**REQUIREMENTS**

**DOCUMENT**

*Functional Tool, Standard Procurement System*

**Contracts Business Systems Office**

9/28/15

**Revision Sheet**

|  |  |  |
| --- | --- | --- |
| **Release No.** | **Date** | **Revision Description** |
| Rev. 0 | 9/28/15 | First Draft |
|  |  |  |
|  |  |  |

**FUNCTIONAL REQUIREMENTS DOCUMENT**

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**1.0 GENERAL INFORMATION**

# GENERAL INFORMATION

## 1.1 Purpose

1. This document describes the functional requirements for the development of the Contracts 2.0 Functional tool.

## 1.2 Scope

1. There are five types of documents that must be accommodated when approving, un-approving, releasing, or un-releasing documents. They are:
   1. Purchase Requests
   2. Solicitations
   3. Solicitation Amendments
   4. Contracts
   5. Contract Modifications

The purpose of the SPS Functional tool is to allow for releasing and un-releasing of the above listed document types. The Functional tool was originally written in PowerBuilder. PowerBuilder is an integrated development environment that is owned by Sybase. The original Functional Tool is no longer compliant with the DoD Applications Security and Development STIG. Without access the source code for the original compiled application, it is necessary to reverse-engineer the application and re-code it in a language that will allow for continued maintenance and DoD STIG compliance.

## 1.3 Project References

## 1.4 Acronyms and Abbreviations

|  |  |
| --- | --- |
| Acronym or Abbreviation | Meaning |
| SPS | Standard Procurement System |
|  |  |
|  |  |

Table : Acronyms and Abbreviations

## 1.5 Points of Contact

#### 1.5.1 POC Information

|  |  |  |  |
| --- | --- | --- | --- |
| **Contact** | **Position** | **Phone** | **Location** |
| **McClellan, Jeremy** | Developer | (760)939-8313 | Business Systems Office |
|  |  |  |  |

Table : POC Information

### 

#### 1.5.2 Coordination Information

|  |  |  |  |
| --- | --- | --- | --- |
| **Organization** | **Location** | **Point of Contact** | **POC Phone Number** |
| **Contracts 2.0** | BSO | Karty, Alan | (760)939-3248 |
| **Contracts 2.0** | BSO | Brannon Beames | (760)939-4983 |

Table : Coordination Information

2.0 **Current SYSTEM SUMMARY**

# Current SYSTEM SUMMARY

## 2.1 Background

#### 2.1.1 Purpose:

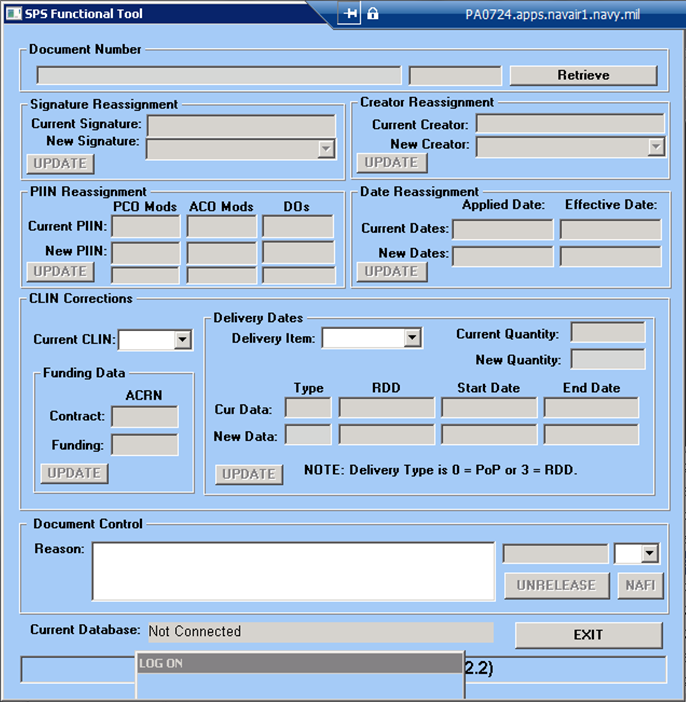
The Functional Tool application was originally created to provide a quick and easy way to access general information on SPS documents for customers, BFMs, etc. without the need for an actual SPS Account and Client Software.

#### 2.1.2 Uses:

1. **For Released Awards, Delivery Orders, and Modifications:**
   1. The Functional Tool application displays information on the vendor, the Issuing Office, the Administering Office, and the Pay Office and will **ALLOW** access to the CLIN/SLIN information.
   2. The CLIN/SLIN information will include a listing of CLINs/SLINs, access to a listing of all Funding, and access to individual CLIN/SLIN data fields, most of which are needed to interface with various systems; i.e. Navy ERP, EDA, FPDS-NG, MOCAS, etc.
2. **Purchase Requests and Solicitations**:
   1. Functional Tool will display information on the workload history and will **ALLOW** access to the CLIN/SLIN information.
3. **For Unreleased Awards, Delivery Orders, and Modifications:** 
   1. Functional Tool will display information on the workload history and will **DENY** access to the CLIN/SLIN information.
4. **If a Navy ERP PO Number is entered:**
   1. All of the documents associated with the PO will display PR/ (RFP/RFQ)/ Award/ (DO/ TOs)/ Modifications.
5. **Wildcard Searches:**
   1. Users can enter a wildcard (i.e. %) to the end of a document number to search all of the documents that contain the characters that are listed before the document number.

