- 2.3.1 Maintain a centralized repository of clauses kept up to date from the FAR, DFARS and Component authoritative sources and pulls new and updated clauses for examination and insertion into the engine.
- 2.3.2 Store new and revised clauses into an Automated Clause Interrogation (ACI) engine, along with their associated business rules, determined from FAR/DFARS/Component prescriptive language.

2.3.3 Receive contract-specific indicators via XML-based calls from a CWS, run the clause logic engine, and determine which clauses may apply in that contract.

2.3.4 Generate an XML-based list of clauses that either must apply (mandatory), or may apply (optional/conditional), and identify each type.

2.3.5 Provide an XML or HTML-based call back to the requesting CWS containing all populated clauses in their prescribed format (i.e.; full text, by reference, etc.), as well as required contract section in which to insert each clause.

2.3.6 Additionally, provide a graphical user interface (GUI) capability for users without a CWS that can access web services that are available via the web. The selected clauses can then be manually added to the contract.

2.3.7 Data Receipt

a. The CLS shall:

- i. Through the ACI, receive inputs of clauses from the FAR, DFARS and Component level authoritative sources, and store these in the database.
- ii. Establish a stand-alone capability of the above that can be used in secure network locations or other environments (such as contingency locations) where internet access is unavailable.
- iii. Enable DPAP to translate the prescribing language in business rules and assign contract characteristics (indicators) to the clauses, storing these in the database as linked to clause language. This requires the CLS Team's manual intervention to ensure the proper interpretation of business rules in coordination with the other stakeholders as noted in the Guidebook.
- iv. Receive XML-based calls (or direct web input) in a standard format from the CWS, containing a list of criteria, or indicators (i.e.; document number, funding value, North American Industry Classification System (NAICS), contract type, etc.). These attributes assist CLS in determining which indices, and which clauses may apply in that contract.
- v. The input XML call will be a list of criteria or indicators from a specific contract to assist the CLS in determining which associated clauses apply. The following are the examples of required

indicators needed in an XML call for CLS to populate any associated clauses:

1. DoD component or federal agency awarding the action
 2. DoD component or federal agency providing funding for the action
 3. Document number (containing the menu-type procurement instrument identification number [PIIN])
 4. Funds (Dollar value/estimate \$)
 5. Level indicator (F for organizational level of FAR, D for organizational level of DFARS and C for organizational level of Component)
- vi. Receive an XML-based call for an audit sheet containing reasoning for clause inclusion. Such a call must reference a previous result transaction.

2.3.8 Data Output

The CLS shall:

- a. Run the CLS engine and provide an XML-based output of all applicable clauses based on the indicators provided using business rules created by the CLS Team in coordination with the stakeholders as described in the Guidebook.
- b. Generate an XML-based list of clauses that either must apply (mandatory), or may apply (optional/conditional), and identify each type.
- c. Provide clause lists in the following ways (depending on the input provided by the CWS):
 - i. 'By Reference' for clauses with fill-ins
 - ii. 'By Reference' and an abbreviated version of the clause text with fill-in information
 - iii. 'By Full Text' with the title information and all of the text of the clause with any entered fill-in information
- d. Run the clause engine and return an XML-based output list of clauses which contain the following headers. See Appendix B for definitions of each of the headers.
 - i. Clause Number
 - ii. Clause Title
 - iii. Clause Source
 - iv. Effective Date (included in clause title)

- v. Reserve Date
 - vi. Regulatory Prescriptive Language
 - vii. 'Required' or 'Recommended' Terms
 - viii. Clause Text Editable Indicator
 - ix. User Fill-In Indicator
 - x. Designated Section Indicator
 - xi. Full Text/By Reference Indicator
 - xii. Clause History
 - xiii. Clause Logic
 - xiv. Time/date Stamp of the Call
 - xv. Version Number
- e. Provide each relevant clause only once in the XML feedback (or a file that can be downloaded by the user when using the web to access the CLS instead of a CWS), regardless of how many indicators or manual requests relate to the same clause. The audit sheet, however, shall denote all indicators associated with provided clause.
- f. Provide an audit sheet in either XML or HTML format, which contains all selected indicators and associated indices upon request.
- g. Provide an audit trail (date & time stamp and a record of which user made the change) for the following events:
- i. Entering a clause
 - ii. Creating/updating a business rule
- h. Provide an XML or HTML-based call back to the requesting the CWS containing all populated clauses in their prescribed format (i.e.; full text, by reference, etc.), as well as required contract section in which to insert each clause.

