Intelligence Implementation of Acquisition Agility and Integration with Systems Engineering Processes

February 6, 2019

Effective integration of intelligence can save time, money and ensure programs can defeat future threats

INTEL: What it is; What it isn't

- I will cover:
  - ✓ Acquisition Agility Act (NDAA 2017) and Threat provisions
  - ✓ Three major Touchpoints for Intelligence
  - ✓ Including Intelligence in the Request for Proposal
  - ✓ Managing Requirements and Specifications
  - ✓ Some Examples
  - ✓ Views on how intelligence can support the process
  - ✓ Future Engagement with NDIA

Trivia

Question: How many acquisition intelligence professionals are there in the Services?

Answer: Currently, there are 470 Acquisition Intelligence Professionals (0.34% of the combined MILDEPT acquisition workforce)

Army = 99
Navy = 84
Marine Corps = 9
Air Force = 278

Why the Acquisition Agility Act?

Conventional Department of Defense (DoD) acquisition system (DAS) is "not sufficiently agile to support warfighter demands"
House Committee Report 114-102 accompanying the National Defense Authorization Act (NDAA) for Fiscal Year 2016 (FY16)

- *Does not respond rapidly enough to changes in technology and threat to respond with capability counters at the speed of relevance*
- *Is a linear model, an iterative model with manual feedback required*

FY17 NDAA Acquisition Agility Act (AAA) changes the way capabilities are acquired so they are more flexible to:

- *React to and remain ahead of emerging threats*
- *Take advantage of emerging technologies*
- *Increase interoperability*
- *Reduce schedule/decrease cost*
- *Other sustainment benefits*

AAA requires changes to the way we do acquisition and has far-reaching consequences to the Defense Acquisition System (DAS)

FY17 NDAA AAA Sections

FY17 NDAA AAA includes the following five sections:

- Section 805: Modular Open System Approach (MOSA) in Development of Major Weapon Systems
- Section 806: Development, Prototyping, and Deployment of Weapon Systems Components or Technology
- Section 807: Cost, Schedule, and Performance of Major Defense Acquisition Programs
- Section 808: Transparency in Major Defense Acquisition Programs
- Section 809: Amendments Relating to Technical Data Rights

Sections 805 – 807 create new "Chapter 144B – Weapon Systems Development and Related Matters" in Title 10, United States Code (USC)

Sections address all aspects of DoD acquisition (requirements, acquisition, budgeting)

Sections 805 – 809 amend other existing sections of Title 10 related to acquisition:

Sec. 2320 (Technical Data Rights), 2366a (Milestone A (MS A) approval), 2366b (Milestone B (MS B) approval), 2430 (MDAP defined), 2432 (Selected Acquisition Reports) and 2547 (MDAP requirements)

Technical Data Rights pertaining to Major System Interfaces a key MOSA/Acquisition consideration

Key Threat Requirements in AAA (NDAA-17)

- (1)(a) MODULAR OPEN SYSTEM APPROACH REQUIREMENT: ”includes a subsystem or assembly that is likely to have additional capability requirements, is likely to change because of evolving technology or **threat**,”

- (1)(b) PROGRAM CAPABILITY DOCUMENT: “a program capability document *(i.e. CDD)* for a major defense acquisition program shall identify and characterize — the extent to which requirements for system performance are likely to evolve during the life cycle of the system because of evolving technology, **threat**, or interoperability needs”

- (2)(a) PROGRAM COST, FIELDING, AND PERFORMANCE GOALS: "incorporate program planning that anticipates the evolution of capabilities to meet **changing threats**, technology insertion, and interoperability”

MOSA Design Threat consideration

Requirements/JCIDS Threat consideration

Performance/Goals Threat consideration

References:

(1) SEC. 805. MODULAR OPEN SYSTEM APPROACH IN DEVELOPMENT OF MAJOR WEAPON SYSTEMS: ‘‘CHAPTER 144B—WEAPON SYSTEMS DEVELOPMENT AND RELATED MATTERS
(a) ‘‘§ 2446a. Requirement for modular open system approach in major defense acquisition programs; definitions”:
(b) ‘‘§ 2446b. Requirement to address modular open system approach in program capabilities development and acquisition weapon system design”
(2) SEC. 807. COST, SCHEDULE, AND PERFORMANCE OF MAJOR DEFENSE ACQUISITION PROGRAMS.: Chapter 144B SUBCHAPTER III—COST, SCHEDULE, AND PERFORMANCE OF MAJOR DEFENSE ACQUISITION PROGRAMS
(a) ‘‘§ 2448a. Program cost, fielding, and performance goals in planning major defense acquisition programs”

Focus Areas in Implementing Threat in AAA

Near Term:

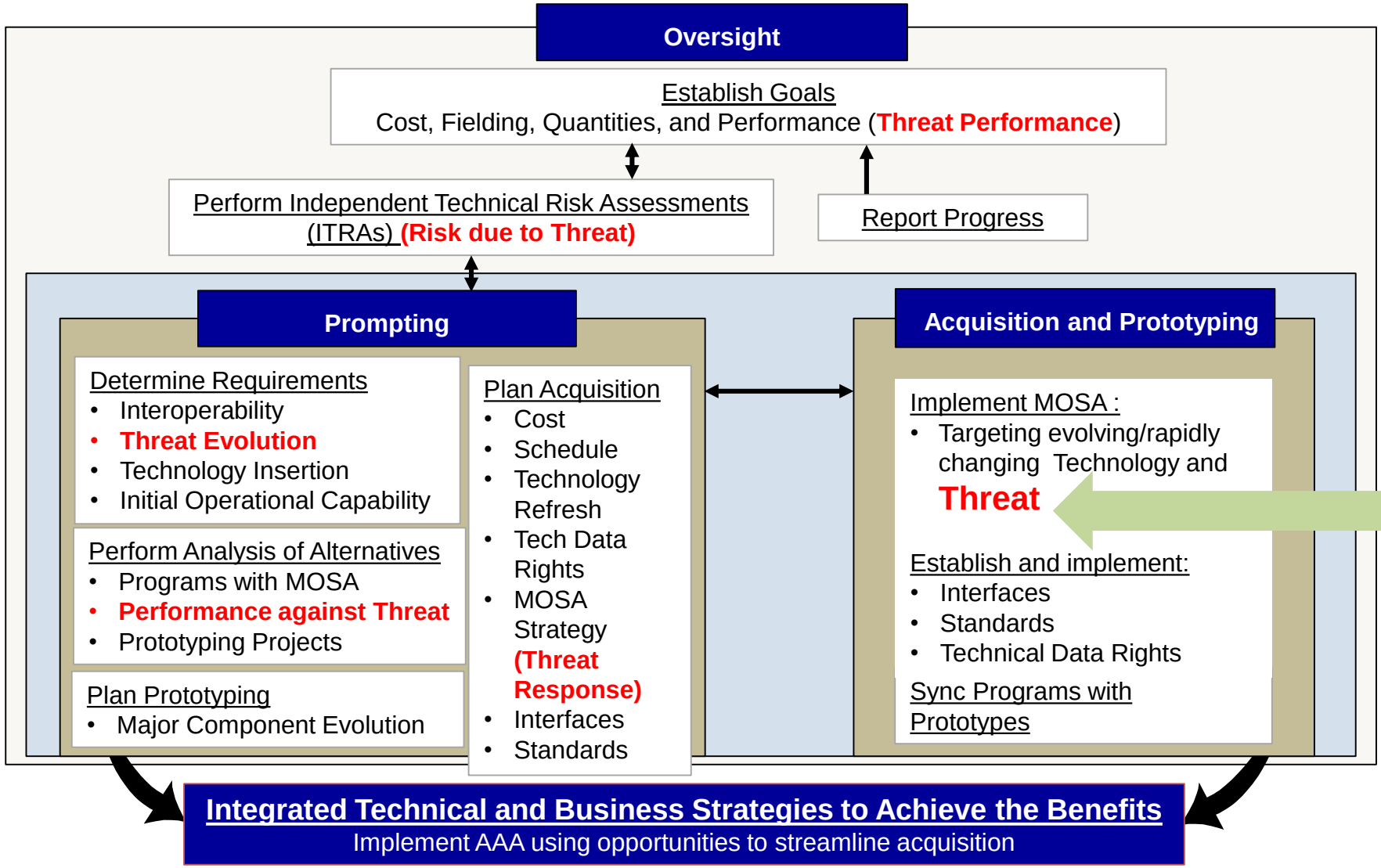
- Improving Intelligence Threat assessments for Acquisition:
  - Adjusting timelines and timeliness of threat assessments to meet speed of relevance in adversaries technology adoption and capability use
  - Adjusting content of threat assessments to meet direct decision-making needs of program and their Systems of Systems portfolio WRT countering new or evolving threats
  - Providing dynamic threat products such as VOLT(1) that are useful to PM's in developing their counter-threat capability plans and implementation
- Influencing Acquisition:
  - Include Intelligence in pre-program planning
  - Include Intelligence in Request for Proposal (RFP)
  - Include Intelligence in Systems engineering planning and practice for Defense capabilities
  - Include Intelligence in Engineering specifications and processes

