Ready to Scale?

Identify the best Agile Scaling framework for you.

nagarro

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Executive summary

There are a number of agile scaling frameworks that solves problems associated with agility at scale. As companies or Agile Catalysts, we are often asked our advice on making the best selection from the various scaling frameworks. Since these frameworks are already known in advance, one often seeks assistance on seamless implementation of new principles and practices. When clearly formulated and approached with a willingness to change, these frameworks can help achieve your business goals.

In this whitepaper, we aim to provide an insightful overview of these scaling frameworks to make it easier for you to get started in your agile journey.

We hope to make the introduction interesting and as neutral as possible. If you have deeper questions, please feel invited to reach out for a deep dive together or just get to know your previous challenges better to find the right framework for you.

What does it mean to Scale Agile?

The answer to this question depends on who you ask. For example, some people will tell you that scaling agile means adopting an agile way of working in multiple teams delivering a product. While for some, it means inculcating an agile mindset as a core value in your organization.

Coming back to the question, ask yourself what challenges are you trying to overcome. It will help determine what it means to scale for your program or organization.

The maturity requirements for scaling
To lower the complexity, increase the comfort to adopt a scaling framework, and resolve any potential problems such as cross-team dependencies or release coordination, these are the prerequisites that the creator of LeSS Craig Larman recommends:

- “All these teams should all be structured as cross-functional and self-organizing teams.” Long term stable teams.
- “The teams vertically slice requirements into the smallest possible increments that can be deployed independently.”
- “Teams are also expected to focus on technical excellence such as doing continuous integration and automated regression testing.”
- “At the end of every sprint, the teams should have a potentially deployable product.”

Which Agile Scaling framework should be adopted?

Every set of teams are different and there is not a "one size fits all" approach. When deciding what large-scale agile framework works best in a particular setting, analyze the needs and constraints of your specific situation. No matter which agile scaled approach you decide to use, it's pivotal to have an understanding of what you need:

- If you need a simple and small-scaled agile teams' option
- If you are looking for a mid-sized solution with light-weight management
- If you need an enterprise-scale solution for multi levels of management

We also suggest strategizing the cultural transition as smoothly as possible while you move to the selected scaled framework. Or take into consideration the impact of your organization's culture to the scaled framework that you would like to adopt.

Per a Digital.AI survey conducted in 2021 43% of respondents recognized "Organizational culture being at odds with Agile values" as the most significant barrier.

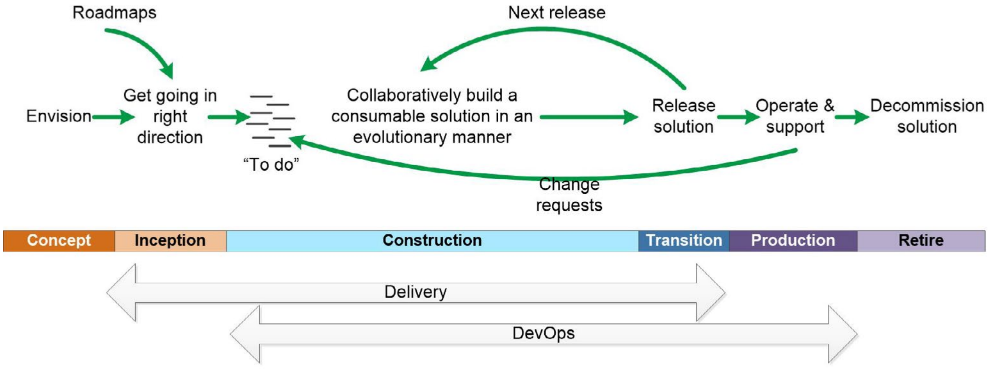
Disclosure

This white paper is not all inclusive or to answer which framework should be chosen; however, it is to provide enough information to start to make informed decisions.

It is also important to note, at the team level, the scrum framework is utilized as the common way of working across all these scaling frameworks with the exception being Large Scale Kanban and SAFe. Why Spotify model was not included? After careful consideration and discussion, we did not include this model as it was not a framework and was structured as a cultural and organizational model.

