Targeted Scrum

EECS 690

Agile Software Development

Agenda

- Project 1
- Analysis of Scrum
- Approach behind Targeted Scrum
  - Lines of Effort (LOEs)
  - Targeting
- Targeted Scrum

Project 1

- We will begin Project 1 on Wednesday.
- Prior to Wednesday, assign roles of Product Owner, Scrum Master, and Development Team.
- Any questions about Scrum methodology assignments.

Project 1 Team Assignment

Traditional Scrum

- MASH
- MASS
- Team 17
- Jager Bombers

Targeted Scrum

- Dangling Pointers
- Google It
- NSA Trainees

Project 1 Information

- Artifact due dates are course schedule
- Artifacts due by midnight on the day of the class (unless another day is specified)
- Targeted Scrum will have additional artifacts

Analysis of Scrum

- Strengths of Scrum: iterative process and continuous feedback

- Li *et al.* (2010) – continuous feedback led to greater software quality

- Sutherland *et al.* (2007) – iterative releases and feedback led to earlier discovery of defects

Analysis of Scrum

- Weaknesses of Scrum: initial identification of requirements, selection of Product Owner, and lack of focus on design

- Hochmüller & Mittermeir (2008) – creating software before identifying requirements leads to unnecessary change

Analysis of Scrum

- Overhage & Schlauderer (2012) – multiple Sprints required before architecture is established

- Hochmüller (2011) and Hoda *et al.* (2010) – wrong choice of Product Owner hurts team responsiveness

Analysis of Scrum

- Drury *et al.* (2012) – many decisions in Scrum planning are more tactical than strategic

Approach

- Specific weaknesses to address:
  - Lack of initial planning and overall design
  - Prioritization of Product Backlog
- Ways to address weaknesses:
  - Addition of Product Design Meeting
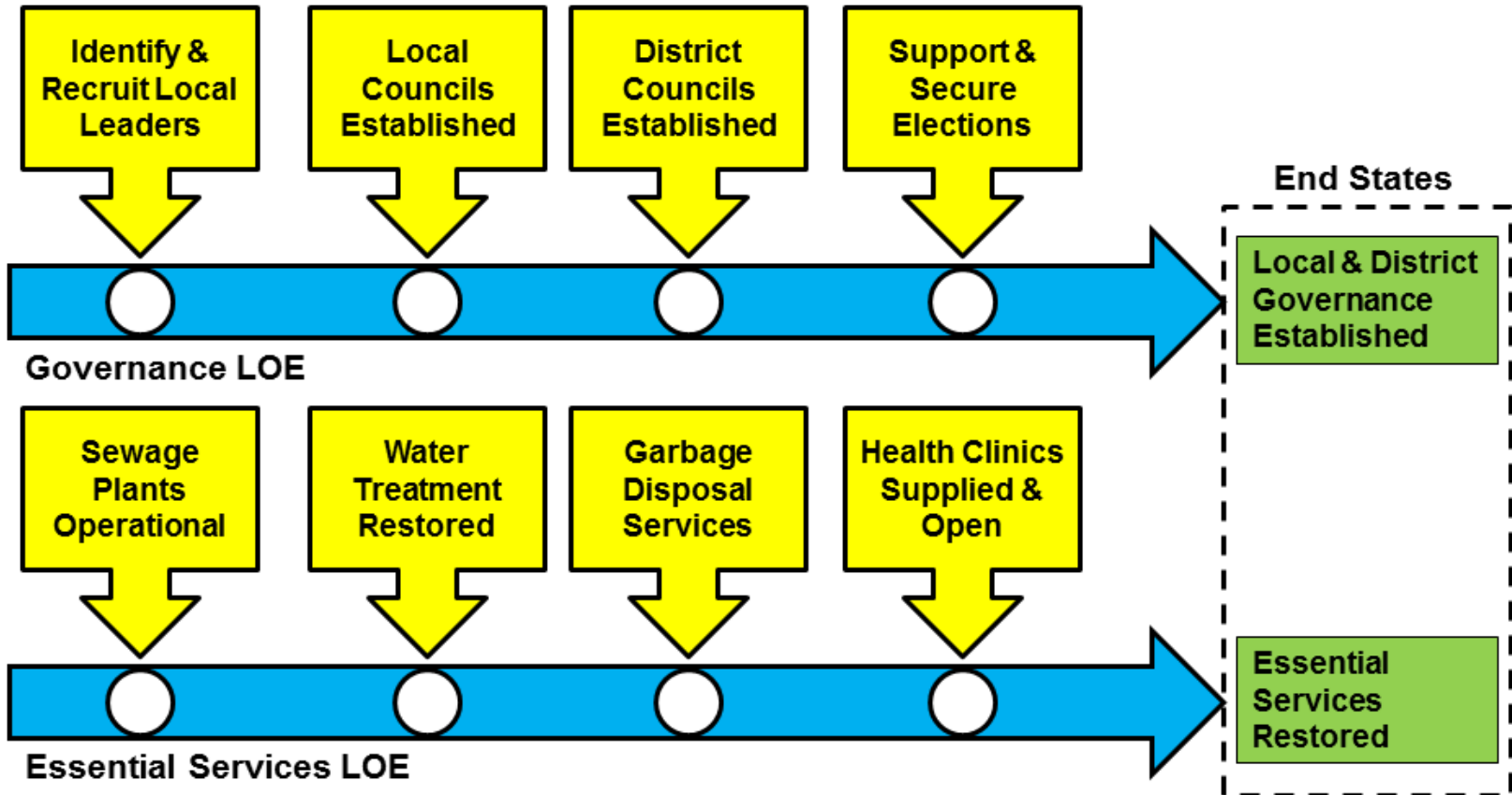 - Use of Lines of Effort (LOEs)

