

Scrum Team Structures

CEN 4010 Intro to Software Engineering
(Chapter 12)

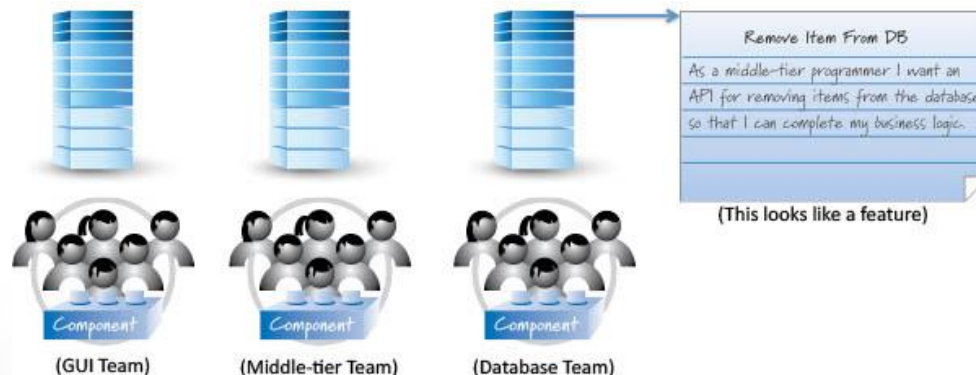
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Scrum Teams and Their Function

- Depending on how the organization works, scrum teams can be organized to focus on delivering a customer feature through all the different layers or each scrum team can focus on a specific component of the feature.
- Sometimes this decision is driven by the skill set on the teams.
- Sometimes this decision is driven by the size of the company and how well organized it is.
- Scrum however favors Feature Teams, because we want to make sure that we deliver value to the customer, and the best way to ensure that is to focus on the feature from beginning to end.

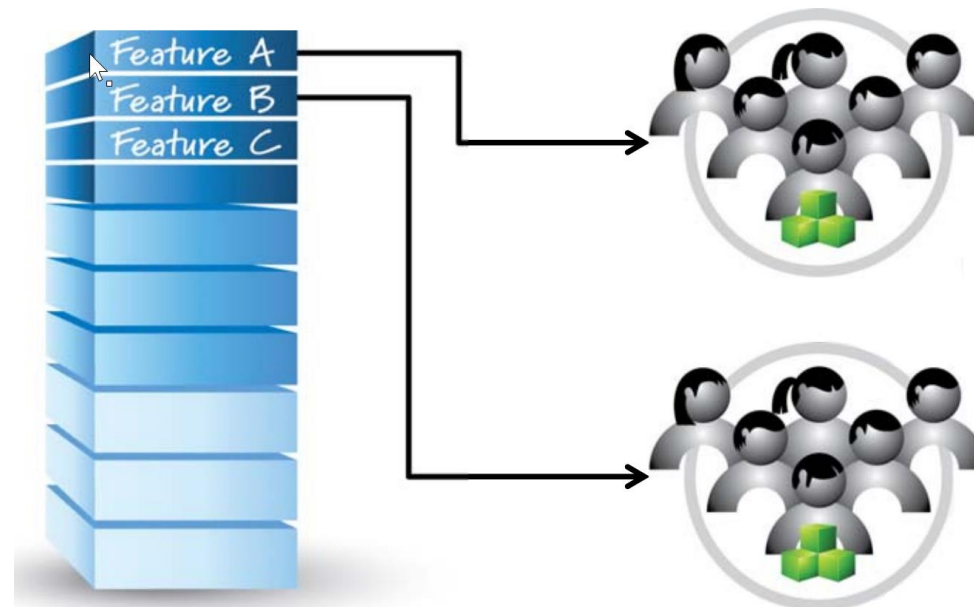
Feature Teams VS Component Teams

- Feature Team: cross-functional/cross-component team that can pull customer features from the product backlog.
- Component Team: Focuses on the development of a component or subsystem that can be used to create only part of an end-customer feature.
- Example:
 - A Feature Team would work on creating the complete checkout feature.
 - A Component Team would be the UX team, who works on designing the UX for multiple modules but does not create any business/backend logic.



