Testing Agile Projects

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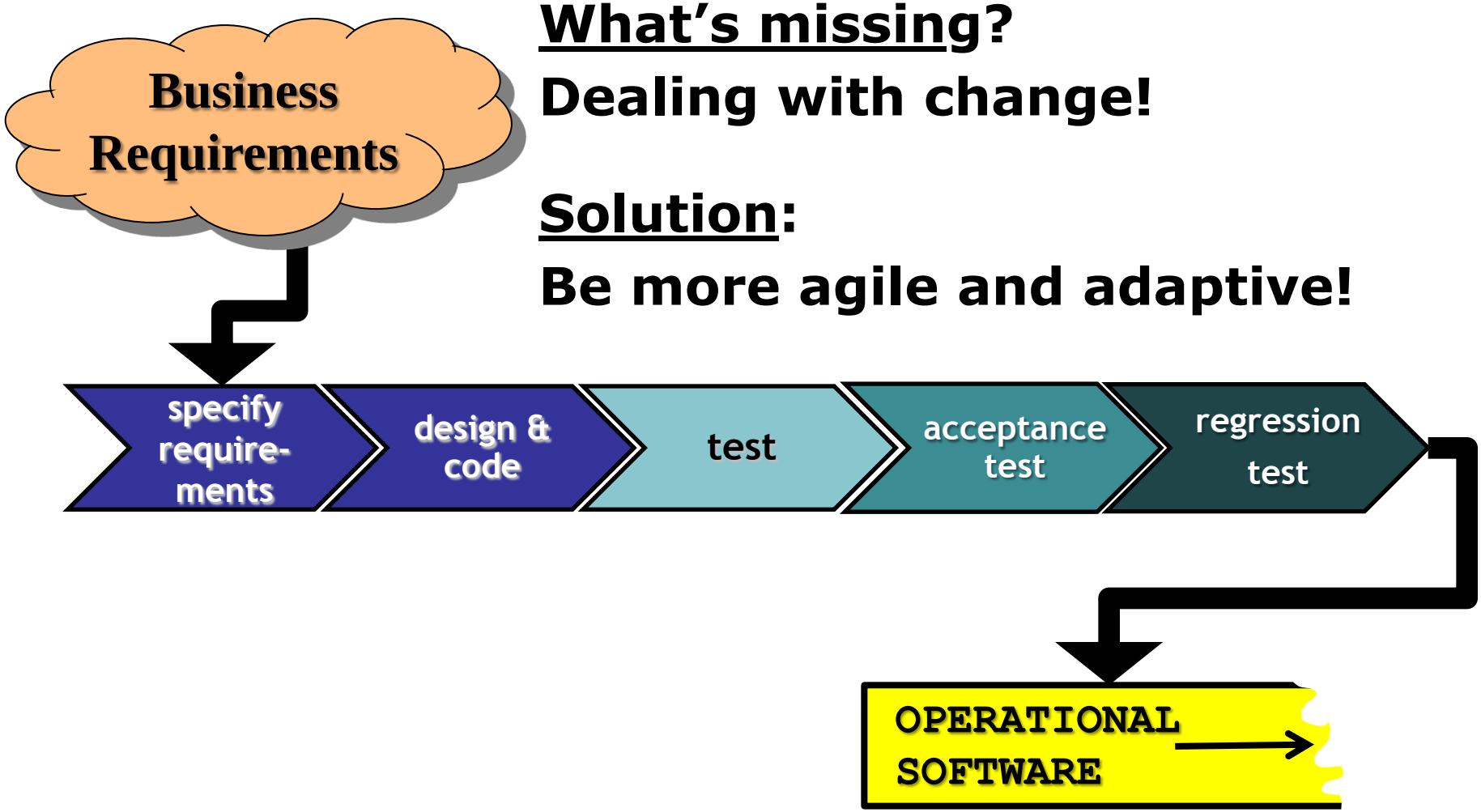
Scope

- Agile Manifesto and Principles
- An Agile Development & Test Process
- Options
  - where do we put the testing?
- Recommendations
- Questions?

A (simple) Development & Test Process



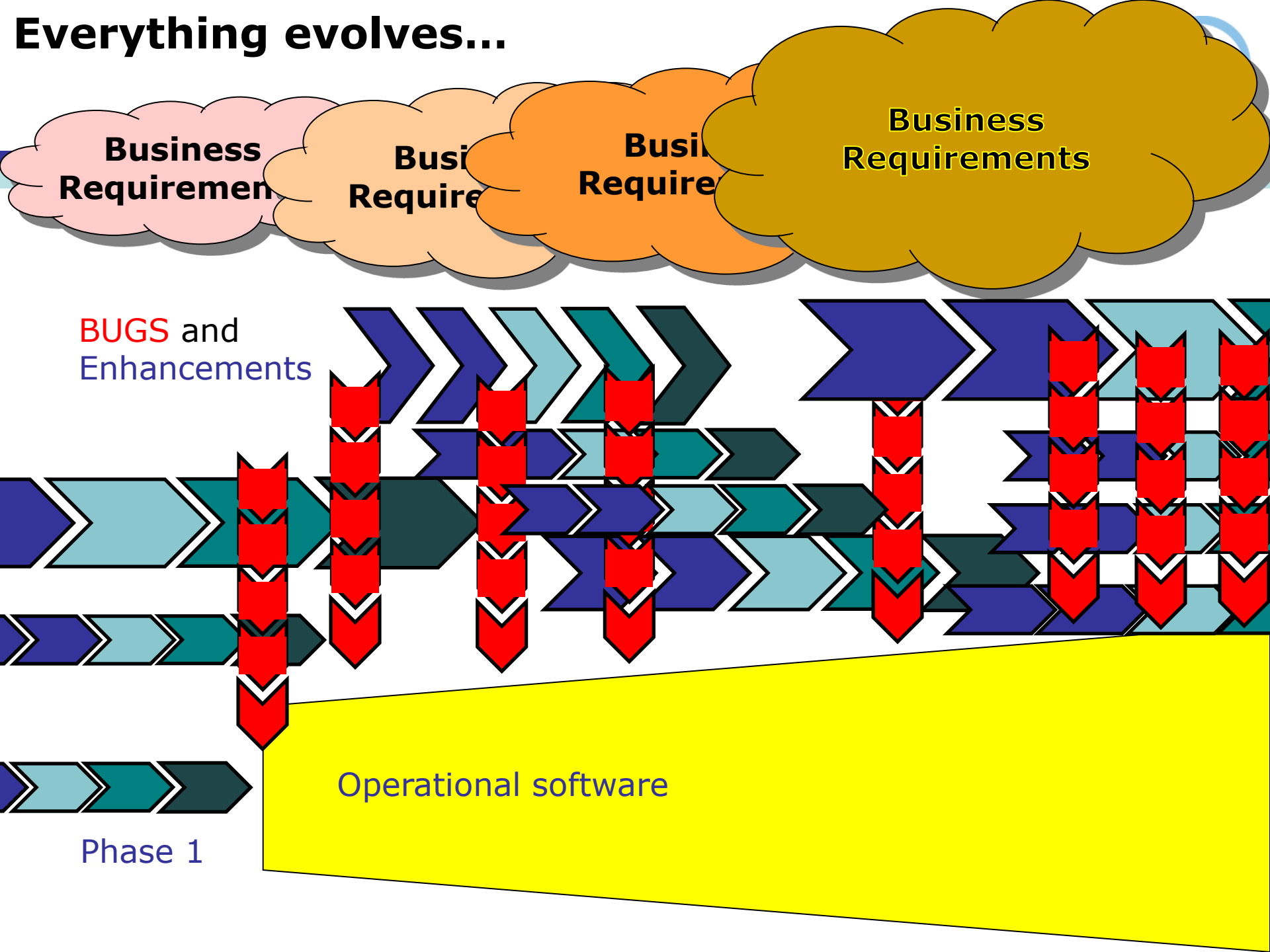
What's missing?