End State:

- Integrated Threat awareness and countering planning into the DAS at all levels
- Intel an integral part of Systems Engineering in defense capability programs
- Threat models with current and realistic projected threat capabilities in Mission Engineering and Model-Based Systems engineering (MBSE) for defense capability programs
- Validated Threat information shared with industry for informing internal Mission Engineering IRAD and Defense capability development
- Direct linkage between Threat and engineering specifications in acquisition RFP and other DAS processes

(1) Validated Online Lifecycle Threat (VOLT): system-specific VOLT Report to support capability development and PM assessments of mission needs and capability gaps against likely threat capabilities at Initial Operational Capability (IOC) + 10 years

AAA Implementation Framework



MOSA Determinations made in response to Threat become integral part of acquisition in all AAA phases

Three Major Touchpoints

REQUIREMENTS

CBA – AoA – ICD/**Draft CDD**

MS A

- Goal: Requirements informed by intelligence
- Participate in JCIDS
- KPPs/KSAs threat informed
- Define trade space (T/O)
- Scenario review
- Verify planning figures
- Reliance on threat data
- Provide the "So what"

Products:

- VOLT and CIPs
- Threat paragraph in ICD/CDD and TEMP
- Initial IMD requirements
- Threat Representations

ACQUISITION

CDD - **Development RFP** - Design Reviews

MS B

- Goal: Effective Engineering solutions
- Participate in RFP
- Refine trade space
- Identify key technology
- Technology protection
- Reliance on threat data
- Operational environment
- Provide the "So what"

Products:

- VOLT Refresh
- CIP Status Update
- IMD Sufficiency
- Threat Reps
- Threat paragraphs

TESTING & EVALUATION

TEMP - SEP w/DSM - CPD

Operational Testing

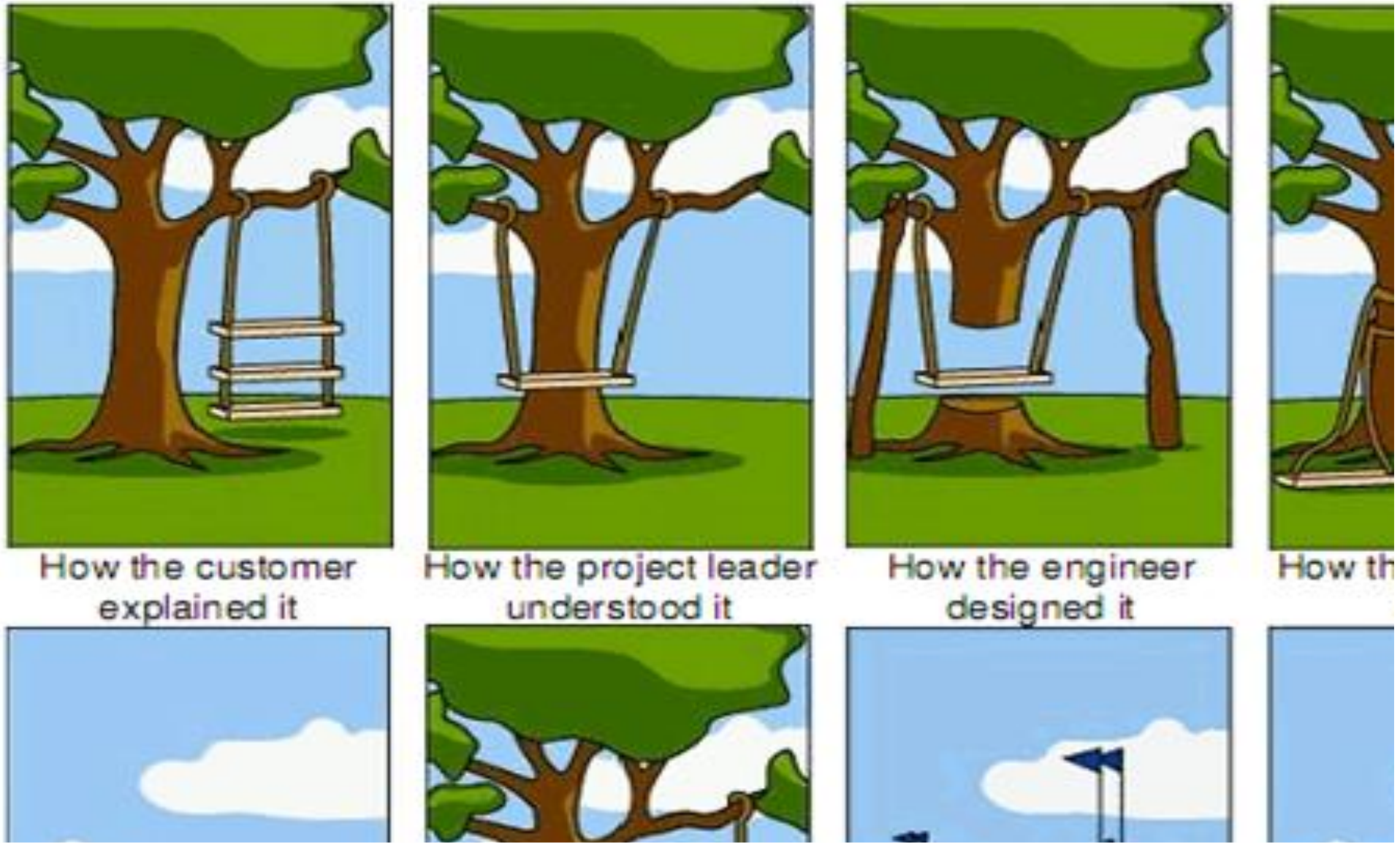
MS C

- Goal: Threat representations available to support testing
- Availability of threat data
- Validation and accreditation
- OPFOR training
- On site threat validation

Products:

- VOLT Refresh
- CIP Status Update
- IMD to support T&E
- VV&A of threat reps
- Update to LCSP

If we get nothing else right…just sitting down during these three events


How the customer explained it
How the project leader understood it
How the engineer designed it
How th

Include Intelligence in Request for Proposal (RFP)

Recommendation: PMO ensures performance specifications addresses threat parameters and intelligence data standards in applicable RFPs

Problem Statement:

- Performance specifications and contracting efforts are often inflexible and difficult to change while projected threat and target environment continues to evolve at IOC/IOC+10
- Current MIL-STD do not support standard identification of intelligence data (e.g. IMD) requirements

Action Items:

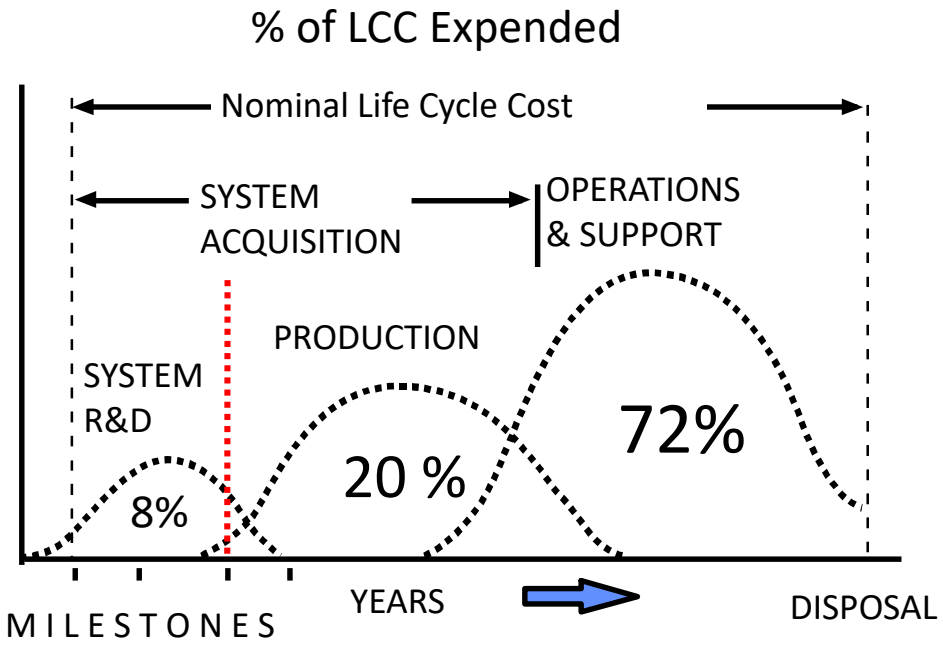
- Update appropriate chapter in DAG to include acq-intel in RFP working group (**OPR:** OUSD(A&S)/Service AC) (**Timeline:** 3 months)
- Update DAG, Chapter 7 (Intelligence Support to Acquisition) (**OPR:** Acquisition Intelligence Cell) (**Timeline:** 3 months)
- Lead development of sample language for inclusion of threat parameters and intelligence data standards in RFP (**OPR:** OUSD(A&S), ASD(A)) (**Timeline:** 6 months)
- Develop MIL-HDBK/SPC/STD to support standard identification and integration of intelligence data into system engineering (**OPR:** DIA (TLA-4)) (**Timeline:** 1 year)

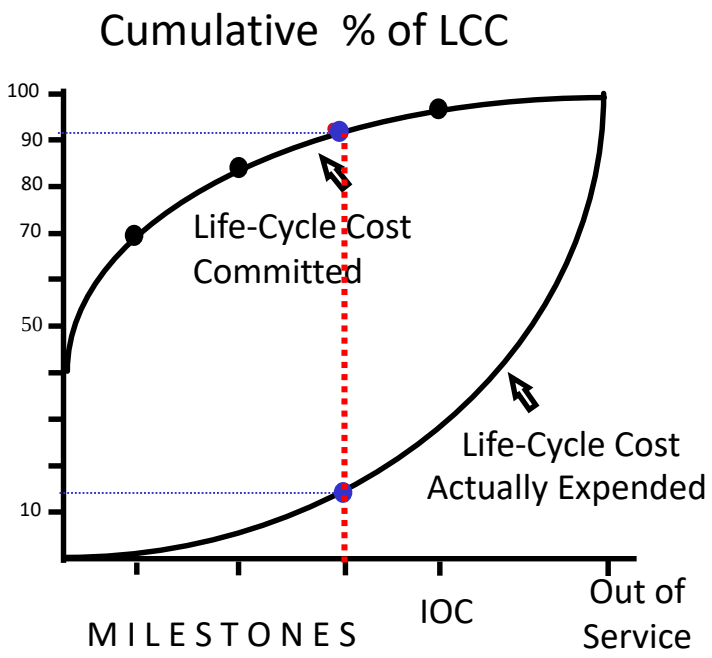
Developing a Request for Proposal

- Developing an RFP for an ACAT 1D system, that results in an award, can take 12-24 months before a selection is made.
- The RFP package is the business implementation of the operational requirements of the CDD and the Acquisition Strategy.
- Developing the RFP will set in motion a set of activities that will have lasting effects for decades.
- Mistakes can be costly and time consuming.
- System engineers working with contracts and legal professionals coordinate the development of technical requirements of the RFPs to implement an approved Acquisition Strategy

Benefits of Early Systems Engineering

SE's can help save $'s / Time by working to achieve ALL user objectives from the start – technical performance, supportability, financial, and programmatic





Statement of Work ($OW)

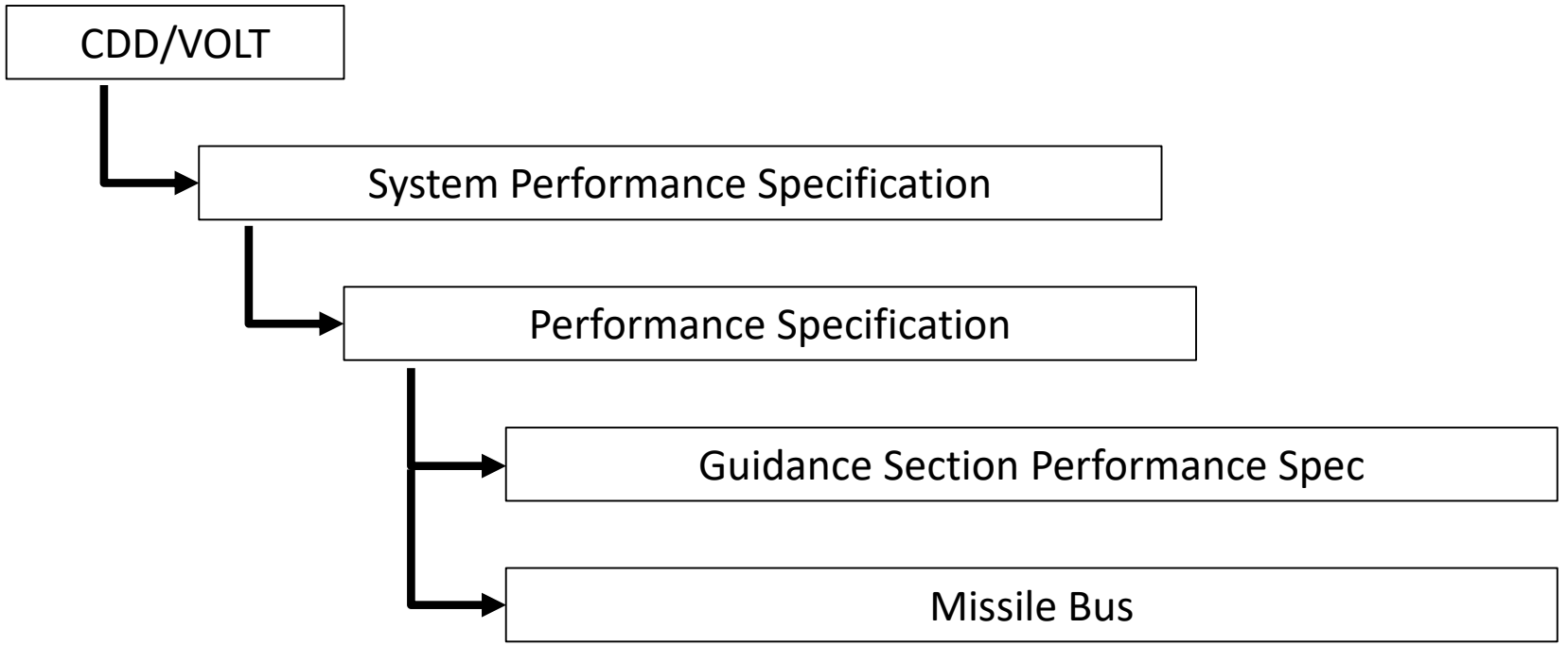
- State specifically all work to be performed on the contract, the manner in which that work is documented, and how and when any product should be delivered
- Confusing language is often to the benefit of the contractor; sometimes cost the government more money
- Every SHALL statement costs money; unless it simplifies choices that could be costly
- Most of the content in a SOW is generated by the technical team and system engineers must balance the needs of the functional experts against the budget and schedule
- Some programs manage the SOW in DOORS in the same manner as the performance specifications and interface control documents were.
- Need to consider language that supports integration of acquisition intelligence resources (i.e. threat steering group, CPI determination, IMD determination, etc.)

