



MPS Program Assessments

Jim Thompson

Director, Major Program Support

**Office of the Deputy Assistant Secretary of Defense
for Systems Engineering**

September 2014



Risk



“A prudent person foresees the danger ahead and takes precautions. The simpleton goes blindly on and suffers the consequences.”

– *Proverbs 27:12*

“The sea is dangerous and its storms terrible, but these obstacles have never been sufficient reason to remain ashore... Unlike the mediocre, intrepid spirits seek victory over those things that seem impossible... It is with an iron will that they embark on the most daring of all endeavors... to meet the shadowy future without fear and conquer the unknown.”

– *attributed to Ferdinand Magellan, Explorer (c. 1520)*

“A ship in harbor is safe, but that is not what ships are built for.”

– *attributed to J.A. Shedd, circa 1928*



DASD, Systems Engineering



DASD, Systems Engineering
Stephen Welby
Principal Deputy Kristen Baldwin



Systems Analysis
Kristen Baldwin (Acting)

Addressing Emerging Challenges on the Frontiers of Systems Engineering

Analysis of Complex Systems/Systems of Systems

Program Protection/Acquisition Cyber Security

University, FFRDC and Industry Engineering and Research

Modeling and Simulation



Major Program Support
James Thompson

Supporting USD(AT&L) Decisions with Independent Engineering Expertise

Engineering Assessment / Mentoring of Major Defense Programs

Program Support Assessments

OIPT / DAB / ITAB Support

Systems Engineering Plans

Systemic Root Cause Analysis



Mission Assurance
Robert Gold

Leading Systems Engineering Practice in DoD and Industry

Systems Engineering Policy & Guidance

Development Planning/Early SE

Specialty Engineering (System Safety, Reliability and Maintainability Engineering, Quality, Manufacturing, Producibility, Human Systems Integration)

Counterfeit Prevention

Technical Workforce Development

Standardization

Providing technical support and systems engineering leadership and oversight to USD(AT&L) in support of planned and ongoing acquisition programs



Better Buying Power 3.0

Better Buying Power 3.0 DRAFT

Achieving Dominant Capabilities through Technical Excellence and Innovation

Achieve Affordable Programs

- Continue to set and enforce affordability caps

Achieve Dominant Capabilities While Controlling Lifecycle Costs

- Strengthen and expand "should cost" based cost management
- Build stronger partnerships between the acquisition, requirements, and intelligence communities
- Anticipate and plan for responsive and emerging threats
- Institutionalize stronger DoD level Long Range R&D Planning

Incentivize Productivity in Industry and Government

- Align profitability more tightly with Department goals
- Employ appropriate contract types, but increase the use of incentive type contracts
- Expand the superior supplier incentive program across DoD
- Increase effective use of Performance-Based Logistics
- Remove barriers to commercial technology utilization
- Improve the return on investment in DoD laboratories
- Increase the productivity of IRAD and CR&D

Incentivize Innovation in Industry and Government

- Increase the use of prototyping and experimentation
- Emphasize the use of prototyping and experimentation in program planning
- Use Modular Open Systems Architecture to stimulate innovation
- Increase the return on Small Business Innovation Research (SBIR)
- Provide draft technical requirements to industry early and involve industry in funded concept definition to support requirements definition
- Provide clear "best value" definitions so industry can propose and DoD can choose wisely

Eliminate Unproductive Processes and Bureaucracy

- Emphasize Acquisition Executive, Program Executive Officer and Program Manager responsibility, authority, and accountability
- Reduce cycle times while ensuring sound investments
- Streamline documentation requirements and staff reviews

Promote Effective Competition

- Create and maintain competitive environments
- Improve technology search and outreach in global markets

Improve Tradecraft in Acquisition of Services

- Increase small business participation, including more effective use of market research
- Strengthen contract management outside the normal acquisition chain
- Improve requirements definition
- Improve the effectiveness and productivity of contracted engineering and technical services

Improve the Professionalism of the Total Acquisition Workforce

- Establish higher standards for key leadership positions
- Establish stronger professional qualification requirements for all acquisition positions
- Strengthen organic engineering capabilities
- Ensure the DOD leadership for development programs is continuously qualified to manage R&D activities
- Improve our leaders' ability to understand and mitigate technical risk
- Increase DoD support for Science, Technology, Engineering and Mathematics (STEM) education

Continue Strengthening Our Culture of:

Cost Consciousness, Professionalism, and Technical Excellence

• Areas of Systems Engineering Focus:

- Use MOSA to stimulate innovation
- Improve the effectiveness and productivity of contracted engineering and technical services
- Strengthen organic engineering capabilities
- Improve our leaders' ability to understand and mitigate technical risk

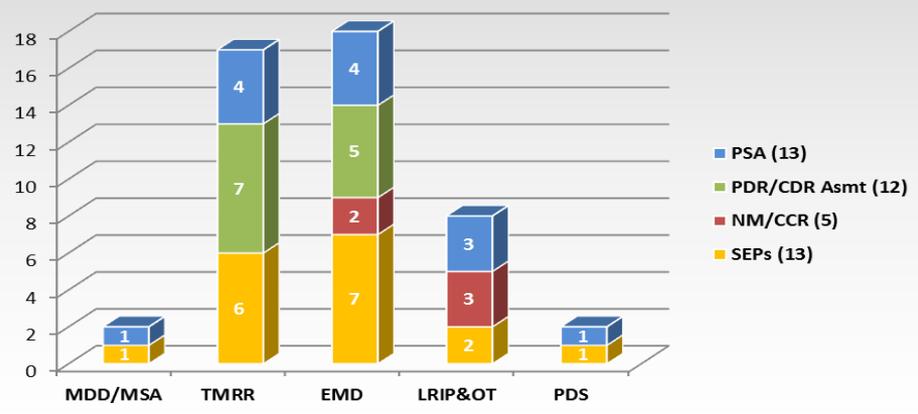
• 13 other areas anticipated to make contributions

