

# Cost Assessment Data Enterprise (CADE) Project

## CAPE Vision for NDIA's Program Management Systems Committee (PMSC)

January 2014

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Last Updated: January 28, 2013

CAPE  
COST ASSESSMENT & PROGRAM EVALUATION

# Agenda

- Objectives
- Government-Industry Cooperation Opportunities
- History – Analysis Evolution
- Today's Process
- Vision – Total Analyst Access
- Incs 1.0 (Jan '14) & Incs 2-5
- Current Collaboration
- Industry Ideas

**CAPE**  
COST ASSESSMENT & PROGRAM EVALUATION



# CADE Objectives/KPPs

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- **Improve Analyst Productivity**
  - Increase output per unit time
  - Provide near real-time access to data, more data, and less burden on the analyst to retrieve and process
  - Reduce time for analyst to climb the program familiarization learning curve
  
- **Effectiveness**
  - Enable more comprehensive assessments
  - Gain insight from previous analysts
  - Facilitate telling the program’s “story”, holistic analysis
  
- **Data Quality and Reporting Compliance Improvement**
  - Includes all the Department’s cost data - both EVM and CSDRs
  
- **Source Data Transparency**



# Opportunities for Government-Industry Cooperation

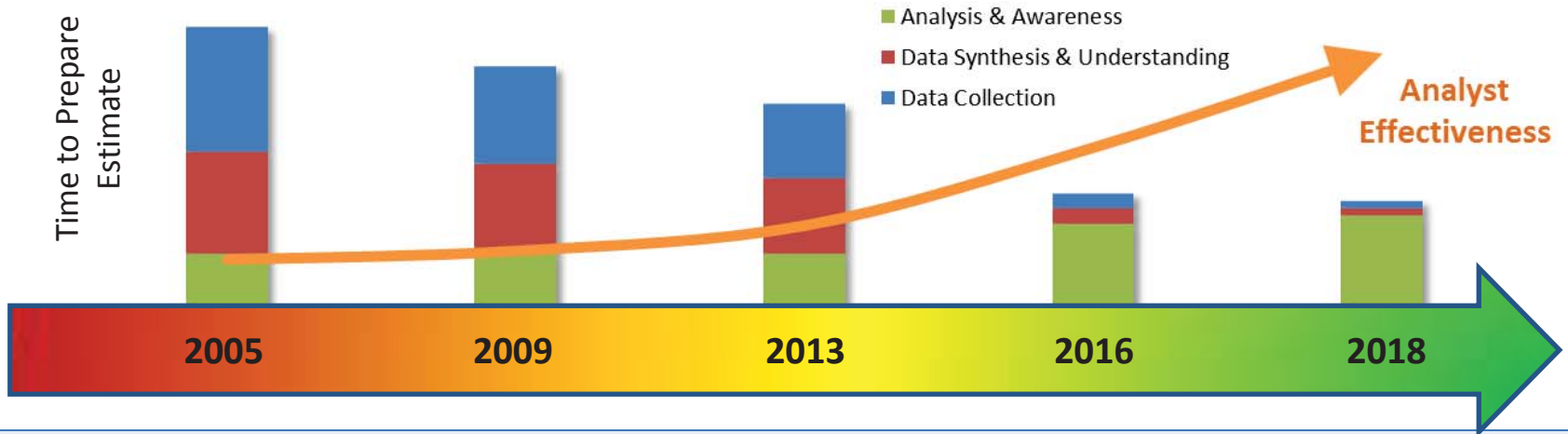
OSD CAPE

- **Contractor/Government Implementation Efficiency**
  - Mechanize and automate data transfer
  - Reduce errors
  - Reduce down-the-line questions
  - Improve contractor-to-government communication and insight
- **CADE: The Department's Unified Initiative to Collect, Organize and Use Data**
  - We'll have useable data in one place for all government analysts to use
    - Today there are 4-6 or more offices collecting, normalizing, reviewing, storing cost data at one time -- this happens at every major review
  - Collect it only once!
- **Access to Your Contractor Data**
  - Near real-time access to data, and less burden on the analyst to retrieve and process
  - Easily check if the data is showing up correct
  - See how the government is looking at your data