Dealing with change!

Solution:

Be more agile and adaptive!

Everything evolves…



The Agile Manifesto

"In AGILE we value…

Individuals & interactions

over

processes and tools

Working software

over

comprehensive documentation

Customer collaboration

over

contract negotiation

Responding to change

over

following a plan

That is, while there is value in the items on the right, we value the items on the left more."

Agile Principles

- Incremental & iterative development
  - frequent delivery of usable software
  - changing requirements are welcomed
  - working software is the primary measure of progress
- People-oriented development
  - trust and support of self-organizing teams
  - face-to-face communication
  - involve the business
  - sustainable development
- Technical excellence and built-in quality
  - simple designs are more agile
  - the team regularly reflects and adjusts its behaviour

Standish Report - 2006

35% of projects completed on time and within budget and delivered to specification.

Projects cancelled: **31%**

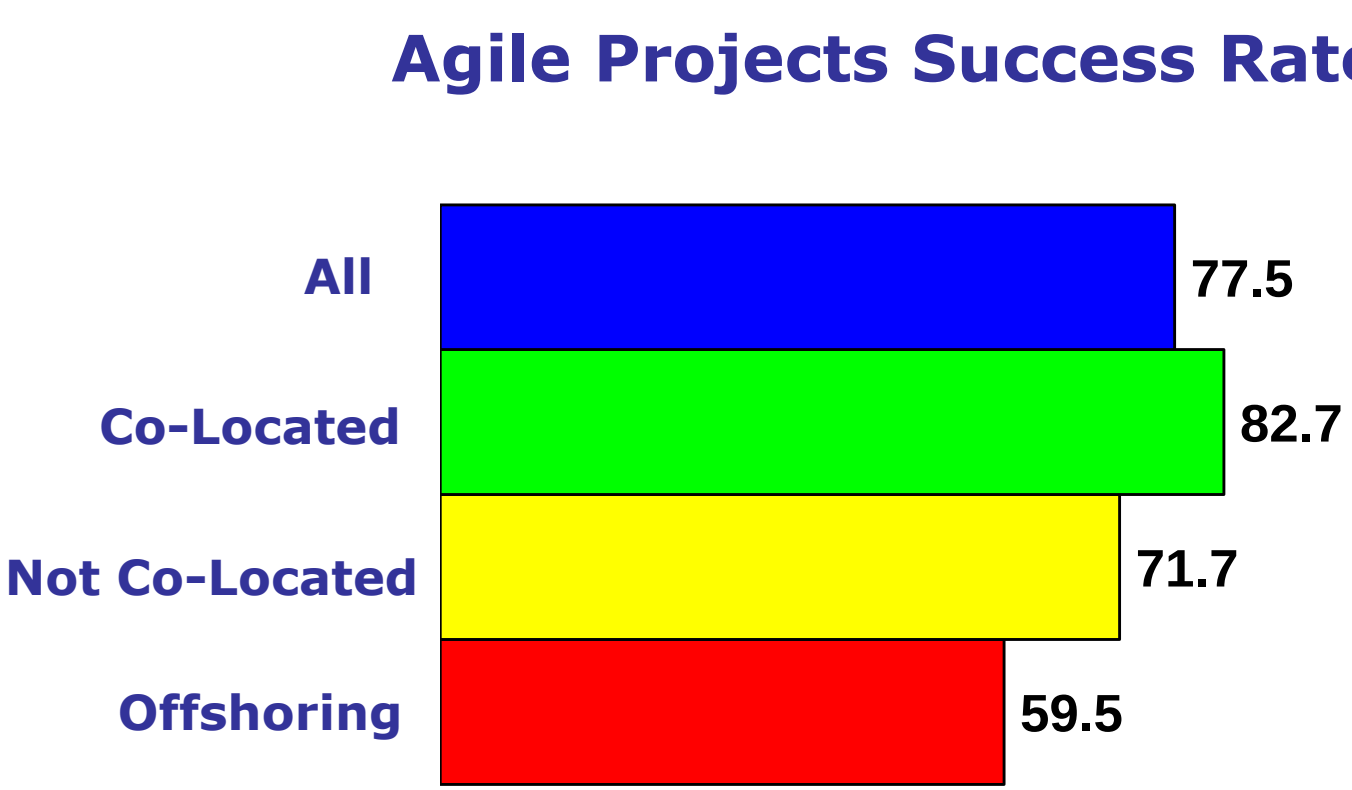
64% of features rarely or never used.

