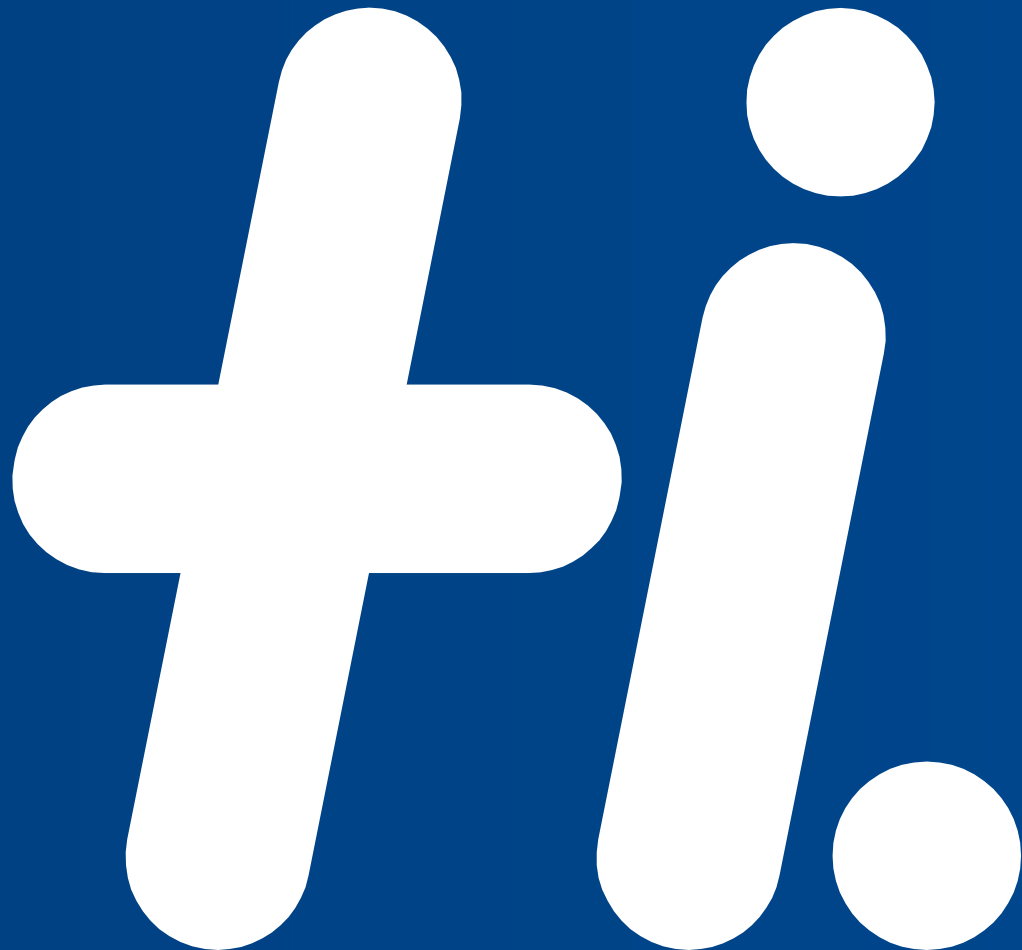
HEXAWARE

Agile - Scrum

Objective

- Knowing Scrum
- Doing Scrum

Knowing Scrum



Origin- The Emergence of Scrum

- Scrum formalized in 1996 by Ken Schwaber
  - “The Origins of Scrum”, OOPSLA 1996

We're Losing the Relay Race

"The… 'relay race' approach to product development…may conflict with the goals of maximum speed and flexibility. Instead a holistic or 'rugby' approach—where a team tries to go the distance as a unit, passing the ball back and forth—may better serve today's competitive requirements."

Hirotaka Takeuchi and Ikujiro Nonaka, "The New New Product Development Game", *Harvard Business Review*, January 1986.