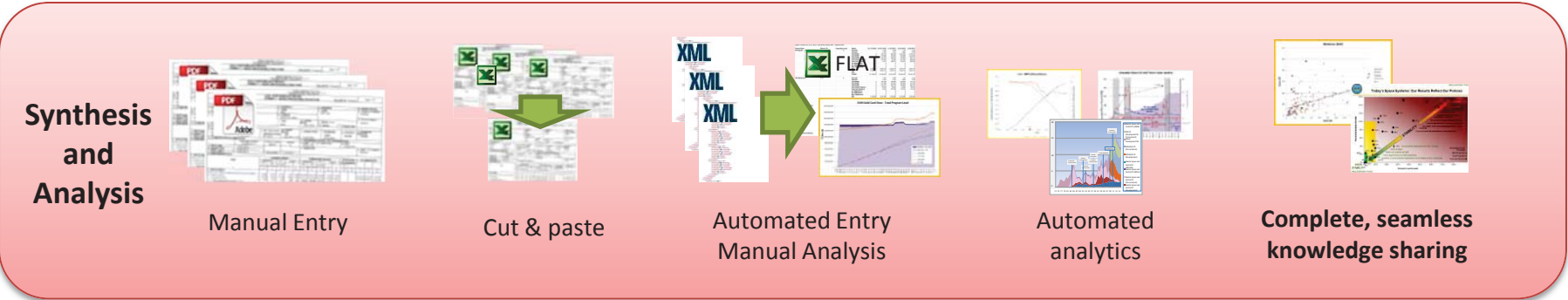


# Analysis Evolution

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- Data Sources**
- Program Office
  - DACIMS
  - SARs
  - DAES
  - Contractors
  - Service O&S
  - Data Libraries
  - Colleagues Network
  - **EVM-CR**
  - DACIMS
  - **DAMIR**
  - Contractors
  - Service O&S
  - Data Libraries
  - **EVM Visual Display**
  - **DCARC Bulk Download**
  - DAMIR
  - Contractors
  - Service O&S
  - Data Libraries
  - **CADE Total Access**
  - Service O&S
  - Data Libraries
  - **CADE Total Access 2.0**

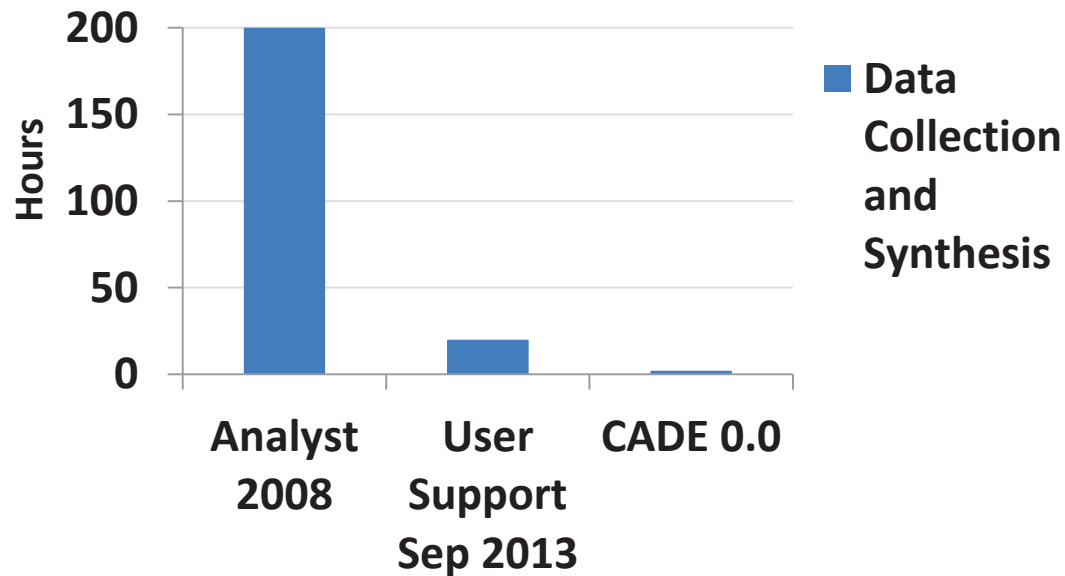




# Today's Process

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Time for CPR Data Collection and Syntheses