Reasons for project failure

1. Users failed to provide complete requirements.
2. Users were not involved in the development process.
3. The project had inadequate or no resources that were vital for its completion.
4. Executive management just did not seem interested in seeing the project through.
5. Specs kept on changing during the project's tenure.
6. Planning was a casualty.
7. The project's scope had become outdated due to change in business environment.
8. The project team was technically incompetent.

[Standish Report 2004]

Agile projects are ‘succeeding’

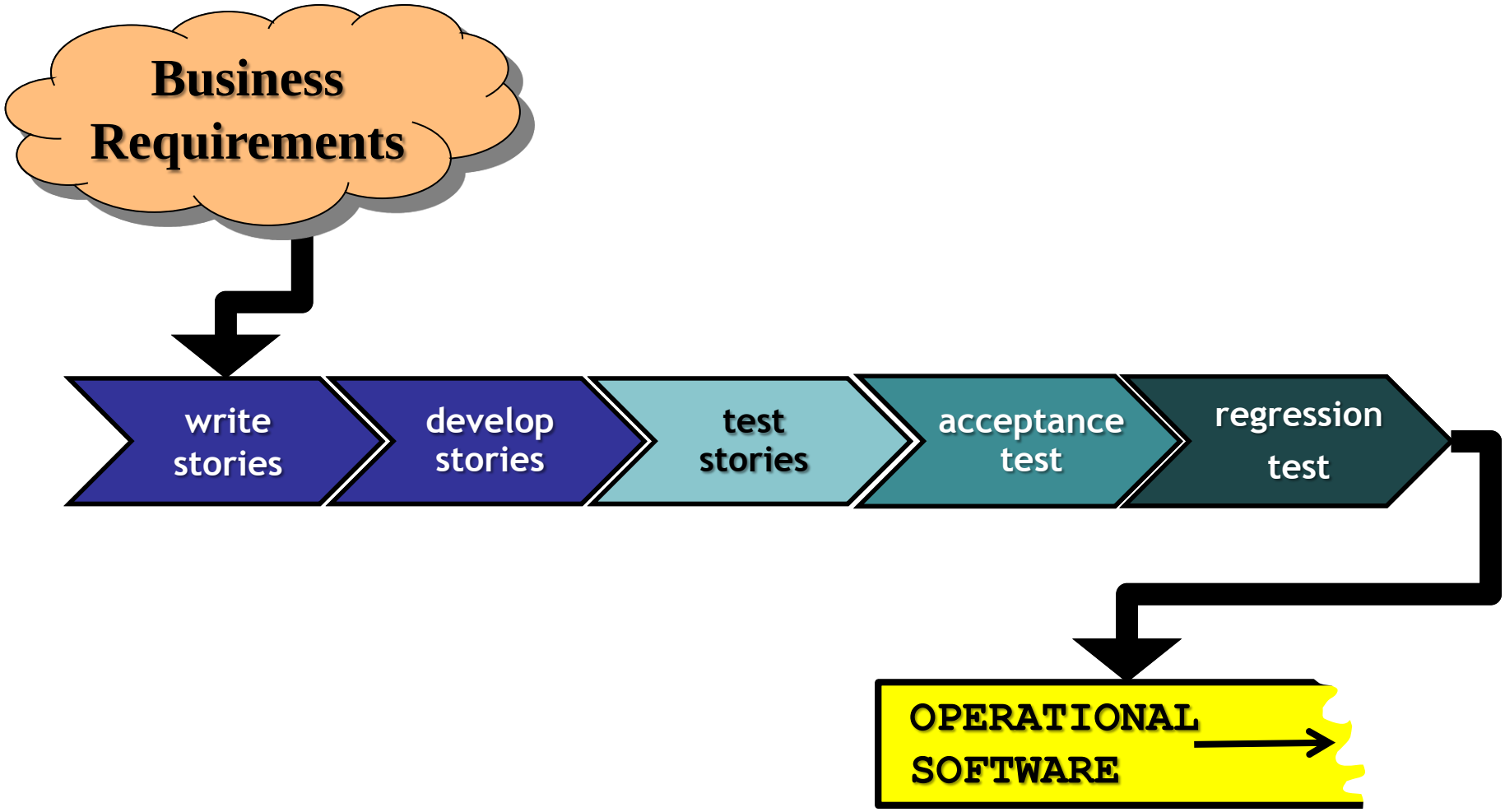


[Results from Scott Ambler’s February 2008 Agile Adoption Survey]