The Goal of Scrum

HEXAWARE

Scrum Characteristics & Values

Characteristics

- Self-organizing teams
- Product progresses in a series of month-long “sprints”
- Requirements are captured as items in a list of “product backlog”
- No specific engineering practices prescribed
- Uses generative rules to create an agile environment for delivering projects

Values:

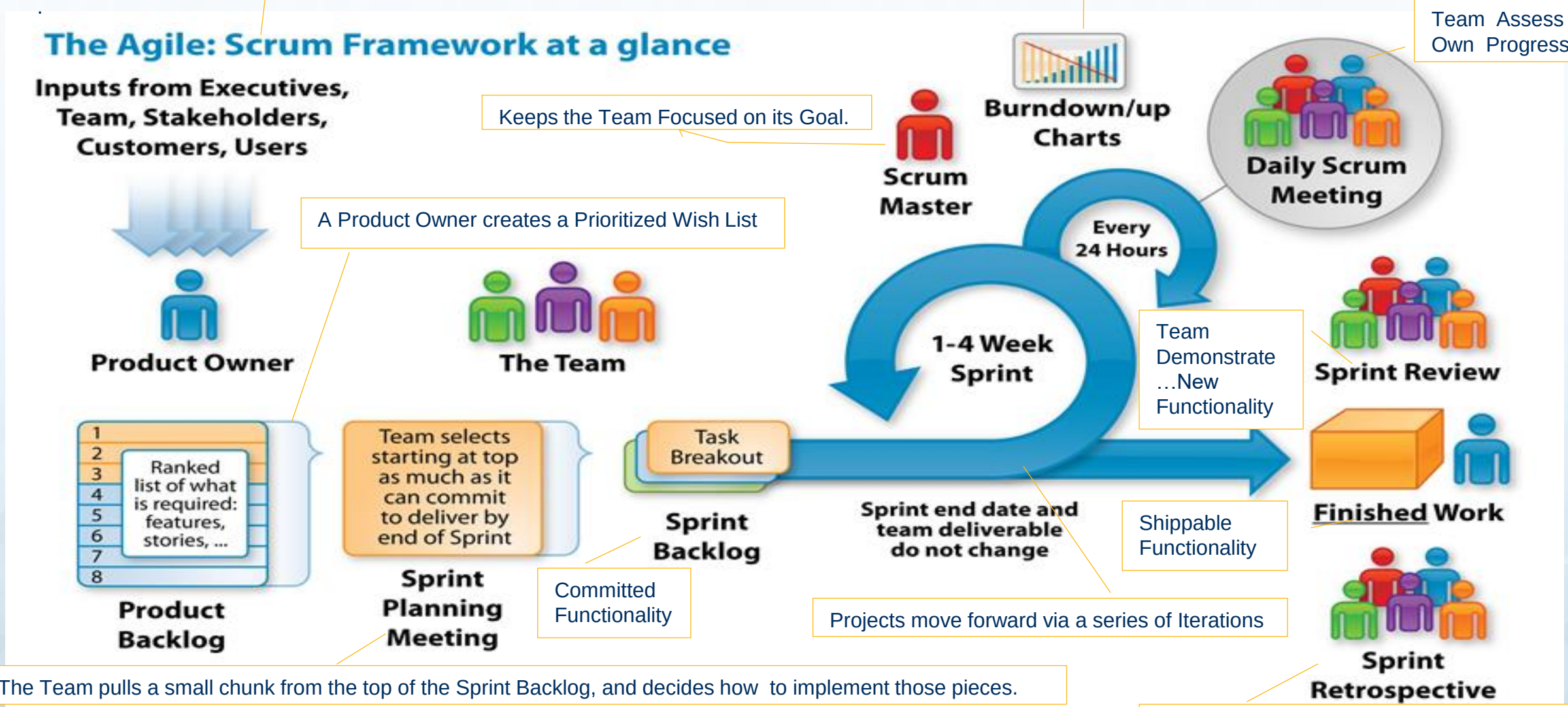
- Openness – sharing ideas
- Focus – Task Oriented
- Commitment – Adhere to task completions
- Courage – Open to discuss the impediments and solutions
- Respect - Opinions
- Visibility – What and how

What is Scrum Development Process?

Iterative and Incremental Software Development

Amount of work remaining in a Sprint

Team Assess Own Progress



The Team pulls a small chunk from the top of the Sprint Backlog, and decides how to implement those pieces.

