

Contracting Officer's Representative (COR) Interactive SharePoint Wiki

James Smith

Andy Boyd

Software Solutions Conference 2015

November 16–18, 2015



Software Engineering Institute

Carnegie Mellon University

© 2015 Carnegie Mellon University

Distribution Statement A: Approved for Public Release;
Distribution is Unlimited



Copyright 2015 Carnegie Mellon University

This material is based upon work funded and supported by the Department of Defense under Contract No. FA8721-05-C-0003 with Carnegie Mellon University for the operation of the Software Engineering Institute, a federally funded research and development center.

Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the United States Department of Defense.

NO WARRANTY. THIS CARNEGIE MELLON UNIVERSITY AND SOFTWARE ENGINEERING INSTITUTE MATERIAL IS FURNISHED ON AN “AS-IS” BASIS. CARNEGIE MELLON UNIVERSITY MAKES NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, AS TO ANY MATTER INCLUDING, BUT NOT LIMITED TO, WARRANTY OF FITNESS FOR PURPOSE OR MERCHANTABILITY, EXCLUSIVITY, OR RESULTS OBTAINED FROM USE OF THE MATERIAL. CARNEGIE MELLON UNIVERSITY DOES NOT MAKE ANY WARRANTY OF ANY KIND WITH RESPECT TO FREEDOM FROM PATENT, TRADEMARK, OR COPYRIGHT INFRINGEMENT.

This material has been approved for public release and unlimited distribution except as restricted below.

This material may be reproduced in its entirety, without modification, and freely distributed in written or electronic form without requesting formal permission. Permission is required for any other use. Requests for permission should be directed to the Software Engineering Institute at permission@sei.cmu.edu.

DM-0002777



Background -1

Today, when a Contracting Officer's Representative (COR) needs guidance on contracting for software solutions, there is no single reference:

- Many documents
- Contradictory guidance
- Not necessarily relevant to his/her agency

Desire to have a *single* reference that can help guide CORs to an understanding of how software-intensive solutions:

- What is different about software-intensive solutions?
- How do these differences impact
 - Contract planning
 - Contract formation
 - Contract management
 - Contract closeout





Background -2

Result was the Contracting Officer's Representative (COR) Desk Guide

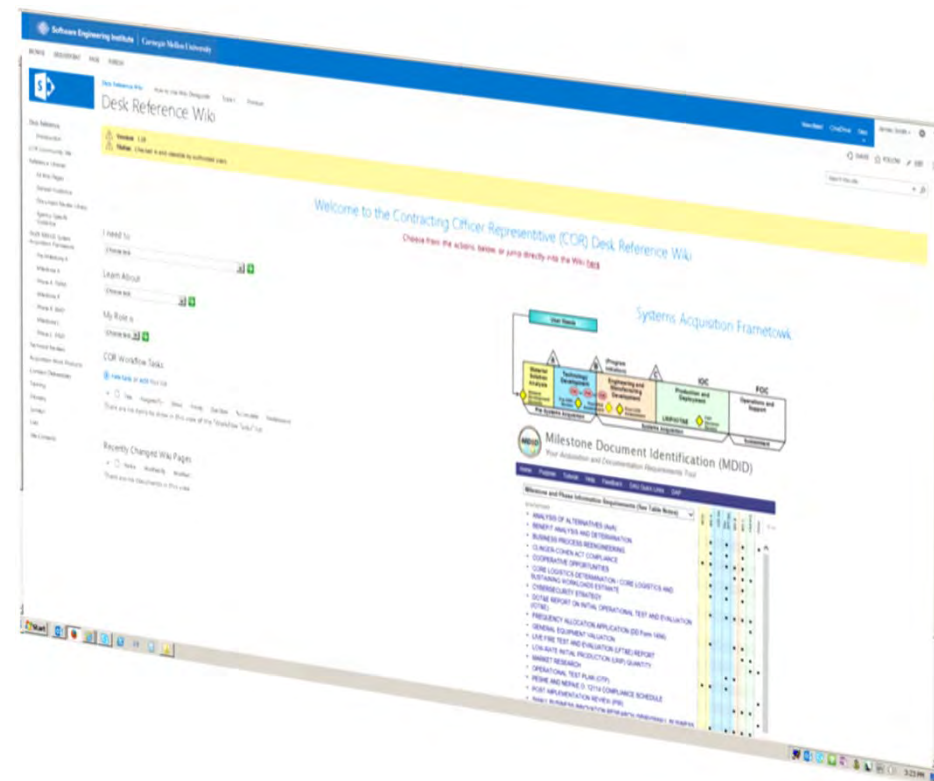
- Interactive aid for contract formation and award for software-intensive system acquisition
- Initial focus on Phase B contract award