2.3.9 Maintenance of History and Storage

- a. Business rules are expected to be put into the CLS through the Automated Clause Interrogation (ACI) into the clause engine. The prescribing language from the authoritative FAR, DFARS and Component sources shall be used for the information generated and input into the ACI for each clause number.
- b. Rollback capability will be retained so as to provide the ability to call up previous versions of clauses and their associated business rules after they have been replaced or updated. These shall not be overwritten, but instead archived with their effective dates. Each user shall be able to view these clauses and associated business rules upon making a historical call

(as of a certain date in the past). Archive date **MUST** be approved in writing by DARS staff.

- c. The CLS shall retain prescriptive language and related business rules associated with stored clauses.
- d. Any changes made to the XML schema must be communicated for user awareness. This may involve an email or some other written notification process.

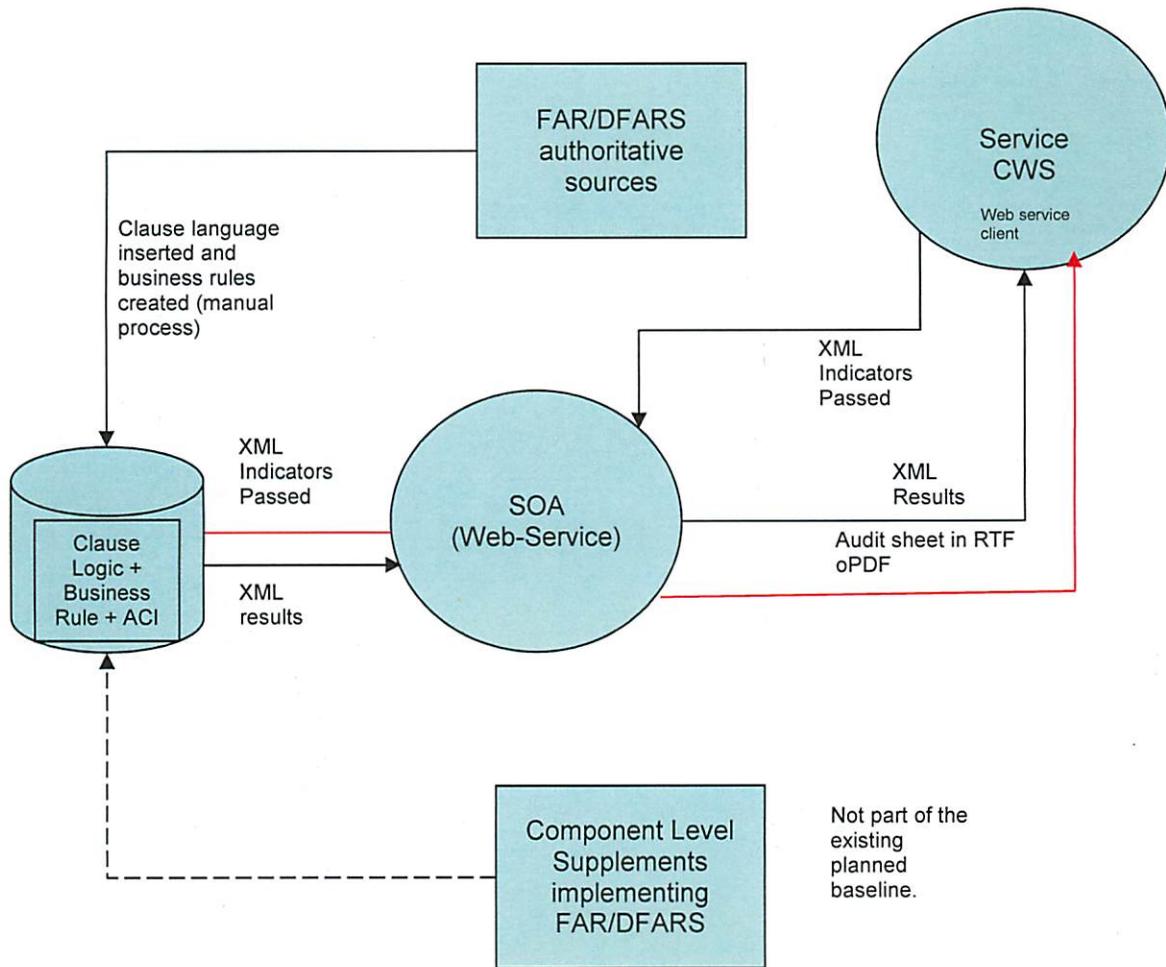
2.3.10 User Management

- a. The CLS shall provide a graphical user interface (GUI) capability for users without a CWS that can access web services that is available via the web.
- b. The CLS shall establish a stand-alone capability of the above that can be used in secure network locations or other environments (such as contingency locations) where internet access is unavailable.
- c. Interoperability requires establishing a valid site ID, user token, and DoD certificate.
- d. Site setup shall be accomplished in a Public Key Infrastructure (PKI) process similar to that of receiving a Common Access Card (CAC).
- e. Site shall also allow user entry and set-up via user ID / strong password capability for the GUI web access.

2.3.11 Security

- a. The CLS shall follow DoD directives on network implementation (see DoD Directive 8500.1). This directive requires that critical assets be protected with an intrusion detection system. These requirements extend to both classified and unclassified networks.
- b. The CLS shall provide the necessary permissions and certification to communicate with CWS systems. This will include providing valid application ports and protocol communications.
- c. The CLS shall be certified and accredited for enterprise-wide operation. The completed certification and accreditation process must include a risk assessment, security testing, contingency planning, and a vulnerability assessment.
- d. The CLS shall follow control and validation procedures outlined in the DIACAP requirements in 500.2_IA_Controls_and_Validation_Procedures.xls

