

ASN (RDA) Chief Systems Engineer

Navy Integration of Software in Probability of Program Success (PoPS)



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Outline

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- **Background**
 - SECNAVINST 5000.2D Navy 2 Pass / 6 Gate overview
 - Navy PoPS v1.0
 - Navy Software Measurement

- **Software in PoPS**
 - Overview
 - Weighting factors
 - PoPS v2.0 Objectives



SECNAVINST 5000.2D (Oct 16, 2008) Para 2.11 – Two –Pass / Six-Gate DON Requirements and Acquisition Governance Process

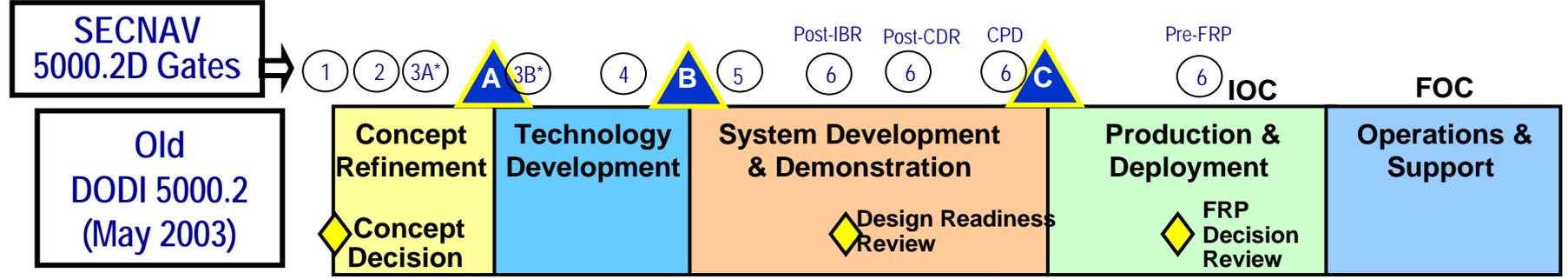
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- **Purpose:** To improve governance and insight into the development, establishment, and execution of acquisition programs in the DON. The goal of the review process is to ensure alignment between Service-generated capability requirements and acquisition, as well as improving senior leadership decision-making through better understanding of risks and costs throughout a program's entire development cycle.
- **Objective:** To establish a disciplined and integrated process for requirements and acquisition decision-making within DON. It will endorse or approve key JCIDS and acquisition documents, and facilitate decisions regarding required Navy and Marine Corps capabilities and acquisition of corresponding materiel solutions.
- **Scope:** Applies to all pre-MDAP programs, all MDAP (ACAT I) programs, all pre-MAIS programs, all MAIS (ACAT IA) programs, and selected ACAT II programs.