## 2.2 System Objectives and Current Functionality

#### 2.2.1 Current System Functionality:



**To Un-release an award, four tables must be updated:**

1. Update the dsk\_obj table.
   1. SET applied, ur\_icon\_id, and stmp\_id = NULL using the object id of the document that you wish to un-release.
2. Update the proc\_object table.
   1. SET current\_fl = 0, apld\_dt = NULL, and apld\_fl = NULL using the object id of the document number that you wish to un-release.
3. Update the award table.
   1. SET awd\_rel\_dt = NULL using the object id if the document that you wish to unrelease
4. Update the internal table.
   1. SET ko\_cntct\_id, ko\_addr\_id, and ko\_org\_id = NULL using the object id of the document that you wish to unrelease.
5. If there are no errors, then commit the changes.

**To un-release a basic modification:**

1. Update the dsk\_obj table:
   1. SET applied, ur\_icon\_id, stmp\_id = NULL using the object id of the document that you wish to search
2. Update the proc\_object table:
   1. SET current\_fl = 0, apld\_dt and apld\_fl = NULL using the object id of the document that you with to un-release.
3. Update the change table.
   1. Set ko\_cntct\_id, ko\_addr\_id, and ko\_org\_id = NULL using the object id of the document that you wish to un-release.
4. Get the parent\_obj\_id from the proc\_object table
   1. select parent\_obj\_id from the proc\_object table using the object\_id of the document number that you wish to un-release.
5. Update the dsk\_obj table a second time.
   1. SET ur\_icon\_id = 4 using the parent id that you retrieved in step 4
6. Update the proc\_object table a second time
   1. SET current\_fl = 1 using the parent id that you retrieved in step 4
7. If there are no errors, then commit the updates.

#### 2.2.2 System Interactions:

1. The 2.0 website is hosted on a Microsoft 2003 server. The current system establishes ODBC connections with Sybase Database servers for Patuxent River, China Lake, and Orlando

###### Systems List

|  |  |
| --- | --- |
| Server | IP Address |
| Web Server(contains Functional Tool tool | **10.31.208.114** |
| Sybase Database-CHL | **10.31.208.116** |
| Sybase Database-PAX | **10.31.47.157** |
| Sybase Database-ORL | **10.31.133.886** |
| Sybase Database-CHL Test | **10.31.208.115** |

Table : Systems List

## 2.3 Current Methods and Procedures

#### 2.3.1 Equipment and Software Being Used

1. **Equipment:** 
   1. Servers: Web and database servers are maintained by the PAX technical team.
2. **Software:**
   1. The BSO maintains the software and applications within the web and database servers.
   2. Windows Server 2003
   3. Internet Information Services (IIS)6.0(ASP enabled)
   4. Sybase Adaptive Service Enterprise (ASE) Open Database Connectivity (ODBC) Drivers installed.

#### 2.3.2 Deficiencies

1. **Service Interruptions:**
   1. Functional Tool has been heavily subject to service interruptions due to security scans and heavy network traffic. Several times per day, systems administrators respond to help calls to restart the Functional Tool/Functional Tool service within the Microsoft 2003 server.
   2. Functional Tool does not comply with multiple rules from the Application Security and Development STIG package.
      1. Rule ID: SV-55087rl\_rule: Maintenance and support is no longer available for the application

**3.0 PROPOSED METHODS AND PROCEDURES**

# Proposed Methods and Procedures

## Summary of Improvements

#### 3.1.1 Functional Improvements

1. Web Based for performance
2. Implement Application Security and Development Checklist v3 Release 9

#### 3.1.2 Improvements to Existing Capabilities

1. Updated Interface
   1. Improve the Aesthetic
   2. Improve Application Security

#### 3.1.3 Timeliness

1. Faster response times from submitting document numbers to retrieval of data.

## 3.2 Summary of Impacts

#### 3.2.1 User Organizational Impacts

**Staffing:**

1. Staff for maintenance, application improvement and help calls: one individual.
2. Responsibility for maintenance and help calls for the new FUNCTIONAL TOOL application will continue to be owned by the Business Systems Office Tech Support team.
3. Skill requirements for maintenance:
   1. Programming competencies: ASP classic, VBScript, HTML, CSS, and JavaScript and SQL.
   2. Software and Systems Administration competencies: Microsoft Server 2003 and 2008, Sybase Database, Interactive SQL, Text Editors, ActiveX Data Objects (ADO), Open Database Connectivity (ODBC). Microsoft Office Suite.
   3. Technical Writing.

#### 3.2.2 User Operational Impacts

**User Interface:**

1. For the individual user, very little would change except for the look and feel of the user interface page. The user will initiate use of the Functional Tool application through the contracts 2.0 website utilizing the same link in the same location as the original Functional Tool application.

**Data Source:**

1. The data sources for the application remain the same as the original application.

To access data, users will enter the document number of the Purchase Request that they would like to view, data will be returned to a table that represents what they would see in SPS PD2.

#### 3.2.3 User Developmental Impacts

**Impact to users during testing:**

1. Some with knowledge of the original FUNCTIONAL TOOL application will be asked to test the application throughout development and submit suggestions or additional requirements to the CCB and the developer.
2. The New FUNCTIONAL TOOL application will be added to the 2.0 website in tandem with the old application for a period of testing (TBD) so as not to interrupt the normal flow of work if adjustments are needed within the code of the new application.

**4.0 DETAILED CHARACTERISTICS**

# DETAILED CHARACTERISTICS

## 4.1 Specific Performance Requirements

#### 4.1.1 Accuracy and Validity

1. Data Accuracy: Data accuracy is dependent upon the customer that created the Purchase Request in Navy ERP, and upon the SPS User that created the solicitation, award, and/or modification within SPS.

#### 4.1.2 Timing

1. **Data Processing**: Query functions have been constructed to access the SPS database and retrieve data quickly and efficiently. The data connection typically stays open for 30-40 seconds and then closes.
2. **Maximum allowable response times**: 5 seconds or less. The wildcard search can potentially take longer dependent upon the number of related documents that are being returned. The user is limited by a minimum of 6 numbers for a wildcard search.

#### 4.1.3 Capacity Limits

1. Maximum number of Transactions:

Limit the number of transactions and current connections in the Sybase database.

