With Marlin Metzger, Principal, Deloitte Consulting LLP, Application and Modernization Offering Leader

Raquel Buscaino: Welcome to Deloitte TECHTalks. I'm your host, Raquel Buscaino and I lead Deloitte's Novel and Exponential Technologies team where we sense and make sense of emerging tech.

Although mainframe systems often get a bad rap for being legacy tech, they are far from retirement. The trick, however, is in modernizing mainframes, so that they can engage with new and emerging technologies. And what if AI was just what mainframe needed to level up and meet tomorrow's business needs? On today's episode, I'm delighted to be joined by Marlin Metzger, the Application Modernization and Innovation Offering Leader at Deloitte Consulting LLP, to talk about the very tangible ways in which organizations can leverage AI to boost their modernization journeys. Marlin, welcome to the podcast, it's great to have you here.

Marlin Metzger: Thanks for having me.

Raquel Buscaino: Before we dive into all the specifics of AI and application modernization, can you help us understand why so many companies are attached to their legacy core systems?

Marlin Metzger: So, they work, right? It's plain and simple. The legacy systems still work, they generally provide all of the aspects of what those businesses have been doing over the past couple decades, and frankly, it's risky to change. The challenge though, is that you end up being in this situation where you're trying to move forward and keep up with all the competition. But you're still working with something that obviously serves your business need as it exists today.

Raquel Buscaino: Can you give us a scale of how widely used mainframes are? I mean, what's the size of the mainframe market as it is right now?

Marlin Metzger: Many people would be surprised, right? A lot of the transactions that we see every single day, we think we're processing them from our phone. And most of the time that will end up being processed on a mainframe at whatever that organization is that you're interacting with. So approximately 70% of all transactions that happen on the planet today are processed on a mainframe. [1] So, a lot of times that will, really cause a lot of "wow" type moments, but when you start looking at credit cards, right? That's technology that has been sitting out there for 30, 40 years, has not really evolved all that much. And again, they work right? And there has not been a lot of reason to move away from that but a lot of things are coming together, and people are starting to realize that the ways that we did things 20, 30 years ago may not be the way going forward.

Raquel Buscaino: Definitely. And so, you mentioned, it's 70% today. Is the expectation that that will continue growing?

Marlin Metzger: Also, interesting. As you think about, just generally from a societal standpoint, we're moving more into a digital world. However, many of those things in the back office can still be done on paper, or there can still be some form of manual entry that has to happen. So, to your question, the mainframe workload continues to increase as organizations digitize all those back-end processes that

could be paper-based today. As more systems come online and are available to consumers the mainframe workload continues to increase, and that 70% is still staying around 70% just because of the general overall increase, but the number of overall transactions is definitely going up.

Raquel Buscaino: I like how you mentioned that risk/reward dynamic that companies are struggling with because sometimes it can be hard to innovate when it's in an environment like this. Why should businesses innovate even despite the risk, or the complexity involved?

Marlin Metzger: So, there's competition in the market. And you can have "born in a cloud" bank versus a "brick and mortar" bank that's been around for decades. And it's really a different experience that we, as customers, end up coming across. If I want to be able to move money and have money available in the same-day transaction. That is something that is going to be there from a bank that's already working in the cloud. Whereas I may see a pending transaction if I am working with one of the large legacy banks. So, you get into the situation where you have customers that are used to being able to have things happen in real-time right now. And sometimes you have technology limitations that prevent you from doing that.

Raquel Buscaino: Yeah, competition and changing customer expectations. Those are two pretty strong drivers if I've ever heard of them.

Marlin Metzger: Yeah, you kind of need to hit both of those right.

Raquel Buscaino: So what about the role of AI? I mean, AI is maybe the tech topic of the last two years. How are you thinking about AI as it's applicable to modernization?

Marlin Metzger: So, AI is very applicable. And I think the story is still being written right now. We know that there are areas where we're already able to use AI. You can think about Generative AI in the standpoint of being able to look at and understand what some of these legacy systems do. You're able to look at AI from a testing standpoint, you're able to look at AI for obviously patterns and data in recognizing trends. All over the place. But most cases right now in upfront analysis, understanding of what these applications are doing, and then clearly, the ability to use AI for testing is another example.

I think the coolest thing that we have about AI is not necessarily knowing where it's going to end. So, there's a lot of activity right now in the areas that I just mentioned. But as you start to go forward, and you think about what one of these organizations can be once they start to fully leverage and use AI— those are going to be yet another round of pivots to net-new business models that, back to [where] we talked about risk and the competitive side of organizations being stuck in these mainframe environments. If I technically cannot leverage these new business models that will come and be available from AI, I'm lost as an organization. So ultimately there's a little bit of a FOMO (Fear of Missing Out) type factor that's going to happen, again because of some of the legacy tech constraints.

