Department of the Air Force

Integrity - Service - Excellence

SRDR Implementation

22 Oct 2020

Agenda

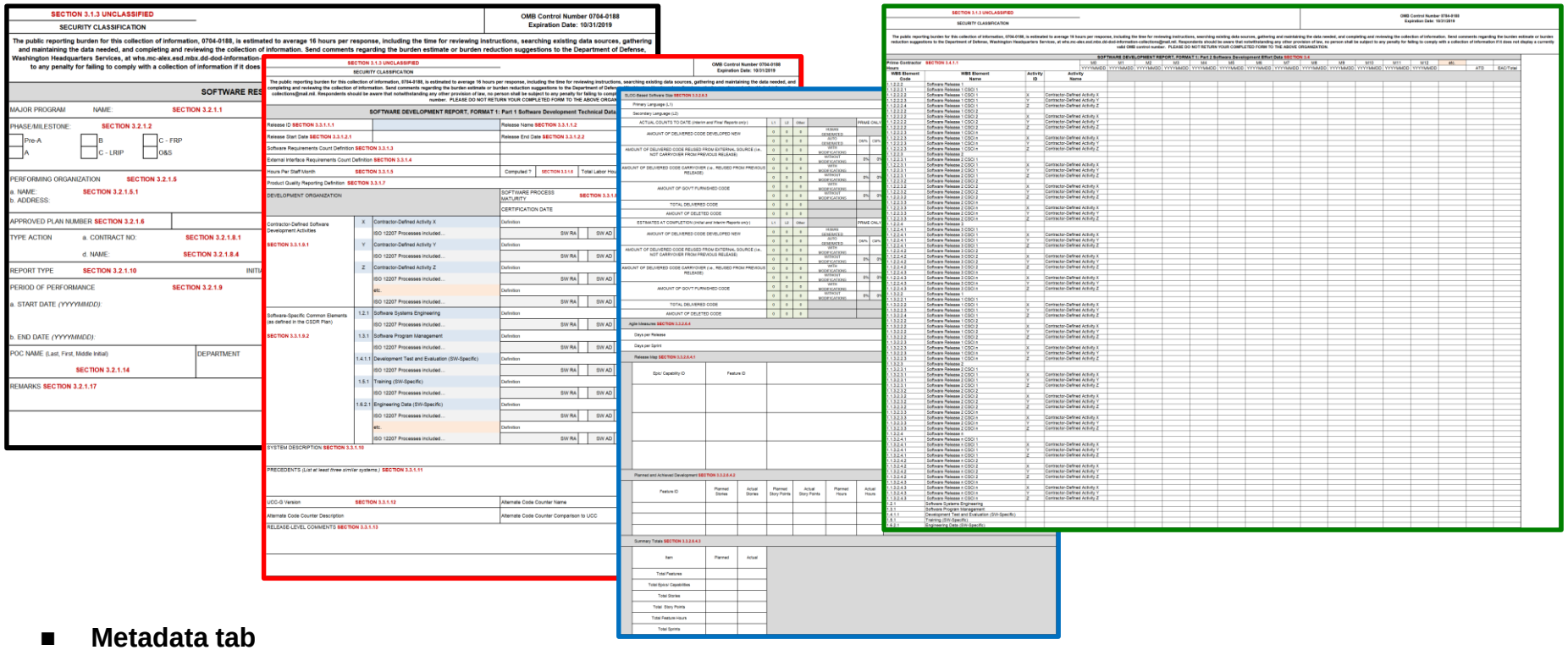
- What is an SRDR?
- *New* CADE-hosted SRDR database background / status
- Dev/Mx/ERP form changes / rebuild
- Validation tool demonstration
- DID watch items and potential future updates

What is an SRDR?

- Cost and Software Data Reports are required per DODI 5000.73
- Software Resources Data Report
  - Legacy – Form 2630; DID approved May 2011
  - Development (Dev) – Form 3026-1, Maintenance (Mx) – Form 3026-2, and ERP – Form 3026-3; DID approved Nov 2017
  - Reporting thresholds:
    - Contracts, subcontractors, and Gov-performed efforts valued >20M (TY$) for:
      - Programs exceeding ACAT I-II thresholds
      - IS and MTA programs anticipated to exceed $100M in acq expenditures
    - High-risk or high-technical-interest software efforts <$20M as determined by CSDR plan approval authority
    - Programs with previous SRDR Dev or ERP requirements or software maintenance efforts >20M (TY$)

***Link to SRDR policy on CADE:** https://cade.osd.mil/policy/srdr*

What is an SRDR?