Lines of Effort (LOEs)

- LOEs serve as visualization tools for military commanders and staff

- LOEs enable unity of effort by effectively communicating objectives to other agencies

- Each LOE has critical, measurable objectives that show progress towards end state

Lines of Effort (LOEs)

Targeting

- The operations process (planning, preparing, executing, and continuously assessing) is heart of mission command

- Targeting is an important subset of the operations process

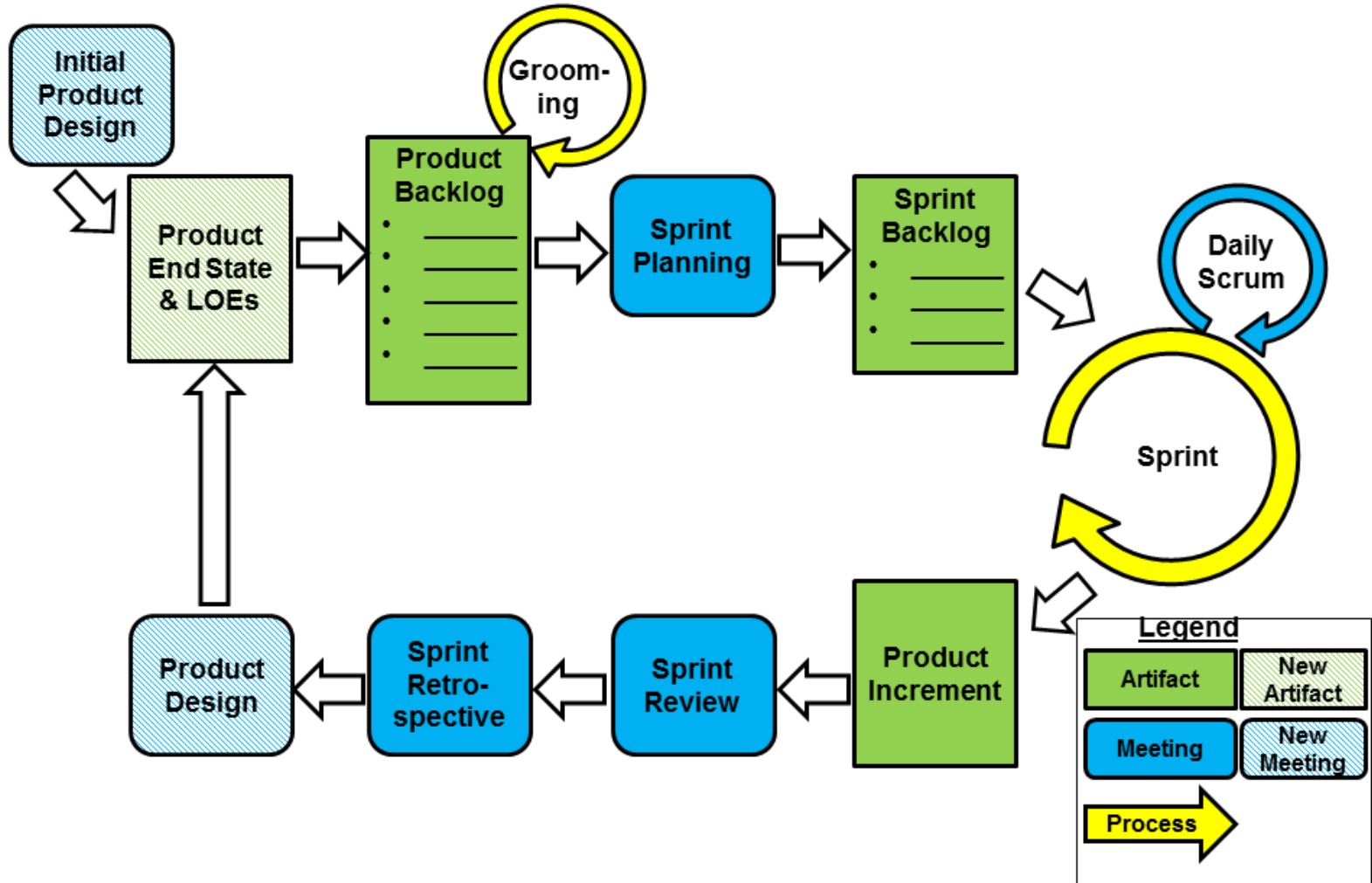- Targeting is the selecting and prioritizing of targets and matching the appropriate response
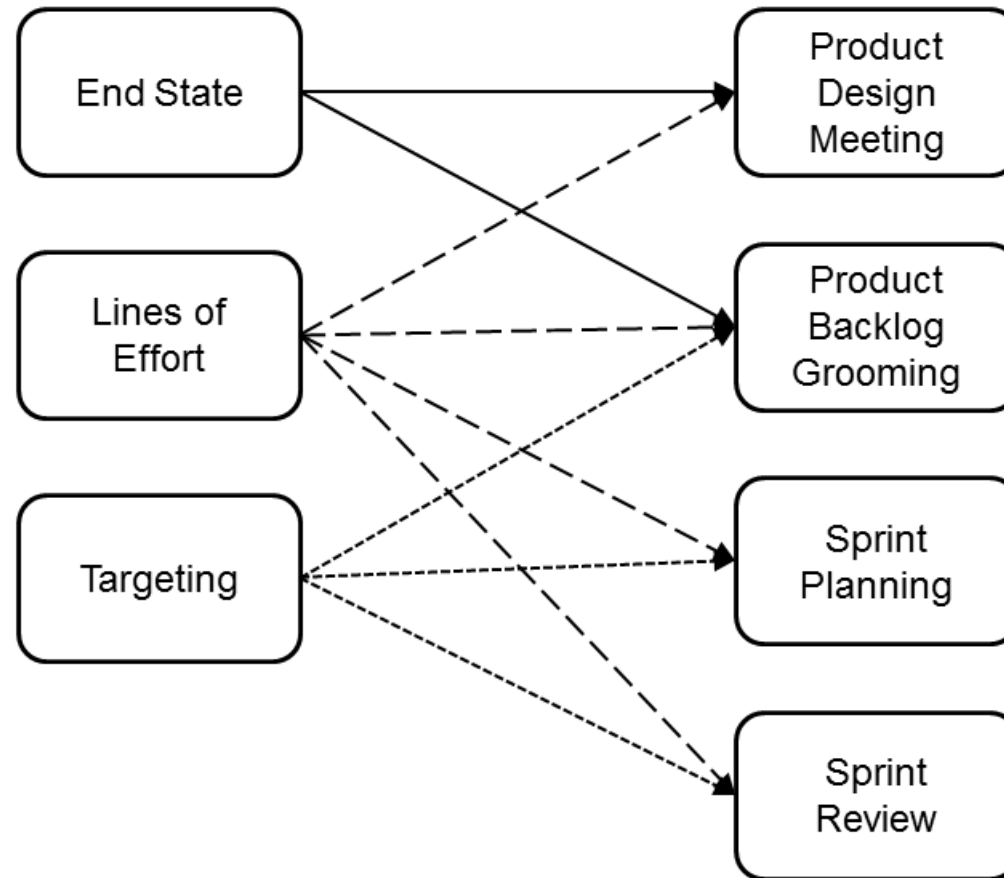
Targeting