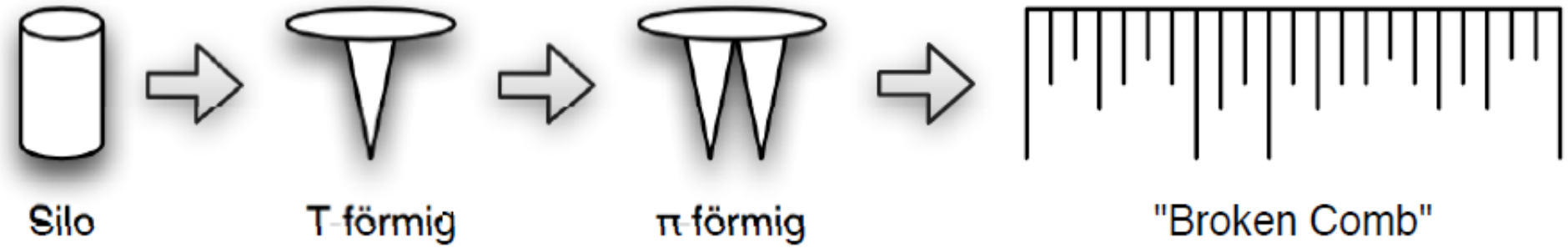
Team reflects to improve in the new Sprint.

Scrum Framework

- **Roles**
  - Product owner
  - Scrum Master
  - Team
- **Ceremonies**
  - Sprint planning
  - Sprint review
  - Sprint retrospective
  - Daily scrum meeting
- **Artifacts**
  - Product backlog
  - Sprint backlog
  - Burn down charts

The Team

Team Member's Knowledge Structure changes over time



Scrum Framework

- **Roles**
  - Product owner
  - Scrum Master
  - Team
- **Ceremonies**
  - Sprint planning
  - Sprint review
  - Sprint retrospective
  - Daily scrum meeting
- **Artifacts**
  - Product backlog
  - Sprint backlog
  - Burn down charts

Sprint

- Scrum projects make progress in a series of “sprints”. An iteration of work during which an increment of product functionality is implemented.
- Product is designed, coded and tested during the sprint
- Typical duration is 2–4 weeks or a calendar month at most
- The sprint starts with sprint planning. Many daily Scrum meetings occur during the sprint (one per day). At the end of the sprint we have a sprint review meeting, followed by a sprint retrospective meeting.
- During the sprint, the team must not be interrupted with additional requests. Guaranteeing the team won't be interrupted allows it to make real commitments it can be expected to keep.