2.3.12 Clause Logic Service (CLS) Architecture



2.4 Front-End CWS Requirements

Because the type of CWS calling up the Clause Logic Service (CLS) varies between new and legacy systems, several responsibilities lie on the front-end of this functional process rather than the service-end. The most important of these responsibilities is the ability to retain a record of the ongoing transactions between CLS and CWS. This ability should be some type of audit trail summarizing the clauses added, deleted, moved, or otherwise edited from the baseline results provided by the CLS and ensuring successful audit reporting at any point in time. It is expected that any CWS using the CLS will employ business rules to ensure that 'required' clauses returned by the CLS shall not be allowed to be deleted on an action.

Furthermore, the owners of the CWS shall be responsible for setting their own unique process for user profiling, access, and usage privileges. The user roles and permission currently in place within the CWS will remain unchanged by the CLS. The transactions

between the CLS and CWS occur at a site level and involve no individual access rights other than XML calls between sites.

Lastly, each DoD component is individually responsible for the integrity of its contracts. Thus, it may be necessary for the CWS to notify all service users of clause updates that may have recently occurred. This notification will alert users, who saved contracts at some point during the development process, to re-run their XML call against the CLS prior to actual award of the action. Requiring this 'pre-award evaluation' for all saved contracts mitigates the possible risk of releasing a contract with outdated clauses.

Although the preceding front-end requirements will need to be further discussed and defined in a user management process, they are some of the key considerations in successful utilization of the centralized service.

3.0 NEEDS AND BENEFIT ASSESSMENT

Historically, Federal Acquisition Regulations (FAR) and Defense FAR Supplement (DFARS) provisions and clauses have been interpreted and implemented with great variation across contracting offices and the contract writing systems (CWS) used in the Department. These variations in the treatment of clause logic by our first and second generation CWS resulted in the duplication and redundancies in system knowledge as well as inconsistent interpretation and application of business rules across the Department. Therefore, the Senior Procurement Executives determined that developing an enterprise contract clause logic service is critical to the future of contract writing in DoD.