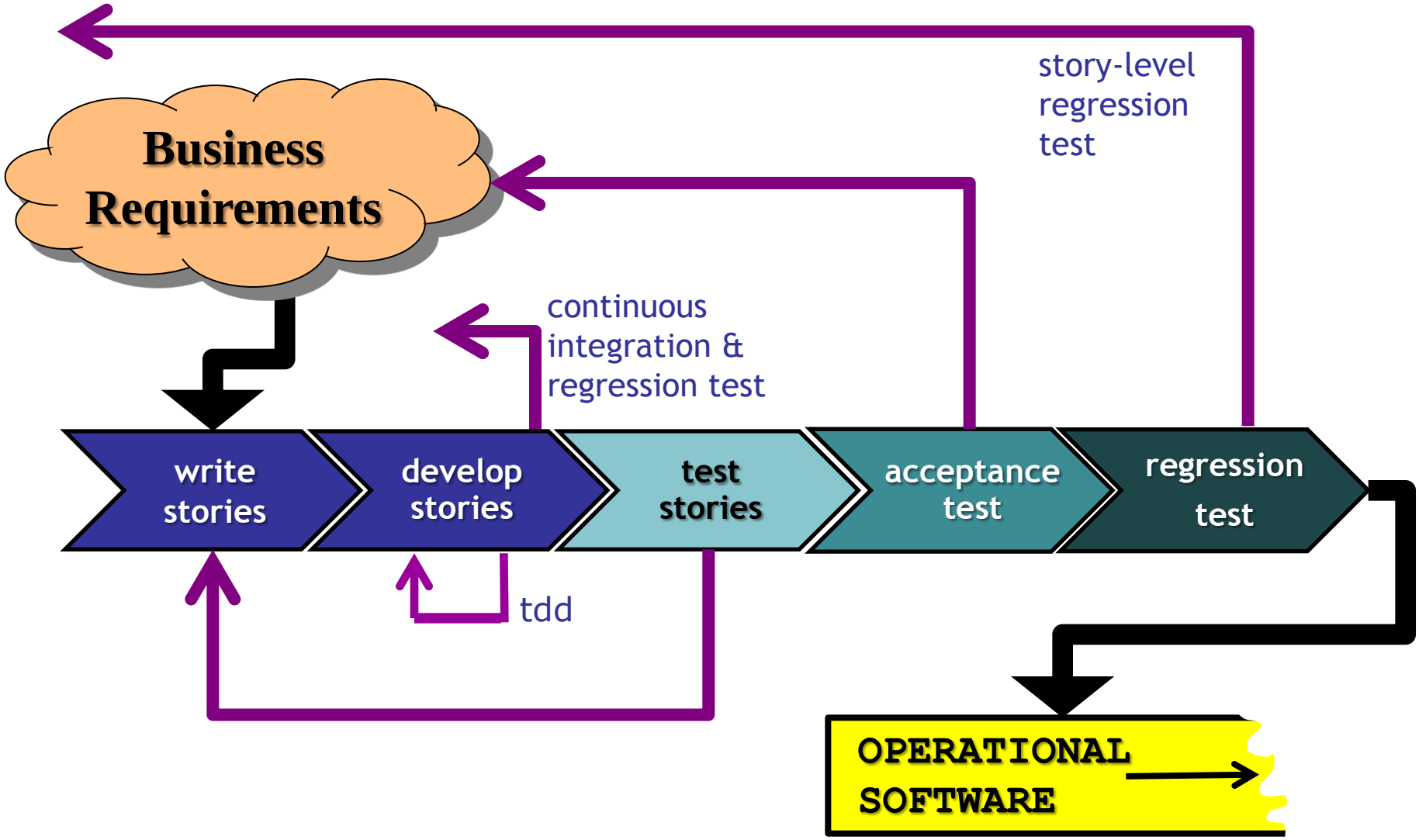
Industrial take-up of Agile

- Agile development is now mainstream:
  - a report on internal Microsoft projects gives a figure of 32% [2006];
  - a Dr Dobbs survey reported 69% [2008]
  - Ordev developer conference hands-up survey 80% doing agile [2008]
  - Approx. 80% of IBM project teams are using agile practices [2009]
- Take up may be partial
  - Not all “agile” teams are doing all the practices (“Scrumbut”)
  - Some organisations are blending waterfall and agile