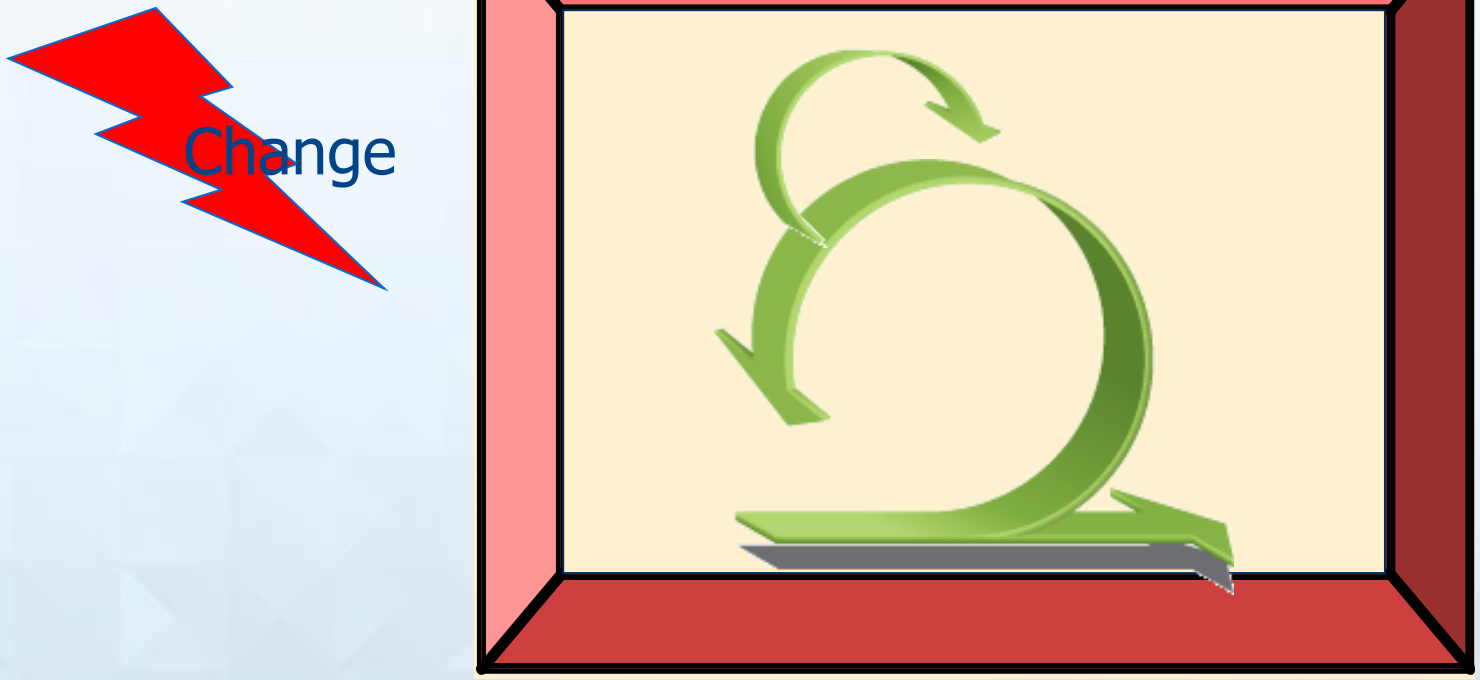
Sprint Planning

- Team selects items from the product backlog they can commit to completing
- Sprint backlog is created
  - Tasks are identified and each is estimated (1-16 hours)
  - Collaboratively, not done alone by the Scrum Master
- High-level design is considered

As a vacation planner, I want to see photos of the hotels.

Code the middle tier (8 hours)
Code the user interface (4)
Write test fixtures (4)
Code the foo class (6)
Update performance tests (4)

No Changes During a Sprint

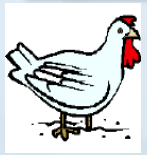


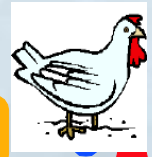
Plan sprint durations around how long you can commit to keeping change out of the sprint

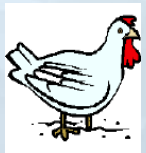
Daily Scrum

- Parameters
  - Daily
  - 15-minutes
  - Stand-up
- Not for problem solving
  - Only team members, Scrum Master, product owner, can talk
- Helps avoid other talks
- Every one Answers 3 questions
- These are *not* status for the Scrum Master
  - They are commitments in front of peers

1. What did I do yesterday?
2. What will I do today?
3. Is anything in my way (Impediments)?







The Sprint Review

- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
  - 2-hour prep time rule
  - No slides
- Whole team participates
- Invite the world

Sprint Retrospective

- Inspect and Adapt
- team assesses the way they worked together in the sprint and identifies positive ways of working together that can be encouraged as future practice.
- the team also identifies the things that could work better and develops strategies for improvement

- Whole team participates
  - Scrum Master
  - Product owner
  - Team
  - Possibly customers and others

Start / Stop / Continue

- Whole team gathers and discusses what they'd like to:

Start doing

Stop doing

Continue doing

This is just one of many ways to do a sprint retrospective.