Achieving Dominant Capabilities through Technical Excellence and Innovation

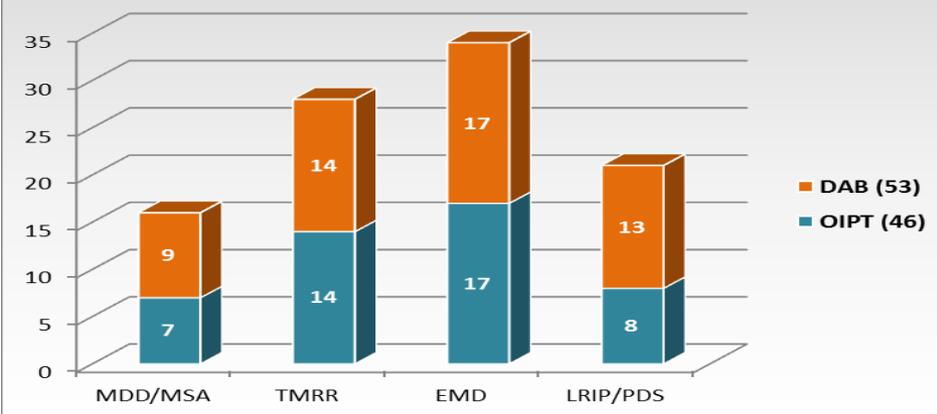


SE Program Engagements

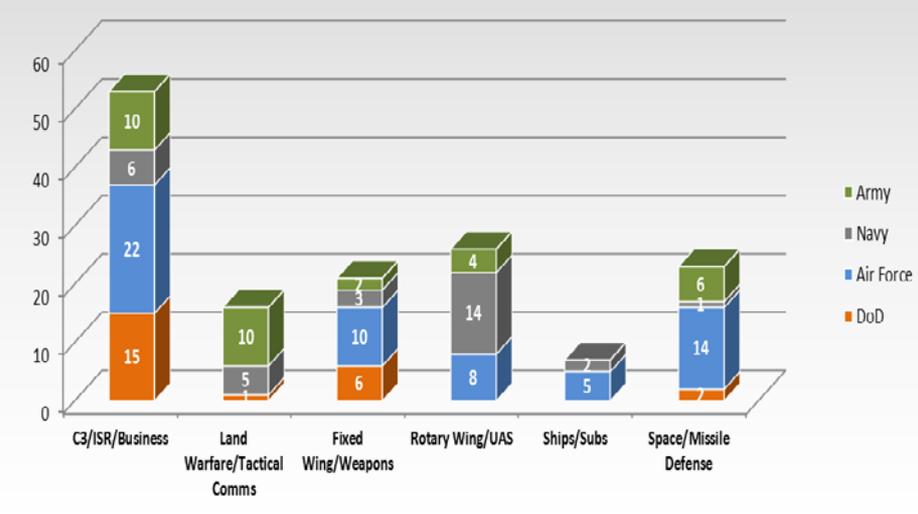
FY14 Program Engagement



FY14 DAB and OIPT Support



FY14 Program Support by Military Department and Domain



Program Engagements

- Program Support Assessments (PSA)
- SE Working Integrated Product Teams (WIPT)
- Technical Reviews
- Program Management Reviews
- Nunn McCurdy and Critical Change Reviews

Products

- Systems Engineering Plans
- Program Support Assessments
- Support of acquisition process and milestones
- Preliminary/Critical Design Review Assessments
- DASD(SE) Annual Report to Congress
- Systemic Root Cause Analysis



Technical Assessments Governing Documents

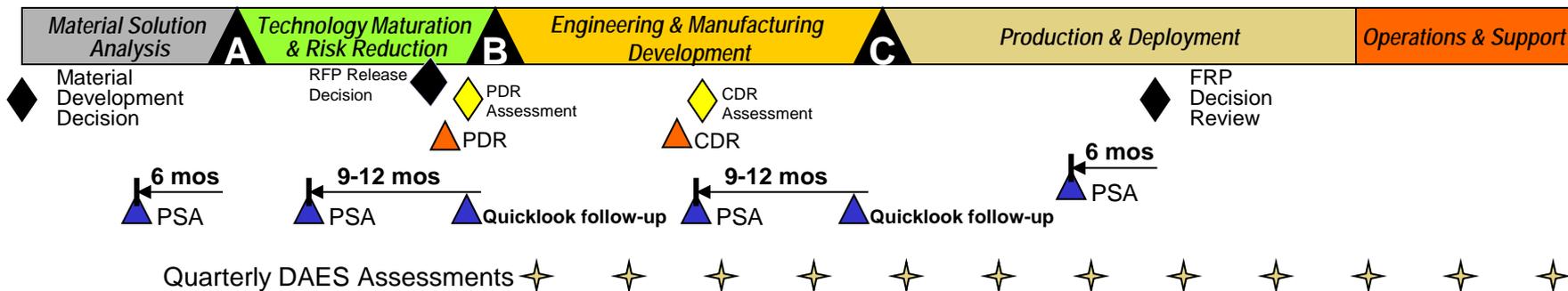


Assessment		Statute	Policy	Guidance	Applicability
Program Support Assessment		2009 WSARA, Section 103, (b) (1)	DoDI 5000.02, Enclosure 3, para 21 DoDI 5134.16, Enclosure 2, para 1.f (3)	DAG Chapter 4, para 4.3.4.3	ACAT ID / IAM*
Design Review	PDR	2009 WSARA, Section 205, a (3) (C) (2)	DoDI 5000.02, Enclosure 3, para 20a DoDI 5134.16, Enclosure 2, para 1.f (3)	DAG Chapter 4, para 4.2.12	ACAT ID / IAM
	CDR		DoDI 5000.02, Enclosure 3, para 20b DoDI 5134.16, Enclosure 2, para 1.f (3)	DAG Chapter 4, para 4.2.13	ACAT ID / IAM
Annual Report		2009 WSARA, Section 102, § 139d, (b)			ACAT ID / IC IAM / IAC
DAES Assessment		Title 10 US Code § 2548	DoDI 5000.02, Enclosure 1, Table 5. Recurring Program Reports	ASD(A) Memorandum, DAES Assessment Guidance, Dec 6, 2012 DAG Chapter 10, para 10.12	ACAT ID / IC IAM / IAC

* = may assess IC/IAC programs if requested or for special circumstances such as a N-M



Assessments Timing & Purpose



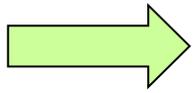
- Purpose is to inform decision making by improving our leaders ability to understand and mitigate technical risk**
 - PSA: Prior to Milestones A, B (to inform RFP Release Decision) and C
 - Preliminary Design Review Assessment
 - Critical Design Review Assessment
 - Quarterly DAES assessments: beginning after Milestone B
 - Annual Report: as required
- Assessments evaluates progress to plan, as detailed in the SEP and other planning documents, and the viability of the path forward**

Assessments are a risk management tool for Program Managers and DoD leadership. DAPS is the methodology used to perform the assessments

