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Program Architecture Overview at APMP

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Agenda

1. Overview

A structured approach to developing the Program Architecture early in the proposal process helps the proposal team translate the program vision, strategy and differentiators into a winnable and executable program. The Program Architect leads the analysis of the definition and integration of the solicitation requirements to develop the Program Architecture ensuring the capture team meets its milestones for creating a winning proposal.

2. Development Process

This section aims to develop a better understanding of how the program architecture fits into a comprehensive program plan. The development process describes the elements that make up the program architecture. We give guidance on developing a program vision and define the approach to create a work breakdown structure. We also discuss our approach to developing the program summary schedule.

3. Integrated Master Plan

An Integrated Master Plan (IMP) is an event-based, top-level plan comprised of a hierarchy of events. Key Events break down into specific Significant Accomplishments, and each Significant Accomplishment breaks down into specific Accomplishment Criteria. The IMP is ultimately used to develop a time-phased Integrated Master Schedule that depicts a networked, multi-layered schedule defining the detailed tasks required to accomplish the work defined in the IMP. The IMP and IMS are related directly to the WBS. The IMP provides the Program Architect with a systemic approach to planning, scheduling, and executing the program.

4. Integrated Master Schedule

The Integrated Master Schedule (IMS) is a model of how the program is executed by defining what work is accomplished, when it starts, how long it takes to complete, when it will finish, and the dependencies between tasks. The Integrated Master Schedule is also the foundation for developing the cost model for the proposal. Consistency across the technical solution, program schedule, and cost estimates is critical to developing a winning plan and ensuring the program is executable when you win.

5. Integration of Schedule, Cost and Risk

With the completion of the IMP and IMS, and identification of hand-offs between IPTs are defined, the Program Architect focuses on integrating schedule, cost, and risk. The IMS is where we define these dependencies, which are vital in analyzing and validating the critical path. In addition, these attributes of the program support the sorting, selecting, and summarization of data necessary to generate the IMP/IMS - documents for the proposal and management of the program. To integrate these attributes of the Program Architecture, you must code the cross-references among the SOW, WBS, IPT, CDRL, GFx, and risk register.

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What is Program Architecture

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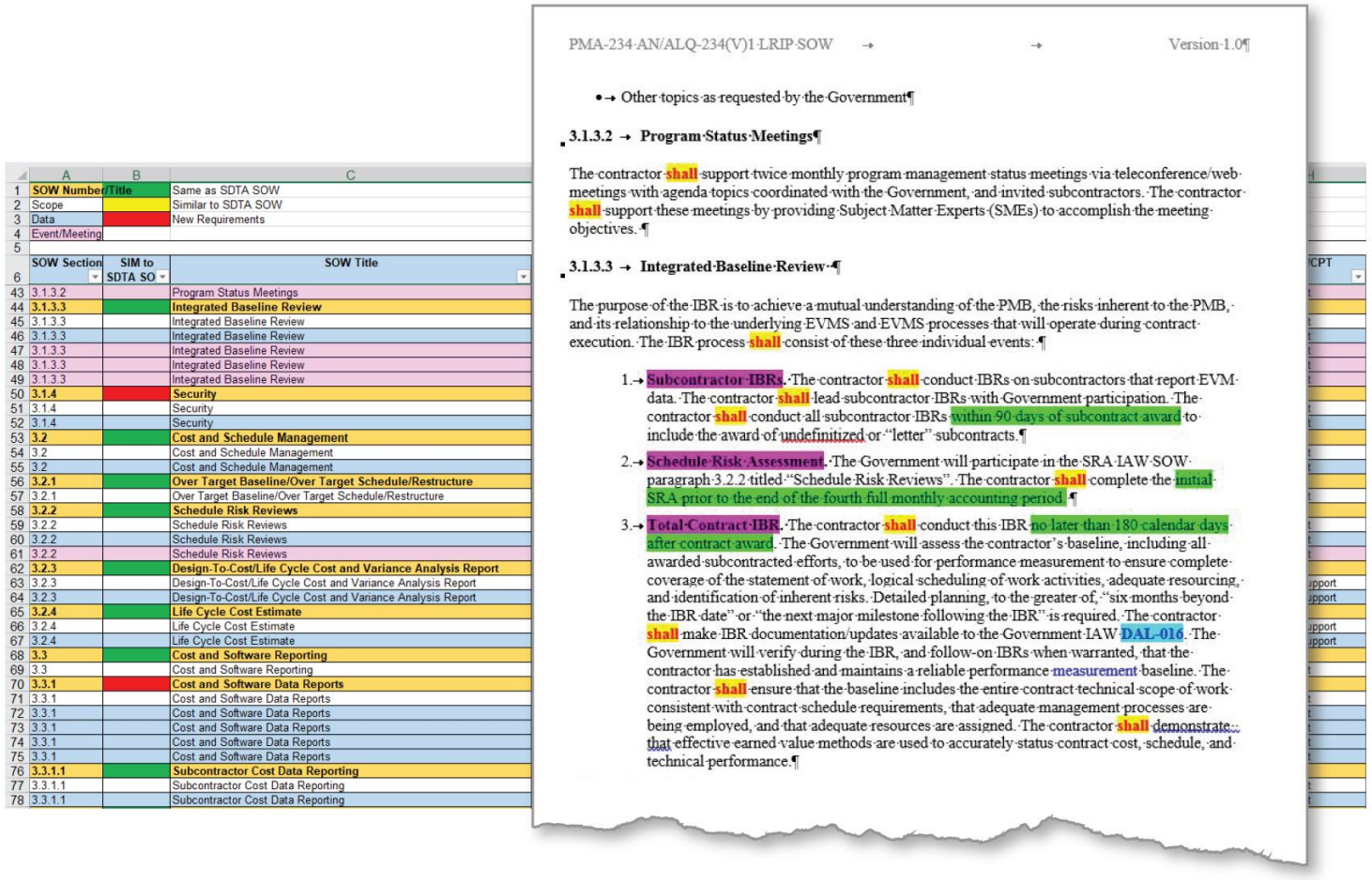
How the Program Architecture is Developed



	A	B	C
1	SOW Number/Title		Same as SDTA SOW
2	Scope		Similar to SDTA SOW
3	Data		New Requirements
4	Event/Meeting		
5			
6	SOW Section	SIM to SDTA SO	SOW Title
43	3.1.3.2		Program Status Meetings
44	3.1.3.3		**Integrated Baseline Review**
45	3.1.3.3		Integrated Baseline Review
46	3.1.3.3		Integrated Baseline Review
47	3.1.3.3		Integrated Baseline Review
48	3.1.3.3		Integrated Baseline Review
49	3.1.3.3		Integrated Baseline Review
50	3.1.4		**Security**
51	3.1.4		Security
52	3.1.4		Security
53	3.2		**Cost and Schedule Management**
54	3.2		Cost and Schedule Management
55	3.2		Cost and Schedule Management
56	3.2.1		**Over Target Baseline/Over Target Schedule/Restructure**
57	3.2.1		Over Target Baseline/Over Target Schedule/Restructure
58	3.2.2		**Schedule Risk Reviews**
59	3.2.2		Schedule Risk Reviews
60	3.2.2		Schedule Risk Reviews
61	3.2.2		Schedule Risk Reviews
62	3.2.3		**Design-To-Cost/Life Cycle Cost and Variance Analysis Report**
63	3.2.3		Design-To-Cost/Life Cycle Cost and Variance Analysis Report
64	3.2.3		Design-To-Cost/Life Cycle Cost and Variance Analysis Report
65	3.2.4		**Life Cycle Cost Estimate**
66	3.2.4		Life Cycle Cost Estimate
67	3.2.4		Life Cycle Cost Estimate
68	3.3		**Cost and Software Reporting**
69	3.3		Cost and Software Reporting
70	3.3.1		**Cost and Software Data Reports**
71	3.3.1		Cost and Software Data Reports
72	3.3.1		Cost and Software Data Reports
73	3.3.1		Cost and Software Data Reports
74	3.3.1		Cost and Software Data Reports
75	3.3.1		Cost and Software Data Reports
76	3.3.1.1		**Subcontractor Cost Data Reporting**
77	3.3.1.1		Subcontractor Cost Data Reporting
78	3.3.1.1		Subcontractor Cost Data Reporting

PMA-234-AN/ALQ-234(V)1-LRIP-SOW → → Version-1.0¶

- → Other topics as requested by the Government¶

3.1.3.2 → Program Status Meetings¶

The contractor shall support twice monthly program management status meetings via teleconference/web meetings with agenda topics coordinated with the Government, and invited subcontractors. The contractor shall support these meetings by providing Subject Matter Experts (SMEs) to accomplish the meeting objectives. ¶

