



Architecting the Cloud, part of the On Cloud Podcast

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Title: Remove bottlenecks and optimize workstreams with value stream mapping

Description: Value-stream mapping isn't just about eliminating work, it's about looking at processes across the organization, finding bottlenecks, and then using a team approach to understand and remove them—in other words, it's about finding the value in workstreams. In this episode of the podcast Mike Kavis and guest, Visible Value Stream Consulting's Steve Pereira, talk value-stream mapping—why it works, how to get started, and what it should look like long term. Steve's perspective is that value-stream mapping done right is inclusive, holistic, and reevaluated end to end as processes and needs change. He also recommends, if there's resistance to the process, taking a grass-roots approach and getting help in filling in the gaps.

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Operator:

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Mike Kavis:

Hey, everyone. Welcome back to the Architecting the Cloud Podcast where we get real about cloud technology. We discuss all the hot topics around cloud computing with people in the field that do that work. That's the most important part. There's just not hand-waving here. So, I'm Mike Kavis, your host and chief cloud architect over at Deloitte. And today I'm joined by Steve Pereira, and Steve is the founder at Visible Value Stream Consulting, which is a topic I'm passionate about and a topic we're going to talk about today. So, welcome to the show. Tell us a little bit about yourself and tell us what drove you to creating your own company to solve these problems.

Steve Pereira:

Yeah, thanks very much for having me. I really love the show. I think you've touched on things like value streams in the past, and I think it's this topic that's really exploding now. People are starting to realize the value. And I kind of realized the value over 20 years of my career, really, and I could stretch back to when I was making pizzas as a teenager. Really, we've got value streams all over the place, and it's taken me a very long time to sort of pattern-match throughout the course of my life and find these value streams and see that's what I've been always doing through my whole career, was basically picking apart processes, looking at data, looking at measurement, trying to optimize, trying to see the biggest picture that I possibly can so that I don't miss something. I'm terrified of missing something, and I think we can really dive deep when we're looking at the tech and we're looking at specialties and the amount of errors, and really the biggest opportunities that we often find are the big picture.

They're when you zoom back, when you include different silos in an organization, when you really take a moment to reevaluate what all is going on here in the pursuit of delivering value? Like ultimately that's what we're trying to do, and we forget. The more narrow our view, the more we can lose track of that. So, I just found that, I mean, nobody that I know of is doing value stream mapping full time in software in the world, and I felt like that was a massive opportunity to make things better and to contribute my history, something I'm super passionate about that also has some history. Right? It's got this real history that is backing it up. It's not just me trying to throw ideas around. This comes from decades of work and validation. So, I just felt like that was a perfect storm and it's the perfect time to really dive into this, and there's a lot of things sort of pulling in that direction, too.

Mike Kavis:

You talk a little bit about the history there, and most of the early DevOps folks kind of got a lot of their thinking from the whole Toyota process improvement thing. And that may not be where value stream mapping started but I think that's the model that a lot of the DevOps enthusiasts look at. So, talk about that because some of the naysayers are like, "Cars aren't software," those types of things, but there are some parallels. So, talk about that.

Steve Pereira:

Yeah, it's an interesting comparison. I think it's really valuable to have that discussion and that debate, because the more we have something, even if it's something that we can push against, right, we have something defined where we can say, "We don't want that; that's not what we agree with," it gives us a reference point. So, I think I wouldn't say that car manufacturing or traditional manufacturing is a perfect analogy to software, but there's a lot of great examples, especially recently, that are drawing a lot of valuable parallels. Like if we look at Mik Kersten's book *Project to Product*, he uses car manufacturing as the entire backdrop of that whole story and highlights areas where there's a lot of commonalities. And I think my perspective on this is that we never want to go full auto with anything. If you go full auto with anything, you lose – and I mean automation, not automotive.

Mike Kavis:

Right, right.

Steve Pereira:

But the more we sort of automate something, you lose value because you commoditize. You're going to make it trivial to perform whatever value creation that you're doing, and so eventually you fall off a cliff and it just becomes ubiquitous, like electricity or whatever else. So, what I'm sort of hoping to share with people about the origins of value stream mapping and about manufacturing parallels is what we should want to do is automate all the things that can be automated so that we can focus on the most creative aspects of our work. The more time that we can make for creative pursuits, the more mental space we can make for coming up with new, novel ways of delivering value and maximizing value.

