Lessons Learned
in
Agile Enterprise Deployments

Michael Rudy

Aras Managing Consultant

Agenda

- Aras Consulting delivers a range of services for global enterprise customers

- This presentation will offer **_Lessons Learned_** during:
  - Project Initiation
  - Project Development
  - Migration and Production Deployment
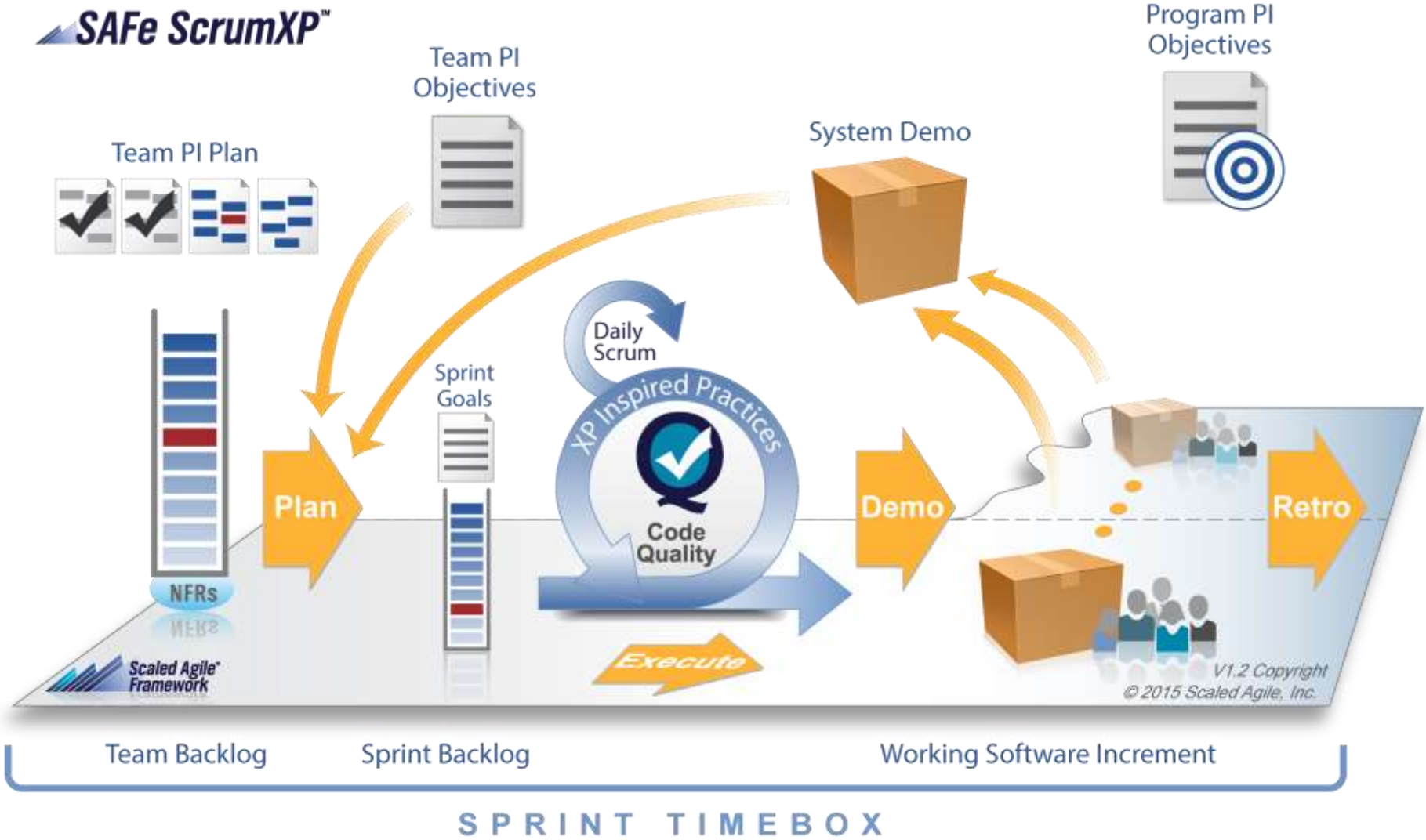
- The focus is on agile implementations