## Analyst in 2008:

200 hours, typing in by hand selected data over time

## User Support Sep 2013:

20 hours to bulk download and format ~40 contracts

## CADE 0.0:

Retrieve data from 40 contracts over time within 2hrs



# CADE Vision of the Future: Total Analyst Access

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OSD CAPE

Seamless integration  
of authoritative data sources  
via smart search functionality

Knowledge Portal DCARC CAPE CADE Total Access

DCARC HOME PROGRAM SEARCH DASHBOARD TOOLS SOURCE DATA CONTACT US

USS Voyager  
USS Voyager Concept  
USS Voyager Class Terminal  
USS Vincent  
USS Vantage

SEARCH Advanced Search

CCDR O&S

VD Test User Log Out

Export Data Zoom In

Set Thresholds  
as of Date: 4/22/07  
High Growth: 50%  
Low Growth: 25%

Independent EAC  
Reporting Level: 1  
Element: Total  
Performance Index: 3 Month

CPI Weight	SPI Weight
0.75	0.25

Forecast  
Y-Axis: Dollars  
X-Axis: Adj. % Complete  
Forecast Metric: Independent EAC  
Forecast Start: 22.9%  
Forecast End: 77.1%

Linear  
 Log Linear

Override Contractor Planned End Date  
On/Off Enter End Date:

Independent EAC Growth for Total

Planned End Date: 09/24/2010

Clear Milestones/Events

'lapse Widgets

USS Voyager  
Program View in DAMIR  
RDT&E: \$14,268M  
Procurement: \$7,628M  
Units: 2

Milestones  
Program Milestones from DAMIR

Milestone	APB Obj.	APB Thres.	Current
Concept Dem...	Jul. 2012	Dec. 2012	Apr. 2013
MS II/B	Feb. 2014	May 2013	May 2013

View More

Key Program Events  
Key Events list maintained by Community

- Mar. 2013 - LM closes LA ops
- Oct. 2012 - Dev. APB #3
- Sept. 2012 - New PM
- Jun. 2011 - First Flight

View More Add New

CADE Community Knowledge  
4 Analysts have been assigned to this program.

- BDopkeen shared a PowerPoint.
- KHazel posted a link.
- BDopkeen posted a note.
- ELofgren shared an Excel Document.

View More Add New

CCRL Search  
7 references pertain to this program.

- "Voyager Technical Documentation"
- "Briefing to Under Secretary for"
- "CER for Voyager Development!"
- >LHusband: "Great CER w/ data visibility"...

View More

External Links  
Opens website in new tab

- Defense Cost and Resource Center (DCARC)
- Data Warehouse
- DAMIR (AT&L)

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# CADE Increment 0

**Knowledge Portal** | DCARC CAPE | **CPR, IMS, O&S, and SRDR VATs** | **CADE Total Access**

DCARC HOME | SELECT PROGRAMS | DASHBOARD | RETRIEVE FILES | TOOLS | **My Programs**

VD Test User | Log Out

**My Programs**

Program	EVM Contract Tasks	CCDR Contracts	DAMIR Program Schedule
data available	✓	✓	✓

Contract Task | # Periods | Last Available | Last Refreshed

Contract Task	# Periods	Last Available	Last Refreshed
1	15	3/31/2010	1/27/2012

Performance Over Time | Element Performance Comparison

Primary Y Axis Metric: Cumulative | Scale: \$

Secondary Y Axis Metric: Off

Export Data | Zoom In | Standard Views

Cumulative Summary-SubTotal (PMB) (\$)

Month | 2010

— Cumulative BAC

SV, CV, SPI, CPI, TCPI, % Complete, MR, UB

Filter Data: Reporting Level: Summary | Element: SubTotal (PMB) | X-Axis: Month

Start: 1/31/2009 | End: 3/31/2010 | Set Decimals: 0

Key Events: Add Event

**EVM CPR Views**

Custom Views

Standard Views

EVM CPR Data | CCDR Contract Data | Program Milestones | Download O & S Tools

**Callouts:**

- Search for and add programs to list of favorite programs
- Navigate to other programs via "My Programs" tool bar
- Export data being viewed
- CPR Visual Analysis via Custom and Standard Views within Dashboard
- Navigate to other data sources for the selected program
- Link to download Navy and Air Force O&S Visual Analysis Tools

## Demonstration



# Increment 0.5 – New Functionality (November)

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**Visual Display Administration**

Welcome to the CADE Total Access Administration home page, please select a task below.