There's no shortage of that. There's no shortage of abilities to improve that focus, because we certainly don't have enough now. We're drowning in complexity. And so, we certainly haven't swung the pendulum so far towards automation that creativity is in jeopardy, or is in danger of disappearing. We have way too much opportunity with manual work and toil to automate things that need to be automated. And I think making the case against creativity in a world where we are mapping value and we're measuring and we're trying to automate we're not putting creativity in danger anytime soon. We're just making space for it.

Mike Kavis:

One of the areas I focus on a lot is building new operating models optimized for the cloud. And I think you mentioned the *Team Topologies* book that you read a while ago. It's similar to that. Like, let's organize in ways that make sense for the new way we want to deliver software. And what gets left out in that conversation a lot is the process. So, yeah, this team now looks like this, but we're still going to go back to the processes that were built for delivering software in a mainframe twice a year. So, getting to the question here, the problem is we need to do a value stream analysis. The problem is in some cultures it's hard to get everyone in the value stream in the conversation, so we start focusing on local optimization. So, like the DevOps team's optimizing their stuff, but then you wind up with all these teams doing local optimization. So, the question is, is that making anything better or worse or could it go both ways? Or what do you see when you see that happening?

Steve Pereira:

Yeah, it's a great question. I think that it's only natural for us to try and improve areas where we have maximum control. It really is frustrating for us to try and rally against something that is not going to accommodate our efforts, that's not going to reward our efforts, that we're not necessarily incentivized to pursue. So, I think that naturally the low road is to focus on, well, what do I have absolute control over, because I can iterate the fastest, I can learn the fastest, and I can optimize to my heart's content. But I think that's an illusion. I mean, if we go to the theory of constraints, any effort that we make towards not addressing our bottleneck is potentially waste. It could be potentially pulling us in the wrong direction.

In the context of an individual contributor, if I'm focused entirely on what I can control, I could go down the road in a direction that is completely wasteful to my organization. They couldn't care less about what I was doing because it was out of the context of their primary value streams, the primary goals and values of the organization. And so, there's this danger, of if we keep our heads down, and in some cases our heads are buried in the sand with automation. It feels good to automate something. I'm a victim of this myself. And I'm my own worst enemy when it comes to optimizing things that aren't ultimately valuable, because there's so much intrinsic reward in a fast feedback cycle, in the things that fire in your brain when you build a little toy that does what you wanted it to do.

It's a fantastic feeling, but I've also been victim to my bosses, and my bosses' bosses, telling me straight to my face, like, "I don't understand why this was three weeks. Yeah, it's gold-plated and it looks fantastic. It doesn't solve the problem that I have. It's not what we were..." – and that could be

communication. There's a whole bunch of reasons why this is a big mess. But I think that we owe it to ourselves as individual contributors and as leaders to step away and say, "What is the main bottleneck here? What is the main problem that we're trying to solve? What's really affecting us?" And ultimately what we're trying to move the needle on is time to value.

Mike Kavis:
Right.

Steve Pereira:

I mean, all other metrics that we care about are really, like, subservient to that main primary driver that we need to answer for. If we don't have a good answer for that, we need to take a really hard look at how we're doing things and what we're doing.

Mike Kavis:

So, one example of this I see a lot, is you go into a lot of organizations and there's a lot of energy going into the CI/CD pipeline to automate things, but there's 30 to 50 days of waste before you hit the button, and that only gets you to a stage, and there's another 30, 50 days after. And that's an example where we're continuously spending resources trying to make a ten-hour build down to two hours, but you can make it in a millisecond; it's still going to take you four months to deliver anything.

Steve Pereira:

Exactly.

Mike Kavis:

So I think that's one of the things value stream mapping at least points out, is not only what is the waste but where you should start next. So, give me an example of a workshop where you went in there and the data was so mind-blowing to the client – they had no idea how bad something was, and then how they responded to that and hopefully made things better.

Steve Pereira:

Yeah. Well, I've got quite a few but I'll go with the biggest, a gigantic Fortune 100 company, hardware, software, really complex environment – they were using SAFe, I wouldn't say effectively, and they just –

Mike Kavis:

Can anyone use SAFe effectively? I don't know –

Steve Pereira:

[Laughter] That's a whole other podcast. Let's come back to it. Let's do it in two weeks.