* 1. –Note read and implement

http://www.databasejournal.com/features/sybase/article.php/3866671/Using-the-Sybase-ASE-Resource-Governor.htm

1. Concurrent Users:
   1. Limit users in the IIS management console. Currently the capacity is set to 2,000,000, which is much too high for the website.

## 4.2 Input and Output

4.2.1 Input

User input for this application will be limited to a graphical user interface form field in which a user can enter one of the following types of document numbers:

* **Wildcard Searches**-Appending a % to the end of a document number or partial documents number (example: N68936-14-D-00%, 1300375%)
* **Purchase Requests** (example: 1300375371)
* **Purchase Request Modifications** (example: 1300375371-0001)
* **Solicitations** (example: N68936-14-R-0001)
* **Solicitation Amendments** (example: N68936-14-R-0001-0001)
* **Awards** (example: N68936-14-D-0001)
* **Award Basic Modifications**(example: N68936-14-D-0001-P00001)
* **Delivery Orders** (example: N68936-14-D-0001-0001)
* **Delivery Order Modifications**(example: N68936-14-D-000101)
* **SAP PO Number**: (example: 4530077316)

4.2.2 Output

User Input is to be validated and then forwarded to the Sybase database. The output of the application shall match data fields from the SPS Documents within PD2.

## **4.3** Application Functions

#### 4.3.1 Application User Interface

The Query application will have a page with a form field in which the user will enter the document number for which they wish information. The document numbers entered will be one of the following search types:

* 1. Wild-card search
  2. Purchase Request
  3. Purchase Request Modifications
  4. Solicitation
  5. Solicitation Amendment
  6. Award
  7. Award Modification
  8. Delivery Order
  9. Delivery Order Modification
  10. SAP PO number

##### 4.3.1.1 Wildcard Search Page

A wild-card search allows the user to enter a partial document number followed by a wild-card character. In Functional Tool the wild-card character used is the “%” symbol.

Example: N68936-08-D-0016%, 13003753%

Upon entry of a document number and wild-card character the application is to be directed to the “**Wild-card Search**” page (*see Section: 5.1.2 Wild-Card Search List Page*) that will display a table with all related documents.

##### 4.3.1.2 Purchase Request

A Purchase Request document number consists of 10 numbers usually starting with 1300. Upon entry of a full purchase order number, the user is to be redirected to the “**Purchase Request”** *(see Section 5.1.3: Purchase Request Status Page)* page.

**Example:** “1300375371”

##### 4.3.1.3 PR Modification

A PR Modification document number consists of 10 numbers followed by a hyphen and 4 more numbers. Upon entry of a full PR Modification number, the user is to be redirected to the “**PR Modification Status**” *(see Section 5.1.4: PR Modification Status Page)* page.

**Example:** “1300375371-0001”

##### 4.3.1.4 Solicitation

Solicitation document numbers follow the following format:

(UIC)-(two digit year)-(type)-(number)

**Example:** N68936-08-T-0001

Solicitation document types are either enumerated with a “T” or with an “R”. Upon entry of a Solicitation number, the application is redirected to the “**Solicitation Status**” *(see Section 5.1.5: Solicitation Status Page)* page.

##### 4.3.1.5 Solicitation Amendment

Solicitation Amendments follow the same format as the Solicitation document number, but they have an additional four digits appended to the end of the Solicitation number for each amendment.

**Example:** “N68936-08-T-0001-0001”

Upon entry of a Solicitation Amendment number, the application is redirected to the **“Solicitation Amendment Status”** (*see Section: 5.1.6 Solicitation Amendment status Page*) page.

##### 4.3.1.6 Award

Award document numbers follow the same format as solicitation document numbers. The document type enumerations are “P”, “F”, “C”,”D”,”G”, “H”, and “A”.

**Example** “N68936-08-D-0016”

Upon entry of a complete Award document number, the application is redirected to the “**Award Status**” (*see Section 5.1.7 Award Status Page*) page.

##### 4.3.1.7 Award Modification

Award modifications can follow the same format as awards, with an additional six characters appended to the end for each basic award modification.

**Example**: “N68936-08-D-0016-P00001”

Upon entry of a complete Award Modification document number, the application is redirected to the “**Award Modification Status**” (*see Section 5.1.8 Award Modification Status Page*) page.

##### 4.3.1.8 Delivery Order

Delivery Orders follow the same format as Awards with an additional four characters for each Delivery Order.

**Example**: “N68936-08-D-0016-0001”

Upon entry of a complete Delivery Order number, the application is redirected to the “**Delivery Order Status**” (*see Section 5.1.9: Delivery Order Status Page*) page.

##### 4.3.1.9 Delivery Order Modification

Delivery Order Modifications follow the same format as Delivery Orders, but have an additional two characters appended to the end for each Delivery Order Modification for each Delivery Order.

**Example:** “N68936-08-D-0016-000101”

Upon entry of a complete Delivery Order Modification number, the application is redirected to the “**Delivery Order Modification Status**” (*see Section 5.1.10: Delivery Order Modification Status Page*) page.

##### 4.3.1.10 SAP PO Numbers

SAP PO Numbers are ten digits in length. Upon entry of a SAP PO number, the application will redirect to the SAP PO Search page. This page lists all documents that contain the number.

**Example:** 4530077316

Upon entry of a complete SAP PO number, the application is redirected to the “**SAP PO Search**” (*see Section 5.2.1: SAP PO Search Page*) page.

#### 4.3.2 Application Main Pages

A main page is a page defined as one that can be accessed directly by entering a document number in the Query application pages form field. Users will navigate through the Query application by entering a document number at the application user interface. Based upon the user entered document number, the application will redirect to one of the following main pages:

##### 4.3.2.0 Error

Upon entry of a document number that meets the form validation (doesn’t contain special characters) criteria, but is not found in any of the databases, the application is to be forwarded to an “Error” page. This page is to contain a form field that in which the user can enter and search for a new document number. Additionally, the error page is to display the bad document number to the user.