Scaling frameworks

Disciplined Agile Delivery (DAD)



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A practical approach to tailor a solution-delivery process for the context faced by teams. Also, it provides a foundation to scale an agile strategy tactically. Created by Scott Ambler, DAD adopts practices and strategies from existing sources and provides advice for when and how to apply them together or as they often say, "the mortar to fit the bricks together effectively".

What it is scaling for?

You can apply hybrid agile and lean practices broadly across the entire organization.

What is the level of complexity (adoption & execution):

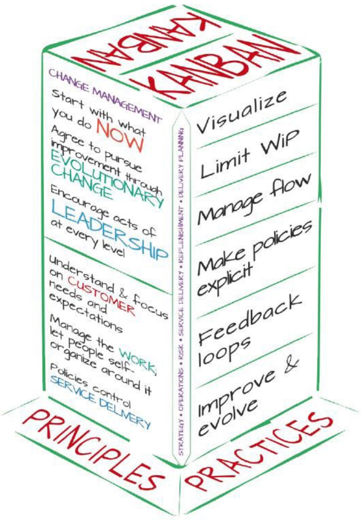
For organizations new to agile, it does not provide prescriptive guidance on what practices to adopt from the available practices in the toolkit. The learning curve could be steep. Execution complexity could be high as the teams may not have experience on the different practices and what benefit they provide a team.

Foundation for Business Agility | Disciplined Agile (pmi.org)

Principles:

- Delight Customers
- Be Awesome
- Pragmatism
- Context Counts
- Choice is Good
- Optimize Flow
- Enterprise Aware

Large scale Kanban


KANBAN
KANBAN
CHANGE MANAGEMENT
Start with what you do NOW
Agree to pursue improvement through EVOLUTIONARY CHANGE
Encourage acts of LEADERSHIP at every level
Understand & focus on CUSTOMER needs and expectations
Manage the WORK; let people self-organize around it
Policies control SERVICE DELIVERY
STRATEGY • OPERATIONS • RISK • SERVICE DELIVERY • REPLENISHMENT • DELIVERY PLANNING
Visualize
Limit WiP
Manage flow
Make policies explicit
Feedback loops
Improve & evolve
PRINCIPLES
PRACTICES

Kanban is a delivery flow system that controls the amount of work in progress using visual signals. The principles and practices of Kanban are centered around continuous, evolutionary improvement. Renowned Kanban pioneer, Klaus Leopold suggests scaling Kanban in-depth and in breadth; “Doing more Kanban.”

What it is scaling for?

Continuous maturity and development of an Operations Review feedback loop, allowing dependent teams to adjust capacity allocation to insure a predictable response and delivery.

What is the level of complexity (adoption & execution)?

Low adoption complexity as it is simply executing existing Kanban cadences with a larger audience. The execution complexity can be high for new teams learning about flow.