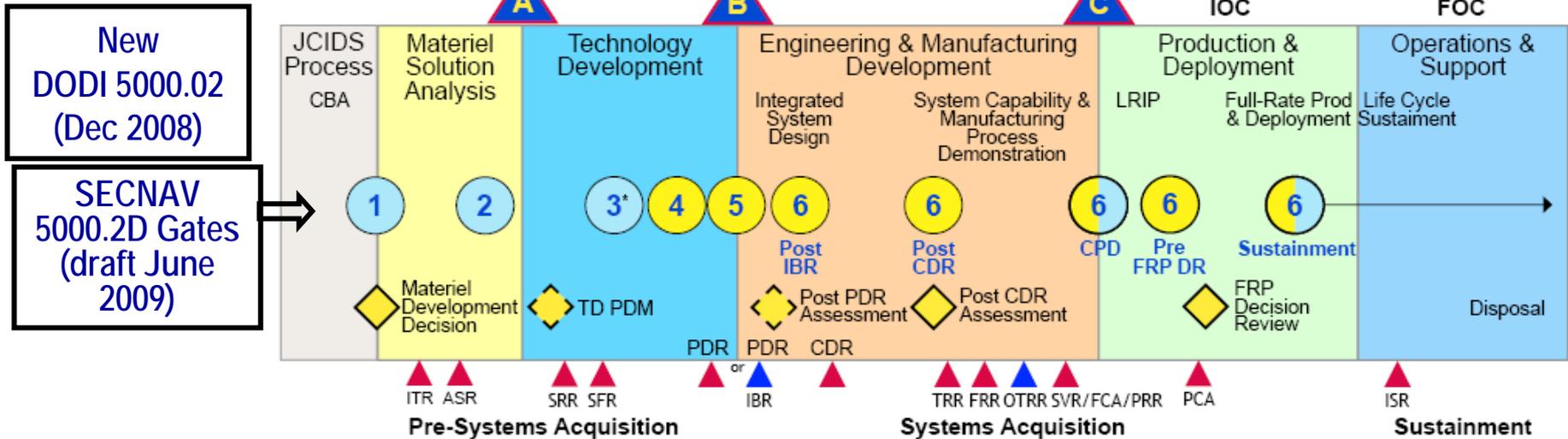


SECNAV 5000.2D Aligned Against New and Old DODI 5000.02

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* MS Program Initiation



▲ Program Reviews

▲ Technical Reviews

*Milestone B Initiation



Naval PoPS Policy

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19 Jan 2008 PDASN Memo;

- Utilize PoPS to Assess Program Health During Gate Reviews
- Interim use of Air Force “ PoPS Spreadsheet Operations Guide”
- Established Team to prepare a Naval version

■ 6 October 2008 PDASN Memo Naval PoPS Guidance:

- Immediately replaces 19 Jan 2008 PDASN Memo
- Required for all DON Gate Reviews
- Shall serve as the standard DON method of representing the health of all ACAT Programs and any other programs subject to the DON Acquisition process
- Use the methods and tools described in the Naval PoPS Guidebook and supplemental Handbooks

■ Consistent means to assess program health

■ Used any time program health is discussed



Navy Software Acquisition Measurement Policy

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- Metrics provide management visibility into the software development process. The metrics should clearly portray variances between planned and actual performance, enable early detection or prediction of situations that require management attention, and support the assessment of proposed changes on the program. All programs of record with any software, regardless of ACAT category, shall define, develop, and implement the following minimum set of core metrics specific to their program.
 - Software Size
 - Cost/Schedule (WBS focus on software)
 - Software Quality
 - Software Organization
- The core metrics should be tailored and implemented consistent with both of the Program Office's and the developer's internal tools and processes. Program offices and developers should establish and agree upon additional metrics or means of insight to identify and address software issues deemed critical or unique to the program. All core software metrics information and supporting evidence shall be available to the Program Office. These metrics will be included as part of the Program Health portion of the 2 Pass/6 Gate process.