3.1.3.3 → Integrated Baseline Review ¶

The purpose of the IBR is to achieve a mutual understanding of the PMB, the risks inherent to the PMB, and its relationship to the underlying EVMS and EVMS processes that will operate during contract execution. The IBR process shall consist of these three individual events: ¶

1. → Subcontractor IBRs. The contractor shall conduct IBRs on subcontractors that report EVM data. The contractor shall lead subcontractor IBRs with Government participation. The contractor shall conduct all subcontractor IBRs within 90 days of subcontract award to include the award of undefinitized or "letter" subcontracts.¶
2. → Schedule Risk Assessment. The Government will participate in the SRA IAW SOW paragraph 3.2.2 titled "Schedule Risk Reviews". The contractor shall complete the initial SRA prior to the end of the fourth full monthly accounting period. ¶
3. → Total Contract IBR. The contractor shall conduct this IBR no later than 180 calendar days after contract award. The Government will assess the contractor's baseline, including all awarded subcontracted efforts, to be used for performance measurement to ensure complete coverage of the statement of work, logical scheduling of work activities, adequate resourcing, and identification of inherent risks. Detailed planning, to the greater of, "six months beyond the IBR date" or "the next major milestone following the IBR" is required. The contractor shall make IBR documentation/updates available to the Government IAW DAL-016. The Government will verify during the IBR, and follow-on IBRs when warranted, that the contractor has established and maintains a reliable performance measurement baseline. The contractor shall ensure that the baseline includes the entire contract technical scope of work consistent with contract schedule requirements, that adequate management processes are being employed, and that adequate resources are assigned. The contractor shall demonstrate that effective earned value methods are used to accurately status contract cost, schedule, and technical performance.¶

Item	Description
SOW Section	The paragraph number of the item in the statement of work
Organization Experience Level	A code to identify if this requirement is the same as a previous effort, similar to a previous project, or is a new requirement; we use this method to determine the complexity and risk of the requirement. It also helps identifies where to focus on the SOW
SOW Title	Title of the item from the statement of work
Data Source	Identifies the Contract Data Requirements List (CDRL)/Data Accession List (DAL) for this item
CDRL/DAL Title	Title of the CDRL/DAL
CWBS Number	Contract Work Breakdown Structure Number for this element of the SOW
CWBS Title	Title of the Contract Work Breakdown Structure Number
IPT	Integrated Product Team (IPT) responsible for managing and completing the scope
Event	The event(s) associated with this scope
Comments	Documents any assumptions, risks, issues, opportunities, or instructions to the planners/schedulers

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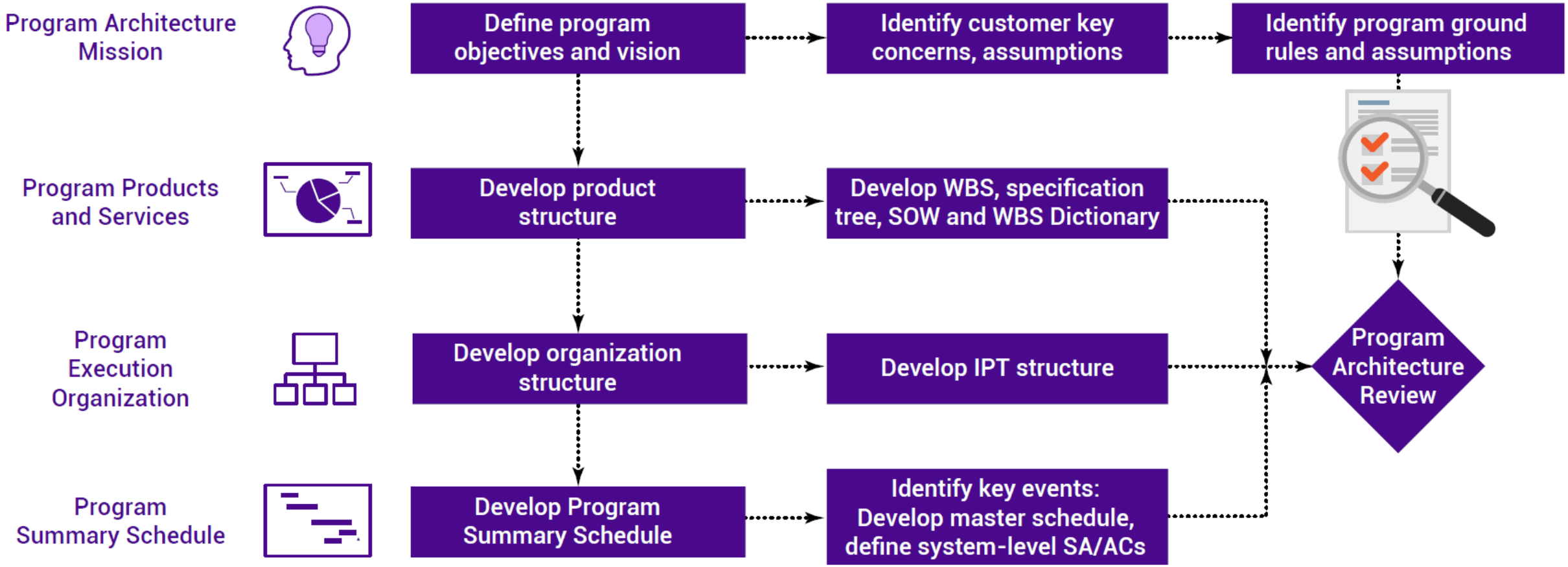
Program Architecture Overview



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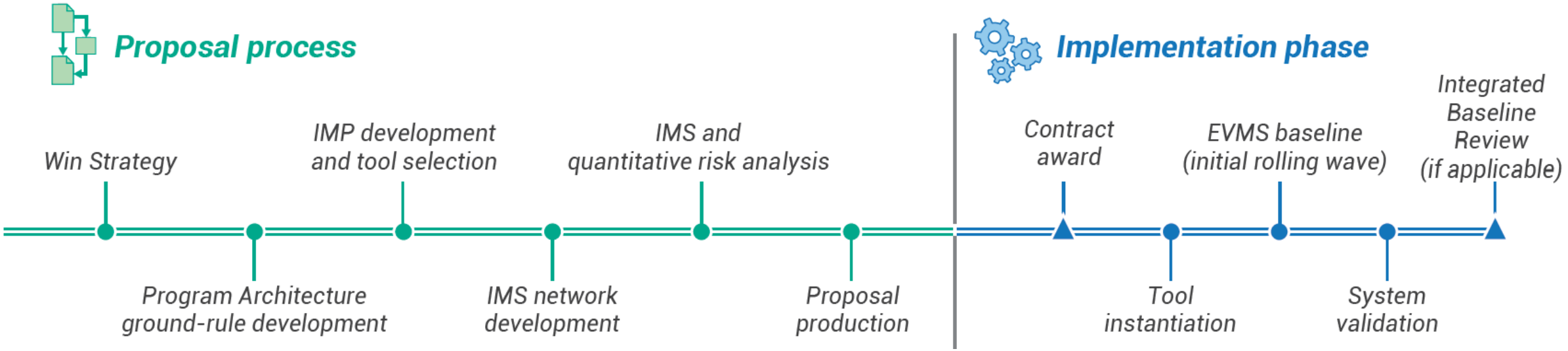
Program Architecture Across the Program Lifecycle



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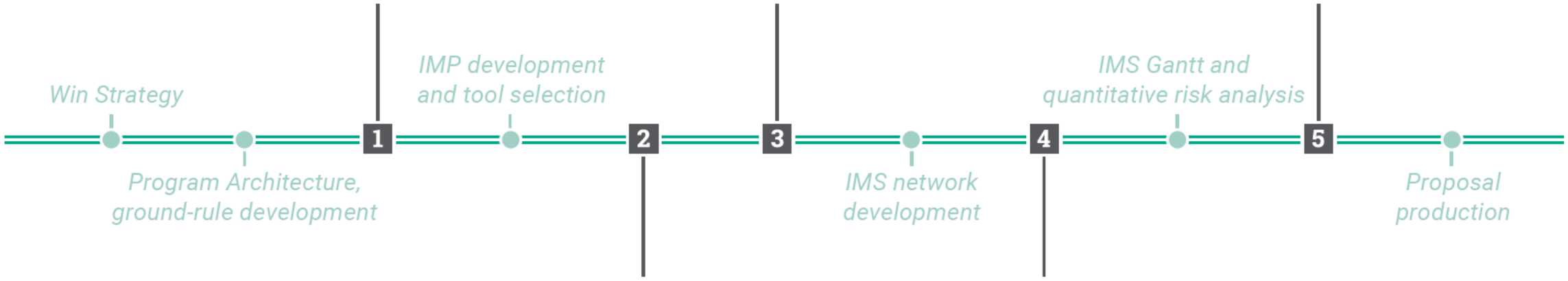
Five Program Architecture Gate Reviews

