

Welcome to our leadership dialogues where we have been focusing on reimagining financial services.

We have been exploring topics across reinvigorating payments, refreshing customer journeys, and rethinking the ecosystem. In this video, we focus on cloud and new business models and how these will transform the industry. Ben Matthews, Baringa Partner, is joined by Michael Mueller, CEO of Form3.

*Almost exactly five years ago, Form3 was formed with the mission to change the way that payment technology is delivered to regulated financial institutions.*

**Ben Matthews: Following a rather tumultuous year for the industry, what trends have you seen the past 18 months do you think will persist?**

Michael Mueller: There are many interesting trends in payments: The payments market is growing rapidly, and I think part of that is fuelled by the move from cash to noncash payments. Secondly, real time payments are taking over across the world. In the UK, we're quite used to the faster payment system and payments being executed in real time, while other countries are a little bit further behind. There are new clearing settlement systems implemented, and we see a wholesale migration from ACH two- or three-days settlement cycles to real time payments.

On the other side, we have interesting developments in technology. Those started well before the pandemic, but in many ways have accelerated and there is very good evidence now for a trend in financial services that sees banks transfer a lot of their technology into the cloud, transfer a lot of on-premise deployments into cloud native technologies, and there's recognition now in a post pandemic world that sitting on proprietary data centres in various locations might not be the best way for financial service providers to manage their tech.

The third aspect is Liquidity - there is a lot of investment that goes into payments. In Fintech, (new providers) we've seen some of the recent valuations in the market of payment service providers, with some of them now bigger than legacy banks.

And there's payment technology. There is a genuine push for overhauling infrastructures in financial services and, we're very happy to be to be part of that.

**Ben Matthews: From your relatively unique position and what Form3 do, what common challenges have you seen financial institutions face when adopting new technologies? Can you share any tips or insights on what's worked well and how these challenges were overcome?**

Michael Mueller: Many of our customers are still on the journey and it isn't an easy journey, but it's a necessary one. But why are they changing and what are the pressure points that we're seeing: A lot of what we're seeing in the market are serious concerns about the security, resilience and performance of legacy architecture, not to mention cost. There is a concern, particularly in banks, that if they don't modernize their estate today, they will lose out and they will be faced with more outages, more technical issues, maybe greater risk, but certainly cost pressures that are coming in where new providers have a much more efficient payment back office systems. You asked about the challenges – any technology overhaul brings its own unique challenges. When we started five years ago, there were concerns about the use of the cloud, in particular the public cloud, and how that would work from a security and performance perspective.

There were certainly regulatory concerns around whether the regulator would allow mission critical systems to live in public cloud environments. You would look at migration challenges such as how to make sure that moving from one setup to another doesn't create a massive risk. Payments are one of those products that need to be on all the time, particularly in the real time environment, so you can't miss a beat when you're when you're cutting over.

Over the past five years, the environment has changed. Most of our customers would recognize that there's really no alternative to cloud native technology. When I say cloud native technology, it doesn't mean it needs to run in the public cloud. What I mean by that is component-based architecture, platform-based architecture, that can be assembled relatively easily through the use of APIs to create an end customer journey. That has become a standard and the regulator, Bank of England, the European Central Bank and others have recognised that it's very hard to buy technology today that is not cloud native.

And that means there is a very open dialogue between the big banks and the regulator about the safe use of these systems. From the migration and implementation point of view, the recognition is that with component-based architecture, you don't necessarily run those migration projects as a Big Bang. You don't need to cut off your entire payment in state on Day 1, over a weekend, as before. You can actually phase in new technology, component by component, payment type by payment type, sort code by sort code and therefore make it a lot safer to transition to cloud native technology touched on.

**Ben Matthews: Even two years ago there was more uncertainty around the transition to cloud and how that could be regulated, and importantly, how the banks can show that they are safe and secure in that cloud environment. How have you seen those attitudes change over the past couple of years and are you positive about how the regulatory world will evolve to support cloud over the coming years?**

Michael Mueller: In my view, there is a lot more knowledge and a lot more awareness of the various aspects of what we're talking about here. Those frameworks are emerging. Any large-scale technology transformation in a bank will require regulatory approval, and those approvals will have to be based on a thorough review of the target infrastructure.

In fact, in many instances, like with our products, well defined outsourcing rules would apply so that there are procedures for this, and that means we have more certainty around how it will all work from a regulatory approval perspective. One particular concern is coming more lately, in particular the Bank of England has become quite vocal in this space, and that is dependency on large public cloud providers, which is a concern. The public cloud world is dominated by less than a handful of major providers, and having entire economy is being dependent on those is a concern that the authorities are looking at more closely.

