IBM Podcast

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GIST: Welcome to this IBM Rational podcast, The
Scaled Agile Framework in Agile Foundation for DevOps. I'm
Kimberly Gist with IBM.

Scaling agile in your organization can be a daunting
endeavor and uncovers multiple challenges like organizing
large teams, early testing of complex applications, aligning
the business with development, dealing with compliance and
effectively implementing continuous deployment.

Today's podcast we have joining us Elizabeth Woodward, agile
consultant for IBM Rational, and Ken France, managing
partner and Agile Coach of Blue Agility, to discuss how the
Scaled Agile Framework with IBM DevOps capabilities can
build the enterprise of the future.

Elizabeth and Ken, welcome to the Rational Talks to You
podcast series. Thank you for joining us today. We're
looking forward to the discussion.

WOODWARD: It's great to be here, Kimberly.

GIST: Well, Elizabeth, the first question is actually

for you. It seems that scaling agile seems to be a growing concern for many of our customers. Why would you say that is?

WOODWARD: It really is. If you think about it, the Agile Manifesto, it's been around for more than 10 years, and agile has made its way into areas that we would have never considered agile methods being in during those early days.

We see it in government. If you look at the United Kingdom National Audit Office, they recommend that the use of agile as a best way for building software products in government departments.

And there are even standards today for using agile methods for medical device development. And not only is it appearing in places that would have seemed unusual a decade ago, but it's often spread worldwide.

If we look at the Scrum Alliance, we know there that there are 21 countries that have more than a thousand certifications each, and that's just the Scrum Alliance. And in our own Agile Maturity Report, IBM's report, we had respondents from 44 different countries.

So, agile is really a global phenomenon at this point. And this matching of agile I think is generating this growing

desire to become more agile at scale.

If we go back in time a bit, initially there was this strong
uptake by the small teams, and they were in environments
where they were experiencing fewer of the scaling factors.
And when I talk about scaling factors, we're talking about
things like large teams of hundreds or even thousands of
development team members, and we're talking about complex
domains, things like air traffic control or financial
derivatives trading or even electronic security assurance.

Scaling factors can also be things like technical
complexities where we're combining these systems or record
that may be on a mainframe back end with systems of
engagement, social and mobile. And there are also
organizational complexities addressed by scaling factors or
that are part of the scaling factors.

There was a time when the agile conversation was focused on
these small teams of no more than nine people and maybe we
talked about how we might coordinate a couple or a few of
those.

Today that conversation is shifting to where we're dealing
with integration of agile teams and traditional waterfall
teams and even the broader software supply chain, you know,
vendors, outsourcing, things like that, or complex

integration, integrated delivery of hardware and software products.

So, what we've seen is that these small team successes that we started with, they often inspire enterprises to bring together proofs of concepts for larger projects or programs, and then those successes are leading organizations to think in terms of even broader organizational agility.

There are other impacts to IP law or to marketing or on into operations or even the overall end-to-end supply chain. The culture, the principles, the values, the expectations are spreading from those small teams to the entire rest of the organization. And that idea that we have of what the rest of the organization is, that's also shifting and it's beginning to include broader and broader value streams.

So, organizations are not only thinking about agility in terms of agile development teams but today we're thinking in terms of agile delivery. We're looking at continuous delivery at that. And that requires agile within the team, that's still true, but it also requires agility at the program level where we're combining teams, where we as teams are working together on larger programs and projects.

And also the business looks at agility with the portfolio management and even broader agility. That's one reason I

think we're seeing scaling of agile become more popular. I think it's this organic shift into broadening value streams.

But I think the second reason is this growing concern around the increasing speed and rate of change in technology trends. We're seeing a point in time where there are so many changes in terms of technology, social, mobile. We're looking at big data and how we execute analytics and beyond that.

So, these trends are pressuring organizations to become even more agile to remain competitive and to deliver greater value to their clients. So, to do that, it's not enough to be agile within development, though that's more critical than ever, it becomes more and more important for a larger part of the organization and increasing view of the value stream to be agile.