Program Architecture Review – *conducted as early as possible to baseline key management documents, entry criteria for the IMP*

Baseline IMP Review – *conducted concurrently with the proposal Pink Team Review, IPT Management buy-in before developing the IMS*

Schedule Integration Review – *conducted before proposal release to Production, verify IMS and BOEs are consistent and that the schedule confidence level is high*



Schedule Summit Review – *conducted before the Cost Volume Kickoff and the start of IMS development, gain concurrence between Cost Volume and IMS Team on BOE format, tools, and development schedules*

Baseline IMS Review – *conducted concurrently with the proposal Red Team Review; baseline schedule Risk analysis and BOE finalization*

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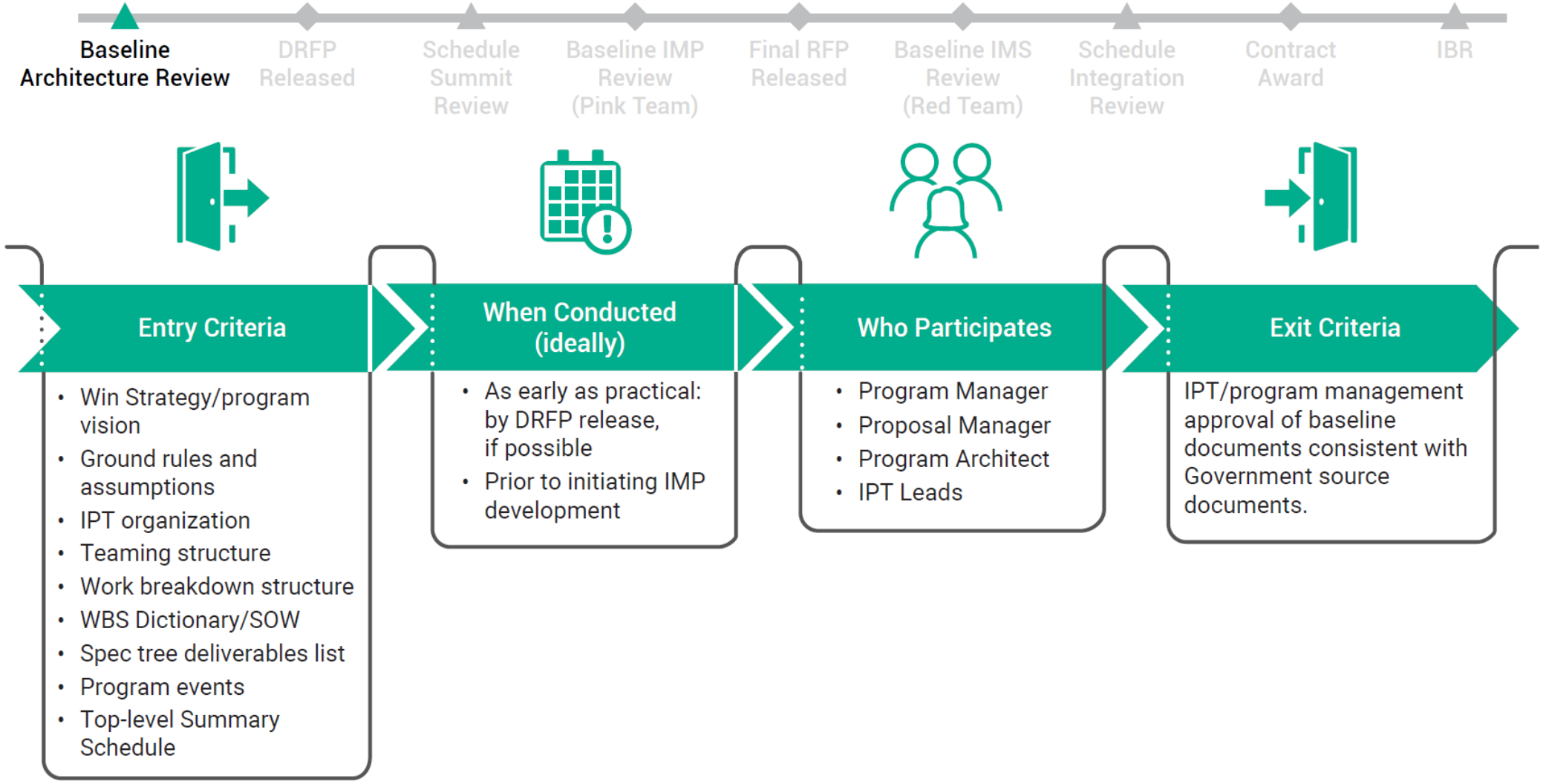
Program Architecture Review



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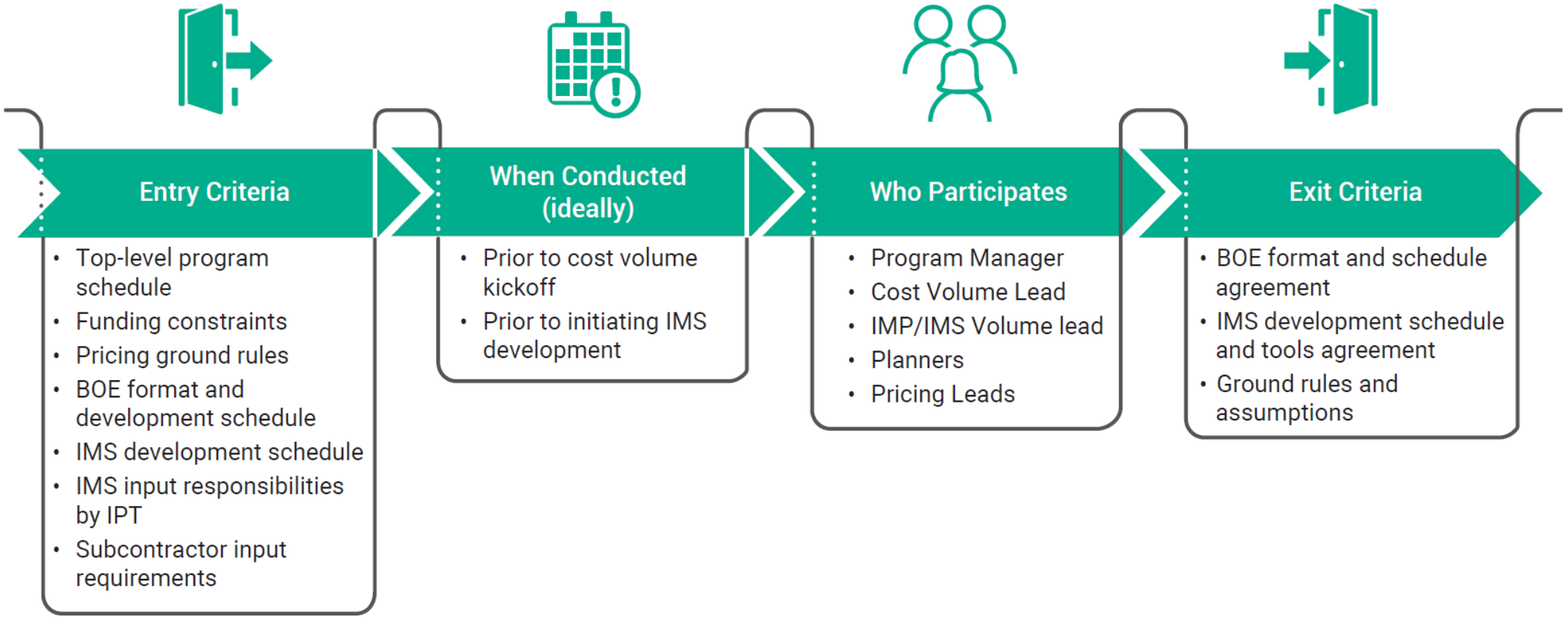
Schedule Summit Review

Baseline Architecture Review | DRFP Released | **Schedule Summit Review** | Baseline IMP Review (Pink Team) | Final RFP Released | Baseline IMS Review (Red Team) | Schedule Integration Review | Contract Award | IBR



