DEPARTMENT OF DEFENSE

OPERATIONAL SUITABILITY TEST CRITERIA FOR CONTRACT WRITING SYSTEMS

Version 0.3, 29 April 2011

Operational Suitability Test Criteria for Contract Writing Systems

1. Introduction

This document articulates the mandatory approach for acquiring and testing for all Contract Writing Systems (CWSs) to be implemented or modified in the Department of Defense (DoD). This document is intended to address Contract Writing Systems performing Federal Acquisition Regulation (FAR) and Defense Federal Acquisition Regulation Supplement (DFARS)-based contracting actions. The initial focus of the document is those aspects common to most or all contracting actions. This document is expected to evolve over time to capture unique requirements for more complex or specialized contracting areas and, of course, to reflect changes due to law or regulation. In particular, the list of functional capabilities is by no means exhaustive and can be expected to expand significantly as this document matures. Therefore, while a failure to meet these requirements can be taken as an indication of a critical deficiency in the system being evaluated, success in meeting these criteria does not prove the absence of flaws.

2. Purpose

The primary objective of this version of the document is to clarify the required basic functionality necessary for common contracting capabilities. Compliance with these requirements ensures the minimum necessary capabilities in support of the DoD contracting enterprise with regard to data integrity, internal controls, and validations necessary to assert compliance with law, policy, and regulation. These require additional supporting documentation in order to design, develop and implement a CWS suitable for the intended operating environment. It is anticipated that this supplemental detail would capture any 'unique' contracting sub-processes and interoperability requirements necessary to support the proponent's peculiar mission needs (e.g. construction or telecom) or IT environment (e.g. limited communications). Note: Use of the term contract writing system (CWS) includes systems that issue orders under previously awarded contracts and agreements.

2.1. The criteria set forth herein have been established to support the acquisition of contract writing systems that can operate in the federated systems environment employed in federal contract writing while meeting the essential objectives of interoperability, usability, transparency, and traceability.

2.2. In publishing this document, DoD seeks to accomplish the following objectives:

2.2.1. Establish minimum measurable operational standards for CWS capabilities;

2.2.2. More effectively enforce existing and future internal controls, business rules, and authoritative sources of data to improve the quality, auditability, and transparency of DoD contracting;

2.2.3. Reduce manual work and rework in the contracting process associated with poor quality contracts and contract data;

2.2.4. Provide a level playing field for competing solutions that seek to provide future CWS capabilities;

2.2.5. Reduce the need for customization of CWS after selection or deployment due to insufficient baseline CWS capabilities;

2.2.6. Improve and streamline business processes through leveraging federal and DoD systems capable of delivering CWS capabilities;

2.2.7. Ensure a flexible, scalable CWS operating environment capable of efficiently supporting procurement processes in a dynamic and evolving regulatory environment; and

2.2.8. Improve Interoperability through adoption and enforcement of data standards.

3. Systems Environment

The procurement business operations environment enables management and oversight of procurement by applying federated tools to develop a transparent operational picture of the procurement process. This provides certain key operational capabilities for both day to day operations and overall management oversight. By aggregating data in a small number of standard DoD and federal systems, the Department is able to meet the existing transparency requirements and be prepared to quickly and efficiently fulfill ones that may emerge in the future. The advantages and flexibility of these core capabilities were well demonstrated in the Department's ability to respond to reporting requirements imposed by the Recovery Act.

Thus, any CWS must be able to function in this standardized environment as both a consumer and creator of standard data. The DoD and federal systems consist of the federal Integrated Acquisition Environment (IAE) systems, the Electronic Document Access (EDA) system, Wide Area WorkFlow (WAWF), and the Global Exchange service (GEX). The IAE, EDA, and WAWF are user facing systems, while GEX manages interfaces between systems for DoD to simplify configuration management, obtain efficiencies through re-use, ensure standardization, monitor compliance, and minimize the cost of deployment and operation. Specific requirements are set forth in the relevant sections below.

Reuse of capabilities currently present in our procurement business operations environment will enable efficient creation of contract writing system capabilities. Any contract writing system program in this environment must be able to demonstrate the ability to meet certain key system attributes, specifically data quality, data traceability, interoperability, usability, transparency, and efficiency.

Data quality consists of ensuring that the data in and about the contract is an accurate reflection of the business transaction and meets the requirements of the data standards set forth below.

Data Traceability means establishing an audit trail to track any piece of data from its ultimate destination to the original source, and ensuring that the tools to monitor that audit trail enable determination of the original source of the data in less than 48 hours.

Interoperability means the ability of the system to exchange data seamlessly with all business partners. In the optimal state, at no point in the business process should anyone have to enter data that they do not create, except for minimal keys to identify the transaction (e.g. contract and line item).

Usability requires that the system enable users to perform tasks with minimal training in the use of the system itself and that the system be able to generate the types and structures of contracts required by the contracting activity.

Transparency requires that the contract writing system be able to share data with the larger data environment to enable both visibility of actions by the public in accordance with the Federal Funding Accountability and Transparency Act and sharing of data across all parties involved in awarding and managing the contract.

