



PMI EVM Community of Practice
EVM World 2011

The Practice Standard for Earned Value Management

J. Greg Smith, PS-EVM 2nd Edition Project Chair

Eric Christoph, Project Vice-Chair

May 16-18, 2011

The Nature of PMI Standards

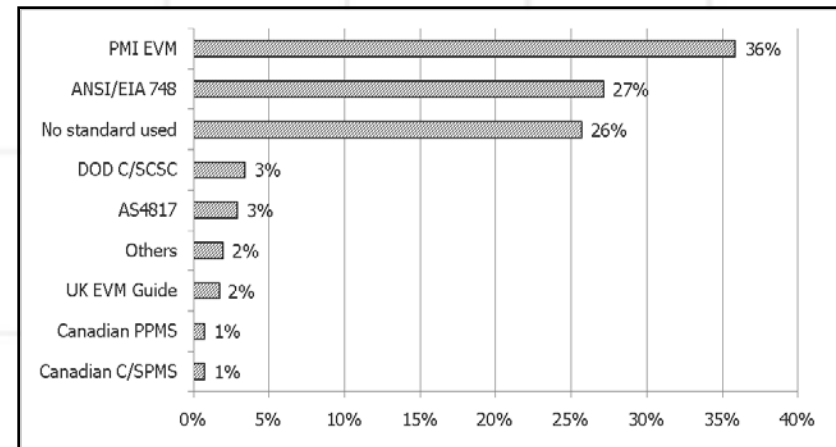
- The *Practice Standard for EVM, 1st Edition*, was developed as a supplement to the *PMBOK® Guide*.
- Other *Practice Standards* Include:
 - for *Project Risk Management*
 - for *Project Configuration Management*
 - for *Work Breakdown Structures*
 - for *Scheduling*
 - Soon: *Practice Standard for Project Estimating* and a *Lexicon (Standardized Glossary)*
- A *Practice Standard* provides information that is accepted and applicable for most projects most of the time within the project management community.



Use of the 1st Edition

- Note that the PMI Practice Standard is truly a **Global Standard**
- CPM funded research by Dr. Song from the University of Houston revealed that the practice standard is highly influential on the EVM world
- Also, by PMI's own admission, the *Practice Standard for Earned Value Management* is among their best sellers
- Second Edition will build upon the 1st by adding more depth within the various EVM processes

Global Use Of EVM "Standards"



EVM History

- 1959** Program Evaluation Review Technique (PERT)
- 1963** U.S. DOD Cost/ Schedule Planning and Control Specification(C/Specs)
- 1967** Cost/Schedule Control Systems Criteria (C/SCSC)
- 1992** Canada issues their CSPMS for EV and International Performance Management Council (IPMC) formed for international EV participation
- 1995** USA, Australia, Canada, and Sweden conduct the first Multinational EVMS Reviews in the USA, and IPMC creates EVMS MOU mutually recognizing validations among the member countries
- 1996** DOD adopts ANSI 748 as the C/SCSC replacement (EVMS)
- 1997** NASA Earned Value Performance Management Policy Directive, NPD 9501.3, issued

EVM History, continued

- 1997 OMB Circular A-11, Capital programming guide requires cost and schedule performance goals
- 1998 Industry Issues ANSI/EIA 748-98 Standard for Earned Value Management Systems
- 2000 DoE Order 413.3 issued, directing use of Earned Value via ANSI/EIA-748
- 2002 OMB Re-issues Circular A-11 with Specific EVM Requirements of \$20Million or more and requires evidence of EVM (Business Cases “300 Report”)
- 2004 OSD lowers EVM application threshold to contracts of \$20 Million or more; ties IMS and IBR requirements to same threshold
- 2005 PMI Releases the 1st Edition EVM Standard**
- 2006 FAR Clause added for EVM (previously only a DFARs clause)

A Tale of Two Standards

ANSI 748	PMI PS-EV
Prescriptive	Descriptive
Minimum Characteristics	Best Practices
Used to support Audit	Used for Education & Resource
Evaluation of an EVM <u>S</u>	Guide to EV <u>M</u>
Required by Contract	Desired by Management