##### 4.3.2.1 Query

The Query application is to start at the “Query” page. This page is to contain the following:

1. **Form Field:** A field in which to enter one of the above listed document numbers. The form field is to validate user entered document numbers. It is to automatically remove the following special characters:

“’!@#$^&\*()\_+-=<>.?`~

The form field is to also remove spaces.

1. **Links:** The page is to contain links to the following:
   1. Contracts Home
   2. User Manual
   3. Help Desk Ticket Submission
2. **Document Number Examples:** A list of sample of the following document types and numbers.

Purchase Request Number- ‘1300375371’

Purchase Request Modification- ‘1300375371-0001’ or ‘1300375371-0001-0001’

Award- ‘N68936-08-D-0016”

Award Modification- “N68936-08-D-0016-P00001”

Solicitation- “N68936-07-R-0014”

Solicitation Amendments- “N68936-07-R-0014-0001”

Delivery Orders- “N68936-08-D-0016-0001”

Delivery Order Modifications-”N68936-08-D-0016-000101”

SAP PO Numbers- “4530077316”

Wild-Card Searches- “130037537%”, “N68936-08-D%”

## 4.4 Failure Contingencies

Discuss alternative courses of action that are to be taken to satisfy the information requirements if the proposed system fails. Include as appropriate:

1. Backup: Server backups are maintained by the PAX tech team.

# DESIGN CONSIDERATIONS

## 5.1 Page and Table Display:

#### 5.1.1 Forms and Form Validation

##### 5.1.1.1 Auto-Complete:

Partial Document Numbers:

Upon entry of a partial document number and selection of the “Search” button, the application is to automatically determine if the document number is completed, and in the correct format. If the user has entered a partial document number, the application is to automatically add a wild-card to the end of the document number and redirect the user to a page that will display a list of document numbers that contain the partial number that the user entered.

Missing Characters:

Upon entry of a full or partial document number, the application is to read the user entered document number and automatically format the number for a successful search in the database. If the user enters a document number that is missing required characters (such as ‘-‘), then the application is to automatically insert the characters into the string before submission to the database for query.

#### 5.1.2 Wild-Card Search List Page

The **Wild-Card Search list page** is to be accessed when users enter a wild-card after a partial or complete document number. The page is to contain a table list of all documents that meet the wild card search criteria. The table is to contain the following format and fields:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Document Number** | **Owner** | **Status** | **Description** | **Type** |
| dsk\_obj.obj\_usr\_num | mtb\_usr.full\_name | dsk\_obj.stmp\_id | dsk\_obj.description | dsk\_obj.obj\_type |

Table : Wild Card Search List

#### 5.1.3 Purchase Request Status Page

The purchase request page is to be displayed when a user enters a document number of the Purchase Requisition type. The page is to contain the following:

###### Purchase Request Status Panel:

|  |  |
| --- | --- |
| **Current Status** | dsk\_obj.stamp\_id |
| **Request Date** | requisition.req\_dt |
| **Description** | dsk\_obj.description |
| **Current User** | mtb\_usr.full\_name |
| **User Title** | contact.cntct\_title, |
| **User Phone** | contact.cntct\_ph\_nmbr\_cd, |
| **User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **User Email** | contact.email\_address |
| **Comments** | requisition.comments |

Table : Purchase Request Status Panel

###### Workload Assignment Panel:

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | dsk\_wkld\_hdr.description | | |
| **Workload Status** | getWkldAssign.asType – Stored Procedure | | |
| **Assigned to** | mu1.full\_name | **Completion Data** | dsk\_wkld\_hdr.action\_end\_date |
| **Assigned By** | mu2.full\_name | **PALT** | mtb\_palt.palt\_usr\_num |
| **Master Doc?** | dsk\_wkld\_obj\_xref.master\_fl | **Action Type** | dsk\_wkld\_hdr.action\_end\_date |
| **Master Doc#** | dsk\_obj.obj\_usr\_num | | |
| **Assigned:** dsk\_wkld\_hdr.description **To:** dsk\_wkld\_hdr**.**assigned\_usr\_id  **By:** dsk\_wkld\_hdr.assigning\_usr\_id **At:** dsk\_wkld\_hdr.date\_assigned | | | |

Table : Workload Assignment Panel (PR)

#### 5.1.4 PR Modification Status Page

The **PR Modification Status Page** is displayed when the user enters a document number of the PR modification type. The page displays PR Modification data in the following data panels:

###### PR Modification Status Panel

|  |  |
| --- | --- |
| **Current Status** | dsk\_obj.stamp\_id |
| **Release Date** | proc\_object.apld\_dt |
| **Request Date** | requisition.req\_dt |
| **Description** | dsk\_obj.description |
| **Current User** | mtb\_usr.full\_name |
| **User Title** | contact.cntct\_title, |
| **User Phone** | contact.cntct\_ph\_nmbr\_cd, |
| **User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **User Email** | contact.email\_address |
| **Comments** | requisition.comments |

Table : PR Modification Status Panel

###### Workload Assignment Panel

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | dsk\_wkld\_hdr.description | | |
| **Workload Status** | getWkldAssign.asType – Stored Procedure | | |
| **Assigned to** | mu1.full\_name | **Completion Data** | dsk\_wkld\_hdr.action\_end\_date |
| **Assigned By** | mu2.full\_name | **PALT** | mtb\_palt.palt\_usr\_num |
| **Master Doc?** | dsk\_wkld\_obj\_xref.master\_fl | **Action Type** | dsk\_wkld\_hdr.action\_end\_date |
| **Master Doc#** | dsk\_obj.obj\_usr\_num | | |
| **Assigned:** dsk\_wkld\_hdr.description **To:** dsk\_wkld\_hdr**.**assigned\_usr\_id  **By:** dsk\_wkld\_hdr.assigning\_usr\_id **At:** dsk\_wkld\_hdr.date\_assigned | | | |