- Targeting is necessary due to constraints (e.g., time, knowledge, and resources)

- Targeting is an iterative process that constantly prioritizes and synchronizes resources based on commander's end state and current assessments
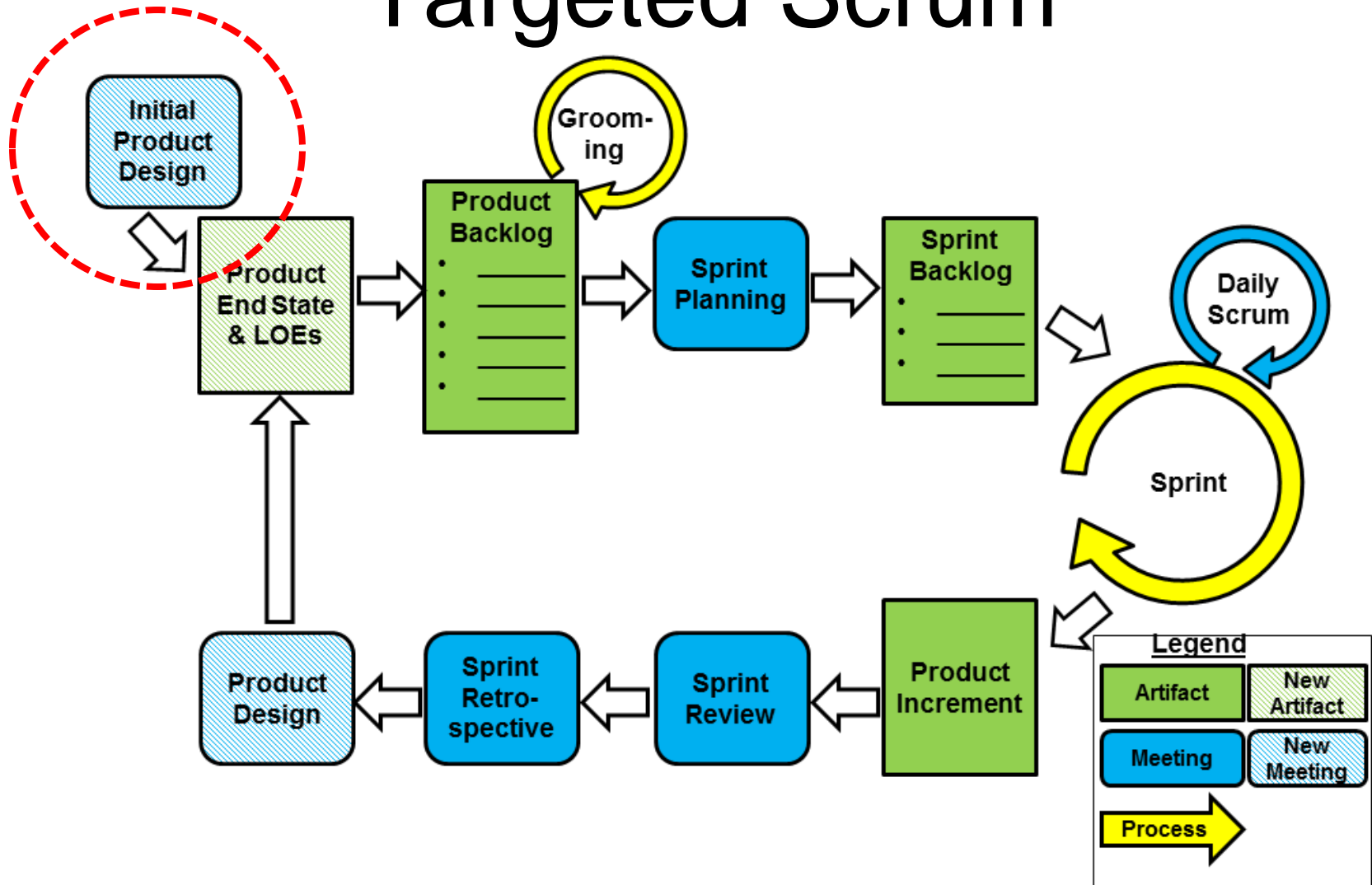
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Mapping Mission Command to Modifications

