

Organizing Agile Teams and ARTs

Team Topologies at Scale



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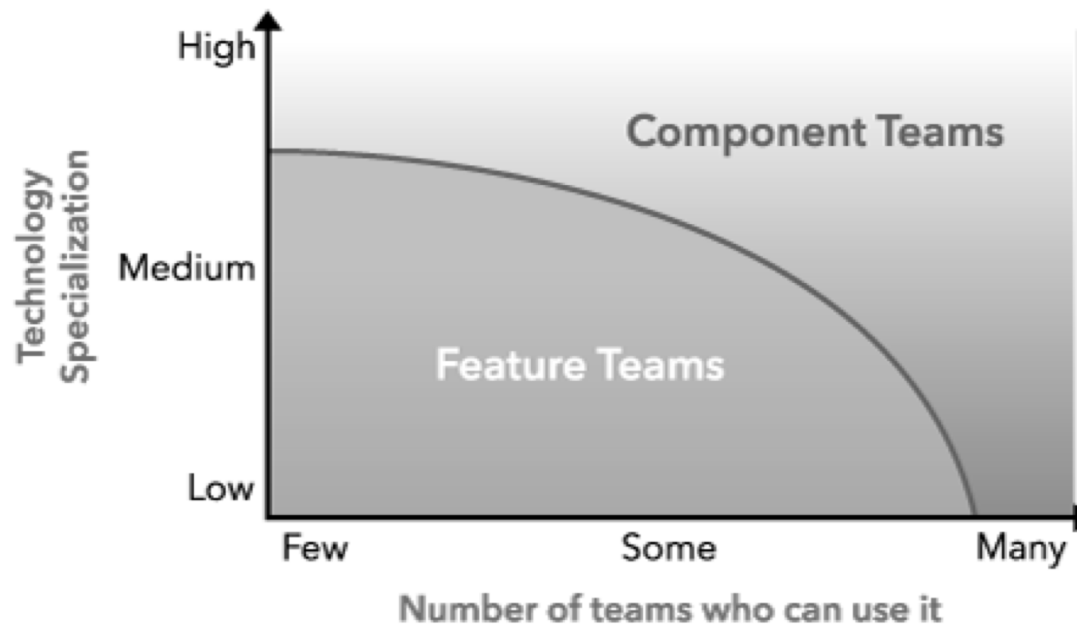
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Organize around value?

Feature teams vs Component teams



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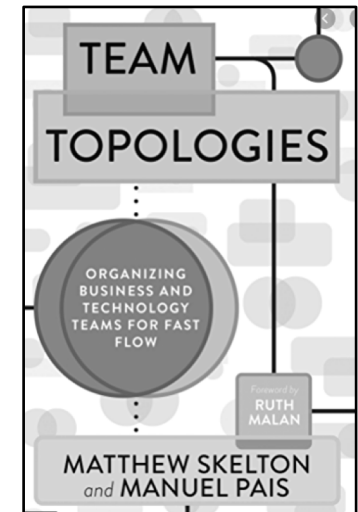


Is it really this simple in real life?

Reduce the teams' cognitive load to accelerate flow

“Managing cognitive load through teams with clear responsibilities and boundaries is a distinguishing focus of team design in the Team Topologies approach” -- Ruth Malan, Forward in Team Topologies

1. Clearly defined team types (topologies) with clear responsibilities and behaviours.
2. Simple patterns of interaction between the teams.
3. Patterns for breaking down complex systems into more manageable parts.



Team topologies in SAFe

Teams on the ART are organized for flow



Stream-aligned teams are aligned to a single, valuable stream of work, empowered to build and deliver customer or user value as quickly, safely, and independently as possible, without requiring hand-offs to other teams to perform parts of the work.



Complicated-subsystem teams are responsible for building and maintaining a part of the system that depends heavily on specialist knowledge, thereby reducing the cognitive load on other teams.



Platform teams provide the underlying internal services required by stream-aligned teams to deliver higher-level services or functionalities, thus reducing their cognitive load.



Enabling team – organized to assist other teams with specialized capabilities and help them become proficient in new technologies.

More information in the Advanced Topic Article, [Organizing Agile Teams and ARTs: Team Topologies at Scale](#)

Organizing in the four topologies

▶ **Stream-aligned Teams (best)**

- By product, Solution, or service
- By Customer or market segment
- By Solution feature areas
- By steps in the Customer journey
- By value streamlets
- New product innovation