Reference: MIL-HDBK-245C (Handbook for Preparation of Statement of Work (SOW))

Managing Requirements

- In the course of developing performance specifications and/or interface control documents, 1000s of requirements (SHALL statements) can be generated.
- Each of those requirements has to be justified because each “SHALL statement” costs money.
- Traceability is how that justification is accomplished
- To help manage each of those requirements, some programs rely on commercial Model-Based Systems Engineering Tools (e.g. (MagicDraw, Rational Rhapsody, Visual Paradigm…., etc.) and specific requirements management tools: (e.g Rational DOORS, Enterprise Architect, Jira etc.).
  - These Digital Engineering tools allow connection of requirements between specifications (traceability) and enforce configuration management and history.
  - The MBSE tools allow direct modeling of system performance
  - Acquisition intelligence can play a vital role in tracking threat against system performance specifications and provide early warning

Traceability = Accountability



Requirements cost money and best intentions are still GOLD PLATING.

Traceability = Accountability

CLASSIFICATION: _____

Author: _____
Project: _____
POC: _____
Phone: _____
Version: 10/26/12

Purpose: The Generic Systems RAW is intended to be run on programs/systems to determine the areas in which requirements should be derived from.

RAWs Referenced:

Questions regarding this RAW can be directed to the AFLCMC 21st Intelligence Squadron

#	Question	Action	Explanation	Class	Answer & Source
Program Information (Determine baseline of prior Intel supportability work)					
1	(U) Does the program/system have previously documented intelligence requirements?	(U) If yes go to 1.1, if no go to 2	(U) If it has, the questions below may have already been answered and deficiencies noted		
1.1	(U) Have intelligence requirements been fully and clearly articulated to sufficient level of detail?	(U) See COLISEUM for Production Requirments (PR) and the SIPR Requirements Database for documented intel deficiencies			
1.2	(U) Have all intelligence requirements been reflected in JCIDS documentation (ICD, CDD, CPD, ISP)?	(U) If no, continue with checklist to derive requirements.			
2	(U) Has the program/project investigated the need for or prepared a Life-Cycle Signature Support Plan (LSSP)?	(U) If yes, provide reference/link. If No, contact primary intelligence office (AFLCMC/INA, INM, etC)	(U) LSSPs are required by DoD 5250.01 for programs with signature requirements at Milestones A, B, and C.		
System Information (System parameters needed to determine intelligence data needs below)					
Data Requirements (needed to determine data DIRs)					
3	(U) Does the system require the use of, exploitation of, and or analysis of geospatial data, geographically referened activities on the earth, or Geospatial Information & Services (GIS) to include products or databases?	(U) If yes, run GEOINT and GI&S RAW to derive requirements.	(U) GI&S could include products as navigation maps, vector data, terrain elevation data such as Digital Terrain Elevation Data (DTED) or Shuttle Radar Topography Mission (SRTM), and orthorectified imagery based geospatial products		
4	(U) Does this system support, require, or provide mission planning?	(U) If yes, complete the Mission Planning RAW	(U) Systems needing the currency of electronic maps & charts, JMPS, vertical obstruction data, & C&P data requirements will have mission planning requirements		
5	(U) Does the system require the use of signals derived between people (COMINT), ivolving electronic signals not directly used in communications (ELINT), or a combination of both?	(U) If yes, complete SIGINT RAW to derive requirements.	(U) SIGINT products may include things like raw data, PROFORMA poducts, EOB data, databases, text reports, fused products, and technical reports.		

Traceability = Accountability

Threat Type	Threat Sub-Class	Threat Systems	Most Likely / Most Capable	Threat Characteristics	CAN Gaps	CDD Requirements	P-Spec Requirements	Technology Drivers	Schedule	Cost	Trades / Risk / Unknowns / Knowns
Tactical Ballistic Missiles (TBM)	Medium Range Ballistic Missiles (MRBM) XX km		Most Likely (thru 20XX)							Requirements Drivers:	Tradespace:
			a)				1)	1)			
			b)								
			c)				2)	2)			
			d)							Technology Drivers:	Risks:
			e)			KPP #,#,#	3)	3)			
			f)						CA + Months		
			Most Capable (thru 20XX)			KSA #,#,#	4)	4)			Unknowns:
			a)							Program Drivers:	
			b)				5)	5)			
			c)								Knowns:
			d)				6)	6)			
			e)								
			f)								
	Short Range Ballistic Missiles (SRBM) XX km		Most Likely (thru 20XX)							Requirements Drivers:	Tradespace:
			a)				1)	1)			
			b)								
			c)				2)	2)			
			d)							Technology Drivers:	Risks:
			e)			KPP #,#,#	3)	3)			
			f)						CA + Months		
			Most Capable (thru 20XX)			KSA #,#,#	4)	4)			Unknowns:
			a)							Program Drivers:	
			b)				5)	5)			
			c)								Knowns:
			d)				6)	6)			
			e)								
			f)								
	Long Range Ballistic Missiles (LRBM) XX km		Most Likely (thru 20XX)							Requirements Drivers:	Tradespace:
			a)				1)	1)			
			b)								
			c)				2)	2)			
			d)							Technology Drivers:	Risks:
			e)			KPP #,#,#	3)	3)			
			f)						CA + Months		
			Most Capable (thru 20XX)			KSA #,#,#	4)	4)			Unknowns:
			a)							Program Drivers:	
			b)				5)	5)			
			c)								Knowns:
			d)				6)	6)			
			e)								
			f)								