Administrator Functions

- Manage Queue
- DAMIR Update
- Import Individual Cost Reports from CSOR SR
- Bulk Process 1921-1 Reports from CSOR SR
- Bulk Process 1921-1 Reports from CSOR SR
- Bulk Process 1921-2 Reports from CSOR SR
- View Errors
- Manage Tools
- Manage References

Administrative function for updating tools, resources, and external links

Quick program selector and favorites access

Program Level	EVM	CSOR	O & S
USS Voyager	✓	✓	✓
AIR FORCE	✓	✓	✓
ARMY	✓	✓	✓
DOD	✓	✓	✓
MARINES	✓	✓	✓
NAVY	✓	✓	✓

The screenshot shows the CADE Total Access Knowledge Portal interface. At the top, there's a navigation bar with tabs for DCARC HOME, ADMIN, SEARCH PROGRAMS, DASHBOARD, RETRIEVE FILES, TOOLS, REFERENCES, CONTACT US, and a user profile for VO Test User. Below the navigation bar, there's a 'Program Level' selector with a dropdown menu showing 'USS Voyager' and a 'Favorites' list including AIR FORCE, ARMY, DOD, MARINES, and NAVY. The main content area is a grid of widgets. A 'Collapse Widgets' panel is open on the right, showing Milestones, Key Events, and External Links. A 'Milestone Widget' callout points to a specific milestone: 'Milestone APB Obj, APB Thres Current' with dates 'Milestone 6.... Jul 2013 Jan 2014 Jul 2013'. A 'Program Events Widget' callout points to a list of key events: 'Nov 2013 - Key Event Test', 'Oct 2013 - Key Event #3', 'Nov 2013 - Key Event #2', and 'Nov 2013 - Key Event #1'. An 'External Links Widget' callout points to a list of links including 'RAND Corporation Research', 'Army Operating and Support Management Information System (OSMIS)', and 'Defense Acquisition Management Information Retrieval (DAMIR) - External'. A 'Collapsible widget area' callout points to the 'Collapse Widgets' panel. A 'Key' icon is also present near the External Links Widget.

Army O&S VATs for multiple commodities (Aircraft, Combat, Wheeled Combat)

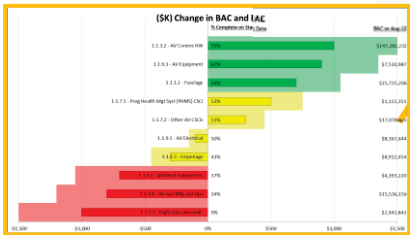
Improved navigation between View types

Milestone Widget: Add Milestones to Visual Displays

Program Events Widget: Define, Save & Add Program Events to Views

External Links Widget

New Earned Value View



Improved View navigation through panel selector

Collapsible widget area

Enhanced CADE Total Access Design

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# Increment 1.0 – New Functionality (End of January) UNCLASSIFIED

**Ability to export data into corresponding VAT format**

**Save View templates**

**SIB VAT**

**Army O&S VATs for multiple commodities (Tactical, Electronics)**

**Plot how key event dates have evolved over time; flag and comment key events**

**Post program info, links, notes, and documents**

**Search CCRL references**

**Cost Schedule Risk and Uncertainty Handbook**

**Flag posts to alter owner to potential information issues**

**Functionality change requests and updates; includes new EVM Views**

**Comment on your own post; remove flags or remove thread**

**CADE Community Knowledge**

**Key Program Events**

**External Links**

**CCRL Search**

**CADE Community Knowledge**

**Key Program Events**

**Milestones**

**SIB: EVM Over Time**

**Save your Saved View**

**DCARC HOME ADMIN SEARCH PROGRAMS DASHBOARD RETRIEVE FILES TOOLS REFERENCES CONTACT US**

**Death Star Prog... Program-Level EVM CSDR O & S**

**Share information related to USS Voyager**

**Elofgren shared an Excel Document. Jul. 4, 2013**

**Workbook containing calculations for most recent independent EAC update (Jan. 2013).**

**>LHuband: Golly, Eric. You made an error in your workbook. In the formula, you divided the BCWR by the wrong performance index! See tab 'EAC' cell G42.**