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Initial Product Design Meeting

- Tasks to accomplish:
  - Determine Product end state
  - Determine critical features
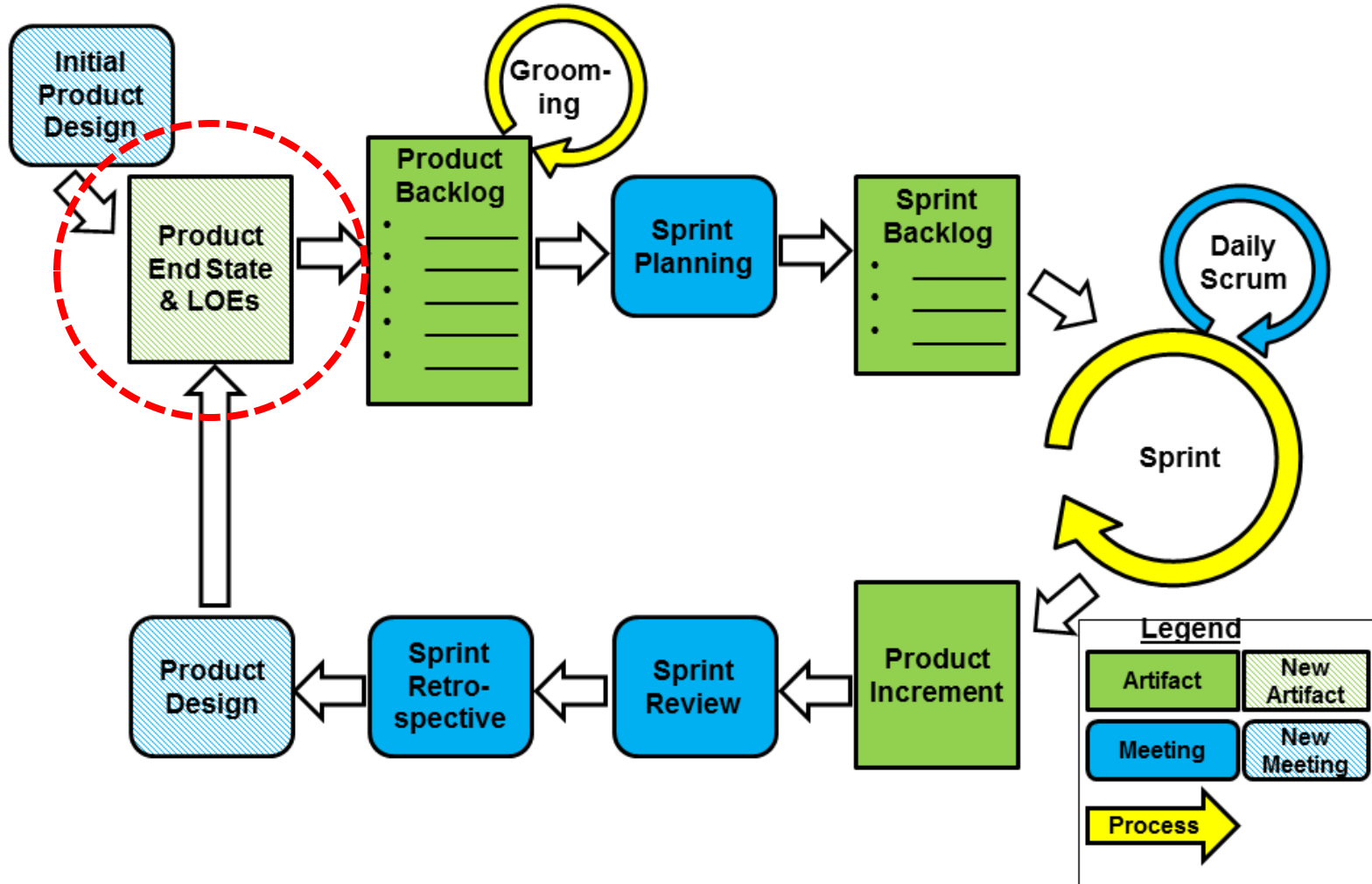- Critical features translated into LOEs
- Duration: No more than 2 hours

