



Agile and Earned Value Management (EVM) Complementary or Contradictory

Earned Value Management and Agile Software Development Meeting
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Learn. Perform. Succeed.

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Agile Software Development and EVM

“A problem well stated is a problem half-solved.”

- Charles Kettering





Complementary or Contradictory?

**Agile
Software
Dev.**



EVM



Agile Software Development

A graphic of a grey megaphone pointing to the right. The text 'AGILE VALUES AND PRINCIPLES' is written inside the megaphone's body.

AGILE VALUES 4 Values AND 12 Principles PRINCIPLES

- Working software over comprehensive documents
- Working software is the primary measure of progress
- See: www.agilemanifesto.com

Principles behind the Agile Manifesto

We follow these principles:

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Continuous attention to technical excellence and good design enhances agility.

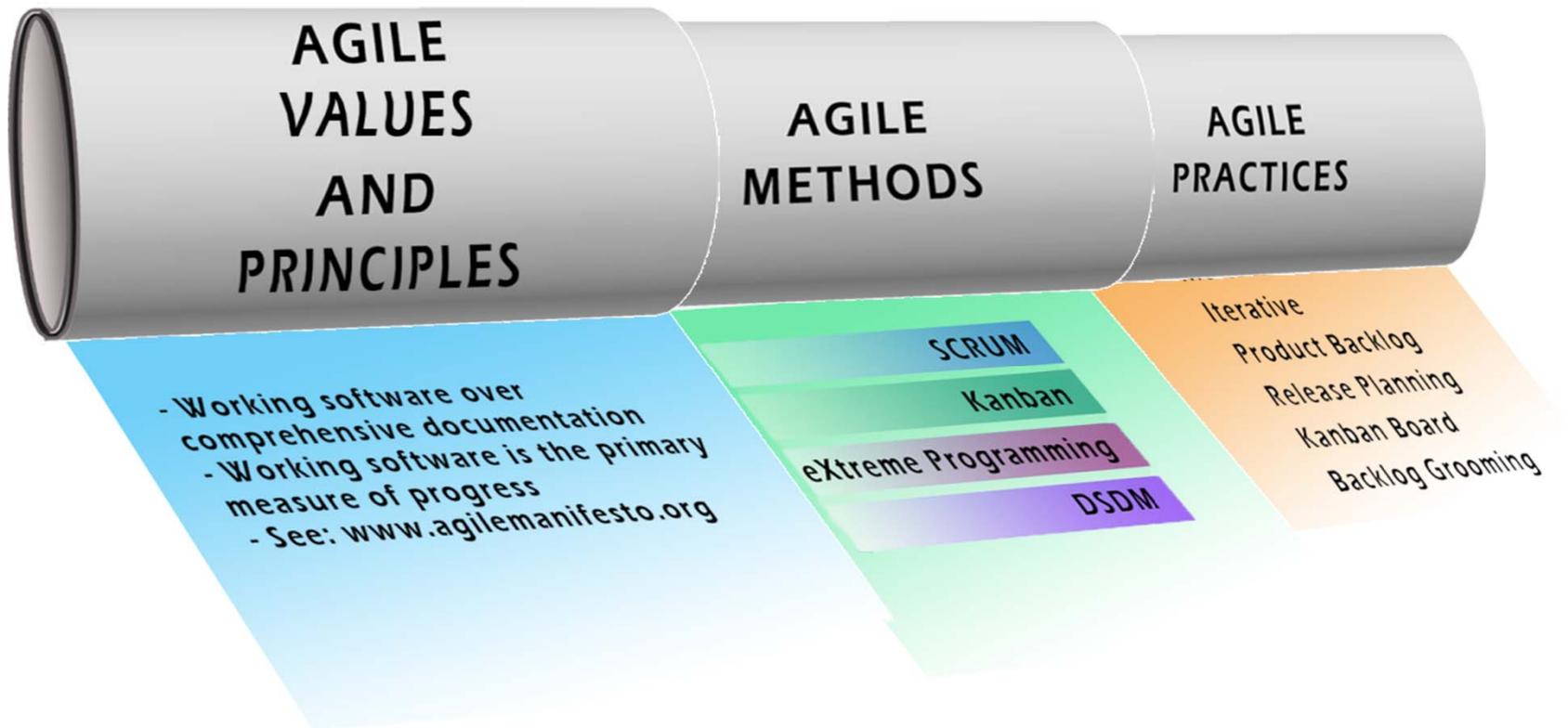
Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.