Contains general references and guidance

- *Explicitly designed to be easily extensible and tailorable to different acquisition contexts, offices, and agencies*

Initially developed in SharePoint 2010; updated to SharePoint 2013

Updated to incorporate 2015 version of DoD 5000.02





Approach

Collect existing references, guidance, “best practices” into a single knowledge base that can be accessed in multiple ways:

- Workflow perspective
- Topical perspective
- Interactive and hardcopy format

Not simply a compilation of “stuff,” but a *curated* collection of the best available guidance drawn from multiple sources, including:

- *Applicable statutory, regulatory, and agency guidance* (i.e., FAR, DFARS, DoD Instructions, etc.)
- *Deep knowledge and experience within SEI and other FFRDCs* (e.g., SEI technical reports, Aerospace TORs)
- *Other Agency and Service guidance* (e.g., USAF Weapon Systems Software Management Guidebook)
- *Applicable practices in existing acquisition and development models* (e.g., CMMI-ACQ[®])





Single Knowledge Base

General and agency-specific guidance:

The screenshot shows a SharePoint Wiki page for 'General Guidance' at the Software Engineering Institute, Carnegie Mellon University. The page contains a table of documents with the following columns: Name, Title, Asset Type, Topic, and Active. The table lists various documents such as '11tr014', '2009_004_001_15041', 'Technical Data and Computer Software Rights Handbook 5th Edition', and 'Defense Acquisition Guidebook'.

Name	Title	Asset Type	Topic	Active
11tr014	A Decision Framework for Selecting Licensing Rights for Noncommercial Computer Software in the DoD Environment	Guidance; Informational	Software Data Rights; Software Licensing	Yes
2009_004_001_15041	A Proactive Means for Incorporating a Software Architecture Evaluation in a DoD System Acquisition	Example; Guidance; Informational	AoA; CDRL; MS B; PDR; CDR; SOW; SOO; SRD; SRS; Systems Engineering	Yes
Technical Data and Computer Software Rights Handbook 5th Edition	Acquiring and Enforcing the Government's Rights in Technical Data and Computer Software Under DoD Contracts: A Practical Handbook for Acquisition Professionals, 5th Ed. (Oct 2012)	Guidance; Informational	Software Data Rights	Yes
ACA COR Guide	Army Contracting Agency COR Guide (Section I)	Example; Process	COR/COTR	Yes
ARMYcor-deskguide	Army COR Desk Guide	Example; Guidance	COR/COTR	Yes
COR Smartcard	Army COR Smartcard	Tool	Acquisition Management; COR/COTR	Yes
commercial computer software license (far 52.227-19)	Commercial Computer Software License	Policy	FAR/DFARS; Software Data Rights; Software Licensing; COTS	Yes
DD Form 1423-1	Contract Data Requirements List (CDRL)	Template	CDRL	Yes
COR Desk Guide elevator pitch_20140226a	COR Desk Guide Elevator Pitch	Informational	COR/COTR	Yes
COR Deskguide How To Wiki	COR Deskguide How To	Informational	COR/COTR	Yes
2011-SRDRInitial	Data Item Description: Software Resources Data Reporting - Initial Developer Report and Data Dictionary	Standard	CDRL	Yes
DefenseAcquisitionGuidebook	Defense Acquisition Guidebook	Guidance; Informational	Acquisition Management; Contract Type; COR/COTR; FAR/DFARS; Requirements; Systems Engineering; Technical Reviews	Yes
500001p	Defense Acquisition Policy	Policy	Acquisition Management	Yes
DCCH-V5_July2015	Defense Contingency Contracting Handbook	Guidance	COR/COTR	Yes
2014_003_001_311942	Development of an Intellectual Property Strategy	Guidance	Software Data Rights; Intellectual Property (IP)	Yes
dfars 227.71	DFARS 227.71: Rights in Technical Data	Policy	CDRL; DAL; FAR/DFARS; Requirements; Software Data Rights; Software Licensing; NCI; NDI	Yes
dfars 227.72	DFARS 227.72: Rights in Computer Software and Computer Software Documentation	Policy	CDRL; COTS; FAR/DFARS; Software Data Rights; Software Licensing	Yes
DIZE SvcV-4	DIZE SvcV-4	Informational		Yes
USAS01300-13 DoD COR Handbook Signed	DoD COR Handbook	Guidance	COR/COTR	Yes





