

The path to unified ledgers

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Hello, and welcome to the ultimate podcast. My name is Luis McLellan. I'm the editor for the digital monetary Institute at office. And today we're going to be talking about the unified ledger concept that has really caught hold of the imaginations of financial market participants in the past year or so. It's an exciting concept for how the plumbing of financial markets might be updated, upgraded to the next generation. With me to discuss that we've got mashreq top rack, who's the Emir head of coin systems from Onyx at JPMorgan and a tuba char head of product at Party are great to have you both with us. Thanks for joining us today.



01:06

Thank you. Great to be here. Likewise. Great to be here. Thanks.



01:11

Great to have you guys. So Patrick, can we start with you? Can you just talk us through the this unified ledger concept and the you know, what does that really entail? What's what's the vision? And it seems to have caught on quite suddenly? Can you tell us a little bit about why that is and why it's a desirable future to pursue?



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Right. Great, thank you. Yeah, indeed, a very hot topic. And I think it captures the ambitions and aspirations of a lot of parents project, either POC or live applications and projects that are

going on today. I think that are multiple ways of looking at what unified Ledger's are. And I think over the past year or so, since the term was coined, there have been various different ways to express it or define it. But I think that are two perhaps lenses that we can we can look at. One is technology. I think over the past years, we've seen single use case applications that are being developed, or perhaps more contained within a set of participants. And these have been due to various reasons from a technology perspective, for example, you know, scalability, privacy issues, etc. But I think now we're moving towards the concept of unified ledger, that that means increased interaction across painel participants, and almost like flattening the ledger across the different types of transactions that we we do today. So the other land is use cases, right? So use cases out again, we've seen developments of single use cases looking at specific use cases, they could be you know, domestic settlement use cases or cross border settlement use cases, or market settlement use cases. So these are also now with the advances in technology as well, what what is being looked at as a possibility to keep these together and create more efficient structure where we can reduce the chain of intermediaries that take place across transactions that take place. One example is cross border payments, as we all know, that are today, the inefficiencies come from the long payment chain with multiple intermediaries, which adds to the processing time seas etc. So that's where most of the traction to unify Ledger's is coming from, you have the ability to flatten the ledger and increase composability across different applications and different use cases.



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When you say flatten the ledger, can you can you unpack that concept a little bit? What do you mean by that? Sure. So today of course, you know, we have very much a system based artists architecture, right? So financial institutions have their own system where their ledger and I think what we are looking at is moving towards more of a network a in perspective, where the tracking of the services and applications are are different. So flattening the ledgers basically mean that you leverage the same ledger environment to complete a transaction rather than having to hop back and forth between different different Ledger's. So you can take one ledger environment add to choose the source of truth to complete a transaction.



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I see. Okay, so being able to use, you know, the same ledger that's tracking ownership for the payment that you're the process



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thing and maybe the asset that you're settling against that payment. And yeah, having this within the same platform and the same the same system. And I guess the advantages there are you can, yes, settle, maybe straight through processing, that kind of thing. You can kind of settle these transactions or these different legs against each other more efficiently. Exactly. Yeah. Okay, I see. And, you know, this is vision of the future that has been kind of articulate that, I guess, by the Bank for International Settlements, they had their paper on the unified ledger last year that expanded on that with the internet paper this year. So it seems like, yeah,

it's got a lot of support from the official sector, this this concept? Can you talk about why it might be difficult to deliver? And what are the challenges that kind of have to be overcome, to make this reality?