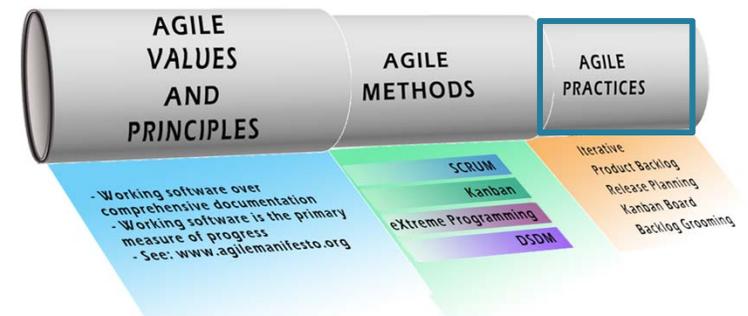
Agile Software Method and Practices





Agile Practices

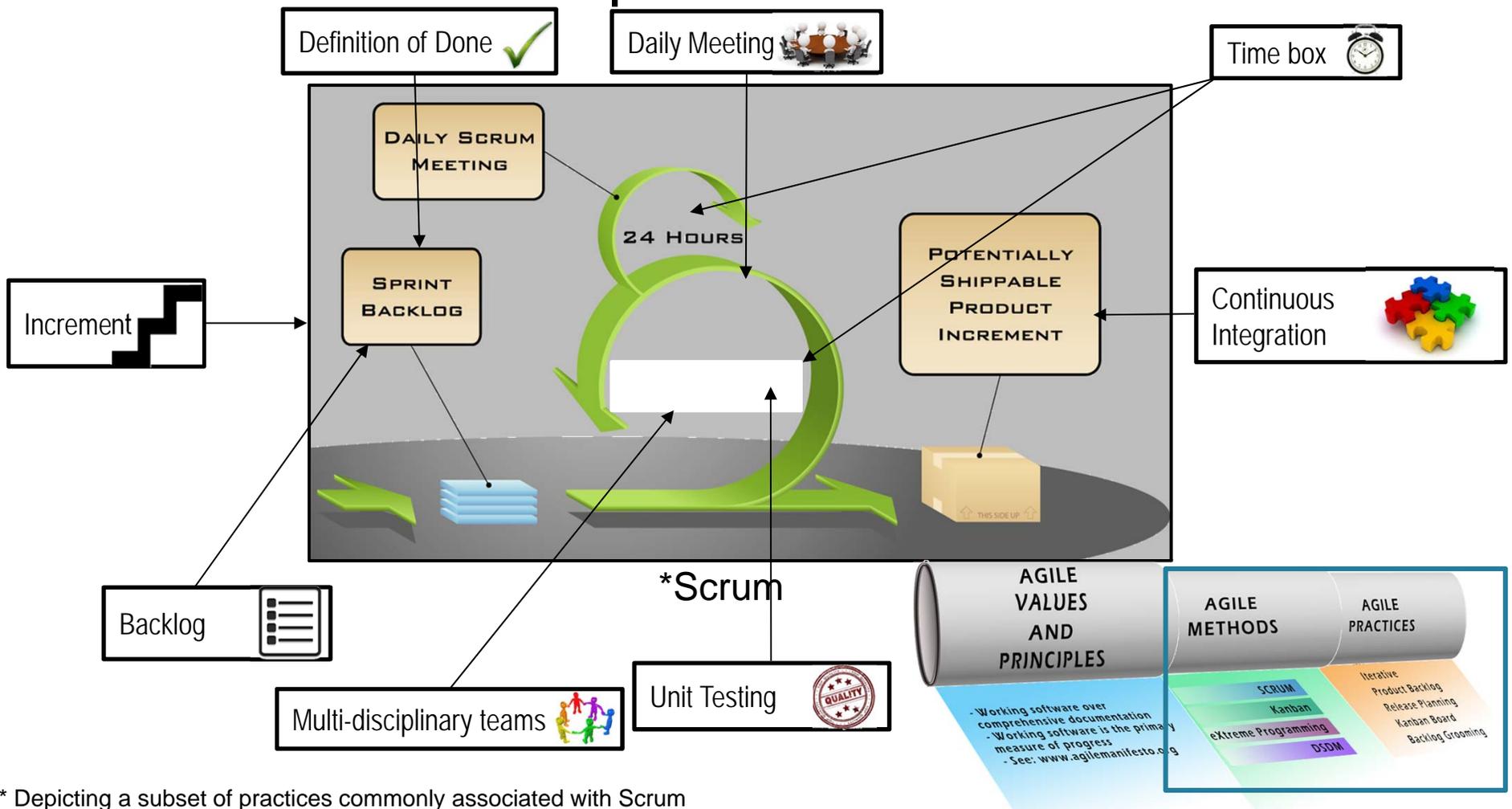
Time Boxing	Unit Testing
Increment	Continuous Integration
Iteration	User Stories
Definition of Done	Multi-disciplinary Teams
Backlog	Sustainable Pace
Release Planning	Prototyping
Estimation	Small Teams
Daily Stand-up	<i>AND MANY MANY MORE</i>





The Link between Agile Methods and Agile Practices

- Agile methods put a collection of practices together to use as a **STARTING** point!