- **Metadata tab**
- **Release tab; may be multiple tabs depending on the # of Releases**
- **CSCI tab; may be multiple tabs depending on the # of CSCIs**
- **Part 2 tab**

Cost analysts use this data extensively; it helps inform future estimates!

Database Background

- The Excel-based SRDR form currently used for industry submission is not conducive to analysis due to formatting issues within each worksheet and the spread of WBS elements across multiple worksheets
- Analyst users would like CADE to have the ability to export the contents of the current SRDR format industry submissions in a more easily analyzable format, both within a single SRDR industry submission and consolidating across SRDR submissions
- SRDR Database Subgroup (to the SRDR Working Group) formed with representatives from: AFCAA, DASA-CE, NCCA, NAVAIR, and MDA

Legacy DB Considerations

- Legacy NAVAIR database column names have been mapped to new SRDR form information; fields have been defined as:
  - Authoritative (raw data)
  - Normalized (allocated)
  - Calculated (e.g. ESLOC)

NAVAIR SRDR Database Description		Software Development Technical Data		Report Context			
NAVAIR SRDR Database Column Title	Count	Program	CSCI	Report	Pair Tag	Service	Report As Of
Data Type (Authoritative / Normalized / Calculation / Analyst Input)	Calculation	Authoritative	Authoritative	Authoritative	Analyst Input	Authoritative	Authoritative
Mapping / Index to Current SRDR DID	N/A	Major Program Name: Section 3.2.1.1	Section 3.3.2	DD Form Name and Section 3.2.1.10	N/A	Section 3.2.1.7 (Labeled as Customer)	Section 3.2.1.13

- Import latest NAVAIR database into architecture and test for consistent ingestion process
- Establish legacy manual entry responsibilities for NAVAIR moving forward; will likely extend through 2024

New DB Considerations

- **Dev and Mx exports have been defined; ERP form being revised**
  - **Sub-tables for one-to-many inputs:**

Contractor-Defined SW Dev Activities	*Outsourced Development*
Software Reuse	*COTS/GOTS/Open-Source Apps*
**SLOC Detail*	*Agile Measures*
Function Point Detail	*RICE-FW Detail*
Other Non-SLOC Detail	*Schedule Reporting*
Part 2 Effort Detail	

- **Eliminated "Med" view, replaced with customized export concept**
- **Additional tagging / business rules required to merge 3026 submissions with legacy submissions as part of single database**
  - **Interim submissions**
  - **Quality assessment**

CADE-hosted SRDR database will be functional by Feb 2021

SRDR Automation Activities

- **Rebuilt SRDR Forms**
  - **Refactored SRDR Dev (3026-1) and Mx (3026-2) (including Part 2)**
  - **Refactoring ERP form (in progress)**
  - **Support in cPET (integration with Plans, read/write Excel & XML, preliminary validation)**
  - **“Dimensional” Excel Export (formatting data to support analysis)**
- **CSDR-SR Workflow Integration (in progress)**
  - **Support submission/review for legacy and new SRDRs**
  - **For new SRDR formats, provide real-time format check and validation**
  - **Export to new Dimension Excel format**
- **CADE Data & Analytics Integration (in progress)**
  - **SRDR integration into Browse/Search CSDR (legacy and new)**
  - **Focus on bulk export into Dimensional format**

Rebuilt SRDR Forms (Dev)

Current SRDR form:

SOFTWARE RESOURCES DATA REPORTING: Metadata SECTION 3.2.1

MAJOR PROGRAM NAME: SECTION 3.2.1.1	PRIME MISSION PRODUCT SECTION 3.2.1.3
PHASE/MILESTONE: SECTION 3.2.1.2 ☐ Pre-A ☐ B ☐ C - FRP ☐ A ☐ C - LRIP ☐ O&S	REPORTING ORGANIZATION TYPE SECTION 3.2.1.4 ☐ PRIME/ASSOCIATE CONTRACTOR ☐ DIRECT-REPORTING SUBCONTRACTOR ☐ GOVERNMENT
PERFORMING ORGANIZATION SECTION 3.2.1.5 a. NAME: SECTION 3.2.1.5.1 b. ADDRESS:	DIVISION SECTION 3.2.1.5.2 a. NAME: b. ADDRESS:
APPROVED PLAN NUMBER SECTION 3.2.1.6	CUSTOMER SECTION 3.2.1.7