Sprint Termination

Only in extreme cases

Team terminates: cannot meet sprint goal

Product Owner terminates: priority change

Work reverted to end of prior sprint

Raises visibility of problems

Scrum framework

Roles

- Product owner
- Scrum Master
- Team

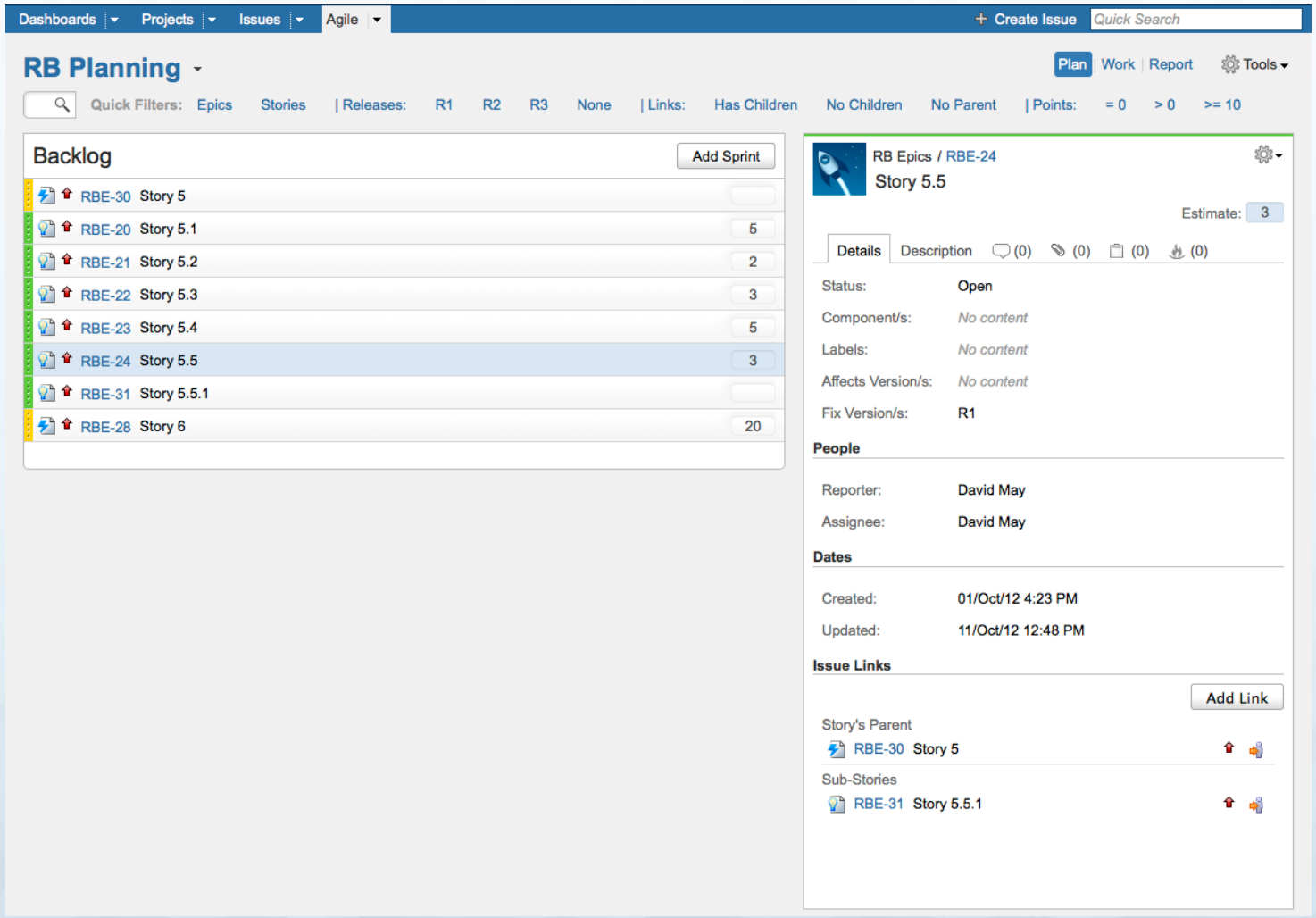
Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