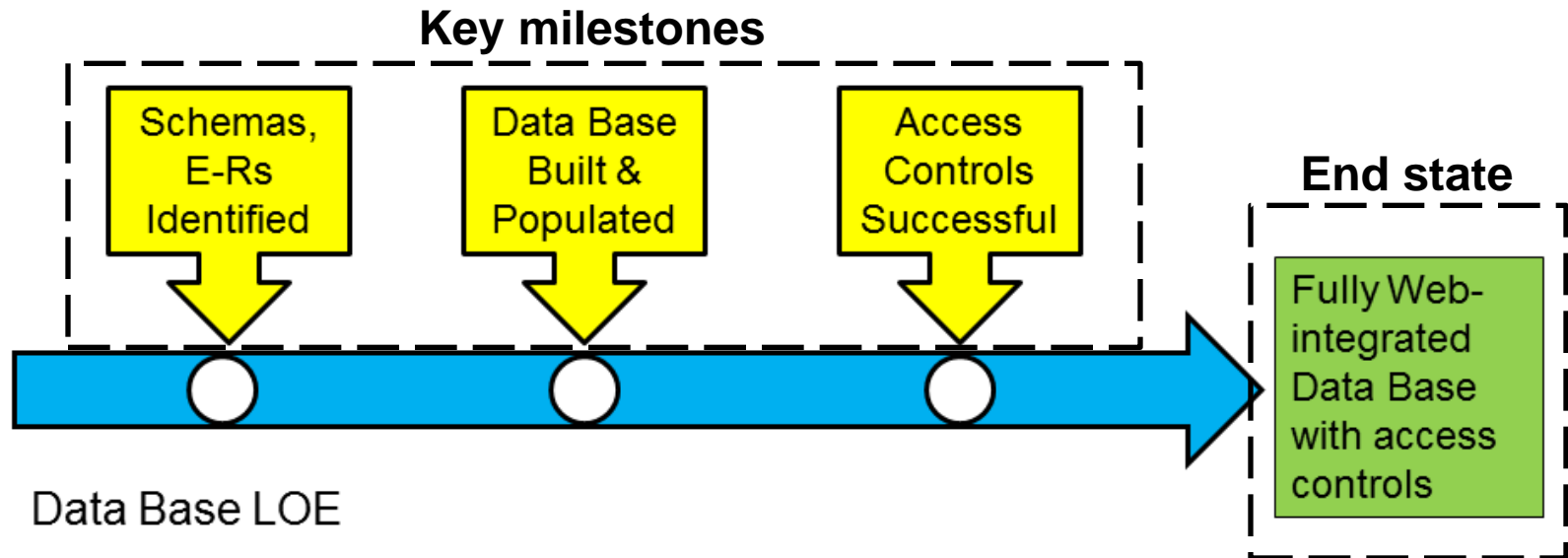# Initial Product Design Meeting Agenda

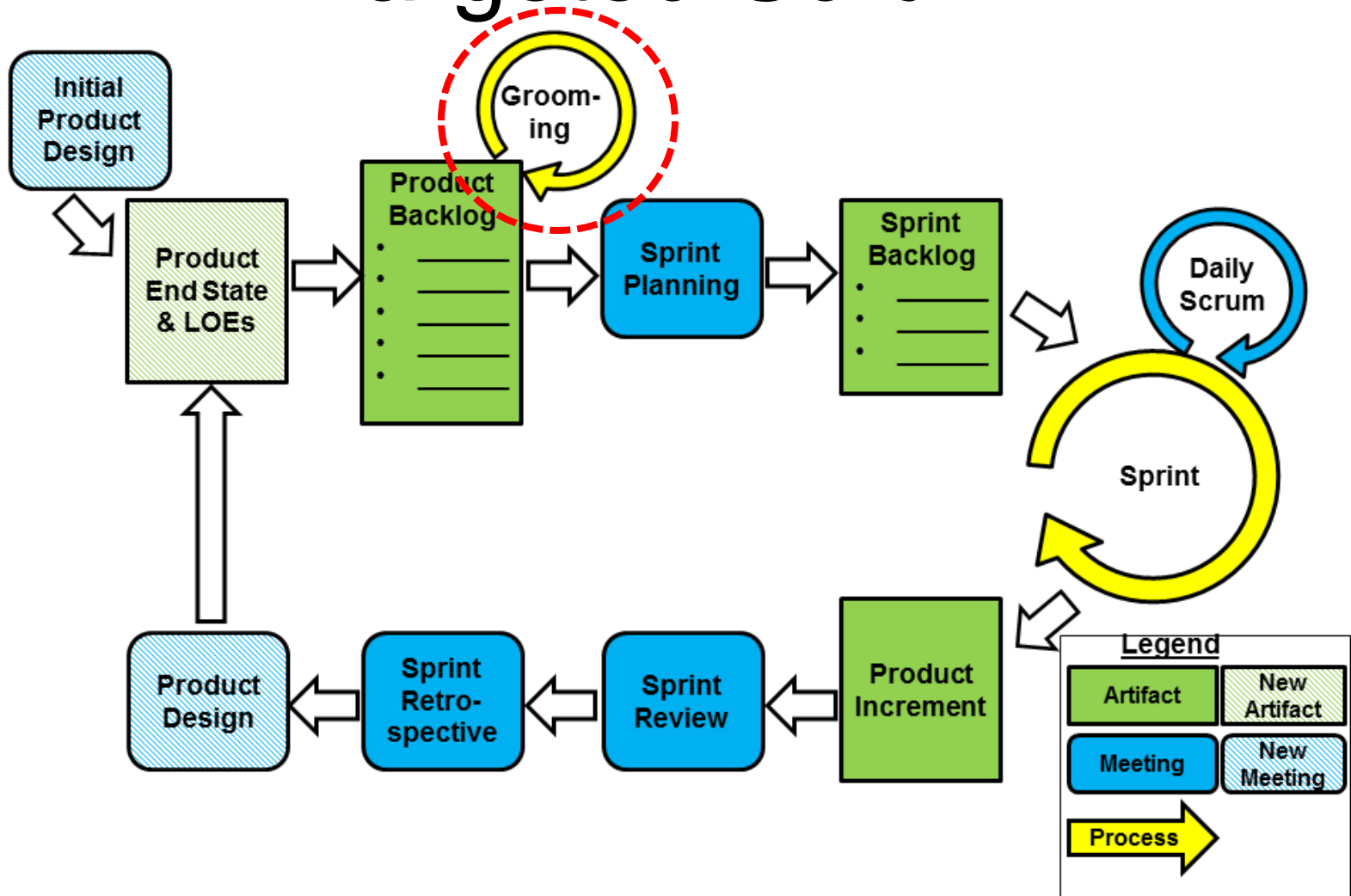| Step	Question and/or Action
1	What is the goal/end state of the delivered product?
2	What are the features necessary to implement in order to reach the product end state?
3	Which of the identified features are absolutely critical to the product's success?
4	For each critical feature, what is the end state for that critical feature?
5	Transform each critical feature into a line of effort (LOE) with associated end state.
6	For each LOE, identify measurable milestones that mark progress towards the end state.