A (simple) Agile Development & Test Process

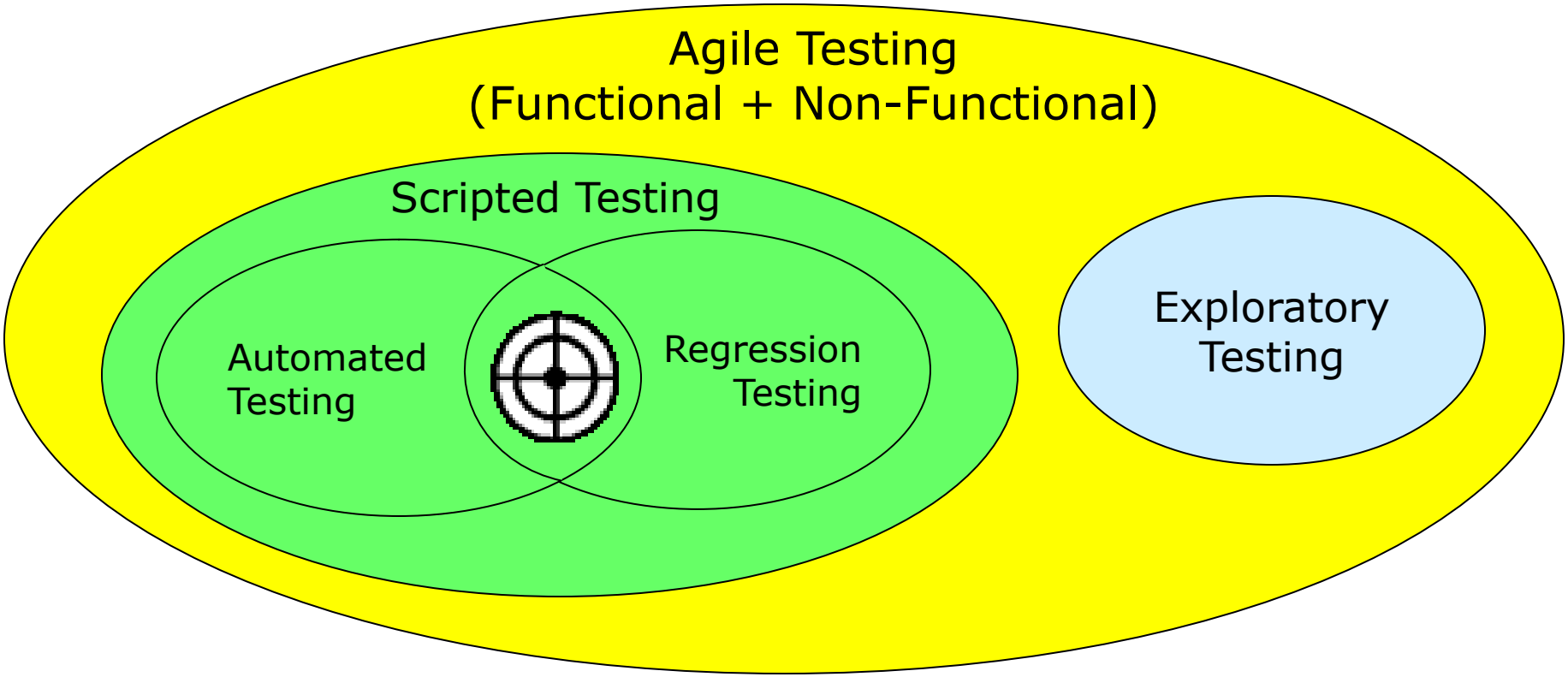


A (simple) Agile Development & Test Process

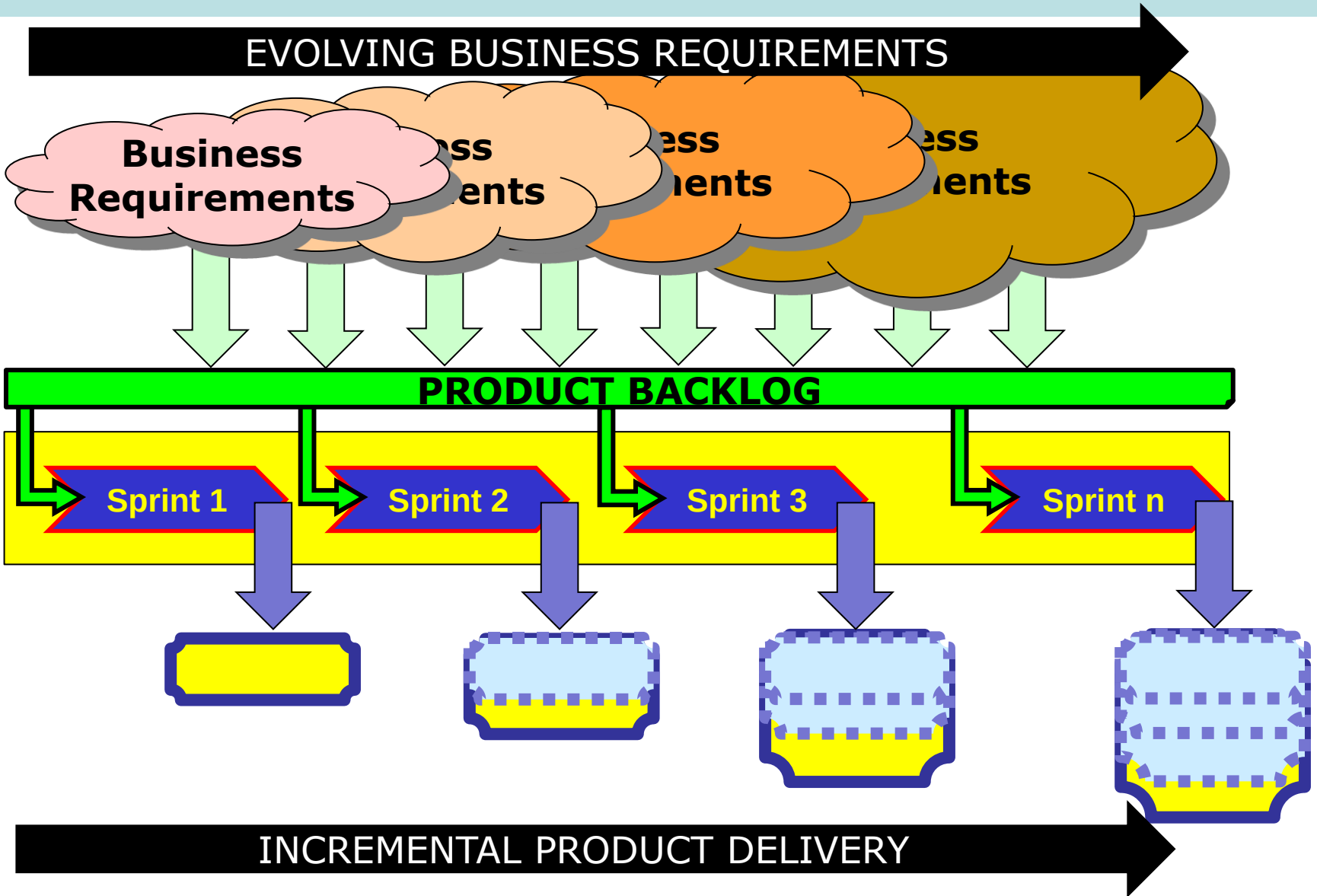


AGILE TESTING ≠ EXPLORATORY TESTING

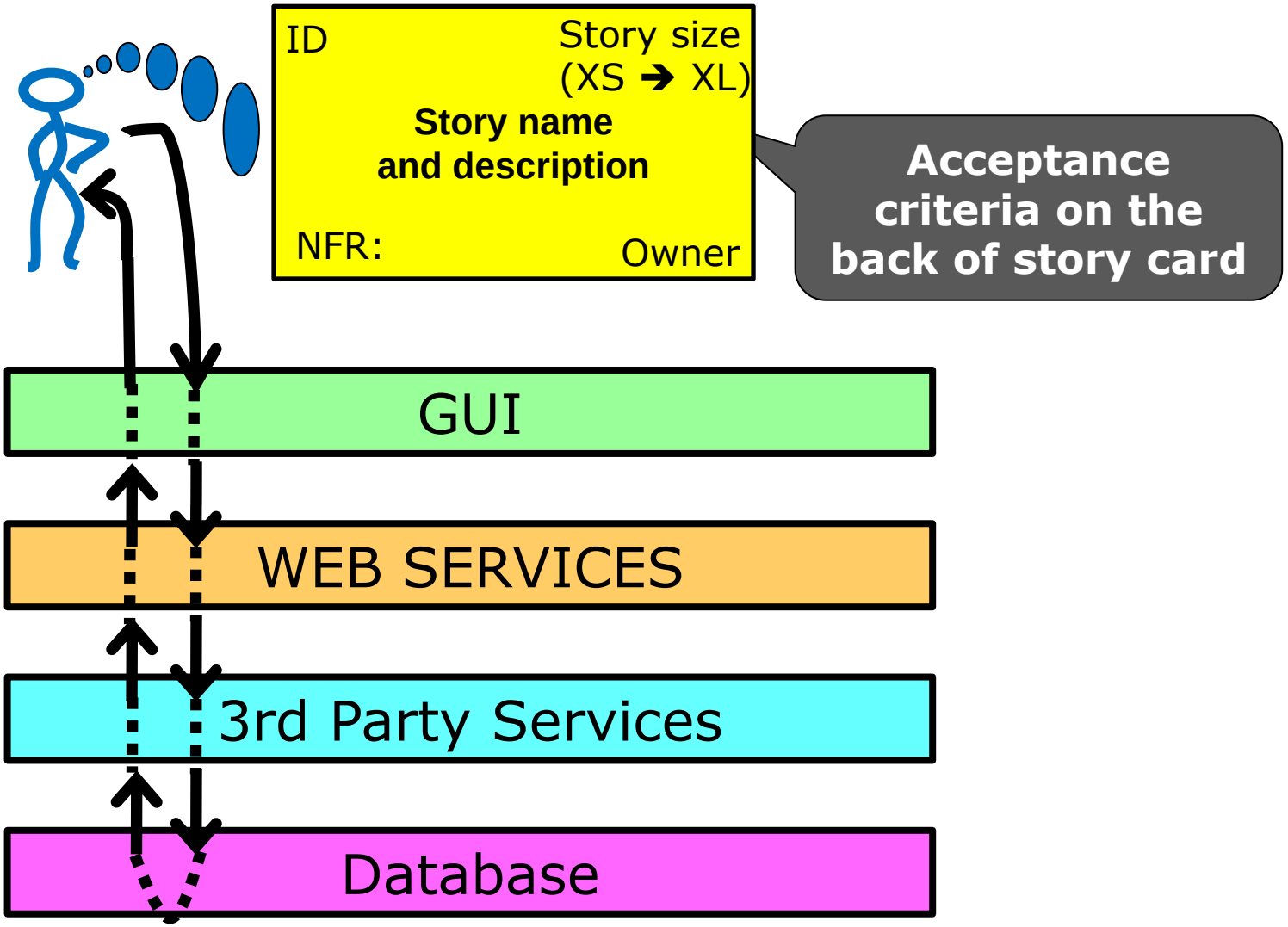
- Exploratory testing is simultaneous learning, test design, and test execution.
  - testing where the tester decides on the tests as those tests are performed and uses information gained while testing to design new and better tests.