Efficiency means adopting approaches to contract writing system acquisition and development that minimize costs of development, deployment, operation, and use. The environment described herein enables development of contract writing tools inexpensively by re-use of existing standards and interfaces. Most of the current enterprise wide components of the procurement business environment have annual operating and development budgets under $10 million. Budgets for systems intended to serve a subset of the total enterprise would be expected to be lower.

3.1. Process Overview

The basic steps of the procurement process and the systems used in performing them are broken into two parts, pre-award and post-award.

3.1.1. Pre-Award

Figure 1 below shows the basic flow of procurement data from requirement to award. The steps are labeled as follows:

Step 1. The customer identifies a need and creates a Purchase Request (PR). Any of a number of systems may be used for this, depending on the Service and Activity. PR information is sent to the Contracting Office. The procurement process begins with the Contracting Office's receipt of the PR and associated acquisition information.

Step 2. The Contracting Office creates the solicitation in the contract writing system and publicizes it via FedBizOpps. Any sensitive technical data (drawings, etc.) is made separately available in a secure fashion to potential bidders via FedBizOpps.

Step 3. Prospective bidders must be registered at Central Contractor Registration (CCR); for most solicitations, registration at the Online Representations and Certifications Application (ORCA) is required as well.

Step 4. The offeror submits its proposal to the Contracting Office. While there are component systems and gateways for this, there is no common method.

Step 5. The Contracting Office conducts its evaluation of the proposals received. This includes a review of the offeror's registrations with CCR and ORCA. Other tools used to support offer evaluation include the Past Performance Information Retrieval System (PPIRS) and the Federal Awardee Performance and Integrity Information System (FAPIIS) to review past performance information and assist in determining responsibility. The Excluded Parties Listing System (EPLS) must be consulted to determine if a company is eligible to receive contract awards. Wage Determinations OnLine (WDOL) provides Service Contract Act and Davis-Bacon Act wage determinations.

Step 6. The Contracting Officer Representative (COR)-Tool is used to identify a contracting officer's representative (if applicable) and process nomination and assignment.

Step 7. The contract is awarded. Upon award, contract action reports are sent to the Federal Procurement Data System (FPDS) and notices of award are publicized at FedBizOpps.

Step 8. Contract actions are sent via the Global EXchange service (GEX) to the Electronic Document Access (EDA) system in both document and data file formats and in data file formats to the Mechanization of Contract Administration Services (MOCAS) system along with entitlement and accounting systems.

Note that the acts of issuing legal modifications to an existing contract or issuing orders under an existing contract or agreement follow essentially the same steps as discussed in the Pre-Award workflow; although some individual steps have less complexity or are omitted as a

contractual relationship already exists.

Basic Procurement Data Flow (Pre-Award)
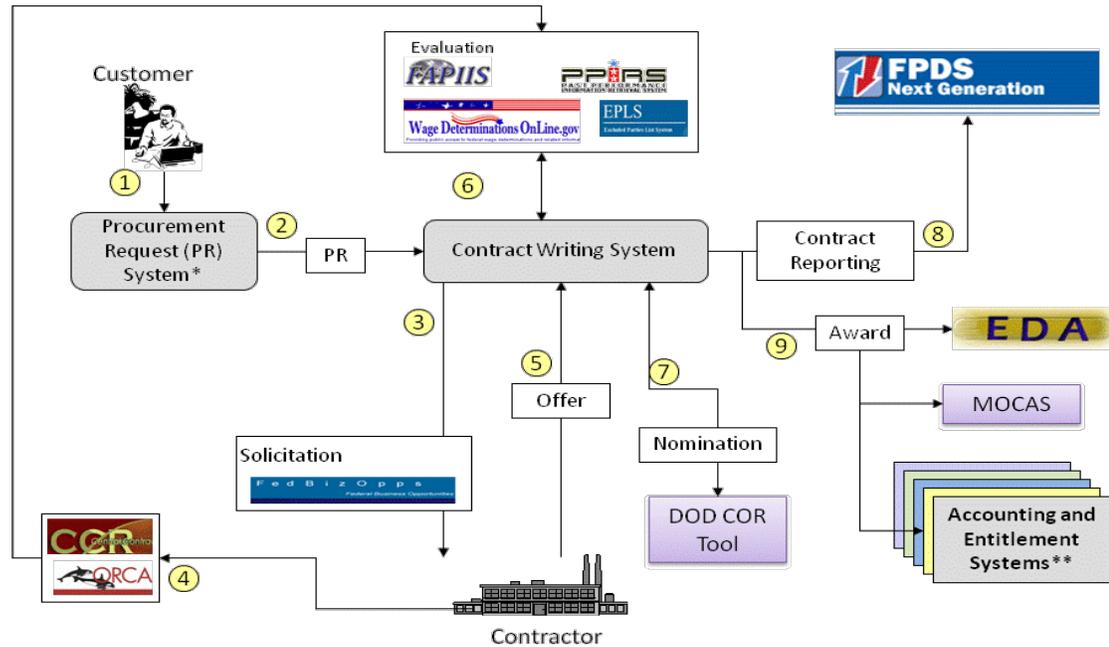
*There is currently no DoD-standard purchase request system.   **Includes ERPs