The 2nd Edition Practice Standard Core Team

An International Team Representing Varied EVM Applications



Project Schedule: Publication 3Q 2011

So Far...On Schedule

Task Name	Baseline Duration	Actual Duration	Start	Finish	Status
Committee Chair Appointed	0 Days	0 Days	10/19/09	10/19/09	✓
Call for Nominations	10 Days	10 Days	11/02/09	11/13/09	✓
Appointment of members	45 Days	45 Days	11/16/09	12/30/09	✓
Kick-Off Meeting	2 Days	2 Days	03/06/10	03/07/10	✓
Submit Scope and Project Plan w/ Outline to MAG	8 Days	12 Days	03/08/10	03/15/10	✓
Draft of Content	180 Days	176 Days	03/16/10	09/11/10	✓
Committee Draft Edit	21 Days	21 Days	09/12/10	10/02/10	✓
SME Review	30 Days	30 Days	10/03/10	11/01/10	✓
Committee Review	25 Days	25 Days	11/02/10	11/26/10	✓
Pre-exposure Draft Vote	5 Days	5 Days	11/27/10	12/01/10	✓
Deliver Team Draft	1 Days	1 Day	12/02/10	12/02/10	✓
PMI Editor & Team to collaborate for light edit	21 Days	21 Days	12/03/10	12/23/10	✓
PMI Posts Exposure Draft on PMI.org for Review	45 Days	45 Days	01/03/11	02/15/11	✓
ED Recommendation are adjudicated by Committee	60 Days	60 Days	02/16/11	04/16/11	✓
Appeals process	14 Days	14 Days	04/17/11	04/30/11	✓
Appeal Adjudication	14 Days	14 Days	05/01/11	05/14/11	✓
Final Committee vote	7 Days		05/15/11	05/21/11	
PMI Performs Final Edit	21 Days		05/22/11	06/11/11	
Consensus body vote	30 Days		06/12/11	07/11/11	
CEO Approval	1 Days		07/12/11	07/12/11	
Publication	60 Days		07/13/11	09/10/11	

Structure and Content of the Standard

A Departure From The 1ST Edition

● 1st Edition:

Current Edition Structured
as an Overview and
Educational Guidebook

In Addition, 5 Appendices:

- A. Guidelines for a PMI Practice Standard
- B. Evolution of PMI's Practice Standard for EVM
- C. Contributors and Reviewers of the Practice Standard for EVM
- D. Additional Sources of Information
- E. Reviews of Selected Books on EVM

Chapter 1 Introduction

- 1.1 The Role of Earned Value Management
- 1.2 EVM and the Project Management Process

Chapter 2 Basic Elements of Earned Value Management

- 2.1 Descriptions of the Basic EVM Elements
- 2.2 Derivations of the Basic EVM Elements
- 2.3 Putting it All Together

Chapter 3 EVM Performance Analysis and Forecasting

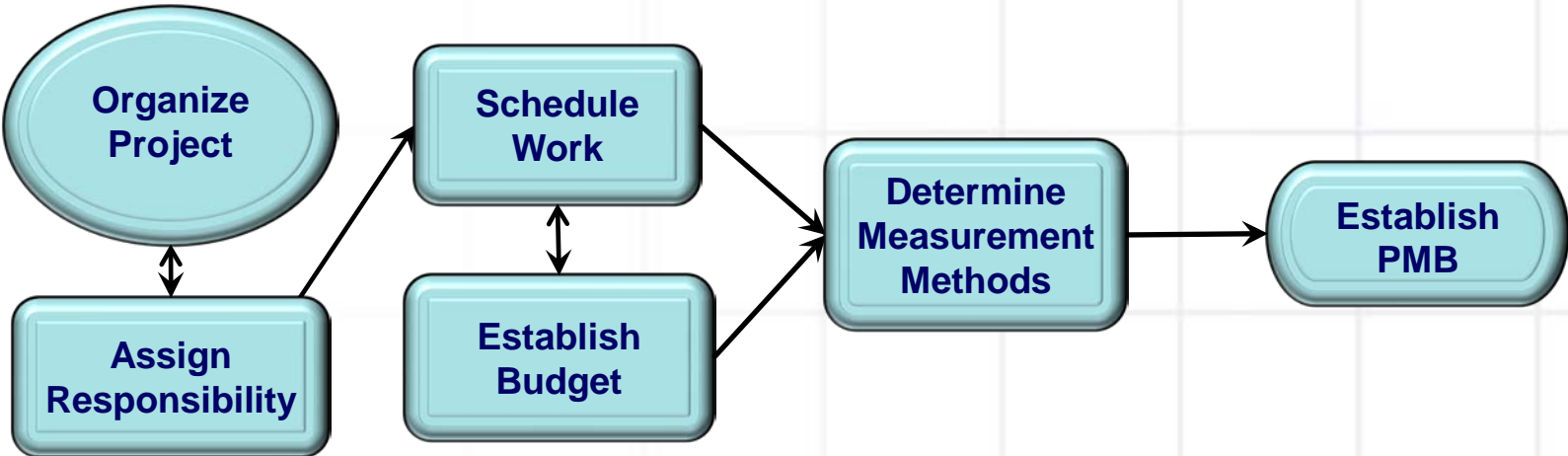
- 3.1 Schedule Analysis and Forecasting
- 3.2 Cost Analysis and Forecasting
- 3.3 Management by Exception