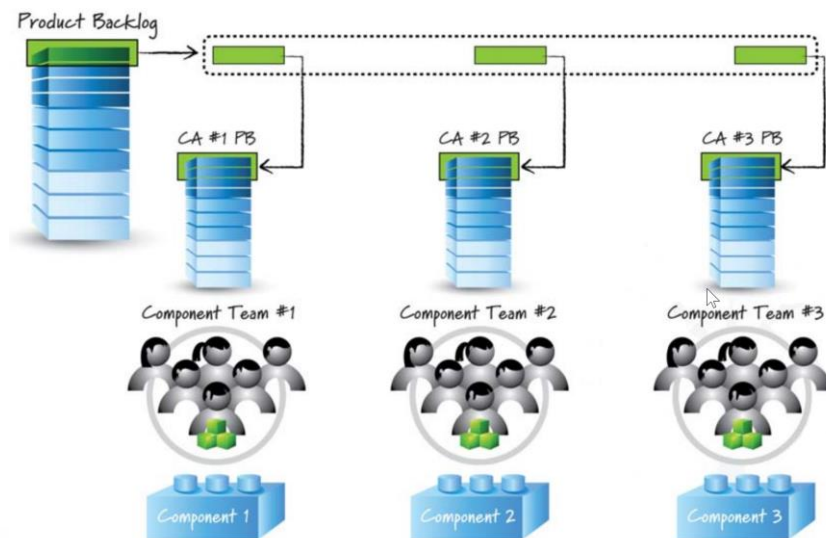
Feature Teams

- Work of items in the Product Backlog.
- Focus on deliver a functional fully tested product increment.
- Usually requires the Team to be T-shaped (Broad skillset but specialist in an area)



Component Teams

- Component have individual pieces of the backlog placed on the backlog of each component team.
- Imagine the Feature is broken into different component areas (CA)
- Each team has to work on it, however the feature is not completed until all teams complete their areas.

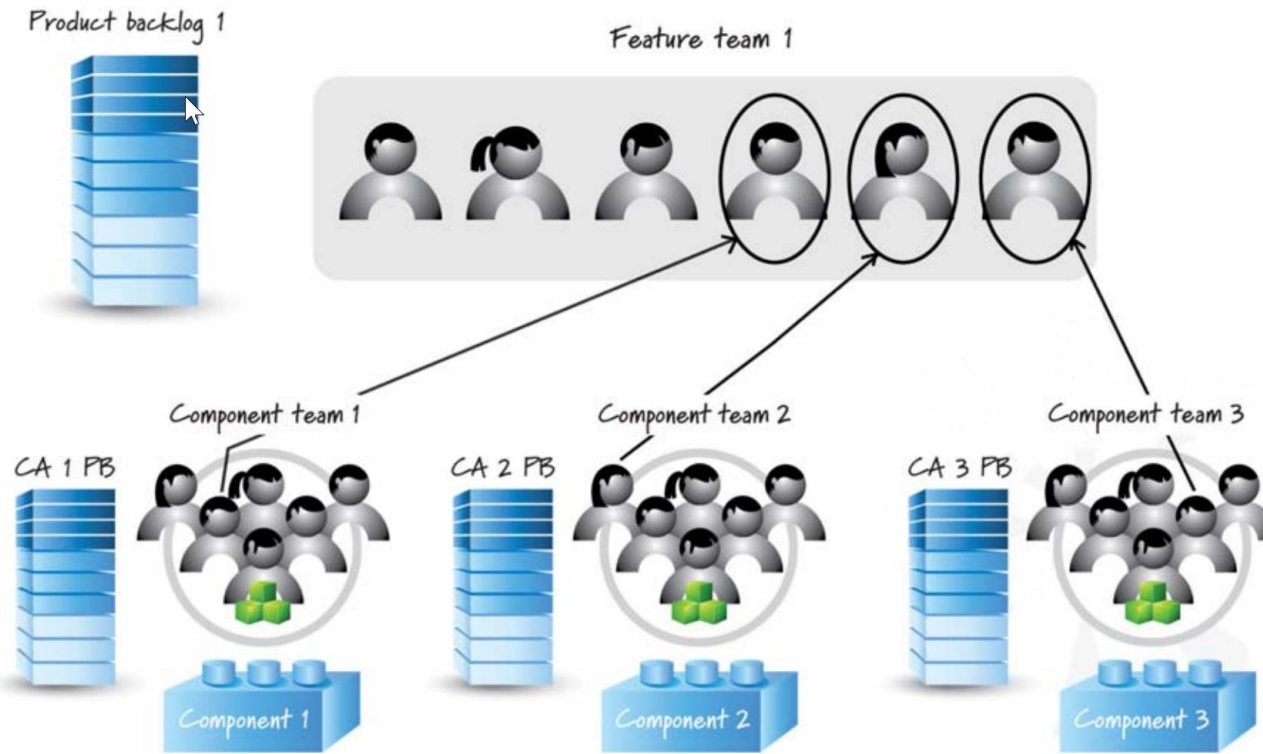


Potential Issues with Component Teams

- Organization can struggle with delivering features through component teams.
- Multiple products ultimately compete with one another as they justify which feature the component teams should be working on.
- One way to address is to create a feature team who is composed of members that work in component teams.
- This person has the role of a pollinator and a harvester.
- As a pollinator, the component team members pollinate feature teams with knowledge of component areas.
- As a harvester, the component team members collect changes that the feature teams need to make within component areas and discuss with component area team members.