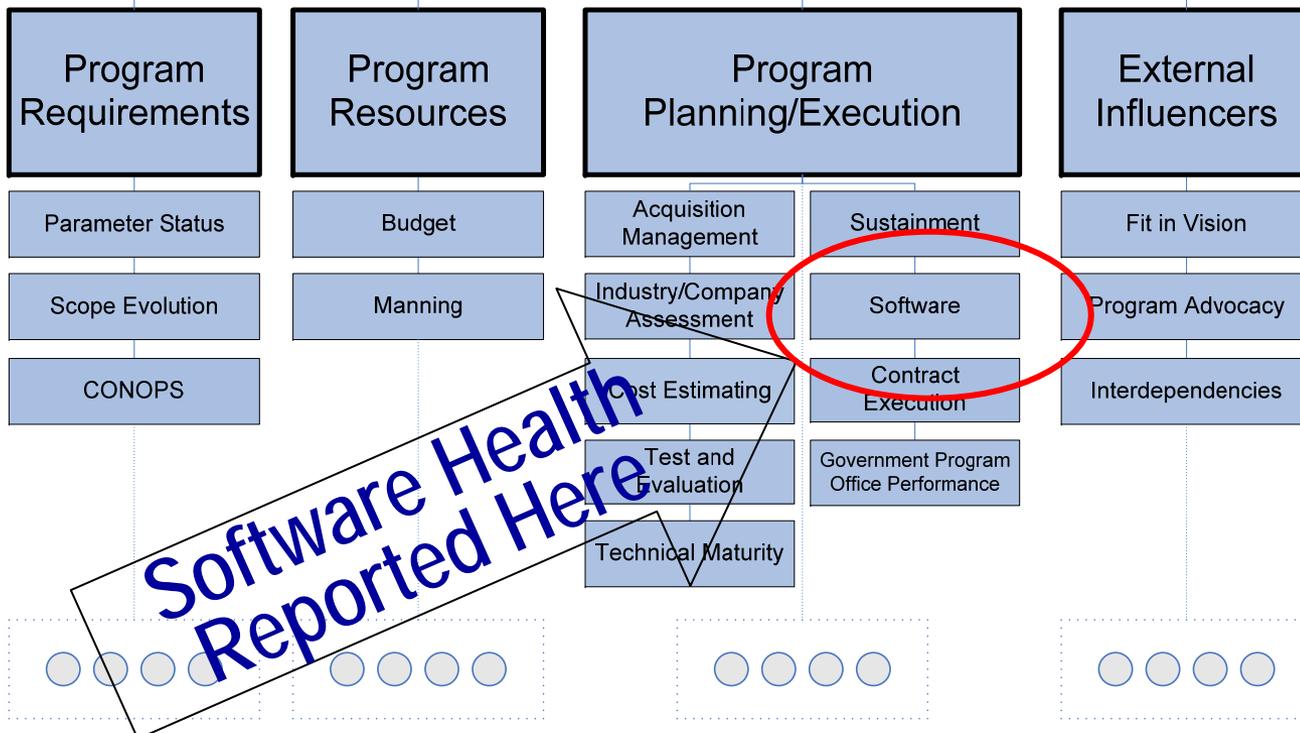
Naval PoPS Framework v1.0

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Program
Health

Naval PoPS

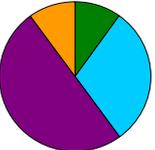
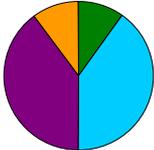
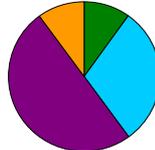
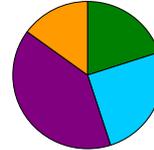
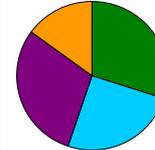
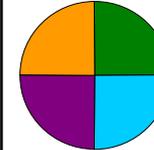
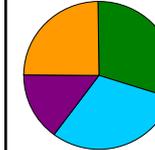
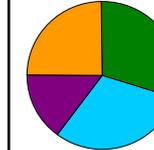
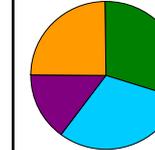
Factors



**Notional representation of Criteria. Criteria are Gate- and Metric-specific. The number of Criteria will vary.*



Four Core Software Metrics Weighting Changes Across Gates (affects PoPS Score)

Core Metric	Gate 1 / Ph I: Concept Development	Gate 2 / Ph II: Concept Refinement	Gate 3 / Ph II: Concept Refinement	Gate 4 / Ph III: Technology Development	Gate 5 / Ph III: Technology Development	Gate 6 / Ph IV: System Development	Gate 6 Phase 2 / Ph V: System Demonstration	Gate 6 Phase 3 / Ph VI: Production & Deployment	Gate 6 Phase 4 / Ph VII: Operations & Support
Size/ Stability 	10%	10%	10%	20%	30%	25%	30%	30%	30%
Organization 	50%	40%	50%	40%	30%	25%	15%	15%	15%
Cost / Schedule 	30%	40%	30%	25%	25%	25%	30%	30%	30%
Quality 	10%	10%	10%	15%	15%	25%	25%	25%	25%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%
									