Chapter 4 Guidance for the Use of Key EVM Practices

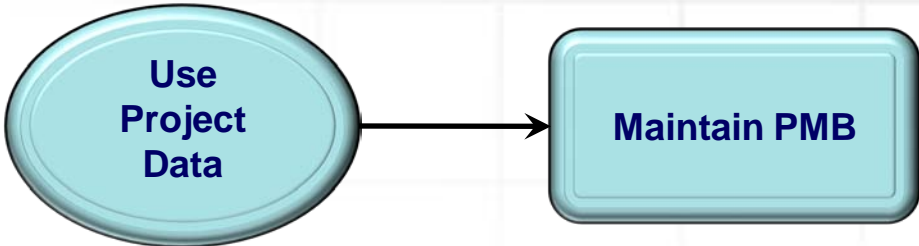
- 4.1 Establish a Performance Measurement Baseline
- 4.2 Measure and Analyze Performance Against the Baseline

The Second Edition: A Process Approach

Initiation and Planning Process Groups



Executing and Monitoring & Controlling Process Groups



EVM 2nd Edition Practice Standard Process

3. Organize Project

Inputs

- Project Charter
- Stakeholder Strategy
- Requirements Docs

Outputs

- Scope Plan & Baseline
- WBS and Dictionary

4. Assign Responsibility

Inputs

- Scope Baseline

Outputs

- Organizational Breakdown Structure
- Responsibility Assignment Matrix

5. Schedule Work

Inputs

- Scope Baseline
- Resource Plan
- Duration Estimates

Outputs

- Integrated Master Schedule

6. Establish Budget

Inputs

- Project Charter
- Responsibility Assignment Matrix
- Schedule Baseline

Outputs

- Project Budget
- Project Funding Requirements
- Project Budget Log
- Control Account Plans

EVM 2nd Edition Practice Standard Process

7. Determine Measurement Methods

Inputs

- Requirements Docs
- Statement of Work
- Scope Baseline
- IMS
- Project Budget

Outputs

- Performance Measurement Plan
- Performance Measurement Methods
- Control Account Plan Updates

8. Establish PMB

Inputs

- Scope Baseline
- IMS
- Project Budget
- Risk Register

Outputs

- PMB
- Funding Requirements Updates
- Document Updates
- Contract Decisions
- Formal Acceptance

9. Use Project Data

Inputs

- Project Management Plan
- Work Performance Information

Outputs

- Work Performance Measurements
- Budget Forecasts
- Corrective and Preventive Actions