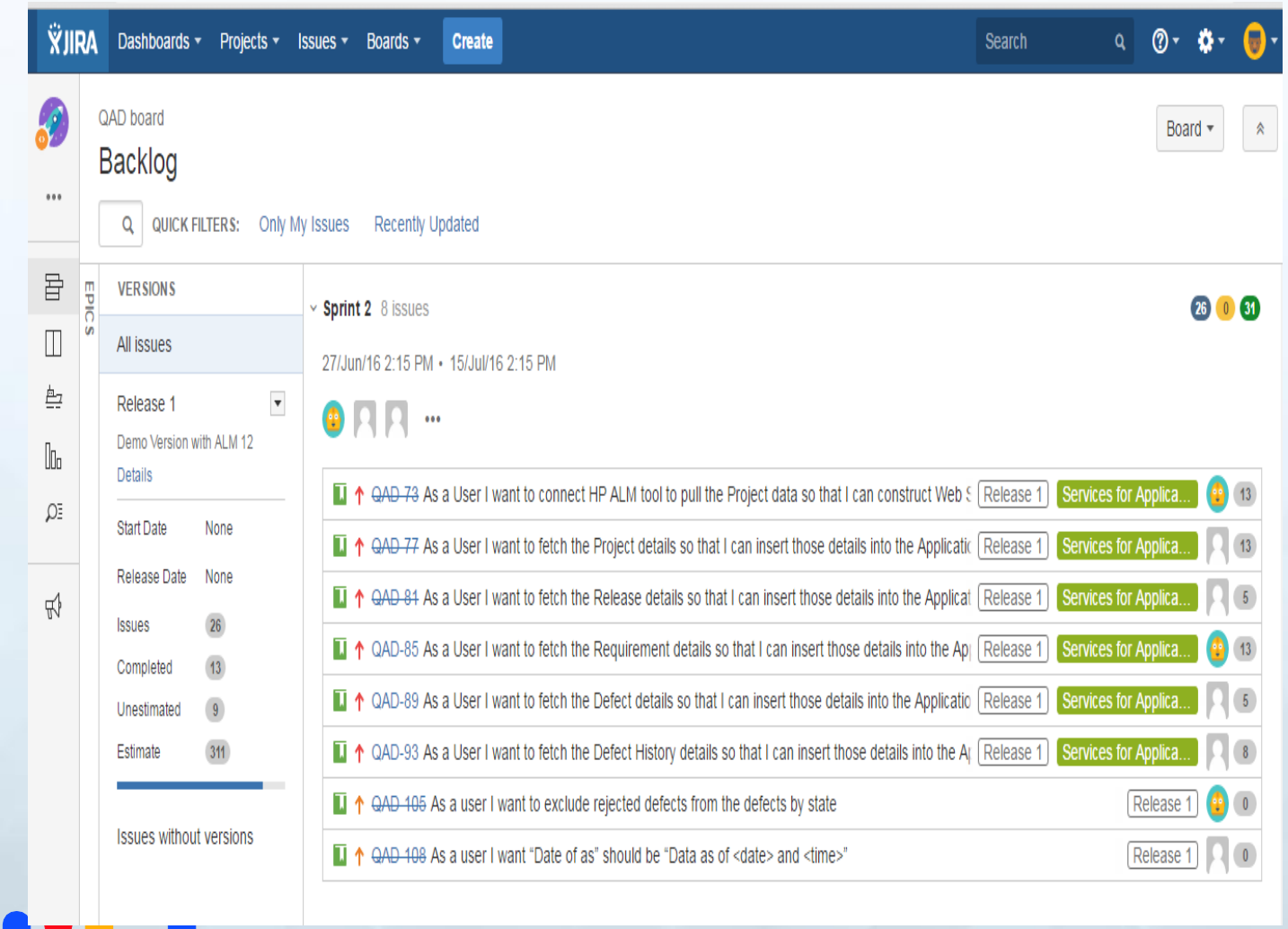
- Product backlog
- Sprint backlog
- Burndown charts

Product Backlog



- Prepared by Product Owner
- List of customer requirements prioritized by business value
- The Scrum Team contributes to the product backlog by estimating the cost of developing features.
- Should include all features visible to the customer, as well as the technical requirements needed to build the product
- The highest priority items in the Product Backlog need to be broken down into small enough chunks to be estimable and testable
- About ten developer-days of work is a good size for a Product Backlog item that can be ready for implementation in the next iteration