TYPE ACTION	a. CONTRACT NO: SECTION 3.2.1.8.1	b. MODIFICATION NO. SECTION 3.2.1.8.2	c. SOLICITATION NO.: SECTION 3.2.1.8.3
	d. NAME: SECTION 3.2.1.8.4	e. TASK ORDER/DELIVERY ORDER/LOT NO.: SECTION 3.2.1.8.5	

REPORT TYPE SECTION 3.2.1.10	INITIAL		INTERIM		FINAL	

PERIOD OF PERFORMANCE SECTION 3.2.1.9	APPROPRIATION SECTION 3.2.1.16	SUBMISSION NUMBER SECTION 3.2.1.11
a. START DATE *(YYYYMMDD)*:	☐ RDT&E	RESUBMISSION NUMBER SECTION 3.2.1.12
	☐ PROCUREMENT	REPORT AS OF *(YYYYMMDD)* SECTION 3.2.1.13
b. END DATE *(YYYYMMDD)*:	☐ O&M	DATE PREPARED *(YYYYMMDD)* SECTION 3.2.1.15

POC NAME (Last, First, Middle Initial) SECTION 3.2.1.14	DEPARTMENT	TELEPHONE (Include Area Code)	EMAIL ADDRESS

REMARKS SECTION 3.2.1.17

- **DID references in fields can be confused with data**
- **Field labels and data entry areas/formatting unclear**

Rebuilt SRDR Forms (Dev)

Refactored form:

- Field Labels Bold
- Data Below Label

Bold / Cap Section Labels

Indicates Grouped Fields

Instructions

SOFTWARE RESOURCES DATA REPORTING
FORMAT 1 - SOFTWARE DEVELOPMENT REPORT

OMB Control Number xxxx-xxxx
Expiration Date: MM/DD/YYYY

The public reporting burden for this collection of information, 0704-0188, is estimated to average 16 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE ABOVE ORGANIZATION.**

METADATA

Program Name	**Prime Mission Product**	**Date Prepared** (YYYYMMDD)

Phase/Milestone (check one only)	**Appropriation** (check all that apply)	**Reporting Organization Type** (check one only)
☐ Pre-A ☐ C - LRIP	☐ RDT&E	☐ Prime / Associate Contractor
☐ A ☐ C - FRP	☐ Procurement	☐ Direct-Reporting Subcontractor
☐ B ☐ O&S	☐ O&M	☐ Government

Performing Organization Name / Address	**Division Name / Address**	**Customer** (Direct-Reporting Subcontractor only)

TYPE ACTION					**PERIOD OF PERFORMANCE**	
Contract No.	**Latest Mod. No.**	**Solicitation No.**	**Name**	**Order / Lot No.**	**Start Date** (YYYYMMDD)	**End Date** (YYYYMMDD)

Approved Plan Number	**Report Type** (check one only)	**Submission Number**	**Resubmission Number**	**Report As Of** (YYYYMMDD)
	☐ Initial ☐ Interim ☐ Final			

POINT OF CONTACT

Name	**Department**	**Telephone Number**	**Email Address**

Remarks

- **DID references removed from form (will be part of Implementation Guide)**
- **Normalized styling, language, and layout across all forms and pages**

Rebuilt SRDR Forms (Dev)

Refactored form:

PART 1 - SOFTWARE DEVELOPMENT TECHNICAL DATA, RELEASE LEVEL				
Release ID	Release Name	Release Start Date (YYYYMMDD)	Release End Date (YYYYMMDD)	Release Completed? ☐ Yes ☐ No
Software Requirements Count Definition				
External Interface Requirements Count Definition				
Hours Per Staff Month	Hours Per Staff Month Computed? ☐ Yes ☐ No	Total Labor Hours (if hours per staff month computed)	Total Staff (if hours per staff month computed)	
Product Quality Reporting Definition				