An Agile Approach



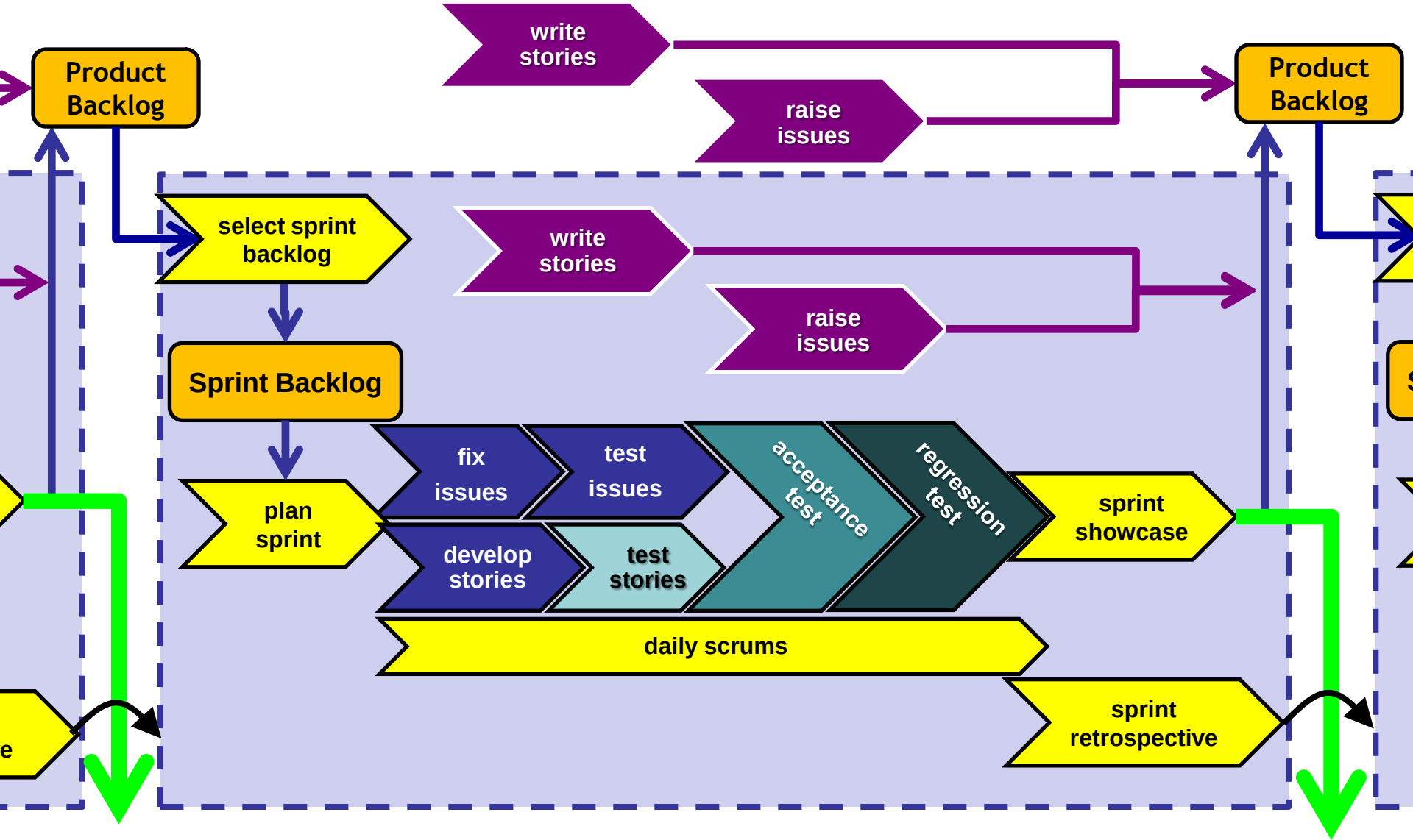
Agile Stories



Which Agile Methodology?

- Agile has been around in various forms since the mid-1990s, but recently the industry appears to be standardising on some common approaches.
  - The fourth annual 'State of Agile' survey [2009] suggests that Scrum is now way ahead of the opposition being used on 75% of agile projects - 24% of these are using XP with Scrum
  - Microsoft report [2006] that 65% of their agile projects are using Scrum.