Project Initiation

Typical Aras Innovator Project Types

- **Ad hoc**
  - Small team, agile but little infrastructure needed, good for prototypes
- **Waterfall**
  - Traditional step at a time project management
  - Best for predetermined circumstances, not so good for dynamic ones
- **Agile enterprise**
  - Too big for Ad hoc and too dynamic for Waterfall
  - Agile methodology
  - Agile infrastructure
  - Often multiple, parallel teams
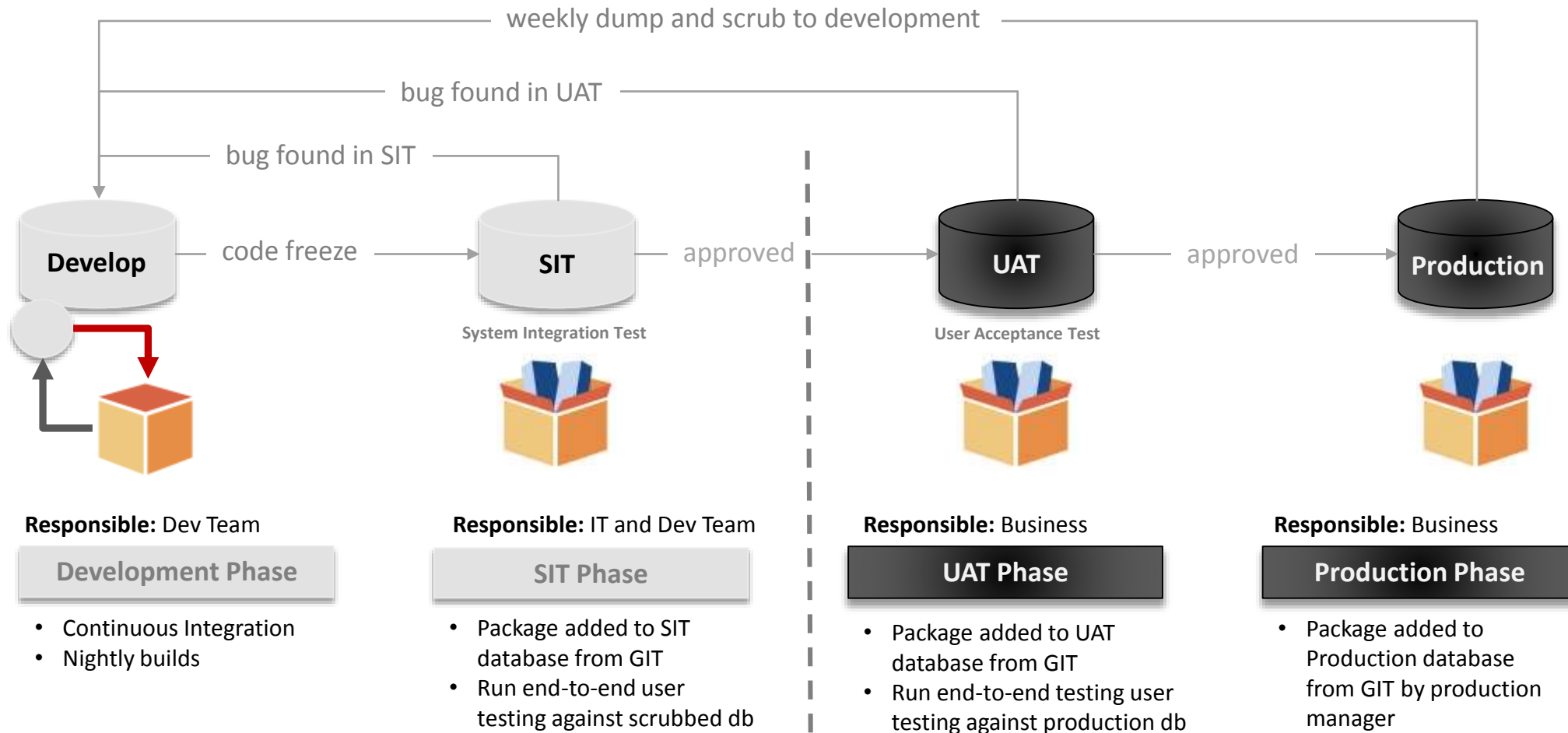
SAFe, The Scaled Agile Framework

SAFe Core Values

- Alignment

- Code Quality
  - Agile Architecture
  - Continuous Integration
  - Test-First
  - Refactoring
  - Pair Work
  - Collective Ownership