SOFTWARE PROCESS MATURITY

	Rating	Certification Date (YYYYMMDD)	Lead Evaluator	Evaluator Affiliation

CONTRACTOR-DEFINED SOFTWARE DEVELOPMENT ACTIVITIES

	ID	Name	Definition	ISO 12207 processes included (check all that apply)						
				SW RA	SW AD	SW DD	SW CON	SW I	SW QT	SW SP

SOFTWARE-SPECIFIC COMMON ELEMENTS (as defined in the CSDR plan)

	ID	Name	Definition	ISO 12207 processes included (check all that apply)						
				SW RA	SW AD	SW DD	SW CON	SW I	SW QT	SW SP

Release Status

Removed pre-populated examples

Easily expand “one-to-many” tables.

- **Original forms included generic example data for several tables**
  - **Replaced with fixed starting number of blank rows**
  - **Examples to be provided in Implementation Guide**
- **Indicator of Release Status (Complete? (Y/N))**

Rebuilt SRDR Forms (Dev)

Refactored form:

PART 1 - SOFTWARE DEVELOPMENT TECHNICAL DATA, RELEASE-CSCI LEVEL			
Release ID ★	Release Name	CSCI ID ★	CSCI Name
WBS Element Code ★	WBS Element Name		
OUTSOURCED DEVELOPMENT ORGANIZATIONS			
Name	Location	Primary? (check if Yes)	
★			
PRODUCT AND DEVELOPMENT DESCRIPTION			
Functional Description			
Software Development Characterization			
Software State of Development (check one only) ☐ Prototype ☐ Production-Ready ☐ Mix			

IDs tie data to the plan and across sheets

- **Data Definition / Validations**
  - **Release and CSCI IDs link to plan and across sheets**
  - **WBS Element Code links to the plan WBS**
  - **Outsource Organization Name links to Part 2**

Rebuilt SRDR Forms (Dev)

Refactored form:

PART 2 - SOFTWARE DEVELOPMENT EFFORT DATA

Reporting Period End Dates (YYYYMMDD)			
M0	M1	M2	...

PRIME CONTRACTOR HOURS

Release ID	CSCI ID	WBS Element Code	WBS Element Name	Activity ID	Activity Name	M1 Hours	M2 Hours	...	ATD Hours	EAC Hours

SUBCONTRACTOR HOURS

Release ID	CSCI ID	WBS Element Code	WBS Element Name	Activity ID	Activity Name	M1 Hours	M2 Hours	...	ATD Hours	EAC Hours	Outsourced Development Organization Name

SUBCONTRACTOR DOLLARS ($K)

Release ID	CSCI ID	WBS Element Code	WBS Element Name	Activity ID	Activity Name	M1 Dollars ($K)	M2 Dollars ($K)	...	ATD Dollars ($K)	EAC Dollars ($K)	Outsourced Development Organization Name

Effort Comments

- **Refactored Part 2 for consistency across Dev, Mx, and ERP (as possible)**
- **Updated wording on form for added clarity (e.g. “Outsourced Organization Name”); original wording was “Outsourced Development Contractors included in hours”**
- **Guidance for effort not specific to a CSCI or Release to be provided in the Implementation Guide**

Dimensional Export Concept

- An SRDR file can include multiple forms/pages, e.g. Release(s), CSCI(s)
  - Large number of discrete data elements
  - Complex, large subsections and tables with data-dependent, one-to-many rows
- Flatten into organized export to facilitate analysis
  - Primary Tables (Dev)
    - Metadata: CADE (system) metadata cross-linked to report metadata
    - Release Level: Detailed release data and summary release effort/cost
    - CSCI Level: Detailed Release/CSCI data with summary effort/cost
    - Part 2: Detailed effort/cost by Release, CSCI, and Activity if available
  - Multiple one-to-many sub-tables: e.g. Contractor defined activities, outsourced organizations, software reuse components, etc.