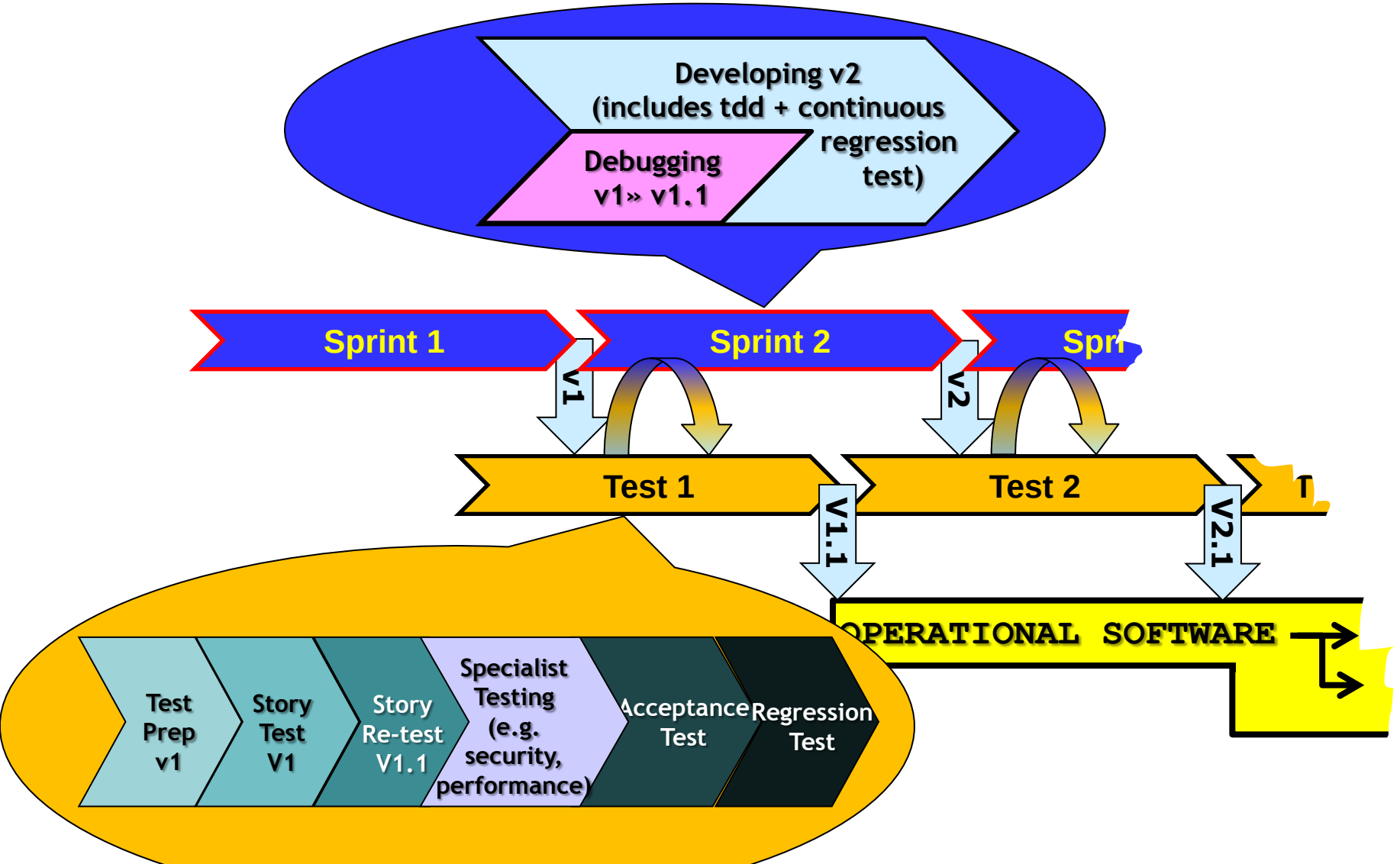
Option 1 - the ideal



Option 1 – Pros & Cons

- Anecdotally this approach is twice as effective as the other options
  - allows direct & immediate communication between team members
  - developers and testers share responsibility for delivery of a quality product
- A worry that testers lose their independence and objectivity
  - but the greater collaboration enhances the ability of testers to lobby for quality