10. Maintain PMB

Inputs

- Project Management Plan
- PMB
- Change Requests

Outputs

- PMB Updates
- Project Management Plan Updates
- Change Request Updates

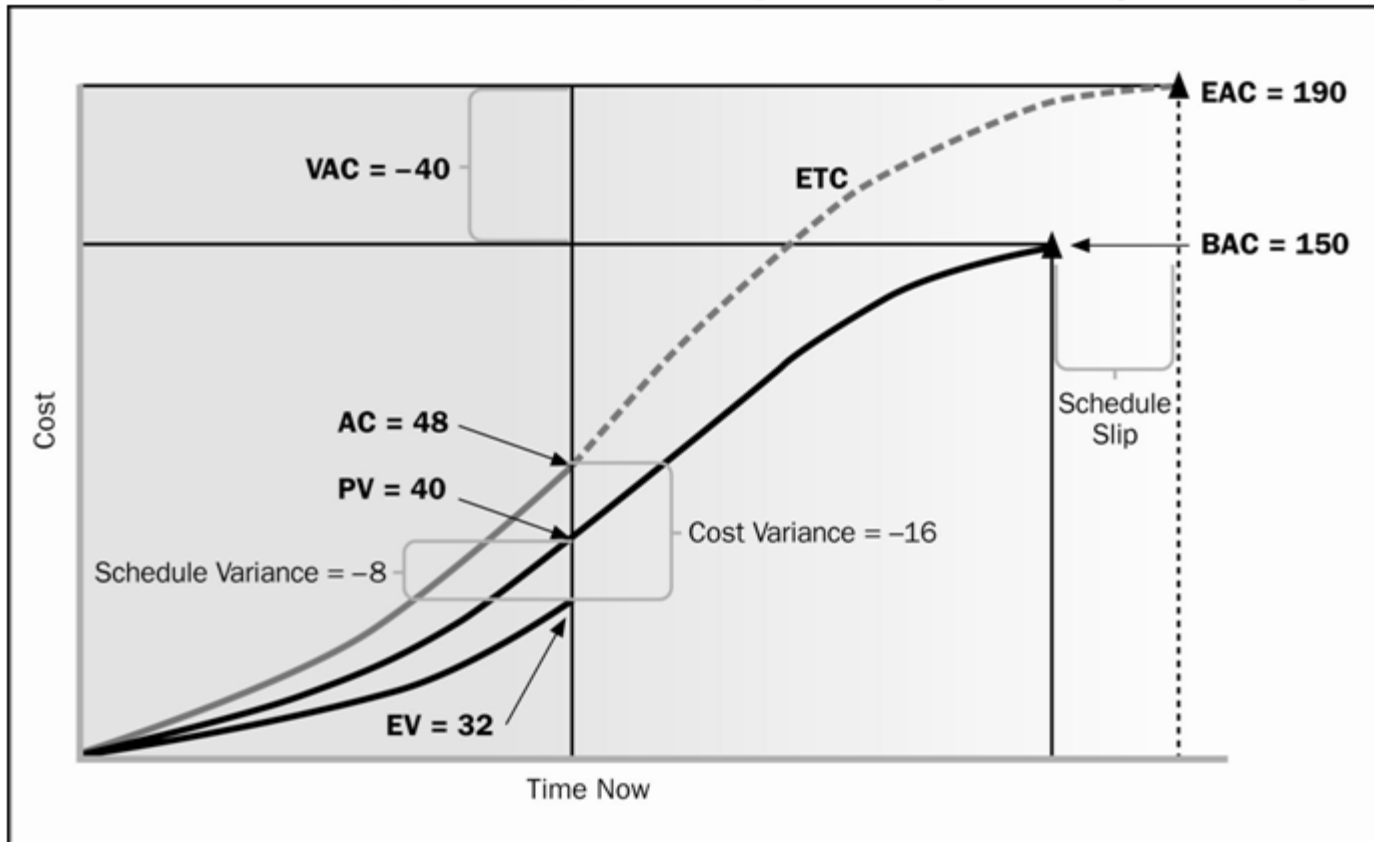
