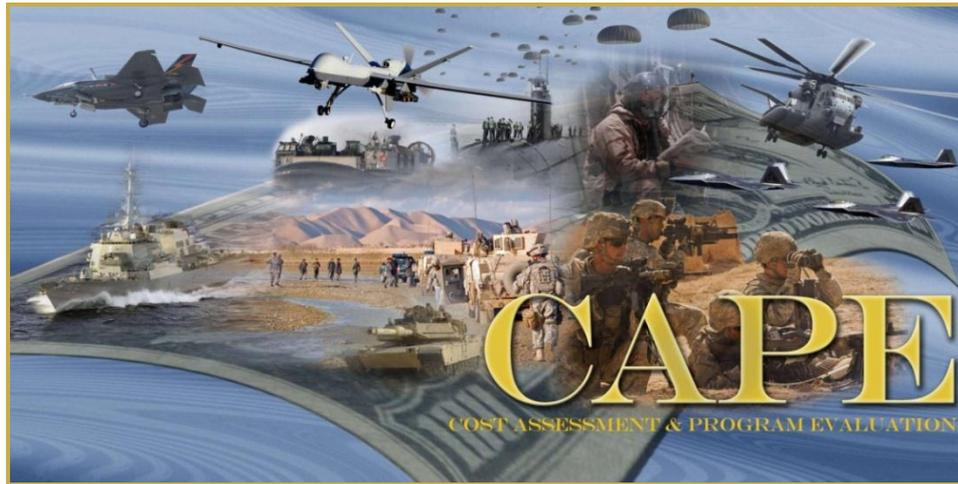


Cost and Software Data Reporting Training

Contractor Reporting Structures



October 16, 2012



Contractor Data Reporting Structure

OSD CAPE





Contractor Data Reporting Structure

OSD CAPE

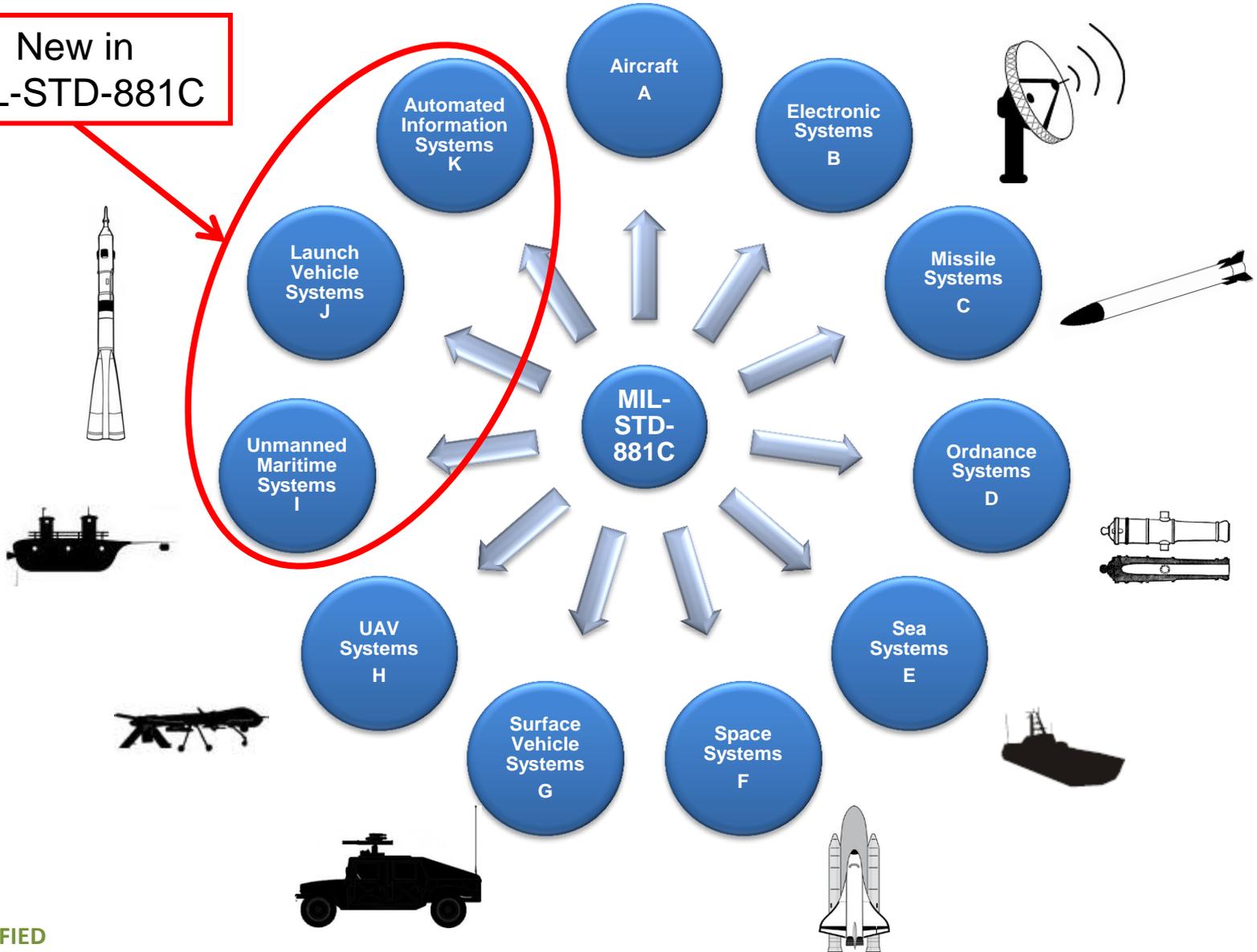
- Derived from MIL-STD-881C
- Product-oriented structure composed of hardware, software, services, data, and facilities elements
- Created by CSDR IPT at least 60 days prior to RFP release