3.1.2. Post Award

Figure 2 below describes the basic data flow after award. The steps are labeled as follows:

Step (A) EDA performs contract distribution by making available contract documents to several organizations and systems, including the contractor, the customer, the contract administration office (Defense Contract Management Agency) if administration responsibilities are delegated, and the payment office (Defense Finance and Accounting Service). Wide Area Workflow (WAWF) system uses this EDA data during creation of invoice and shipping documents.

Step (B) The contractor inputs its invoices and receiving reports into WAWF. If Item Unique Identification (IUID), Radio Frequency Identification (RFID), or government property reporting requirements are included in the contract, the contractor also enters this information in WAWF.

Step (C) The customer logs into WAWF and approves or accepts the invoice or receiving report.

Step (D) WAWF sends the customer's approval/acceptance along with the contractor's invoice to entitlement systems.

Step (E) After reviewing the contract information (from EDA, GEX or system interface) and the invoice and approval/acceptance from WAWF, the paying office (normally DFAS) pays the contractor.

Step (F) When applicable, WAWF sends property record information to the appropriate inventory or property management systems.

Step (G) When applicable, WAWF sends the item pedigree information to the Item Unique Identification Registry and RFID information to applicable logistics systems.

Step (H) When applicable, the contractor reports its performance relative to socio-economic subcontracting goals in the Electronic Subcontract Reporting System (eSRS).

Step (I) When applicable, contractors report subcontract awards over $25K and associated executive compensation in the Federal Subaward Reporting System (FSRS)

Step (J) When applicable at certain contract dollar thresholds, the customer provides a report card on the contractor's performance in the Contract Performance Assessment Reporting System (CPARS).

Step (K) Data from EDA and WAWF is provided to the statistical reporting module of PPIRS (PPIRS-SR) to measure contractor performance on contracts below the CPARS reporting thresholds.

Basic Procurement Data Flow (Post-Award)
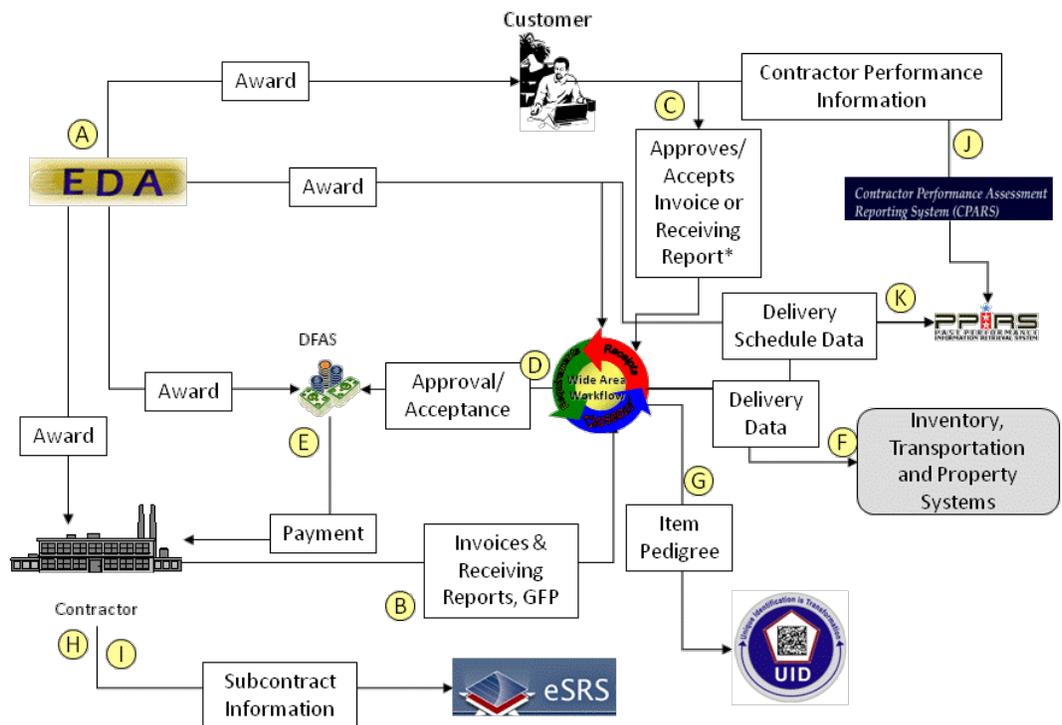
*Assumes destination acceptance – Otherwise function is performed by DCMA

Figure 2

4. Capabilities

The capabilities set forth below are those attributes of a CWS considered critical or essential to the delivery of effective capabilities meeting mission needs. These provide a set of test criteria to ensure that a CWS meets minimum acceptable functionality and objectives for CWS operational goals, performance, and audit integrity

The capabilities herein are divided into three categories. Data requirements address the system to system interfaces and data standards a CWS must have. These consist of the ability to receive data in specified standard formats, validate data against required authoritative sources, and send data in specified standard formats. Internal controls address system controls to prevent violation of law regulation, or proper business practices. Functional capabilities address specific tasks that the system must enable the user to perform in order to meet mission requirements.

