

Agile Software Development

StratusLab uses the agile methodology Scrum to manage its development. This allows the project to evolve the StratusLab distribution quickly according to user and system administrator requirements while always maintaining a functioning release.

Sprints last 3 weeks on average, with a public beta release produced every other sprint. Four public releases were made in the first year of the project, culminating in the first production release in June 2011. The latest release is v1.1, finished in mid-September.

Advantages

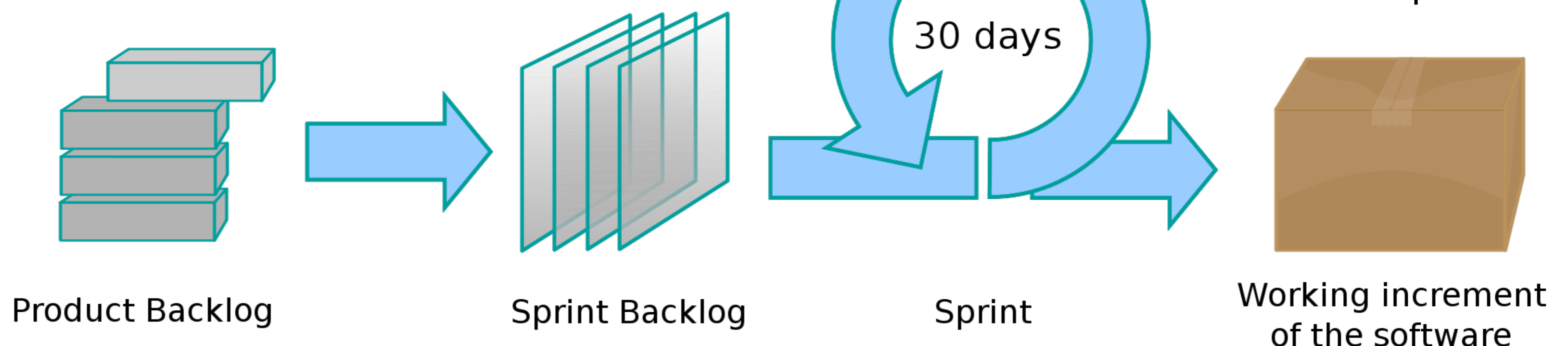
- New features and improvements are released often
- Continuous feedback from users on working software informs design evolution
- Users influence requirements and their priority based on real use of earlier versions
- Users see progress as new iterative releases are made
- No 'big bang' integration required, significantly reducing risks
- End of sprint demo forces developers to integrate and show their work using a functional system
- Project advancement measured based on facts instead of subjective evaluation

Challenges

- Regular release requires higher level of automation: build procedures, test procedures, and production upgrades.
- Functional increments must be broken down into tasks that can be implemented in a single sprint
- Developer's mindset has to adapt to incremental development, rather than relying on heavyweight up-front design

Product Backlog

Scrum requires that the functional requirements be expressed in the form of user stories, with each user story implementable in a single sprint. All of the unimplemented stories form the '**Product Backlog**', the most important



Releases

Kickoff: 1 June 2010
 v0.1: 9 Nov. 2010
 v0.2: 17 Dec. 2010
 v0.3: 15 March 2011
 v0.4: 3 May 2011
 v1.0: 12 June 2011
 v1.1: 16 Sept. 2011

Planning Meetings

Each sprint starts with a planning meeting. During this meeting, user stories from the product backlog are reviewed and selected for the sprint.

The items selected for the sprint become the '**Sprint Backlog**'.

Daily Meetings

In order to ensure a fluid communication during the sprint, we use a 'daily stand-up' meeting. This meeting, which never exceeds 15 minutes, is the place where each team reports on work completed the previous day, what it plans to work on next, and any impediments it has or foresees.

Longer topics that require further discussion are scheduled offline or just after the stand-up.

Demo Meetings

Each sprint concludes with a live demo of each user story implemented during the sprint. This is a powerful way of measuring real progress and ensuring that developments can be released in production.