Table : Workload Assignment Panel (PR)

#### 5.1.5 Solicitation Status Page

The **Solicitation Status Page** is displayed when the user enters a Solicitation document number. The page contains the following data panels:

###### Solicitation Status panel

|  |  |
| --- | --- |
| **Current Status** | dsk\_obj.stamp\_id |
| **Issue Date** | solicitation.sol\_isu\_dt |
| **Closing Date** | solicitation.req\_resp\_dt |
| **Description** | dsk\_obj.description |
| **Current SPS User** | contact.cntct\_nm |
| **SPS User Title** | contact.cntct\_title |
| **User Phone Number** | contact.cntct\_ph\_nmbr\_cd |
| **User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **User Email** | contact.email\_address |

Table : Solicitation Status Panel

#### 5.1.6 Solicitation Amendment Status Page

The **Solicitation Amendment Status Page** is displayed when the user enters a Solicitation Amendment document number. The page displays the following tables:

###### Solicitation Amendment Status Panel

|  |  |
| --- | --- |
| **Current Status** | dsk\_obj.stamp\_id |
| **Issue Date** | solicitation.sol\_isu\_dt |
| **Closing Date** | solicitation.req\_resp\_dt |
| **Description** | dsk\_obj.description |
| **Current SPS User** | contact.cntct\_nm |
| **SPS User Title** | contact.cntct\_title |
| **User Phone Number** | contact.cntct\_ph\_nmbr\_cd |
| **User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **User Email** | contact.email\_address |
| **Applied Date** | proc\_object.apld\_dt |
| **Effective Date** | chg\_effect\_dt |
| **Amendment: (From SF-30 Block 14)** | general\_tx\_data.tx\_data |

Table : Solicitation Amendment Status Panel

#### 5.1.7 Award Status Page

The **Award Status Page** is displayed when the user enters an Award Number. The page will display the Award Status Information Table (*see Table 13: Award Status Panel*) and the Vendor Information *(see Table 14: Vendor Information Panel)*.

###### Award Status Panel

|  |  |
| --- | --- |
| **SAP PO Number** | proc\_object\_local.field1\_value |
| **Current Status** | dsk\_obj.stamp\_id |
| **Description** | dsk\_obj.description |
| **Cur. SPS User** | mtb\_usr.full\_name |
| **SPS User Title** | contact.cntct\_title |
| **SPS User Phone** | contact.cntct\_ph\_nmbr\_cd |
| **SPS User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **SPS User Email** | contact.email\_address |
| **Ko Name** | contact.cntct\_nm |
| **Ko Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Award Date** | award.awd\_effect\_dt |
| **Effective Date** | proc\_object.apld\_dt |
| **Retention Date** | dsk\_obj.arch\_dt |
| **Destruction Date**  **Accession No**  **Location**  **Box Number**  **Shipped Date**  **Details**  **Request Date**  **Returned Date** |  |

Table : Award Status Information

###### Vendor Information

|  |  |
| --- | --- |
| **Name** | organization.org\_nm |
| **Cage Cd** | vendor\_address.com\_govt\_ent\_cd |
| **POC Name** | contact.cntct\_nm |
| **POC Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Issuing office** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Administering Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Paying Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |

Table : Vendor Information (AWD)

#### 5.1.8 Award Modification Status Page

The **Award Modification Status Page** is displayed when the user enters an Award Modification number. This page displays the following tables:

###### Modification Status Panel

|  |  |  |
| --- | --- | --- |
| **SAP PO Number** | proc\_object\_local.field1\_value | |
| **Current Status** | dsk\_obj.stamp\_id | |
| **Description** | dsk\_obj.description | |
| **Current SPS User:** | mtb\_usr.full\_name | |
| **SPS User Title:** | contact.cntct\_title | |
| **SPS User Phone:** | contact.cntct\_ph\_nmbr\_cd | |
| **SPS User Fax** | contact.cntct\_fax\_nmbr\_cd | |
| **SPS User Email** | contact.email\_address | |
| **Ko Name** | contact.cntct\_nm | |
| **Ko Phone** | contact.cntct\_ph\_nmbr\_cd | |
|  | **Basic** | **Modification** |
| **Award Date** | award.awd\_effect\_dt | proc\_object.apld\_dt |
| **Effective Date** | award.awd\_rel\_dt | change.chg\_effect\_dt |
| **Change:(From SF-30 Block 14)** | general\_tx\_data.tx\_data | |
| **Retention Date** | dsk\_obj.arch\_dt | |
| **Destruction Date**  **Accession No**  **Location**  **Box Number**  **Shipped Date**  **Details**  **Request Date**  **Returned Date** |  | |

Table : Modification Data Panel (AWD MOD)

###### Vendor Data Panel

|  |  |
| --- | --- |
| **Name** | organization.org\_nm |
| **Cage Cd** | vendor\_address.com\_govt\_ent\_cd |
| **POC Name** | contact.cntct\_nm |
| **POC Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Issuing office** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Administering Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Paying Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |

Table : Vendor Data Panel (AWD MOD)

###### Workload Assignment Panel

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | dsk\_wkld\_hdr.description | | |
| **Workload Status** | getWkldAssign.asType – Stored Procedure | | |
| **Assigned to** | mu1.full\_name | **Completion Data** | dsk\_wkld\_hdr.action\_end\_date |
| **Assigned By** | mu2.full\_name | **PALT** | mtb\_palt.palt\_usr\_num |
| **Master Doc?** | dsk\_wkld\_obj\_xref.master\_fl | **Action Type** | dsk\_wkld\_hdr.action\_end\_date |
| **Master Doc#** | dsk\_obj.obj\_usr\_num | | |
| **Assigned:** dsk\_wkld\_hdr.description **To:** dsk\_wkld\_hdr**.**assigned\_usr\_id  **By:** dsk\_wkld\_hdr.assigning\_usr\_id **At:** dsk\_wkld\_hdr.date\_assigned | | | |