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Example LOE

Key milestones

Schemas, E-Rs Identified

Data Base Built & Populated

Access Controls Successful

End state

Fully Web-integrated Data Base with access controls
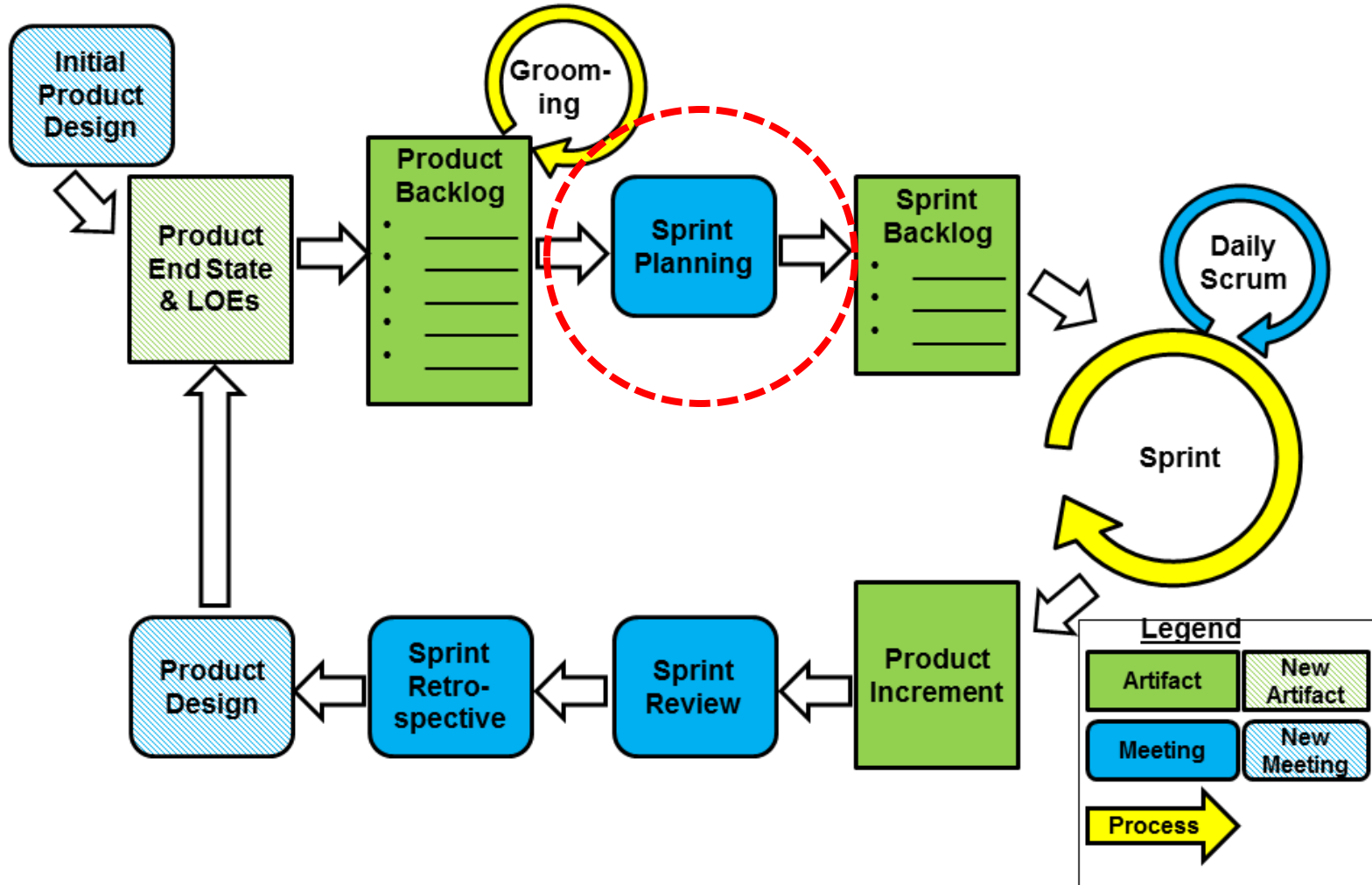
Data Base LOE

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Grooming Product Backlog

- Occurs after Product Design Meetings

- Importance of a single Product Backlog Item (PBI) is relative to relationship to other PBIs (targeting philosophy)