Kanban University

Principles & Practices

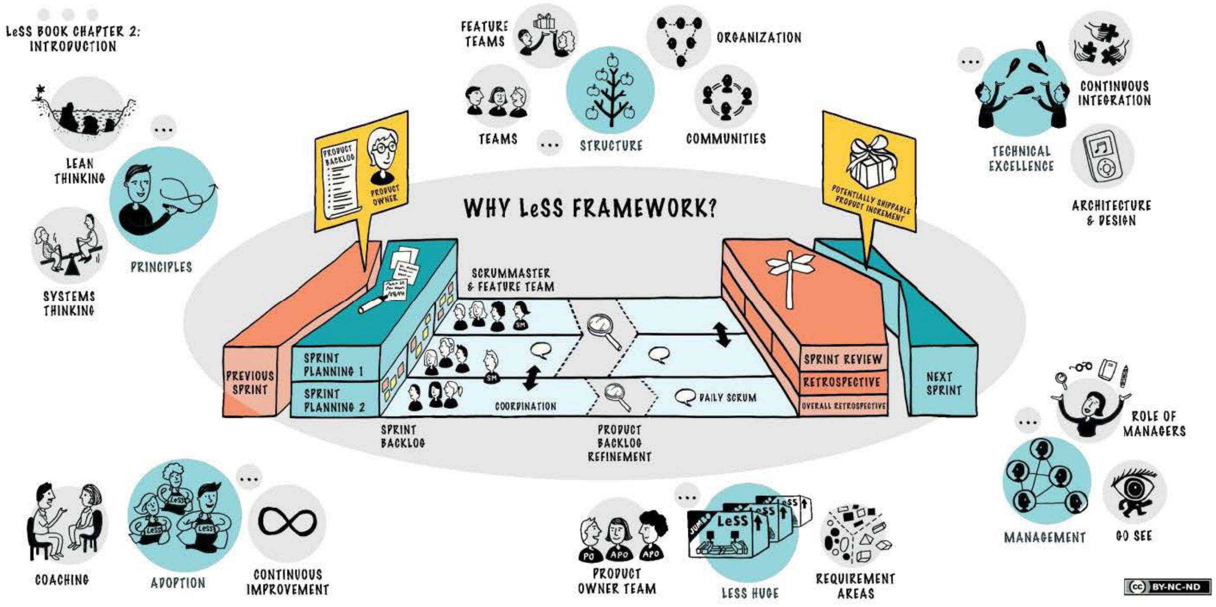
Scaling Kanban Principles

- Scale-up in a service-oriented fashion one service at a time.
- Design each system using the systems thinking approach to implementing Kanban (STATIK).
- Use the Kanban cadences as the management infrastructure to create balance and alignment.

Practices:

- Visualize
- Limit WIP
- Manage flow
- Make policies explicit
- Feedback loops ▪
- Improve and evolve

Large Scale Scrum (LeSS)



LeSS is simply said "multi team Scrum." Most of the scaling elements of LeSS are focused on directing the attention of all the teams onto the whole product instead of "my part."

In theory, one Product Owner provides a Backlog with prioritized customer needs and customer centric items to enable the development of a shippable product at the end of the increment. In the Sprint Planning 1 event, each team picks their items from the top of the Product Backlog that they want to implement. This is followed by the Sprint Planning 2 each team discuss their strategy on how to develop these items. During the Sprint, the teams work independently on these tasks, while being able to communicate with each other should the need arise.

Communication between the teams now happens on team level and no designated team coordinators are needed. At the end of each Sprint a shared Sprint Review is held with the customer to analyze the results of the Sprint and decide together on the next steps. As with the planning, the Sprint Retrospective is divided into the Team Retrospective and a shared Retrospective to enable a holistic view of the process and to decide on improvements together and focus on the more systemic and organizational obstacles to further improve efficiency and value delivery to the customer.

What it is scaling for?

Enable the teams to see the entire product they are working on.

Overview - Large Scale Scrum (LeSS)

What is the level of complexity (adoption & execution)?

Being based on Scrum, the complexity for teams and companies that are already familiar with that framework is very low. The biggest challenge in adopting this framework is the necessity for alignment throughout the company since the management must be more involved in the processes and be part of the regular meetings to have the steering capabilities and are able to enable the product owner and teams in a more direct manner. As now multiple teams work together, the possibilities of misalignment are higher without proper strategic alignment. However with the proper setup, effective synergies can be created.