Table : Workload Assignment Panel (AWD MOD)

#### 5.1.9 Delivery Order Status Page

The **Delivery Order Status Page** is displayed upon entry of a Delivery Order document number. The page displays the following data tables:

###### Delivery Order Status Panel

|  |  |
| --- | --- |
| **SAP PO Number** | proc\_object\_local.field1\_value |
| **Current Status** | dsk\_obj.stamp\_id |
| **Description** | dsk\_obj.description |
| **Cur. SPS User** | mtb\_usr.full\_name |
| **SPS User Title** | contact.cntct\_title |
| **SPS User Phone** | contact.cntct\_ph\_nmbr\_cd |
| **SPS User Fax** | contact.cntct\_fax\_nmbr\_cd |
| **SPS User Email** | contact.email\_address |
| **Ko Name** | contact.cntct\_nm |
| **Ko Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Award Date** | award.awd\_effect\_dt |
| **Effective Date** | proc\_object.apld\_dt |
| **Retention Date** | dsk\_obj.arch\_dt |
| **Destruction Date**  **Accession No**  **Location**  **Box Number**  **Shipped Date**  **Details**  **Request Date**  **Returned Date** |  |

Table : Delivery Order Status Panel

###### Vendor Information

|  |  |
| --- | --- |
| **Name** | organization.org\_nm |
| **Cage Cd** | vendor\_address.com\_govt\_ent\_cd |
| **POC Name** | contact.cntct\_nm |
| **POC Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Issuing office** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Administering Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Paying Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |

Table : Vendor information (D/O)

#### 5.1.10 Delivery Order Modification Status Page

The **Delivery Order Modification Status Page** is displayed when the user enters a Delivery Order Modification number. The page displays the following tables:

###### Modification Status Panel

|  |  |  |
| --- | --- | --- |
| **SAP PO Number** | proc\_object\_local.field1\_value | |
| **Current Status** | dsk\_obj.stamp\_id | |
| **Description** | dsk\_obj.description | |
| **Current SPS User:** | mtb\_usr.full\_name | |
| **SPS User Title:** | contact.cntct\_title | |
| **SPS User Phone:** | contact.cntct\_ph\_nmbr\_cd | |
| **SPS User Fax** | contact.cntct\_fax\_nmbr\_cd | |
| **SPS User Email** | contact.email\_address | |
| **Ko Name** | contact.cntct\_nm | |
| **Ko Phone** | contact.cntct\_ph\_nmbr\_cd | |
|  | **Basic** | **Modification** |
| **Award Date** | award.awd\_effect\_dt | proc\_object.apld\_dt |
| **Effective Date** | award.awd\_rel\_dt | change.chg\_effect\_dt |
| **Change:(From SF-30 Block 14)** | general\_tx\_data.tx\_data | |
| **Retention Date** | dsk\_obj.arch\_dt | |
| **Destruction Date**  **Accession No**  **Location**  **Box Number**  **Shipped Date**  **Details**  **Request Date**  **Returned Date** |  | |

Table : Modification Status Panel (D/O MOD)

###### Modification Vendor Panel

|  |  |
| --- | --- |
| **Name** | organization.org\_nm |
| **Cage Cd** | vendor\_address.com\_govt\_ent\_cd |
| **POC Name** | contact.cntct\_nm |
| **POC Phone** | contact.cntct\_ph\_nmbr\_cd |
| **Issuing office** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Administering Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |
| **Paying Agency** | |
| address.short\_cd, organization.org\_nm, address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd | |

Table : Modification Vendor Panel (D/O MOD)

###### DO Modification Workload Assignment Panel

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | dsk\_wkld\_hdr.description | | |
| **Workload Status** | getWkldAssign.asType – Stored Procedure | | |
| **Assigned to** | mu1.full\_name | **Completion Data** | dsk\_wkld\_hdr.action\_end\_date |
| **Assigned By** | mu2.full\_name | **PALT** | mtb\_palt.palt\_usr\_num |
| **Master Doc?** | dsk\_wkld\_obj\_xref.master\_fl | **Action Type** | dsk\_wkld\_hdr.action\_end\_date |
| **Master Doc#** | dsk\_obj.obj\_usr\_num | | |
| **Assigned:** dsk\_wkld\_hdr.description **To:** dsk\_wkld\_hdr**.**assigned\_usr\_id  **By:** dsk\_wkld\_hdr.assigning\_usr\_id **At:** dsk\_wkld\_hdr.date\_assigned | | | |

Table : DO Modification Workload Assignment Panel

## 5.2 Application Sub-Pages

An application sub-page is defined as a page that can be accessed by clicking on a document number or link from within one of the Query application main pages.

#### 5.2.1 SAP PO Search Page

The Award Status Panel, the Award Modification Status Panel, the Delivery Status Panel, and the Delivery Modification Status Panel all contain the SAP PO No field. The value represented in this field is to be a clickable link that will take the user to the SAP Po Search page. This page is to contain a list of all document numbers directly related to that particular SAP Po number. The table created should take the following format:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Document Number** | **Owner** | **Status** | **Description** | **Type** |
| dsk\_obj.obj\_usr\_num | mtb\_usr.full\_name | dsk\_obj.stmp\_id | dsk\_obj.description | dsk\_obj.obj\_type |

Table : SAP PO Search List

#### 5.2.3 Line Item Page

The Line Item page is to be accessible from all of the main application pages with the exception of the Wild-Card search page. The link to the Line Item page is to be created and listed at the top of the list of related documents based upon the current document type. Upon clicking this link, the user is to be directed to the Line Item page that will have tables with the following fields and formats:

1. If the document number is a Purchase Request, the page will display a funding table with the following format:

|  |  |
| --- | --- |
| **Total Funding Amount:** | <link to the Line Item Funding Page> clin\_fund.fund\_amt |

Table : PR Line Item Funding

The value listed in the second column is to also be the link to the “Line Item Funding Page”.