And that's why I think those are probably the two biggest reasons why there's this increasing attention being paid and this increasing interest in scaling agile.

GIST: Well, those are two great reasons, and you put them in a wonderful context when you said the Agile Manifesto. Ken, what would you say or what can our customers do to address these scaling issues?

FRANCE: What Elizabeth was alluding to, with that
increased complexity, a lot of the early methodologies have
had a hard time scaling to the larger enterprises. Scrum,
for example, has demonstrated time and time again that it
has challenges when it reaches teams of teams and
geographically distributed teams.

So, we've had a lot of success with the Scaled Agile
Framework, or SAFe. It's a public framework created by Dean
Leffingwell and his colleagues, and what it basically does
is takes some of the core concepts of Scrum and scales them
to an enterprise.

It essentially has three levels that it talks about in SAFe.
 There's a team level, which is essentially Core Scrum; a
program level, which introduces the concept of an agile
release training, which I'll get into a little bit more; and
then a portfolio layer that really works across the
enterprise.

When you look at the team layer of SAFe, it's very similar
to what Core Scrum is. You have teams that work on their
product backlogs that implement user stories. There's two
differences in SAFe at the team level.

One is there's a much stronger focus on some of the
technical ST practices like continuous integration, para

programming, test automation because in order to scale on top of these teams, it has to be producing higher and higher quality software at a faster and faster pace. We want to really have that firm foundation.

The other key difference is that that team level now works within the context of the overall program and is aligned to the program goals. So, whereas in the past they may not have had that program level function on top of them as they do working within the base context.

Leading to the program level, several concepts from Scrum are scaled up. So, the concept of a product owner that drives the team board scales up to a product manager at the program level which drives larger features of business functionality across the enterprise.

A Scrum Master scales up to a release train engineer that now coordinates the activities of all the Scrum teams together to make sure they're all working towards that common goal of delivering the program.

The concept of a sprint, a two-week or a four-week sprint, now scales up to what's called a PFI -- or, a Potentially Shippable Increment -- at the program level, which is essentially a series of sprints, typically four to five sprints, that represent a larger time box that you use for

planning and synchronization across the enterprise. So,
these core concepts of Scrum that make Scrum work so well at
the team level are equally effective when you scale them up
to the program level.

There's also a couple other key mechanisms that happen at
the program level. There's a new team introduced called the
System Team which is essentially responsible for pulling
together the work of the individual teams, integrating it,
doing end-to-end testing, helping establish and manage
environments for the team to do continuous integration.
They essentially take a lot of the load off the team for
those kinds of things, and that's another good scaling
mechanism within the framework.

So, these and a few other mechanisms that happen at the
program layer is really what starts to differentiate SAFe
from some of the other methodologies out there. At the
portfolio level, we introduce another agile program
methodology called Kanban, which essentially, instead of
managing the time boxes like Scrum does, it manages work in
progress.

So, we have a large ethics of work that happen at the
portfolio level, and SAFe basically suggests that you manage
those ethics in a Kanban system to control how many of them
are in motion at any one time. The whole idea is to avoid

overloading the release trains in the organization by
passing too many ethics down to them to be implemented at
any one time.

So, this concept of controlling work in progress, you also
have the concept of investment themes at the portfolio
level, which is really where you help decide how to
prioritize and how to sequence the ethics for
implementation. So, these are the key concepts within SAFe
that really allow these core concepts of Scrum to scale up
to the enterprise level.

The value clients have seen by this is that they're getting
enterprise alignment from high-level business objectives all
the way down to team objectives. They're synchronized
across that enterprise and they're development cadence, and
the visibility that you get from having everybody aligned
within the same sequence and aligned for the same goals
really allows customers to get products to market faster,
higher quality, and a lot cheaper.

GIST: Okay. So, Ken, this is your area of expertise,
and the methodologies you just listed provide some insight
into the process for organizations, but how do they automate
those processes?

FRANCE: Well, as you scale larger and larger, automated

tools become more and more important. The Agile Manifesto even mentioned that you want people over processes and tools. However, when you scale, the tooling automation becomes more and more important to make sure you're able to manage all the complexity that you have.

