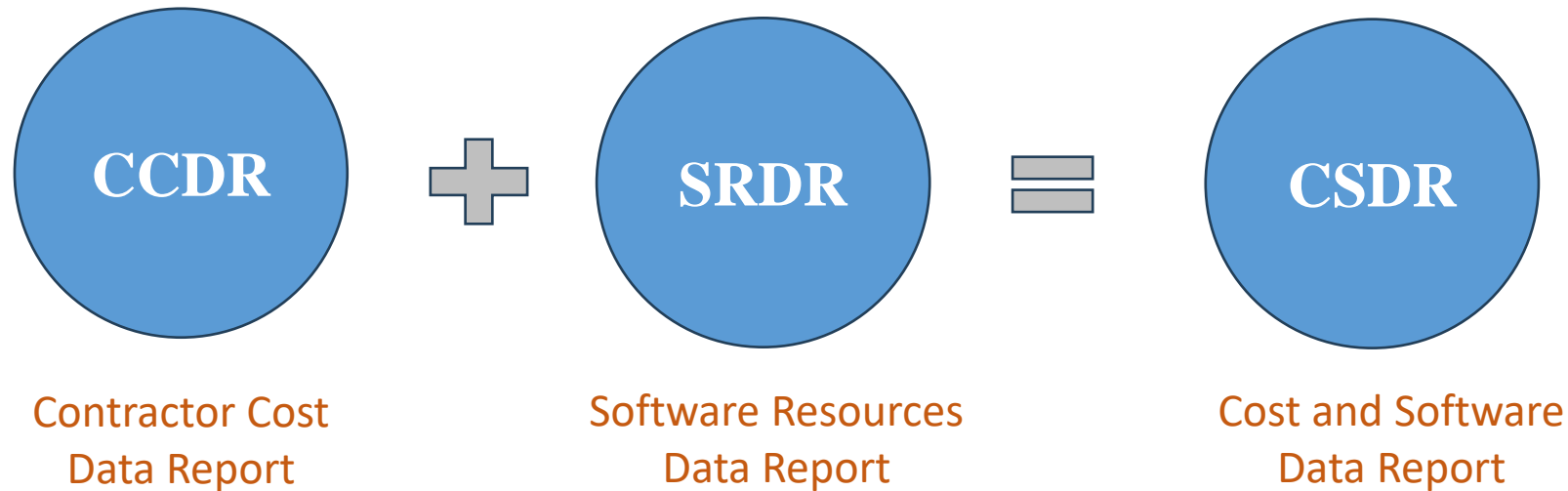# What is a CSDR

Terms and Definitions

- **CSDR**: Cost and Software Data Report

- **CADE**: Cost Assessment Data Enterprise
  - a secure web-based information system that hosts the controlled unclassified CSDR repository
  - CADE is access-controlled, and available through the public-facing CADE Portal website

- **OSD CAPE**: The Office of the Secretary of Defense Cost Assessment and Program Evaluation

- **DCARC**: Defense Cost and Resource Center
  - DCARC is part of the OSD Cost Assessment and Program Evaluation (CAPE) organization.
  - DCARC's primary role is to collect current and historical Major Defense Acquisition Program (MDAP) and Major Automated Information System (MAIS) cost and software resource data in a joint service environment, and make that data available for use by authorized government analysts to estimate the costs of ongoing and future government programs. Historical costs and software data are critical to developing reliable and accurate cost projections.

- **ACAT**: Acquisition Category

- **MDAP**: Major Defense Acquisition Program

- **MAIS**: Major Automated Information System

What is a CSDR

CCDR + **SRDR** = **CSDR**

Contractor Cost Data Report   Software Resources Data Report   Cost and Software Data Report

CSDRs are the primary means the DoD uses to collect data on the development, production, and sustainment costs incurred by contractors performing DoD acquisition contracts.

SRDRs supplements CCDRs with software metrics that provide a better understanding and improved estimating of software-intensive programs.

It is a DoD system for collecting actual costs, software data, and related business data.

What is a CSDR

- CCDRs and SRDRs are the primary means by which the Department of Defense (DoD) collects data on the costs that contractors incur on DoD programs.