The Second Edition: New Appendices

- Most Likely Remove the Book Reviews
- Provide Information Outside the Normal EVM Process

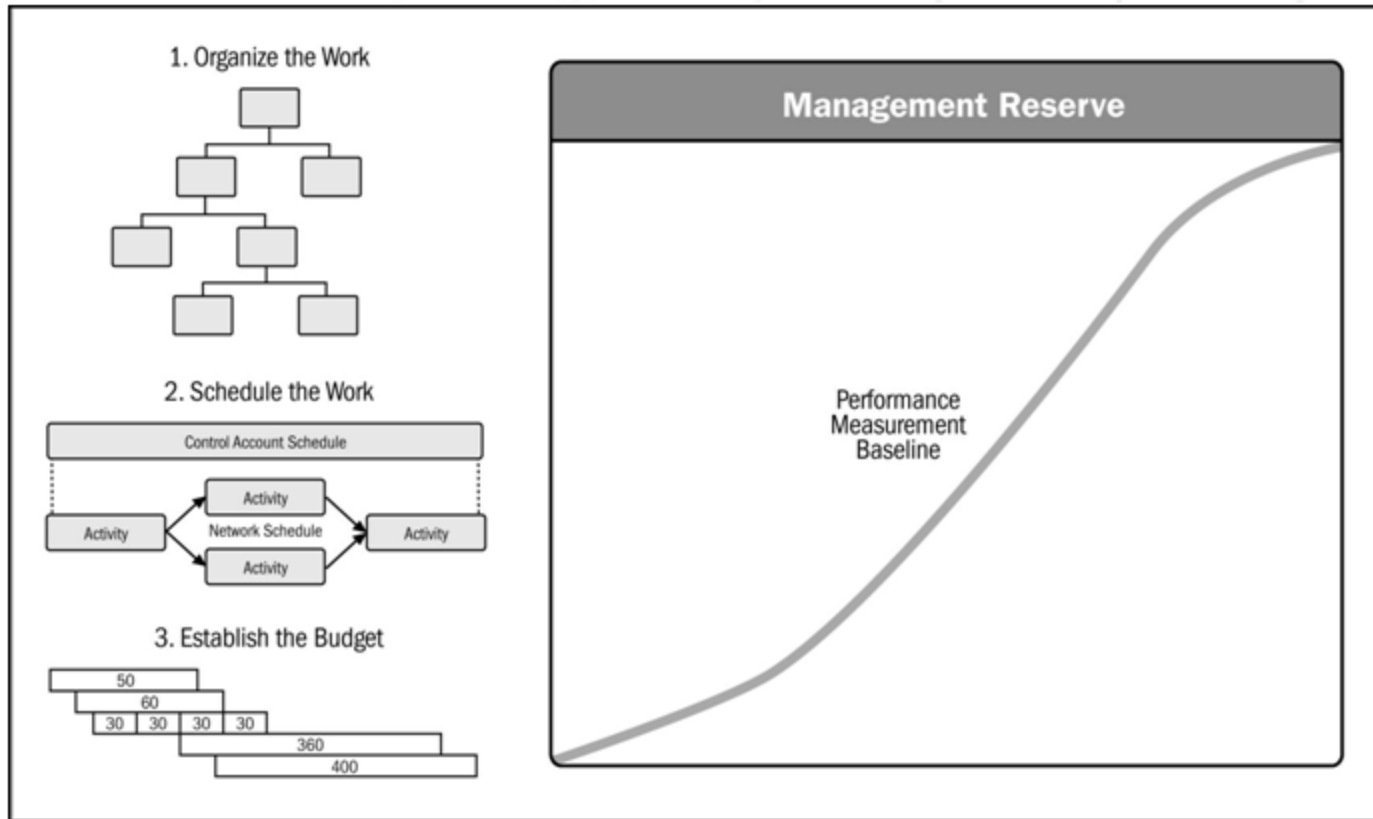
Second Edition Appendices Plan:

- A. Guidelines for a PMI Practice Standard
- B. Evolution of PMI's Practice Standard for EVM
- C. Contributors and Reviewers of the Practice Standard for EVM
- D. EVM Systems Considerations
- E. Risk and EVM
- F. Schedule Analysis using EVM Data
- G. Common Pitfalls in EVM

Graphics Examples from EVM 2nd Edition



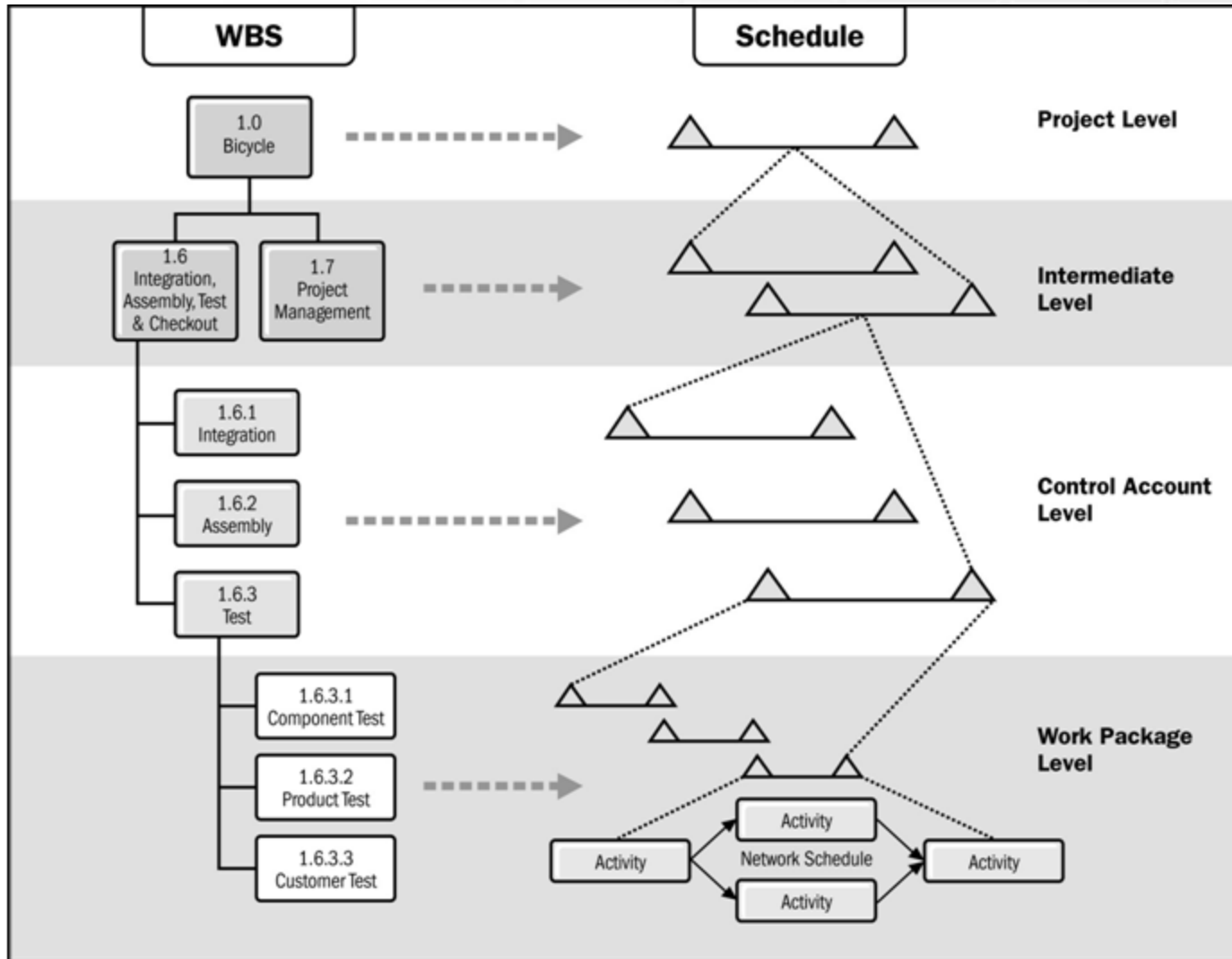
Graphics Examples from EVM 2nd Edition



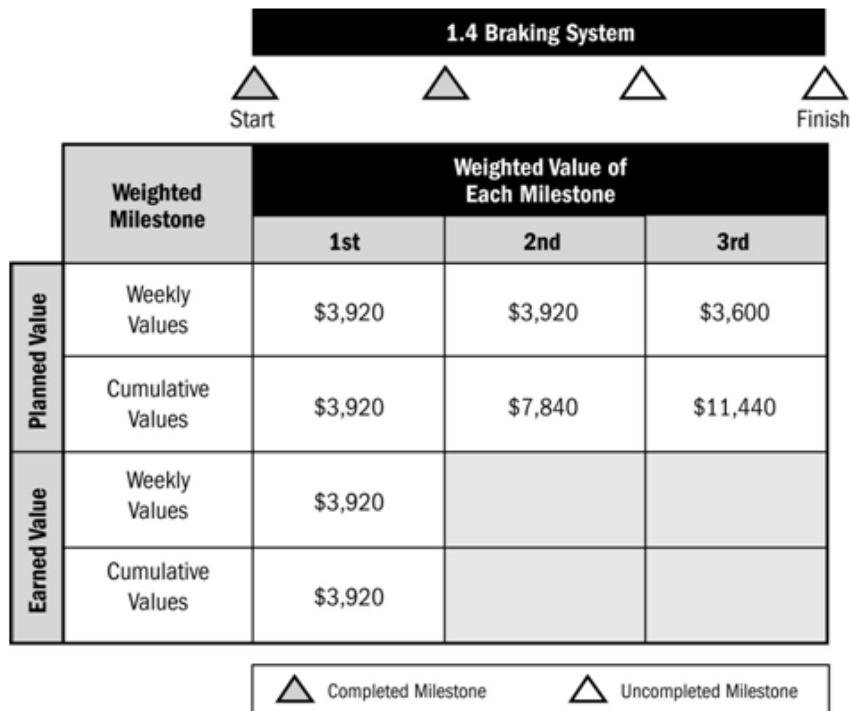
Graphics Examples from EVM 2nd Edition

Measurement Methods		Key Points to Consider on Determining the Method
Discrete Effort (7.3.1)	Fixed Formula	50/50, 25/75, etc. – Using the 50/50 and 25/75 methods, work is credited for EV as soon as it starts. However, the real progress is invisible and can give a false sense of accomplishment. This measurement method should only be used for work that spans less than two reporting periods.
		0/100 – The 0/100 method does not incrementally credit EV for partial work. Therefore the start of the work is not explicitly reported. This measurement method should only be used for work that is scheduled to start and complete within one reporting period.
	Weighted Milestone	The weighted milestone method has one or more milestones in the measurement period. Each milestone has an objective, verifiable accomplishment that is associated with it. The milestones are weighted to reflect the relative accomplishment of the milestones against the whole.
	Percent Complete	The percent complete method entails an estimate of the percent complete of the BAC at each measurement point. There should be measurable criteria associated with the percent complete measurements, or they can be subjective.
	Physical Measurement	The evaluation of work progress in the project work packages is related to the physical nature. Whereas testing, measurement procedures, and/or its specifications should be explicit and be agreed upon in advance.
Apportioned Effort (7.3.2)		To use apportioned effort, the project manager must have pragmatic knowledge and validated performance records to create the percent of apportioned effort pertaining to the discrete work package.
Level of Effort (7.3.3)		Level of effort (LOE) can be misused and distort the real progress of project, because PV of the LOE determines EV for each reporting period (there is never a schedule variance) no matter how much of the work is actually performed.