▶ **Platform Teams**

- Sets of services consumed by other Teams

▶ **Complicated Subsystem Teams**

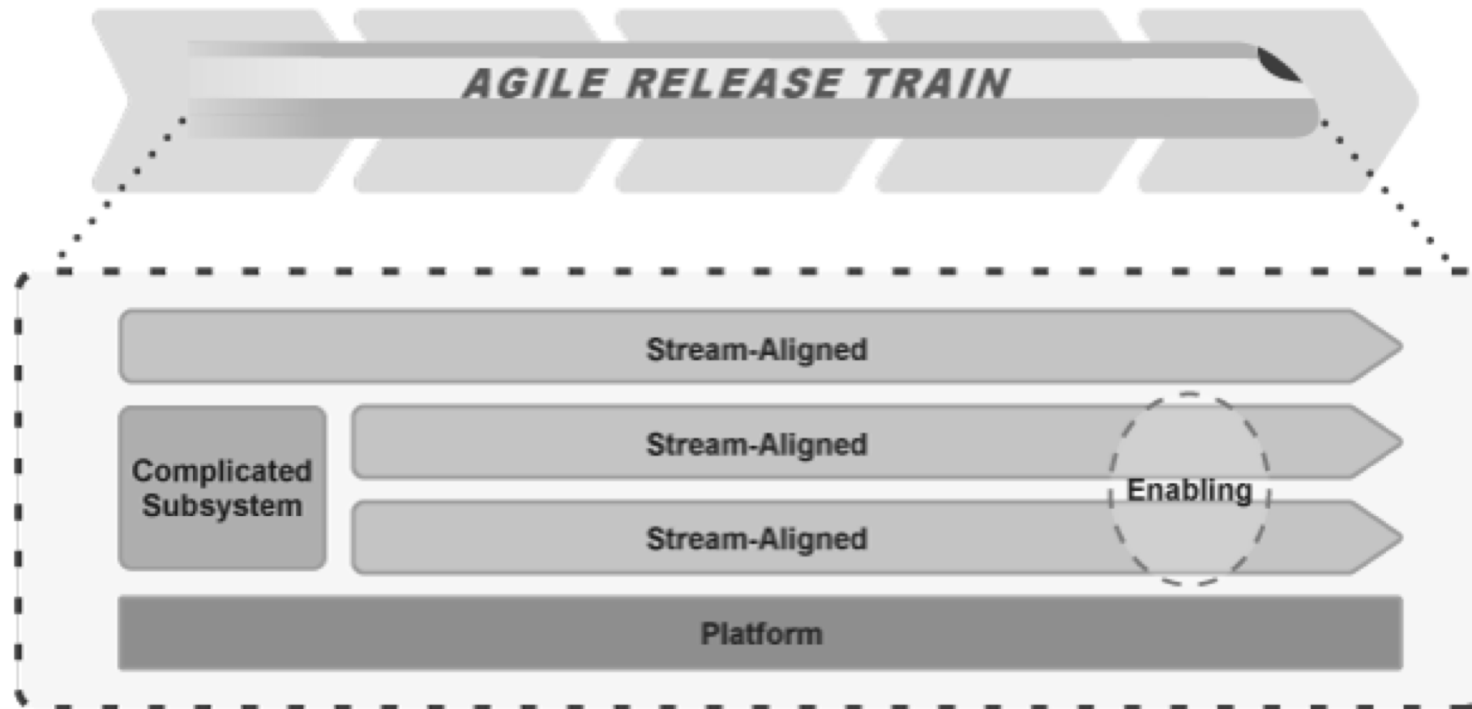
- Highly specialised system components
- Safety critical systems elements
- Specialty algorithm or business rules
- Part of a cyber-physical system

▶ **Enabling Teams**

- DevOps implementation
- Automated testing
- Continuous integration and build tooling
- Engineering quality practices
- Security Environments and configuration

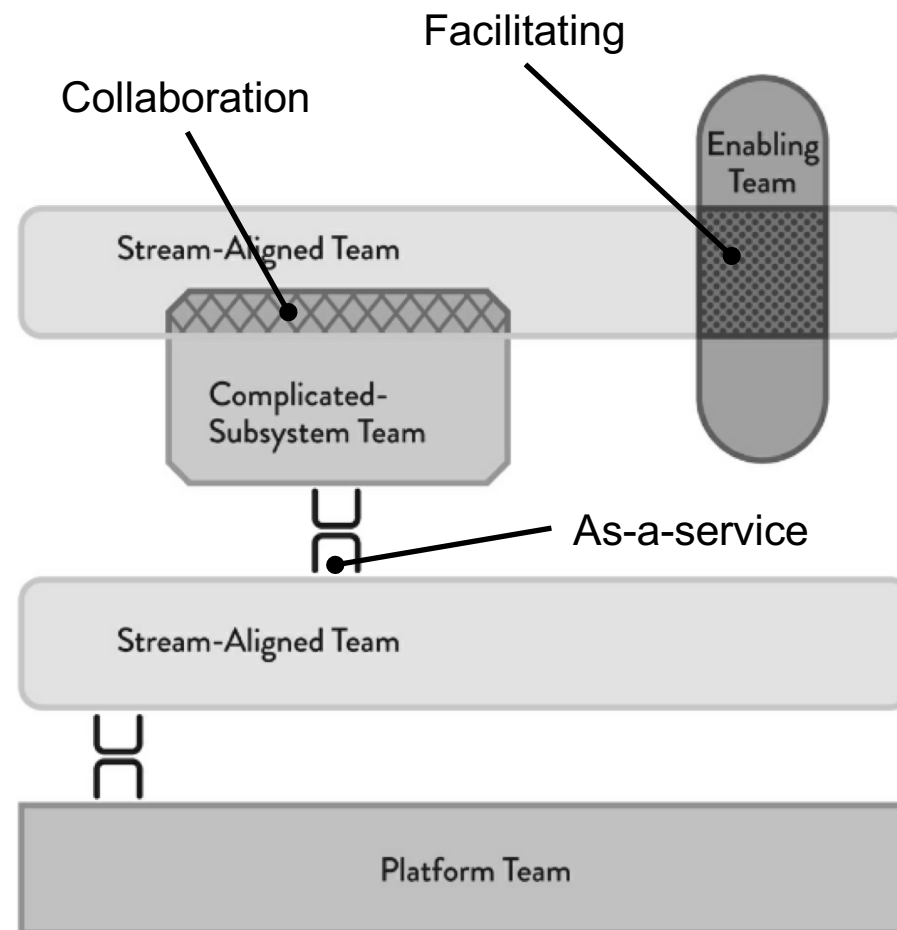
ARTs are organized to deliver value continuously