Mike Kavis:

There you go.

Steve Pereira:

I'm game. But I think we had a really typical complex, extremely large enterprise environment, and they brought me in because they had a budget that they wanted to make a case for. They had budget to spend on DevOps. They had specifically earmarked it for continuous delivery, CI/CD deployment automation. And what they wanted to do was prove that their hypothesis was correct and that they should get budget for this project. It's going to be multiple millions of dollars. It's probably going to take 18 months to two years to deliver. Well, let's make the case to get this money. And so, they called me in to sort of validate that hypothesis, and it turned out that, after the value stream mapping exercise we revealed that their deployment automation was totally fine, and their biggest problems were environment creation and automated testing, a lack of automated testing to be specific. And they just dwarfed deployment automation.

So, it could've taken them two weeks to deploy their software and it still wouldn't be the bottleneck. So, any effort that they were putting in that area multiple millions of dollars, months of waste that they could've put towards any other initiative, like something that eliminates a bottleneck, would've gotten missed without this exercise. And a comment that I had from somebody on the team – and I'll never forget this – was that – this guy had been in the company for 19 years. And he said – after we did the current state value stream map he said, "I've never seen our start to finish process. I've never seen it before. I never knew what went into it."

And this is after being down the road with digital transformation, agile, DevOps, SAFe. They still had never had that picture of what was really going on. And we wonder why people have all these failed transformation efforts. I mean, how often are people looking at what's actually happening? Before we strive for better, do we know what's going on right now? Because I think that that ultimately drives so much more value than picking something arbitrarily or something out of accelerate or out of a cloud survey and saying, "Oh, yeah, people are finding success there; we should do it." And that I think is just – that's happening all over the place, and people need to look at their own environment before they make those decisions.

Mike Kavis:

Right. And I think a lot of – like that guy's comments were actually very common when you do these workshops, because a lot of work is not visible. So, you think – everyone thinks they know the process, but they all know it from their own lens. Until you get them all in the room and you find out, well, if Bob's on vacation this day, the process stops, and nobody knew that.

Steve Pereira:

Yes, yes.

Mike Kavis:

Maybe Bob didn't even know that. But –

Steve Pereira:

Right.

Mike Kavis:

There are so many things that are out of the picture and not visible. So, I don't know if you've seen a lot of those examples as well.

Steve Pereira:

Oh, it's massive. I mean, every team that I go into, we have part of the value stream, after a current state value stream mapping exercise, we've got question marks because we chose not to include the sales and marketing people, because I was assured that they're outside the process and you know, they're not going to be the focus of this, and that might be true. You've got to draw the line somewhere. You've got to make sure that – you can't always have the entire company in the room. But whatever you don't have in the room, whatever perspectives you're not including, they're going to be pretty cloudy, right, and cloudy in the not-so-great sense.

Mike Kavis:

Do you ever have the opportunity to do these with the customer in the room? People probably don't want their dirty laundry aired out, but have you ever gotten a chance to do a value stream with customers?

Steve Pereira:

Not yet. I'm still working on that one. I think that's the dream. But I'm aiming for the early days of configuration management, if we walk back to the days of Chef and Puppet, they weren't worried about competition; they just wanted people to use something. And I'm at the stage where we're not at a level of sophistication that we're bringing customers in. I hope we get there someday. I think that'd be fantastic really. But my battle right now is convincing people that this isn't scary even when you don't have your customers in the room. I mean, oftentimes your customer is an internal customer and having them in the room is challenging enough.

Or you've got leadership in the room, and that's a factor that I have to accommodate when I facilitate. And I think that's a big benefit to having someone like me come in from outside, is we've got to make this safe. And having customers in the room, having leadership in the room, it could shut all of the dialogue down. I mean, it could cause people to sort of pull or keep their mouths closed when they have some insight to offer. So, we don't want that. I do hope, though, that this becomes commonplace enough that we have a lot of forward-looking, really advanced and generative organizations doing things like including customers in the room, because it'd be fantastic.