4.1. Data requirements

4.1.1. Contract Creation

The system must include a contract data validation process to enable re-verification of data immediately prior to award to account for changes since receipt of the PR, In addition to the requirements set forth below.

4.1.1.1. *Purchase Request Data Standard (PRDS)*

4.1.1.1.1. Receipt of PR in PRDS

For any system in which there is a possibility of a requirement being generated by someone who is not a user of the system (e.g. Military Interdepartmental Purchase Request (MIPR)), the system must be able to receive a PR in the Purchase Request Data Standard (PRDS) schema and import all data from that PR into separate fields. The current PRDS schema is version 1.0 and is available at http://www.acq.osd.mil/dpap/pdi/eb/prds_data_standard.html.

4.1.1.2. *Contractor data*

4.1.1.2.1. Contractor Descriptive Data (CCR, ORCA)

The system must be able to receive a data feed from CCR and ORCA or query CCR and ORCA for contractor information and import all data on that contractor into separate fields. The system must ensure that data received from CCR and ORCA are not editable in the CWS, including but not limited to the vendor's name, address, DUNS number, and Contractor and Government Entity (CAGE) code.

- Current CCR XML transaction specifications, extract specifications, and business rules are found at https://www.bpn.gov/ccr/data.aspx.

- Current ORCA XML transaction specifications are found at https://orca.bpn.gov/help/orcaxml.aspx

4.1.1.2.2. Contractor Qualification and Eligibility Data (EPLS and PPIRS-SR)

If the system has a capability for displaying offers side by side (e.g. in a simple supply contracting environment), this must include the ability to show the scores for those contractors under PPIRS-SR. Interface with the EPLS must automatically highlight any contractor with a matching DUNS number.

- Current EPLS web service specifications are found at https://www.epls.gov/epls/jsp/userManual.jsp

4.1.1.3. Wage Determinations (WDOL)

The system must be able to import a wage determination from WDOL and store all data from that determination in separate fields for inclusion as data in the resulting contract.

- Current WDOL XML transaction specifications are found in the EPLS User Manual section 4 at https://www.epls.gov/epls/jsp/userManual.jsp

4.1.1.4. Procurement Instrument Import (EDA)

The system must be able to import a contract in Procurement Data Standard (PDS) format from EDA. This will support developing orders or modifications under that contract, and re-use as an example in writing new contracts.

- Current PDS schema is found at http://www.acq.osd.mil/dpap/pdi/eb/procurement_data_standard.html

4.1.1.5. Government address data validation. The Department uses the DoD Activity Address Code (DoDAAC) to uniquely identify government (and in some cases contractor) offices for the purposes of contracting, shipping, auditing, etc. The Military Assistance Program Address Code serves the same purpose for shipments to foreign governments.

4.1.1.5.1. *Ship to DODAAC (DAASINQ)*

The system must validate all ship-to DODAACs against the authoritative source at DAASINQ prior to award. (need link from DLMSO)

4.1.1.5.2. *Ship to MAPAC (DAASINQ)*

The system must validate all ship-to MAPACs against the authoritative source at DAASINQ prior to award. (need link from DLMSO)

4.1.1.5.3. *Contract Administration Office DODAAC (WAWF)*

For any contract where administration is to be delegated, the system must validate that the designated administration office exists in WAWF.

4.1.1.5.4. *Audit Office DODAAC (WAWF)*

For any contract requiring audit services, the system must validate that the designated audit office exists in WAWF.

4.1.1.5.5. *Payment Office DODAAC (WAWF)*

The system must validate that the payment office exists in WAWF.

4.1.1.5.6. *Inspect by DODAAC (WAWF)*

For any designated inspection point, the system must validate that an inspector is assigned in WAWF.

4.1.1.5.7. *Acceptor DODAAC (WAWF)*

For any designated acceptance point, the system must validate that an acceptor is assigned in WAWF.

4.1.1.5.8. *Local Processing Official (WAWF)*

If the paying office uses WAWF to certify payment, for any designated local processing office DODAAC, the system must validate that a local processing official is assigned in WAWF.

4.1.1.6. Accounting data

4.1.1.6.1. *TAS validation*

The system must validate that the treasury account symbol is properly constructed and on the Department of Treasury list, and include it in the award data and award report.

4.1.1.7. Solicitation and Contract Provision and Clause Data

The system must connect to the Central Clause Logic rules engine via web services to identify the required and recommended provisions and clauses to be used in solicitations and contracts. The Central Clause Logic rules engine is currently being prototyped and information about specifications will be made available on the DPAP website in Q4 of FY11.