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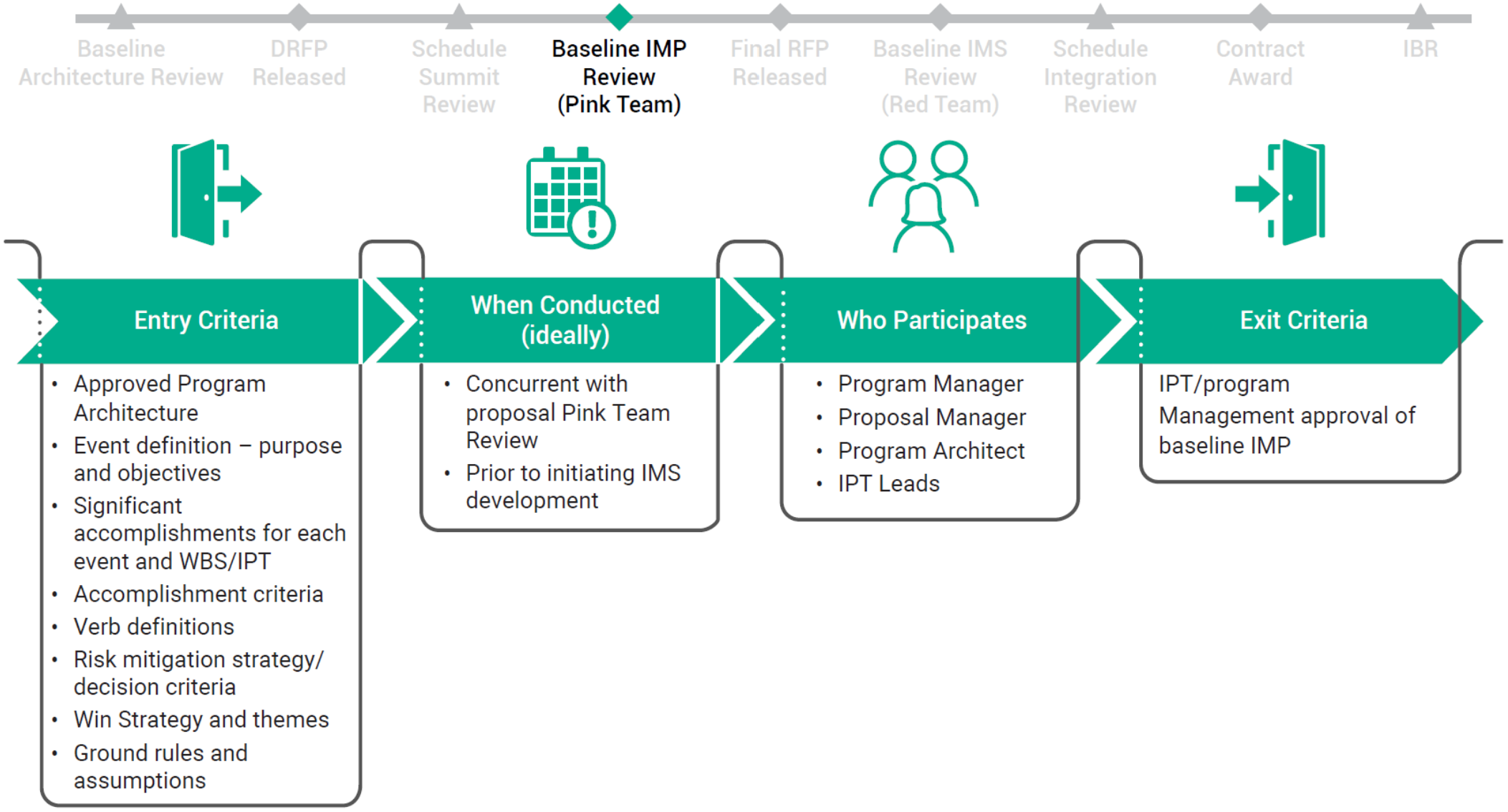
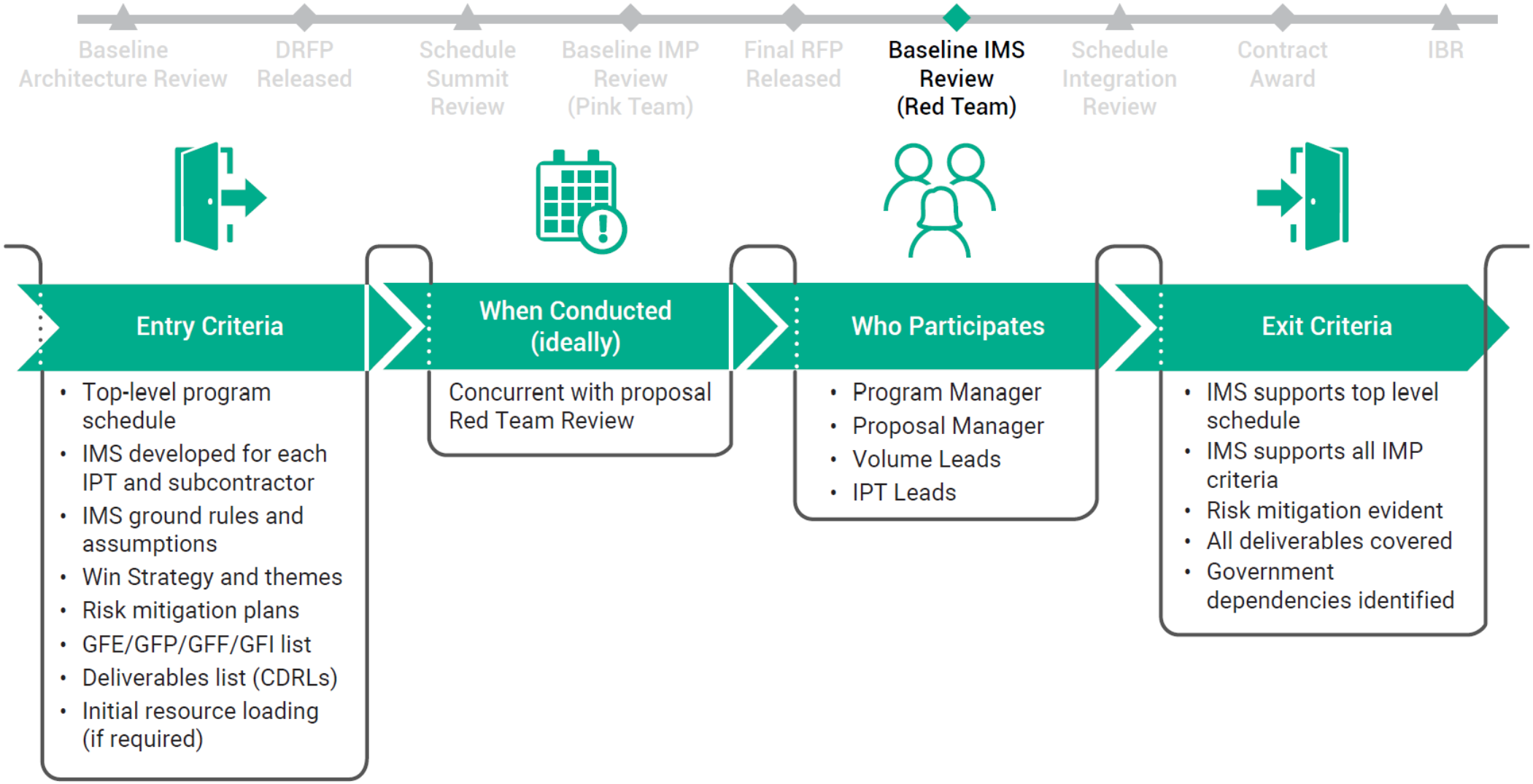
Baseline IMP Review