Raquel Buscaino: Interesting. Because the first part of what you said, at least what I heard is AI is a means to modernize, whereas that second piece you mentioned is AI is the impetus that is kick-starting organizations into modernizing because they don't want to miss out on the potentials that AI can bring.

Marlin Metzger: Absolutely. There are several factors that are coming into play, on "why now" right? As I said, mainframes are there, they work, they support the workload. We talked about the competition aspect of it but if you think about the resources that are able to maintain these legacy mainframe environments, those individuals are nearing retirement, if not already retired, and just having that expertise in the market is something that's not there anymore.

And then we get into cost. We talked about the costs from overall maintainability standpoint. But if you start looking at Federal government spend, it's worth 50% of the IT budget spent keeping the lights on versus actual modernization of these legacy systems.[2] You want to see modernization, you want to see innovation, and when you're spending over half the budget just to keep them working, that's not leading us to where we need to be from a societal standpoint, so the light at the end of the tunnel, the carrot that's hanging out there—is AI. And not just AI but the net-new business models and ways of interacting in this new AI-based world is coming together, as I would traditionally describe as a confluence of change that are driving a lot of tech revolution right now.

Raquel Buscaino: The talent piece and the tech debt is especially relevant here, because to your earlier point, you could kick the can down the road for a day, for a week, maybe for a year, but at some point, it catches up to you, and when talent and tech debt reach a point where it's unsustainable, something needs to be done.

Marlin Metzger: The can's been kicked so long that the can is...falling into a couple of pieces of aluminum at this point because...

Raquel Buscaino: Okay.

Marlin Metzger: ...been going on for so long. And now, right, you'll hear the conversations around things are bandaged together and stuff like this, and you know that is the can. Right? So, you have two different worlds. You have the net-new company born in the cloud, if you will, and then you have these existing organizations. And some of those existing organizations find their way out of these legacy technologies, getting their way out of the legacy tech debt, being able to put more of their budget into net-new business modernization versus keeping legacy systems on. Being able to attract all of the top talent versus trying to find somebody who's willing to work an extra two years to maintain these systems. Now you are actually at the point where—call it figuring out the secret sauce, having automation tools, having again the introduction of AI—but really figuring out the playbook to how it's done, as well as the maturity of cloud and cyber, and all these things coming together, allow for this moment where organizations are able to modernize away from these legacy systems into net-new functionality that again results in a great experience for us as customers.

Raquel Buscaino: You just listed a cornucopia of benefits for organizations here. But my guess is, it's not always easy to get started on this journey. Of course, every organization probably wants to get to this future that you're saying. What are some of the challenges that they have in getting there and realizing this future?

Marlin Metzger: Typical answer is, it depends. But starts with #1, knowing where to start. And depending on the stakeholder, the position of where you want to start is often not the same place. For

example, if I'm leading the business my key driver is net-new business functionality for my customers. If I am sitting in the CTO [Chief Technology Officer], CIO [Chief Information Officer], CSO [Chief Security Officer] chair, oftentimes I'm trying to address security concerns or tech debt, or that aging IT workforce. What I've seen in that situation from a successful approach standpoint, is sitting down and engaging to understand what exactly you have in your IT. And then, understanding, "What is the vision. Where are we going? Are we going 100% on cloud? Do we have a mixed model of some private cloud, some legacy distributed applications that are still going to exist for whatever reason?" and then you need to sit down and figure out your plan.

And oftentimes too many organizations are short-sighted, and they know that they have one pain point in one area, and they start attacking that area which may be small, and everyone can wrap their head around. And then they realize shortly after that. "Oh, no, that area has complexities and interfaces back to other parts. The data is spread into multiple places," and they often find themselves in a situation where the project doesn't go so well. So short answer: figure out exactly what you have, make sure that all the stakeholders are on the same page, and then figure out what your plan is, where to go. Easier said than done because again, these systems are extremely complex, with the sheer number of applications, modules, amount of code amount of data, data that hasn't been cleaned up in decades. So, there's a lot of challenges as to what's going on there. But ultimately It takes a strong leader inside the organization to spearhead and drive the initiative forward.

Raquel Buscaino: These systems have been built over years and decades, and so much time has been invested, would almost be silly to think you could flip a switch and it'd be all fixed. But I also love your point about that you need to treat the problem holistically. I almost think about it like as if you're going to see a doctor. Maybe you've got a joint pain in your knee, but it's really connected to your hip. And so, unless you've got a bird's eye view into what the system needs holistically, you might miss the point, or worse even aggravate the issue even further.

Marlin Metzger: I love the medical analogy. We often talk about this as going in for a heart surgery, because this truly is the heart of the business. So again, you start something on your phone or on a web app, but the transaction is still flowing through the heart of the business, which is the mainframe. And when someone tells you, you need heart surgery, you generally just don't take that individual's advice right? You go get second opinions, or you go out and have more conversations to understand exactly why. You do all of that upfront discovery, analysis-type work in that situation before you proceed. But again, if you know that it has to happen, because customer expectations, competition, etc., you still will have a heart surgery. So, love the medical analogy, and absolutely, that is something that our clients are thinking about.