Structure & Practices

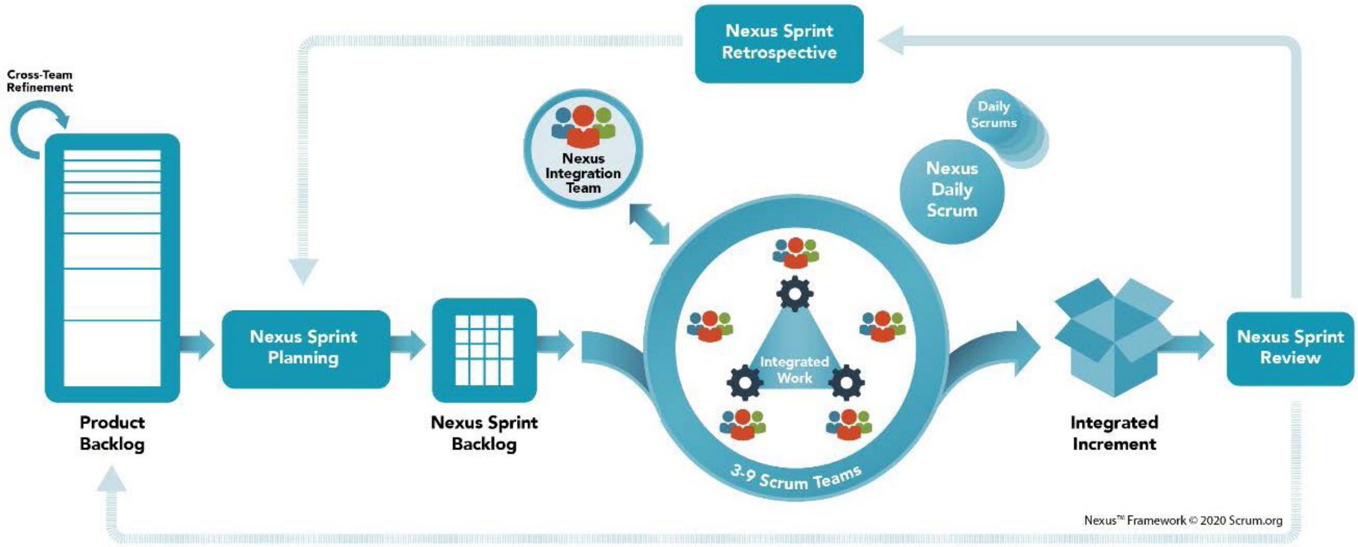
Structure

- Cross-functional feature teams
- Organization by customer value
- Scrum Master focus
- Simplified Organizational

Practices

- Shared Planning 1 and Team Planning 2
- Sprint
- Shared Sprint Review
- Team Retrospect and Shared Overall Retrospect

Nexus



Nexus framework was founded by Scrum co-creator Ken Schwaber and the Scrum org team in 2015 as a guide for scaling Scrum in wide-ranging agile projects. As Scrum has become an integral part of many organizations, their projects need to go beyond the typical Daily Sync, Planning, Review, and Retro sessions used in the Scrum to be effective. Scrum alone is not enough when multiple teams work on a product. The productivity erodes due to the dependencies between the teams. The Nexus framework uses Scrum as its building block and extends it for better management of multiple Scrum teams who work on a single product.

When to use this scaling framework?

Nexus is used to scale a single product that a group of 3 to 9 Scrum Teams are working on through coordination and sharing work to deliver software each Sprint.

What is the level of complexity (adoption & execution)?

The learning curve is not steep for someone who already knows Scrum, agile principles and lean. At its core Nexus is simple and lean. Simple in that Scrum pervades everything with some minor adjustments to accommodate its process flow at a higher level and lean because it fully adheres to the 7 guiding principles of lean development - eliminate waste, build quality in, create knowledge, defer commitment, deliver fast, respect people, and optimize on the whole.

Scaling Scrum with Nexus | Scrum.org

Structure & Practices - Scrum.org list about *50 Practices* based around:

- Forming a Nexus – Organizing Teams
- Forming a Nexus – Organizing the Work
- Running a Nexus
- Managing a Nexus

