

THE NEXUS™ FRAMEWORK

FOR SCALING SCRUM



**KURT BITTNER
PATRICIA KONG
DAVE WEST**

Foreword by **KEN SCHWABER**



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The Nexus™ Framework for Scaling Scrum

FORMING THE NEXUS INTEGRATION TEAM

During their third Sprint Retrospective, the teams raise some problems. First, they have a separate Product Backlog for each team, and it is starting to feel like they are producing three separate Products, not one. The Product Owner is feeling overwhelmed and challenged to spend enough time guiding each team.

As a possible solution, she suggests adding two more Product Owners to be able to handle all the work of prioritizing the Backlogs and working with the teams. She feels that the separate Product Backlogs have started to drift from the original product goals, and she doesn't have the time to keep all three in sync. The other team members understand her frustration at not being able to be everywhere at once, but everyone agrees that adding Product Owners will only exacerbate the "three Products" problem.

In addition, despite a strong, cohesive core of team members who had worked together, the teams don't feel that the teams are working together very well now. They work fine within their own teams and on their own backlogs but had major integration issues at the end of this last Sprint.

An informal "integration team" of the most senior members of the teams has formed, and they are jumping in and solving problems for the teams rather than helping the teams to solve the problems themselves. They are being pulled into all the separate Daily Scrums in addition to the Scrum of Scrums with the Scrum Masters. It is turning into the very kind of centralized control mechanism that nobody wants.

Team members are getting frustrated that they were not able to easily integrate work from all the teams, and no team is taking any accountability for the integration issues. It's always "the other team's fault." What they thought would be easy was turning out to be very hard.

The challenges the case study's teams face are typical: how to uphold a single consistent product vision, and to build a single integrated product, while working as separate teams. When teams encounter these challenges, their history with top-down centralized control approaches sometimes creates a pull that is too hard to resist.

Nexus introduces a Nexus Integration Team (NIT) to help teams deal with these challenges. Despite its name, the NIT isn't usually a standing team with full-time team members, nor is it actually responsible for integration, although it *is* accountable for integration. It only works on Product Backlog Items in the case of emergencies when things have gone horribly wrong and someone needs to stabilize the situation. Instead, it is usually a virtual team composed of members from the Scrum Teams themselves, plus the Product Owner (see Figure 3-3).

The NIT's role is much like that of a Scrum Master on a Scrum Team—it provides a mechanism to identify issues and facilitate solutions, but it does not take over and solve problems for the Scrum Teams. The difference from the very informal nature of the Scrum-of-Scrums approach initially used by the teams in the case study is that the NIT has very specific accountabilities and resulting responsibilities for which there are certain proven practices that help it fulfill those responsibilities. Membership can vary over time depending on the impediments the Nexus experiences.

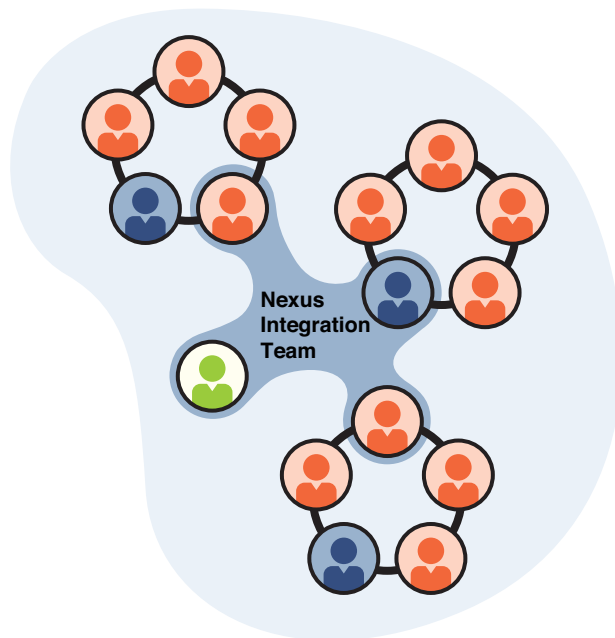


Figure 3-3 The NIT is composed of members of the Scrum Teams plus the Product Owner