Some Examples

Future Cannon and Tradespace

And a story on why informing requirements with intelligence is so critical

From Requirements to Solutions

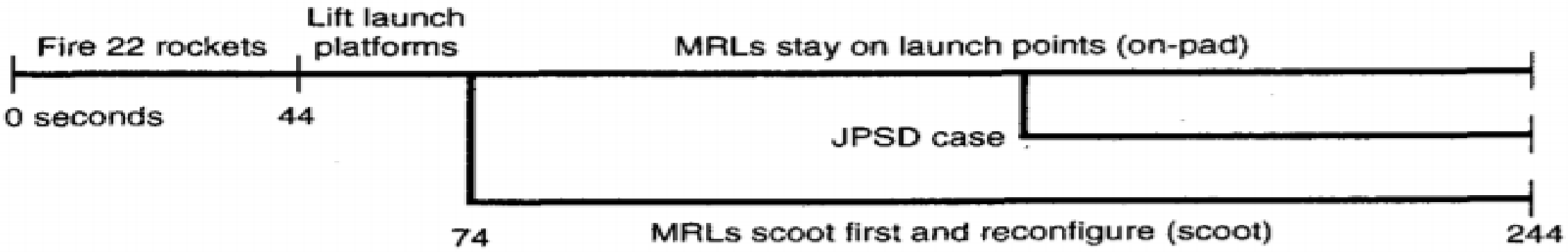
Cannon Requirements Decision Space

Parameter	Requirement	Impact			Threat
		Cost	Schedule	Performance	
Weapon System Reliability	75-83%? probability of completing an 18 hr combat mission; 62 hrs MTBSA	Increased test cost—test, fix	Increased testing time	Linked to operational need	High reliability—simple designs
Mobility	Similar as previous models	Development of improved engine	Linked to development of improvements	Degradation due to weight increase	Very mobile with engine upgrades, suspension, tires
Range	35 km	Improved cannon and munitions	Increased testing at longer ranges	Increased performance with improved warheaads	55-70 km range
Rate of Fire	T - 4 rounds/min for unguided O – 6 rounds/min	Increases with each element	Increased testing time to prove out increased rate	Increased ability to service targets from less platforms	Limited night/ degraded opns Image intensifiers and thermal
Ammunition Storage	T/O – 39 rounds	No increased cost			60-70 rounds
Embedded Training	On-board embedded tng	Factor in cost to maintain	Increased testing	Consider if actually used	No embedded training
Degraded Operations	Ability to engage targets in manual mode	$No additional cost – using modified chassis	Increased test time	Reduced crew members could impact	Degraded operation capable

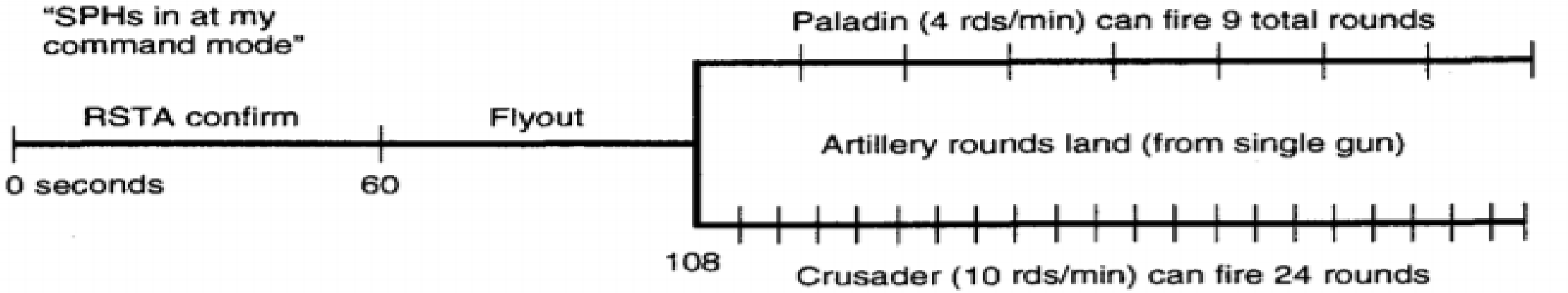
Thresholds aren't "stretch" goals—must be achievable in time/money

Rate of Fire – Based on What?!

Red movement:

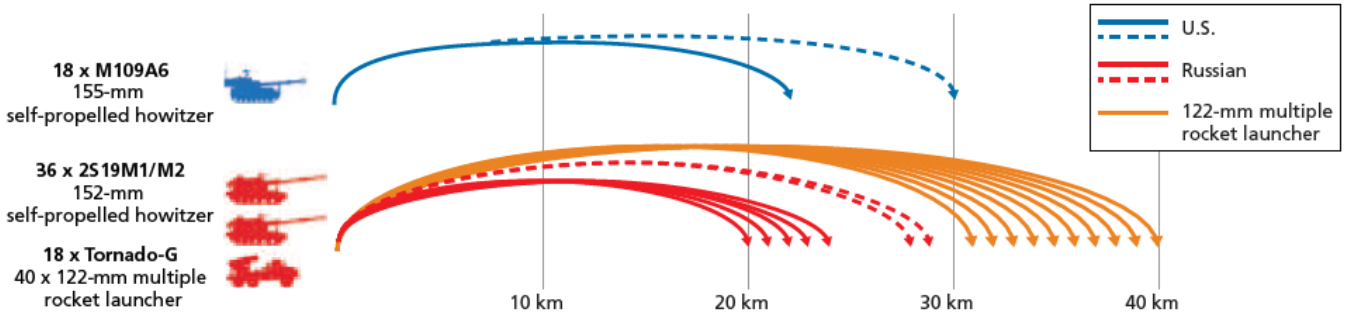


Blue response:



(All times shown are in seconds; two cases examined bound the JPSD case.)

When Requirements to Specifications is Easy

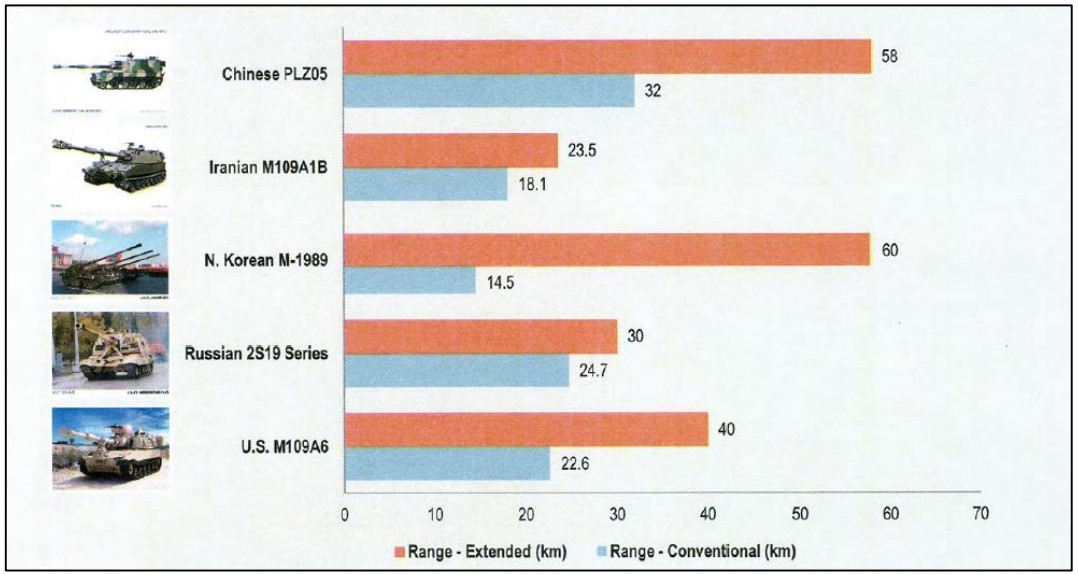


Key performance parameter.

- T: Range of 40 km; O: 70 km
- Stow 39 rounds
- Rate of fire: 4 rds per min

Engineering specification.