MIL-STD-881C Appendices

OSD CAPE

New in MIL-STD-881C





New in MIL-STD-881C

OSD CAPE

- Three new Appendices were added:
 - Unmanned Maritime Systems, Launch Vehicles, and Automated Information Systems
- Data Reporting Structure defined to Level 4 or 5 for some appendices
 - Data Reporting Structure is mandatory to Level 3
 - For reporting below Level 3, MIL-STD-881C Level 4 and 5 elements should be used if available
- Includes a mechanism for expanding data reporting structure for program-unique items and new technologies
 - Elements called “Other [Component] 1...n (Specify)” and similar
- Elements follow a standard numbering scheme

MIL-STD-881C compliant contractor data reporting structure required for all new contracts



MIL-STD-881C

Appendix C: Missile Systems

OSD CAPE

Product-oriented
elements
(shown to Level 3)

	Level 1	Level 2	Level 3
1.0	Missile System		
1.1	Air Vehicle		
1.1.1		Airframe	
1.1.2		Propulsion Subsystem 1...n (Specify)	
1.1.3		Power and Distribution	
1.1.4		Guidance	
1.1.5		Navigation	
1.1.6		Controls	
1.1.7		Communications	
1.1.8		Payload	
1.1.9		Reentry System	
1.1.10		Post Boost System	
1.1.11		Ordnance Initiation Set	
1.1.12		On Board Test Equipment	
1.1.13		On Board Training Equipment	
1.1.14		Auxiliary Equipment	
1.1.15		Air Vehicle Software Release 1...n	
1.1.16		Air Vehicle Integration, Assembly, Test and Checkout	
1.2	Encasement Device		
1.2.1		Encasement Device Integration, Assembly, Test and Checkout	
1.2.2		Encasement Device Structure	
1.2.3		Encasement Device Software Release 1...n	
1.2.4		Other Encasement Device Subsystems 1...n (Specify)	
1.3	Command and Launch		
1.3.1		Command and Launch Integration, Assembly, Test and Checkout	
1.3.2		Surveillance, Identification and Tracking Sensors	
1.3.3		Launch and Guidance Control	
1.3.4		Communications	
1.3.5		Launcher Equipment	
1.3.6		Auxiliary Equipment	
1.3.7		Booster Adapter	
1.3.8		Command and Launch Software Release 1...n	
1.3.9		Other Command and Launch 1...n (Specify)	
1.4	Missile System Software Release 1...n		
1.5	Missile System Integration, Assembly, Test and Checkout		