- CSDR reporting requirements are determined by Acquisition Category (ACAT), program category, and the value of individual contracts and subcontracts within the program.

- Programs are categorized according to estimated dollar value for Research, Development, Test and Evaluation (RDT&E), production, annual acquisition and life-cycle costs.

- CSDR requirements apply to ACAT I programs and are the same for all contracts and subcontracts.

- Applying CSDR requirements to ACAT II and ACAT III programs are at the discretion of the services (cost centers).

CSDR Requirements Threshold

CSDR Summary

- All ACAT 1 Programs. ACAT 1 is defined as:
    - RDT&E > $480M
    - Procurement > $2.79B
- August **2018** Memorandum: CADE
    - Middle Tier Acquisition Programs where:
        - Total estimate expenditures > $100M
        - Contracts > $20M
- August **2019** Memorandum: CADE
    - All ACAT 2 Programs where:
        - Contracts > $50M
        - Discretionary by Program Manager or Agency Cost Center at > $20M
        See OSD CCDR January 2019 Contract Cost Data Reporting Requirement details on next page

Missile Defense Agency: FVCR

- Implementation: Contractors are responsible for implementing Fixed and Variable reporting requirements on all subcontracts that meet the reporting thresholds determined by the Government Program Office

CSDR Requirements Threshold

Attachment B
Contract Cost Data Reporting Requirements
January 2019

	ACAT I	ACAT II	ACAT III-IV	Middle Tier Acquisition (Section 804)	
				Above ACAT I Dollar Threshold[1]	Below ACAT I Dollar Threshold[1]
Programs With Cost Reporting Requirements	All	All[2]	Only programs identified in Feb-18 D,CAPE memo	All	>$100M of projected investment
Cost Reporting Contract/Effort Threshold	>$50M required, at discretion of PM and/or DDCA[3] for $20-$50M	>$50M required, at discretion of PM and/or MILDEP Cost Center for $20-$50M	At discretion of MILDEP Cost Center	>$20M required	>$20M required
Cost Reporting Plan Approval Authority	CAPE	MILDEP Cost Center	MILDEP Cost Center	CAPE	MILDEP Cost Center
Waiver Authority	CAPE	CAPE	CAPE	CAPE	CAPE
Requirements Source	DoDI 5000.02	This Memo	This Memo	Aug-18 D,CAPE Memo	Aug-18 D,CAPE Memo

[1]ACAT I program threshold is RDT&E of more than $480M (FY14 $) or procurement of more than $2.79B (FY14 $)
[2] Reporting required for all ACAT II programs except those explicitly waived in Attachment A
[3]Program Manager (PM) and/or Deputy Director, Cost Assessment (DDCA)

CSDR and Related DIDs

- Contract Work Breakdown Structure, DI-MGMT-81334D (May 2011).

- Cost Data Summary Report, DI-FNCL-81565C (May 2011), **DD Form 1921**, Excel/XML Schema.

- Functional Cost-Hour Report, DI-FNCL-81566C (September 2015), **DD Form 1921-1**, Excel/XML Schema.

- Progress Curve Report, DI-FNCL-81567C (May 2011), **DD Form 1921-2**, Excel/XML Schema.

- Sustainment Functional Cost-Hour Report, DI-FNCL-81992 (May 2011), **DD Form 1921-5**, Excel/XML Schema.

- Contractor Business Data Report, DI-FNCL-81765C (March 2021), DD Form 1921-3, Excel.

- Software Development Report, DI–MGMT-82035A (October 2022), **DD Form 3026-1**, Excel/XML Schema.

- Software Maintenance Report, DI–MGMT-82035A (October 2022), **DD Form 3026-2**, Excel/XML Schema.

- Enterprise Resource Planning (ERP) Software Development Report, DI-MGMT-82035A (October 2022), DD Form 3026-3, XML Schema.

- **Cost and Hour Report (FlexFile)**, DI-FNCL-82162 (November 2017), **JSON** encoded data file following FFS and DEI.

- **Quantity Data Report**, DI-MGMT-82164 (November 2017), **JSON** encoded data file following FFS and DEI.

- Maintenance and Repair Parts Data Report, DI-MGMT-82163 (November 2017), Excel.