Mike Kavis:

So, a question for you, and a lot of these are for my own – normally I know the topic a lot more than I know this one. But do companies – sometimes it's a one-time event, but the companies that are really good at continuous learning, is this a thing that they schedule on some basis where they continuously go in and reevaluate and do another value stream mapping?

Steve Pereira:

That is exceedingly rare. I'm fighting a battle to get companies to do this for the first time, and I think that making it a regular practice – I would love to see teams doing this every three months. And I'm at the point where I train these teams to do it, because you don't want to be calling me in every three months. You don't want to have to do that. That should be a part of your organization if it's going to be continuous. So, I know that the DOJO consortium companies – there's a couple companies in there like Comcast, Verizon, Walmart, they've incorporated value stream mapping into their sort of DOJO practice.

And they have sort of like a – not a DOJO pattern where they bring the team in, although they can do that, but in many cases, they're sending out a facilitator from a centralized team. And what I call this – this pattern is a value delivery team. It's an enabling team under the team topology sort of structure. You would think of it as an enabling team. But what I'm doing now with large enterprises is going in and setting up this team that will then go into separate product, or other enabling teams, and conduct these sessions, because it's not something that everyone's going to learn. I think—I've got years of experience with it and I'm learning something new every day, so it's not like something that everyone is going to learn. But I think having people on staff where that's their full-time job really, because in a really large organization we've got hundreds of teams.

And if you're iterating through all of them trying to facilitate these sessions, it's going to require an investment, but that's where you really see a lot of benefits, right, because you can compare and contrast teams. You can share measurements across the organization and say, "Here's how we're performing; we're working very well in these areas, but we have terrible lead times in this entire area, so what can we do about that?" Right? And we can be collecting the learnings and collecting the best practices and forming communities around it, and I think that's where I'd love to see this go. I'd love to see a value delivery team in every organization.

Mike Kavis:

Have you ever seen clients challenge the findings and fight against the recommendations because it kind of steps on their turf?

Steve Pereira:

The thing that can be surprising to people is, value is probably the most challenging one. When you reveal that four weeks of a process, only like two days of that time are actually value-added time from a customer perspective – there could be a lot of value generated from an employee perspective, or a company perspective. But ultimately what the customer wants to pay for is really what matters to everyone. I mean, that's what's keeping you in business. So, that can be challenging. It can be tough to work on estimates. Like I don't really care so much about precise measurements.

When I'm doing a value stream mapping exercise it's best guess from a few people, and we'll take the average, or we'll take the worst case and we'll throw that in. So, anyone who's looking for a definitive "this is objectively the correct measurement" is going to be disappointed, but that's not the point. You know, the point is to find a bottleneck. It's not to find out how bad is the bottleneck, because once we find a bottleneck it's so much bigger than everything

else, it doesn't matter what the precise measurement is. It's diminishing returns. So, the more precise you are, the longer it takes, the less valuable the actual activity is. So, I try to keep it super minimal.

I'm talking two, three hours most to do a current state map. And I think that's where we've seen a lot of challenges before in organizations where they take a week to do this and they end up with 2,000 steps and eight measurements for every step, and at the end of it nobody wants to think about it ever again. They certainly don't want to do it again. They don't even want to look at the map because it reminds them of that horrible exercise. So, for me it's all about making it fun, making it as low-impact as possible on the team so that we can point out those risks and opportunities and start fixing them rather than trying to build the perfect map, or trying to build a map that everyone is satisfied with.

Mike Kavis:

So, last question. For all those listeners who are in one of those bottlenecks and they know it and they're trying to sell up, saying, "Hey, we need to do some value stream mapping," and they're not having success, what are some of the tricks we can use to express the value of these things and to sell up and say, "Hey, we really need to do this."

Steve Pereira:

That's a great question. It's a good reminder to me that I need a "Convince your Boss" PDF that I can send people. It really depends on your level in the organization. Like, my primary customers are like VP engineering. They know that they're measured on delivery performance; they know that they're measured on lead time, and so their challenges really map well to something like value stream mapping. It's like everything that I'm struggling with – complexity, friction, visibility – perfect, perfect match. In the rest of the organization where they don't necessarily have control over that lead time, over processes, over changing anything, I think an easy way to get started and to sort of sell this up is to try and do the value stream on your own. I mean, pick your start and end point. We get requirements from customers or requirements from a backlog, and we have shipped something to customers that they're using.