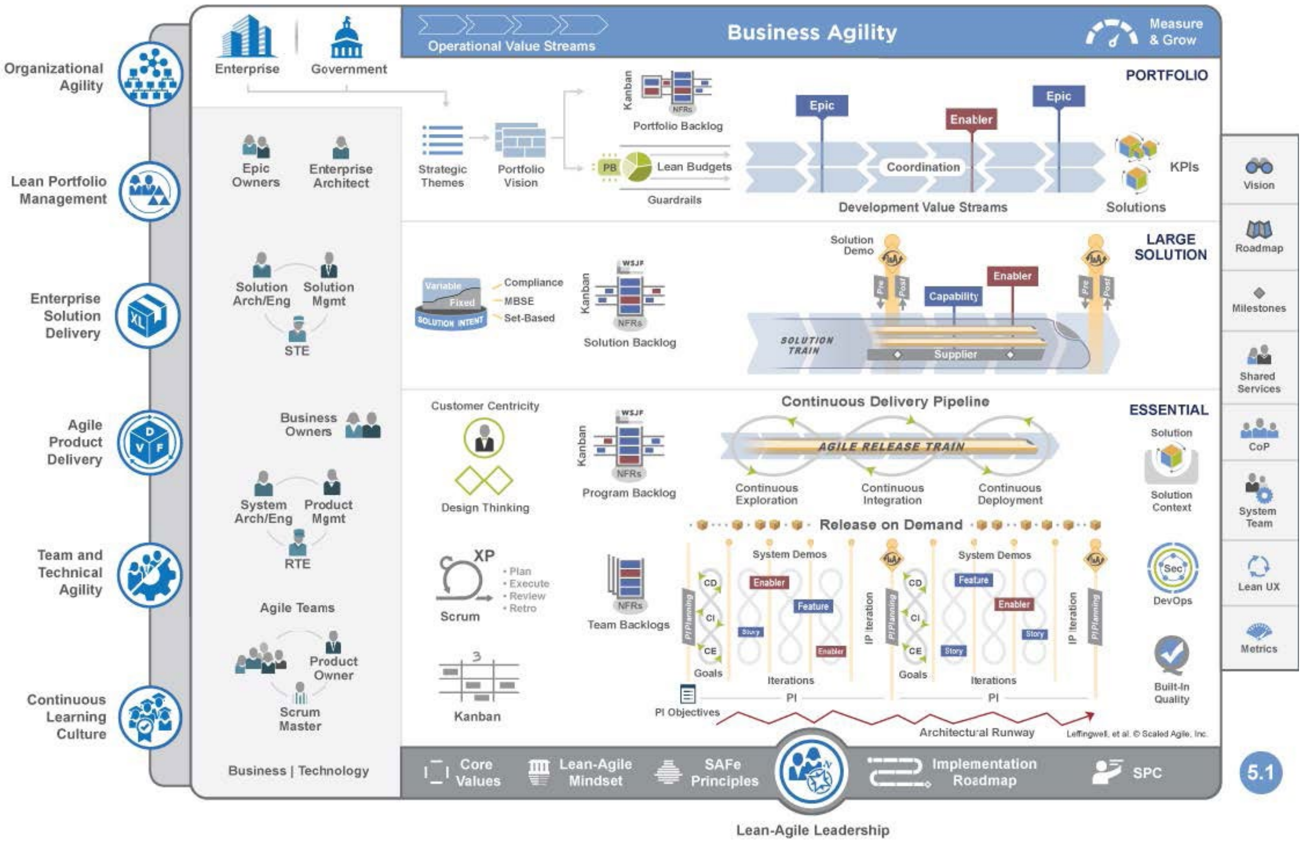
Structure

The Nexus structure adds to or extends the events defined by Scrum. The duration of Nexus events is guided by the length of the corresponding events in the Scrum Guide. They are timeboxed in addition to their corresponding Scrum events.
At scale, it may not be practical for all members of the Nexus to participate to share information or to come to an agreement. Except where noted, Nexus events are attended by whichever members of the Nexus are needed to achieve the intended outcome of the event most effectively.

Practices: Nexus events consist of:

- The Sprint
- Cross Team Refinement
- Nexus Sprint Planning
- Nexus Daily Scrum
- Nexus Sprint Review
- Nexus Sprint Retrospective

Scaled Agile Framework (SAFe)



The Scaled Agile Framework is a set of organization and workflow patterns intended to guide enterprises in scaling lean agile practices.

What it is scaling for?

Scaling Agile across teams, business units, and entire organizations.

What is the level of complexity (adoption & execution)?

SAFe provides an implementation roadmap to lower the complexity of adoption and highly recommends 3 – 5 SAFe program consultants per 100 development practitioners. There is a high level of complexity identifying value streams and optimizing the flow the Agile Release Trains. While there can be low complexity implementing Essential SAFe, that increases when moving through the other configurations.