When timely and consistently implemented, this DoD enterprise Clause Logic Service (CLS) and its centralized repository of FAR/DFARS/Service clauses will provide a number of benefits to the Department and to its contracting community as summarized below:

3.1 Centralized Approval Process

- a. Increased communication between the authoritative source of FAR/DFARS clause development (case managers), technical developers, and practitioners
- b. Increased clarity in clause prescriptions as intended by the DARS Committee and implemented by the practitioners
- c. Receipt of business application input early in the clause creation/revision process

3.2 Central Repository of Clauses

- a. CLS will be accessible globally through the Internet.
- b. Automated clause selection capability via a website to those components without an automated CWS
- c. Outdated clauses will be stored indefinitely and be accessible to the user when needed for review.
- d. Saving of time and resources for maintenance of individual clause selection systems

3.3 Uniform Changes Capability

- a. FAR/DFARS clause requirements will be implemented on a more timely and consistent basis across all of DoD.
- b. All users will have network access to the latest approved updates for all FAR/DFARS provisions and clauses.
- c. CLS will exclude new/revised clauses from being used prior to the effective date of implementation.

3.4 Lower Annual Cost

- a. Total average annual savings of \$10M.
- b. One common service that can be utilized by all of DOD, rather than maintenance of capability in each discrete system.

- c. This savings does not include efficiencies achieved through a consistent clause utility or systems savings within a CWS.

3.5 Increased Efficiency

- a. Services will no longer have to maintain their clause logic systems for FAR/DFARS.
- b. CLS will identify exactly why a specific clause was included/excluded resulting in less user research.
- c. More precise implementation language resulting in fewer optional clauses for users to review
- d. Less chance of human error

3.6 Increased Consistency

- a. One source for interpretation of clause prescriptions
- b. Successful audit reporting at any point in time which identifies the clauses added, deleted, moved, or otherwise edited from the baseline results provided by the CLS.

3.7 Increased Accuracy

- a. Close working relationship between DARS Committee, DPAP/PDI and Services in establishing clause indicators/rules. Prescriptions will now be written so it is clearer as to what indicators apply to clause implementation.
- b. Enforcement of required clauses in all contract actions.

4.0 ANALYSIS OF ALTERNATIVES (COST ANALYSIS OF CENTRALIZED VS. DECENTRALIZED CLAUSE LOGIC MANAGEMENT)

Current clause logic maintenance efforts by Components are dependent on the number of contract writing systems used and the method each uses for clause logic. A survey of the DoD contracting Components was performed in August/September of 2011 in order to assess current annual expenditures to maintain clause logic/template capabilities. The detailed results of the survey are available upon request from DPAP/PDI.

Not all Components responded to the survey; however, the Components who answered the survey stated they used a variety of methods and systems to manage clause logic. For the purposes of this Analysis of Alternatives (AoA), some normalization and extrapolation of the survey results is needed.

DoD currently has 12 systems that perform some portion of contract writing and are in some stage of production. Two systems are used by more than one Component: the Standard Procurement System (SPS) (used by all Components) and PRISM (a commercially developed government contracting writing system used by the TriCare Management Activity (one office only) and by the Office of Naval Research). Of the Component specific systems, two systems (SEAPORT and MDO) only issue modifications and delivery orders and therefore do not use clause logic capabilities.

The survey results cover two of the three Services' use of the SPS, along with three of the thirteen defense agencies using the system. Also included are the Air Force's ConWrite and ACIPS systems, the Army's PADDs system; however, a response from the Defense Logistics Agency (DLA) was not clearly identified. Annual costs for maintenance of clause logic reported by the Components for the SPS range from a high of one man-year (reported by the Army), to a low of 20 hours (reported by the Missile Defense Agency). These extremes are not as absurd as it may initially seem because the Army, Navy and Air Force operate many instances of SPS spread across the world while most defense agencies operate one. Also, it should be noted that part of the clause logic effort for SPS is performed centrally. The Army reported approximately one and three quarter manyears for PADDs, while the Air Force reported three quarters of a man year for ConWrite and just under half a man year for ACIPS.