SRDR Support in cPET

CSDR Plan and SRDR Supplements → cPET Creates → Empty SRDR Template with Plan ID Links → Users Creates → Empty SRDR Template with Plan ID Links → cPET Creates → Read Validation, XML & Flattened Export

CSDR Plan SRDR Supplement

CSDR Plan Supplement - SRDR Development

Releases

ID	Name	Date
1	Space Vehicle Software Release 1	20150101
2	Space Vehicle Software Release 2	20150401
3	Space Vehicle Software Release 3	
4	Space Vehicle Software Release 4	
5	Space Vehicle Software Release 5	

CSCI's

ID	Name
C1	Space Vehicle Software CSCI 1
C2	Space Vehicle Software CSCI 2
C3	Space Vehicle Software CSCI 3
C4	Space Vehicle Software CSCI 4

Product Size Reporting Elements

Code	Name	Release ID	CSCI ID
1.2.1.1	Space Vehicle Software Release 1 CSCI 1	1	C1
1.2.1.2	Space Vehicle Software Release 1 CSCI 2	1	C2
1.2.1.3	Space Vehicle Software Release 1 CSCI 3	1	C3
1.2.2.1	Space Vehicle Software Release 2 CSCI 1	2	C1
1.2.2.2	Space Vehicle Software Release 2 CSCI 3	2	C3
1.2.3.1	Space Vehicle Software Release 3 CSCI 2	3	C2
1.2.3.2	Space Vehicle Software Release 3 CSCI 3	3	C3
1.2.4.1	Space Vehicle Software Release 4 CSCI 1	4	C1
1.2.4.2	Space Vehicle Software Release 4 CSCI 3	4	C3
1.2.4.3	Space Vehicle Software Release 4 CSCI 4	4	C4
1.2.5.1	Space Vehicle Software Release 5 CSCI 1	5	C1
1.2.5.2	Space Vehicle Software Release 5 CSCI 2	5	C2
1.2.5.3	Space Vehicle Software Release 5 CSCI 3	5	C3
1.2.5.4	Space Vehicle Software Release 5 CSCI 4	5	C4

Product Size Submissions

Number	Name	Release ID: 1 Included?	2 Included?	3 Included?	4 Included?	5 Included?
2	Preliminary Design Review (PDR)	x	x			
3	Critical Design Review (CDR)	x	x	x		
4	Initial Operational Capability (IOC)				x	
5	Final Review	x		x	x	x

PART 1 - SOFTWARE DEVELOPMENT TECHNICAL DATA, RELEASE-CSCI LEVEL

Release ID	Release Name	CSCI ID	CSCI Name
1	Space Vehicle Software Release 1	C1	Space Vehicle Software CSCI 1

WBS Element Code	WBS Element Name
1.2.1.1	Space Vehicle Software Release 1 CSCI 1

OUTSOURCED DEVELOPMENT ORGANIZATIONS

Name	Location	Primary? (check if Yes)	Comments

Common Heading | Part 1, Release Level (1) | Part 1, Release Level (2) | Part 1, Release Level (3) | Part 1, Release-CSCI Level (1) | Part 1, R ...

CSDR-SR Workflow Integration

Step 1: Start Submission

Provide As-Of Date and POC information

Submission Info

Contract Summary

Contract Number: N0000-00-0002

Contractor Name	Rambo Systems
Contractor Division	Awesome Weapon Development
Prime/Sub	Sub
Contract Type	CPAF

Sub Contract Number:

Sub Contractor Name	
Sub Contractor Division	

Program

Program Name	Death Star Program (Testing Purposes)	Military Handbook	AIRCRAFT
Program URI		Weapon System Type	Aircraft
Program Manager	Luke Skywalker	Service	NAVY

Submission Event

Plan Number	A-09-E-C1-S1
Submission Event	P3I 4.5.0 Initial Report
Expected Files	SRDR Dev
Expected As Of Date	7/31/2012
Expected Submission Date	9/30/2012

Submission Details

As Of Date *

Status Initiated Late

Comment (Max 256 char)

