

Earned Value y Earned Value Management System.

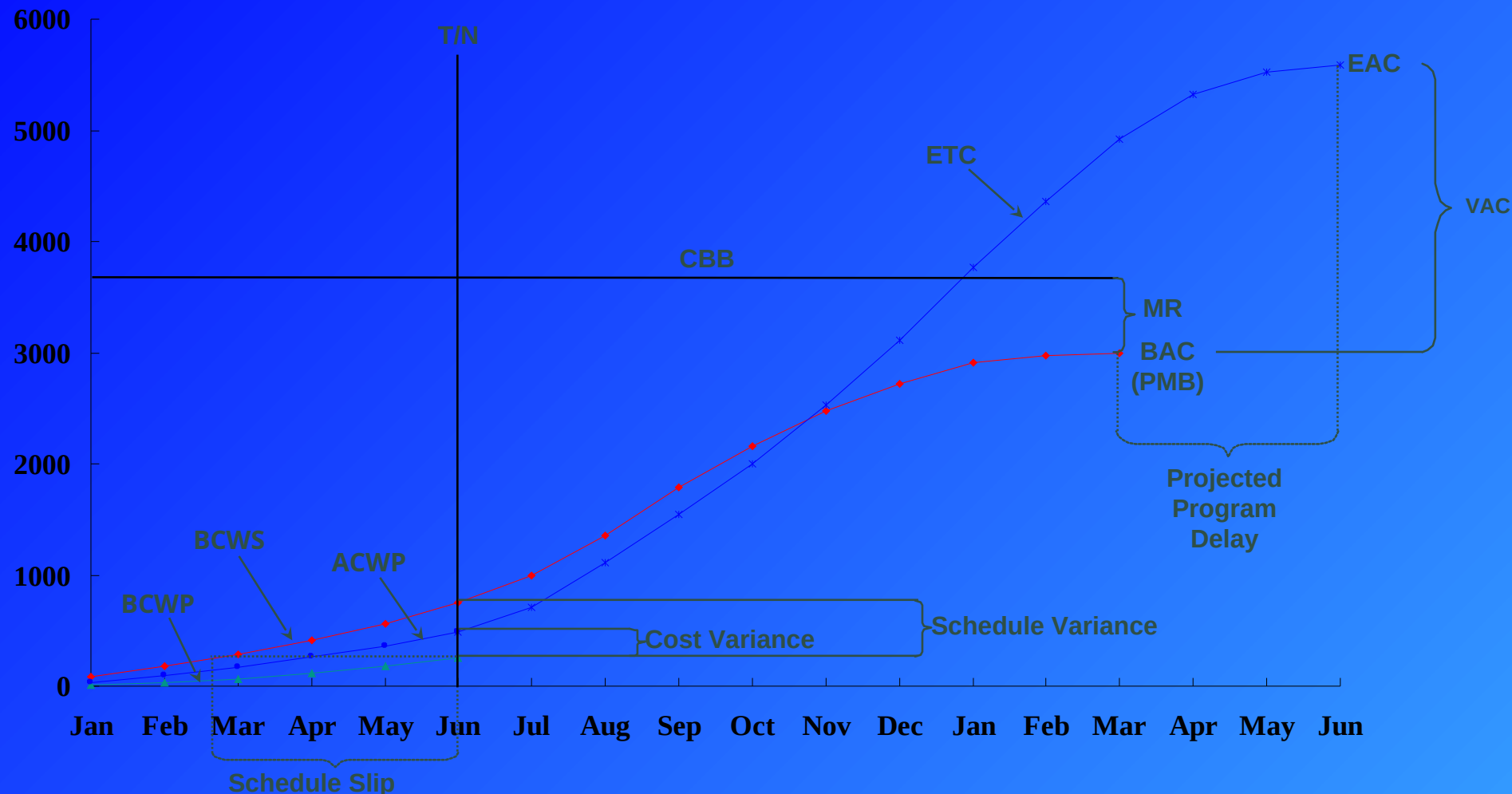
- D.S. Christian & D.V. Ferns, Acquisition Review Quartely, Spring 1995, p 155-171
- DoD “EVM Gold Card”,
<http://www.acw.osd.mil/pm/>
- Q.W. Fleming & J.M. Koppelman, “Earned Value Project Management”.

Cantidades calculadas (EV).

- Budgeted Cost of Work Scheduled
- Budgeted Cost of Work Performed
 - (esto es el Earned Value)
- Actual Cost of Work Performed

Predicciones (EVMS).

- Estimate At Completion vs Budget At Completion
- Management by Exception.



DoD Gold Card

VARIANCES *(Favorable is positive, Unfavorable is negative)*

- **Cost Variance** $CV = BCWP - ACWP$ $CV \% = \frac{CV}{BCWP}$
- **Schedule Variance** $SV = BCWP - BCWS$ $SV \% = \frac{SV}{BCWS}$
- **Variance at Completion** $VAC = BAC - EAC$

PERFORMANCE INDICES *(Favorable is > 1.0, Unfavorable is < 1.0)*

- **Cost Efficiency** $CPI = \frac{BCWP}{ACWP}$
- **Schedule Efficiency** $SPI = \frac{BCWP}{BCWS}$

OVERALL STATUS

- **Percent Complete** $= \frac{BCWP_{cum}}{BAC}$
- **Percent Spent** $= \frac{ACWP_{cum}}{BAC \text{ (or EAC)}}$

TO COMPLETE PERFORMANCE INDEX (TCPI)

- **TCPI** $_{EAC} = \frac{WORK\ REMAINING}{COST\ REMAINING} = \frac{BAC - BCWP_{cum}}{EAC - ACWP_{cum}}$

ESTIMATE AT COMPLETION *(EAC = ACWP + Estimate for Remaining Work)*

- **EAC** $_{CPI} = \frac{BAC}{CPI_{cum}}$
- **EAC** $_{Composite} = ACWP_{cum} + \frac{BAC - BCWP_{cum}}{(CPI_{cum}) \cdot (SPI_{cum})}$

Métricas.

- Requeriments and Design Progress
 - BCWS & BCWP
- Code and Test Progress
 - BCWS & BCWP
- Person-Month Progress
 - ACWP

Otras métricas (indicadores técnicos)

- Program Size
- Computer Resource Utilization
- Requirements Stability
- Design Stability

Cost-centric vs. Time centric

- BAC vs EAC da tanto información de variaciones de tiempo como de costos.
- Pero los datos recogidas estan orientados a costes. Se gana valor por coste recogido.

Cost-Centric vs Time centric

- J. Goodpasture & J.R. Sumara: “Earned Start-Finish”
 - Se gana valor al comenzar o terminar tareas. Se programan comienzos y finales tal como en un diagrama Gantt.
 - No se incluyen costes. Es un EV method, pero muy pobre respecto al EVMS.

Cost-Centric vs. Time centric

- ¿Nosotros?