- T: Range of 40 km; O: 70 km
- Stow 39 rounds
- Rate of fire: 4 rds per min



	CHINA	IRAN	N. KOREA	RUSSIA	U.S.
MOST CAPABLE SPG	PLZ05	M109A1B	M-1989	2S19 Series	U.S. M109A6
Combat weight (kg)	33,000	28,849	40,000 est.	43,000	28,800
Max speed (km/h)	40 on road, 30 off road	56	35 est.	70	65
Main armament (mm)	155mm / 52 cal.	155 / 39 cal	170	152 / 48 cal	155 / 39 cal
Basic Load / Stowage	30	34	2 est.	50	39
Rate of Fire	2 rds/min normal, 4-5 rds/min burst	2 rds/min normal, 4 rds/min burst	1rd/min est.	6 rds/min normal, 8 rds/min burst	4 rds/min

GPS Jammers

•US/NATO reliance on GPS pervasive and growing
•Technology modest in cost but effective
➢Jamming inexpensive compared to anti-jam protection
•Good example of asymmetric warfare
➢Wide frequency coverage, high power
➢Multitasking: GPS, cell phones, multi-channel radio relay
High cost and complexity usually limit total numbers deployed

WF-K6
➢ 5 watt
➢ 4G 6 bands High Power

TRC 274
➢1-3000 MHz
➢Multi-mode, spot jamming, Smart Chirp

Aviaconversiya III
➢8 watt
➢Portable, lightweight
➢Claimed effective against US GPS and Russian GLONASS

When Requirements to Specifications is NOT so Easy

Requirement: Operate in a GPS-contested environment with less than 10m circular error probability.

Systematic additive
- Spectral element not included in the correlator determination
- Cross-talk from the reference into signal channel

Systematic multiplicative
- Computer truncator of correlator components
- Scan function different from that used in correlator determination

$$G_2(\chi) = a_3 + a_4\langle I(\chi)\rangle^2$$

Spectral radiation power

$$S = \int_{x_1}^{x_2} H(\chi).I(\chi)d\chi \qquad \text{Eq.(1)}$$

Final signal

Time of observation

Eq.(2)

$$N = \left\{\int H^2(\chi).D(\chi)G_1(\chi) + G_2(\chi)D(\chi)\right\}^{1/2} d\chi$$

Total noise

Delay

$$G_1(\chi) = a_1 + a_2\langle I(\chi)\rangle^2$$

Intensity in the interferogram

Correlator function

$$H(\chi) = 2\sum_{i=1}^{n} A_{i1}^{-1}\frac{I_i(\chi)}{G(\chi)}$$

$$A_{ij} = \int \frac{I_i I_j}{G} d\chi$$

Random additive
- Detector noise
- Photon noise
- Electrical noise
- Digitalizing of interferogram

Random multiplicative
- Scintillation of incident light
- Reference signal error
- Scan waveform variation

[1] J. Mattson, H. Mark, Jr., H. MacDonald Jr., Infrared, correlation and Fourier Transform Spectroscopy; In Computers in Chemistry and Instrumentation, Marcel Dekker Inc. New York, 1977, New York, pp. 1 – 233.

Performance specification:

GPS Anti-jam Performance Under jamming conditions; the GPS receiver/antenna shall be capable of providing 20 dB J/S during a direct P(Y) acquisition and 35 dB J/S during aided track in the operating environment.

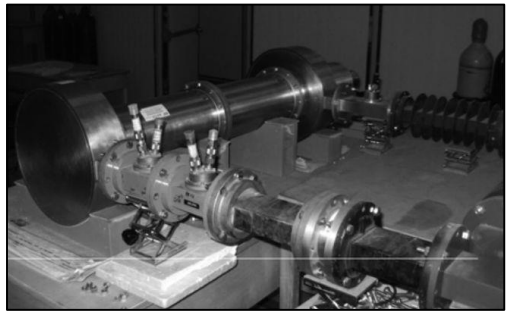
Radiofrequency Weapon Threat

The Ranets E is a High Power Microwave (HPM) weapon system intended to produce electrically lethal damage or disruption and dysfunction in opposing airborne systems, be they aircraft or guided munitions in flight. The system was first disclosed by Rosoboronexport in 2001, but little technical detail has been disclosed since then. The weapon uses an X-band pulsed 500 MegaWatt HPM source, generating 10 to 20 nanosecond pulses at a 500 Hz PRF, and average output power of 2.5 to 5 kiloWatts. The antenna is large enough to provide a gain of 45 to 50 dB in the X-band. The weapon has been described as a **"radio-frequency cannon"**. Russian sources credit it with a lethal range of 20 miles against the electronic guidance systems of PGMs and aircraft avionic systems.

•Weapons that radiate strong electromagnetic pulses for the purpose of attacking electronic targets.

•Related terminology:

- Directed Energy Weapon – lasers, particle beams, RFW
- High Power Microwave—synonymous with RFW but higher frequency beam weapons
- Ultra-Wideband—EMP with very broad frequency content
- Non-Nuclear EMP—synonomous with RFW but contrasting with nuclear EMP



For over 6 years, Huang Wenhua and his team at the Northwest Institute of Nuclear Technology in Xi'an have been working on a potent microwave weapon. This one, which recently won China's National Science and Technology Progress Award, is small enough to fit on a lab work bench, making it theoretically portable enough for land vehicles and aircraft.

2018 2025 2035

When Requirements to Specifications is NOT so Easy

Requirement:

Must operate throughout the world-wide electromagnetic environment, including shipboard, without affect or disturbance to flight critical functions.

MIL-STD-464C: Electromagnetic Environmental Effects Requirements for Systems

- Specifies EM environment that systems' operational performance requirements are met.
- Includes all sources of EM radiation including RFW

Examplar

Performance specification:

Rotary Wing Aircraft including UAVs operating in 8000-8400 MHz, X-Band 7430 V/m – rms peak.

What are the operational ranges given the most likely and most capable threat?

- Drives hardening and cost
- Most likely – 5 km
- Most capable – 30 km

What are the TTP implications?

- Impacts CONOPS

Future Engagement with NDIA

- Workshop with industry participants for requirements/input/needs from industry perspective for intelligence support to acquisition in:
  - MOSA
  - Systems engineering processes
  - Mission Engineering
  - Modeling and simulation

- Interaction with Industry on Intelligence and Systems Engineering processes; other NDIA communities as needed
- Involvement in ongoing NDIA Mission Engineering activities
- Involvement in ongoing NDIA Acquisition Agility/MOSA activities
- Involvement in NDIA Digital Engineering activities

Questions?

BACKUP

Three Major Touchpoints

MS A – Requirements
PLAYERS G-8, TISO, CDID/TM, TRADOC G-2, AMC G-2, FIO at labs, ARCIC/TRAC/battle labs, NGIC, DOT&E
INPUT ISC/MSFD/JCOFA, TRADOC standard scenarios (includes TTP), CBA (FAA, FNA, FSA), AoA Study Guidance, CONOPS/OMS/MP, Draft CDD (KPPs, KSAs, APAs), Intelligence Mission Data rqmts
TOOLS/PROCESSES/DATABASES Threat Steering Group, CAMS, working groups, FMA/FME, Program of Analysis/IDIP, COLISEUM, IMARS/AIR ViEW, AGORA, IRCO (ICD), Integrated Threat Analysis Simulation Environment (ITASE), SPAR, DOTC, HOT-R
WHAT THEY WANT FROM INTELLIGENCE Are threat assumptions for the AoA correct? Any key considerations? Do the requirements make sense? Is the trade space sufficient to meet future threats? What threat representations are needed for most likely/most stressing? Are threat shortfalls captured in FMA?
OUTPUT Threat paragraph in ICD/CDD and TEMP; IMD determination/rqmts/prioritization/risk; CPI determination; key technologies; VOLT and CIPs; TTSP, Part I; M&S requirements
OVERSIGHT AROC/JROC, ASARC/DAB, functional capability boards, AIRTF/AIRESG, TSG

