Program Management and Systems Engineering

NDIA IPMD
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Gordon M. Kranz, President
Enlightened Integrated Program Management, LLC
gmkranz@eipm-llc.com
gordon.kranz@agileforgovernment.com

What is this?

Agenda

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Buy-In?

Integrated Program Management

Metrics Driven Performance Management

Integrated Analysis

Examples if time

1) Cost as an Independent Variable

2) Agile Development in Enterprise Environment

Problem Statement

Extracts from “Standing on Shoulders” inputs

- How to engage executive support?
- How do people manage programs when EVM is not required?
- How to get people to care about project vs silo or function?
- Contracting officers and Stakeholders not understanding EVM.
- Each Acq reform brings us back to EVM, yet we still have resistance from PMOs

IPM to EVM Process Comparison

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Integrated Program Management	Earned Value Management
Understand the work	Organization – WBS
Structure to Manage the Work	Organization – OBS, RAM
Plan (Resource and Schedule) the work	Planning, Budgeting and Scheduling
Monitor and control the work	Analysis and Management Reporting
Update the plan as necessary	Revisions and Data Maintenance

Stakeholders are already dong IPM in most cases

Integrated Program Management

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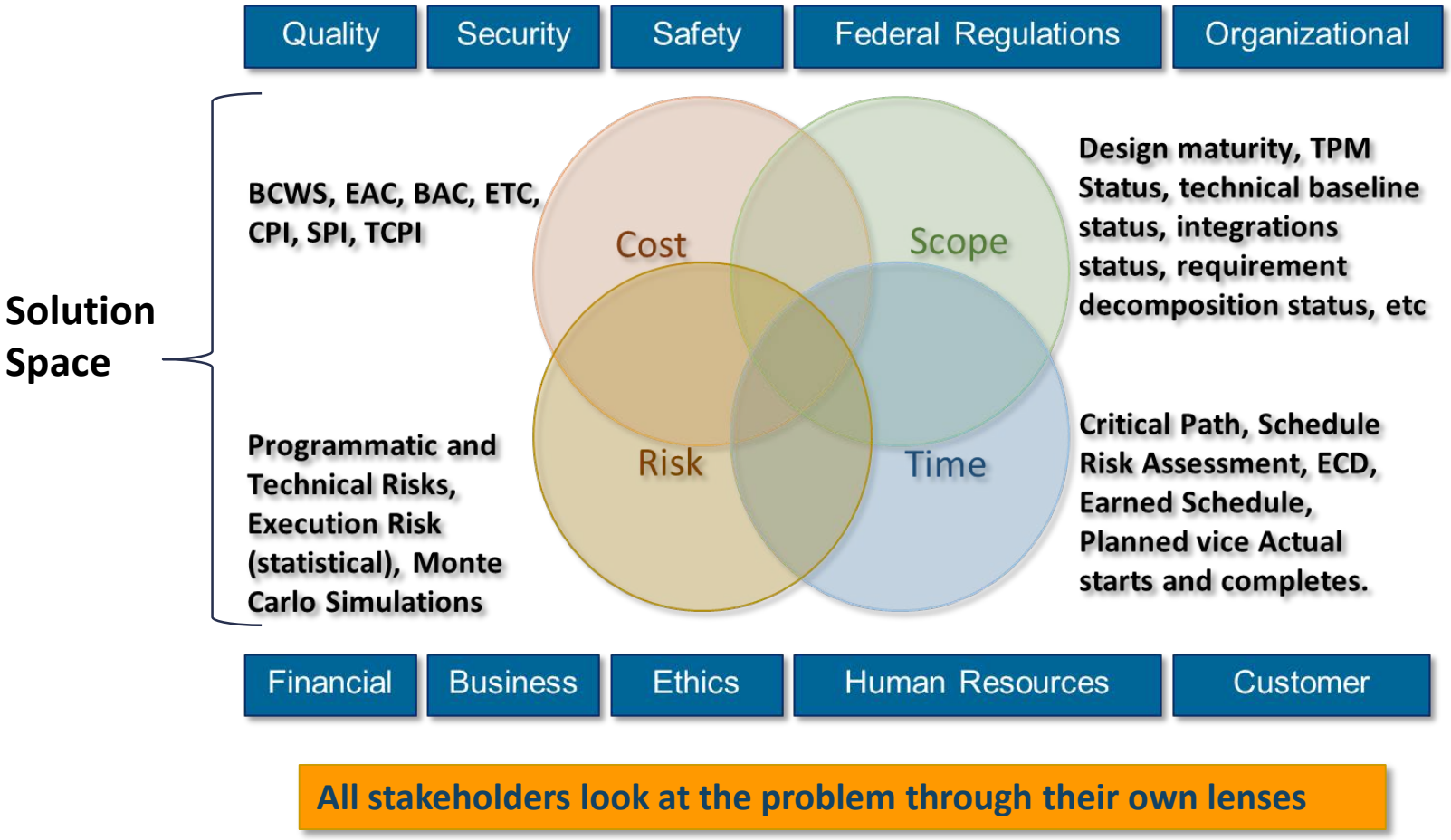