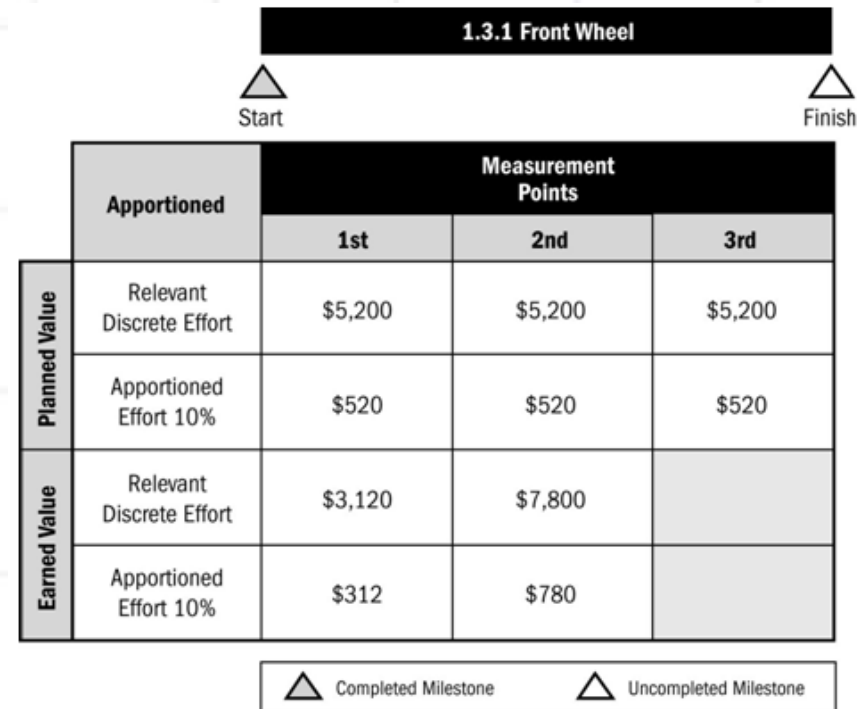
Graphics Examples from EVM 2nd Edition



Graphics Examples from EVM 2nd Edition

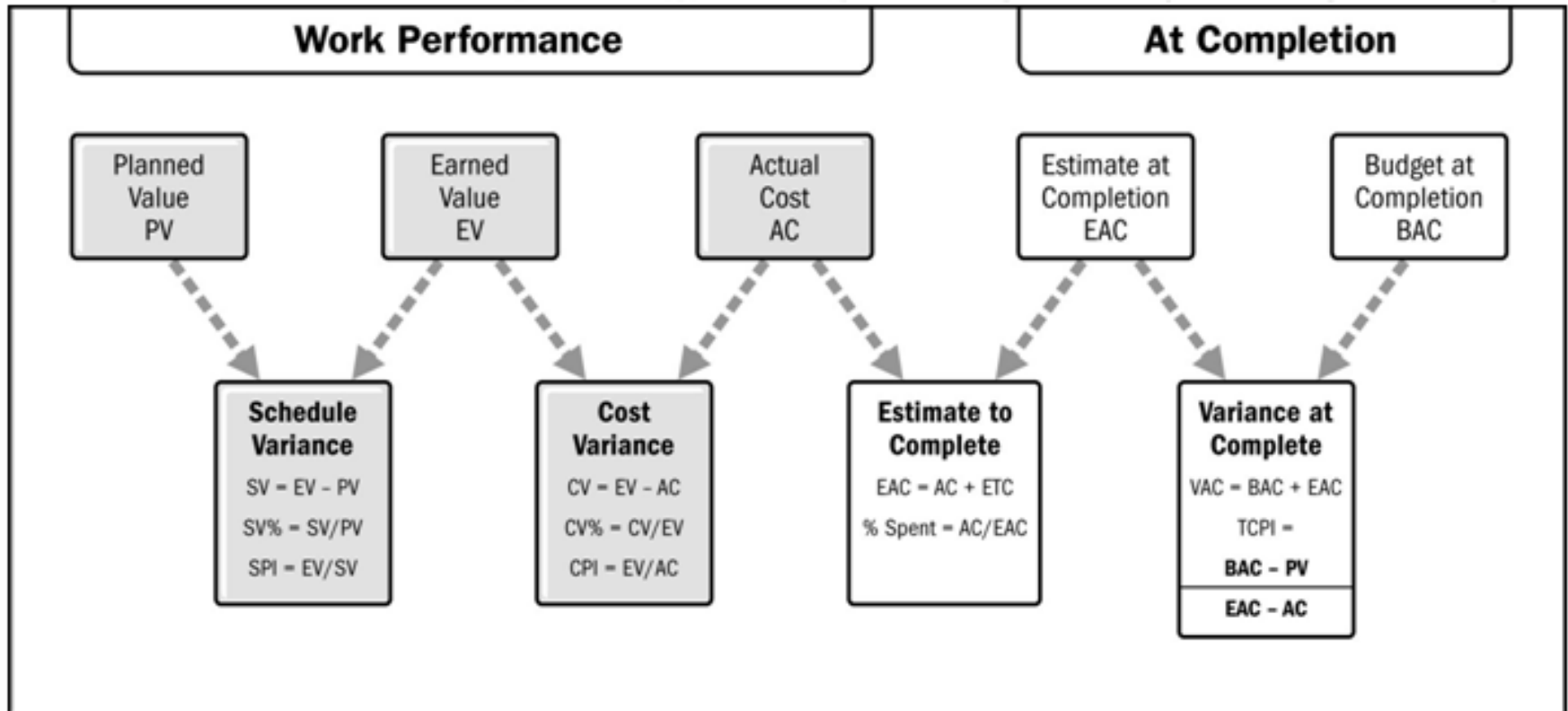


Weighted Milestone

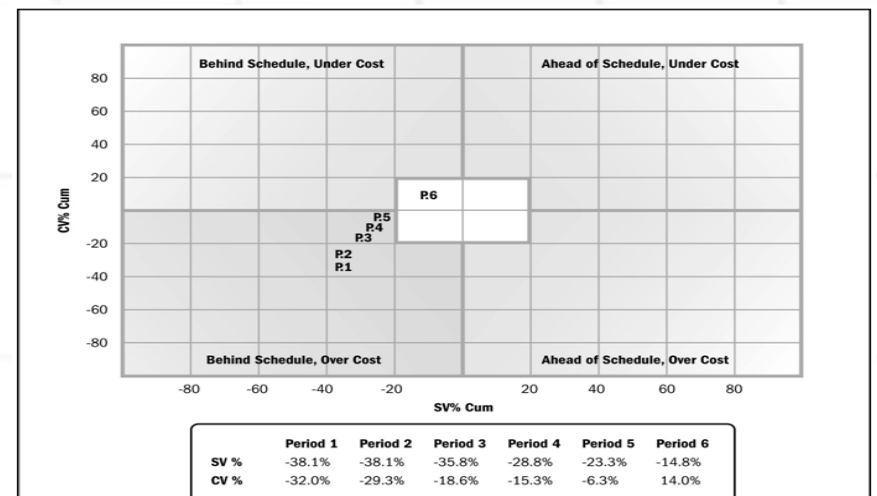