**>Elofgren: Good catch Lydia! Thanks for going through it. I'll go back and make updates and post the new file by Friday, Feb. 12, whereby I'll remove this posting.**

**Comment Remove Flags Remove Thread**

**KHazel posted a link. Jun.3, 2013**

**"News article in the NY Times about Voyager."**

**Comment Flag**

**BDopkeen posted a note. May 17, 2013**

**"O&S cost responsibility is handled under the Logistics Directorate; CADE is missing O&S costs."**

**>Elofgren: Where can I find Voyager O&S data?**

**Comment Flag**

**Load More Add New**

**Click date to add to View**

**Milestone Baseline Threshold Current**

**Milestone A Jan. 2004 Sept. 2004 Mar. 2004**

**Expand Section**

**Key Program Events**

**Click date to add to View**

**3/27/2013 - LM closes LA ops.**

**10/18/2012 - Dev APB #3**

**9/3/2012 - New PM**

**6/30/2011 - First Flight**

**ee More Add Event**

**4 Analysts have been assigned to this program.**

**BDopkeen shared a PowerPoint.**

**KHazel posted a link.**

**BDopkeen posted "O&S cost responsibility is handled under the Logistics Directorate..."**

**7 references pertain to USS Voyager.**

**"Voyager Technical Documentation"**

**"Briefing to Under Secretary for..."**

**"CER for Voyager Development..."**

**>LHuband: "Great CER w/ data visibility..."**

**ee More Comment**

**External Links**

**Opens website in new tab**

**Defense Cost and Resource Center (DCARC)**

**Data Warehouse**

**DAMIR (AT&L)**

**See All**

**Successfully uploaded Indep. EAC Workbook**

**Enter File Type:**

**Excel Document**

**Add File Description:**

**Workbook containing calculations for the most recent independent...**

**Post**

**A Post Has Been Flagged!**

**One or more of your posts has been flagged.**

**Please review your postings(s):**

**Death Star Key Event: Jan. 14, 2013**

**USS Voyager Community Knowledge: Jan. 3, 2013**

# Increment 1.0 – New Functionality (November / February)

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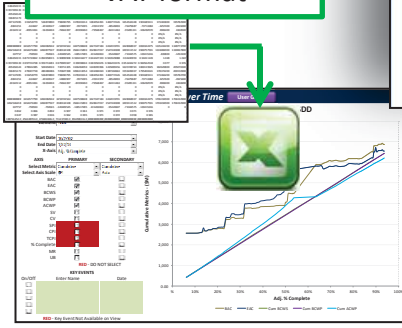
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- Bulk Process 1921-1 Reports from CSOR S&S
- Bulk Process 1921-2 Reports from CSOR S&S
- Bulk Process 1921-3 Reports from CSOR S&S
- Upload Scripts
- Manage Tools
- Manage References

Administrative function for updating tools, resources, and external links

Quick program selector and favorites access

Program	CSOR	CSOR S&S	O&S
1. USS Voyager	✓	✓	✓
2. AIR FORCE	✓	✓	✓
3. ARMY	✓	✓	✓
4. DOD	✓	✓	✓
5. MARINES	✓	✓	✓
6. NAVY	✓	✓	✓

Ability to export data into corresponding VAT format



Improved navigation between View types

SIB VAT

Army O&S VATs for multiple commodities (Aircraft, Combat, Wheeled Combat Tactical, Electronics)

Save View templates

Milestone Widget: Add Milestones to Visual Displays

Plot how key event dates have evolved over time; flag and comment key events

Post program info, links, notes, and documents

Search CCRL references

Functionality change requests and updates; includes new EVM Views

Improved View navigation through panel selector

External Links Widget, includes Joint Cost Schedule Risk and Uncertainty Handbook



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# Increment 2.0 Vision

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CPR, IMS, CCDR and SRDR VATs

Advanced search and auto-complete capability

Continually expanding set of widget capabilities

CPR Visual Display

Program-level Visual Display

CCDR Visual Display

Enhanced Program-level View functionality and cross-submission CCDR Visual Display

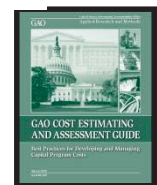
JCARD Resources & Other data back to 2007

Post information pertaining to your program.