All stakeholders look at the problem through their own lenses

Metrics Driven Performance Management

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The Key to Getting PM and Engineering Buy In

- Put the benefit in terms they understand
- Focus on the Customer end goal
- Develop metrics that allow them to see their contribution to success
- Help them understand they are already “doing it”

How?

Focus on the essential work products

Work Products

Organization	Planning Budgeting and Scheduling	Monitoring Progress	Revisions
WBS, OBS, RAM	Schedule Control Account Plan	IPMR Reports Cost and Schedule Metrics	BCRs ECPs

OR

Requirements	Design	Build	Test	Delivery
System Specifications Component Specs Interface Cntrl Docs	System Architecture Operational Concept	Simulations Prototypes Test Units	Test Plans & Procdres Prototypes Test Units	Production
Risk Mgt Configuration Mgt Systems Eng Mgt Plan Cost and Schedule Rptg	Trade Studies		Test Environment	Production Tooling

Performance Measurement Baseline

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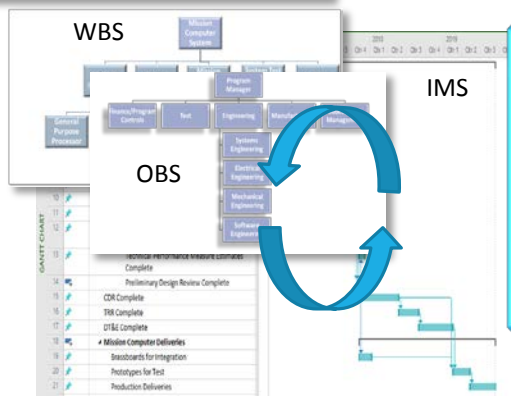
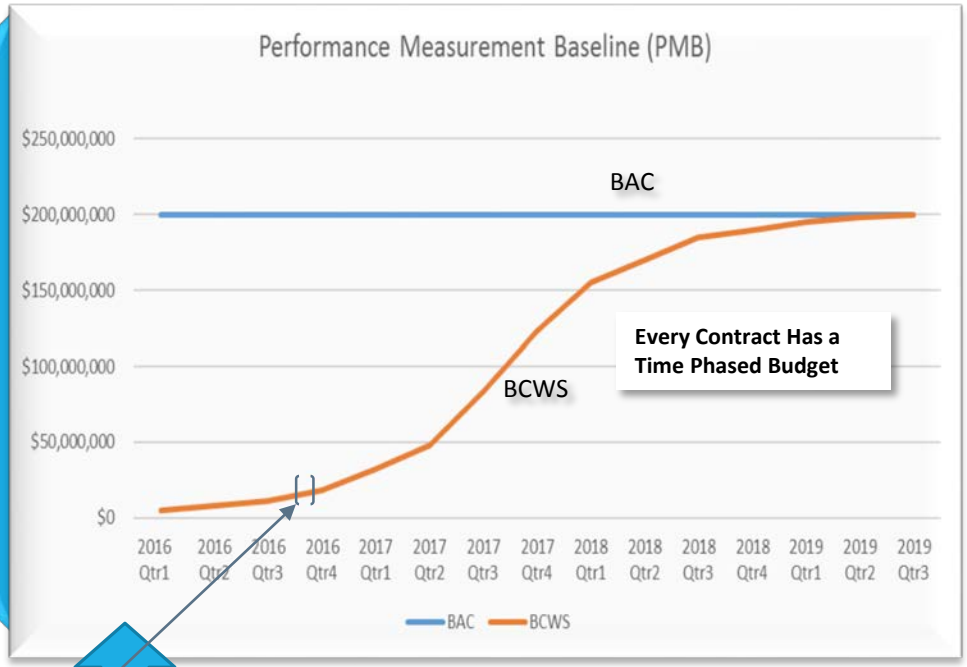
Planning and Estimation