MIL-STD-881C

Appendix L: Common Elements

OSD CAPE

Elements of cost consistent across all DoD acquisition programs must be reported to level 2 and to level 3, if available

	Level 1	Level 2	Level 3
1.6		System Engineering	
1.7		Program Management	
1.8		System Test and Evaluation	
1.8.1			Development Test and Evaluation
1.8.2			Operational Test and Evaluation
1.8.3			Mock-ups / System Integration Labs (SILs)
1.8.4			Test and Evaluation Support
1.8.5			Test Facilities
1.9		Training	
1.9.1			Equipment
1.9.2			Services
1.9.3			Facilities
1.10		Data	
1.10.1			Technical Publications
1.10.2			Engineering Data
1.10.3			Management Data
1.10.4			Support Data
1.10.5			Data Depository
1.11		Peculiar Support Equipment	
1.11.1			Test and Measurement Equipment
1.11.2			Support and Handling Equipment
1.12		Common Support Equipment	
1.12.1			Test and Measurement Equipment
1.12.2			Support and Handling Equipment
1.13		Operational/Site Activation	
1.13.1			System Assembly, Installation and Checkout on Site
1.13.2			Contractor Technical Support
1.13.3			Site Construction
1.13.4			Site/Ship/Vehicle Conversion
1.13.5			Sustainment/Interim Contractor Support
1.14		Industrial Facilities	
1.14.1			Construction/Conversion/Expansion
1.14.2			Equipment Acquisition or Modernization
1.14.3			Maintenance (Industrial Facilities)
1.15		Initial Spares and Repair Parts	



Program Data Reporting Structure

OSD CAPE

- A **product-oriented** MIL-STD-881C compliant structure
- Encompasses the entire program in a particular phase
- Forms the basis of all CSDR plans and Program Resource Distribution Table
- Ties to the Cost Analysis Requirements Description (CARD)



Creating a Program Data Reporting Structure

OSD CAPE

- **Step 1:**
 - Determine which MIL-STD-881C Appendix applies to the Program
- **Step 2:**
 - Use structure from MIL-STD-881C as starting point with hardware elements to Level 3
- **Step 3:**
 - Tailor for unique requirements using data reporting elements designated as “Other”
- **Step 4:**
 - Add Common Elements from Appendix L to Level 2



Aircraft System

Program Data Reporting Structure

OSD CAPE

MIL-STD-881C Appendix A

Program Plan derived from MIL-STD-881C Appendix A

Reporting Element Code	Reporting Element
1.0	Aircraft System
1.1	Air Vehicle
1.1.1	Airframe
1.1.1.1	Airframe Integration, Assembly, Test and Checkout
1.1.1.2	Fuselage
1.1.1.3	Wing
1.1.1.4	Empennage
1.1.1.5	Nacelle
1.1.1.6	Other Airframe Components 1...n (Specify)
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.3.1	Vehicle Subsystem Integration, Assembly, Test, and Checkout
...	...
1.1.3.13	Other Subsystems 1...n (Specify)
1.1.4	Avionics
1.1.4.1	Avionics Integration, Assembly, Test, and Checkout
...	...
1.1.4.13	Other Avionics Subsystems 1...n (Specify)
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release 1...n
1.1.9	Air Vehicle Integration, Assembly, Test, and Checkout
1.2	Systems Engineering
1.3	Program Management
1.4	System Test and Evaluation
1.4.1	Development Test and Evaluation
...	...
1.4.5	Test Facilities
1.5	Training
1.5.1	Equipment
...	...
1.5.3	Facilities
1.6	Data
1.6.1	Technical Publications
...	...
1.6.5	Data Depository
1.7	Peculiar Support Equipment
1.7.1	Test and Measurement Equipment
1.7.2	Support and Handling Equipment