We believe that we have a good answer for that in that our stack will be completely cloud agnostic, which means it will be very easy for our customers to decide where it should live, and that includes public cloud but also private cloud rollouts which basically gives our customers the flexibility to prove that if they're no longer comfortable with working with one public cloud provider, they can move to another. In fact, we're building it in a way so the environment lives in different public clouds in parallel so that we can actually cut over on a dynamic basis.

This is going to be a very interesting topic in the next few years. How will major financial institutions build platforms, but that won't mean they're heavily dependent on a number of mainly American public cloud providers.

**Ben Matthews: A big proportion of the challenge being not so much the tech and the tin, but rather the people, the culture, the actual transformation element of this. How important it is to work with organisations who are already working in an agile way, versus those that may be more traditional. Do you see that as a big dependency and how successful these transformation programmes are?**

Michael Mueller: For many organisations that were working with introducing technology like ours, is not only an attack project, it is also a change in the culture and how they run it. The key aspects of this are that most cloud native technologies out there are platform based, which means several different customers sit on the same platform or effectively use the same code. Heavy customising that we've seen in previous decades around on-premises technology is no longer the way to go. Our customers tell us they don't want us to customise as they want this to be future proof. They want us to manage any new initiatives, such as new payment architecture, ISO 20, or 22, or whatever the industry throws at banks, at platform level, which makes it future proof. You can no longer define the exact details of how that platform works.

On the other hand, you have things like continuous deployment: Looking at maintenance releases and things like that, a platform like ours would see new releases on a daily basis. We constantly introduce new code to the platform, and that is managed in a way that we never have to take the platform down. The days where you have quarterly/ big releases, where you have to take everything down, inform all of your customers that you'll be out for a couple of days, are clearly gone. There are a few other challenges in that transition, like how you use the tool chain, how you set up your teams in an agile manner, and how you manage the integration of an agile platform with a legacy environment that was built on different technology foundations. It is very interesting and exciting to work with system integrators and consultants who can help us build that bridge. More importantly, as a technology provider, help us stay out of the complexity on the customer side.

**Ben Matthews: Before we close, given your position in the industry, over the next two years, what are the things that excite you most about where the industry is going? Are there any technology providers out there who you are excited about?**

Michael Mueller: If you look at the evolution of payments and payments technology, in particular, account-based payments, we're still looking at what could be described as a cottage industry. Every single bank is manufacturing payments, in their own way with their own tech stack, in a very opaque manner. The opportunities that arise from transferring those processes onto a platform are massive. They start with making payments smarter, to add more payment workflows to what is a very short and very quick payments journey. These systems run in less than 100 milliseconds all the time, but there's room for improving fraud prevention. There's room for applying other functional procedures to the payments that we wouldn't necessarily process. There are a lot of interesting concepts out there that use artificial intelligence and data in a different way within the lifecycle of a payment, that just make payments a lot more intelligent. What excites me is where we can use those integrated infrastructures to add value to the payment processing itself. In recent years, all innovation in payments has taken place in the front end (mobile applications, ecommerce), with a whole range of new ways in which you can initiate a payment. There has not been too much innovation in the

backend. For instance, for us to look at data more actively to figure out how data can transform the way that our customers deliver their products to their clients, are interesting developments. In many ways, the payments industry is behind compared to what we're seeing in other parts of the economy. For us to be part of a journey where we make payments more intelligent, more real time where we leverage the platform in a different way, where component-based architecture can incorporate Form3 and non Form3 elements in a very dynamic way, is an exciting prospect. For me, being in payments for close to 30 years, now is undoubtedly the most exciting period in my professional career. It's a really great time to be in payments.

**Ben Matthews: You're talking to the converted on that one. Michael, thanks so much for taking the time to take part in our Leadership Dialogues, it's been an absolute pleasure as ever. For those who've watched this, there's more content coming out as part of our reimagine financial services campaign. Do get in touch.**

Michael set up Form3 five years ago, after spending more than 25 years in executive positions with Deutsche Bank, Royal Bank of Scotland and Barclays.

For many years Michael has been passionate about driving digital change and innovation in global banks and has sponsored many key initiatives in this area, including white-labelling, biometric security, and mobile payment/banking technology.

Reengineering payment back-office systems in response to industry developments, customers demand, capacity constraints, cyber threats or cost challenges has been a strong focus of Michael's work during his time in financial services and as the CEO of Form3.