* Depicting a subset of practices commonly associated with Scrum



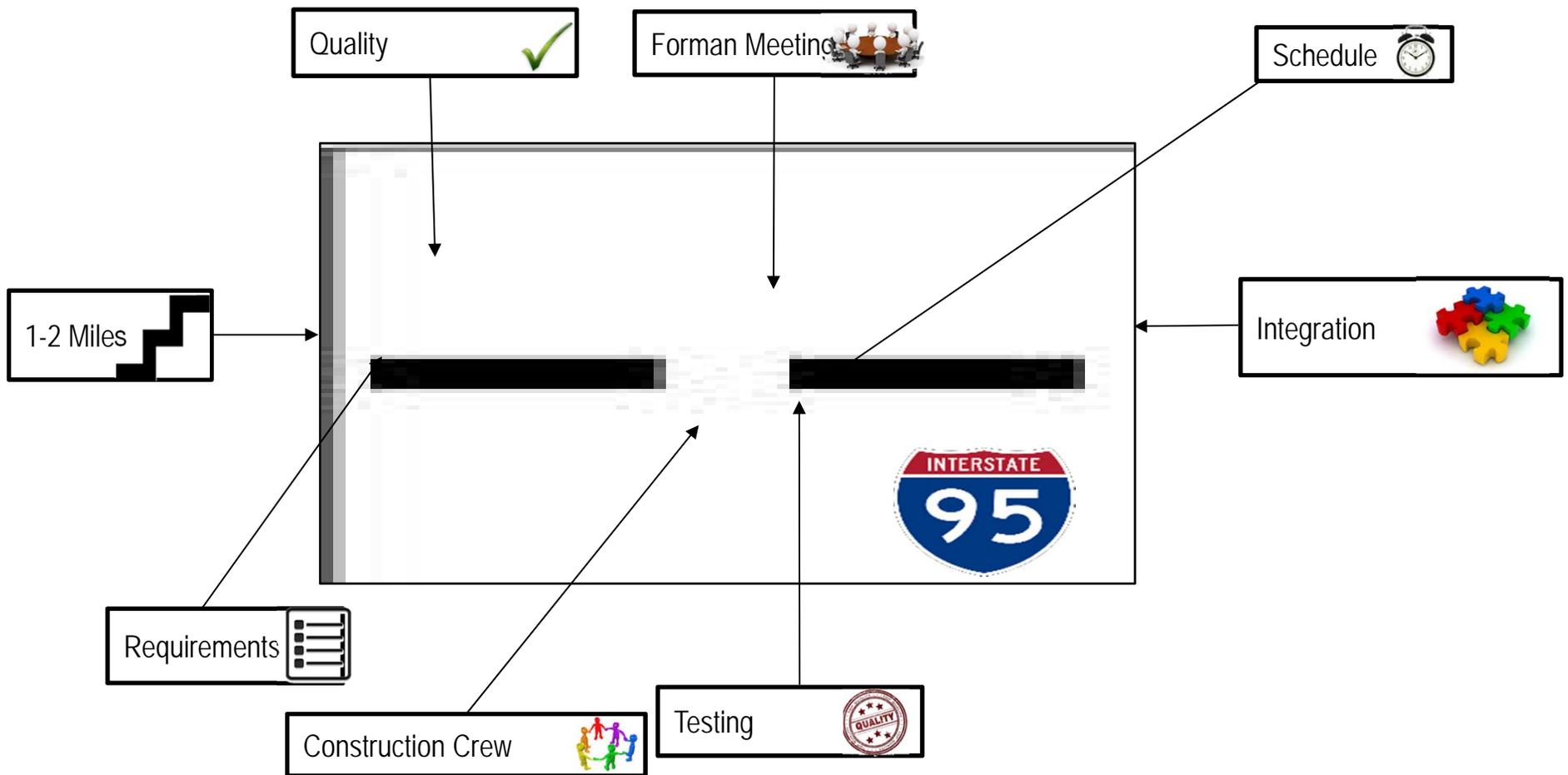


Characteristics of Building a Highway

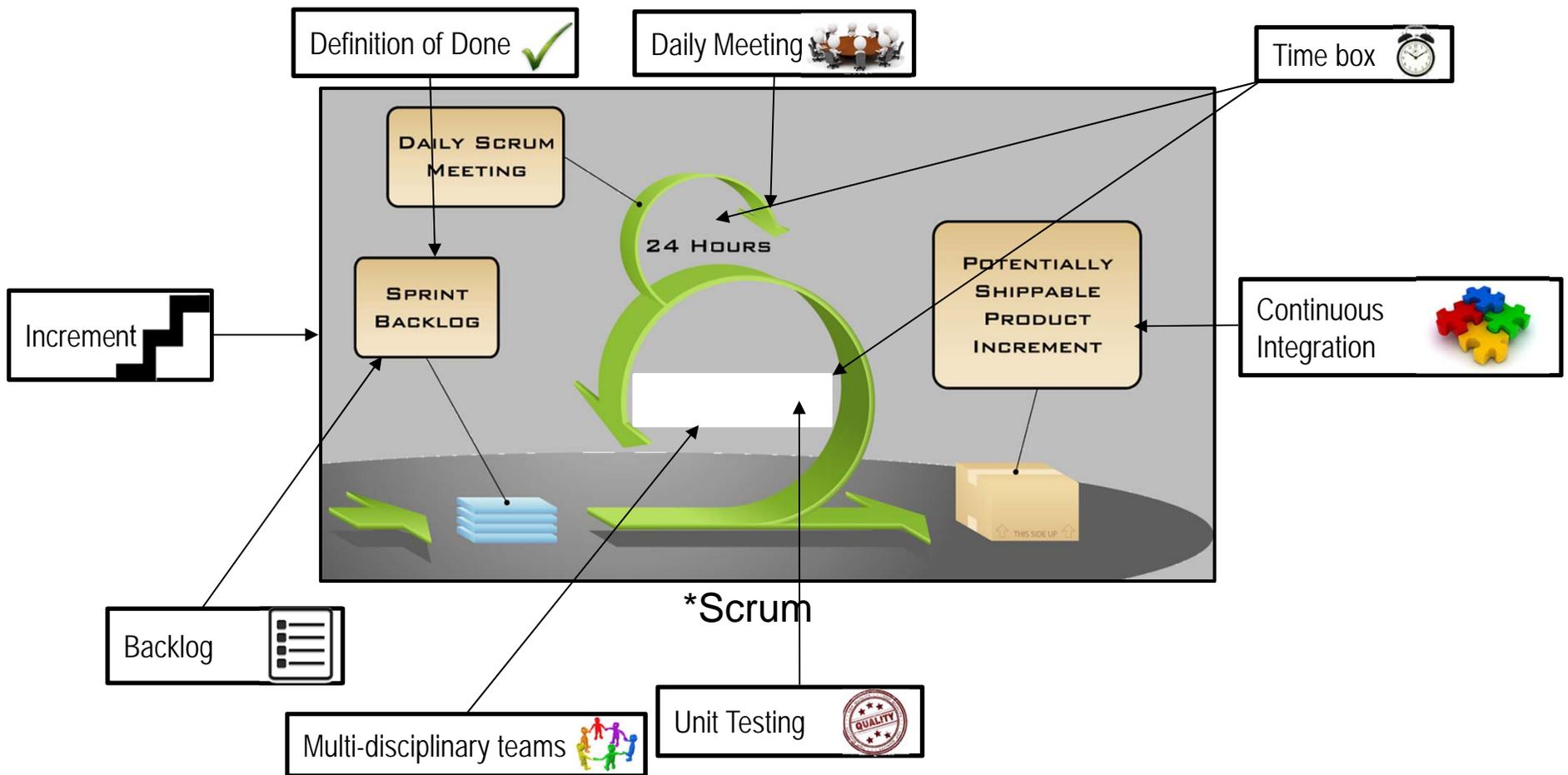
- Construction Crew 
 - Forman, design engineer, laborers, equipment operators, quality engineer, etc.
- Testing 
 - Concrete is tested every ~1-2 miles to ensure the integrity of the concrete mix.
- Standards 
 - Must meet specific standards.
- Schedule is the prime constraint 
- Foreman meets with the construction crew regularly 