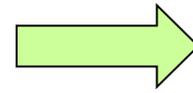


Assessing Technical Risk

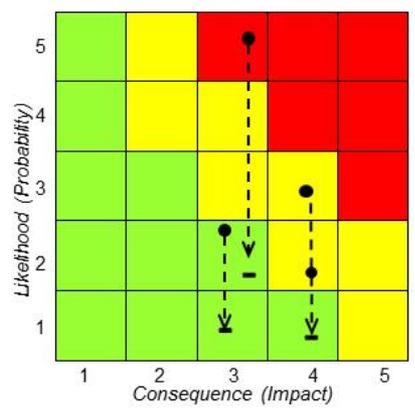
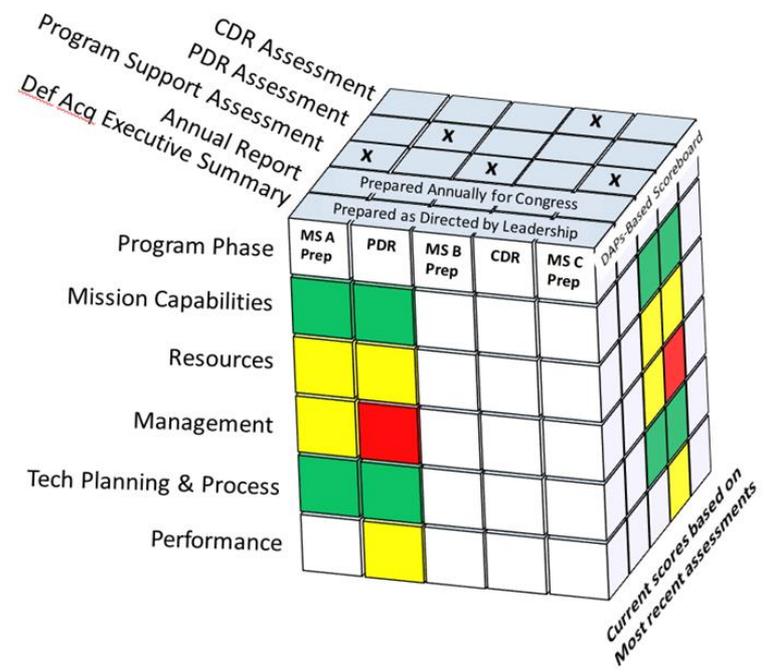
Assessments



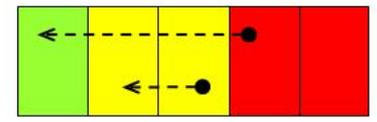
Risk Evaluation



Recommendations for PM Leadership & Senior Leaders



Risks



Issues



Informed Decisions



Defense Acquisition Program Support (DAPS) Assessment Methodology



- **DAPS Methodology developed to support assessment**

- Ensures consistent and repeatable reviews
- Provides structure for Systemic Root Cause Analysis
- Comprehensive & quick-look reviews

- **Addresses technical and programmatic areas**

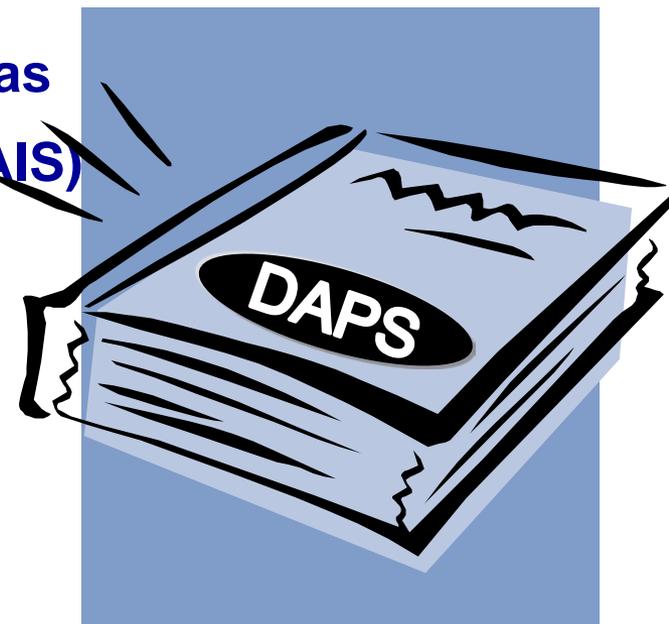
- **Application to all program types (MDAP, MAIS)**

- **Intended for all acquisition phases**

- **5 assessment areas**

- 22 sub-areas
- 62 factors
- Criteria
- Focus questions

- **Tailorable**



Version 1: Oct 2004

Version 2 Ch. 3: Mar 2009

Version 3: May 2013

<http://www.acq.osd.mil/se/pg/guidance.html>



DAPS Summary



- **Defense Acquisition Program Support (DAPS) Methodology**
 - Primary responsibility for this is the Office of the Deputy Assistant Secretary of Defense for Systems Engineering (ODASD(SE))
- **Facilitates effective, repeatable, and quality execution of acquisition program reviews resulting in recommendations to program organizations and activities**
- **Findings using DAPS methodology are maintained by DASD(SE) in an anonymous, non-attribution database**
 - Allows systemic analysis of program risks, issues, and root causes
 - Used to effect improvements to the acquisition process (e.g., policies, tools, and education)
 - Identify best, and “not-so-best”, practices
- **Enable development of independent, actionable recommendations to the Government program management office to facilitate successful program execution.**
 - Who needs to do What and When



DAPS: Methodology and Taxonomy



- **Criteria and Questions for each Factor area:**
 - The criteria state generally acceptable standards that should be met to comply with DoD statute, regulation, policy and guidance
 - Apply to the various *phases* (and appropriate technical review points when applicable) in the acquisition life cycle
 - Questions within each factor serve as a guide for an assessment team to assess whether the criteria have been met
 - Criteria and questions complement subject matter expertise brought by PSA Team participants
- **DAPS Organization (areas, sub-areas, and factors) enables tailoring based upon:**
 - Review purpose
 - Phase
 - Timing
 - Stakeholders
- **Applicable to all Acquisition Phases (Including Dev Planning) – MS A, B, C/FDD**



DAPS Typology

1.0 Mission Capabilities:

- 1.1 CONOPS
- 1.2 Analysis of Alternatives
- 1.3 Capabilities

Area

Sub-Area

2.0 Resources:

- 2.1 Budget Sufficiency & Phasing
- 2.2 Staffing Level

3.0 Management:

- 3.1 Acquisition Strategy
- 3.2 Program Schedule Overview
- 3.3 Knowledge Based Decisions and Milestones
- 3.4 Program and Project Management
- 3.5 Contracting

4.0 Technical Process:

- 4.1 Design Considerations
- 4.2 Requirements Development
- 4.3 Technical Reviews
- 4.4 Technical Baselines
- 4.5 Engineering Tools
- 4.6 Software
- 4.7 Design Verification /Validation
- 4.8 Supportability and Availability Planning
- 4.9 Manufacturing Readiness / Production
- 4.10 Integration

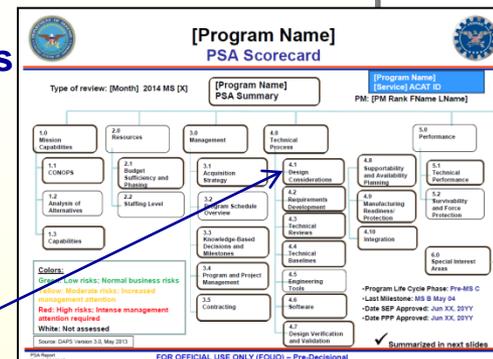
5.0 Performance:

- 5.1 Technical Performance
- 5.2 Survivability and Force Protection

6.0 Special Interest Areas

Factors

- 4.1.1 Program Protection
- 4.1.2 Open Architecture
- 4.1.3 Interoperability and DoDAF Architecture
- 4.1.4 Environmental, Safety, and Occupational Health
- 4.1.5 Spectrum Management and E3 Compatibility
- 4.1.6 Reliability and Maintainability
- 4.1.7 Corrosion
- 4.1.8 Human Systems Integration
- 4.1.9 Survivability
- 4.1.10 Force Protection





Sample DAPS Criteria and Questions

FACTOR 4.6.1 - SOFTWARE DEVELOPMENT PLANNING

Criteria

4.6.1.C1 The program has addressed software development planning and processes, within its programmatic, technical, and planning documentation (e.g., SDP). This planning addresses software tools, facilities, and activities throughout the life-cycle to include software updates and maintenance in later phases.