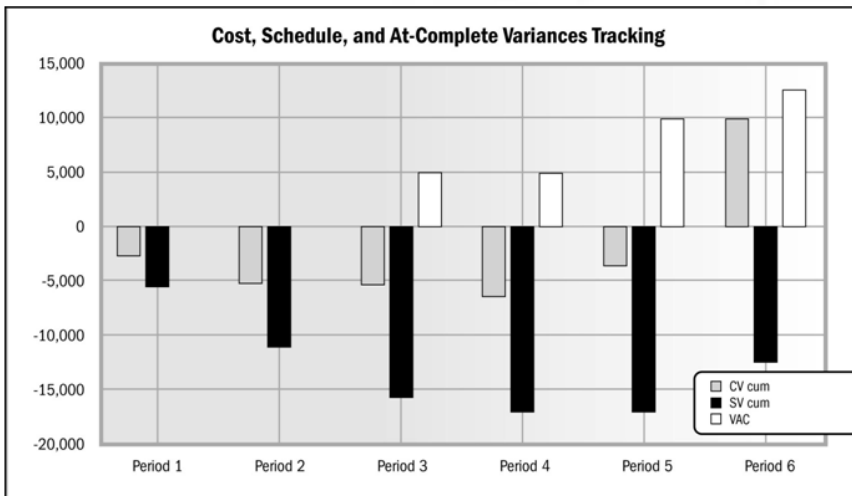
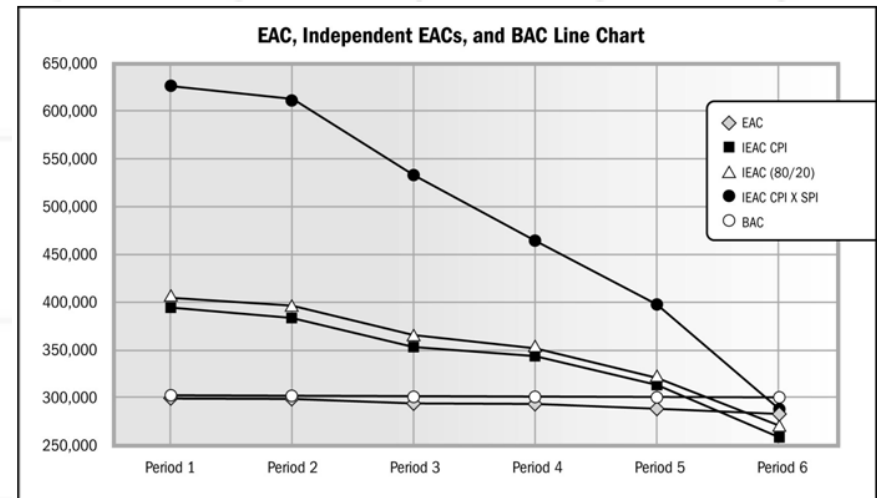
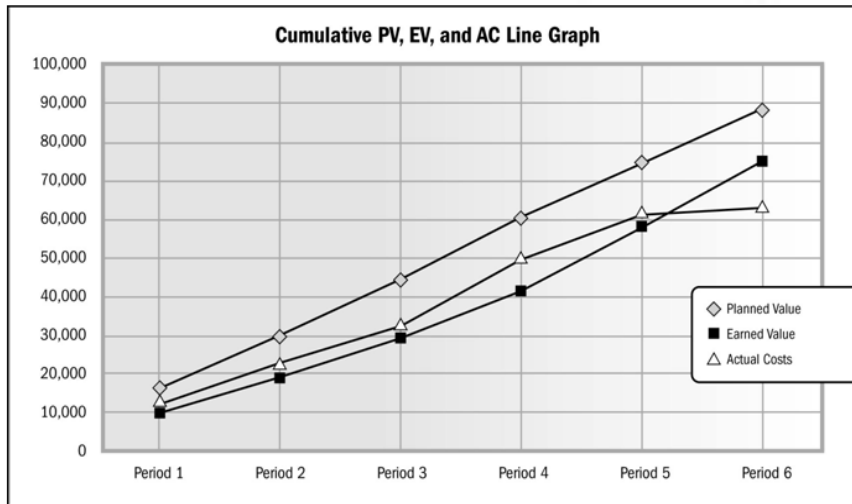


Apportioned

Graphics Examples from EVM 2nd Edition



Graphics Examples from EVM 2nd Edition



Questions???