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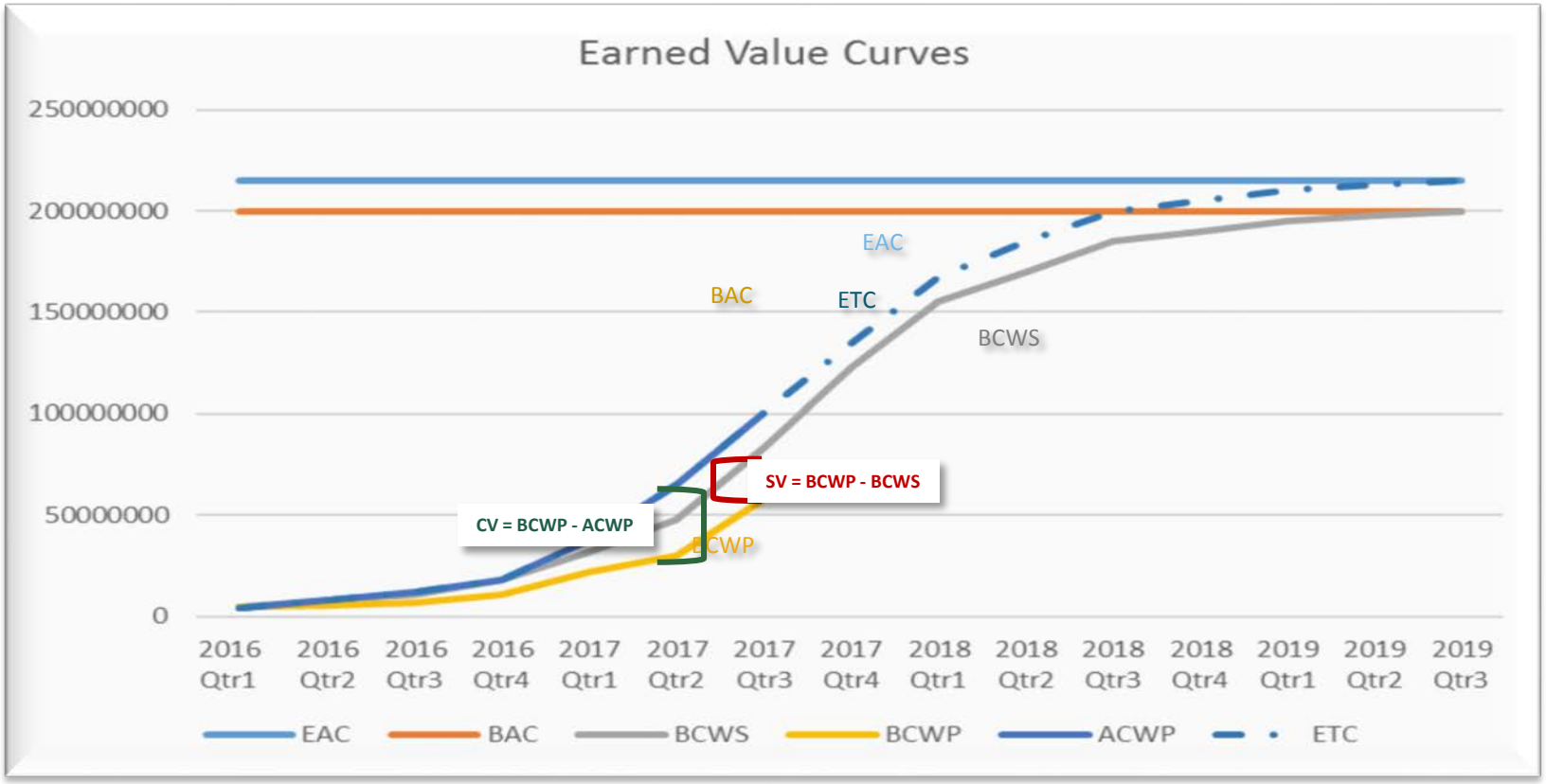
Earned Value Management - Performance