Product-Oriented Elements

Common Elements

Reporting Element Code	Reporting Element
1.0	Aircraft System
1.1	Air Vehicle
1.1.1	Airframe
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.4	Avionics
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release
1.1.9	Air Vehicle Integration, Assembly, Test and Checkout
1.2	Systems Engineering
1.3	Program Management
1.4	System Test and Evaluation
1.5	Training
1.6	Data
1.7	Peculiar Support Equipment
1.8	Common Support Equipment
1.9	Operational/Site Activation
1.10	Industrial Facilities
1.11	Initial Spares and Repair Parts



Prime Contractor Data Reporting Structure

OSD CAPE

- Derived from the program data reporting structure
- Specific to a single contract and single contractor
- A **product-oriented** MIL-STD-881C compliant structure
- Serves as the starting point for developing direct reporting subcontractor data reporting structure(s)



Creating a Prime Contractor Data Reporting Structure

OSD CAPE

- **Step 1:**
 - Determine which elements from program data reporting structure are applicable to the contract
- **Step 2:**
 - Determine which MIL-STD-881C appendix applies to product under contract
- **Step 3:**
 - Expand the product-oriented elements beyond Level 3 to accommodate:
 - High-value, high-risk, and high-technical-interest items
 - Subcontracted items
 - Items with no previous historical data
 - Level 4 elements from the MIL-STD-881C Appendix should be used if available
- **Step 4:**
 - Expand common elements beyond Level 2, if applicable



Example Prime Contractor Data Reporting Structure

OSD CAPE

Element 1.0
tailored to
correspond to
MDAP name

Elements that
are considered
high-value,
high-risk, and
high-technical-
interest are
broken out
beyond Level 3

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
1.1.1	Airframe
1.1.1.1	Airframe Integration, Assembly, Test, and Checkout
1.1.1.2	Fuselage
1.1.1.3	Wing
1.1.1.4	Empennage
1.1.1.5	Nacelle
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.3.1	Vehicle Subsystem Integration, Assembly, Test, and Checkout
1.1.3.2	Flight Control Subsystem
1.1.3.3	Auxiliary Power Subsystem
...	...
1.1.3.9	Landing Gear
1.1.3.10	Rotor Group
1.1.3.11	Drive Group
1.1.4	Avionics
1.1.4.1	Avionics Integration, Assembly, Test, and Checkout
...	...
1.1.4.12	Avionics Software Release
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release
1.1.9	Air Vehicle Integration, Assembly, Test, and Checkout
1.2	System Engineering



Example Prime Contractor Data Reporting Structure (cont.)

OSD CAPE

Common elements
are expanded
beyond Level 2
(if applicable)

Summary
Elements

1.2	System Engineering
1.3	Program Management
1.4	System Test and Evaluation
1.4.1	Development Test and Evaluation
1.4.2	Operational Test and Evaluation
1.4.3	Mock-ups / System Integration Labs (SILs)
1.4.4	Test and Evaluation Support
1.4.5	Test Facilities
1.5	Training
1.6	Data
1.7	Peculiar Support Equipment
1.7.1	Test and Measurement Equipment
1.7.2	Support and Handling Equipment
1.8	Common Support Equipment
1.8.1	Test and Measurement Equipment
1.8.2	Support and Handling Equipment
1.9	Operational/Site Activation
1.10	Industrial Facilities
1.11	Initial Spares and Repair Parts
	Subtotal Cost
	Reporting Contractor G&A
	Reporting Contractor Undistributed Budget
	Reporting Contractor Management Reserve
	Reporting Contractor FCCM
	Total Cost
	Reporting Contractor Profit/Loss or Fee
	Total Price