- Transparency

- Program Execution

Development Process Overview

weekly dump and scrub to development

bug found in UAT

bug found in SIT

Develop — code freeze → **SIT** — approved → **UAT** — approved → **Production**

System Integration Test

User Acceptance Test

Responsible: Dev Team

Development Phase

- Continuous Integration
- Nightly builds

Responsible: IT and Dev Team

SIT Phase

- Package added to SIT database from GIT
- Run end-to-end user testing against scrubbed db

Responsible: Business

UAT Phase

- Package added to UAT database from GIT
- Run end-to-end testing user testing against production db

Responsible: Business

Production Phase

- Package added to Production database from GIT by production manager

Note: Don't try to build this out during a sprint unless this is the sprint

Important Tools/Procedures

- **Git for Source Control**
  - Transparency
  - Accountability
- **CruiseControl.net**
  - Continuous Integration
    - Builds
    - Unit Tests
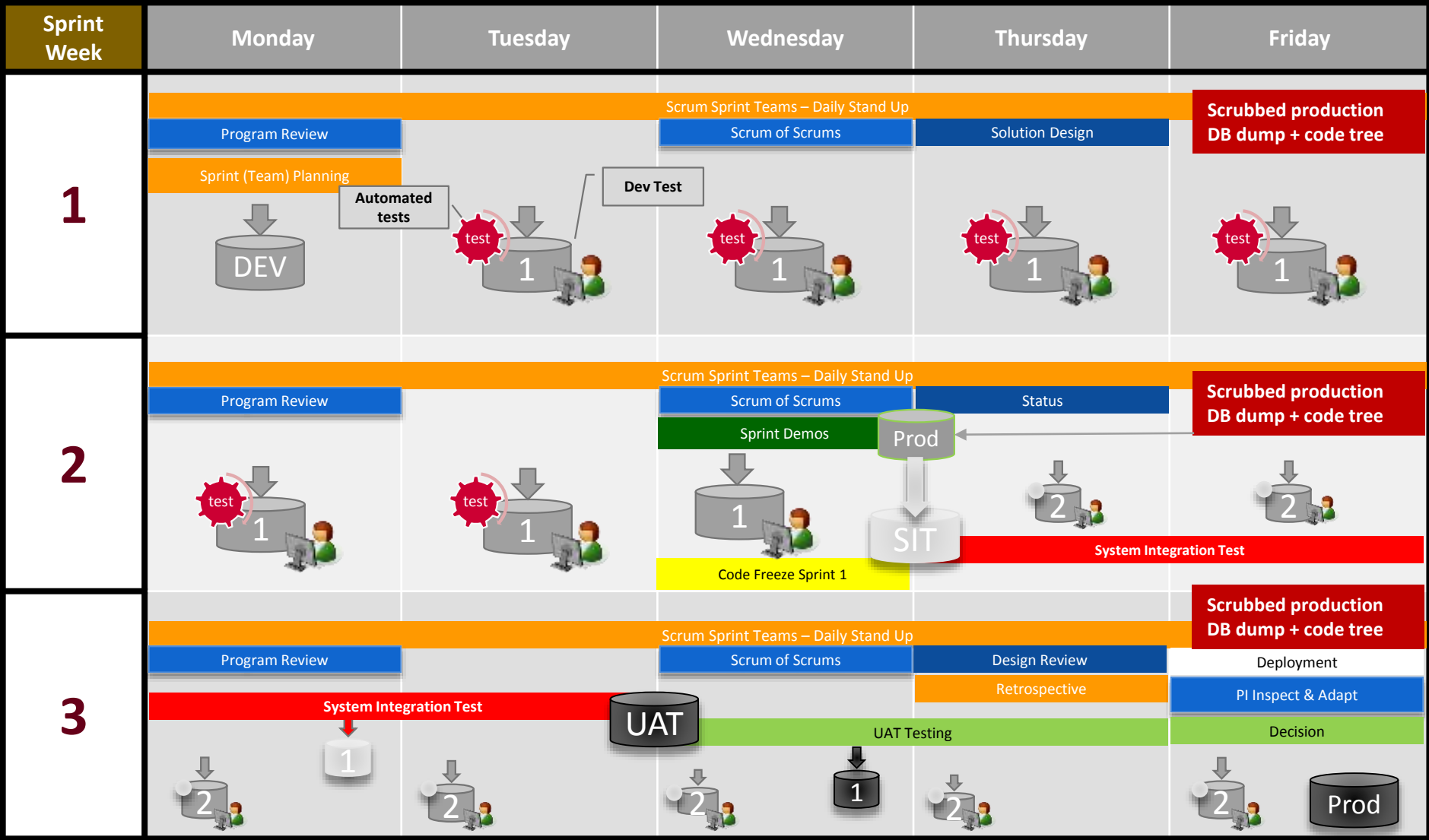- **Integrated Regression Testing**

