



The Herding Cats Column of Glen Alleman

On Integrated Project Management and Systems Engineering A Recent “Encounter”

Glen Alleman

The previous column’s overview of Integrated Master Plan / Integrated Master Schedule described the concept of an “event based” planning process and its advantages over a “task based” planning processes.

Planning projects usually starts with tasks and milestones. The planner gathers this information from the participants – customers, engineers, subject matter experts. This information is usually arranged in the form of activities and milestones. PMBOK defines “project time management” in this manner. The activities are then sequenced according to the projects needs and mandatory dependencies. The usual critical path methods are then used to determine the estimated completion date, risk areas of the project and other statistical planning data.

What’s missing from the concept is the realization that the plan is not the same as “done.” A description of “done” is usually not part of the plan in an explicit manner. It’s there in implicit form – after all the tasks are complete.

In the US Department of Defense version of PMBOK section 6 (Project Time Management) is replaced by IMP/IMS.

In many project “contract” milestones occur at the end of the project. These milestones represent the “end of work,” or the delivery of the final product or service. Since they are “external” to the real work, it’s difficult to have these milestones be part of the engagement process between supplier and buyer or between project partners (Integrated Project/Product Team).

The contractual elements of IMP/IMS are embedded in the contract. Like earned value, IMP/IMS events are used as early indicators of success.

In many projects, processes, disciplines, functional activities are seen as the major schedule elements.

- Gather requirements
- Produce detailed design
- Develop software
- Test software
- Delivery software to customer

are typical functional boundaries between project phases. What is missing are clear and concise definitions of “done.” IMP/IMS provides you will still see terms like “design,” “test,” and “verify.” But they will have past tense verbs attached to them. “Done,” “completed,” “verified.” This may seem trivial at first, but there are subtle changes in how the project plan describes the work.

If there is an “accomplishment” defined using the term “completed,” what is the criteria used to assess the completion of this accomplishment? Next what are the tasks that need to be performed so the assessment criteria can be evaluated? This is the core of IMP/IMS is an indented description of the work to be performed and the physical evidence that progress is being made.

- Project Event (PE)
- Significant Accomplishment (SA)
- Accomplishment Criteria (AC)
- Activity Number of the Tasks and Subtasks (AN)

The focus on “events” replaces the focus on “tasks.” Tasks are still present by they are an enabling activity not a project management activity.

Without a clear and concise description of what is to be delivered, tied to the plan, with measurement criteria the program has no way of knowing how the project is performing.

The emphasis on “performance” and “maturity” is the core of IMP/IMS. This is a fundamentally different approach than “task based” planning, where the focus is on progress to plan for tasks, critical path analysis of the work remaining, and resource management. IMP/IMS does not replace this focus. It simply puts it in the proper position – as an enabling process to the strategic goal of defining “done” in measurable terms.

Next Month

With this IMP/IMS background let’s look at the end to end project management processes found in complex projects, including how agile techniques can be integrated with the formality of IMP/IMS to produce a powerful set of tools.