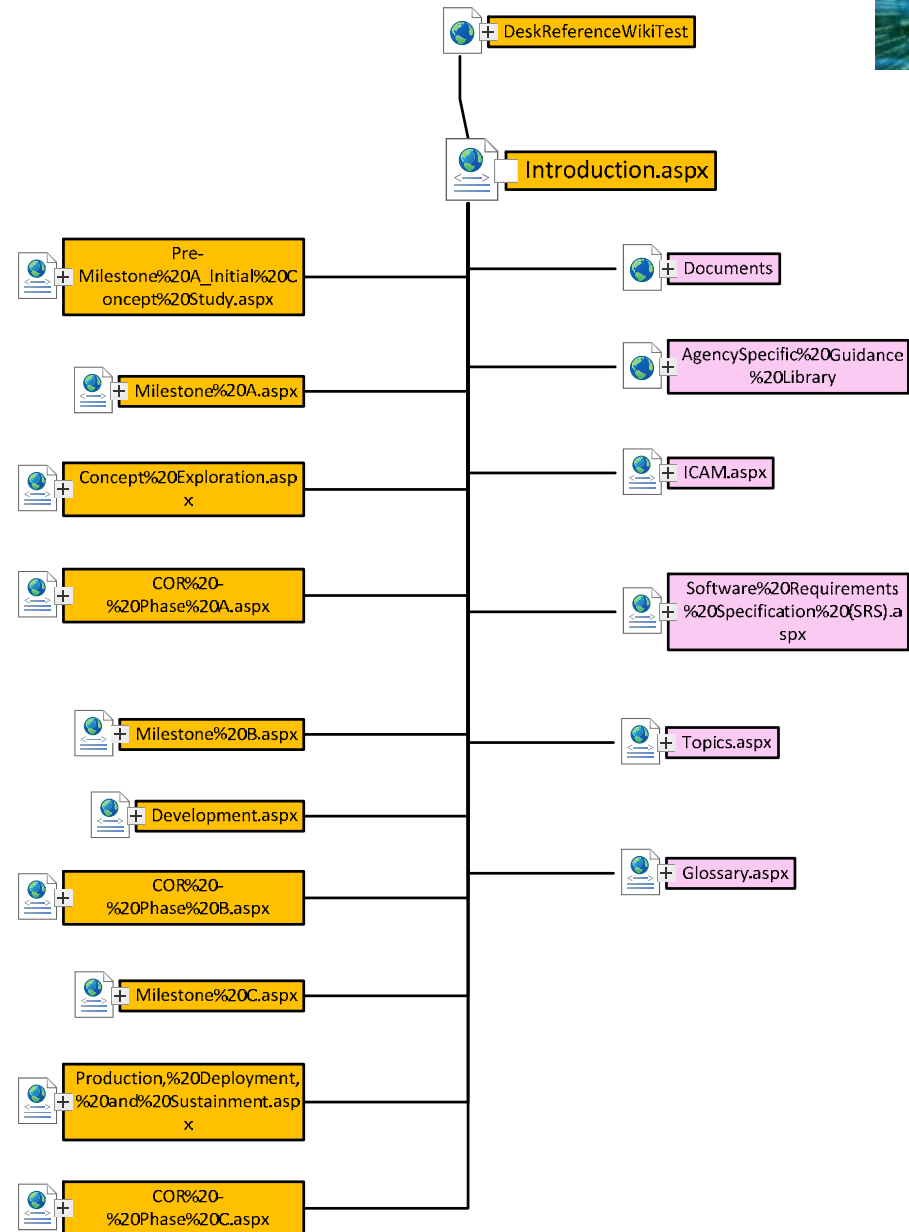
High-Level Structure

The Desk Guide is organized around the acquisition life cycle, from Pre-Milestone A through Phase C

- Milestone entry criteria
- Phase software activities
- Phase exit criteria

Within each phase, software-related COR guidance provided, including representative RFP language and proposal evaluation criteria

Knowledge base organized into general guidelines/references, agency-specific guidance, and specific topics (e.g., Software Requirements Specification – SRS)





Workflow Perspective - 1

“I need to...”