I like to say the boundaries that I like the most are when it starts costing you money to when it starts making you money. And it's easy for people to understand. Map that out from your own perspective, right, and highlight those areas where you see the gaps, where I don't really know what happens there. I don't really know how long it takes. I don't know who's involved. I don't know what kind of artifacts we're creating. I don't know what kind of tooling is involved. You can build a map that looks like Swiss cheese. It's just full of holes. And then that starts a conversation. We can bring that to everyone else in the organization and say, "Hey, this is – I've been working on something to try and boost my understanding of what the big picture is; do you know what happens in any of these gaps. Can you help me build up this picture?"

And that can be kind of the grassroots approach to getting people kind of conscious of this idea, because we don't really understand that it's a problem until you start looking at those maps and people start asking themselves, "Oh, yeah, I really don't know what's happening, and the fact that we have complexity, friction, and we can't see things, that definitely seems like it could be affecting our performance. It could be affecting our outcomes, and I'd be very curious to find out where we're being most affected by those things that are happening."

And I think it can be very grassroots in raising awareness and then having channels where – I think we're lacking a lot of content as well. We're lacking a lot of talks about different aspects of value stream mapping. I'm trying to generate as much as possible, and there's a lot of folks out there talking about this now, but we certainly don't have a Bible of value stream mapping in software yet. That's in the works, and I'm a terrible – [laughter] I'm a terrible writer, so I apologize for not having it done yet. But I think when we see things like *Project to Product*, it really is – *Making Work Visible* get released, *Accelerate* get released, *the Phoenix Project* – people can sort of rally around ideas with the confidence that this is a real thing, we can have conversations about it, and there's a trust that it's a good idea to follow.

But in the absence of that material that says absolutely 100 percent do this – you know, we have Forrester, Gartner saying yes, but I think the grassroots approach of just saying, "I don't know what I don't know and I'm curious about it," and I think most people will find that a lot of people are curious about it. Once you raise the question, you can't sort of not think about it anymore. We're just naturally kind of curious about what is the whole reason why we're doing this. Why do we come to work in the morning? And that's the question that we're ultimately answering with the value stream.

Mike Kavis:

I have one slide, and I'm not going to remember all four, but like I said, I do a lot of work helping people with new operating models, usually around setting up platform teams, implementing DevOps, SRE. And when you do that, the four main processes I see that should change the most and will slow down your acceleration if you don't change it is like incident management, change management, release management – I don't remember the fourth one, but like four of them. Like, those are the repeat offenders of not getting cloud acceleration that I see a lot, just in the context of, how do we run what we build in that use case. So, yeah, so if we could maybe boil it down to people and say, "Look at these few things, and if you're having pain in there let's go attack it," maybe that's a good way to go.

So, appreciate your time today. I love this topic. Maybe we'll have a SAFE conversation some other day.

Steve Pereira:

Absolutely.

Mike Kavis:

But where can we find you on Twitter? And if you have any talks out there, where can we find your good content on this topic?

Steve Pereira:

Yeah. Well, I've got everything kind of collected under StevePereira.ca. Visible.IS is the company website. I'm on Twitter @SteveElsewhere, and I spend a little bit of time there. It's not really a work focus for me, my sort of work presence on social media is on LinkedIn and I love to connect with people there. I'm on there all the time trying to share ideas and have conversations with people. So, I would love any of that. Steve@Visible.IS is my e-mail and I would love to hear from folks who listened to the podcast and had further questions, or they want to have a conversation about anything under the sun about value streams. I can't get enough.

Mike Kavis:

Yeah, me neither. So, thanks for coming to the show today. That's our show, Architecting the Cloud with Steve Pereira. To learn more about Deloitte and read today's show notes, head over to DeloitteCloudPodcast.com. You can find more podcasts by me and my colleague Dave Linthicum just by searching for Deloitte On Cloud Podcast on iTunes or wherever you get your podcasts. Again, I'm your host Mike Kavis. If you'd like to reach me, I'm at MKavis@Deloitte.com or you can always find me on Twitter, @MadGreek65. Thanks for listening and we'll see you next time on Architecting the Cloud.

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