Components reported that costs per hour varied from \$62.50 to \$100, with the average being \$69. These costs were compared to the salary and benefits of a GS-13 Step 5 using the locality adjustment for rest of United States, which gives a salary of \$92,732, plus an allowance for benefits of 36.25% (based on the rate used for A-76) for an annual cost excluding non-benefit overhead (i.e. facilities and management oversight) of \$126,347, or \$60.74 per hour. As even an extremely conservative 15% allowance for all other forms of overhead results in a rate of \$69.86, \$69 is used as a conservative estimate for a fully loaded hour.

In estimating the cost of continuing to define clause logic for each individual contract writing system, the number of anticipated systems and the cost per system must be addressed. The current systems address three major classes of contract writing environments. The most complex systems are for major weapon systems procurement (i.e. Air Force's ConWrite, Army's PADDs, and the Navy's and Defense Agencies' use of SPS). Based on the range of results above, it is estimated a man-year is required for each system performing major weapon systems procurement. This estimate is significantly lower than what is currently spent on PADDs or SPS, but it still above the cost for maintaining the capability in ConWrite. Since the capability in ConWrite is not as sophisticated as the capabilities of CLS, there is an added cost reduction by eliminating some of the effort currently performed manually for each contract in ConWrite.

The second most complex type of contract writing environment is general contracting. This environment includes a full range of contract types, products, services, and construction, but it involves less complex contracts of shorter duration than the major weapons system environment. These offices most commonly use SPS, along with some instances of PRISM and DAI. As the only responses available are for SPS, it is estimated that the rate is half a manyear based on the Navy SPS input.

The third contracting environment is the inventory control point, where the workload consists of simple contract actions for supplies but the volume is high. Current systems used are SPS, ACIPS, ITIMP, EProcurement and the systems they are replacing. The Air Force reported an annual cost of 860 hours for ACIPS, while no data is available for ITIMP and DLA reported two hours per month for the legacy systems being replaced by EProcurement. DLA's legacy systems do not appear to have a clause logic capability in any automated sense. In the absence of better data on the new DLA system, the Air Force's ACIPS figures will be used as a baseline.

Using a manyear of 2080 hours, and the average cost per hour of \$69, the annual costs by type of system are:

System Type	Hours	Rate	Annual Cost
Major Weapon System CWS	2080	\$69.00	\$143,520
General Purpose CWS	1040	\$69.00	\$71,760
Inventory Control Point CWS	860	\$69.00	\$59,340

In order to determine the total cost of a decentralized process, the number of systems is multiplied. Currently, DoD has separate contract writing systems for each service for inventory control points and for major weapon systems. In addition to SPS, there are also two other systems performing general purpose contract writing. Changes to the finance system environment are increasingly driving Components to seek contract writing solutions that are interoperable with those applications. This argues that the

long term environment will have no fewer systems than the present. To the extent that the contracting environment is either high volume or involves complex funding, using different systems for each Component in order to optimize interface with financial systems may be necessary. For the purposes of this AoA, the number of systems was estimated as follows:

Army – three systems corresponding to the three classes, each of which would be deployed to organizations on a separate finance system

Navy – two systems, one for major systems and general contracting and one for an ITIMP replacement

Air Force – three systems corresponding to the three classes. As the future Air Force accounting system environment is not yet known, it is assumed that the Air Force would mirror their current use of three systems.

DLA – one system for inventory control point use, with an assumption that they would use another Component's system for the small number of complex contracts needed.

Other Defense Agencies – two systems, one for general contracting and one for major systems.

Components	Major Systems	General	ICP	Total Annual Cost (FY11\$)
Army	\$143,520	\$71,760	\$59,340	\$274,620
Navy	\$143,520		\$59,340	\$202,860
USAF	\$143,520	\$71,760	\$59,340	\$274,620
DLA			\$59,340	\$59,340
ODAs	\$143,520	\$71,760		\$215,280
Total		\$215,280	\$237,360	\$1,026,720
	\$574,080			

Thus, the functional annual cost of defining separate clause logic for each system is approximately \$1.03M per year in the FY2011 dollars used in the survey.