Baseline Schedule Review



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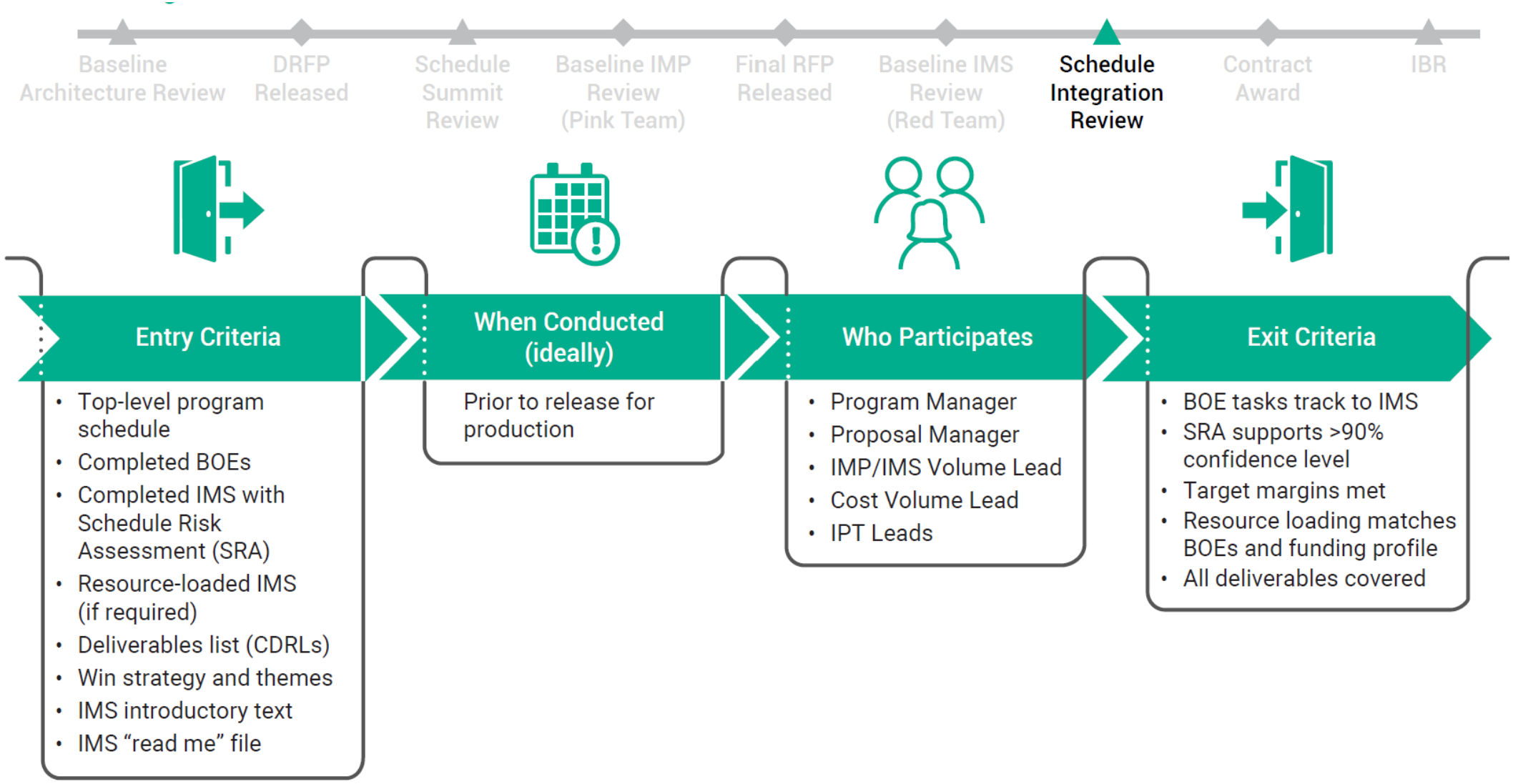
Schedule Integration Review



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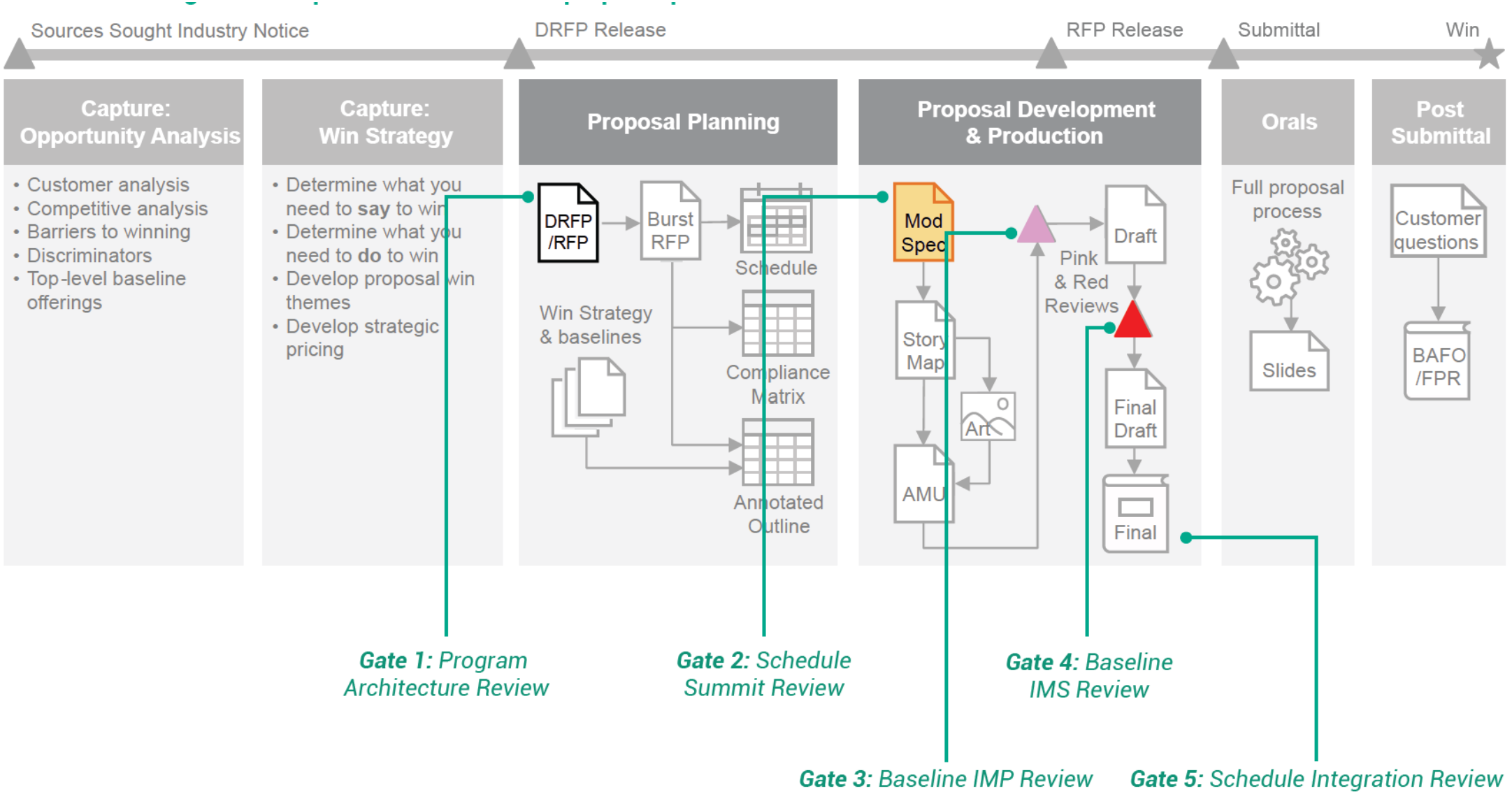
PA Gate Reviews In the SMA Proposal Process



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DOD Program Architecture Guidance

The US Department of Defense (DoD) defines specific guidelines for Program Architecture in DI-MGMT-81650, MIL-STD-881, EIA-748, DoD Risk, Issues, Opportunity Management Guide, Program Scheduling Excellence Guide, and Earned Value Management Systems (EVMS) EIA- 748-D Intent Guide.

