Integrated Master Schedules (IMS) and Agile Projects

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Megan’s Background

• Managed first project in 1995
• 1997 started managing project to replace an existing mission critical system
• 2002 attended a conference that was all about agile, began introducing concepts to organization
• 2004 worked on a program that implemented the Microsoft Solutions Framework (team model was program management, product management, development, test, release management, user experience and product management)
• Project Management Professional – 2008
• Project Management – Agile Certified Practitioner - 2017
What is an Integrated Master Schedule

• An integrated master schedule is an integrated and networked multilayered schedule of program tasks required to complete the work effort of the program.

• It is a way to show the big picture view of what is going on.

• It integrates all sub-schedules.

• It can include a master list of milestones across multiple projects.

• It is developed from a work breakdown structure.
What is the purpose of an IMS?

• A systematic way to track program progress.
• A tool for monitoring the program critical path.
• A communication tool for program reporting.
• Identify and assess actual progress to planned progress.
Agile Planning
Agile Planning Onion

5 Levels of Agile Planning

- Product Vision
- What, Who, Why, When, Constraints, Assumptions

- Product Roadmap
- Releases - Date, Theme/Feature Set, Objective, Development Approach

- Release Planning
- Iteration, Team Capacity, Stories, Priority, Size, Estimates, Definition of Done

- Iteration Planning
- Stories - Tasks, Definition of Done, Level Of Effort, Commitment

- Daily Planning
- - What did I do yesterday?
- - What will I do today?
- - What is blocking me?
WBS might look like this
<table>
<thead>
<tr>
<th>Planning Level</th>
<th>Planning Frequency</th>
<th>Planning Horizon</th>
<th>Planning Precision</th>
<th>Planning Artifact</th>
<th>Included in IMS?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Planning</td>
<td>Project Startup, update throughout project</td>
<td>Project Duration</td>
<td>Epics/Capabilities Releases</td>
<td>Product Backlog, Product Roadmap, Minimal Viable Product</td>
<td>Yes Epics/Capabilities to releases –</td>
</tr>
<tr>
<td>Iteration Planning</td>
<td>Each Iteration</td>
<td>Weeks</td>
<td>Stories/tasks</td>
<td>Iteration Backlog</td>
<td>As they relate to the planned effort of the work needed for feature</td>
</tr>
<tr>
<td>Daily Planning</td>
<td>Daily</td>
<td>Day</td>
<td>Tasks</td>
<td>Updated iteration backlog</td>
<td>No, Update story status.</td>
</tr>
</tbody>
</table>
Measuring Progress of Features

• Feature Percent Complete =
  Total Completed Weighted Stories (SP)/Total Planned Weighted Stories (SP)

• Feature Remaining effort =
  (Total Planned SP – Total Completed SP) x
  Total Hours for Iteration to date/Total Completed SP

*SP = Story Points
Why is it important to have Feature in IMS?

• To measure progress AND

• To track dependencies either from other teams or other features
Dependencies in Agile

Agile teams are intended to be cross-functional, self-organized, and capable of delivering a product.

HOWEVER, there are outside factors that create dependencies, especially on large efforts:

• Requirements clarification dependencies
• Expertise dependencies
• Activity dependencies
• Technical dependencies

Identify dependencies at both the Feature level and the User Story Level
Key Points to consider for IMS

- The feature level will show in the IMS, the story level will not.
- Iteration/Sprint does not equal Critical Path
  - Use Sprints/Iteration as a time guide for how long it will take to complete features based on available resources and backlog prioritization.
  - The goal is to create the “Minimal Viable Product” and development will take many sprints needed to meet that success criteria.
- Identify dependencies between teams and create integration points.
- Identify key milestones and tasks that support them that maybe outside the agile team:
  - Technical Reviews
  - External Reviews/Briefings
  - Coordination with external stakeholders
  - Operational support
Discussion Time

• Thoughts on breaking up an implementation by a Configuration Team vs a Deployment/Readiness team?

• Thoughts on how much detail should be included in IMS, agree or disagree about it being at feature level?

• Thoughts on external dependencies on how they should be managed?
Reference Material

• Agile Release Planning and Integrated Scheduling, September 2021, DHS.GOV


• An agile guide to the planning processes, May 2009, PMI.ORG