The cost of developing the clause logic service is budgeted at \$560K for FY2011 plus \$434K for FY2012. A further \$868K is planned for FY2013 to make improvements resulting from lessons learned during testing and deployment. Recurring cost of operations consists of the cost of hosting and maintaining the system, budgeted at \$190K per year and continued system software maintenance starting in FY2013 at \$869K to 1.413M as shown in the table below. The other cost to be considered is the cost of developing and maintaining the actual rules. This has been estimated using the same methodology as used for calculating the cost avoidance associated with eliminating that function from individual contract writing systems, above. As the effort of

defining and updating the rules will be spread across DPAP staff, a labor rate based on Washington DC area salaries and a GS-14 Step 5 has been used in place of the GS-13 Step 5. The number of hours used is the same as for a full scope major weapon system contract writing system, one man year of 2080 hours resulting in a recurring functional cost of \$187K per year in FY2011 dollars.

Although the immediate operational savings in functionally maintaining rules themselves are small, there are a number of operational impacts that more than justify the investment of the system. Two examples mentioned above (government-furnished property and payment instructions) show that we can significantly improve our contract writing by improving the logic used for clauses. While the financial impact of the failure to include the correct government furnished property clauses cannot be readily calculated, the cost of not including payment instructions is known. The payment instructions are used by the payment systems to allocate costs across multiple funding sources. The instructions are required for cost type contracts and contracts with progress payments. A check of data in the Electronic Document Access from the first quarter of FY13 showed that 19% of the contracts that had either cost type clauses or the progress payment clause included a payment instruction. The MOCAS entitlement system pays 800 thousand invoices per year on such contracts. In the absence of the instruction, each payment has to be processed manually. MOCAS billing rates for automated transactions are \$7 per transaction, as opposed to \$24 per transaction for manual processing. If payment instructions were properly included as a result of the CLS, we could expect the number of payments that would move from manual to automated to be .81 (the portion currently lacking instructions, times 800 thousand (annual volume), or 648 thousand per year. At the difference between automated and manual rates of \$17 per transaction, this leads to annual savings of \$11 million per year for this improvement alone.

Thus, the total non-recurring investment is \$1.822M and the recurring cost from FY2014-17 is \$5.755M. Given the recurring functional savings of \$1.03M and the operational savings of \$11M, the annual net savings is approximately \$10M. Assuming that those savings take full effect in FY14, we project a net savings of \$42.4M through FY17. Further analysis of additional existing clause quality problems may reveal additional similar savings. As the system matures, the savings are expected to improve over time. Details are shown in the following table.

	FY11 Dollars (thousands)						
	FY11	FY12	FY13	FY14	FY15	FY16	FY17
Cost of CLS							
Non-recurring	\$ 560	\$ 434	\$ 828	\$ -	\$ -	\$ -	\$ -
Cumulative	\$ 560	\$ 994	\$ 1,822	\$ 1,822	\$ 1,822	\$ 1,822	\$ 1,822
Recurring	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Functional	\$ -	\$ 93	\$ 187	\$ 187	\$ 187	\$ 187	\$ 187
System updates	\$ -	\$ -	\$ -	\$ 869	\$ 1,413	\$ 959	\$ 1,006
System hosting and maintenance	\$ -	\$ 190	\$ 190	\$ 190	\$ 190	\$ 190	\$ 190
Total Recurring	\$ -	\$ 283	\$ 377	\$ 1,246	\$ 1,790	\$ 1,336	\$ 1,383
Total	\$ 560	\$ 717	\$ 1,205	\$ 1,246	\$ 1,790	\$ 1,336	\$ 1,383
Cumulative	\$ 560	\$ 1,277	\$ 2,482	\$ 3,728	\$ 5,518	\$ 6,854	\$ 8,237
Cost avoided	\$ -	\$ -	\$ -	\$ 1,027	\$ 1,027	\$ 1,027	\$ 1,027
Net Savings	\$ (560)	\$ (717)	\$ (1,205)	\$ (219)	\$ (763)	\$ (309)	\$ (356)
Operational Improvement Savings	\$ -	\$ -	\$ -	\$ 11,016	\$ 11,016	\$ 11,016	\$ 11,016
Total Net Savings	\$ (560)	\$ (717)	\$ (1,205)	\$ 10,797	\$ 10,253	\$ 10,707	\$ 10,660
Cumulative Net	\$ (560)	\$ (1,277)	\$ (2,482)	\$ 8,315	\$ 18,568	\$ 29,274	\$ 39,934

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Funding Needs and Sources

As clearly demonstrated in the table in Section 4 of this BCA, the centralized CLS presents OSD with a viable, significant, actual, and attainable cost savings. Initial developmental costs are estimated at \$1.822M. This amount will be recovered in the first year of full deployment with savings shared across DoD.