Program/Contract Relationship

OSD CAPE

Program Data Reporting Structure

Reporting Element Code	Reporting Element
1.0	Aircraft System - F51 Fighter
1.1	Air Vehicle
1.1.1	Airframe
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.4	Avionics
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release
1.1.9	Air Vehicle Integration, Assembly, Test and Checkout
1.2	Systems Engineering
1.3	Program Management
1.4	System Test and Evaluation
1.5	Training
1.6	Data
1.7	Peculiar Support Equipment
1.8	Common Support Equipment
1.9	Operational/Site Activation
1.10	Industrial Facilities
1.11	Initial Spares and Repair Parts

Contractor Data Reporting Structure

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
1.1.1	Airframe
1.1.1.1	Airframe Integration, Assembly, Test and Checkout
1.1.1.2	Fuselage
1.1.1.3	Wing
1.1.1.4	Empennage
1.1.1.5	Nacelle
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.4	Avionics
1.1.4.1	Avionics Integration, Assembly, Test and Checkout
1.1.4.2	Communication/Identification
1.1.4.3	Navigation/Guidance
1.1.4.3.1	Navigation
1.1.4.3.1.1	Navigation Hardware
1.1.4.3.1.2	Navigation Software
1.1.4.3.2	Guidance
1.1.4.4	Mission Computer/Processing
1.1.4.5	Fire Control
...	...
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release
1.1.9	Air Vehicle Integration, Assembly, Test and Checkout
1.2	Systems Engineering
...	...
1.11	Initial Spares and Repair Parts

Level 3 Program elements expanded to Levels 4 and 5 of Contractor Data Reporting Structure



Subcontractor Data Reporting Structure

OSD CAPE

- Specific to a single subcontract and single subcontractor
- Relates to specific products within the Prime Contractor Data Reporting Structure
 - IWOs which meet dollar threshold are considered subcontractors for CSDR purposes
- Total Price of Subcontract should appear as a Cost in the specific element of the Prime Contractor Data Reporting Structure
- A **product-oriented** MIL-STD-881C compliant structure, which may be different than the Appendix used for the Prime Contractor Data Reporting Structure



Creating a Subcontractor Data Reporting Structure

OSD CAPE

- **Step 1:**
 - Identify the elements from the prime contractor data reporting structure for which the subcontractor is responsible
- **Step 2:**
 - Determine which MIL-STD-881C Appendix fits the subcontractor statement of work (SOW):
 - a) Use Appendix B (Electronic Systems) if the subcontractor SOW relates to a single item on the prime contractor data reporting structure even if the end item is not an Electronic System
 - b) Use Appendix B if the subcontractor SOW relates to more than one element on the prime contractor data reporting structure, and if the items may be logically grouped into a single package of work
- **Step 3:**
 - Expand the product-oriented elements to Level 3 and beyond
- **Step 4:**
 - Expand common elements beyond Level 2, if applicable



Prime/Subcontract Relationship

OSD CAPE

Prime Contractor Data Reporting Structure (MIL-STD-881C Appendix A – Aircraft Systems)

Subcontractor Data Reporting Structure (MIL-STD-881C Appendix B – Electronic Systems)

REPORTING ELEMENT CODE	REPORTING ELEMENTS
1.0	Aircraft System
1.1	Air Vehicle
1.1.1	Airframe
1.1.2	Propulsion
1.1.3	Vehicle Subsystems
1.1.4	Avionics
1.1.4.1	Avionics Integration, Assembly, Test, and Checkout
1.1.4.2	Communication/Identification
1.1.4.3	Navigation/Guidance
1.1.4.4	Mission Computer/Processing
1.1.4.5	Fire Control (XYZ Radar)
1.1.4.6	Data Display and Controls
1.1.4.7	Survivability
1.1.4.8	Reconnaissance
1.1.4.9	Automatic Flight Control
...	...
1.1.4.13	Other Avionics Subsystems A
1.1.5	Armament/Weapons Delivery
1.1.6	Auxiliary Equipment
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release
1.1.9	Air Vehicle IAT&C
1.2	System Engineering
1.3	Program Management
1.4	System Test and Evaluation
1.5	Training
1.6	Data
1.7	Peculiar Support Equipment
1.8	Common Support Equipment
1.9	Operational/Site Activation
1.10	Industrial Facilities
1.11	Initial Spares and Repair Parts