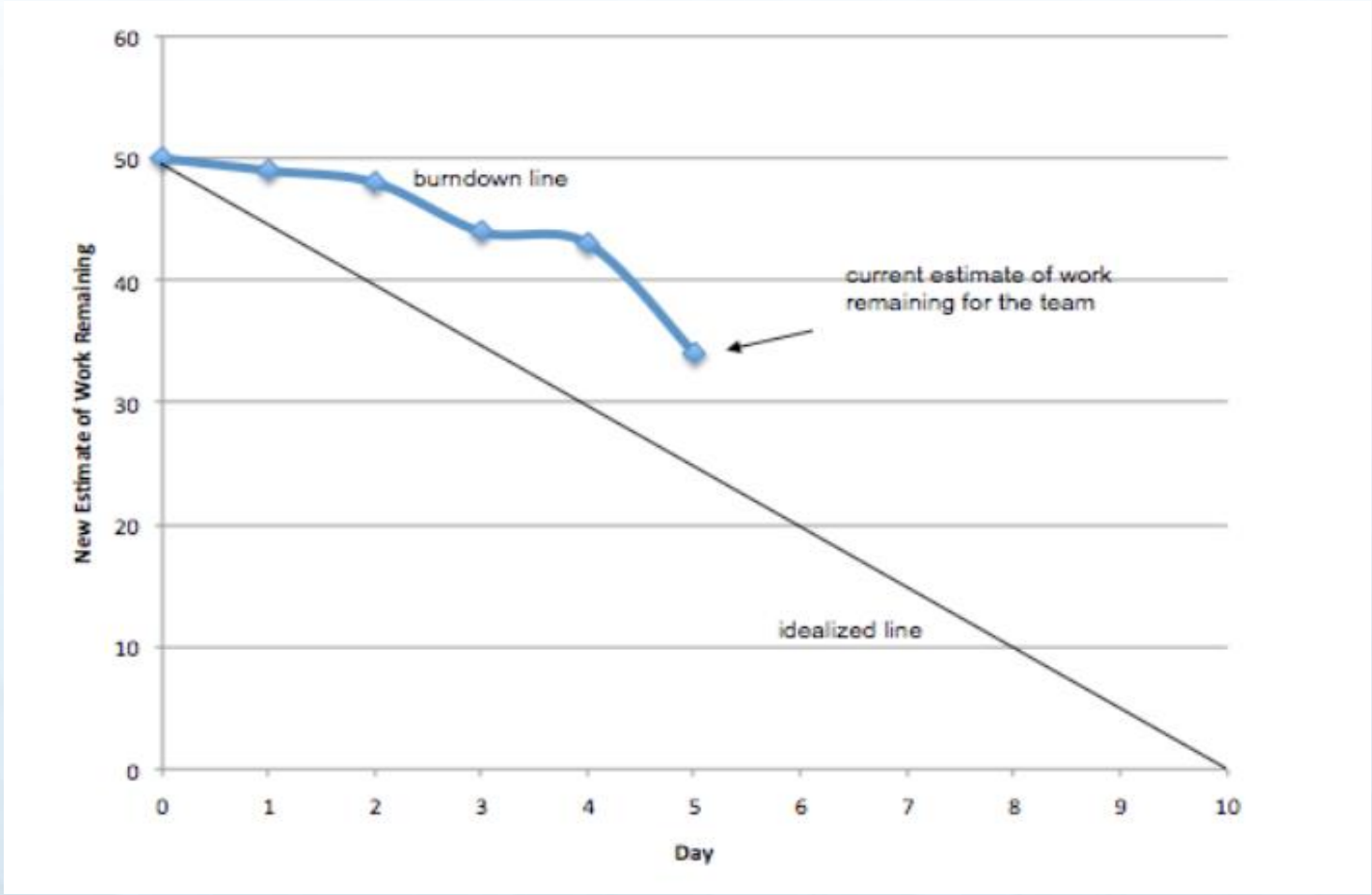
Sprint Backlog



- an artifact of the Sprint Planning Meeting
- Scrum Team has selected and committed to deliver a set of top priority features from the Product Backlog, the Product Backlog's features are broken down into a Sprint Backlog
- a list of the specific development tasks required to implement a feature
- These tasks are broken down into pieces that will require less than two days (or sixteen developer-hours) of work. When the Sprint Backlog is complete, the total work estimated is compared with original estimates from the Product Backlog. If there is a significant difference, the team negotiates with the Product Owner to get the right amount of work to take into the Sprint with a high probability of success.

Burndown Chart

- shows the cumulative work remaining in a Sprint, day-by-day
- used as a tool to guide the development team to successful completion of a Sprint on time with working code that is potentially shippable as a product



Doing Scrum

Shanghai Tower, Shanghai

3

Wills Tower, Chicago

Jin Mao Tower

Planning Poker for Estimation

- First, create a common understanding of User Story (no technical details)
- Choose a reference
- Estimate size in relation to reference - but don't tell anyone yet
- Show your cards at the same time
- Discuss differences
- Repeat estimation until consensus
- Estimated User Story becomes new reference

How Do We Know If We Can Commit

For each story in an iteration the team will:

- Ask any clarifying questions

- Break the work to complete the story into tasks using a very simple scale
  - 0.5,1,1.5 or 2 days are the allowable task durations