Additional funding of \$5M (FY14-FY17) will be required for sustainment of the CLS. Enhancements to the CLS may require additional funding (exact amounts to be determined) based on user demand.

5.2 Key Enablers and Leadership Support

There is little doubt that the CLS will provide a clear, standard and immediate solution to global contracting issues while significantly reducing cost. Key to the success of the CLS will be the buy-in, acceptance and use of the tool by all DoD components.

APPENDIX A – GLOSSARY OF TERMS

ACRYNOM	DEFINITION
ACI	Automated Clause Interrogation
ACIPS	Army Casualty Information Processing System
AOA	Analysis of Alternatives
AOR	Area of Responsibility
BCA	Business Case Analysis
CAC	Common Access Card
CLS	Clause Logic Service
CWS	Contract Writing Systems
DARS	Defense Acquisition Regulation System
DFARS	Defense Federal Acquisition Regulation Supplement
DIACAP	DoD Information Assurance Certification and Accreditation Process
DoD	Department of Defense
DPAP	Defense Procurement and Acquisitions Policy
FAC	Federal Acquisition Circular
FAR	Federal Acquisitions Regulations
FTE	Full Time Equivalent
FYDP	Federal Year Defense Program
GSA	General Systems Administration
GUI	Graphical User Interface
HTML	Hypertext Markup Language
IA	Information Assurance
ITIMP	Integrated Technical Item Management Program
IOC	Initial Operational Capability
MDA	Missile Defense Agency
NAICS	North American Industry Classification System
PADDS	Procurement Automated Data and Document System
PDI	Program Development and Implementation office
PIIN	Procurement Instrument Identification Number
PKI	Public Key Infrastructure

RTF	Rich Text Format
RM	Risk Management
SOA	Service Oriented Architecture
SPS	Standard Procurement System
UCF	Uniform Contract Format
XML	Extensible Markup Language

APPENDIX B - XML-BASED CLAUSE LIST COLUMN HEADERS

No.	Clause Column Header	Clause Column Description
1	Clause Number	The number assigned to a particular clause by the DARS Committee
2	Clause Title	The title assigned to a particular clause by the DARS Committee
3	Clause Source	The regulatory reference for the clause, being either FAR, DFARS or Service Supplement.
4	Effective Date	The effective date to indicate when a clause will be available for selection and inclusion within procurement instruments.
5	Reserve Date	The Reserve Date to indicate when a clause is being removed from Active Status, due to being reserved by regulation or superseded by a later clause effective date.
6	Regulatory Prescriptive language	Text directly from the regulations which describes the situations when the clause is to be included in the procurement instruments.
7	Required or Recommended	The system shall designate whether the clause is required or recommended.
8	Clause Text Editable Indicator	The system shall designate whether the clause is editable.
9	User Fill-In-Indicator	The system shall designate whether the clause is a fill-in.
10	Designated Section Indicator	The system shall provide the ability to indicate the section within the Uniform Contract Format (UCF) in which the clause is to be placed.
11	Full Text/By Reference Indicator	The system shall indicate whether the clause is included: By Full Text with title information and all of the text of the clause with any entered fill-in information. "By Reference" without fill-in "By Reference" with an abbreviated version of clause text with fill-in information.
12	Clause History	The reason the clause was revised.
13	Clause Logic	This allows the user to see what set of indicators or fund amount caused the clause to come in as part of the list. The system shall also provide which indicators or associated indicator combinations will cause a clause to be removed/added to the list when selected.
14	Time/date stamp of the call	Time and date of the XML call
15	Version Number	Tracks number of updates to a particular clause