- Technical Data Report, DI-MGMT-82165 (November 2017), Excel.

https://cade.osd.mil/policy/dids

Let's review the CCDR

CCDR History
"Legacy"

- ➢ Legacy CCDR Reports
  - ▪ Excel and XML formats
    - ○ 1921 Cost Data Summary
    - ○ 1921-1 Functional Cost Hour
    - ○ 1921-2 Progress Curve Report
    - ○ 1921-5 Sustainment Functional Cost-Hour Report

- ➢ Legacy Data
  - ▪ 1921, 1921-1 and 1921-5: Cum-To-Date (Actuals) and At Complete (EAC)
  - ▪ 1921-2: Cum-To-Date (Actuals)

  - ▪ 1921, 1921-1 and 1921-5: Breakout by Recurring and Non-Recurring Costs by Cum-To-Date (Actuals) and At Complete (EAC)
  - ▪ 1921-2: Breakout by Recurring Costs for Cum-To-Date (Actuals) only

  - ▪ 1921-1, 1921-5: additional breakout by Government Functional Data Element
  - ▪ 1921-2 additional breakout by Units/Lots, Government Functional Data Element

➢ Contractors:
- "Difficult reports to create"
- "Different Reporting Structure than our CPR Reporting Structure"
- "Data Entry Errors"
- "Time Consuming"
- "Resource Draining"
- "Very Costly"

➢ Government:
- "Same Reporting Format since the 1960's"
- "Time Consuming to Industry"
- "Allocations are not Transparent"
- "No time phasing of Actuals"
- "Report generation prone to Human Error""
- "Difficult to Consolidate Data to Analyze"

CCDR History "FlexFile"

- ➤ Introduced in May 2019 for all new contracts
  - (1) Cost and Hour
  - (2) Quantity Data (1921-Q)
  - Up to 21 JSON file format submissions (CDRL is the 21 files in a ZIP file)
    - JSON: Java Script Object Notation

- ➤ Goal:
  - Modernize CCDR Submissions
  - Streamline the Transmission Process
  - Increase Government Analysts efficiency
  - Data Mapping and Allocation transparency

- ➤ Expected Results:
  - Improved Data Quality
  - Complete and thorough data for better analysis
  - Seamless Data Integration

Comparing Legacy vs FlexFile

Past Present Future

FlexFile Cost and Hour (May 2019)

Report Metadata

Approved Plan Number
Submission Event
Period of Performance
Reporting Organization
Solicitation Number
Date Prepared
Classification

Govt. Furnished Information (DD 2794)

WBS Code/Level/Name
Orders
End Items

Contractor Definitions and Remarks

CWBS Dictionary
Remarks by WBS element
Summary Remarks

Summary Elements

Subtotal
General and Administrative
Undistributed Budget
Management Reserve
Facilities Capital Cost of Money
Contract Fee
Price

Actuals To Date (ATD)

Cost Account Code/Name
Reporting Period
Rec/Non Rec
Contractor Functional Categories
Standard Functional Categories
Dollars/Hours by Period

Allocation Methodology

Allocation Method Types
Allocation Components
All Required for:
   - WBS
   - Order/End Item
   - End Item/Units
   - Units/Sublots

Forecasts At Completion

Dollars/Hours
Rec/Non Rec
Standard Functional Categories
Detailed Functional Categories

Forecasts Cost/Hour (optional)