4.2. Data distribution

4.2.1. *Solicitation*

4.2.1.1. Pre-solicitation Notice (FedBizOpps)

The system must be able to electronically post a pre-solicitation notice to the government wide point of entry via web services.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.1.2.   Solicitation (FedBizOpps)

The system must be able to electronically post a solicitation or combined pre-solicitation/solicitation notice to the government wide point of entry with a link to the solicitation via web services. The system must be able to post the solicitation to the linked location.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.1.3   Brand Name Specifications Justifications and Authorizations (J&As) (FedBizOpps)

The system must be able to electronically post a Brand Name J&A notice to the government wide point of entry with a link to the solicitation via web services. The system must be able to post the solicitation to the linked location.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.2. Award

4.2.2.1.   Award Notice (FedBizOpps)

The system must be able to electronically post an award notice to the government wide point of entry via web services.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.2.2.   Justifications and Authorizations (J&As) for Other than Full and Open Competition (FedBizOpps)

The system must be able to electronically post a J&A notice for Other than Full and Open Competition to the government wide point of entry with a link to the solicitation via web services. The system must be able to post the solicitation to the linked location.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.2.3.   Limited Source Justifications (FedBizOpps)

The system must be able to electronically post a Limited Source Justification notice to the government wide point of entry with a link to the solicitation via web services. The system must be able to post the solicitation to the linked location.

- Current FBO XML web services specifications are found at https://www.fbo.gov/?s=generalinfo&mode=list&tab=list

4.2.2.4. Contract Action Report (FPDS)

The system must be able to report a contract action report to FPDS upon award of the contract action.

The required contract action report formats include:

- All 'Award' formats: Purchase Order (PO), Definitive Contract Action (DCA), Delivery Order/Task Order (DO), and Blanket Purchase Agreement (BPA) Calls
- The following 'IDV' formats: Basic Ordering Agreement (BOA), BPA, and Indefinite Delivery Contract (IDC)
- Corrections and Modifications
- All Other Transactions formats: Other Transaction Order, Other Transaction Agreement, and Other Transaction IDV

Submission of contract action reports must be accomplished using a combination of the FPDS Graphical User Interface (GUI) and web services. Current version of web services is version 1.4; and specifications are found at https://www.fpds.gov/fpdsng_cms/index.php/worksite.

4.2.2.5. Award (EDA)

The system must be able to post the contract action to EDA as follows:

4.2.2.5.1. PDF

The document shall be sent via the GEX as a PDF and index file. The GEX may be used to generate a PDF from a Postscript file rather than generating the PDF natively in the CWS. Images of signatures in the document need not be included. Support the use of attachments (Statement of Work, Instructions, Technical Specifications, Blueprints, etc.) in relation to procurement actions.

4.2.2.5.2. PDS

The system shall send the contract as XML via GEX in accordance with the applicable version of the PDS.

4.2.2.5.2.1. Note on EDI

For those transactions not supported by the PDS, an ANSI X.12 850 for awards and 860 for modifications shall be sent.

4.2.3. Record Keeping

4.2.3.1. Records Management

The CWS shall meet the archiving requirements of the organization's record management solution established under DODI 5015.2, DoD Records Management Program, FAR Subpart 4.8 and DFARS subpart 204.8.

4.2.3.2. Contract Closeout

4.2.3.2.1.   Receipt of Notice

The system shall be capable of receiving a contract closeout notification via GEX in an ANSI X.12 EDI 567 Contract Completion Status. Upon receipt of such notification, the system shall flag associated records for archiving after required retention periods in accordance with the established records management program.

4.2.3.2.2.   Creation of Notice

For contracts administered in the office using the CWS, the system shall be able create and distribute via GEX completion notices using the ANSI X.12 EDI 567 Contract Completion Status transaction set.

4.3. Internal Controls and Data Traceability

4.3.1. Audit Records

The system shall maintain as part of its audit trail the source of any data entered. For user actions, the user id and the associated contact information such as name, organization, phone number, and email shall be captured. For data coming from a system, the system identifier and transaction identifier shall be captured. The system shall maintain configuration control on documents and data. This requires tracking data and resources throughout the procurement lifecycle, making it available as appropriate at any stage in the process and maintaining a record of data additions, deletions and changes and which user or interface made the change, including the prior value and the new value.

4.3.2. Role Based Controls

The system shall control and enforce access to functional and technical capabilities via role-based authorities granted during configuration of each process step and the establishment of individual user access rights to those users with the appropriate authority. Particular controls should be applied to business sensitive data covered by the Trade Secrets Act.

4.3.3. Recordkeeping

The system shall require that awards be digitally signed in the database prior to distribution.

4.3.4. Funding Controls

4.3.4.1.   Validation of funding

The system shall enable an interface to the financial system certifying the funds (when separate from the CWS) whereby the prospective award can be conveyed for review and the funding certified as available for use and suitable for the intended purpose.