REPORTING ELEMENT CODE	REPORTING ELEMENTS
1.0	Electronic System -- XYZ Radar
1.1	Radar System
1.1.1	Antenna
1.1.2	Radar Electronics
1.1.3	Power Supply
1.1.4	Power Conditioner
1.1.5	Rack/Structure
1.1.6	Radar Software Release
1.1.7	Radar Integration, Assembly, Test and Checkout
1.2	Platform Integration, Assembly, Test and Checkout
1.3	System Engineering
1.4	Program Management
1.5	System Test and Evaluation
1.6	Training
1.6.1	Equipment
1.6.2	Services
1.6.3	Facilities
1.7	Data
1.8	Peculiar Support Equipment
1.9	Common Support Equipment
1.10	Operational/Site Activation
1.11	Industrial Facilities
1.12	Initial Spares and Repair Parts

Element 1.0 from subcontractor data reporting structure directly corresponds to element 1.1.4.5 from prime contractor data reporting structure



DD Form 2794

Prime/Sub Relationship

CSD CAPE

Blocks 11a and 11b of DD Form 2794 establish CSDR prime contract/subcontract relationship

COST AND SOFTWARE DATA REPORTING PLAN											Form Approved OMB No. 0704-0188		
The public reporting burden for this collection of information is estimated to average 8 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 this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Executive Services Directorate (0704-0188). 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.													
1. MAJOR PROGRAM a. NAME: Aircraft System			c. PRIME MISSION PRODUCT			2. WBS SYSTEM TYPE		3. SUBMISSION TYPE		4. CURRENT SUBMISSION DATE (YYYYMMDD)		5. LAST APPROVED PLAN DATE (YYYYMMDD)	
b. PHASE/MILESTONE Pre-A <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C-LRIP <input type="checkbox"/> C-FRP <input type="checkbox"/> O&S <input type="checkbox"/>			XYZ Radar			Electronic System		<input checked="" type="checkbox"/> INITIAL <input type="checkbox"/> CHANGE		20120620		N/A	
6a. POINT OF CONTACT (POC) NAME AND ADDRESS (Include ZIP Code)					6b. TELEPHONE NUMBER (Include Area Code)		6c. FAX NUMBER (Include Area Code)		6d. E-MAIL ADDRESS				
Julie Andrews, 111 23rd St Ste 201, Arlington, VA 22202					(571) 555-2120		(571) 867-5309		emailaddress@gov.mil				
7. PLAN TYPE <input type="checkbox"/> PROGRAM <input checked="" type="checkbox"/> CONTRACT (PRIME) <input type="checkbox"/> CONTRACT (SUB)			8. PREPARING ORGANIZATION NAVAIR		9a. CONTRACTOR NAME/ADDRESS i. PERFORMING ORGANIZATION TBD		ii. DIVISION TBD		9b. CONTRACT NUMBER TBD		9c. APPROPRIATION <input type="checkbox"/> RDT&E <input checked="" type="checkbox"/> PROCUREMENT <input type="checkbox"/> O&M		10. APPROVED PLAN NUMBER N-12-D-C1
11. WBS ELEMENT CODE			12. WBS REPORTING ELEMENTS				13. REPORTS REQUIRED (X if applicable) DD 1921-3 (CBDR): <input checked="" type="checkbox"/>						
a. PROGRAM/ CONTRACT/ SUBCONTRACT		b. CONTRACT/ SUBCONTRACT					a. CWBS DICTIONARY	b. DD 1921 (CDSR)	c. DD 1921-1 (FCHR)	d. DD 1921-2 (PCR)	e. DD 1921-4 (CSR)	f. SRDR FORMATS	
1.1.4.5		1.0	Electronic System - XYZ Radar				X	X	X				
1.1.4.5		1.1	Radar System				X	X	X				
1.1.4.5		1.1.1	Antenna				X	X					
1.1.4.5		1.1.2	Radar Electronics				X	X	X				
1.1.4.5		1.1.3	Power Supply				X	X					
1.1.4.5		1.1.4	Power Conditioner				X	X					
1.1.4.5		1.1.5	Rack/Structure				X	X					
1.1.4.5		1.1.6	Radar Software Release				X	N/A					
1.1.4.5		1.1.7	Radar Integration, Assembly, Test and Checkout				X	X					
1.1.4.5		1.2	Platform Integration, Assembly, Test and Checkout				X	X					
1.1.4.5		1.3	System Engineering				X	X	X				
1.1.4.5		1.4	Program Management				X	X	X				
1.1.4.5		1.5	System Test and Evaluation				X	X					
1.1.4.5		1.6	Training				X	X					
1.1.4.5		1.6.1	Equipment				X	X					
1.1.4.5		1.6.2	Services				X	N/A					
1.1.4.5		1.6.3	Facilities				X	X					
1.1.4.5		1.7	Data				X	X					
1.1.4.5		1.8	Peculiar Support Equipment				X	N/A					
1.1.4.5		1.9	Common Support Equipment				X	N/A					
1.1.4.5		1.10	Operational/Site Activation				X	X					
1.1.4.5		1.11	Industrial Facilities				X	X					
1.1.4.5		1.12	Initial Spares and Repair Parts				X	X					