4.6.1.C2 The program has software development plans sufficient to meet exit and entrance criteria of technical reviews and milestone decisions. Software development risks have been identified and mitigation plans are in place.

Sample Criteria:

- 2 of 14 Criteria under this Factor

Focus Questions

[Pertinent criteria numbers follow each question.]

4.6.1.Q1 Discuss the program's software development planning. How has the program addressed estimating, tracking, and managing software requirements, software architecture/preliminary design, software detailed design, coding, unit testing, and software integration? How are procedures for estimating, tracking, and managing software defects addressed? [4.6.1.C1]

4.6.1.Q2 Discuss how the programmatic, technical, and planning documents address software development and management. Describe the software risk management process, including how software risks are managed by the software Integrated Product Team (IPT) and are escalated to the corresponding system and program levels. Identify current software risks and mitigation status. Identify whether these sufficiently capture the risk in this program, given levels of complexity, staffing, interoperability, assurance requirements, and more. [4.6.1.C1, 4.6.1.C2]

4.6.1.Q3 Describe the tools and facilities used to support software development. [4.6.1.C1]

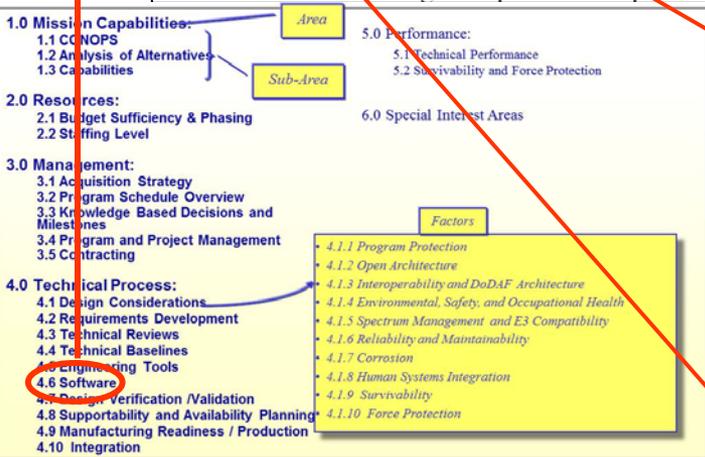
4.6.1.Q4 Describe how software development planning and processes are addressed in the SEP, SEMP, RFP, SOW, and CDRL? [4.6.1.C1]

4.6.1.Q5 Describe how software development, integration, and test are addressed at system level technical reviews and software-specific technical reviews. Provide artifacts that document the results of software reviews, such as minutes and updates to plans and technical baselines. [4.6.1.C1, 4.6.1.C2]

4.6.1.Q6 Describe the planned life-cycle software update and maintenance activities. [4.6.1.C1]

Sample Questions

- 6 of 8 questions that trace to the two criteria





DAPS: Methodology and Taxonomy

<p>Area</p>	<p>A mutually exclusive and distinct category of programmatic activity or focus</p>	<p style="text-align: right;">DAPS Methodology, Version Change </p> <p style="text-align: center;">1.0 MISSION CAPABILITIES</p>
<p>Sub-Area</p>	<p>A division of the area into related subject matter components</p>	<p style="text-align: right;">DAPS Methodology, Version Change </p> <p style="text-align: center;">SUB-AREA 1.1 - CONCEPT OF OPERATIONS</p> <p>The Concept of Operations (CONOPS) sub-area supports the assessment of the mission capabilities described in the CONOPS, the Capabilities Based Assessment (CBA) and used in the development of an Initial Capabilities Document (ICD), Capabilities Development Document (CDD), and other documentation. The CONOPS sub-area includes factors that directly</p>
<p>Scope</p>	<p>Statement that sets the context for why the area, associated sub-areas, and factors are defined and value provided to the stakeholders</p>	<p style="text-align: right;">DAPS Methodology, Version Change </p> <p style="text-align: center;">SUB-AREA 1.1 - CONCEPT OF OPERATIONS</p> <p>Scope The Concept of Operations (CONOPS) sub-area supports the assessment of the mission capabilities described in the CONOPS, the Capabilities Based Assessment (CBA) and used in the development of an Initial Capabilities Document (ICD), Capabilities Development Document (CDD), and other documentation. The CONOPS sub-area includes factors that directly</p>
<p>Factor</p>	<p>Condition or fact that actively contributes to an accomplishment, result, or process. It captures the necessary detail and distinction in support of stated scope and perspective.</p>	<p style="text-align: right;">DAPS Methodology, Version Change </p> <p style="text-align: center;">Factor 1.1.1 - MISSION DESCRIPTION</p> <p>Pre-MDD Criteria 1.1.1.C1 The system CONOPS is traceable to an approved Operations Plan (OPLAN), Concept Of Operation Plan (CONPLAN), Integrated Security Constructs (ISC) or other Joint Requirements Oversight Council (JROC)-approved guidance (CIDS Manual, A-3, para 4).</p>
<p>Phase</p>	<p>The acquisition phase associated with the program</p>	<p style="text-align: right;">DAPS Methodology, Version Change </p> <p style="text-align: center;">MISSION DESCRIPTION</p> <p>Pre-MDD Criteria 1.1.1.C1 The system CONOPS is traceable to an approved Operations Plan (OPLAN), Concept Of Operation Plan (CONPLAN), Integrated Security Constructs (ISC) or other Joint Requirements Oversight Council (JROC)-approved guidance (CIDS Manual, A-3, para 4).</p>
<p>Criteria</p>	<p>Short statement of how each factor should be complied with in a proper or effective manner</p>	<p style="text-align: center;">Factor 1.1.1 - MISSION DESCRIPTION</p> <p>Criteria 1.1.1.C1 The system CONOPS is traceable to an approved Operations Plan (OPLAN), Concept Of Operation Plan (CONPLAN), Integrated Security Constructs (ISC) or other Joint Requirements Oversight Council (JROC)-approved guidance (CIDS Manual, A-3, para 4).</p>
<p>Focus Questions</p>	<p>Prompts that facilitate discussions between the assessment team and the program office, and contractor as part of conducting the assessment. Mapped to the criteria, they provide a basis to assess the responses.</p>	<p style="text-align: center;">Focus Questions</p> <p>1.1.1.Q1 What JROC-approved plan or guidance was used as the basis for the CBA or other study? Provide the source material for the ICD. [1.1.1.C1] 1.1.1.Q2 In accordance with Joint Capabilities and Integration Development System (JCIDS) guidance, does the CONOPS discuss, at a minimum, the following: (a) the problem being addressed; (b) the mission; (c) an operational overview; and (d) the objectives to be achieved? [1.1.1.C1]</p>