ACWP Process is done for any type of work scope any type of contract

Measure Progress

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Customer focused measures
Key Performance Parameters, TPMs, LCC, Operational Parameters

Measure of Project Maturity Throughout Development

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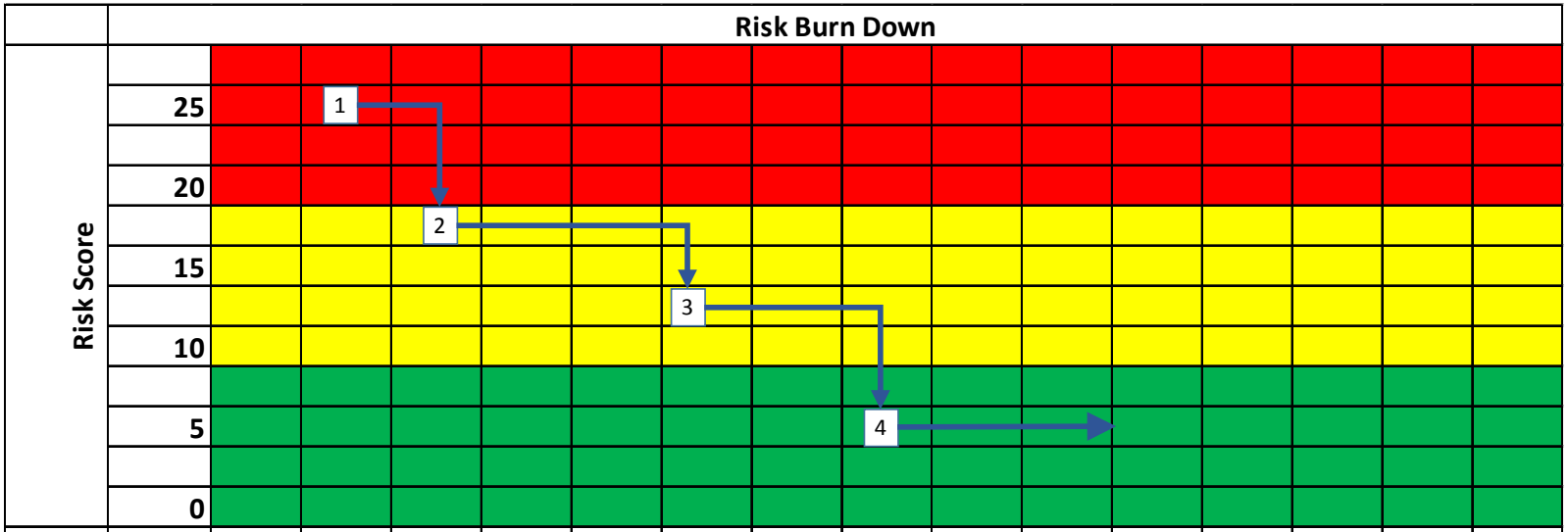
Project Maturity

All Stakeholders have time phased estimates of planned progress used to assess progress.