Point of Contact

Name *
Bob

Phone *
5555555555

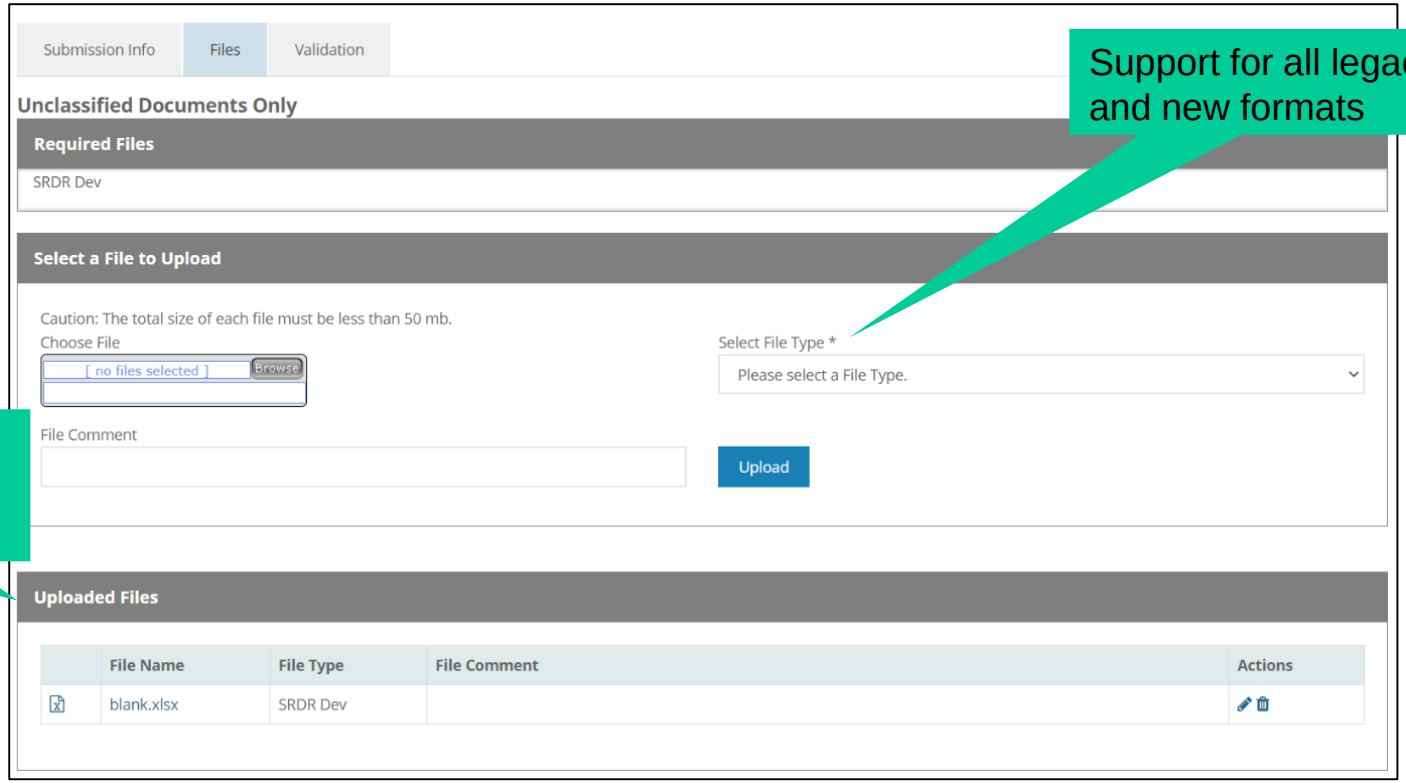
Fax

Email *
bsmith@rambo.com

Make Default POC

CSDR-SR Workflow Integration

Step 2: Upload Files

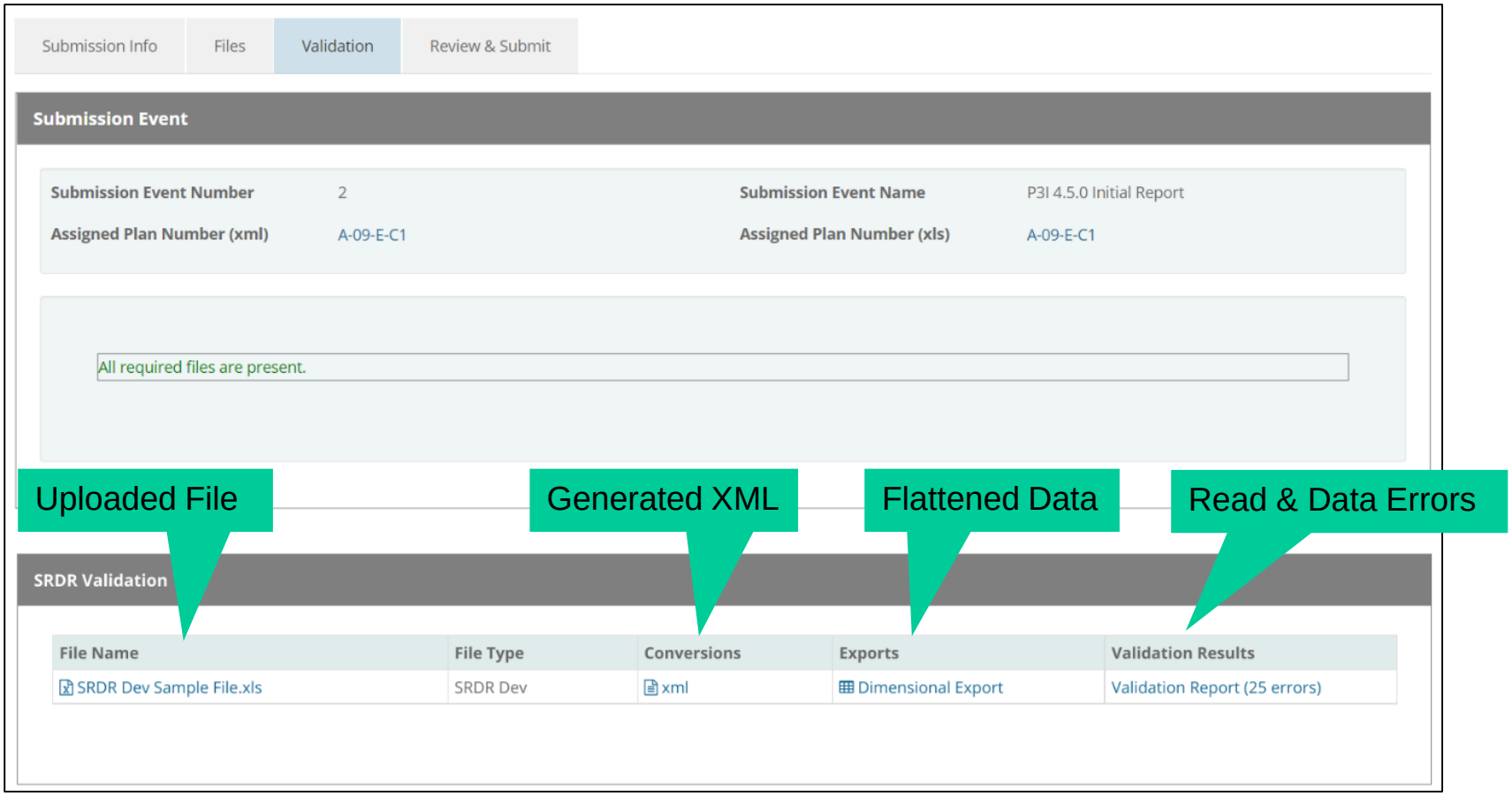


Support for all legacy and new formats

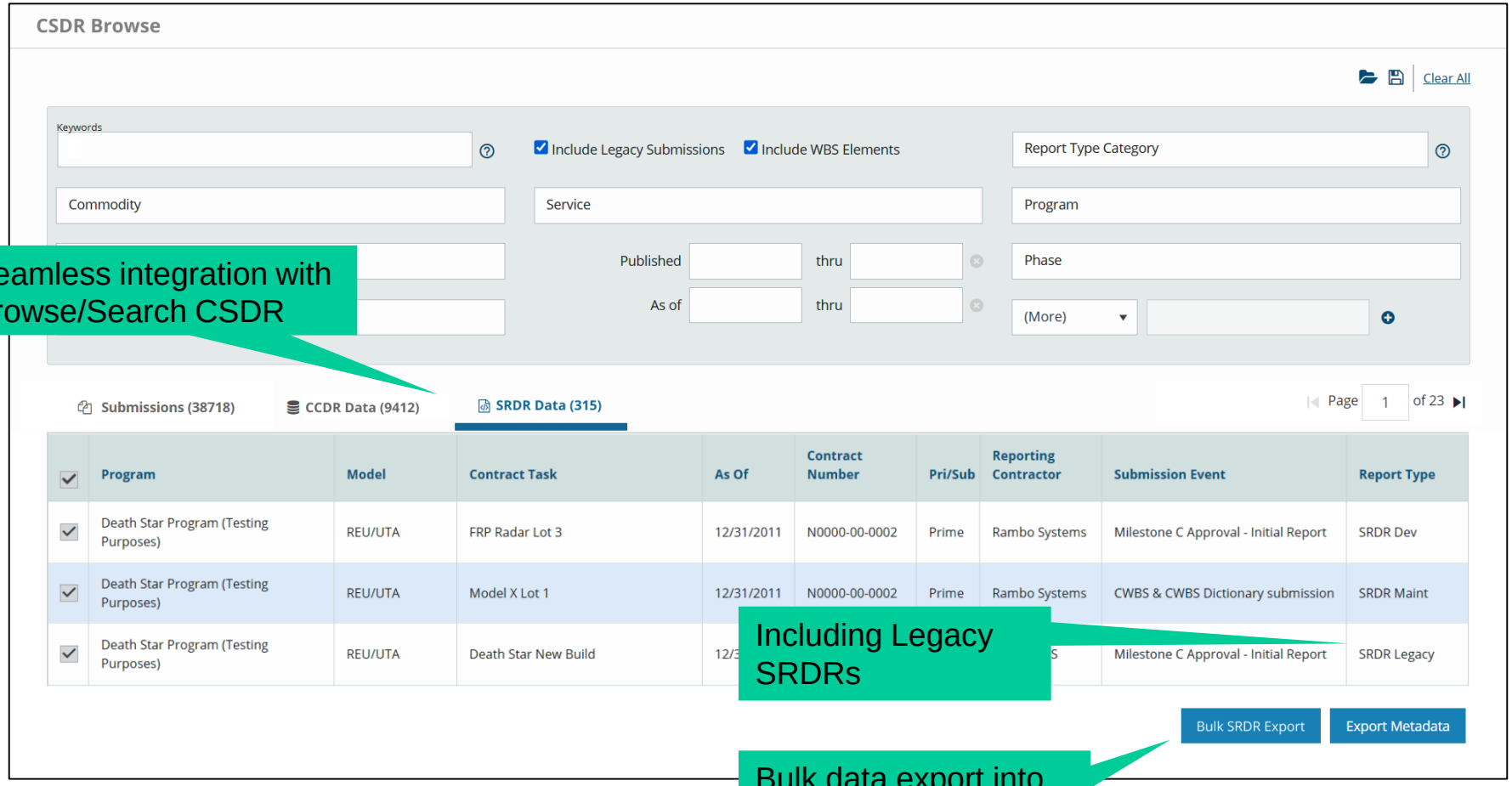
Displays uploaded files, types, and submitter comments

CSDR-SR Workflow Integration

Step 3: Validation



Data & Analytics Integration



Seamless integration with Browse/Search CSDR

Including Legacy SRDRs

Bulk data export into dimensional format

DID Watch Items

- **SRDR Mx annual reporting date (1.3.3)**
  - ***"The annual reporting date shall be in accordance with the government fiscal years."***