4.3.4.2.   Control of period of performance by funding category and year

The system shall ensure that limitations on periods of performance applicable to specific funding types are applied and provide a process for overriding those limitations that ensures that documentation is captured in the contract file.

4.3.5. Authority thresholds

The system shall enforce limitations on the user's ability to perform actions based on the user's documented authority in his profile (e.g. warrant limits).

4.3.6. Enforcement of prohibitions

The system shall prevent users from awarding to a vendor that is identified on EPLS as being suspended, debarred or otherwise ineligible for award as of the day of award. This system shall require capture of documentation in order to override this control.

4.3.7. Required sources of supply

The system shall provide the capability to automatically identify and associate items to be procured with required sources of supply. Non-compliant transactions shall be flagged.

4.3.8. Enforcement of FPDS data capture requirements

The system shall ensure that data required to perform contract reporting in FPDS is captured prior to award.

4.3.9. Enforcement of PDS data requirements

The system shall ensure that contract actions are created in compliance with the data requirements, including edits and business rules, of the PDS.

4.4. Functional capabilities

4.4.1. Workload management

The system shall enable the assignment of requirements within the CWS to a contract specialist for processing and the routing of actions for review. The system shall provide reports on current assignments.

4.4.2. Workload reporting

The system shall provide reports on number and types of actions processed and the time required to perform actions.

4.4.3. Status reporting

The system shall enable reporting of current purchase request status via a system to system interface.

4.4.4. Contract structure

The system shall ensure that awards address all sections of the uniform contract format (or its equivalent) for each line item. Thus, each line item shall have a defined a price or cost (or be not separately priced), a description of the work to be performed, marking requirements (excluding services), inspection and acceptance locations and requirements, delivery schedule, designation of funding, and applicable clauses. Contract, agreement, and order numbering shall be compliant with the requirements in DFARS subpart 204.70. Line item numbering shall be compliant with the requirements in DFARS subpart 204.71.

4.4.5. Multiple awards

The system shall support the creation, population and tracking of multiple contracts from a single requirement or purchase request. It shall enable the breakout of sub-components for separate acquisition and identify and track those items. This includes disaggregation of requirements (e.g. fulfillment through multiple contract awards, CLINs, etc.), or fulfillment from a number of sourcing alternatives at any point in the process so as to enable the use of alternative acquisition and fulfillment methods while maintaining traceability to the initiating transaction record.

4.4.6. Combining requirements

The system shall provide the capability to bundle multiple purchase requests in a award, (ensuring each obligation against separate funding lines is segregated in the award in accordance with appropriate line item structure) and retain the association with its initiating purchase request.

4.4.6.1.   Bundling Constraint

The system shall control the ability to bundle or consolidate requirements in excess of the limits set in DFARS 207.170-3 such that proposed transactions in excess of prescribed limits are flagged.

4.4.7. Monitoring contract use (Indefinite delivery)

The system shall be able to track awards against limits set in indefinite delivery contracts and provide notifications to the contracting officer when user defined thresholds are reached. The system shall generate reports on current status of contract ordering.

4.4.8. Monitoring contract funding (Undefinitized contract actions)

The system shall be able to track funding on undefinitized contract actions and provide notifications to the contracting officer when the thresholds defined in DFARS 217.74 are reached. The system shall generate reports on current status of undefinitized contract action funding.

4.4.9. Required Sources of Supply

The system shall provide the capability to automatically identify and associate items to be procured with required sources of supply. Non-compliant transactions shall be flagged for exception or waiver workflows.

4.4.10. Solicitation Provisions

The system shall apply logic based on the FAR, DFARS, and local policies to insert applicable solicitation provisions. (See interface requirements at 4.1.1.7.)

4.4.11. Contract Clauses

The system shall apply logic based on the FAR, DFARS, and local policies to insert applicable contract clauses.   Data fields in those clauses shall be captured to the extent supported by the PDS. (See interface requirements at 4.1.1.7.)

4.4.12. Contract Closeout

For contracts administered in the office using the CWS, the system shall be able to flag contracts for initiation of contract closeout procedures based on final payment.

5. Test Methodology

Testing a CWS against these parameters should consist of three parts, performed in parallel. Simplest are the technical interface tests, in which the CWS must demonstrate the ability to receive data from the designated mandatory data sources and output compliant data to the designated destinations for each of the scenarios the system is intended to perform. Criteria for this part are pass or fail. Second are usability tests, in which subjective assessments are made of how well the system enables users to perform each scenario. Third are internal controls, in which an audit should be performed of how the system maintains and enforces those controls.

5.1. System to system tests

For each of the data sources addressed above, following each scenario developed under the guidance below, the CWS must import the required data to support the scenario, then output compliant files. Compliance with FPDS outputs will be in accordance with FPDS certification procedures available at https://www.fpds.gov/fpdsng_cms/index.php/worksite. Compliance with PDS outputs will be determined by using the validation capability at the GEX and measuring whether any files fail the validation rules.