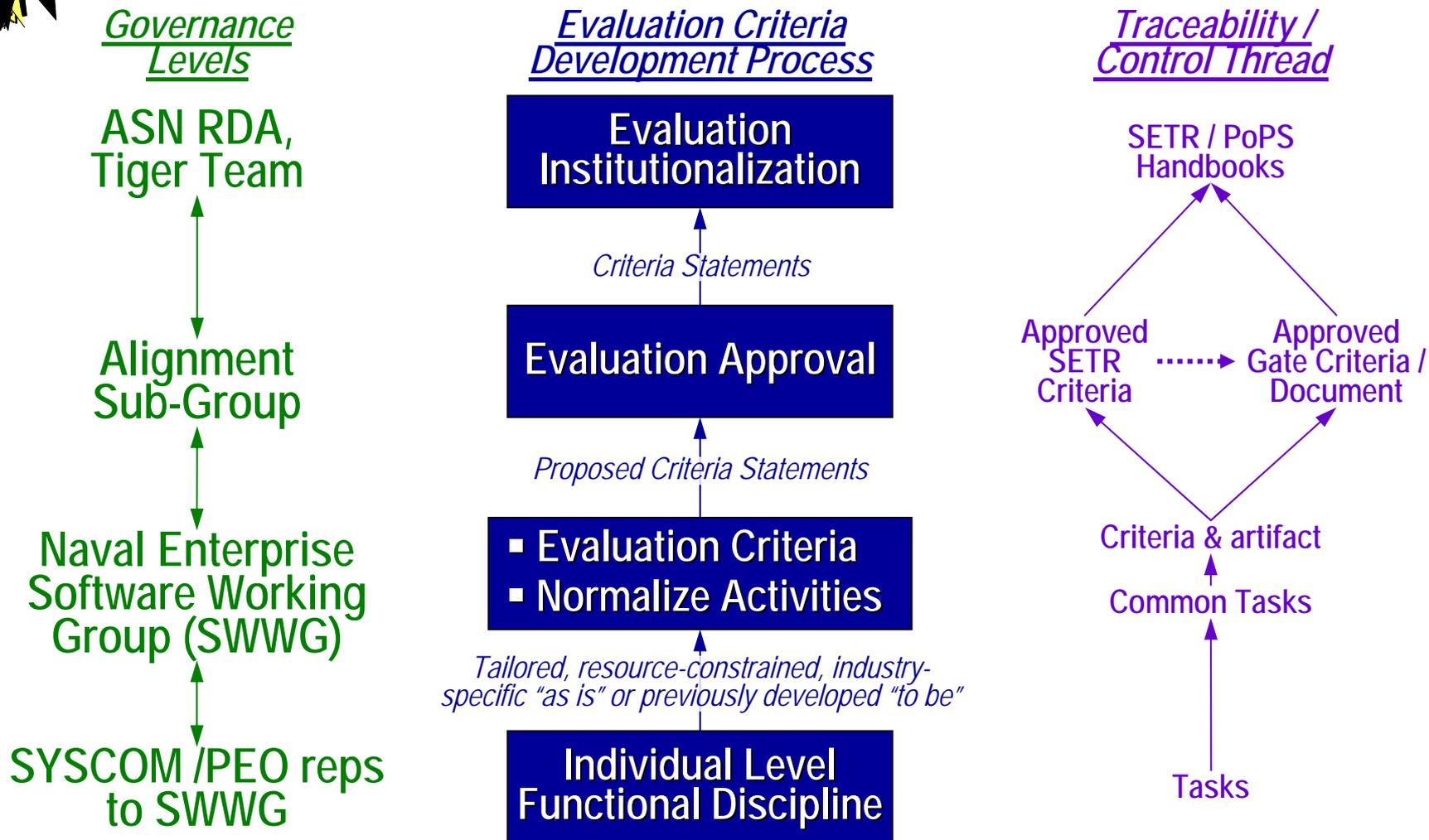


PoPS v2.0 Objectives

- Align Gates with new DODI 5000.02
- New Gate 6 Sufficiency Review (Sustainment)
 - Post IOC
- Incorporate lessons learned from a year of gate reviews
 - Assess Core Entrance / Exit Criteria and Program Health Criteria for each Gate
 - Make key updates – do not “reinvent the wheel”
 - Strong rationale required for all changes
 - Focus on improving areas needing clarity



Software Update in PoPS v2.0 Process





Related Activities

- Established Naval Software Working Group (SWWG) to facilitate enterprise-wide review of software improvements
- Initiated Software Activity Based Framework (SABF) to assist program offices in traceability of tasks and activities to evaluation criteria and artifacts based on IEEE 12207
 - Facilitates SETR and PoPS criteria traceability
- Working with OSD to integrate Navy task/activity based work with Acquisition Guidance Model (AGM)