The screenshot shows a SharePoint Wiki page for the Contracting Officer Representative (COR) Desk Reference Wiki. The page has a blue header with the Software Engineering Institute and Carnegie Mellon University logos. The main content area is white with a yellow banner at the top. A search bar is prominently displayed, containing the text "I need to..." which is circled in red. Below the search bar, there are several sections: "Systems Acquisition Framework" with a diagram showing the flow from User Needs to Operations and Support; "Milestone Document Identification (MDID)" with a table of milestones and a list of tasks; and "My Point is" and "COR Workflow Tasks" sections. The MDID table has columns for various milestones and a list of tasks with checkboxes indicating completion status.

Milestone and Phase Information Requirements (See Table Notes)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
ANALYSIS OF ALTERNATIVES (AA)																					
BENEFIT ANALYSIS AND DETERMINATION																					
BUSINESS PROCESS REENGINEERING																					
CLINGER-COHEN ACT COMPLIANCE																					
COOPERATIVE OPPORTUNITIES																					
CORE LOGISTICS DETERMINATION / CORE LOGISTICS AND SUSTAINING WORKLOADS ESTIMATE																					
CYBERSECURITY STRATEGY																					
DOT&E REPORT ON INITIAL OPERATIONAL TEST AND EVALUATION (IOT&E)																					
FREQUENCY ALLOCATION APPLICATION (S0 Form 159)																					
GENERAL EQUIPMENT VALUATION																					
LIVE FIRE TEST AND EVALUATION (LFT&E) REPORT																					
LOW-RATE INITIAL PRODUCTION (LRIP) QUANTITY																					
MARKET RESEARCH																					
OPERATIONAL TEST PLAN (OTP)																					
PEP&E AND DEFENSE D. 1214 COMPLIANCE SCHEDULE																					
POST IMPLEMENTATION REVIEW (PIR)																					
SMALL BUSINESS INNOVATION RESEARCH (SBIR)/SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAM TECHNOLOGIES																					





Workflow Perspective - 2

The screenshot shows a SharePoint Wiki page titled "Data Rights - 1" from the Software Engineering Institute at Carnegie Mellon University. The page content includes:

- Version 1.1** (Status: Checked in and ready to be published)
- Intellectual Property (IP) Rights**: A section with a yellow background containing text about software rights and a decision tree for commercial use.
- References**: A table listing various guidance documents.
- Agency-Specific Guidance**: A section indicating there are no documents in this area.