  - **Proposed update: Annual reporting date can tie to fiscal year or contract year**
- **Initial/Interim/Final reports (3.1.1.4.1)**
  - **1 Initial report, 1 Final report, all others are considered Interim reports**
  - **Interim reports can coincide with the Start/End of a Release, program milestones (e.g. SRR, PDR, CDR), or be time-based**
- **Reporting SLOC for Agile programs (3.3.2.6.4 / 3.3.2.6.5)**
  - ***"SLOC-Based is required unless reporting alternative sizing measures are agreed to by the CWIPT and documented in the CSDR Plan."***
  - **Proposed update: Clarify requirement by consolidating Agile Measures within Non-SLOC-Based Sizing**

DID Watch Items

- **SW-specific common elements in Part 2 (Dev 3.4.1.1 / Mx 3.4.1.4)**
  - ***"Format 1 shall provide staff hours for the common WBS elements such as System Engineering and Program Management, Systems Test and Evaluation, etc. that can be attributed to software development efforts if already tracked by the prime contractor."***
  - **Mx breaks out SE, Cybersecurity, PM, Help Desk, Facilities, FSE, Op Management, and Training**
  - **Proposed update: Consistent example common elements across formats and in accordance with external guidance**
- **ERP section**
  - **Form update and refactor may necessitate updates**

SRDR Implementation Guide update will happen before DID update!