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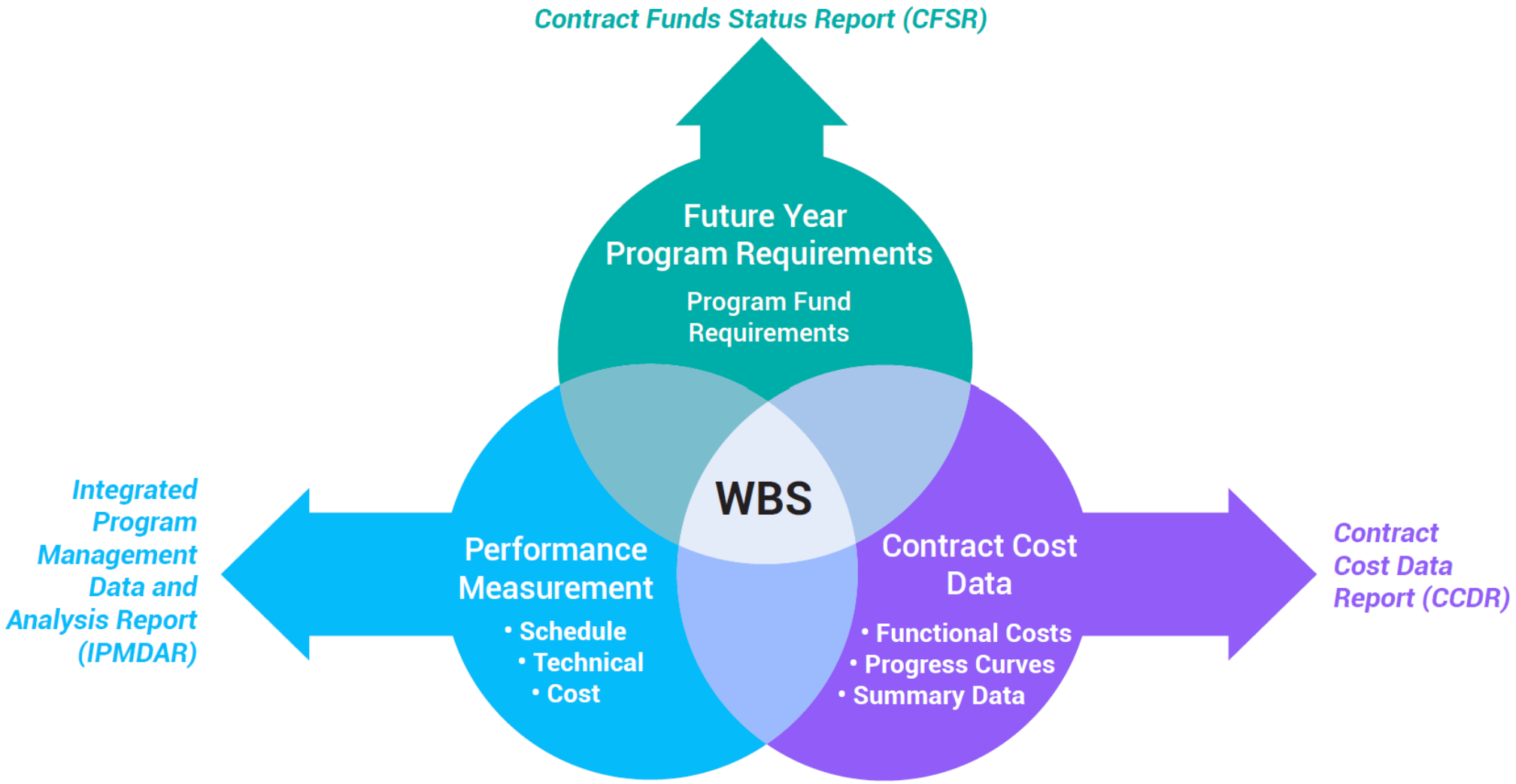
CWBS is the Cornerstone of Management Report



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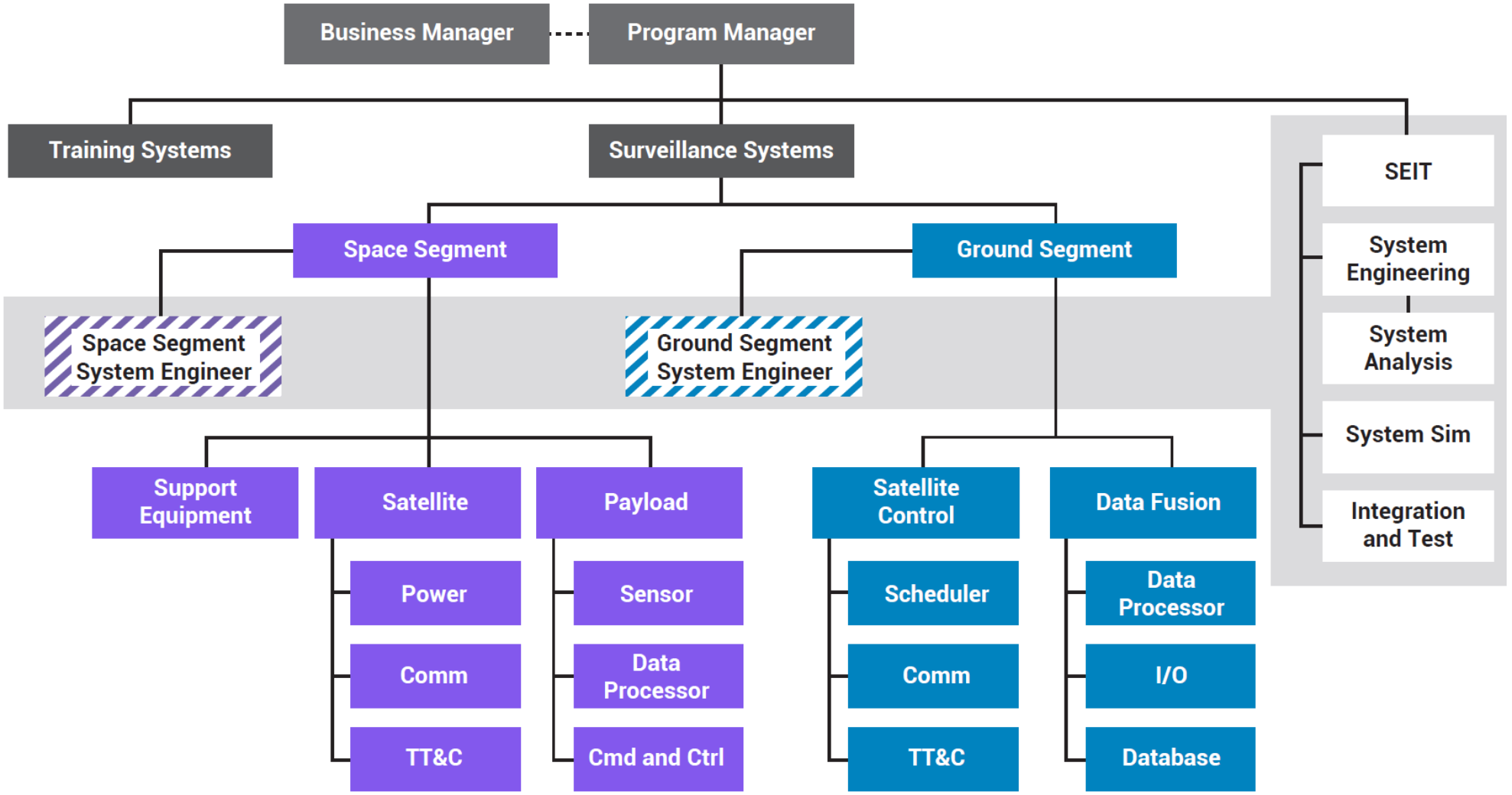
Integrated Product Team



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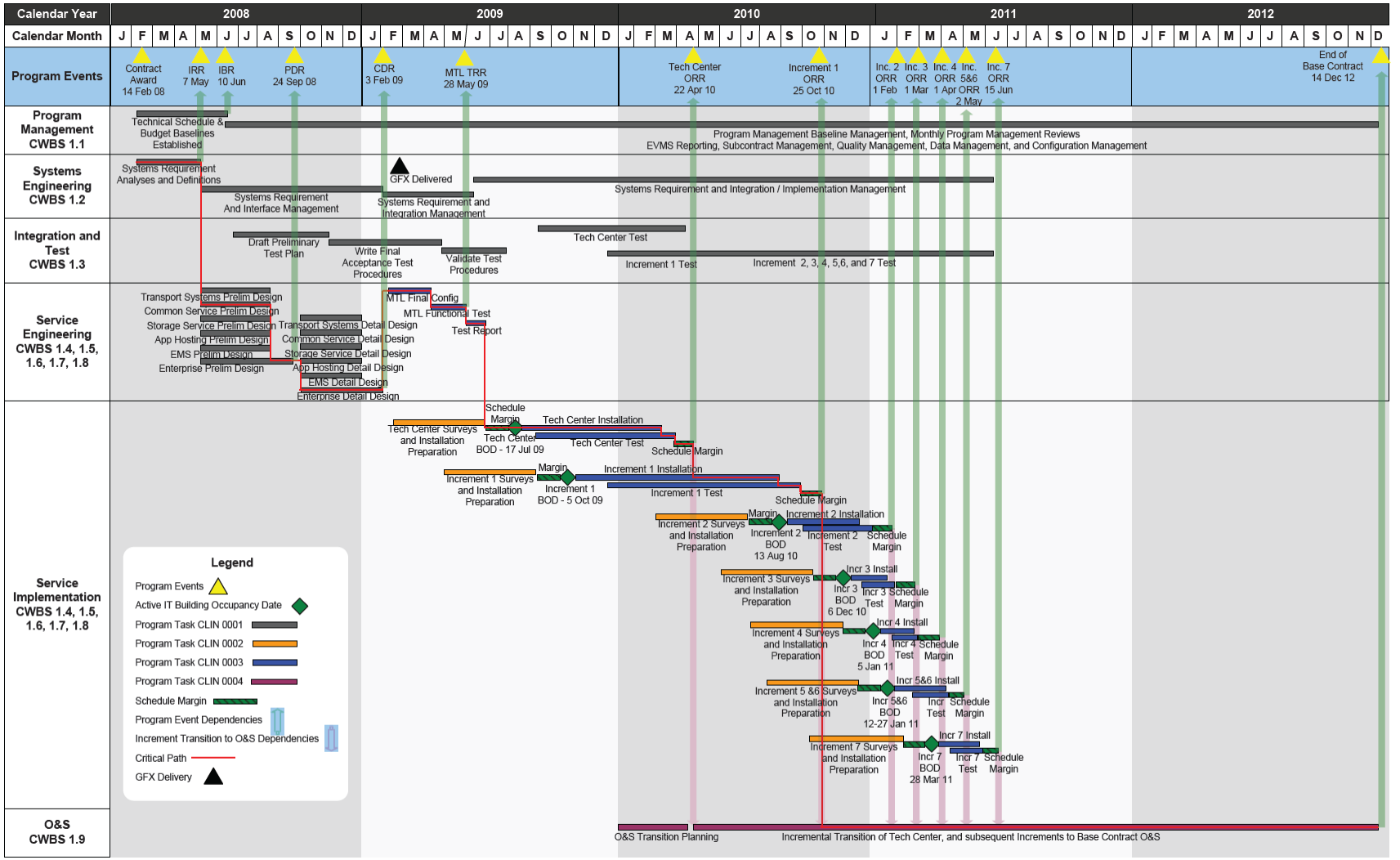
Example Master Phasing Schedule