- PBIs prioritized based on how well they generate progress along LOEs toward the desired end state
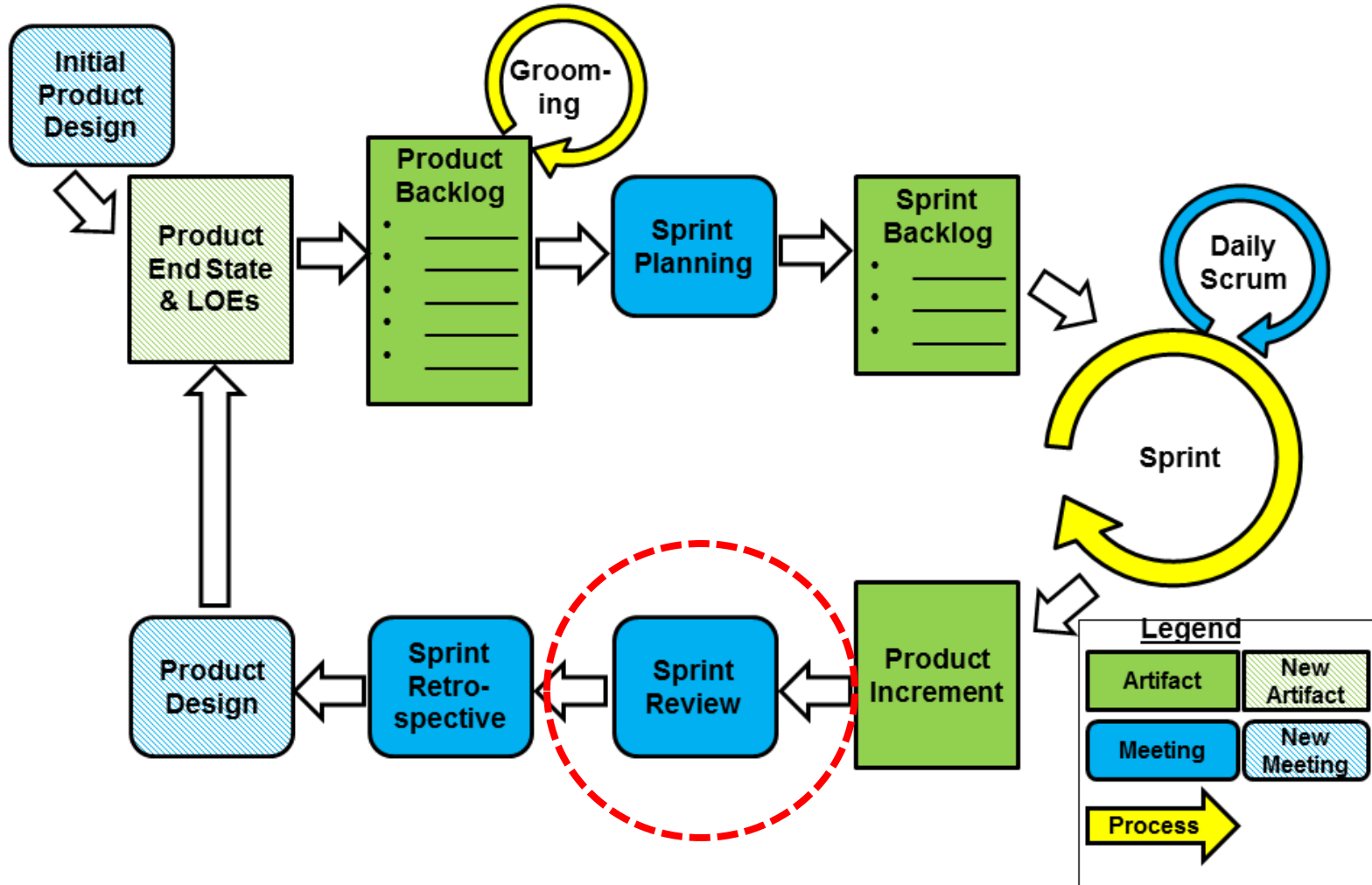
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Sprint Planning

- Begins with review of Product end state, objectives, and current progress along LOEs → Sprint Goal