Another View



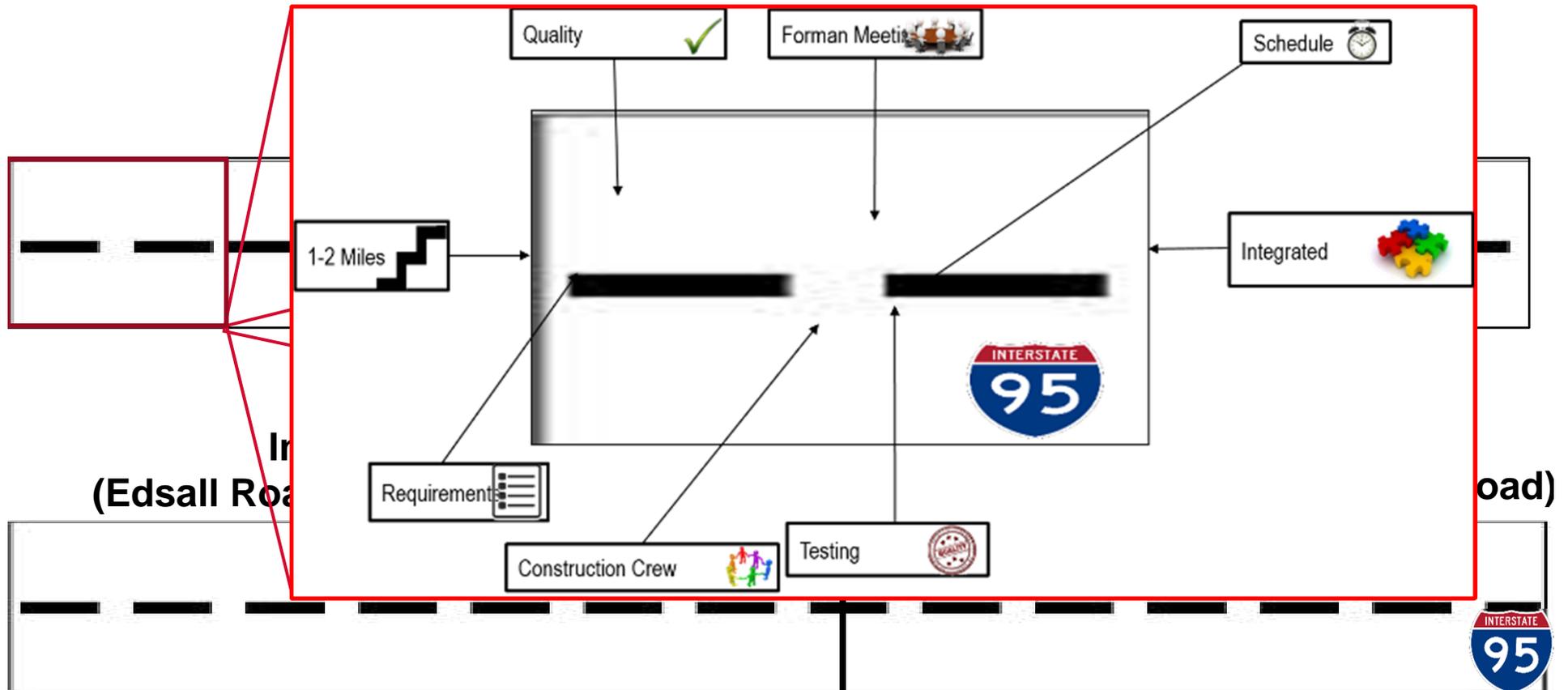
Look Familiar?