Consider the necessary interactions between the teams and organize to maximize flow.



Three interaction modes between the topologies

- ▶ Collaboration: teams work directly together for a defined time period on technology, business domain, dev practices, or other
- ▶ As-a-Service: one team provides a service consumed by one or more other teams
- ▶ Facilitation: one team helps and mentors another team



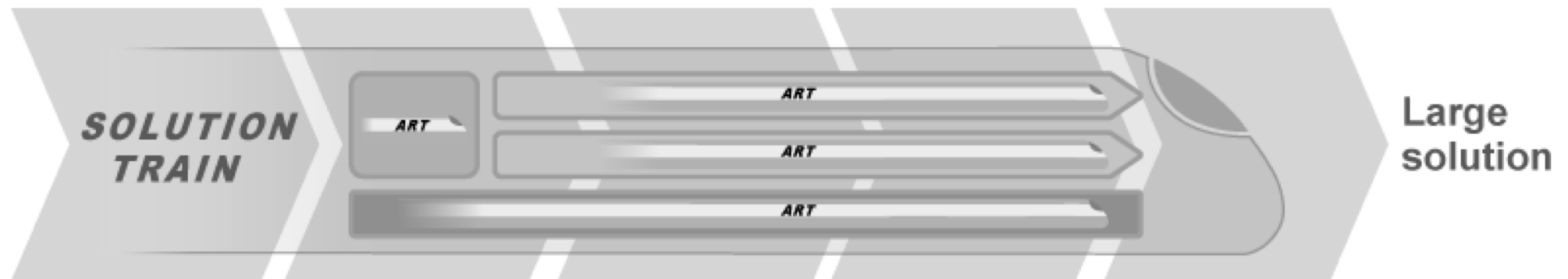
Apply the team formation toolkit

| Agile Team Charter: [TEAM NAME] | | |
|--|--|---|
| 1 Purpose What contribution do we make? How do we create an impact? | 4 Success Measures How do we know that we are doing well? | 8 Team Members Product Owner: Scrum Master: <Team Member 1 / Role, Responsibility> <Team Member 2 / Role, Responsibility> <Team Member 3 / Role, Responsibility> <Team Member 4 / Role, Responsibility> <Team Member 5 / Role, Responsibility> ... |
| 2 Team Type & Responsibilities What areas of the solution is this team responsible for? What is our responsibility on the ART? | 5 Definition of Done What are all the criteria that our work must meet to be accepted? | |
| 3 Working Agreements How do we want to work together to create a positive and productive environment? | 6 Key Interactions Which other teams do we need to work closely with? | 9 Distinctive Competencies What are we uniquely good at? What can we help others with? |
| | 7 Key Stakeholders Who are our key stakeholders and how will we keep them informed? | 10 Team Events When, where and for how long will we hold our team events? |

Applying topologies to ARTs

Guidelines for splitting a large Value Stream

- ▶ Focused on a holistic system, products, or set of services
- ▶ Long-lived, consistently delivers value over time
- ▶ Minimize dependencies with other ARTs
- ▶ Can release value independently from other ARTs



Organizing ARTs in a Solution Train



Stream-aligned ARTs just like a stream-aligned team, will have the necessary personnel, skills, and authority to deliver value, whether it's a full product, service, subsystem, or whatever portion of the solution they have been tasked with.



Complicated subsystem ARTs: Most large systems also include extensive subsystems. This means that complicated subsystem ARTs are common when building large-scale systems, again to reduce the cognitive load on the stream-aligned ARTs.



Platform ARTs It's common to have Platform ARTs providing services that the stream-aligned ARTs extend and build on.

One additional benefit of the platform topology is that it also supports a single platform ART that is providing services across multiple development value streams within the organization.

Architecture and organizational structure are tightly coupled

Any organization that designs a system (defined broadly) will produce a design whose structure is a copy of the organization's communication structure.

— *Melvin E. Conway*

- ▶ Evolve the organizational structure to the desired architecture, not vice-versa
- ▶ Organize to support flow and reduce dependency and coordination needs between stream-aligned teams
- ▶ Decouple the architecture to support organizational flow