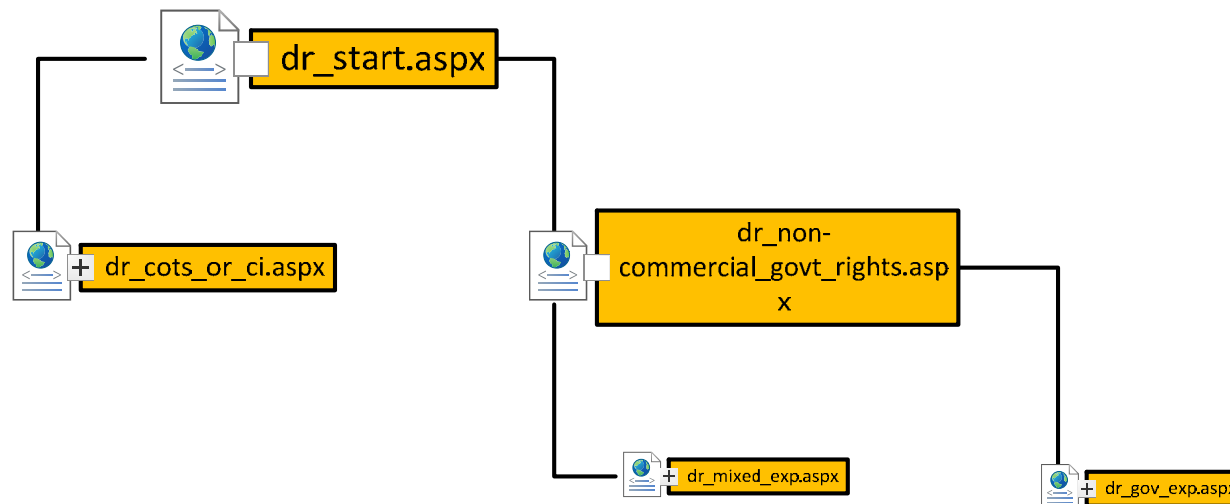
Title	View/Download
DMSP	View/Download
Development of an Intellectual Property Strategy	View/Download
Contract of Commercial Software License	View/Download
DMSP 2017-1	View/Download
DMSP 2017-2	View/Download
DMSP 2017-3	View/Download
DMSP 2017-4	View/Download
DMSP 2017-5	View/Download
DMSP 2017-6	View/Download
DMSP 2017-7	View/Download
DMSP 2017-8	View/Download
DMSP 2017-9	View/Download
DMSP 2017-10	View/Download
DMSP 2017-11	View/Download
DMSP 2017-12	View/Download
DMSP 2017-13	View/Download
DMSP 2017-14	View/Download
DMSP 2017-15	View/Download
DMSP 2017-16	View/Download
DMSP 2017-17	View/Download
DMSP 2017-18	View/Download
DMSP 2017-19	View/Download
DMSP 2017-20	View/Download
DMSP 2017-21	View/Download
DMSP 2017-22	View/Download
DMSP 2017-23	View/Download
DMSP 2017-24	View/Download
DMSP 2017-25	View/Download
DMSP 2017-26	View/Download
DMSP 2017-27	View/Download
DMSP 2017-28	View/Download
DMSP 2017-29	View/Download
DMSP 2017-30	View/Download
DMSP 2017-31	View/Download
DMSP 2017-32	View/Download
DMSP 2017-33	View/Download
DMSP 2017-34	View/Download
DMSP 2017-35	View/Download
DMSP 2017-36	View/Download
DMSP 2017-37	View/Download
DMSP 2017-38	View/Download
DMSP 2017-39	View/Download
DMSP 2017-40	View/Download
DMSP 2017-41	View/Download
DMSP 2017-42	View/Download
DMSP 2017-43	View/Download
DMSP 2017-44	View/Download
DMSP 2017-45	View/Download
DMSP 2017-46	View/Download
DMSP 2017-47	View/Download
DMSP 2017-48	View/Download
DMSP 2017-49	View/Download
DMSP 2017-50	View/Download
DMSP 2017-51	View/Download
DMSP 2017-52	View/Download
DMSP 2017-53	View/Download
DMSP 2017-54	View/Download
DMSP 2017-55	View/Download
DMSP 2017-56	View/Download
DMSP 2017-57	View/Download
DMSP 2017-58	View/Download
DMSP 2017-59	View/Download
DMSP 2017-60	View/Download
DMSP 2017-61	View/Download
DMSP 2017-62	View/Download
DMSP 2017-63	View/Download
DMSP 2017-64	View/Download
DMSP 2017-65	View/Download
DMSP 2017-66	View/Download
DMSP 2017-67	View/Download
DMSP 2017-68	View/Download
DMSP 2017-69	View/Download
DMSP 2017-70	View/Download
DMSP 2017-71	View/Download
DMSP 2017-72	View/Download
DMSP 2017-73	View/Download
DMSP 2017-74	View/Download
DMSP 2017-75	View/Download
DMSP 2017-76	View/Download
DMSP 2017-77	View/Download
DMSP 2017-78	View/Download
DMSP 2017-79	View/Download
DMSP 2017-80	View/Download
DMSP 2017-81	View/Download
DMSP 2017-82	View/Download
DMSP 2017-83	View/Download
DMSP 2017-84	View/Download
DMSP 2017-85	View/Download
DMSP 2017-86	View/Download
DMSP 2017-87	View/Download
DMSP 2017-88	View/Download
DMSP 2017-89	View/Download
DMSP 2017-90	View/Download
DMSP 2017-91	View/Download
DMSP 2017-92	View/Download
DMSP 2017-93	View/Download
DMSP 2017-94	View/Download
DMSP 2017-95	View/Download
DMSP 2017-96	View/Download
DMSP 2017-97	View/Download
DMSP 2017-98	View/Download
DMSP 2017-99	View/Download
DMSP 2018-00	View/Download





Workflow Perspective - 3

The data rights workflow provides an instance of a decision tree—used in conjunction with the general and agency-specific guidance—to lead a COR through a simple “Yes/No” path to determine the appropriate Government licensing and data rights





Topical Perspective - 1

“I want to learn about...”

The screenshot shows a SharePoint Wiki page for the Software Engineering Institute at Carnegie Mellon University. The page is titled "Desk Reference Wiki" and "Welcome to the Contracting Officer Representative (COR) Desk Reference Wiki". A red circle highlights the "Learn About..." dropdown menu, which is currently set to "Development (Phase B)".