Modeling & Simulation Query traced to DAPS Questions

1.3.3.Q4: Discuss the collaboration mechanisms (Requirements Integrated Product Teams (IPTs), Capabilities IPT, Knowledge Point Reviews, Configuration Steering Boards, Technical Reviews, etc.) used by the acquisition and user communities to manage and refine required capabilities. [1.3.3.C3]

1.3.3.Q7: Discuss what mechanisms were used, such as use cases, to ensure a common understanding and alignment of the various expectations of the system developers, testers and users. [1.3.3.C5, 1.3.3.C6]

1.2.1.Q16: Discuss how the mission threads, MOEs, and MOPs used in the updated AoA have been considered in the draft CDD. [1.2.1.C10]

3.4.3.Q2: Discuss how the TPMs trace to the program's desired capabilities, (e.g., end-to-end mission thread(s)). [3.4.3.C1]

4.7.1.Q17: Discuss how the buildup of V&V activities/products will document compliance with the ICD/CDD/CPD. [4.7.1.C5, 4.7.1.C6]

4.5.1.Q1: Discuss how the program uses engineering tools to manage baseline requirements, changes to requirements, and traceability of requirements (changing operational capabilities, delayed technology, threat updates, etc.). [4.5.1.C1]

4.1.3.Q5: Discuss the traceability of DODAF views to systems engineering artifacts (e.g., SV-11 defining interface specification, SV-5 mapping to system specification, high-level Operational View (OV-1) to Concept of Operations (CONOPS)). [4.1.3.C2]

4.1.6.Q6: Describe how the R&M objectives, requirements, and RAM-C rationale ensure the Materiel Availability KPP and Reliability KSA will be met in the intended operational environment, including end-to-end mission threads in the joint context. [4.1.6.C2]

4.2.1.Q2: Discuss the traceability from the user capabilities document, through the system requirements, into the technical baselines. [4.2.1.C2]

4.2.1.Q7: Describe how the program has analyzed mission and environments using end-to-end mission threads in the joint context. [4.2.1.C6]

4.2.2.Q1: How has the program, through planning, identified the relevant stakeholders, and how do these stakeholders participate in requirements management? [4.2.2.C1]

How is an integrated architecture and systems model linked to the evolving requirements used to show that end to end mission threads are traced to the ICD?

4.3.1.Q1: Discuss how the ITR examined the technical aspects of the AoA guidance to ensure that a sufficiently broad range of systems alternatives will be analyzed in the AoA. To what extent was the AoA guidance assessed to be technically sound and of sufficient detail to support AoA analysis? [4.3.1.C1]

4.2.1.Q6: What are the constraints to be applied to the effort, including environmental, resource, technology, system security, statutory, regulatory, and the full system context (in the joint context and end-to-end mission threads)? [4.2.1.C5, 4.2.1.C6]

Next Slide



DAPS Criteria, Questions, and M&S Querys



4.2.1.C6: The program has analyzed mission and environments, using end-to-end mission threads in the joint context, as applicable.

4.2.1.Q6: What are the constraints to be applied to the effort, including environmental, resource, technology, system security, statutory, regulatory, and the full system context (in the joint context and end-to-end mission threads)? [4.2.1.C5, 4.2.1.C6]

4.2.1.Q7: Describe how the program has analyzed mission and environments using end-to-end mission threads in the joint context. [4.2.1.C6]

How is an integrated architecture model traced to established capabilities and used to communicate dependencies on external systems?

How is an integrated architecture and systems model linked to the evolving requirements used to show that end to end mission threads are traced to the ICD?

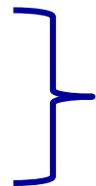


DAPS 3.0 Update Overview

- **Major update (in general) to the 2009 version, DAPS 2.0**
 - Purpose: Improve standardization across life-cycle, incomplete, update, etc.
 - Substantial collaborative process across SE to update and input
 - Incorporates lessons learned over the past 8 years
 - Inputs taken and reconciled by MPS to final product
 - Streamlined to improve usability

- **Reduced in size**

- 174 pages (down from 442)
- ~ one-half number of Criteria*
- ~ one-half number of Questions (not in sub-parts!)*



Documented in MS Word and MS Excel

- **Criteria and Questions *mostly* generic across life-cycle**

- Each Factor includes a statement about Phase applicability
- “Pre-Milestone A, Pre-RFP Review, Pre-Milestone B, and Pre-Milestone C”



DAPS General Applicability

Quarterly DAES Assessments

- 1.0 Mission Capabilities:
 - 1.1 CONOPS
 - 1.2 Analysis of Alternatives
 - 1.3 Capabilities
- 2.0 Resources:
 - 2.1 Budget Sufficiency & Phasing
 - 2.2 Staffing Level
- 3.0 Management:
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 - 4.8 Supportability and Availability Planning
 - 4.9 Manufacturing Readiness / Production
 - 4.10 Integration
- 5.0 Performance:
 - 5.1 Technical Performance
 - 5.2 Survivability and Force Protection

Technical Reviews

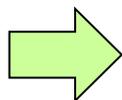
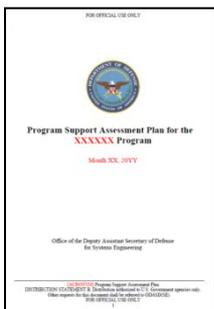
Milestone PSAs

Technical Maturity / Stability and Risk Assessments

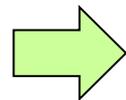
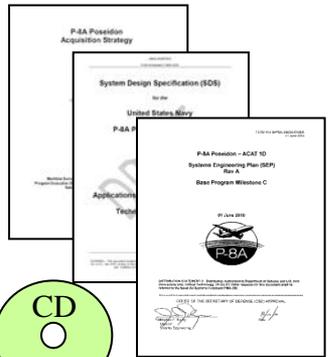
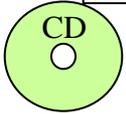
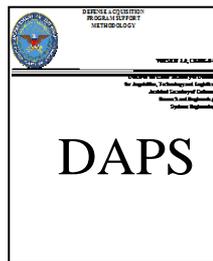