Dollars/Hours
Reporting Period

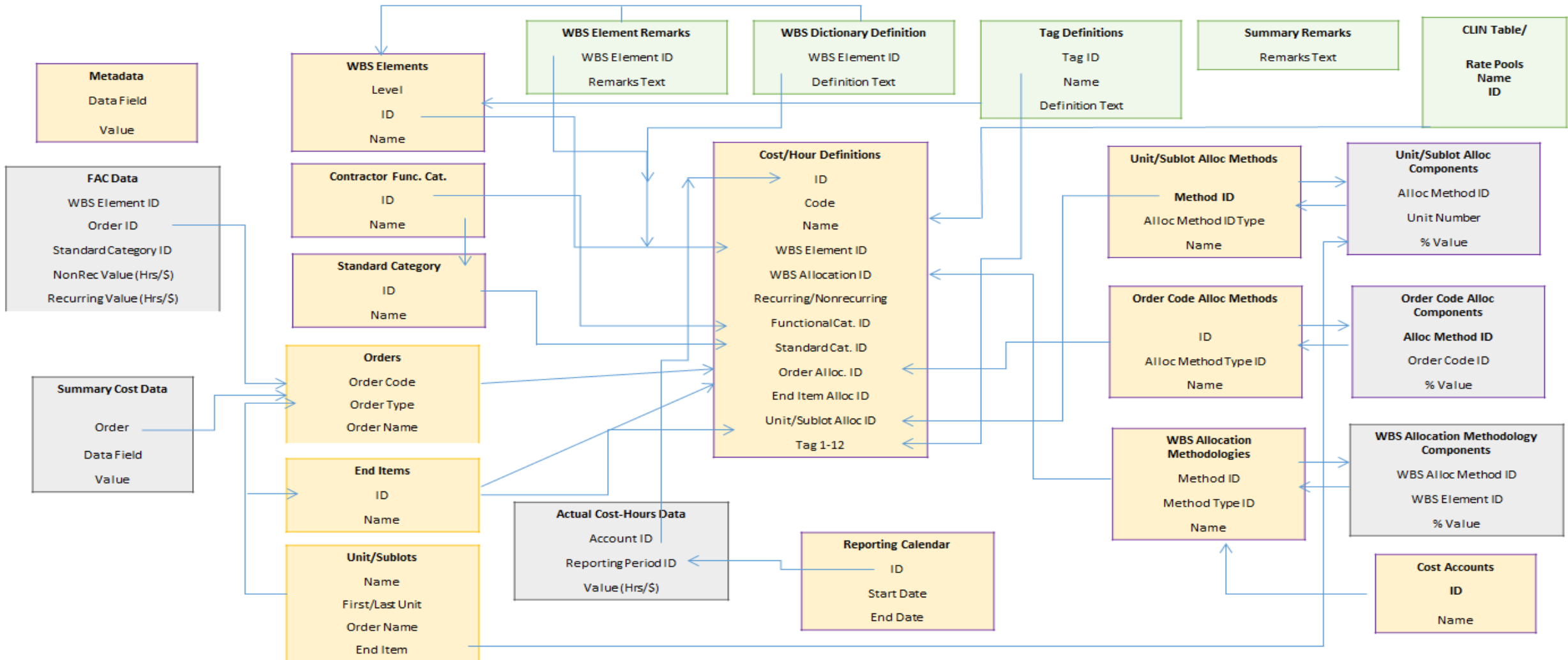### Other Contractor Info

Additional Tags #1-#12
CLIN
Rate Pools

Submissions:
- 21 separate JSON formatted files compressed to one submitted zip file.

FlexFile Data Model Relationships
Cost and Hour

FlexFile Cost and Hour JSON Files

3.2 File Contents

ZIP File Entries		
	Name	Table
	FileType.txt	[N/A]
	ReportConfiguration.json	ReportConfiguration
	ReportMetadata.json	ReportMetadata
	OrdersOrLots.json	OrdersOrLots
	CLINs.json	CLINs
	EndItems.json	EndItems
	WBS.json	WBS
	Accounts.json	Accounts
	FunctionalCategories.json	FunctionalCategories
	FunctionalOverheadCategories.json	FunctionalOverheadCategories
	UnitsOrSublots.json	UnitsOrSublots
	ReportingCalendar.json	ReportingCalendar
	SummaryCostData.json	SummaryCostData
	ActualCostHourData.json	ActualCostHourData
	ForecastAtCompletionCostHourData.json	ForecastAtCompletionCostHourData
	AllocationMethods.json	AllocationMethods
	AllocationComponents.json	AllocationComponents
	SummaryRemarks.json	SummaryRemarks
	WBSElementRemarks.json	WBSElementRemarks
	WBSDictionaryDefinitions.json	WBSDictionaryDefinitions
	CostHourTagDefinitions.json	CostHourTagDefinitions

Above Files included in one ZIP file which then becomes the FlexFile Cost and Hour CDRL Submittal