Attach:

UPLOAD

CERs



$$y = ax^b$$

Access authoritative documents by date.



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# Increment 3.0 Vision

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CPR, IMS, CCDR and SRDR VATs

Advanced search and auto-complete capability

Continually expanding set of widget capabilities

$$y = ax^b$$

Access authoritative documents by date.

CPR Visual Display

Program-level Visual Display

CCDR Visual Display

Software Visual Display

IMS Visual Display

Example Program - Task Performance Overview as of Apr-13

O & S

V A T S

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# Increment 4.0 Vision

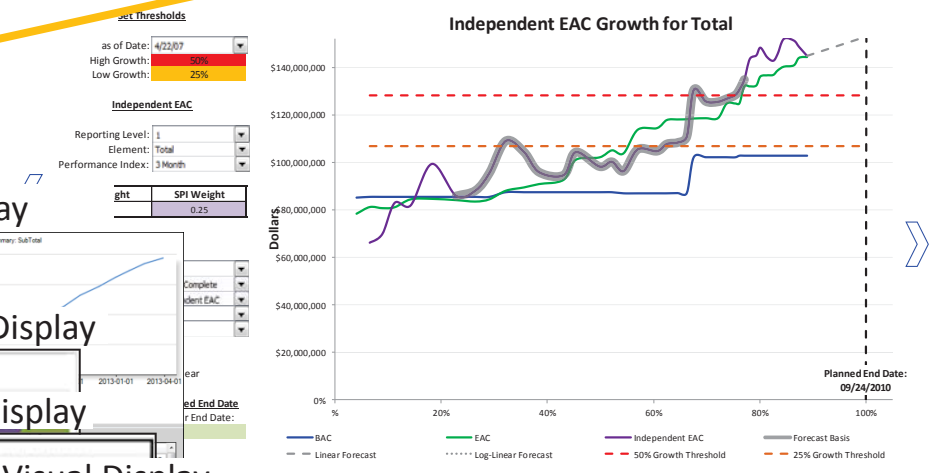
UNCLASSIFIED

CPR, IMS, CCDR and SRDR VATs

Advanced search and auto-complete capability

Auto-populate related programs for comparison

Continually expanding set of widget capabilities



Portfolio Analysis

$$y = ax^b$$

Search for a program among official language and the law.

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# Current Government CSDR Collaboration

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## Cross-Agency Working Groups to Improve CSDRs:

1921, -1, -2: Duncan Thomas, NCCA

1921-3s: Mike Biver, CAPE

1921-4s: Tom Henry, CAPE

SRDRs: Ranae Woods, AFCAA

CCDR Tech Data Reporting: Facilitating Commodity Groups' Efforts: Greg Hogan, AFCAA

- **Commodity Leads**: Distributed Across all 3 Services

## Office Collaboration:

NCCA	JCARD and CCRL NCCA leadership discussion
MDA	Consolidated Cost Research Working Group
Army	JIAT/ACDB DASA-CE Visit
AFCAA	AFCAA joint effort on CADE OpYr1 Aviation CIPT, Missile Database Contracts Database
AT&L	DAVE (DAMIR, AIR, Kaleidoscope)

### Service POCs:

**Army: Sean Vessey**  
sean.d.vessey.civ@mail.mil

**Navy: John Fitch**  
john.fitch@navy.mil

**Air Force: Tom Newberry**  
thomas.newberry@pentagon.af.mil



# Only the Beginning of Working Together...

CSD CAPE

## Where are Your CSDR Preparation Costs Incurred?

- **Give us ideas on how we can help you save money:**
  - Let's leverage the modern financial systems you have to improve this
  - We don't want to spend money on you recording data we don't need
  - We don't want to spend money on our side to develop a way to pull, store and visualize your data we don't need

## Over to You -- Help Us Make Government More Efficient

- Can you offer cost cutting ideas without sacrificing oversight?
- What are some ideas that will help you save costs?

**Invitation: Please come back to us at the spring CSDR working group to brief us on your ideas**