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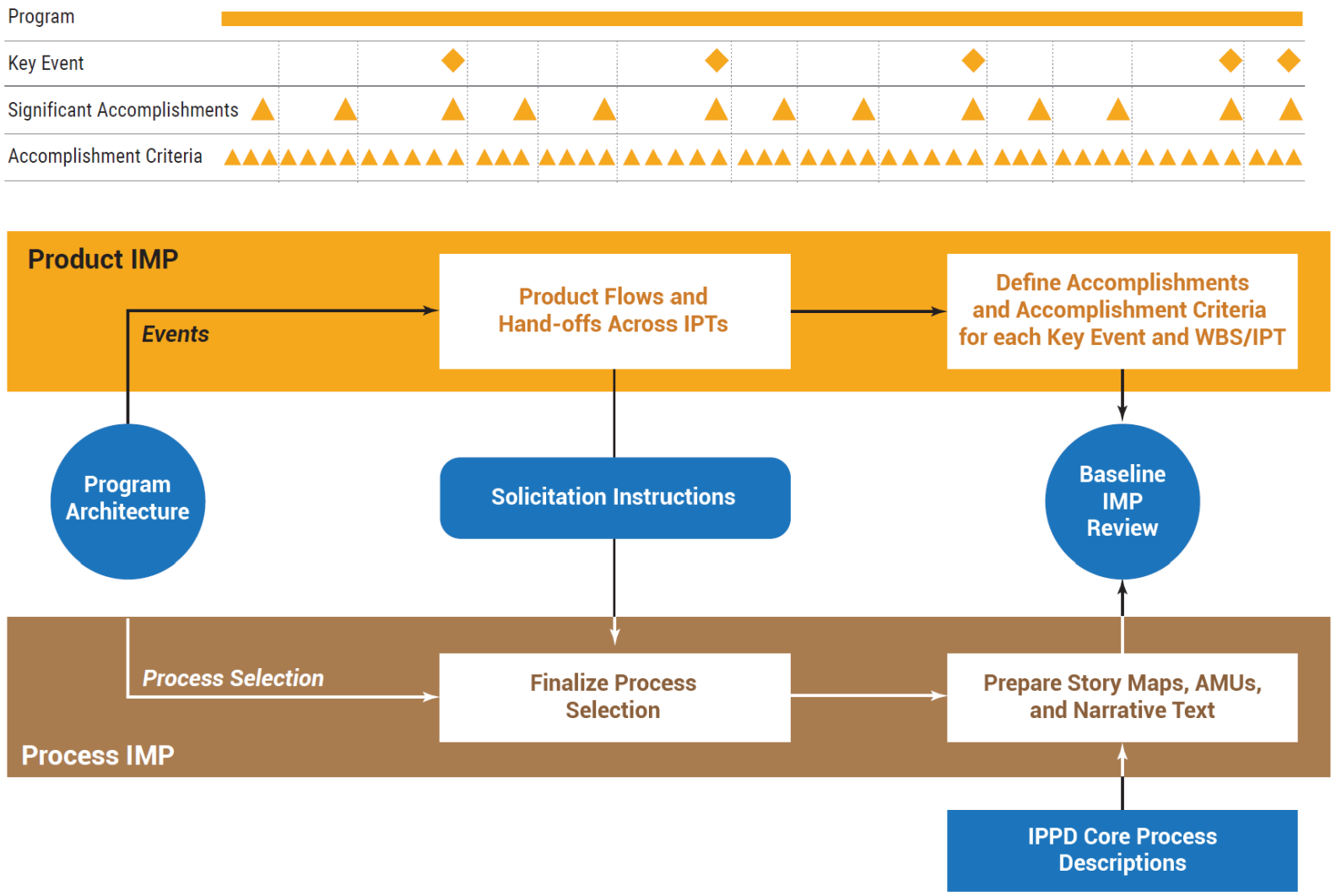
Simplified Approach to Developing the IMP



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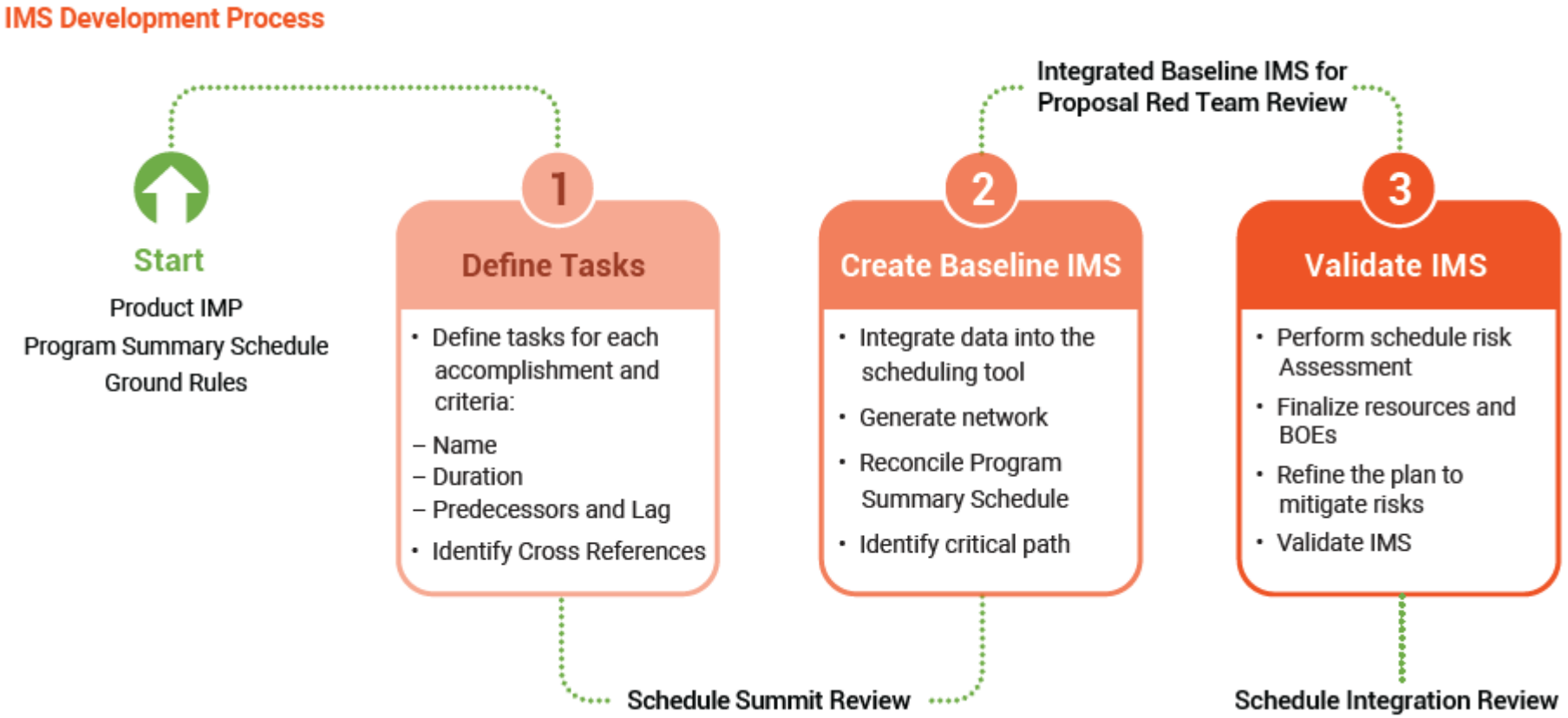
Developing the IMS