Comparing Legacy vs FlexFile

Past | Present | Future

FlexFile Quantity Data (May 2019)

Report Metadata	Govt. Furnished Information (DD 2794)	Contractor Definitions and Remarks
Approved Plan Number Submission Event Period of Performance Reporting Organization Solicitation Number Date Prepared Classification	WBS Code/Level/Name Orders End Items	Remarks by WBS element Summary Remarks

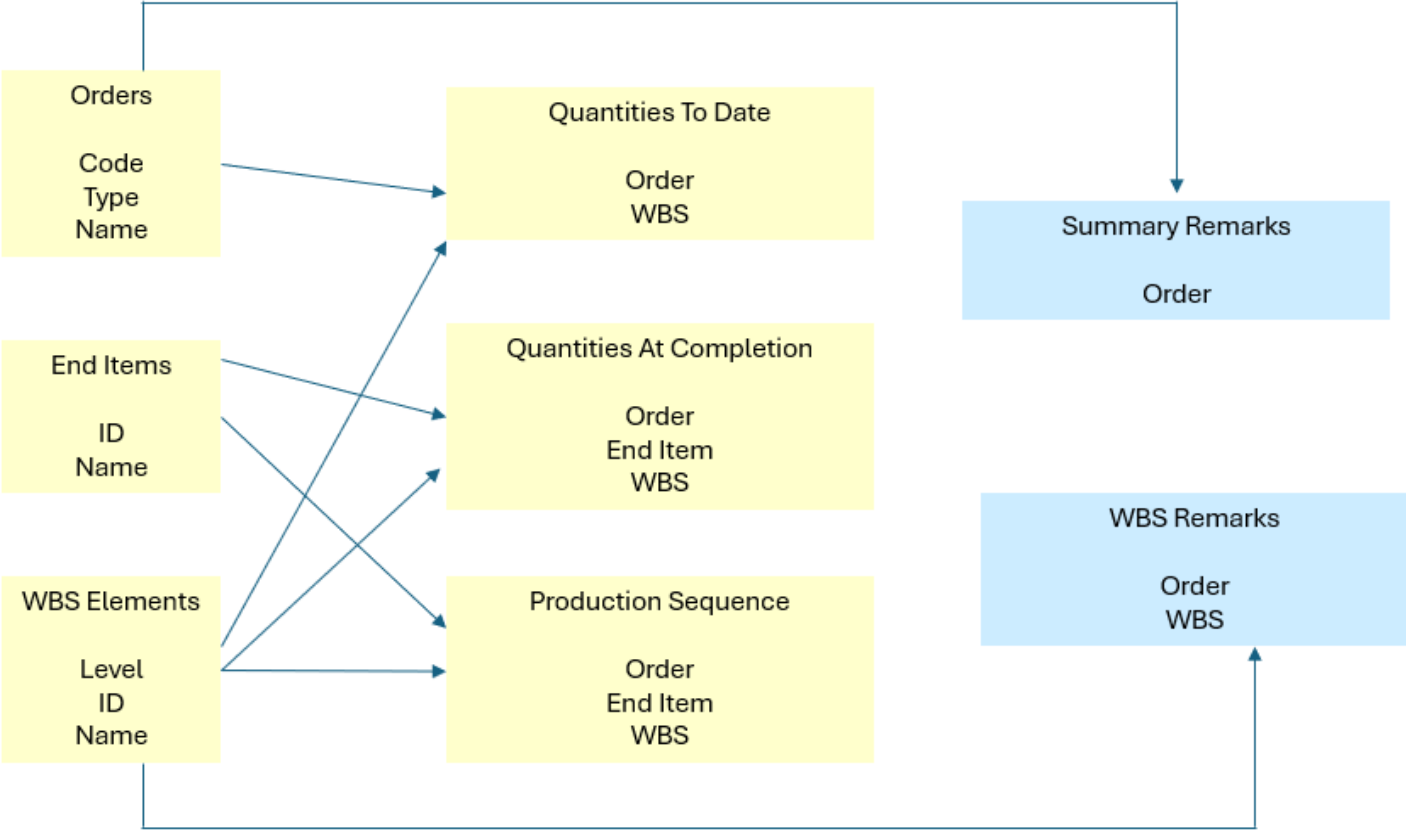| Quantities To Date	Quantities At Complete	Production Sequence
WBS Code Order/Lot End Item Completed Quantity To Date In Process Quantity Standard Functional Categories Dollars/Hours by Period	WBS Code Order/Lot End Item Delivered Quantity At Completion Internal Quantity At Completion Coproduction Or Concurrent Quantity At Completion GFE Quantity At Completion	Order/Lot End Item First Unit Number Last Unit Number Is Internal?