Hybrid Solution: Component members in a feature

- A member of a component team is assigned to be a member of a feature team.



Multiple Team Coordination: Scrum of Scrums (SoS)

- The Scrum of Scrums is a team that meets to coordinate inter-team work.
- The SoS is held a couple of times a week or as needed.
- The SoS attempts to answer the following questions:
 - What has my team done since we last meet that could affect other teams?
 - What will my team do before we meet again that could affect other teams?
 - What problems is my team having that it could use help from other teams to resolve?
- Typically it should be 15 to 30 minutes, with any detailed conversations taking place outside the SoS.

Scrum of Scrums (SoS) Meeting

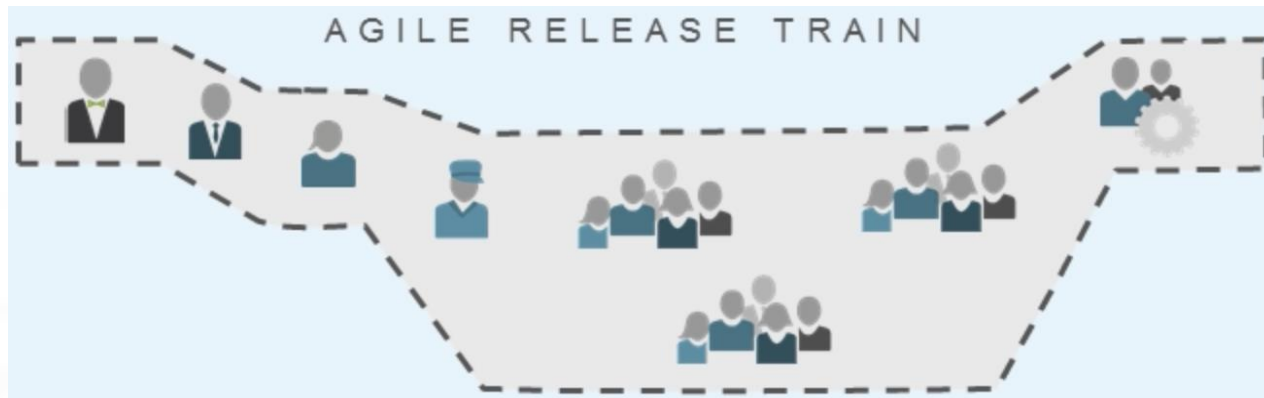
- Depending on the organization, the SoS might also be a good time to discuss important product development metrics, such as:
 - What is the status of the releases?
 - What is the status of the environments?
 - What support escalations require product development's attention?
 - How well are the teams performing?

How to do you manage multiple teams?

- Having multiple Scrum teams (weather Feature or Component) can be challenging to manage. Some of the problems that could arise:
 - How can the teams deliver functionality in a given cadence (rhythm)?
 - How can the teams make sure that teams are coordinating any dependencies with each other?
 - How can leadership be sure that the teams deliver the functionality that bring the most value to customers?
 - How can one team properly communicate any risks or impediments?
- One solution is to create a structure that can handle a “team of teams”. This is know as a Release Train.

Multiple Team Coordination: Release Train

- A Release Train (or Agile Release Train) is an approach to aligning the vision, planning and interdependencies of many teams by providing cross-team synchronization based on a common cadence.