PSA Process and Products

PSA Plan



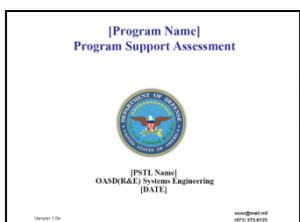
Training / Team Member Prep



Team Member Findings

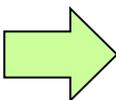


Draft Report



Exec Summary
5-20 slides

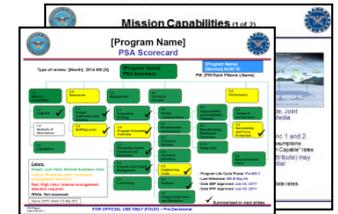
Recommendations to the PM Discussion / Adjudication



Full Report
50-200+ slides

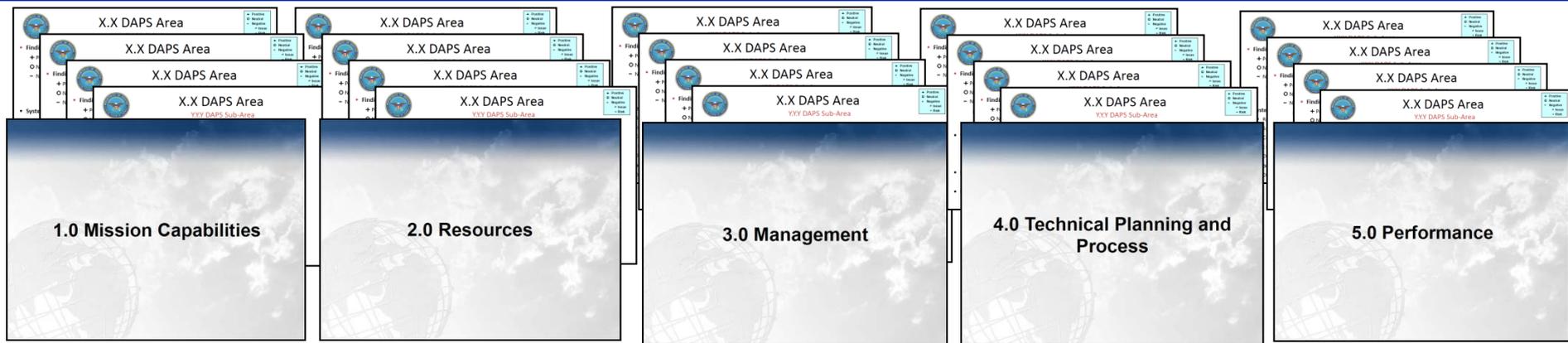
SRCA Database		System	Area	Open	Open %														
2.0	2.0.1	2.0.1.1	2.0.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1	2.0.1.1.1.1

OIPT 1-5 slides





PSA Full-Findings Report



[Program Name]
Summary of Top Level Negative Findings

[Program Name]
Summary of Top Level Positive Findings

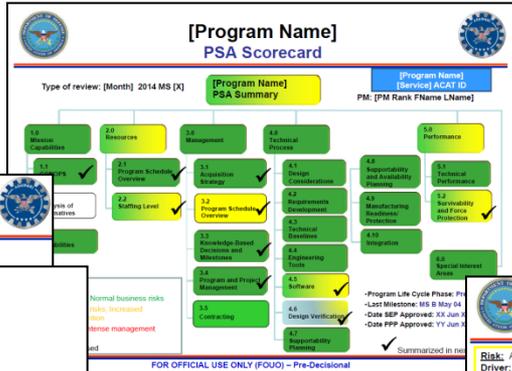
[Program Name]
Global Strengths

[Program Name]
Program Support Assessment

[PSTL Name]
OASD(R&E) Systems Engineering
[DATE]

xxxx@mail.mil
(671) 372-6123

Version 1.0x



[Program Name]
Program Support Assessment Summary

- Big Take Away Area 1
 - Sub Elements

[Program Name]
Proposed MS X Exit Criteria

Criteria	Standard
Performance	XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX XXXXXXXX XXXXXX XXXXXX XXXXXX XXXXXX

[Program Name] Top-Level Program Risks
PMO Risk Assessment

Risk: ABC
Driver: LMN
Recommendations: XYZ

Risk: Driver: Recommendation:

Risk: Driver: Recommendation:

C- Cost
S- Schedule
P- Performance

Risk: Driver: Recommendation:



PDR/CDR Assessment

Executive Summary

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PROGRAM Preliminary Design Review (PDR) Assessment
[PDR END DATE]

Executive Summary

The PDR/CDR is conducted on Preliminary Design Review (PDR) through a series of sub-elements as follows: [PDR] or [CDR], culminating in a final report on [PDR/CDR].

The Office of the Deputy Assistant Secretary of Defense for Systems Engineering (DASD/SE) participated in these reviews and has conducted an assessment of the PDR to include the preliminary design assessment tasks, and open issues on review items. [PDR/CDR] assesses the program. This is not completed in preliminary design review (PDR) and is not documented in a high-level form. It is a summary of the program. [PDR/CDR] is [PDR/CDR] to be completed by the [PDR/CDR] team supporting the program.

The assessment determined the following:

- Review of the program is on track to meet program goals.
- Review of the program is on track to meet program goals.
- Review of the program is on track to meet program goals.

If applicable, provide a brief overview of any issues or risks that the [PDR/CDR] is not applicable. [PDR/CDR]

System Description

Include a brief (one-paragraph) description of the system. (Use the MS Word style Body PDR/CDR.)



System Name (Title) = Captain PDR/CDR

Describe the preliminary design in sufficient to support detailed design. The key elements of the design and compare them to legacy or similar systems.

Conduct of the Preliminary Design Review

For the review was well conducted, well attended, and closed properly.

Identify the date and location of the system level PDR. List the subelements leading up to the system-level PDR and discuss any open Program for Action (PFA) items (PFA) from the enterprise PDR.

Identify any of the review was well attended. Include a table of the key parties that participated. (Include an attachment if too long). Identify the PDR element.

Name	Organization
[Name]	[Organization]
[Name]	[Organization]
[Name]	[Organization]

Indicate if the criteria, as documented in the SEP, were met. If not, indicate for criteria, who made the decision to proceed, and the program's open program. (Include an attachment if too long). (This table name directly above the table.)

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System Description Conduct of the Review

Table X. PDR Entrance Criteria

Criteria	Status
1. [Criteria]	[Status]
2. [Criteria]	[Status]
3. [Criteria]	[Status]

Identify the program of design element. Discuss the identification and address of critical risks and closed program items. For MDR program discuss status of software development program.

Identify the total number of PDR to PDR generated by the review. Identify all open PFA items along with their planned closure dates. Discuss the significance of the open PFA items. They must be on the final design and their estimated closure dates.

If current PDR to PDR is not open, justify why the historical Decision to Proceed (DTP) was not open.

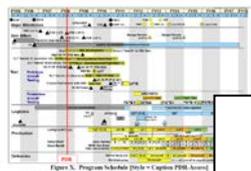
Indicate if the review was well attended. Include a table of the key parties that participated. (Include an attachment if too long). Identify the PDR element.