Window of Opportunity to Influence the draft-CDD is 45 days

Three Major Touchpoints

MS B – Acquisition/ Development Request for Proposal
PLAYERS PM/lead system engineer, TISO, TRADOC G-2, threat manager, AMC G-2, foreign intelligence officer, ATEC, NGIC
INPUT Acquisition decision memorandum w/acquisition program baseline, acquisition strategy, TEMP, system evaluation plan with data source matrix, CDD with views and intelligence supportability
TOOLS/PROCESSES/DATABASES Threat Steering Group, KM/DS, design reviews (SRR/CDR), ITASE, SPAR, Program of Analysis/IDIP, FMA/FME, COLISEUM, IMARS/AIR ViEW, AGORA, IRCO (CDD), ITASE, HOT-R
WHAT THEY WANT FROM INTELLIGENCE Does the request for proposal adequately translate requirements into engineering specifications? Any significant changes to assessments or parametric data? IMD, Phase III.
OUTPUT VOLT Refresh; TTSP, Part I Refresh; CDD Threat paragraph; TEMP Threat paragraph (including costing), Development RFP (1 month to write; 1 yr staff; 1 yr source selection), IMD rqmts/prioritization/risk mitigation
OVERSIGHT Army OIPT, ASARC/DAB, Configuration Steering Board, AIRTF/AIRESG

Window of Opportunity to Influence MS B Decision is 100 days Prior

Three Major Touchpoints

MS C – Testing and Evaluation
PLAYERS DOT&E, OTC, PM/lead test engineer, AST Chair, TISO, TRADOC G-2, threat manager, AMC G-2, foreign intelligence officer, ATEC, TSMO/TMO, AMSAA, NGIC
INPUT TEMP, System Evaluation Plan with Data Source Matrix
TOOLS/PROCESSES/DATABASES Threat Steering Group, FMA/FME, Validation Working Group (DUSA-TE), Threat Accreditation Working Group (ATEC), IRCO (CPD), IMARS/AIR ViEW
WHAT THEY WANT FROM INTELLIGENCE Threat TTP, Validation/Accreditation of Threat Representations/Portrayal, IMD availability to support testing, Update on FME affecting threat representations, M&S models
OUTPUT VOLT Refresh; TTSP, Part II (includes accreditation reports); CPD Threat paragraph; TEMP Threat paragraphs (including costing); Protect-Detect-React-Restore
OVERSIGHT DOT&E, T&E WIPT, OTRR 1-3, AIRTF/AIRESG

EMD RFP Attachments

1 - Statement of Work	20 - Reliability Program
2 - Performance Specifications	21 - SOP Critical Safety Item Management
3 - Deliverable Hardware Matrix	22 - SSMP
4 - Test Review Policy	23 - CPC Plan
5 - Notional Work Breakdown Structure CSDR	24 - Training Responsibility Matrix
6 – Government Furnished Property	25 - Risk Management Plan
7 - MRL Matrix and Definitions	26 - Contractor Performance in Government Milestone Reviews
8 - IPTs and Working Groups	27 - Parts, Materials, and Processes Plan
9 - Document Summary List	28 - Logistics Product Data
10 - DD254 signed and SCG attached	29 - Production Readiness Process Manual
11 - Definitions	30 - Test Responsibility Matrix
12 - Acronyms	31 - Section L - Instruction for Proposal Preparation
13 - Notional Program Schedule	32 - Section M - Basis for Award
14 - HWIL Description and ICD	33 - Industrial Capabilities Assessment Questionnaire
15 - JAMS Software Acquisition Measurement Program Plan	34 - Unit Price Tables for AP and LRIP
17 - Quality Program Plan	35 – Pre-award Survey of Prospective Contractor Accounting System Checklist
18 - TM Data Dictionary	36 - EMD LRIP SOW to CLIN Map
19 - Technical Performance Measures	Exhibit A-Contract Data Requirements List
	Exhibit B ITARS Memorandum

Include Intel in Dev RFP (Idea XIII)

Project Description/Background
Intelligence provides projected threat technology to inform development of engineering specifications.

Problem Statement
•Intel personnel do not participate in RFP working group.
•Performance specifications will not defeat projected threat at IOC/IOC+10
•Program design information jeopardized due to lack of appropriate security (No security in place at labs to support RFP review.
•MIL-STD/PRF don't support standard identification of IMD requirements.
•Security access impacts VOLT dissemination.

Goals & Objectives (include Estimated Savings)
•Minimize engineering change proposals (ECPs) ($) due to change in requirement
•Provide consistent AIR consensus throughout Dev RFP process on projected threat.
•Performance specifications overmatch threat at IOC+10
•IMD requirements entered into IMARs
•Incorporate acq-intel supportability considerations into SoW

Estimated Kick-off and Duration
• Start now- 1 year (3-6 months for concept & 3-6 months for policy update (DAG))

Process Owner/Champion & Potential Team Members
•OPR – OUSD (AT&L) - policy
• POC – SoS EI
• Team – AIR – all services, DCMA, office that manages Mil Standards

Action Items
•Systems engineering team includes acq-intel support into Dev RFP working group.
•Requirements Sponsor ensures the proper security classification of information (according to an official security classification guide or equivalent document) included in the RFP.
•IMDC develops Mil-STD/PRF or other appropriate specifications to support RFPs.

Implementation Costs
• Implement training for acq-intel (possible TDY costs)
•Acq-intel support costs ($180k/yr)
•CI Assessments
•Impediments – Non-disclosure agreements

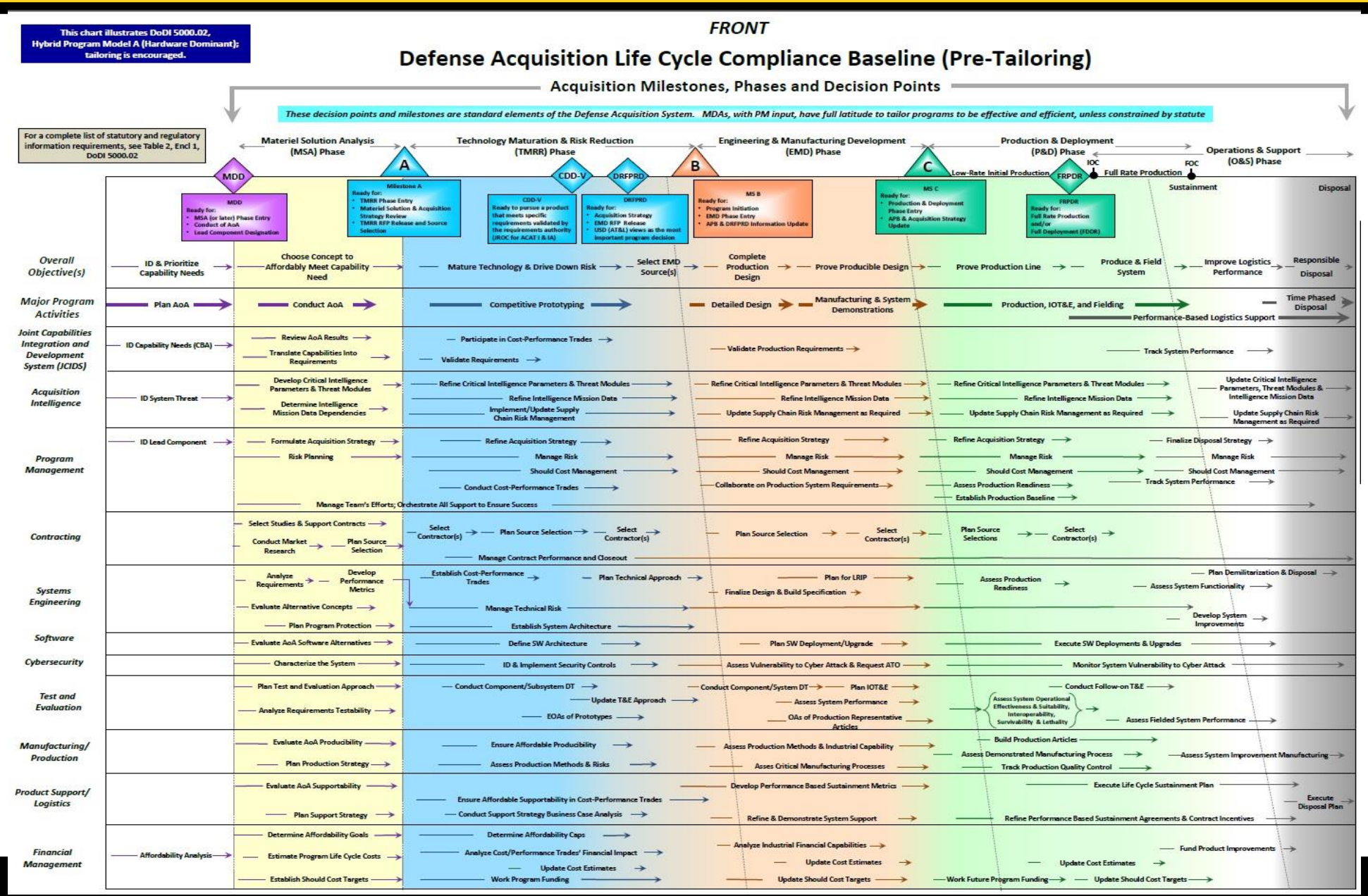
Additional Request for Proposal Considerations