Submissions:
- 10 separate JSON formatted files compressed to one submitted zip file.

FlexFile Data Model Relationships
Quantity Data

FlexFile Quantity Data JSON Files

3.2 File Contents

ZIP File Entries		
	Name	Table
	FileType.txt	[N/A]
	ReportMetadata.json	ReportMetadata
	OrdersOrLots.json	OrdersOrLots
	EndItems.json	EndItems
	WBS.json	WBS
	QuantitiesAtCompletion.json	QuantitiesAtCompletion
	QuantitiesToDate.json	QuantitiesToDate
	ProductionSequence.json	ProductionSequence
	SummaryRemarks.json	SummaryRemarks
	WBSElementRemarks.json	WBSElementRemarks

Above Files included in one ZIP file which then becomes the FlexFile Quantity Data CDRL Submittal

Let's review the SRDR

SRDR

Software Resources Data Reporting (SRDR) is a mechanism used by the Department of Defense (DoD) cost and acquisition communities to:

- collect cost and technical data on government and contractor software development,
- software maintenance and
- Enterprise Resource Planning (ERP) development efforts.

The SRDR Data Item Description (DID) provides the guidance and instruction for the preparation of data and information that is submitted using these three reporting formats:

Format 1, DD Form 3026-1, Software Development Report, provides the reporting format for software development efforts. Software development reports accommodate initial reports with estimated values, interim reports with a combination of estimated and actual values, and final reports with actual values.

Format 2, DD Form 3026-2, Software Maintenance Report, provides the reporting format for software maintenance efforts. Software Maintenance Reports provide actual values and are submitted on an annual basis unless the Cost Working Integrated Product Team (CWIPT) deems otherwise.

Format 3, DD Form 3026-3, ERP Software Development Report, provides the reporting format for ERP programs. ERP or Defense Business Systems are considered a special case of a software development effort.

SRDR

Each SRDR format requires that information and data be submitted in two Parts.

Part 1 includes identifying information, as well as, software size, schedule, and technical characteristics.

Part 1 is required to be submitted in eXtensible Markup Language (XML) format.
- Software Engineers fill out the Excel Worksheets which then are converted to XML files for submission

Part 2 provides effort data by month must be submitted in Excel format.
- Where possible, the information provided in Part 2 should align with the data provided in companion Contractor Cost Data Reports (CCDRs).

Any phase of a program may use any of the SRDR formats.

The CWIPT will make a determination as indicated on the Cost and Software Data Reporting (CSDR) plan which SRDR format(s) is required for the specific effort based on the software scope and effort.

SRDR Thresholds

Development and Enterprise Resource Planning Efforts

- All contracts, subcontracts, and government-performed efforts, regardless of acquisition phase and contract type, including non-FAR agreements, for developing and/or producing software valued at more than $20 million, then-year dollars, for:

  - Programs that exceed the ACAT I-II level thresholds.
  - IS programs anticipated to exceed $100 million, then-year dollars, in acquisition expenditures.
  - Middle Tier Acquisition Programs anticipated to exceed $100 million, then-year dollars, in acquisition expenditures.

- High-risk or high-technical-interest software efforts estimated below $20 million, then-year dollars, as determined by the CSDR plan approval authority, if the overall effort inclusive of non-software efforts exceeds $20 million, then-year dollars.

Maintenance Efforts

- For all contracts, subcontracts, and government-performed efforts, regardless of acquisition phase and contract type, including non-FAR agreements, for:

  - Programs with previous SRDR development or enterprise resource planning requirements or software maintenance efforts of more than $20 million, then-year dollars.
  - Programs that exceed the ACAT I-II level thresholds.
  - IS programs anticipated to exceed $100 million, then-year dollars, in acquisition expenditures.