So, the IBM Rational toolset has a full lifecycle capability that spans that entire DevOps lifecycle, and it really starts up front with portfolio management and their Focal Point product to help manage those business cases for the ethics at the highest level, prioritize them, sequence them, and really set things up to then move to the program for implementation.

At that point, a Requirements Composer is used to capture higher-level business requirements and what's needed in the system. And then really the work starts to happen when you bring Rational Team Concert into the picture, when you start actually defining the features and the user stories and the tasks that are needed to actually get the work done.

So, Rational Team Concert is a work item management and project management tool that basically is used by the teams and the program to manage the work, give visibility to the work, and track progress against the work using burn-down charts and some of the other metrics that are typically used in an agile program.

What Blue Agility has done is taken Rational Team Concert
and essentially enabled it to work in a SAFe environment.
So, we've built a template for RTC that enables SAFe within
the product. So, it essentially introduces the concept and
the Scaled Agile Framework-like feature, it introduces some
of the prioritization mechanisms, like the Weighted Shortest
Job First mechanism mentioned in SAFe.

So, we essentially make it very easy for RTC customers to
adopt SAFe by leveraging our template and just getting that
out of the box and essentially making it work right in the
context of their process from day one.

WOODWARD: Yes, I think what I would add to that, I do
think that there is tremendous value in looking at SAFe as a
foundation for agility at scale. We have seen teams
empirically evolve from their Scrum roots into something
that either is SAFe or is very much like SAFe, just through
continuous improvement and by aggressively addressing
problems and challenges that they encounter.

And as we discussed earlier, there have become challenges at
the program or project level, and then there are challenges
at the portfolio level, how do I manage all of this in a way
that allows me to make smart decisions related to my
investments and to be able to make sure that how I am

engaging in work maps to my investment strategy. So,
there's tremendous value in that.

We also think that it's important to understand that we have
seen that most teams or many teams will evolve into SAFe or
something that looks like SAFe. It is important that we
also consider the options, and that's where something like
Disciplined Agile Delivery comes in, where we look at the
options and we understand the impact of making those
decisions. Typically we'll still see SAFe as that
foundation for agility at scale.

The one thing that we see, too, that's clear based on all of
the technology trends that we've been evaluating, things --
technologies evaluated by our IBM Research organization and
by the venture capitalists that we work with and the
emerging standards bodies, university students and
universities that we work with and tens of thousands of
developers worldwide that are also linked out to hundreds of
developers worldwide, it's that we're experiencing that
greatest convergence of trends and incredible rapid pace of
technology change.

And we have to be able to continuously adapt our underlying
practices and the methods that fit into that SAFe framework
in order to really embrace and benefit from those technology
changes. So, we see that enterprises that aren't able to

adapt are going to be at a serious disadvantage against their competitors and won't be in that position to deliver the best value to their clients.

So, things like we need to make sure that we are engaging in appropriate practices like test driven development and continuous integration and test automation and others. And beyond just the development team. If you look at an enterprise that's trying to integrate a complex solution from a variety of sources, this typically does require collaboration across entities.

And in that case being able to validate the behavior and the performance of each of those components and how they interact during development and as things are in motion is critical. Being able to understand how the parts interact and providing that capability to develop and test against that is very valuable.

And so that's where things like service virtualization come into play, because that provides this ability to simulate service components in a complex development and delivery environment to assist with development and testing.

And also being able to confirm that the development environment and the operations or production environment are in sync is critical. I can't tell you how many times I've

heard of teams that have been caught off guard when
something went into production and all of a sudden...

Because the environment wasn't configured the same way there
were issues or they've had to pull all-nighters because of
struggles of being able to roll back changes as solutions
were delivered out to production. So, being able to engage
in those good practices and continuously improve is
critical. And those kinds of things, those practices plug
into the SAFe framework.