Advanced Data Reporting Structure Development

OSD CAPE

- Common challenges not addressed here
 - Multiple variants
 - Multiple phases included on one contract
 - Example: Production and Sustainment must have separate CSDR plans
 - Special cases of expandable 1...n elements in MIL-STD-881C



MIL-STD-881C Implementation

OSD CAPE

1...n Construct for a related set of elements

MIL-STD-881C Appendix A

Implementation

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
...	...
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Release 1...n
1.1.9	Air Vehicle Integration, Assembly, Test and Checkout

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
...	...
1.1.7	Furnishings and Equipment
1.1.8	Air Vehicle Software Releases
1.1.8.1	Air Vehicle Software Release 1
1.1.8.2	Air Vehicle Software Release 2
1.1.8.3	Air Vehicle Software Release 3
1.1.9	Air Vehicle Integration, Assembly, Test and Checkout

1...n Construct for independent components

MIL-STD-881C Appendix A

Implementation

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
1.1.1	Airframe
1.1.1.1	Airframe Integration, Assembly, Test and Checkout
1.1.1.2	Fuselage
1.1.1.3	Wing
1.1.1.4	Empennage
1.1.1.5	Nacelle
1.1.1.6	Other Airframe Components 1..n (Specify)
1.1.2	Propulsion

Reporting Element Code	Reporting Element
1.0	F-51 Fighter
1.1	Air Vehicle
1.1.1	Airframe
1.1.1.1	Airframe Integration, Assembly, Test and Checkout
1.1.1.2	Fuselage
1.1.1.3	Wing
1.1.1.4	Empennage
1.1.1.5	Nacelle
1.1.1.6	Stealth Special Airframe Part A
1.1.1.7	Stealth Special Airframe Part B
1.1.2	Propulsion



Data Reporting Structure Rules and Conventions

OSD CAPE

- **Always:**
 - Comply with MIL-STD-881C
 - Report to Level 3 or below for hardware items
 - Report to Level 2 or below for common elements
 - Use a logical numbering scheme for element codes (1.0, 1.1, 1.1.1, etc.)
 - Specify military designations, e.g., AN/APG-77
- **Never:**
 - Change the structure of a MIL-STD-881C appendix
 - Change the sequencing of MIL-STD-881C elements
 - Change the names of MIL-STD-881C elements
 - Have a single child element
 - Leave “1...n (Specify)” or “Other” in the final data reporting structure