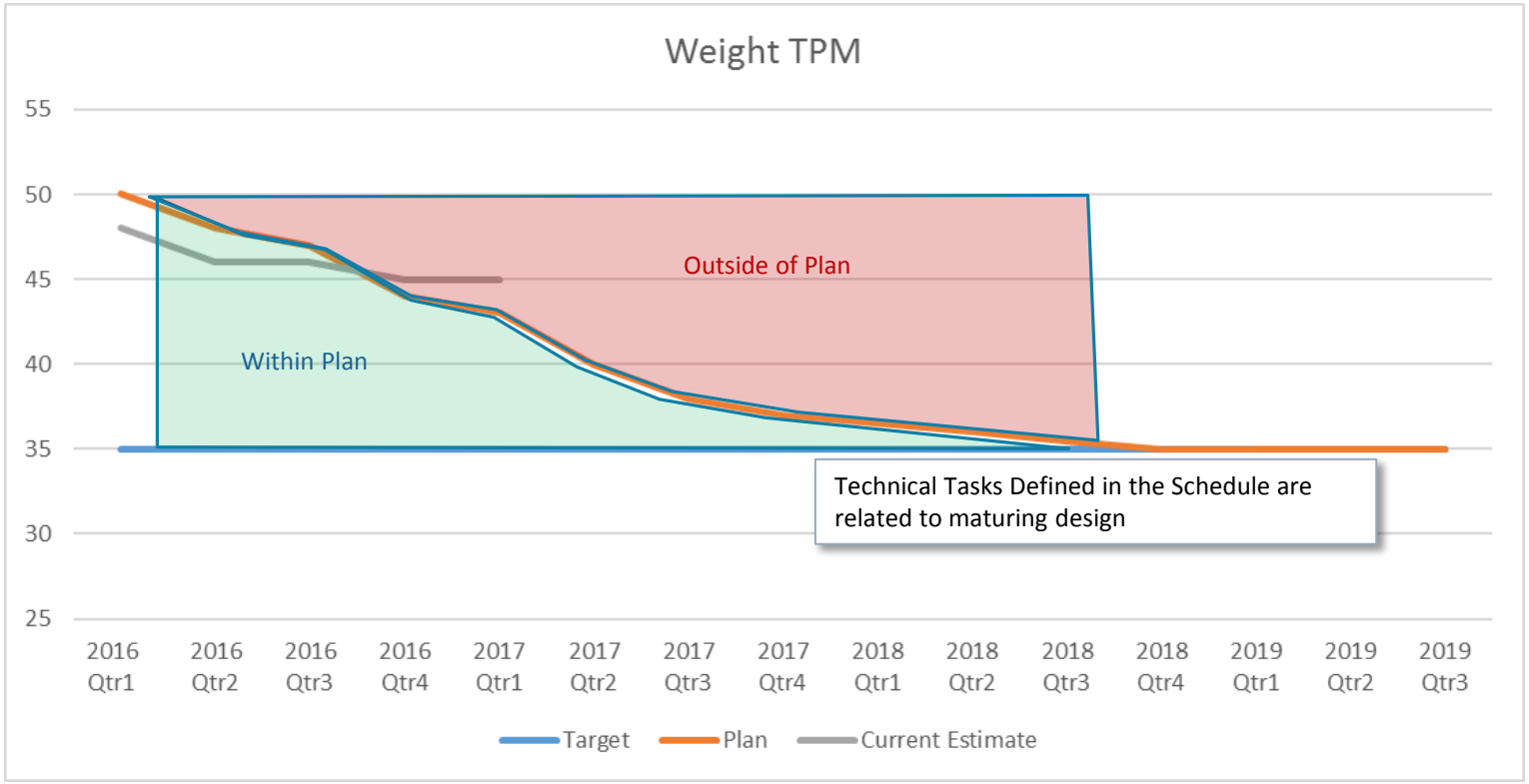
- TPMs
- Risk
- Technology Readiness Levels
- System Design (DoDAF Views)
- Finance
- Production Readiness
- etc

Time Phased Risk Burn Down Plan



Step #	Description	Status	Start Date	Stop Date
1	Establish Root Cause	Inprocess	15-May-16	20-Aug-16
2	Evaluate Alternative Resolutions	Pending	20-Aug-16	31-Jan-17
3	Select Alternative	Pending	31-Jan-17	1-Jun-17
4	Implement alternative	Pending	15-Nov-17	1-Jul-18

Time Phased TPM Estimates



Summary

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Key to selling EVM is to make it self-evidently beneficial* to all stakeholders

- Discuss IPM from their perspective

- Leverage existing measures of success and relate to the IPM cost schedule measures

- Recognize that EVM /IPM is one of many tools required to manage a program

- Never lose sight of the end goal

* Paraphrased from Gary Bliss

Integrated Computer System(CAIV Example if Time)

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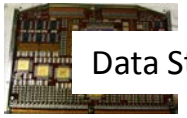
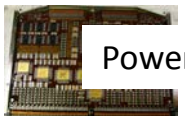
Standard Components


General Purpose Processor


Network Switch


Data Storage


Power Supply

Standard Sub-Systems


Mobile Command Center

C4ISR = Command Center

Mobile Command Center


Unmanned Ground Vehicle

Enterprise SW Agile Development

DevOps

- Connecting the development team to Operational success through targeted measures

Customer Satisfaction

- Number of complaints
- Survey Results

Cloud computing resource consumption

- Number of queries
- Size of queries

Immediate Feedback

- Example: Dynatrace UFO