1. If the document is of any other type than “Purchase Request then the funding table shall be created with the following fields and format:

|  |  |
| --- | --- |
| **Total Funding Amount:** | <link to the Line Item Funding Page> clin\_fund.fund\_amt |
| **Funding This Action:** | clin\_fund.fund\_amt |
| **Total Contract Base Amount:** | add all line\_item.ext\_prc\_am if the line\_item.option\_fl = 0 |
| **Total Contract Options Amount:** | add all line\_item.ext\_prc\_am if the line\_item.option\_fl =1 |
| **Total Contract Amount With Options:** | add all line\_item.ext\_prc\_am |
| **Total Contract Amount Exercised:** | line\_item.ext\_prc\_am |

Table : Funding Data Summary

1. Document numbers of any type are to produce the following table and fields that will display a list of CLIN numbers and information:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CLIN** | **SAP PR NO**  **CLIN PR NO** | **REQ Code** | **SAP CHG OBJ** | **APPN SUBH** | **Description** | **Total Cost** | **Total Funding** | **CLIN Type** |
| line\_item.clin\_nmbr\_cd | line\_item\_local.field2\_value | line\_item\_local.field3\_value | line\_item\_local.field5\_value | fund\_source\_ref.fund\_strip\_cd | line\_item.clin\_desc | line\_item.ext\_prc\_am | clin\_fund.fund\_amt | line\_item.info\_prc\_fl |

Table : CLIN Details List

#### 5.2.4 Line Item Funding Page

1. Upon selecting the link in the “Line Item Funding Summary” table, the user will be redirected to the “Line Item Funding Page”. This page is to contain a table with detailed funding information for each line item related to the document number.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CLIN** | **Contract ACRN** | **Funding Strip** | **Cost Code** | **CIN Number** | **Funding Amount** | **Funds/Work Expiration Date** |
| line\_item.clin\_nmbr\_cd | clin\_fund.  con\_acrn | fund\_source\_ref.fund\_strip\_cd | clin\_fund.cost\_cd | clin\_fund.cin\_nmbr | clin\_fund.fund\_amt | line\_item\_local.field4\_value |

Table : CLIN Funding Details List

#### 5.2.5 Line Item Detail Page

1. Upon selecting a CLIN number link in the CLIN column of the Line Item List table, the application will be redirected to the “**Line Item Detail Page**”. This page displays the following two panels:

###### Line Item Detail Panel

|  |  |  |  |
| --- | --- | --- | --- |
| **Contract Line Item Number:** | line\_item.clin\_nmbr\_cd | **Description:** | line\_item.clin\_desc |
| **Extended Description:** | line\_item.clin\_ext\_desc | | |
| **PR Number:** | line\_item.pr\_nmbr | **MFG Part Number:** | line\_item.manu\_part\_nmbr |
| **Federal Supply Code:** | fsc\_code\_ref.fsc\_cd | **MDAP/MAIS Code:** | pno\_cd\_ref.pno\_cd |
| **NAICS Code:** | naics.naics\_cd | **Program Code:** | prog\_code\_ref.prog\_cd |
| **National Stock Number:** | line\_item.nsn | **Contract Type:** | contract\_type.con\_type\_cd |
| **FOB:** | fob\_type.fob\_desc | **Additional Markings:** | line\_item.add\_mark |

Table : Line Item Detail Panel

###### Additional Information Panel

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Delivery Date | Period of Performance | | Shipping Information | | |
| Start Date | End Date | POC Name | POC Phone | POC Address |
| delivery.orig\_dt | delivery.orig\_dt | delivery.orig\_stop\_dt | contact.cntct\_nm | contact.cntct\_ph\_nmbr\_cd | address.str\_addr\_nm, address.city\_nm, address.state\_nm, address.zip\_cd |

Table : Line Item Additional Information Panel

**6.0 ENVIRONMENT**

# Environment

## 6.1 Equipment Environment

#### 6.1.1 Servers:

1. **Web Server:** 
   1. The web server contains the Contracts 2.0 website as well as the Functional Tool tool. This server is located and maintained in Patuxent River Maryland.
2. **Database Servers:**
   1. The database servers host the Sybase Databases from which Functional Tool draws data. They are located and maintained in Patuxent River Maryland.

## 6.2 Software Environment

#### 6.2.1 Functional Tool:

* 1. **Primary Development Language:** ASP/VBScript
  2. **Additional Languages used:** SQL, HTML, CSS, JavaScript

#### 6.2.2 Web Browser Requirements:

1. Internet Explorer 8 or higher.

#### 6.2.3 Operating Systems:

1. Microsoft Server 2003(vers.) or Microsoft Server 2008R2

#### 6.2.4 Database Management Systems:

1. Sybase ASE (vers.)

## 6.3 Summary of Impacts

#### 6.3.1 IS Organizational Impacts

**IT Support Specialist/ Web Developer:**

1. Staff for maintenance, application improvement and help calls: one individual.
2. Responsibility for maintenance and help calls for the new Functional Tool application will continue to be owned by the Business Systems Office Tech Support team.
3. Skill requirements for maintenance:
   1. Programming competencies: ASP classic, VBScript, HTML, CSS, and JavaScript and SQL.
   2. Software and Systems Administration: competencies: Microsoft Server 2003 and 2008, Sybase Database, Interactive SQL, Text Editors, ActiveX Data Objects (ADO), Open Database Connectivity (ODBC). Microsoft Office Suite.
   3. Technical Writing.
   4. Certification Requirements: Security +, Cyber Awareness Training, Information Assurance Training.