We do have to think more in terms of lean optimization of
the whole. And that's where IBM DevOps comes in. The IBM
DevOps approach, it's far more than those six letters, dev
and ops. It's not just development and operations. We look
at DevOps as this enterprise capability that allows
continuous software delivery, and the purpose of that is to
enable organizations to seize those market opportunities, to
be able to respond more rapidly to customer feedback and to
balance the speed with cost and quality and risk.

And there are adoption paths to achieving that around
planning and measuring and collaborative development, again,
with a broader picture of what that might mean and
continuous testing.

And there are paths around releasing and deployment and even

beyond that to how do we monitor this solution that we
delivered once it's out in the wild and how do we make the
most of continuous customer feedback so that we can continue
to improve and deliver greater value.

So, this extended picture bringing in SAFe as a foundation
for an enterprise and providing those levels, the team level
and the program and the portfolio level, that's critical.
And at the same time, providing that opportunity to
continuously improve to look at where we as an organization
will get the greatest value in improvement and tackling that
and continuing on to the next level of improvement through
IBM DevOps, that's critical. So, we do, we see SAFe as a
fantastic foundation for IBM DevOps and DevOps as an
opportunity to continuously improve beyond the foundation.

GIST: Those are great follow-up points, Elizabeth.
So, our last question is actually also for you. Where can
listeners find out more about SAFe and IBM DevOps?

WOODWARD: There are a couple of places that we highly
recommend. The first is if you go to
www.ibm.com/developerworks/devops, there is quite a bit of
information about the DevOps strategy and there's great
technical content on that site as well to help teams and
organizations that are trying to improve in those areas that
we discussed, whether that is planning and measuring,

collaborative development and continuous testing, release
and deployment, and monitoring and continuous customer
feedback. There's great content on that site.

There's also, again, if you go to the
www.ibm.com/developerworks/devops, you can also join the
DevOps community, and from there there's an opportunity to
attend some great presentations and to get involved in
workgroups in areas that might be of particular challenge to
anybody who's listening. And I think that there's some
great content there. I believe Ken may also have a really
nice link over to the SAFe/RTC solution.

FRANCE: Yes. If you go to our website,
blue-agility.com, you'll find information out there about
the Scaled Agile Framework and our RTC template that
supports it. You can also link from there to the actual
Scaled Agile Framework site to explore the framework a
little bit more.

And while you're there, also, there will be a link on the
front page to a product of ours called bluejazz which
essentially will show you recorded videos of how the tools
can be used in the context of the process, a lot of the
tools we talked about today. And then finally I definitely
recommend folks check out Jazz.net as another great source
of information and collaboration with people in the

community and this topic.

WOODWARD: And I can also be reached as well on LinkedIn.
Linkedin.com/im/elizabethwoodward. And I'm on Twitter at
@liz -- L-I-Z -- underscore, woodward, W-O-O-D-W-A-R-D.

FRANCE: I'm also on Twitter at kfranceus. I'm
reachable there.

GIST: Well, thank you, Elizabeth and Ken, a wonderful
overview on scaling factors as they relate to agile and
DevOps in addition to how IBM is working with Blue Agility
to impact trends and develop new methodologies. We
sincerely appreciate you taking the time to join us and
share your expertise.

WOODWARD: Thank you very much, Kimberly. It's been a
pleasure to be here.
FRANCE: Thank you. My pleasure.

GIST: For more information on this particular topic,
we encourage our listeners to visit the resources that were
mentioned, www.ibm.com/developerworks/devops, also
blue-agility.com. You can go to the Scaled Agile Framework
section of that web site. Finally I'd also like to
encourage you to visit Jazz.net. Elizabeth and Ken France
are both available on Twitter, and I believe you can reach

Elizabeth also on LinkedIn.

That was Elizabeth Woodward, agile consultant for IBM Rational, and Ken France, managing partner and Agile Coach of Blue Agility, with some key points for today's podcast event, the Scaled Agile Framework and Agile Foundation for DevOps.

To hear this specific podcast or to browse additional topics, check out our Rational Talks to You podcast page at www.ibm.com/rational/podcast. This has been an IBM podcast. I'm your moderator.

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