www.scaledagileframework.com

Structure & Practices

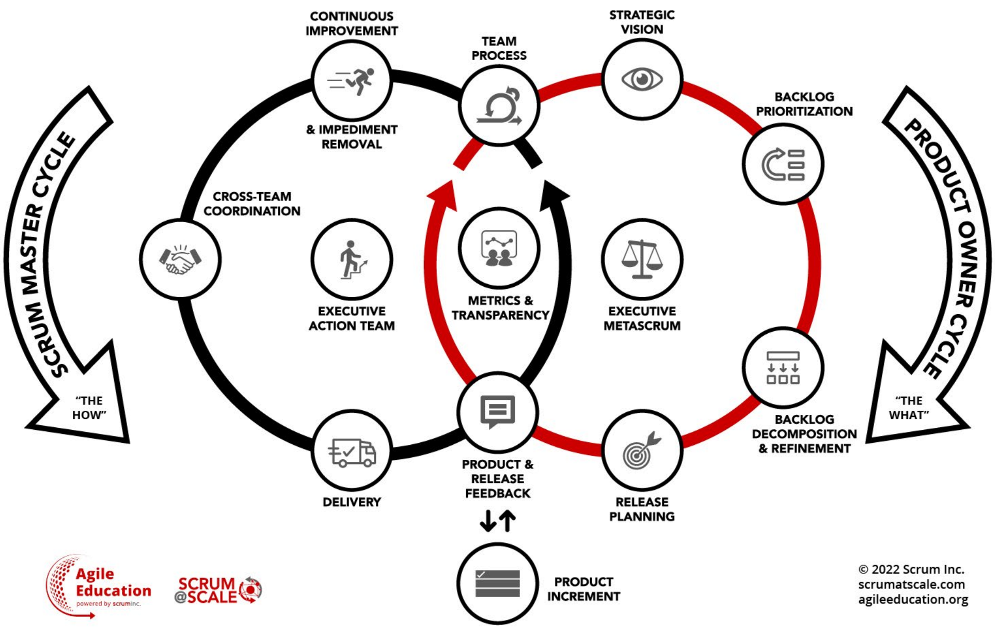
Principles

- Take an economic view
- Apply systems thinking
- Assume variability; preserve options
- Build incrementally with fast, integrated learning cycles
- Base milestones on objective evaluation of working systems
- Visualize and limit WIP, reduce batch sizes, and manage queue lengths
- Apply cadence, synchronize with cross-domain planning
- Unlock the intrinsic motivation of knowledge workers
- Decentralize decision-making
- Organize around value

Configurations

- **Essential SAFe** – basic configuration providing the minimal elements necessary to be successful with SAFe. The program level coordinates team efforts with Program Increment Planning (PI Planning) and a team of teams called the Agile Release Train (ART). The Release Train Engineer, as a servant leader and coach, facilitates the ART events.
- **Large Solution SAFe** – Enterprises building large and complex solutions that do not require portfolio level constructs.
- **Portfolio SAFe** – provides strategy and investment funding, agile portfolio operations, and lean governance. Manages development streams and coordinates with the other levels to ensure that agile release trains align with strategic goals.
- **Full SAFe** – Most comprehensive configuration supporting building large, integrated solutions that typically require hundreds of people to develop and maintain. Adds a solution train to coordinate the various ARTs and a Solution Train Engineer whose role is like the RTE's but at a more integrated level.

Scrum@Scale (S@S)



Scrum@Scale was developed by the creators of Scrum (Jeff Sutherland and Ken Schwaber) to scale the framework to multiple teams and use the fundamentals of scrum on a wider scale (hence the naming of this framework). As it is using Scrum as the starting point, one of the biggest benefits is the available experience in the teams and use this synergy to make the scaling approach transparent and understandable on all levels without a lot of restructuring certain (thought) processes.

The same ceremonies and meetings are used to get communication started and keep them ongoing to create a scaled but sustainable pace for all the teams. Usually, the Scrum Masters of each team represents the teams in these events to coordinate necessary actions called the Scrum of Scrums (SoS). Responsible to coordinate these Scrum of Scrums and to align this team is the Scrum of Scrum Master (SoSM). The next higher level of this meeting would be the EAT (Executive Action Team). This team enables the organization for the Scrum@Scale Product Owners also need to coordinate with each other to generate general alignment for the teams and generate a shared Backlog with each other. They need to refine their common backlog in a refinement, called the Metascrum. All Product Owners need to attend this meeting, Responsible for coordinating all these efforts in the Metascrum is the Chief Product Owner (CPO). For the organizational level the meeting is called EMS (Executive Meta Scrum). This team is responsible for the organizational vision and sets the strategic priorities of the organization to align all teams.

What it is scaling for?

Scales to target cross team dependencies and potential duplication of work.

What is the level of complexity (adoption & execution)?

Created to have a low level of complexity in adoption and execution with just being able to read the guide. The idea is to enable linear scalability with the simple structure of Scrum up through the whole value chain with the already known values and practices of Scrum.

www.scrumatscale.com

Structure & Practices

Principles

- Scrum of Scrums (SoS)
- Scaled Daily Scrum (SDS)
- Scaled Retrospective
- Cross-Team Coordination
- Release Planning

Roles

- The Scrum of Scrums Master (SoSM)
- ▪The Chief Product Owner (CPO)

Structures

- The Executive Action Team (EAT)
- The Executive Meta Scrum (EMS)

What’s the difference?