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I think people have challenges. Of course, governance is one, right. So bringing together multiple parties on the same environment requires governance and framework. So that's a key challenge. And, of course, also, regulations, different regulations, across markets, especially for cross border use cases, then you're looking at, you know, different regulations. So that's the second aspect. And then, of course, there is the other, you know, the technical aspects of scalability. And also privacy as well, you know, some of these solutions are still developing, there's, you know, more today than it has been, but of course, they're still developing solutions. I think one of the, the aims of unified ledger is to make sure you know, also to reduce, you know, some of the processes that are done by each financial institution, independently, such as clearing monitoring activities, these are done over and over again, across the chain of different institutions. And, you know, having institutions in the same environment, you can leverage potentially, you know, common applications to support these processes, and remove the, the multiplication that we have today. I think all of these things, all of these challenges, of course, are their, you know, big challenges to solve for, I think, sometimes there is perhaps desire to, there's an aspect that was mentioned in the, in the intranet report, whether we should take incremental steps, or, you know, transformative steps. I think we, you know, sometimes there is desire to say, well, you know, we already have digital rails today, our money is already digital. So we can just connect them and not look at doing something formative, you know, these can work in the short term, but I don't think they would allow us to really benefit from the full transformation that we can achieve. I think that's, that's a challenge that we will be going through how to move incremental steps or or big steps. Yeah, and I guess, associated with that how to how to motivate people to, you know, whether that's the banks or the official institutions to put the funding or the resources into making this happen at all, anything you want to add on that or on why it's a desirable concept to proceed. No, I guess basic has hit the nail on the head. Clearly, the vision is really revolutionising wholesale settlement, global commerce by integrating commercial bank money tokenized deposits, assets, central bank money into, you know, programmable and interoperable Ledger's. And that really is the key, you know, we say that today money movement is electronic. But is it truly digital? Does it you know, is it something which can be programmed. And that's where you realize that money movement, asset movement, exchange of these results in a lot of inefficient inefficiencies, results in a lot of costs and delays. And, you know, clearly the the innovative use cases today are constrained. And that really is the opportunity which comes up as you have new forms of money which get created and as you have, you know, tokenized assets as you have securities that get tokenized reports, derivatives to the whole fragmented messaging, and the very costly and complex reconciliation processes which exist today. But separately talked about a lot of these processes also tend to be duplicate across each player in the financial ecosystem, that's creates creates friction.



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The important thing to note is, you know, the classic Noah's rule that predicting rain doesn't count, but building an ark does. So it's important that yes,



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This is what the vision is. But it's important to also note that it's not something which is medium to long term. It's also important to recognize that there are networks today which have gone live with these concepts. But your is the classic one, which operates as unified leisure showcases the benefits of streamline efficient programmable market infrastructure, demonstrating the future of instant settlement. So when we talk about that, yes.



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Yeah, I wanted to come on to that. I mean, yeah, looking at like the internet paper or the BIS that we talked about this idea of the flattened ledger for multiple types of assets and payments to be settled against each other, as you live to better because there's a lot of governance issues that have to be solved to bring that to reality. But can you talk a little bit about where we're, where we're at now, and some of the tokenization projects that are ongoing and how they are delivering value at the moment, I guess, because you were talking about it's quite, it might can be quite difficult to motivate decision makers kind of put money into this to progress. But I guess one of the ways that will happen is if they can see presently, examples of this type of system delivering value?



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Yes, yes, indeed. So I will probably start with with home only.



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So and you know why Onyx itself is not a unified ledger. But a lot of concepts that are being developed are very applicable. And it's I think it's a good example of, you know, how tokenization has been developed within JP Morgan, and how it's now also connected to part your right, so this is where we connect, you know, different per network to achieve results, right. So, within onyx, I think the the example we have with jpm coin system, where we offer blockchain deposit accounts, to our earlier point, for example, these are being used for multiple use cases today. So it's not a single use case. But it's multiple use cases across, you know, cross border payments, as well as being the cash leg for a DVT transaction for our, you know, onyx, digital assets environment. And also now jpm coin system is also going to be leveraged by external platforms like Broadridge for their DLR platform, but also within onyx digital assets, environments, we also have multiple applications, digital financing, tokenized collateral network. So these are examples of how tokenized assets within within an environment within a network can be leveraged across multiple use cases, in a commercial environment for commercial customers use cases. And with now, JPMorgan being connected to the party already opens up connectivity for settlements with other banks, on par to your network for cross border payments, 24/7 settlements, and it kind of paved the way of course, for things like TD T and other advanced use cases.