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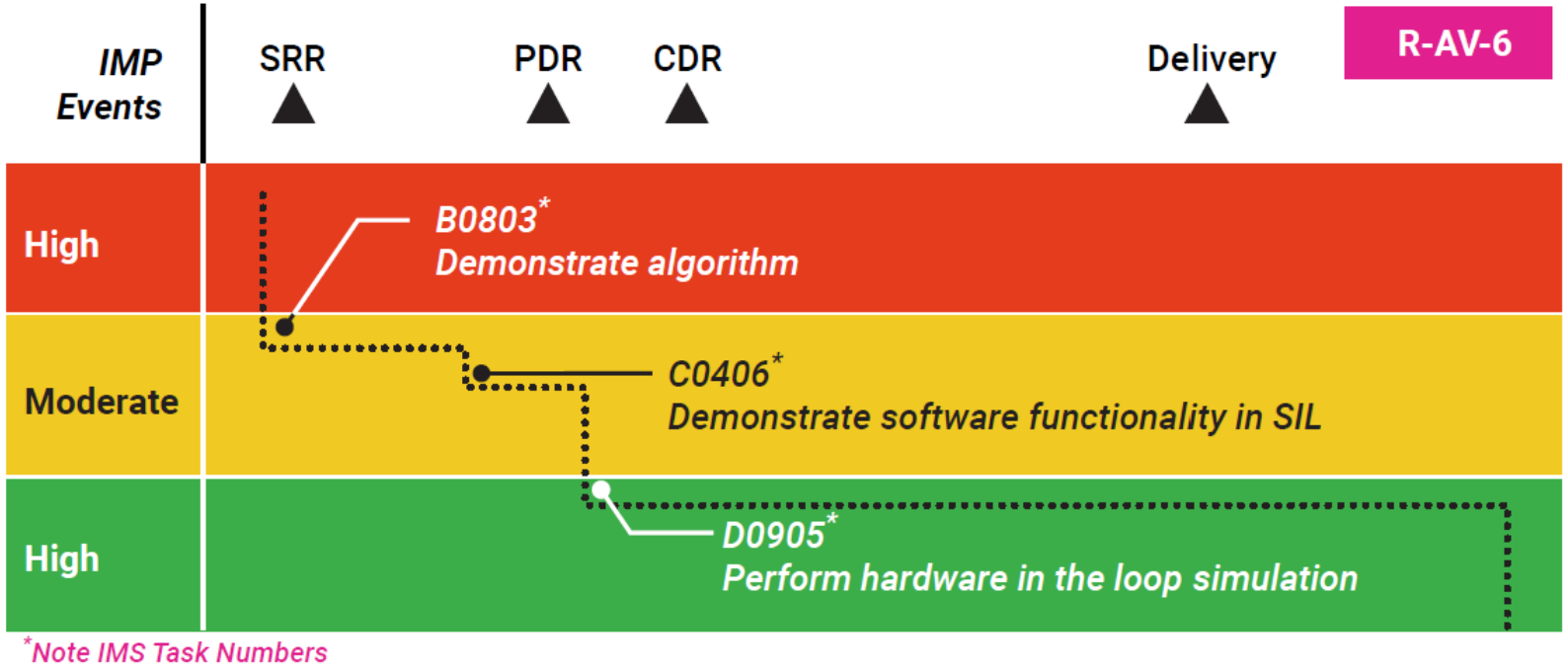
Identifying and Managing Program Risk

Risk Burn Down Chart



*Note IMS Task Numbers

- *Typically developed for high and medium risks*
- *Defines complete mitigation path for each risk*
- *Each step down must be quantified using likelihood and consequence tables*
- *May start prior to proposal submittal to take credit for good work*

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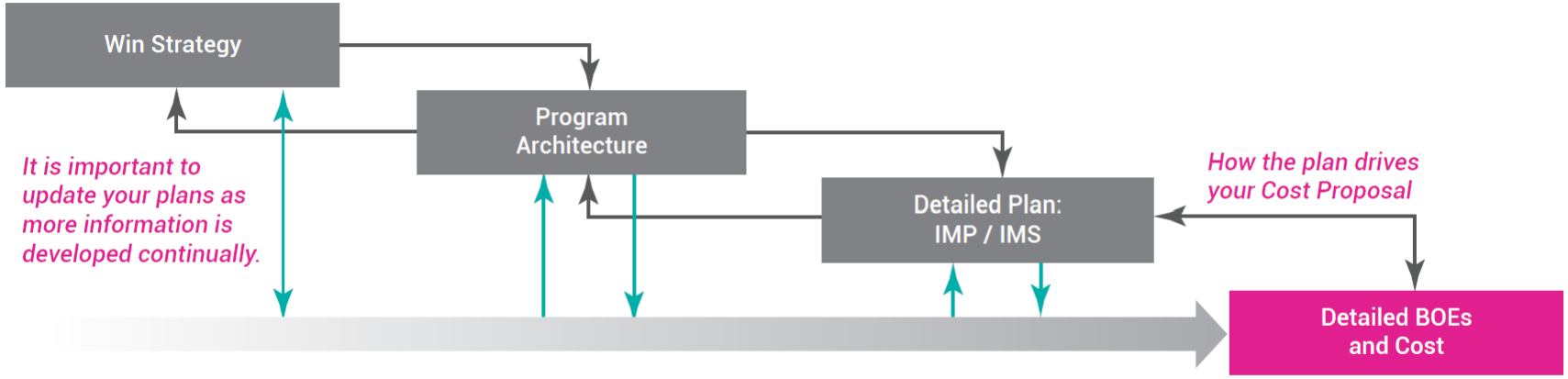
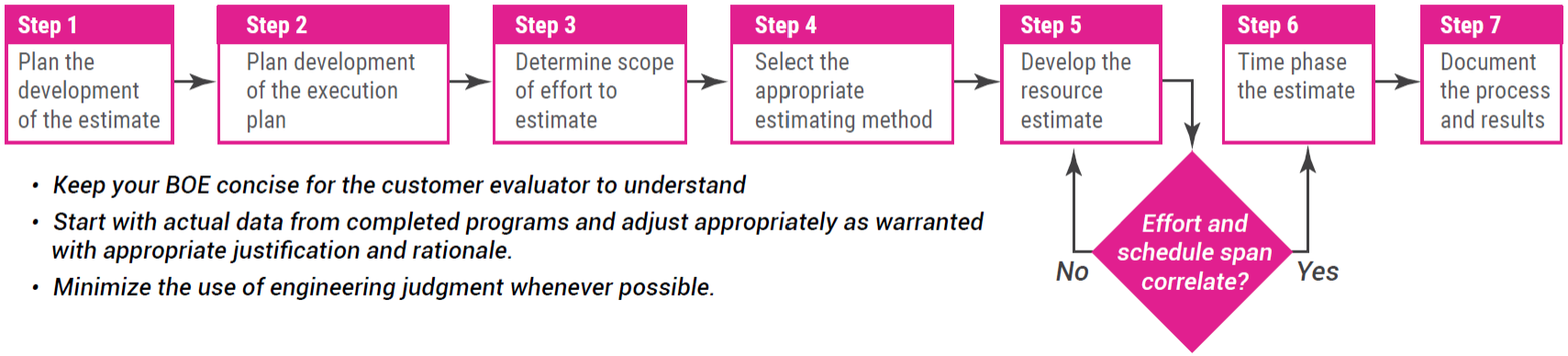
Resource Loading the IMS

The BOE Development Process



- *The Cost Volume team develops Rough Order Magnitude (ROM) estimates beginning at the strategy phase used to set cost targets*
- *Each step adds more detail and refines the ROMs*

BOE Development Process



- *Keep your BOE concise for the customer evaluator to understand*
- *Start with actual data from completed programs and adjust appropriately as warranted with appropriate justification and rationale.*
- *Minimize the use of engineering judgment whenever possible.*

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SMA Essential Series Books

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