The NIT is *accountable* for a releasable integrated Product being delivered at least once at the end of every Sprint. That confuses some people, and they think that it actually pulls the bits together and integrates them. This is precisely what it does *not* do. The Scrum Teams are still *responsible* for producing working software. Being *accountable* means that the NIT provides focus and helps the Scrum Teams resolve issues when they cannot deliver an integrated, working increment, in much the same way a Scrum Master coaches the Development Team to resolve their own impediments.⁸

WHO IS ON THE NEXUS INTEGRATION TEAM?

The only mandatory member of the NIT is the Product Owner. The other members are usually the member of their Scrum Team with the deepest and broadest technical skills and good coaching skills. This person may also be the Scrum Master for the team, but it is a mistaken belief that the NIT must be wholly composed of Scrum Masters. The NIT has to provide technical leadership as well as Scrum leadership, and it sometimes needs to help resolve deep technical or architectural issues. Team members with only Scrum Master skills can't always do this.

HOW DOES A NEXUS WORK?

As you will see in subsequent chapters, the structure of the Nexus and the composition of its teams will change over time as needs change and the skills of team members improve. What we have described here is a reasonable, and fairly realistic, starting point. The team structure is not perfect, but the team members believe that it will be good enough to get work done and to improve.

With the Nexus formed, we can now turn our attention to how the teams will work together to produce an integrated Product Increment. In Chapter 4, we'll take a closer look at how the teams come together to refine the Product Backlog, resolve dependencies, and plan a Sprint.

8. The main difference between responsibility and accountability is that responsibility can be shared whereas accountability cannot. Being accountable not only means being responsible for something but also ultimately being answerable for your actions. For more explanation, see http://www.diffen.com/difference/Accountability_vs_Responsibility.

PLANNING 4 IN NEXUS

Coordinating work across multiple Scrum Teams can be confusing and chaotic without a systematic planning approach, as the team quickly discovered. When more than one team works on a Product Backlog, the overhead of coordinating between teams can grow until it dramatically slows progress. A Nexus uses a variety of practices to reduce complexity and the overhead of coordinating multi-team development.

CONSOLIDATING AND VALIDATING THE PRODUCT BACKLOG

The Scrum Teams come together with the Product Owner to consolidate their separate work into a single prioritized Product Backlog. This takes a bit of effort, since they've gone a little off track in each of their separate backlogs, adding features that made sense in isolation but don't fit together when the product is considered as a whole. As the Product Owner orders the backlog, she and the teams validate that the backlog items have not drifted from the original product goal. The Product Owner uses impact mapping, a useful practice to see whether they are working on the PBIs that will add the most value. With the teams, she creates the Impact Map with the teams shown in Figure 4-1.¹