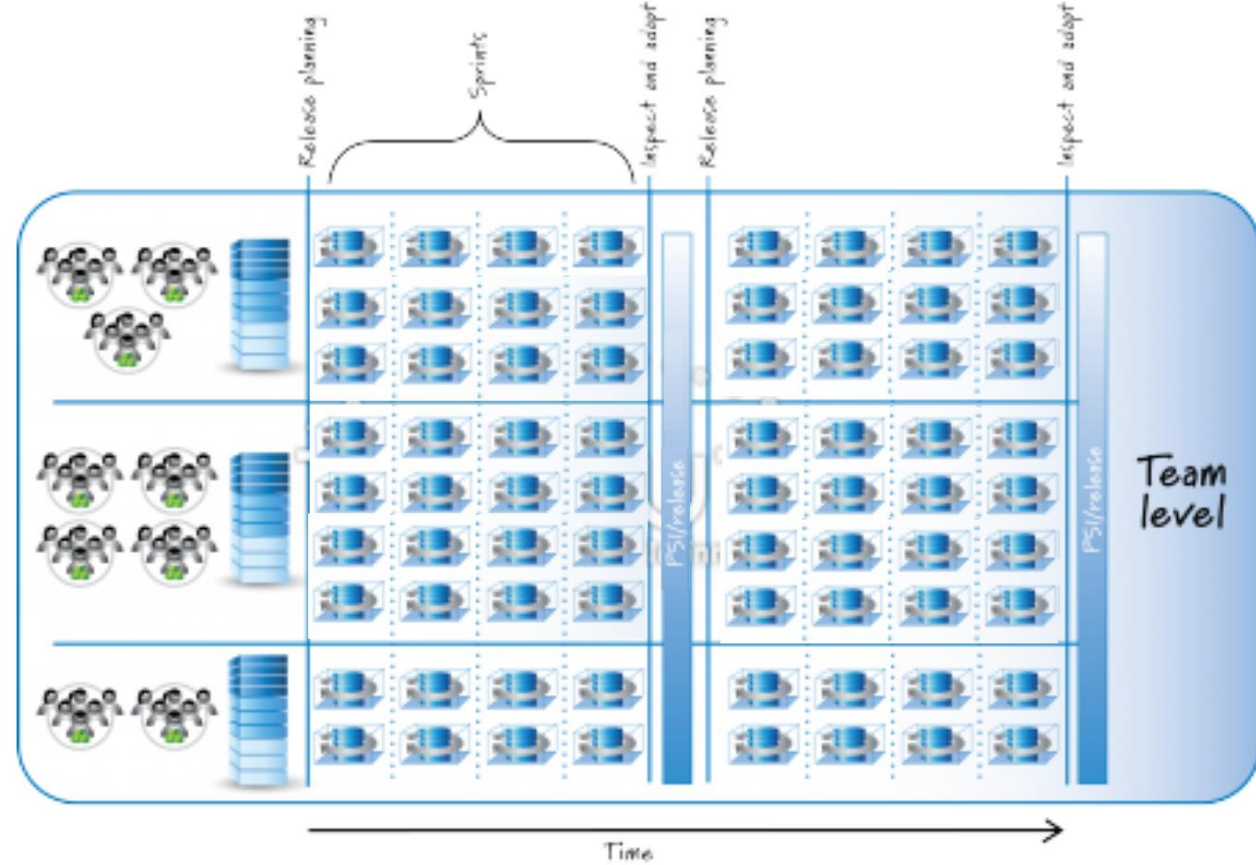


Multiple Team Coordination: Release Train

- All teams participating in the development of product follow the same “schedule” meaning the teams work in with the same sprint schedules.
- Rules for the release train (Leffingwell 2011)
 - Frequent periodic planning and release dates for the solution are fixed.
 - Team apply common iteration(Scrum sprints) lengths
 - Intermediate, objective milestones are established
 - System-level hardening iterations may be used to reduce technical debt and to provide time for specialty release-level validation and testing.
 - Some teams reserve the last sprint before the train departs (or releases) for hardening what has been developed in the previous sprints.

Multiple Team Coordination: Release Train

- The purpose of a release train is to enable synchronization among the enterprise.
- After a fixed number of Sprints, it is expected that a potentially shippable increment is ready for release.
- The train starts out by getting all the teams together for a planning session, where the teams discuss what features they will work on and how many sprints it will take to get the work done.



Scaled Agile Framework: The Agile Release Train (ART)

- One of the software development frameworks that uses the release train is the Scaled Agile Framework (SAFe).
- SAFe's definition of an Agile Release Train:
 - The Agile Release Train (ART) is the primary construct of value delivery in SAFe. Each ART is a long-lived, self-organizing team of Agile Teams, a virtual organization (50-125 people) that plans, commits, and executes together. ARTs are organized around the enterprise's significant Value Streams, and exist solely to realize the promise of that value by building Solutions that deliver benefit to the end user.

Read more at: <http://www.scaledagileframework.com/agile-release-train/>



- In the Scaled Agile Framework (SAFe), the planning process for Release Trains is known as the Program Increment planning session.

Scaled Agile Framework: The PI Planning Session

- Planning Program Increment (PI) planning is a cadence-based, face-to-face event that serves as the heartbeat of the Agile Release Train (ART), aligning all the teams on the ART to a common mission and vision.

Read more at: <http://www.scaledagileframework.com/pi-planning/>



Summary

- Scrum teams can be feature teams or components teams.
- Scrum favors feature teams because they are more focused on delivering a complete feature.
- A combination of multiple feature and component teams can work in synchronization but be a challenge to manage.
- We can manage a large team of teams through either scrum of scrums or release trains.