* Depicting a subset of practices commonly associated with Scrum



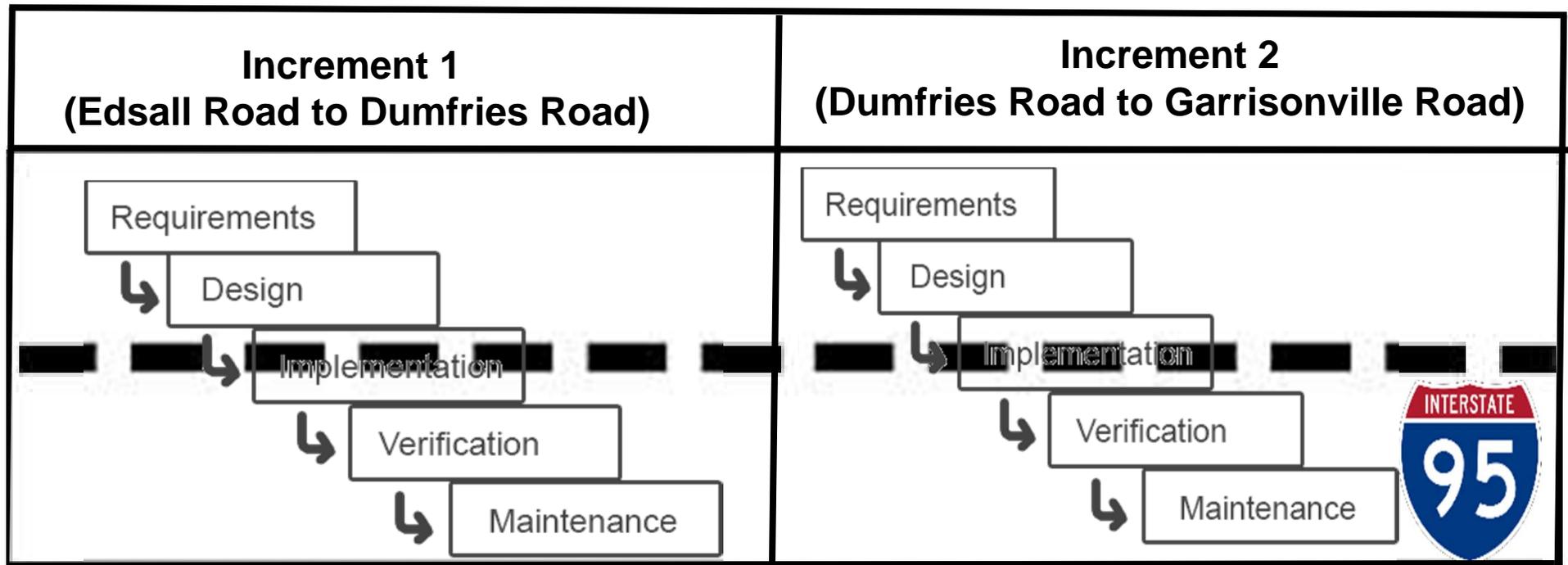
"Agile" Highway Development





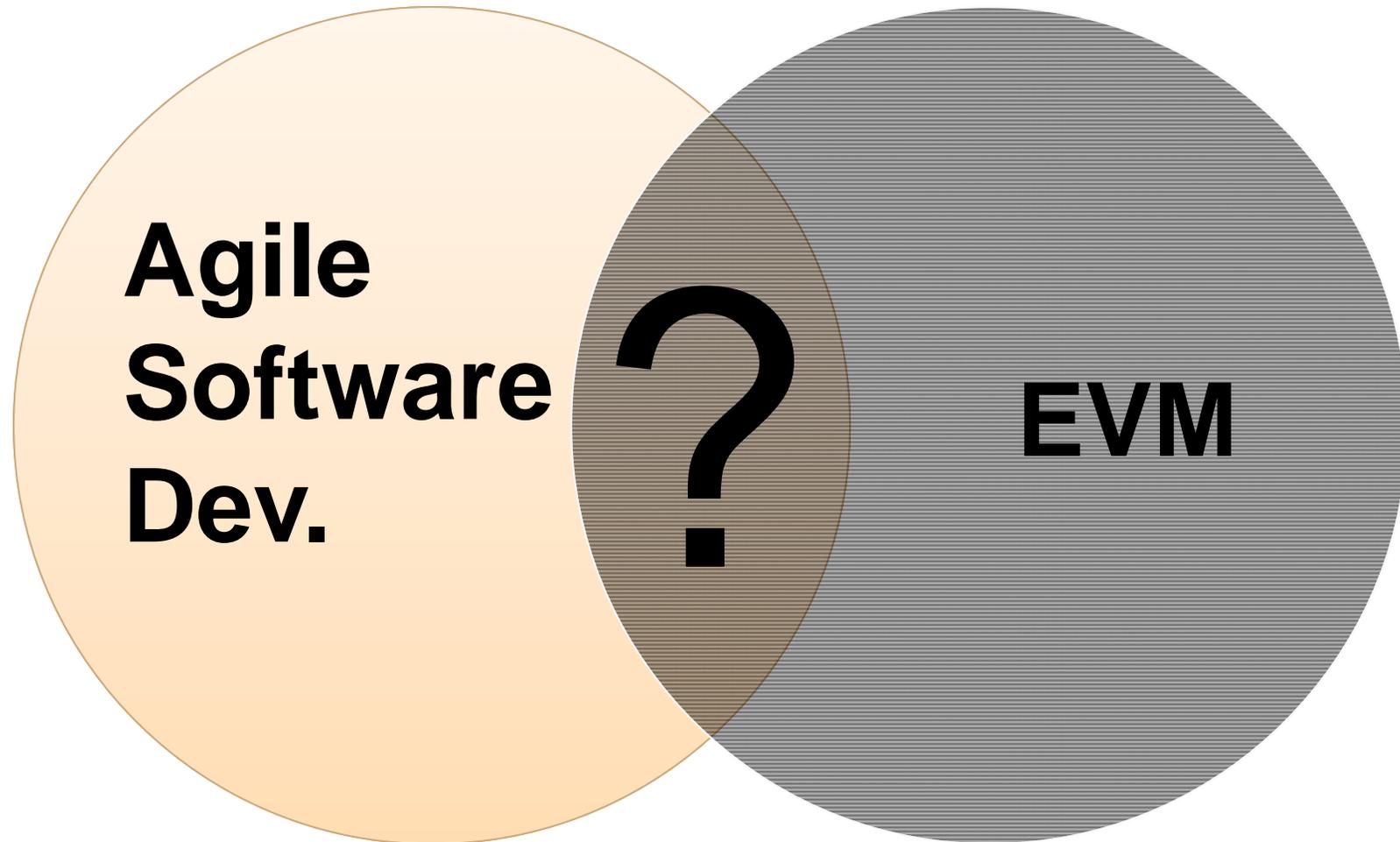
Highway Development

What if a “Traditional” development approach was used for Highway Development?