Criteria	Status
1. [Criteria]	[Status]
2. [Criteria]	[Status]
3. [Criteria]	[Status]

Schedule

Discuss the program is on track to meet Acquisition Program Review (APR) and SEP milestones and SE milestones as defined in the SEP.

Include the technical schedule as shown in the program SEP. Include an attachment if too long.



Identify the latest Schedule Risk Analysis and briefly explain the results. If applicable, identify any other issues that may affect the program.

Technical Risks, Issues, and Mitigation plans

Identify how major risks and program technical risks were identified or the status identified by OASD/SE. Identify how major significant risks have been identified.

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Review Entrance/Exit Criteria Assessment of status

Schedule

Technical Risk, Issues and Mitigation plans

Discuss the significance of any statements that the preliminary design is not expected to achieve and any plans to resolve these design gaps.

Software Engineering Design Considerations

Assess if the software development plan is adequate and if development is being executed in accordance with the plan.

Discuss the status of software requirements, design, development, test, and integration. Software risk only includes, significance of software design and test, and software development schedule and resources.

Identify the proposed contract change space and the percentage of program scope.

Reliability and Maintainability (RAM)

Address if the program has a comprehensive RAM program and an active reliability growth program. Indicate if RAM performance is projected to meet requirements. Indicate if planned RAM activities are adequate to manage the program. Indicate if the program has established an RAM growth program. Insert the program's reliability growth strategy.

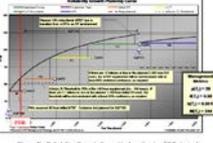


Figure X. Reliability Growth Curve (Title) = Captain PDR/CDR

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Design Considerations

- Reliability
- Software
- Manufacturing
- Integration
- Others

Figure X. Risk Cube (Title) = Captain PDR/CDR

Provide a short summary describing the risks and identifying the risk activities and owner. Example: Impact

The risk level is [Risk Level]. As per [Criteria]. The program is [Criteria]. Change data for the [Criteria]. Address available in the [Criteria] section of the assessment.

The assessment risk level is [Criteria]. Change data for the [Criteria]. Address available in the [Criteria] section of the assessment.

Risk Level	1	2	3	4
A. [Risk Name]	[Color]	[Color]	[Color]	[Color]
B. [Risk Name]	[Color]	[Color]	[Color]	[Color]
C. [Risk Name]	[Color]	[Color]	[Color]	[Color]
D. [Risk Name]	[Color]	[Color]	[Color]	[Color]

Figure X. Issues Bar (Title) = Captain PDR/CDR

Provide a short summary describing the issues and identifying the risk activities and owner. Example: Impact

The risk level is [Risk Level]. As per [Criteria]. The program is [Criteria]. Change data for the [Criteria]. Address available in the [Criteria] section of the assessment.

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Allocated Baseline / Spec Tree

Figure X. Specification Tree (Title) = Captain PDR/CDR

Identify the system specification tree. Identify if there are any open items in the SEP.

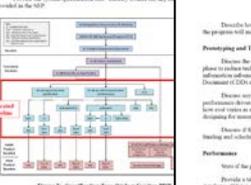


Figure X. Specification Tree (Title) = Captain PDR/CDR

Identify any elements made to the allocated baseline or to the system specification. Address the system specification, identify any open items in the SEP.

Discuss the establishment of interface requirements (i.e., identify (IIR), interface description documents (IDD), interface requirements documents (IRD), and the establishment of any interface or related).

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Performance Status: KPPs, KSAs, TPMs

Describe how the program will maintain consistent control of the baseline and how the program will maintain consistency of equipment and policies selected in the baseline.

Priority and Trade Studies

Discuss the competitive prioritizing conducted in the Technology Development (TD) phase to reduce technical risk, mitigate design, and assess competition. Discuss how the information and the Technology Review Assessment (TR) Capability Development Document (CDD) and PDR.

Discuss any design trade studies during the TD phase which could result in a performance benefit. Specifically, identify any trade studies conducted to determine cost versus a single design parameter, and how to compare the cost. Discuss any decisions for manufacturing risk studies made.

Discuss if the requirements in the preliminary design are consistent with the program's testing and schedule.

Performance

State if the preliminary design is projected to meet all KPPs or identify those it does not.

Provide a table of the Key Performance Parameters (KPPs) and Key System Attributes (KSA), and the Technical Performance Parameters (TPPs) that directly support them. Include their threshold values and their projections in the PDR.

KPP/KSA	Threshold	Status
KPP-1	[Value]	[Color]
KPP-2	[Value]	[Color]
KPP-3	[Value]	[Color]
KSA-1	[Value]	[Color]
KSA-2	[Value]	[Color]
KSA-3	[Value]	[Color]

TPP	Threshold	Status
TPP-1	[Value]	[Color]
TPP-2	[Value]	[Color]
TPP-3	[Value]	[Color]

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DAES Assessments

• DASD (SE) assesses program performance to plan in five areas:

- Schedule
- Management
- Interoperability / Information Security
- Production
- System Performance

- Assessments conducted quarterly
- Assessments are entered into DAMIR

Review this form and all attached items prior to submission.
For additional guidance refer to LAR, Subtask (DAMIR) - DAES Process Guidance & Definition (L.A. - DAES (DAEW) Guidance) (L.A. - DAES Process Guidance & Definition) (L.A. - DAES (DAEW) Guidance)

Month/DAES	Group X	Program Name (ABRMS)	AF AF, USA, IAF, IS, X, m, signature, Service, USAF, CNS, USA, USAF, or DoD
PS&I: Last name only	AD: Last name only		
Program Phase	DAES, IEPF, or OAS		
Deficient	Rating	Interim Assessment	
Program Schedule		<p>The last row in two recurring instances totaling a maximum of 300 observations in your program. If the last assessment before is less than 300 observations, insert the entire assessment.</p> <ul style="list-style-type: none"> Do short and concise. Discuss if the program is on track for meeting its schedule. The APN schedule, threshold, and the System Engineering Technical Decisions related to the approved SEP. If not, state the # of months late. Do state, the impact, and all actions to get back on the schedule and overall of these actions. Discuss if the program is on track. If meeting or less than track, the APN schedule, threshold, and the System Engineering Technical Decisions related to the approved SEP. If not, discuss the deviation from the established plan (e.g., # of months the error has slipped), what is the issue, that has resulted in a slip in date in the program, a DOWNSIDE error, what is the impact of the slip(s), what actions in the program taking to get back on schedule or reduction, and what is the impact of these actions (how the impact to the next event been mitigated or when will the APN update be completed or when will team information be known?) <p>When practical, reference the source of your assessment material to a System Engineering Technical Decision (e.g., discussion during the CDR indicates that ...)</p> <p>Secondary assessment material. If known, discuss the date of the latest DAES results of the latest scheduled assessment that the program performed, and issue on the program's critical path.</p> <ul style="list-style-type: none"> Do not use the program's "net" if they don't have an EDS, however, state an MRS, scenario, etc. 	
		<p>Rating Criteria</p> <p>100% - 100% of schedule errors tracked in the APN, less</p>	

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Additional criteria, and engineering exceptions and how activities can be used. Schedule reports from other all areas (e.g., Performance, Responsibly, or Productivity) are included in the Schedule Risk Assessment (SRA).