The "Systems Acquisition Framework" diagram shows the following stages:

- User Needs
- Material Solution Analysis (MSA)
- Technology Development (TD)
- Engineering and Manufacturing Development (EMD)
- Production and Deployment (PD)
- Operations and Support (OS)

The MDID table lists various milestones and their corresponding phases:

Milestone	MSA	TD	EMD	PD	OS
ANALYSIS OF ALTERNATIVES (A&A)	•				
BENEFIT ANALYSIS AND DETERMINATION	•				
BUSINESS PROCESS REENGINEERING	•				
CLINGER-COHEN ACT COMPLIANCE	•				
COOPERATIVE OPPORTUNITIES	•				
CORE LOGISTICS DETERMINATION / CORE LOGISTICS AND SUSTAINING WORKLOADS ESTIMATE	•				
CYBERSECURITY STRATEGY	•				
DOT&E REPORT ON INITIAL OPERATIONAL TEST AND EVALUATION (IOT&E)	•				
FREQUENCY ALLOCATION APPLICATION (DD Form 1494)	•				
GENERAL EQUIPMENT VALUATION	•				
LIVE FIRE TEST AND EVALUATION (LFT&E) REPORT	•				
LOW-RATE INITIAL PRODUCTION (LRIP) QUANTITY	•				
MARKET RESEARCH	•				
OPERATIONAL TEST PLAN (OTP)	•				
PESHE AND NEPAE O 12114 COMPLIANCE SCHEDULE	•				
POST IMPLEMENTATION REVIEW (PIR)	•				
SM&I BUSINESS NAVIGATION RESEARCH / SP/USMA I BUSINESS	•				

Topical Perspective - 2



Desk Reference Wiki - Home | Desk Reference Wiki - Develo... | https://collaboration.sei.cmu.edu/sites/asp/seap/CORDeskGuide/SitePages/Development.aspx

Software Engineering Institute | Carnegie Mellon University

Development

Version: 2.3
Status: Checked in and viewable by authorized users.

600 - Phase B: Engineering and Manufacturing Development (EMD)

610 - Entry Criteria

Successful Milestone B

620 - Objectives

() DoD Instruction 5000.02, "Operation of the Defense Acquisition System."

This phase is where a system is developed and designed before going into production. The EMD Phases starts after a successful Milestone B and Pre-EMD Review and is considered the formal start of any program. The goal of this phase is to complete the development of a system or increment of capability, complete full system integration, develop affordable and executable manufacturing processes, complete system fabrication, and test and evaluate the system before proceeding into the Production and Deployment (PD) Phase. This phase focuses on reaching three-related decisions:

- Requirements decision point (called the CDD Validation Decision by DoD)
- Decision to release a solicitation for development to industry, called the Development Request for Proposals (RFP) Release Decision Point; and
- Decision to award the contract(s) for development, called Milestone B by DoD

The key objectives of this phase are to:

- Develop a system or increment of capability
- Design-in critical supportability aspects to ensure materiel availability with particular attention to reducing the logistics footprint
- Integrate hardware, software, and human systems,
- Design for producibility
- Ensure affordability and protection of critical program information
- Demonstrate system integration, interoperability, supportability, safety, and utility, and
- Ensure operational supportability with particular attention to minimizing the logistics footprint
- Demonstrate Reliability, Availability, Maintainability, and sustainment features are included in the design of a system
- Complete Phase B exit criteria

Within the phase, major efforts involve reducing integration and manufacturing risk; ensuring operational supportability; implementing human systems integration; ensuring affordability; protecting critical program information and system capabilities; mitigating security and counterintelligence risks; and demonstrating system integration.

This phase may have multiple increments, each of which is treated as a separate acquisition. Each increment can have multiple spalls to build capabilities in a rapid and iterative manner, which may include provisional deployment in an operational environment.

630 - Software Solution Objectives

To achieve a production quality release ready for deployment to the user community:

- Robust software architecture and architecture management processes are defined.
- Open Systems Architecture/Modular Open Systems Approach(OSA/MOSA) principles are incorporated into the solution

Single-step to completion or iterative, incremental development?