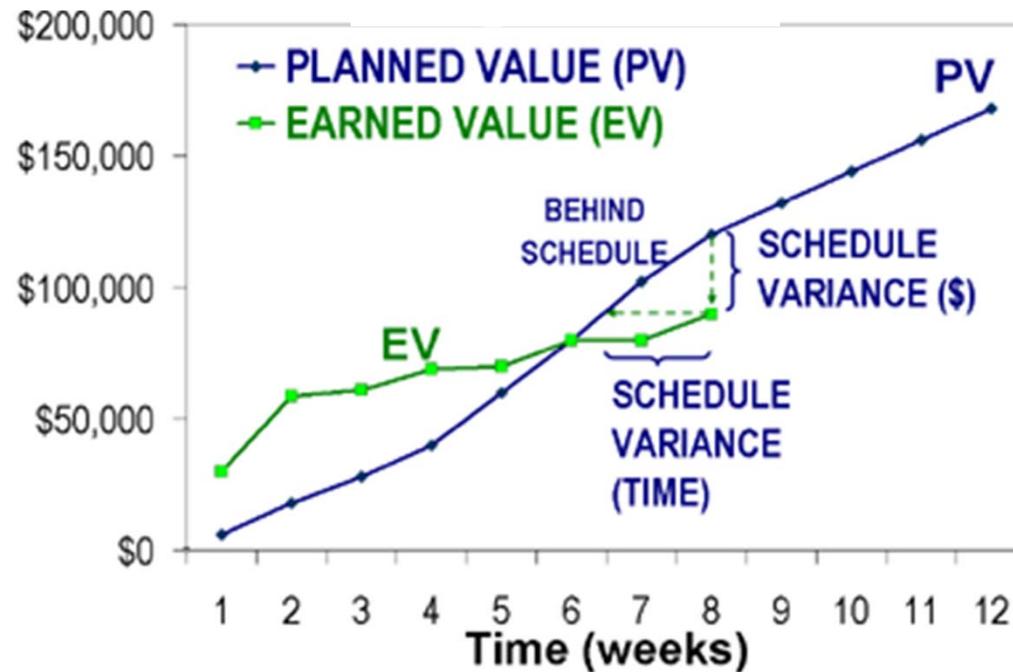
Is Agile the Problem?





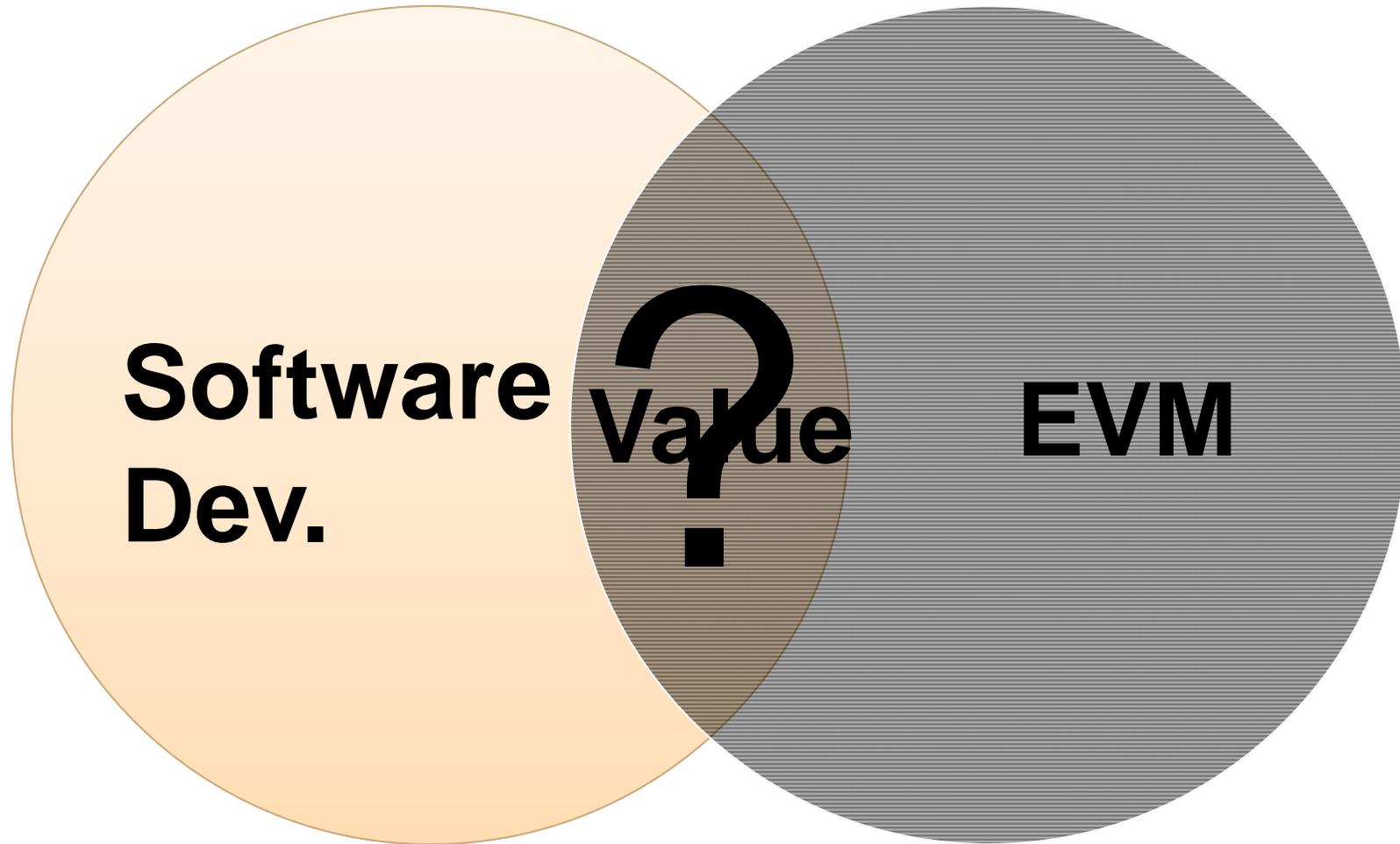
Earned Value Management (EVM)

- An essential Program Manager and Technical Lead tool for supporting proactive decision making.