MILITARY DESIGNATIONS OF SPECIFICATION LITERATURE	
MIL-HDBK	Handbook containing guidance and information on materials, design, and processes.
MIL-SPEC	Specification of technical requirements for purchased material or products.
MIL-STD	Standard for processes and procedures.
MIL-PRF	Performance specification that states required results without dictating the methods to achieve them.
MIL-DTL	Detail specification on how a requirement is to be achieved.

Additional Request for Proposal Considerations

- Contract Data Requirements List (CDRL) – Data Item Descriptions (DID)
  - DI-NDTI-80566A, Test Plan/Master Test Plan.
    - ✓ The test plan outlines the plans and performance objectives at every level of testing on systems or equipment.
    - ✓ Submit within 30 calendar days after contract award.
    - ✓ Can be used to begin planning for threat representation requirements.
  - DI-SESS-81704, Test Plans/Test Procedures
    - ✓ The test plan/test procedures provide a roadmap of the system test program.
    - ✓ Submit within 30 calendar days prior to critical design review.
    - ✓ Applies to engineering development and preliminary qualification, and formal qualification.
    - ✓ Can be used to identify test resources, verify threat representations (though not necessarily for V&A), and identify potential M&S applications needed.
  - DI-SESS-81785A, System Engineering Management Plan
    - ✓ The test plan/test procedures provide a roadmap of the system test program.
    - ✓ Submit within 90 days after contract award.
    - ✓ Opportunity to eventually integrate into the System Engineering Plan.
  - DI-ADMIN-81249B/81250B/81373, Conference Agenda/Minutes/Material
    - ✓ Keep tabs on planned meetings and agenda items.
    - ✓ Submit agenda within 10 calendar days prior to meeting and post minutes 10 days after.
- Reference: MIL-STD-963C (Data Item Descriptions (DIDs))

Liefcycle Management



Lifecycle Management

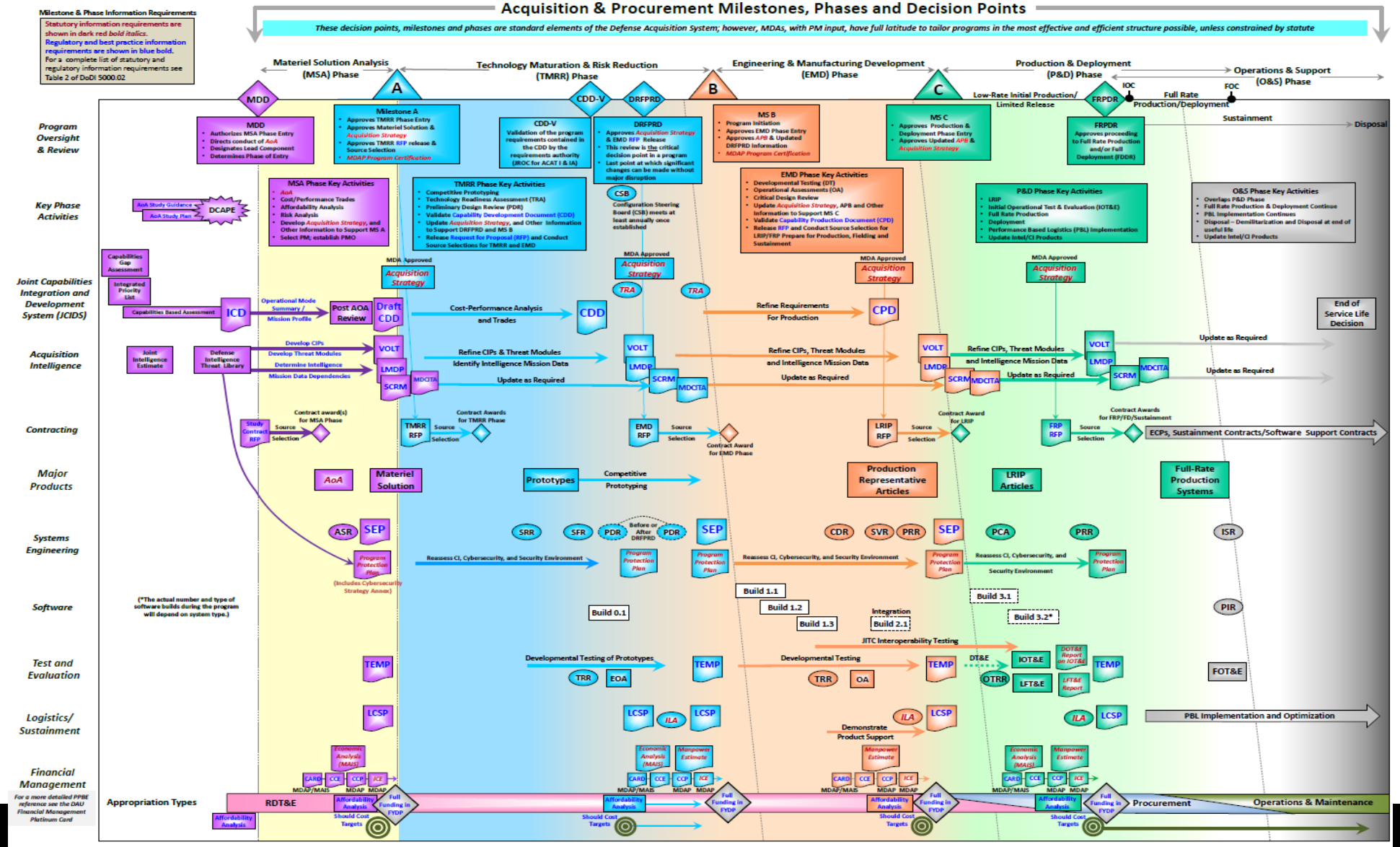
Back

Defense Acquisition Life Cycle Compliance Baseline (Pre-Tailoring)

This chart illustrates DoDI 5000.02, Hybrid Program Model A (Hardware Dominant); tailoring is encouraged.

Acquisition & Procurement Milestones, Phases and Decision Points

These decision points, milestones and phases are standard elements of the Defense Acquisition System; however, MDAs, with PM input, have full latitude to tailor programs in the most effective and efficient structure possible, unless constrained by statute



Next Generation Ground Combat Vehicle