DODI 5000.02 System Acquisition Model

Milestone and Phase Information Requirements (See Table Notes)

Requirement	MCS	MS A	MS B	MS C	MS D	MS E	MS F	MS G	MS H	MS I	MS J	MS K	MS L	MS M	MS N	MS O	MS P	MS Q	MS R	MS S	MS T	MS U	MS V	MS W	MS X	MS Y	MS Z	Other
STATUTORY																												
- 2306ab CERTIFICATION MEMORANDUM																												
- ACQUISITION PROGRAM BASELINE (APB)																												
- BANDWIDTH REQUIREMENTS REVIEW																												
- BUSINESS PROCESS REENGINEERING																												
- CLINGER-COHEN ACT COMPLIANCE																												
- CONTRACT-TYPE DETERMINATION																												
- CYBERSECURITY STRATEGY																												
- FREQUENCY ALLOCATION APPLICATION (DD Form 1494)																												
- INDEPENDENT COST ESTIMATE (ICE)																												
- INDEPENDENT LOGISTICS ASSESSMENT																												
- INTELLECTUAL PROPERTY (IP) STRATEGY																												
- LOW-RATE INITIAL PRODUCTION (LRIP) QUANTITY																												
- MANPOWER ESTIMATE																												
- PESHE AND NEPA/E O 12114 COMPLIANCE SCHEDULE																												
- REPLACED SYSTEM SUSTAINMENT PLAN																												
- SMALL BUSINESS INNOVATION RESEARCH (SBIR)/SMALL BUSINESS TECHNOLOGY TRANSFER (STTR) PROGRAM TECHNOLOGIES																												
- TECHNOLOGY READINESS ASSESSMENT (TRA)																												
Regulatory																												
- Acquisition Decision Memorandum (ADM)																												
- Acquisition Program Baseline (APB)																												
- Affordability Analysis																												





Both Interactive and Hardcopy Formats

The screenshot shows a web browser window displaying a SharePoint page titled 'Development'. The left-hand navigation pane includes sections like 'Development', '600 - Phase B: Engineering and Manufacturing Development (EMD)', and '630 - Software Solution Objectives'. The main content area displays the '600 - Phase B: Engineering and Manufacturing Development (EMD)' page, which includes an entry criteria, objectives, and key objectives for the phase.

The hardcopy format shows the same content as the interactive format, but with a physical layout. The page is titled 'UNCLASSIFIED' at the top. The main content area displays the '600 - Phase B: Engineering and Manufacturing Development (EMD)' page, which includes an entry criteria, objectives, and key objectives for the phase. The page also includes a 'DDC5 S000.02 System Acquisition Master' table and a 'System Acquisition Process' diagram.





External Collaboration Environment

COR Desk Guide Wiki mirrored on SEI's External Collaboration Environment SharePoint server

<https://workspace.sei.cmu.edu/sites/DeskReferenceWiki/SitePages/Home.aspx>

Systems Acquisition Framework

The diagram shows a process flow from User Needs through Program Solution, Engineering and Manufacturing Development, Production and Deployment, IOC, and FOC. Key milestones include Milestone Solution Analysis, Milestone Development, Milestone Production and Deployment, Milestone IOC, and Milestone FOC.

Milestone Document Identification (MDID)
 Acquisition and Decommission Planning Tool

Milestones and Phase Information Requirements (See Table Notes)	MSA	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD	MSD
ANALYSIS OF ALTERNATIVES (AA)																			
BENEFIT ANALYSIS AND DETERMINATION																			
BUSINESS PROCESS REENGINEERING																			
CLINGER-COHEN ACT COMPLIANCE																			
COOPERATIVE OPPORTUNITIES																			
CORE LOGISTICS OF TERMINATION / CORE LOGISTICS AND SUSTAINING PROGRAMS ESTIMATE																			
CYBERMILITARY STRATEGY																			
DOT&E REPORT (ON-INITIAL OPERATIONAL TEST AND EVALUATION (OT&E))																			
FREQUENCY ALLOCATION APPLICATION (DO Form 1484)																			
GENERAL EQUIPMENT VALUATION																			
LIVE FIRE TEST AND EVALUATION (LIFE REPORT)																			
LOW-RATE INITIAL PRODUCTION (LRIP) QUANTITY																			
MARKET RESEARCH																			
OPERATIONAL TEST PLAN (OTP)																			
PEACE AND REPUBLIC (1)14 COMPLIANCE SCHEDULE																			
POST IMPLEMENTATION REVIEW (PIR)																			
RISK 1 REQUIREMENT ANALYSIS (R1A) (SEE RISK MANAGEMENT) BY PHASE																			