- Sprint Goal then used to derive Sprint Backlog

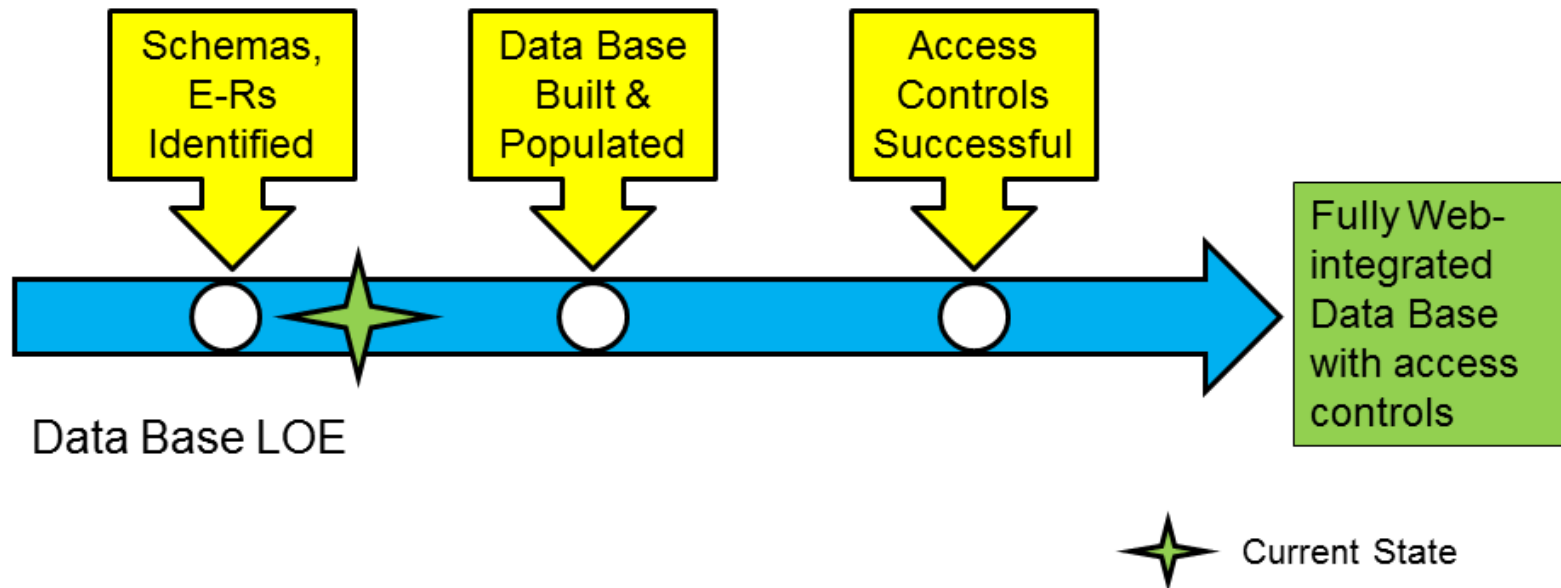- PBIs evaluated on how they would facilitate movement along LOEs
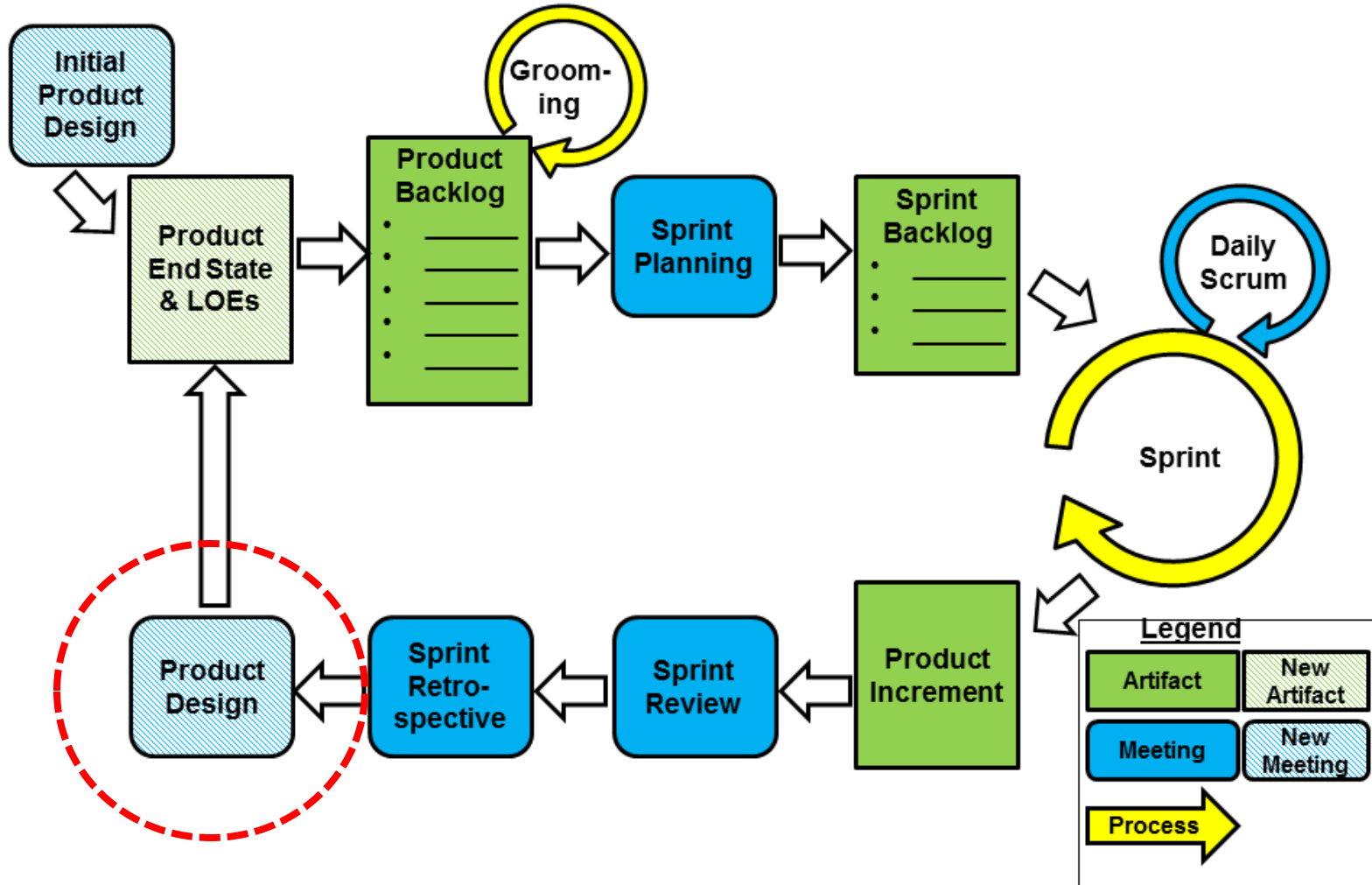
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Sprint Review

- Visually update progress along LOEs
- Identify whether Product is progressing as anticipated or if there are concerns
- LOEs still considered valid at this meeting (LOEs concerns addressed at Product Design Meetings)

Example Updated LOE

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Subsequent Product Design Meeting Agenda

Step	Question and/or Action
1	Review the goal/end state of the delivered product. Is it still valid?
2	Review each LOE with its associated end state and milestones. Is each LOE still valid? Does any LOE need to be modified, added or deleted?
3	Review the progress and prioritization of the LOEs. Is the current prioritization of LOEs still valid?
4	Publish any necessary updates to the end state and/or LOEs.

QUESTIONS?