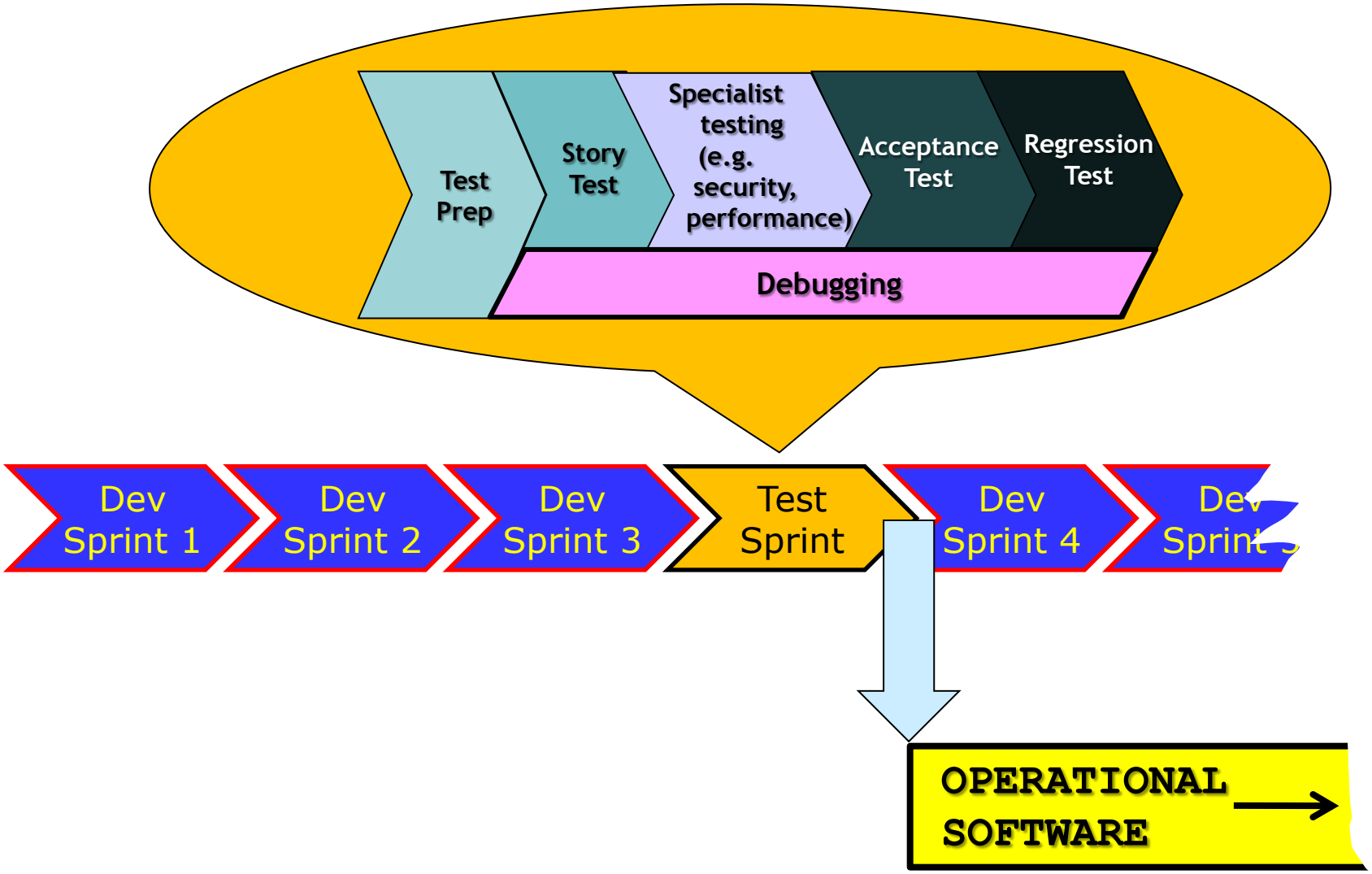
Option 2 – Separate Parallel Activities



Option 2 – Pros & Cons

- Less responsive option as some customer requirements will now take nearly 2 sprints
- Version management more complex as developers are now developing one version and debugging another
- Communications overhead between developers and testers
- May be necessary due to environments restrictions
- And we get here by ‘accident’

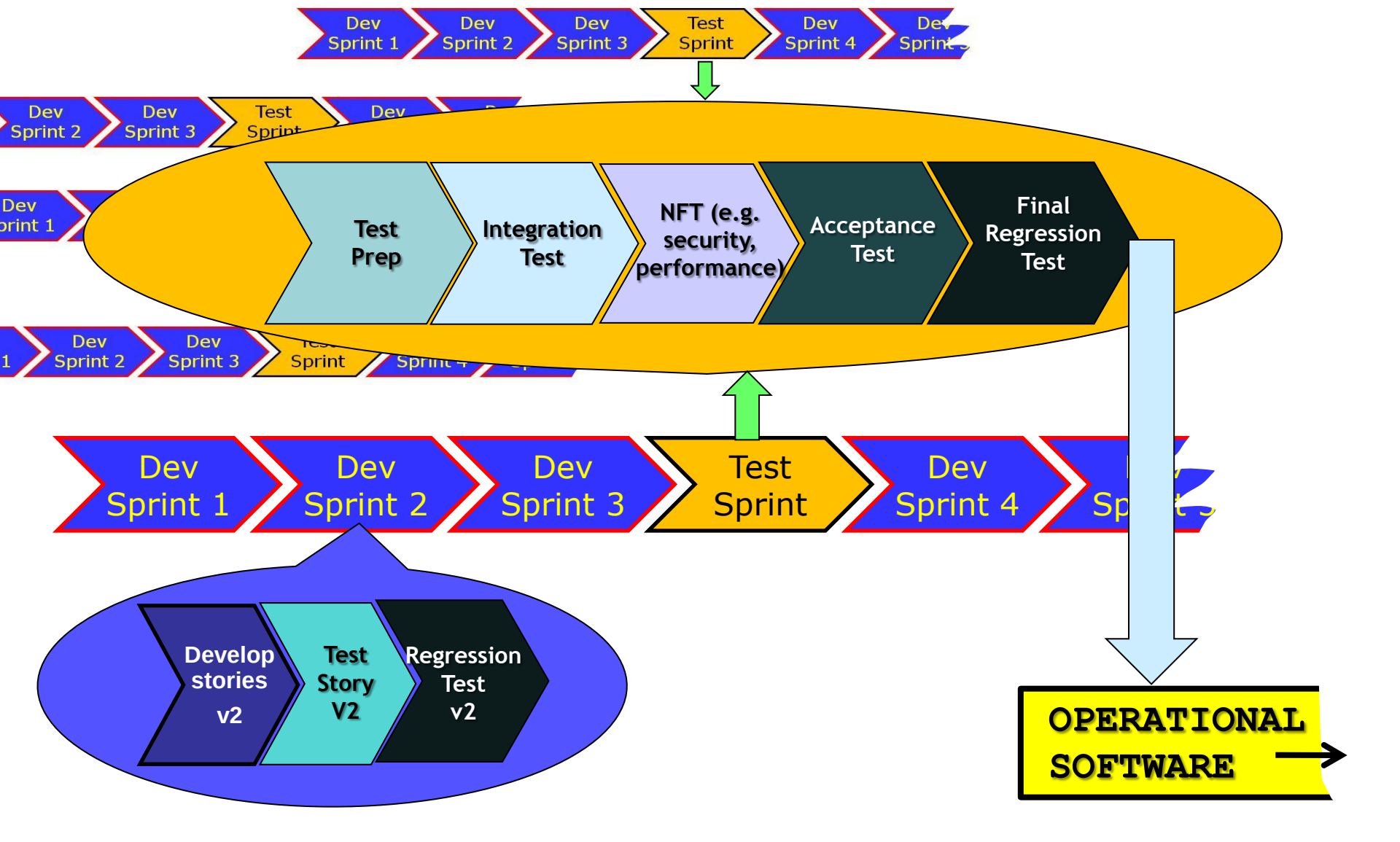
Option 3
Occasional Full Test Sprint



Option 3 – Pros & Cons

- Even less responsive option as some customer requirements will take several sprints
  - but can normally deliver within 2 sprints
- What to do with testers during development and developers during testing?
  - need cross-functional team members
  - more difficult to accommodate specialists
- May be necessary due to environments restrictions
- Copes when it is difficult to organise regular acceptance tests
- Used for integration of multi-sprint projects…

Option 4
Integrating 'Late' Test Sprints



Recommendations

- Moving to agile is generally a positive experience
  - the team enjoy it
  - less projects fail
  - useful functionality is delivered sooner
  - customers are happier
- Integrating the development and testing as closely as possible gives the most benefit
- Most organizations transition to the ideal ‘agile’ approach via one of the less agile options
- Test automation is essential for TDD and regression testing

Thanks for listening

Any Questions?