If you do not have all of your environments synched for tool versions, you may get inconsistent test results and false negatives
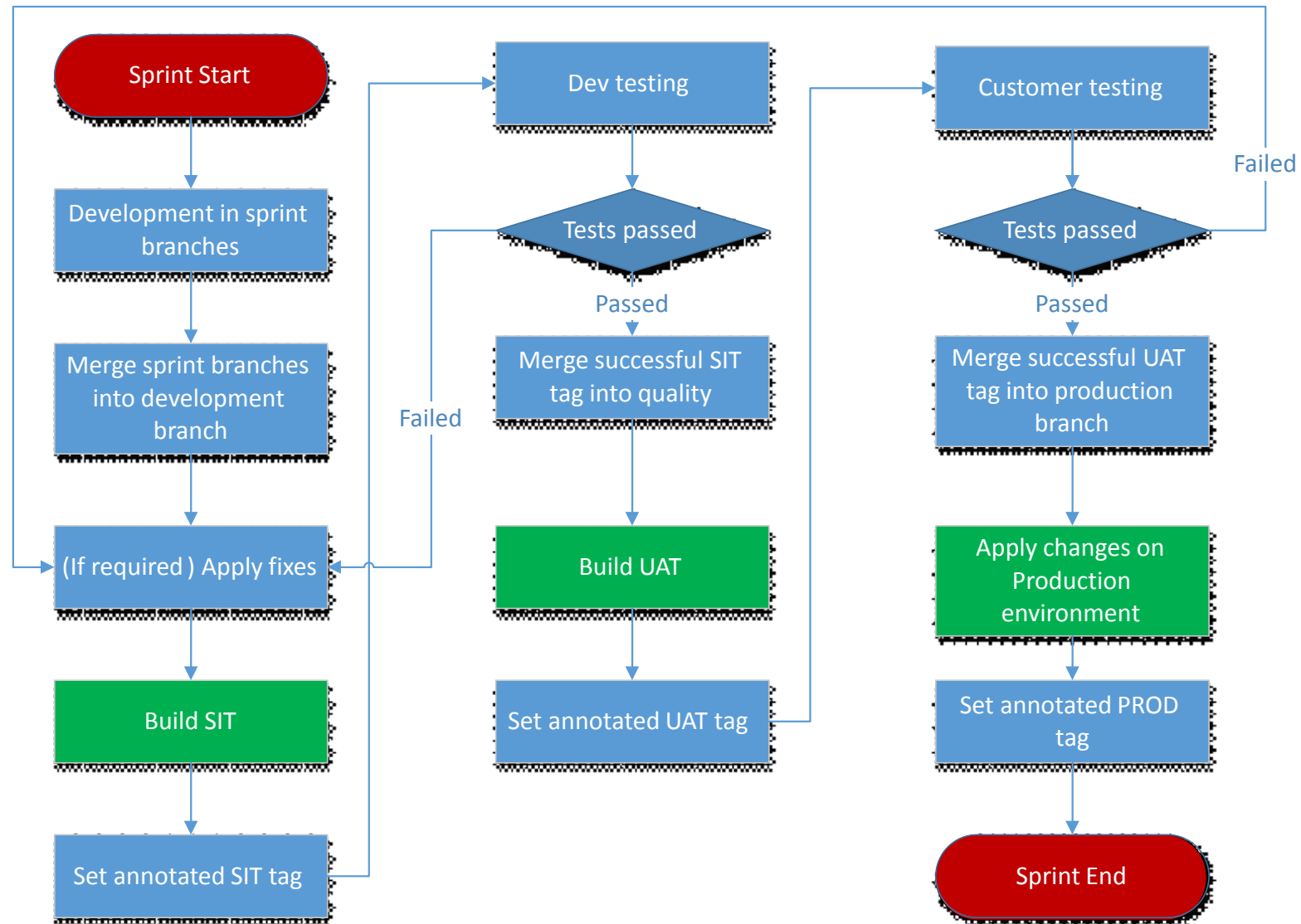
Pictures are Good

- Pictures of concepts, data models, workflows, system architecture, systems interaction…….