WARNING: Planned items for acquisition decision points or milestones will be deleted, requiring APN track threshold schedule errors by less than 60 months.

A schedule slip that precludes the program from meeting its established APN track threshold errors of more than an 60 months. Examples include: open or two equipment, milestone violations (milestones of 60 observations). If you detail performance assessment in less than 300 observations, insert the entire assessment in the track.

Do short and concise. Do to open limitations, do not use the Assessment material when it is not the threshold of 60 or the 300 observation only. For brevity, state that 20% of the equipment has been used and 20% of the program is on track. Do mention the AD requirement to the ERP decision. Other guidance regarding the issue, action and result from the guidance being applied.

Discuss if the program is on track. If meeting or less than track, the APN and key (NA) reflect on the APN as well as the TPOs Assessment as the SEP for the ERP decision.

- Do short and concise. Discuss if the program is on track for meeting its schedule. The APN schedule, threshold, and the System Engineering Technical Decisions related to the approved SEP. If not, state the # of months late. Do state, the impact, and all actions to get back on the schedule and overall of these actions (how the impact to the next event been mitigated or when will the APN update be completed or when will team information be known?)

When practical, reference the source of your assessment material to a System Engineering Technical Decision (e.g., discussion during the CDR indicates that ...)

Secondary assessment material. If known, discuss the date of the latest DAES results of the latest scheduled assessment that the program performed, and issue on the program's critical path.

- Do not use the program's "net" if they don't have an EDS, however, state an MRS, scenario, etc.

Rating Criteria

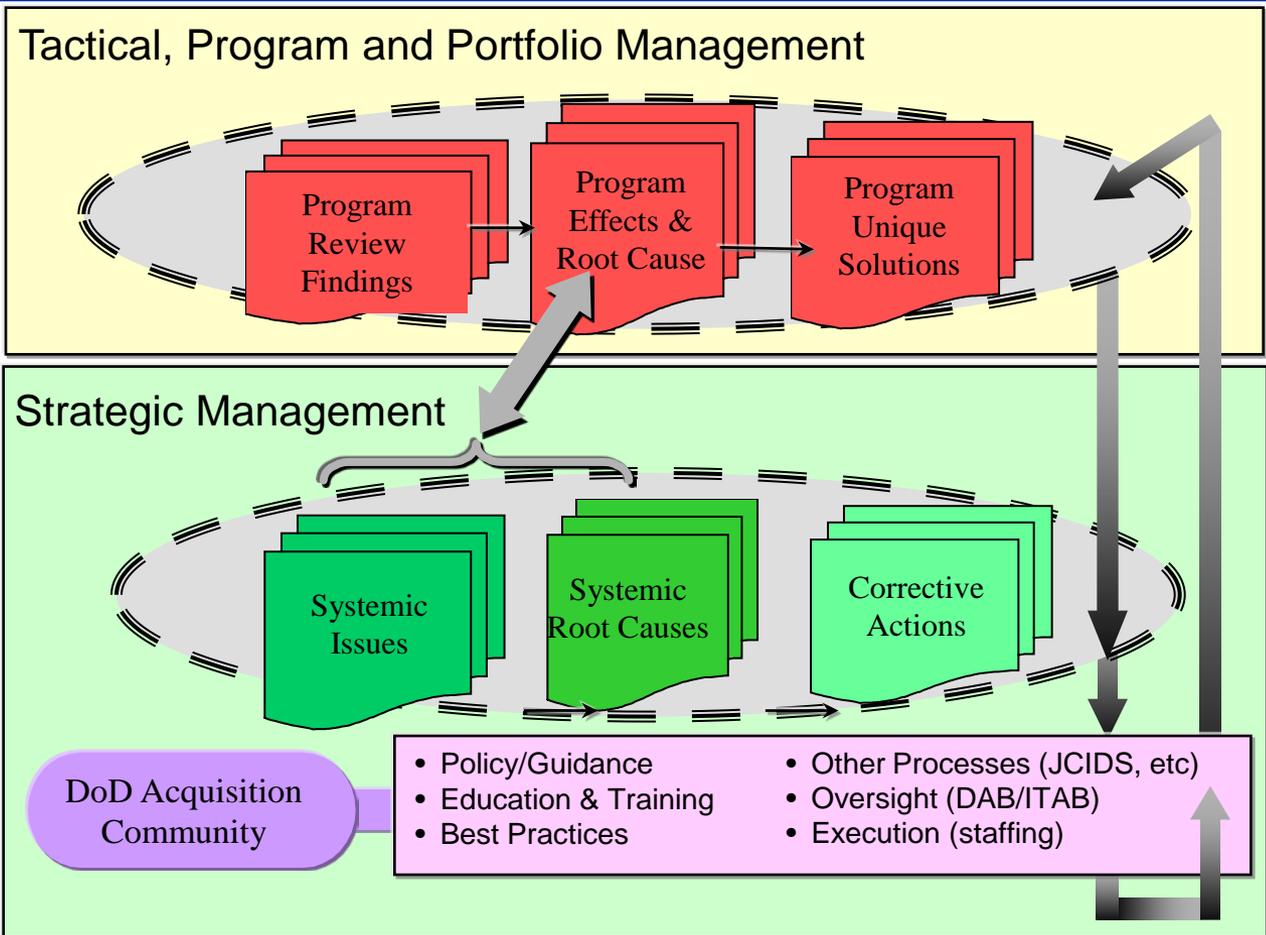
100% - 100% of schedule errors tracked in the APN, less

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Systemic Analysis OSD SRCA Data Model

Use collective set of program findings...
 ... to identify systemic issues at the root cause level...
 ... and develop recommendations that mitigate problems at their source...
 ...implement process changes, revisions to education, training, policy, and guidance.



Review findings are entered into the SRCA database



Summary



- **Assessments:**
 - Are intended to help program managers shape their programs' technical planning and improve execution by providing actionable recommendations and identifying engineering and integration risks, as well as potential mitigation activities
 - Support acquisition milestones and decision reviews
- **DASD(SE)/MPS assesses programs throughout the lifecycle at key decision points in support of Program Managers, Senior Leaders, and Statutory Annual Report requirements**
- **We assess performance to plan as outlined in the SEP and other documents using the DAPS methodology**
- **Systemic Root Cause Analysis captures findings to identify systemic issues in order to make recommendations in the areas of policy, guidance, training and education**

Achieving Dominant Capabilities through Technical Excellence and Innovation



For Additional Information



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DASD(SE) website:

<http://www.acq.osd.mil/se/pg/guidance.html>





Systems Engineering: Critical to Defense Acquisition



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