Defining the Problem?





Similarities Between Software and Highway Development

- Both are designed in a Vacuum
 - Use aerial topography
 - “Guess” where utilities are located
- Both encounter “unknowns” during AND after construction
 - Weather
 - Sewer lines are shallower than expected
 - Historical monuments
 - Endangered animals
 - Contaminated Soil or Sub-Structure
 - Indigenous Burial Sites





Differences Between Software and Highway Development

- Highway development has a shared understanding of “VALUE”
 - Section of road completed
 - Bridge completed
- Highway construction has a shared understanding of the most effective level of detail to measure
 - Typically Miles

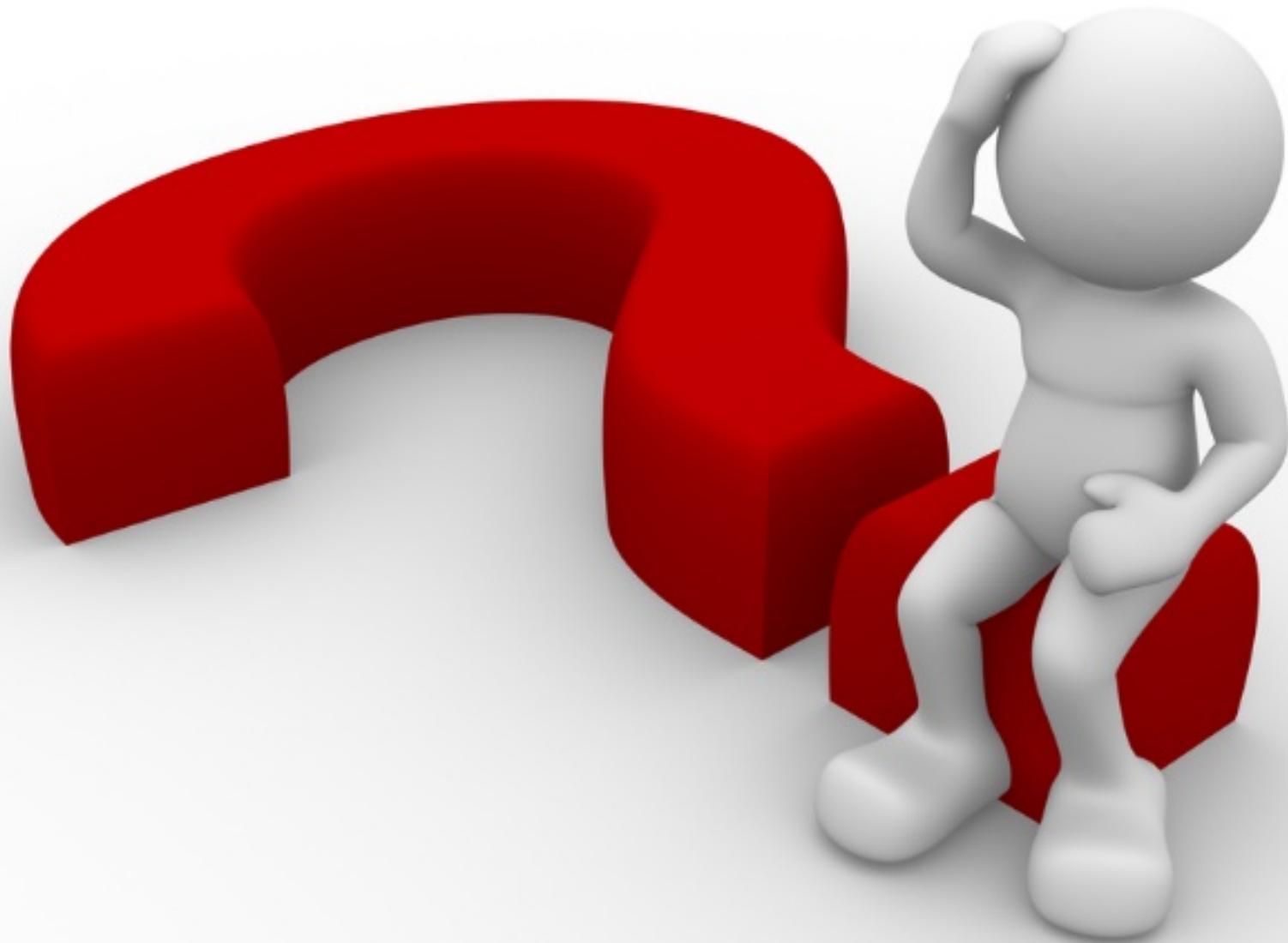




How might software development better complement EVM?

- Have a solid definition of “VALUE”
 - What is your “section of road completed?”
- Define the most effective level of detail to measure
 - What is your “mile?”





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