1. For more information about Impact Mapping, see Gojko Adzic's website at <https://www.impactmapping.org>.

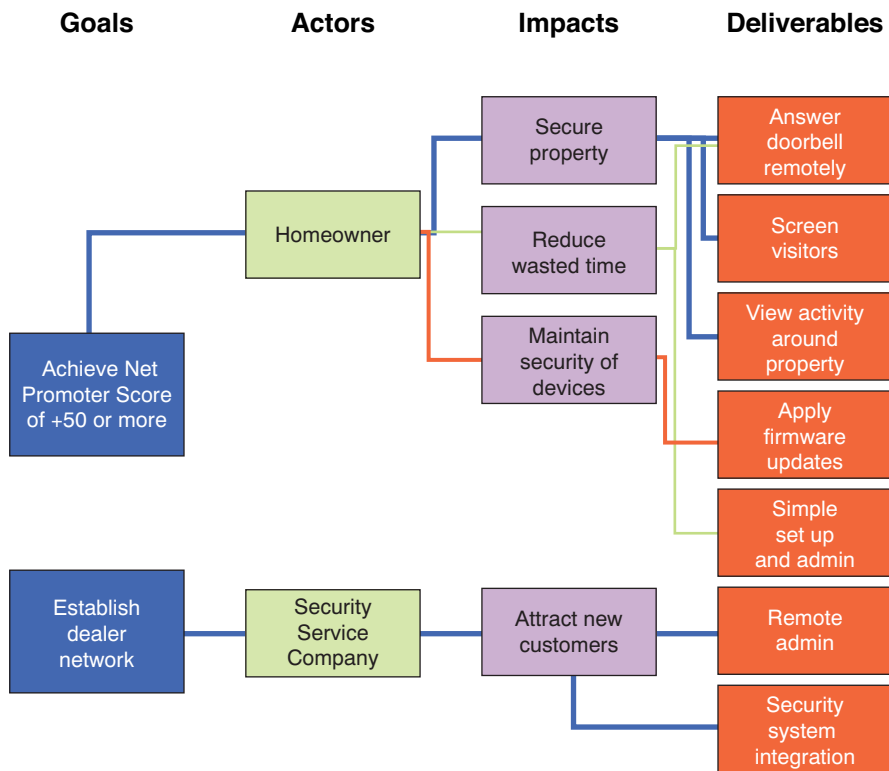


Figure 4-1 An Impact Map showing the connection between goals and deliverables

In Figure 4-1, the lines connecting *impacts* with *deliverables* illustrate that more than one deliverable may need to be delivered to achieve a desired impact; for example, to achieve the impact *Secure property*, the user of the product will need to be able to answer the doorbell remotely, screen visitors, and view activity around the property.

Validating the Product Backlog Items (PBIs) against business objectives helps to make sure that nothing goes missing in the consolidation process, and that nothing extra has crept in while the teams were working separately.

All Product Owners face the risk that their Product Backlog becomes filled with items that have no connection back to the product's original business goals. An Impact Map helps them avoid this by visualizing the scope of a product. It focuses on four aspects.

- **The Goals.** The root of an Impact Map answers the most important question: Why are we doing this? In the case of our team, they need to have a successful initial product launch, which for their venture capitalist funders means achieving a Net Promoter Score of +50 or better.² They also need to sign up at least one dealer, typically a security services company.
- **The Actors.** The actors answer the following questions: Who can produce the desired effect? Who can obstruct it? Who are the consumers or users of our product? Who will be impacted by it? These are the **actors** whom the solution will need to support.
- **The Impacts.** The impacts describe the desired outcomes of the actors in the context of our business goal. It answers the following questions: What does our solution need to do for the actors? What things do we need to help them achieve? These are the impacts that we're trying to create.
- **The Deliverables.** The deliverables answer the following questions: What can we do, as an organization or a delivery team, to support the required impacts? What is the solution going to do for the actors to help them achieve their desired outcomes? These are the deliverables, software features, and organizational activities that our solution will need to provide. These will become, or map to, high-level PBIs.

Product Owners should embrace and represent the product vision they've created with stakeholders. They can use a variety of different techniques, ranging from the simple ones, like elevator pitches, to more comprehensive techniques like opportunity canvases.³ When the Product Owner and the rest of the team lose sight of product goals, the Product Backlog can become bloated with excess features that distract and divert teams from achieving their business objectives. This is a particular problem in larger organizations with many stakeholders, where teams can be challenged to prevent pet features and ideas from creeping into the Product Backlog. Impact Mapping is a good way for everyone in a Nexus to understand and validate the value of their work toward business goals.

2. For more information about Net Promoter Scores, see <https://www.netpromoter.com/know/>.

3. For more information about the opportunity canvas technique, see <http://jpattonassociates.com/opportunity-canvas/>.