Raquel Buscaino: Yeah. So, let's say that we, you know, we're working with a client. We get past these challenges. What are some exciting things you're seeing in the market from companies who have done this successfully?

Marlin Metzger: So, you know there every sector right, there are common themes around fixing the IT talent challenge. There are cost reduction benefits as well, there's the tech debt removal aspects. But when you start looking at certain areas, I mentioned some of the paper processing aspects. If you think about healthcare, what happens when you go into the doctor's office? What do they hand you a

clipboard with some paper, and you think to yourself, "I just filled those papers out last time I was here. Why am I filling them out again?" So, in these situations, when we're able to come in, and actually modernize these systems and start moving some of that legacy technology away from the mainframe processing where some of these have to be scanned. You get into an actual situation where using electronic health records and these are amazing benefits right? Think about the cost savings, the actual employee processing of all of the papers. So, this is one example, where again, cost savings come out of that, efficiencies come out of that, the ability for us to now go in and see our medical records in our own patient portals, and things like this are great benefits all around.

Raquel Buscaino: The healthcare example is really impactful to me, because you might say, "Oh, yes, you're just moving it from a physical to a digital version." But what you're really doing is you're unlocking an entirely new suite of services for the customer, where I never would have had this level of insight into my data that is now made possible because of this transition. So, it's both an efficiency play, but servicing customers in a whole new market. And so, you know, these norms take time to change, but once they do change, I mean that's where that competitive piece comes in because I'll say it firsthand, now that I've seen the light I don't want to go back!

Marlin Metzger: Yeah. And that's it. Right? As a customer, you experience it once, and that's the new expectation. That's happening across every sector. And whether it being from starting a transaction from your phone or facial recognition when you're boarding a plane, all of those technical innovations are increasing expectations, and coming back and driving this change around legacy tech modernization.

Raquel Buscaino: We've talked a lot about application modernization, but your role is also as the innovation leader. As we think about wrapping up here pivot to that innovation part. When you think about the future IT enabled by AI, what are some of the most exciting benefits or developments you're looking forward to seeing happening in the next 3 to 5 years? What are we talking about today that will become table stakes tomorrow?

Marlin Metzger: I think there are a few things that happen right. There is a tremendous amount of intellectual property embedded in these applications that we're talking about right now, in legacy code that was written, 20,30 years ago, and hasn't ever been touched since. All of that is buried out there in millions and tens of millions of lines of COBOL in this example. So, I see, a very hopefully, not 5 years, and maybe the 2-to-3-year horizon, where that IP is now combined with some of the large language models that we actually have sitting out there. But imagine that you have those models combined with an organization's IP, and they have these private models, actually being able to perform a transaction versus getting an okay response. Right? So I think that's something that's really cool that's on the forefront. But again, in the context of this conversation, not possible unless you're able to go out and get that IP out of those tens of millions of lines of code.

Then I think that's compounded by, the concept of kind of a bit of a buzzword these days "agentization". So, it's compounded by being able to "agentize" all of the net-new services that are coming out from an AI standpoint. If you think about what I can do today as an individual, and the interaction that I can have with a, just take the airline industry as an example. Once you start checking in. Well, what if I already set up my profile where I can have my own agent just basically take care of the entire transaction flow and transaction process for me. I think, as we move forward, and you start to "agentize" all of the different

aspects of what we're doing from an AI standpoint, you get into more holistic experience from a customer standpoint.

Raquel Buscaino: Yeah, I mean, both of those are really exciting. I mean from the IP lens. Maybe the way I even think about it is, I've got all this stuff in my attic right now, but because it's such a hassle to get to my attic, there's no way I'm going up there. But what if I could do that easily? What IP is in your attic?

And then on agent side, what would the future look like that if everyone was enabled with a digital assistant? So, it's certainly a really exciting future that we're working towards here.

Marlin Metzger: Absolutely. It's going to be cool. It's going to be fun to see it evolve and see all the impact that it can make along the way.

Raquel Buscaino: I'm with you, I'm with you. Well, Marlin, thank you for such a great discussion. This was great. To all our tech savvy listeners out there. If you enjoyed this episode, please share and subscribe. And if you'd like to learn more about the impacts of AI and generative AI on application modernization or to stay up to date. Our socials are listed in the episode description. Thanks for tuning in, and I'll see you on our next episode. Until then stay savvy.

[1] Retrieved November 2024 from IBM blog: New IBV study: AI drives mainframe innovation
[2] Retrieved November 2024: $1.14 Trillion to Keep the Lights on: Legacy's Drag on Productivity

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