- Pictures help people internalize complex ideas

- At the launch of a large project, clear pictures of where you are going make it more likely that you will get there

Sprint Calendar Example

Sprint Week	Monday	Tuesday	Wednesday	Thursday	Friday
1					
2					
3					

Week 1:
- Scrum Sprint Teams – Daily Stand Up
- Program Review (Mon)
- Scrum of Scrums (Wed)
- Solution Design (Thu)
- Scrubbed production DB dump + code tree (Fri)
- Sprint (Team) Planning
- Automated tests
- Dev Test
- DEV, test 1 (Tue–Fri)

Week 2:
- Scrum Sprint Teams – Daily Stand Up
- Program Review (Mon)
- Scrum of Scrums (Wed)
- Status (Thu)
- Scrubbed production DB dump + code tree (Fri)
- Sprint Demos
- Prod
- SIT
- System Integration Test
- Code Freeze Sprint 1
- test 1, test 1, 1, 2, 2

Week 3:
- Scrum Sprint Teams – Daily Stand Up
- Program Review (Mon)
- Scrum of Scrums (Wed)
- Design Review (Thu)
- Scrubbed production DB dump + code tree
- Deployment (Fri)
- Retrospective (Thu)
- PI Inspect & Adapt (Fri)
- System Integration Test (Mon)
- UAT
- UAT Testing
- Decision (Fri)
- 2, 2, 2, 1, 2, 2, Prod

Sprint/Git Basics

Project Development

Why are they called Sprints?

- Because you go as fast as you can go, and you are out of breath when you get there

- And then you start another one

This is where your investment in continuous build, continuous integration infrastructure pays back

Scalability with Aras Consulting

- Project integration of Aras Development with Aras Consulting provides:

  - Ability to scale Aras resources in both span and depth

  - Offshore and offshift capability

  - Aras development manager onsite

  - Access to core Innovator technology

- Typical Aras SAFe Roles

Program Manager	Development Engineer
Architect	Quality Engineer
Trainer	Git Master
Consultant/Programmer	Scrum Master

Project and Task Definition

Its Saturday night, you are very tired, there is a conference call….do you know where your bug is?

- It is vitally important that there is a single source of truth for answering the following questions:
  - When is this sprint?
  - What is in this sprint?
  - Where and what is the documentation for the work items?
  - What is the status for these work items

Products like Microsoft Visual Studio are often used for this.   This is also often done in Aras Innovator.

Virtually Good Communication

- Co-locate when possible
  - Large common rooms provide real benefits
  - Put the dev leads, the Git master, and the production master next to each other for the shortest path
- When you can't co-locate, the quality of conferencing software/hardware has a direct impact on the success of the project

Security and access for production systems of global enterprises are often very tightly controlled. This may hamper productivity for Aras resources.

Migration and Production Deployment

Multiple Business Units

Migration of one system into another is one thing. Migration of multiple business units, from multiple systems, into one instance of Aras Innovator is another thing all together

- The source systems may not have common processes and data models
- The move to common processes and data model will require time
- The different business units may be on different production schedules

The different business units may request that they migrate at different times. This oftentimes is not a good idea.

Data Profiling/Mapping/Cleanup

- Data profiling/mapping is tedious, detailed work

- The transformations need to be explicitly defined

- This work has a profound impact on the scope and cost of the project.

- Tendency in users to wait until last opportunity for pre-migration data cleanup. This may impact your migration plans

Do this well and early in the project

More ⭐

- If you want integrated regression tests, have the developer write them

- Don't underestimate the power of automated builds. Make sure you can fix it if it breaks

- Aras Innovator's quick deployment is an advantage for the Agile customer

- Sprint cadence is arbitrary. Production cadence is driven by the needs of the factories. The two don't always align.

- Production schedule trumps sprint schedule every time.

And Most Importantly……..

- With all this excellent technology to support it, in the end, the project is still all about the people
  - The project team members who are working together to implement
  - The end users who count on the solution to get their work done
  - The business owners who fund the project and who invested in this solution to improve their business

  And in the end, when you look back, you will realize that it is the commitment to success from all of these people that made the difference

Summary

- Aras Implementation Methodology can deliver scalable Aras Innovator services for Agile customer deployments

- We can train you and support you while you do the Agile work.

- Or we can build out the project team ourselves to do project initiation, development, and migration through Aras ….. transitioning to you at any time that it makes sense.

- We hope some of the lessons we have learned along the way help make your day better.

Thank You

Michael Rudy
Aras Managing Consultant
m: 425 922-0556
mrudy@aras.com
v-mirudy@microsoft.com

Aras | www.aras.com