5.2. User tests

5.2.1. Usability

Usability test criteria should address response time, ease of navigation, ease of use of process transparency, and how well the system enables users to generate compliant contracts. (e.g. ability to generate multiple line items for similar tasks that had been inappropriately combined in the purchase request.

5.2.2. Data controls

Test of data controls should involve a review of each internal control, how it is implemented in the software, and testing to determine whether the control can be bypassed.

6. Test Conditions

6.1. Overview

In selecting test conditions for evaluating a CWS, careful consideration must be given to its intended use. Just as test conditions for a transport aircraft will differ from those for a fighter, likewise test conditions for a CWS for base procurement should differ from those for a CWS used for major weapon system. The sections below provide guidance on determining what conditions should apply to a particular CWS requirement.

6.2. Parameters overview

The complexity of a given contracting environment is driven by two interrelated factors, the type of goods or services acquired and the number of variables involved in the business arrangement. At the simplest end are contracts for widely available commercial supplies on normal delivery terms delivered to the buying organization. On the other end of the spectrum are development contracts for new technologies using a variety of funding sources and contract types, including cost and performance incentives.

6.2.1. Goods and Services parameters

6.2.1.1. Supplies (and commercial off the shelf software)

These scenarios should cover acquisition of both commercial supplies and those non-commercial supplies that are built to a defined specification. The inclusion of software here is limited to buying licenses for common commercial tools (such as word processors) with no provision for on-site support or customization. Likewise, these supply contracts do not include those with provisions for on-site support or repair. These contracts may include both first article tests and periodic acceptance tests. Line item structures should be relatively simple, except as required for multiple customers. The ability to include contract data requirements lists for test reports must be included.

6.2.1.2. Construction and Architect and Engineering (A&E) Services

This covers the full range of contracting under FAR Part 36. Included in this test must be use of the interface to obtain wage determinations for services covered by the Davis Bacon Act.

6.2.1.3. Simple Services

This covers contracts for simple, well defined services at relatively constant levels of effort. This includes maintenance services, but would not include complex repairs of government furnished property. Examples include grounds maintenance and administrative support. Line item structures should be limited to a few easily distinguished tasks. Included in this test must be use of the interface to obtain wage determinations for services covered by the Service Contract Act.

6.2.1.4. Complex Services

The covers all other types of service contracts, such as advisory and assistance, complex repair and maintenance, and research. Line item structures will be fairly complex, including multiple pricing structures and many separate deliveries. The ability to include contract data requirements lists is critical.

6.2.1.5. Software

This includes all other categories of software acquisition. Line item structures will be fairly complex, including multiple pricing structures and many separate deliveries. Extensive acceptance testing may be included. The ability to include contract data requirements lists is critical.

6.2.1.6.   Complex Systems Development

This covers all contracts for systems in which the involvement of the government in the design is a factor. Line item structures and delivery schedules will be very complex and extensive acceptance testing will required. The full range of contract types and funding below will be applied. The ability to include contract data requirements lists is critical.

6.2.2. Contract parameters

6.2.2.1.   Contract type overview

One of the major differences between federal contracting and commercial contracting is the range of arrangements for compensating the contractor. This must be taken into account in any CWS development. FAR Part 16 currently supports over sixty possible types of contracts, but only a few are widely used. In FY 2010, 94% of all DoD contract actions were of one of the simple fixed price types such as firm fixed price or fixed price with economic price adjustment. (Note: this does not necessarily imply that all those actions were simple, or comparable to common commercial contracts, as many items on fixed price contracts are technically complex and require extensive oversight as well as possible contract financing. Included in this are such items as the C17A Globemaster. Likewise, DoD has many complex requirements even on contracts for simple supplies that are not found elsewhere. For example, DoD needs to track many items over an global extended transportation and supply network, which requires specific marking and reporting for both items and boxes.) However, 39% of DoD contract dollars were on more complex contract types. While an activity acquiring major weapon systems or developing information technology is likely to use any of the full range of contract types, an activity buying simple supplies and services may be limited to fixed price contracts. Test conditions should reflect the types suitable for the intended user community in order to avoid unnecessary complexity and the concomitant effects on usability and performance.

6.2.2.2.   Funding overview

As with contract types, funding is a significant factor in determining complexity. In the modern volatile appropriations environment, few contracting activities operate with stable, predictable funding sources. Levels of funding complexity range from the simplicity of working capital funds, through complexities added by annual appropriations, often released piecemeal to customer activities, to the major systems community, where a given effort may be funded by multiple sources across multiple fiscal years.

6.2.2.3.   Contract Parameter Categories

6.2.2.3.1.   Simple

These efforts only cover simple supply contracts and contracts for regularly scheduled and easily measurable services.

6.2.2.3.1.1. Contract types

These are limited to fixed price, fixed price level of effort, and fixed price with economic price adjustment. Contract financing, if any, is based on deliverable milestones. These contracts are closest to common commercial practice.

6.2.2.3.1.2. Funding

This is limited to fully funded contracts.

6.2.2.3.2. Moderate

These include construction contracts and more complex supply and service contracts, including some weapon system contracts for mature designs when advanced procurement funding is not involved.

