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Baseline Control on Agile
Earned Value and Agile
by Ron Terbush

Earned Value and Agile[1]

Baseline Change Control on Agile

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A common concern voiced by agile practitioners and Earned Value Management (EVM) experts alike is that, since agile content is flexible, it is not a good match with the requirements of an Earned Value System that measures completion of defined requirements and requires control of changes to the Performance Measurement Baseline (PMB).

But what does flexible content really mean?

On some agile contracts such as time and materials, the technical scope is truly flexible. The objective is to deliver as much customer prioritized content as possible in a budget and schedule constrained environment. On these contracts, the customer is purchasing contractor hours vs. specific products. These contracts do not have defined deliverables in a SOW and are typically Level of Effort.

The majority of agile development contracts have established goals and objectives, and the customer has an expectation that they will get a set of system capabilities or functions based on what was negotiated. Customer established objectives are expected to change over time based on knowledge, need and priority, and the goal for agile EVM is to accommodate this expected change without impacting the PMB. But any change to the PMB, which includes technical changes as well as cost & schedule must be controlled in some fashion. Both the customer and the contractor need to maintain a good faith relationship when negotiating issues of "scope" when responding to new knowledge and desired change.

The scope of work on an agile program is defined on the product backlog. The product backlog lists all the system capabilities and functions required by the customer. Those high level capabilities or major system functions are commonly defined as Epics. Epics are large and may span many months to years in duration, so they are decomposed into Features, a well-defined system function to be completed within a Release. Features have clearly defined and documented acceptance criteria. Each Feature is further broken down into units of work called User Stories, which also have well defined completion criteria. User Stories

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[1] *The College of Performance Management (CPM) published a Compendium of articles on Earned Value and Agile based program management in The Measureable News in late 2014. The articles are now being republished in the PM World Journal, as agreed with CPM and the authors. An introduction by Ray Stratton launched the series in the April 2015 edition of the PMWJ. This is the 4th article in the series. For information about CPM, visit their website at https://www.mycpm.org/*

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represent a unit of system function that can be completed within one iteration or sprint (a sprint is a recurring time-box for work typically 2 weeks in duration).

There are two 'best practices' I recommend an agile program adopt to manage baseline change while maintaining flexibility.   One: implement rolling-wave planning at Release points. A Release is an agile time-box typically 3 months in duration. The goals and objectives (Features) for the release are selected from the product backlog and are baselined in the Integrated Master Schedule (IMS) prior to the start of the Release. Using the rolling wave approach allows the scope defined on the backlog outside the current Release to continue to be better defined and reprioritized based on customer needs without a baseline change. Two: establish IMS tasks at the Feature level. Do not create IMS tasks at the User Story level. This allows the User Stories associated with the Feature to be re-prioritized (move from sprint to sprint) without requiring a baseline change. It also allows the specific details of the User Stories to evolve as new knowledge is gained while maintaining scope in the context of the Feature and its acceptance criteria.

Increases or decreases to the planned content of a Release will require a baseline change. The budget associated with Features that are removed from or added to the release moves with those Features, in keeping with the EVM principle that scope and budget always remain together.

In summary, planning IMS tasks at the Feature level, implementing rolling wave planning at Release points, and keeping evolving backlog content for downstream releases in planning packages will maintain flexibility and minimize the amount of baseline change required.

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Ron's role includes developing and delivering performance management training,
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Ron is a Lockheed Martin certified EVM professional and LM21 green belt. He holds
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