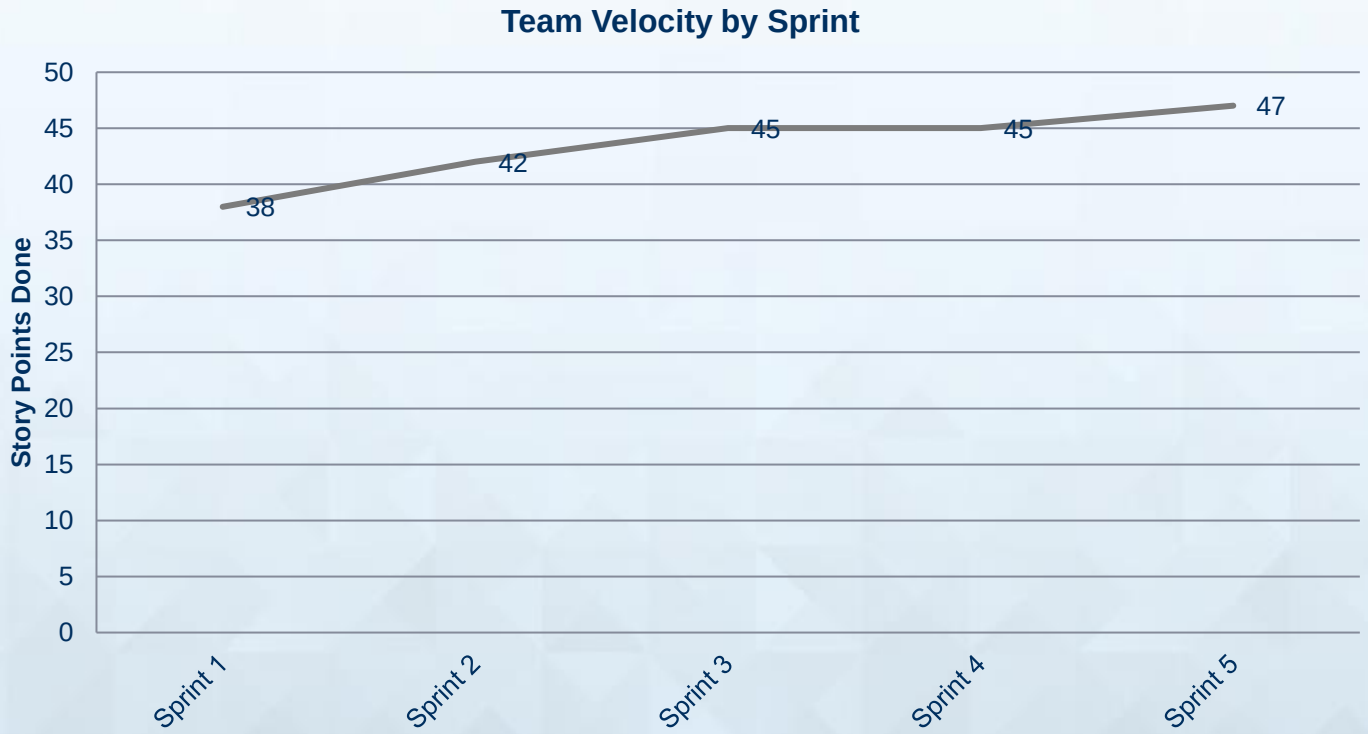
- The task list must be everything required to make the story be **“Done”**

- For each story a number representing task days per size point is calculated
  Eg. If a story is a size 3 and the task estimates add to 4 days, the number calculated would be 4/3 or 1.33

- After all stories have the number calculated, any story with a number that is not near the average is re-examined
  - Does the story need to be re-sized?(do it)
  - Did we forget some tasks?(add them)
  - Is it just rounding error and it is ok?

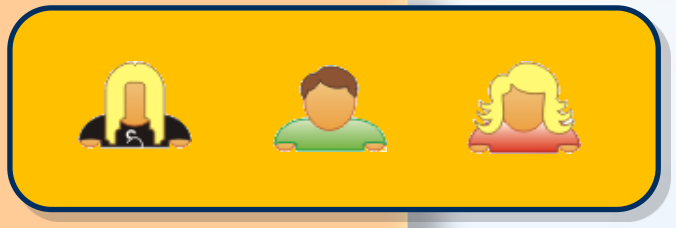
How does Velocity Help us?

Velocity is the amount of work a team can accomplish in a given time period



Scalability & Scrum of Scrums

- Typical individual team is 7 ± 2 people
  - Scalability comes from teams of teams
- Factors in scaling
  - Type of application
  - Team size
  - Team dispersion
  - Project duration
- Scrum has been used on multiple 500+ person projects also



HEXAWARE

Innovative Services

Passionate Employees

Delighted Customers

Thank you

www.hexaware.com