6.2.2.3.2.1. Contract types

These expand to include most contract types, except incentive and award fee arrangements. Thus, this includes all other cost types. This also includes provision for financing arrangements.

6.2.2.3.2.2. Funding

Funding is either available at award or available upon passage of the appropriation. Incrementally funded contracts and those with non-severable deliverables funded by multiple sources or fiscal years are not included.

6.2.2.3.3. Complex

This covers the full array of contracting actions, from simple supplies to major weapon system or major automated information system development.

6.2.2.3.3.1. Contract types

This includes the full range of combinations of contract types and financing arrangements.

6.2.2.3.3.2. Funding

Sources of complexity here include incremental funding, multiple funding sources and the payment instructions associated therewith, complex financing arrangement, and use of long lead funding.

Appendix A: Contract Types

	FPDS Code	Common Abbreviation
Contract Types		
Fixed Price Types		
Firm Fixed Price	J	FFP
Fixed Price Redetermination	A	FPR
Prospective		
Retrospective		
Fixed Price Level of Effort	B	FP LOE
Fixed Price with Economic Price Adjustment	K	FP EPA
Established Prices		
Actual Costs		
Cost Indexes		
Cost types		
Cost Plus Fixed Fee	U	CPFF
Cost Plus Award Fee	R	CPAF
Cost No Fee	S	
Time and Materials	Y	T&M
Labor Hour	Z	LH
Cost Sharing	T	
Incentive Types	**FPDS Code**	**Common Abbreviation**
Cost Incentives		
Cost Plus Incentive Fee (cost based)	V	CPIF
Fixed Price Incentive (cost based)	L	FPI
Fixed Price Incentive (Successive Targets)		FPI(S)
Performance Incentives		
Can be added to any contract type, with multiple instances per line item		
Technical Performance Incentives (Cost type contract)		
Technical Performance Incentives (Fixed price contract)		
Notes		
* Award fees and performance incentives can be added to any contract type		
Note that the following structures change at completion of the process set forth in the applicable clause		
CPIF converts to CPFF		
FPI converts to FFP		
FPR and FP EPA convert to FFP		
Performance incentives become part of base amounts		
Award fees are added to the total fee		

Appendix B: Example test matrix for simple CWS

		Test Conditions					
	Product		Supplies			COTS Software	
		Firm Fixed Price	Fixed Price with EPA - Established Prices	Fixed Price with EPA - Cost Indexes	Firm Fixed Price	Fixed Price with EPA - Established Prices	Fixed Price with EPA - Cost Indexes
	Contract Type	Fully Funded	Fully Funded	Fully Funded	Fully Funded	Fully Funded	Fully Funded
	Funding						
Paragraph	**Capability**						
4.1.1.1.1.	Receipt of PR in PRDS						
4.1.1.2.1.	Contractor Descriptive Data (CCR, ORCA)						
4.1.1.2.2.	Contractor Qualification Data (FAPIIS, EPLS, PPIRS)						
4.1.1.3.	Wage Determinations (WDOL)						
4.1.1.4.	Procurement Instrument Import (EDA)						
4.1.1.5.1.	Ship to DODAAC (DAASINQ)						
4.1.1.5.2.	Ship to MAPAC (DAASINQ)						
4.1.1.5.3.	Contract Administration Office DODAAC (WAWF)						
4.1.1.5.4.	Audit Office DODAAC (WAWF)						
4.1.1.5.5.	Payment Office DODAAC (WAWF)						
4.1.1.5.6.	Inspect by DODAAC (WAWF)						
4.1.1.5.7.	Acceptor DODAAC (WAWF)						
4.1.1.5.8.	Local Processing Official (WAWF)						
4.1.1.6.1.	TAS validation						
4.2.1.1.	Pre-solicitation Notice (FBO)						
4.2.1.2.	Solicitation (FBO)						
4.2.2.1.	Award Notice (FBO)						
4.2.2.2.	Contract Action Report (FPDS)						
4.2.2.3.1.	PDF						
4.2.2.3.2.	PDS						
4.3.1.	Audit Records						
4.3.2.	Role Based Controls						
4.3.3.	Recordkeeping						
4.3.4.1.	Validation of funding						
4.3.4.2.	Control of period of performance by funding category and year						
4.3.5.	Authority thresholds						
4.3.6.	Enforcement of prohibitions						
4.3.7.	Required sources of supply						
4.3.8.	Enforcement of FPDS data capture requirements						
4.3.9.	Enforcement of PDS data requirements						
4.4.1.	Workload management						
4.4.2.	Workload reporting						
4.4.3.	Status reporting						
4.4.4.	Contract structure						
4.4.5.	Multiple awards						
4.4.6.	Combining requirements						
4.4.6.1.	Bundling Constraint						
4.4.7.	Monitoring contract use (Indefinite delivery)						
4.4.8.	Required Sources of Supply						
4.4.9.	Solicitation Provisions						
4.4.10.	Contract Clauses						