SRDR Thresholds Examples

➤ **<u>Example Scenario #1</u>**

- Total Software Development Effort = $45M
- Prime SW Dev Effort = $25M
- Subcontractor SW Dev Effort = $20M
- BOTH prime and subcontractor provide an SRDR

➤ **<u>Example Scenario #2</u>**

- Total Software Development Effort = $45M
- Prime SW Dev Effort = $35M
- Subcontractor SW Dev Effort = $10M
- The prime contractor provides an SRDR and reports the subcontractor SLOC and effort (dollars or hours)

➤ **<u>Example Scenario #3</u>**

- Total Software Development Effort = $45M
- Prime SW Dev Effort = $15M
- Subcontractor #1 SW Dev Effort = $10M
- Subcontractor #2 SW Dev Effort = $10M

Things to Think About

Initial Questions

Where does the necessary data reside?

Can you retrieve everything from your EVMS application?

EVMS

EVMS Accounting

OR will it require accessing multiple Data Sources?
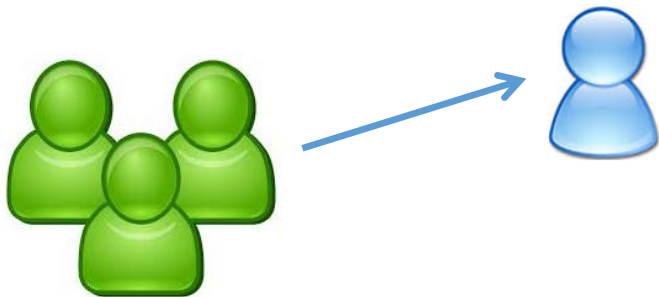
Challenges

Allocation Methodologies

- WBS
- Unit/Lot
- Orders
- End Items
- Ability to easily update/modify
- This is NOT Trivial!

Challenges

WBS Allocations

- Cost Collector to DD 2794 Plan WBS Allocations
- Based on defined Methodology
  - One to one Mapping
  - OR => One to Multiple Mapping
- Perform on recurring basis
  - Either while creating the FlexFile
  - Or during each submittal

Standard Category Mapping

- Functional Category to Standard Category Mapping
  - Is this a one to one or many to one?
  - What Database fields are required to identify this mapping?

Challenges

48% Equity		
Domestic Large Cap	20%	
Domestic Small & Mid Cap	6%	
International Developed	16%	
Emerging International	6%	
23% Fixed Income		
Core Global	9%	
Diversified Multisector	6%	
High Yield/Direct Lending	7%	
18% Multi-asset		
Global Asset Allocation	10%	
Hedge Funds	6%	
12% Private Markets/Opportunistic		
2% Cash		

Unit/Lot Allocations (if required)

- Based on defined Methodology
  - One to One Mapping
  - OR => One to Multiple Mapping
- Perform on recurring basis
  - Either while creating the FlexFile
  - Or during each submittal

Rate Pools (Functional Overheads)

- Defined at Functional Category Level
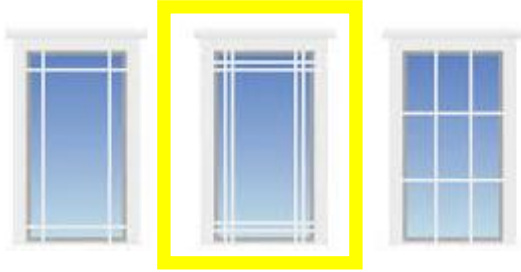- Requires User Interface for mapping

Solution Option #1

Contractor manually manipulates Data into FlexFile Model (cPET 3-part Excel Workbooks)

- Manual Mapping
- Manual Allocations
- Manual Entry
- Ultimately requires Government Furnished tool to convert to JSON submittal?
- LEGACY?

Solution Option #2

Contractor uses own IT Solution to produce required submittals
- Design Cost
- QA Cost (IT and Finance)
- Implementation Cost
- Recurring IT Support Cost
- All for an Annual Submittal???

Solution Option #3

Contractor uses Third Party Solution
- Optimal Solution
- Best Fit for Annual Submittal
- Least Costly

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Questions?

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