Framework	DA	Kanban	LeSS	Nexus	SAFe	S@S
Key characteristics	Descriptive - medium weight	Descriptive	Descriptive - light weight	Descriptive - light weight	Prescriptive	Descriptive - light weight
Orientation /focus	Solution – orientated *Become a learning entity*	Service *Customer needs*	Product/Service-adaptiveness	Product/Service *Deliver better value faster*	Solution – orientated *scale agile and lean practices to whole enterprises*	Product/Service
Scalability strengths	Strategy selection	Simple do more kanban	Enable the teams to see the whole product they are working on	Inter team dependency management	Specific approach to scaling across an organization	Team productivity
Number of teams	1 to many	1 to many	LeSS – 2-8 teams LeSS Huge –>8 teams	Nexus: 3-9 teams Nexus+: Nexus of Nexus	Whole organization ARTs are between 75-150 people	5-25 teams
New roles	Team Lead Architecture Owner	None	Area Product Owner Manager as enabler in the organization	None	**Program Level** • Product Manager • Release Train Engineer • Business Owner • System Architect/ Engineer **Solution Level** • Solution Manager • Solution Architect/ Engineer • Solution Train Engineer **Portfolio Level** • Epic Owners • Enterprise Architect	The Scrum of Scrums Master (SoSM) The Chief Product Owner (CPO)
Benefits	Hybrid approach Uses Kanban techniques to optimize flow & reduce WIP Emphases people as critical factor No mandatory protocols Flexibility with four lifecycle models	Reduced waste Better visibility Promotes continuous improvement Low overhead Pull scheduling Flexibility in the process	Enable the teams to get a product view Synchronization throughout the company Teams are able to work as feature teams and are truly independent	Emphasize building quality in Deprecate non-Scrum roles Frequent inspect and adapt Nexus sprint goal provides North Star goal Tolerates projects in long-term	Program PI Objectives provide a North Star goal Frequent inspect and adapt Covers competencies needed for Business Agility Improved collaboration between teams Improved dependency management	Easy to scale if Scrum is already in use Simple structure on all levels helps people get a transparent view of the processes on all levels Theoretically scalable to “infinity”
Challenges	Without a defined structure, may be difficult to adopt. Does not address business agility People & teams must be self-aware & self-disciplined	Inability for an iteration Difficult to fit in dynamic environments Lack of timing Requires process stability Not updating the board Board to simple or over-complicated	Scalability should be done carefully and step-by-step Transparency throughout the company with the shared meetings can be irritating for people Necessary changes in the company regarding structure and roles to a typical hierarchy are necessary to enable this framework	Not intended to directly address the broader organizational Business Agility No explicit support for hardware Doesn’t tolerate WaterScrumFall	Has Product Ownership/Management Team split between people Difficulty staffing new roles Hard to move from feature/ component team structure – team formation challenged No ART-level Iteration Backlog PI Planning is incredibly expensive to bring 5-15 teams together for 2 days	Supporting streams (HR, Legal or even IT Ops) in the value chain are often not involved as they are not included in the value chain and the simplicity of this framework

Conclusion

The framework best suited to your organization will vary, depending on a variety of factors. Implementing Agile scaling frameworks can be complex and time-consuming, so asking the right questions will go a long way. Reach out to us for a deep dive together or just get to know your previous challenges better to find the right framework for you.

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Authors

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About Nagarro

Nagarro is a global digital engineering leader with a full-service offering, including digital product engineering, digital commerce, customer experience, AI and ML-based solutions, Cloud, immersive technologies, IoT solutions, and consulting on next-generation ERP. We help our clients become innovative, digital-first companies through our entrepreneurial and agile mindset, and we deliver on our promise of thinking breakthroughs.

We have a broad and long-standing international customer base, primarily in Europe and North America. This includes many global blue-chip companies, leading independent software vendors (ISVs), other market and industry leaders, and public sector clients.

Today, we are over 18,000 experts across 33 countries, forming a Nation of Nagarrians, ready to help our customers succeed.

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