#### 6.3.2 IS Operational Impacts

1. Operational Efficiency:
   1. Upon implementation of the Functional Tool application, the business systems office can anticipate less-frequent calls from users to report Functional Tool as non-functioning.
   2. The new Functional Tool application will require less system resources of the web server as it is an interpreted application as opposed to the original compiled application.

## 6.4 Failure Contingencies

#### 6.4.1 Restart/Recovery

**Server Backup and Restore capabilities:**

1. Server backups are maintained by the Systems Administrators in Patuxent River Maryland for the Contracts 2.0 web server and the Sybase ASE database servers.

#### 6.4.2 Other Contingencies

1. **Database Failure:** Functional Tool has been coded to provide a log file to report a database failure. spsFunctions.asp tests the status of each database every time a purchase request number is entered. Should a connection to the database be unavailable, Functional Tool is to record to a log file the Date, Time, Server, and the error code.

# SECURITY

## 7.1 Background Information

Data that appears within a requested document from the Functional Tool application is considered unclassified. However, this data should be treated as sensitive and should only be accessed by authorized personnel that have CAC access to the Contracts 2.0 website.

## 7.2 Control Points, Vulnerabilities, and Safeguards

#### 7.2.1 Control Points

#### 7.2.1.1 Input Control Points

1. **Origin:** Query.asp form field.
2. **Disposition:** The Functional Tool application must allow only numerical and a limited number of alphabetic character, the “%”, and “-“symbols in the form field. The form field is to be limited to the number of characters necessary to complete each individual document number. Database permissions must be strictly controlled as “Read Only” so as to prevent SQL Injection attacks.
3. **Error Detection**
   * 1. **Input Length:**
        1. The Functional Tool application form field will have a programmed input length of 23 characters hard coded to limit possible input.
     2. **Allowed Characters:** 
        1. When a document number is submitted via the retrieve button, a JavaScript Regular Expression function executes that detects any unwanted characters and returns an error to the user for correction.
        2. IN CASE OF DISABLED JAVASCRIPT: When the document number is to be forwarded, the document number is to be passed to a VBScript Regular Expression function to strip any unwanted characters before the document number is tested against each database.
     3. **Database Permissions:**
        1. A separate connection string is established for each database and given read only permissions. This disallows any changes to be made within the database, but still allows the application to retrieve the desired data.

#### 7.2.1.2 Process Control Points

1. **Accuracy and Completeness:**
   * 1. **Failure Notifications:** 
        1. **Unacceptable Characters:** Upon submitting a document number, users are notified if unacceptable characters are present within the document number string.
        2. **Invalid Document Number:** If all characters are acceptable within the document number string, but the document number is not located within any database, the error page is to be displayed with a “document cannot be located” message.
        3. **Database Inaccessible:** In the event that a database is unavailable, the system is to automatically record the connection failure in a log file with the Date, Time, Server, and Error.

#### 7.2.2 Potential Vulnerabilities and Mitigations

1. SQL Injection Attacks
2. Man In The Middle Attacks
3. Integer Overflow Attacks
4. String Vulnerabilities
5. Command Injection Attacks
6. Cross-Site-Scripting Attacks
7. CSRF Vulnerabilities
8. Denial of Service Attacks

#### 7.2.3 Safeguards

#### 7.2.3.1 Administrative Safeguards

1. **Access/Permissions:** The Contracts 2.0 website is CAC enabled through big IP and as such, access to the Functional Tool application requires a CAC card.

#### 7.2.3.2 Physical Safeguards

1. **Dedicated Equipment:**Server equipment is located within a secure facility in Patuxent River Maryland.
2. **Storage and Protection:** Server equipment is located within a secure facility in Patuxent River Maryland.

#### 7.2.3.3 Technical Safeguards

1. **User Access:** User access is controlled via a CAC enabled website.
2. **User Input***:* User input is to be controlled via form validation and database access accounts
3. **Form Validation:** The application must detect and disallow the use of non-alphanumeric characters within the form field with the exception of “-“.
4. **Database Connection Account:** The database account that the Functional Tool application uses to access data must be created with the appropriate level of user account controls (i.e. Read Only).
5. **Parameterized Queries:** parameterized query statements ensure that an attacker is not able to change the intent of a query, even if SQL commands are inserted by an attacker.
6. **Eliminate Direct Access to Database Tables:** Data is to be obtained by the application through stored procedures and parameterized queries.
7. **Protect application data:** Protect application data utilizing file permissions on the web server as well as on the database. Implement the principle of least privilege.

## 7.3 System Monitoring and Auditing

Describe all user requirements for the production of an audit trail including automated reports or journals necessary to monitor the system. Monitoring may be provided by this system or by another system.

#### 7.3.1 Error Logging

*Error Log*: an error log is to be created to record:

* 1. *Input Errors*: Repeated attempts to enter invalid data. Date, time, server IP, and client IP are to be recorded
  2. *Server Errors*: If a server is unavailable, the Date, Time and IP are to be recorded and an automated message is to be sent to the systems administrator.

#### 7.3.1.1 Triggering Criteria

1. The Error log is updated when a user enters a document number and/or the database connection is closed. In addition to searching the database for a document number, the system evaluates the state of the database connection. If the database connection is returned as closed, the system records the error in the errorLog.txt file.

#### 7.3.1.2 Identification Information

1. For each System Error, the System Date/Time is to be recorded as well as the Site, and the Error. For Example:

DATE//////TIME////////SITE///////ERROR

8/8/2014 8:19:42 AM CHLK Connection Failed

#### 7.3.1.3 Log Use

1. Each time an error is entered into the log, the system will send an email to the Business Systems Office Technical Support team containing a copy of the data added to the log file. This will ensure that rapid action can be taken to repair any down connections.