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And also down the line, you know, potential for Central Bank, digital currencies and commercial bank money, interoperability, as well. So that's, you know, our experience from audit perspective, you know, widening the scope that has other examples across the globe, direct in Brazil is a good one, as well as you know, projects across Hong Kong, Japan, Korea, and Singapore as well. And in Europe, there is currently exploration for heteronomous DLT based settlement solutions for market settlements. So this is the focus of those experiments. And exploratory work is around interoperability. So how can we create interoperability with markets, ERP platforms and central bank platform, DLP data solutions, and there are different models that these explorations are looking at. And also, perhaps add on to these projects is, is mobile layer one initiative, which was launched last year with several industry participants, commercial banks and central banks. And they, you know, they become together to look at the development of a permission network that is operated by financial institutions for the financial services industry. So that's also, you know, a very interesting initiative that is on their way, as well. And then we have project Avara, which is also again, captured the imagination of the industry recently. So I think that is also going to be a good one to watch. And I think the industry's expectation is that will be an important one also for the governance and framework

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challenges that we talked about. Excellent. A lot going on in this space. It seems like a lot of a lot of people are working on it. Absolutely. Yeah. Let me come to you on that. I mean, there are a lot of a lot of proofs of concept, you know, that people are working on for tokenization. Can you talk a little bit about, you know, networks that are alive today, and I guess how they improve on the status quo, or you know, what they're replacing, I guess?

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Sure. It's an exciting time to be in the industry. Clearly the industry is moving from evolution to revolution. But that said, there is also clear recognition of the fact that the business case and the concrete business case matters. So it's both transformation coupled with pragmatism and very clear commercial outcomes. That's that's key for the industry players right now. So there was you spot on, there are a huge number of blockchain initiatives which are out there, number of them are still at various stages of POCs. From a partner perspective, it's a platform which is live with banks, all the processing, live domestic and cross border payments, and US dollars in dollars in euro and more currencies, going live shortly, solving real world problems across clearing and settlement effects, post trade settlement and liquidity to start with. Now, the key the key question of clearly every participant which is joined, but you're and looking to join, and clearly we see it as the so called WhatsApp moment or the tipping point, based on the moment of momentum of banks as well as PSPs joining, but your to create competitive advantage is based on very clear value propositions. So what are these key value props, I'll just list out maybe a couple of them. So one really is bootstrapping the digital currency journey for regulated FIS. In this era of emerging digital currencies, banks are realizing it takes a lot of resources to understand assess, integrate these new forms of money, but do enables banks to expedite the adoption of these regulated digital currencies, reducing time resources, really fast tracking the whole digital currency journey for these clients. Second would be 24 by seven always on. That is table stakes today, participants across the globe want solutions with transcend geographical and temporal barriers, empowering global financial participants to execute and settled always on global commerce. The third is really the element of risk and that

settlement risk, but to eliminate settlement risk for all parties involved in the transaction, leveraging on atomic settlement, and what's the nomic settlement that's the exchange of two assets and transactions that occur simultaneously, ensuring that transfer of one asset or one leg of the transaction only occurs upon the transfer or successful execution of the second one. Number four would be really about efficiency, whether it is in terms of speed, whether it's in terms of availability 24/7, whether it's in terms of cost, all of this really is enabled using workflow automation using smart contracts, which enables what you mentioned fully SDP automated programmable end to end transactions, which can be based on real time events controlled by predefined rules. The fifth and final value property touch upon here is really about liquidity. One can only get into 24 by seven payments or 24 by seven settlement if there is a just in time liquidity marketplace out there. And that's where part your helps financial institutions optimize liquidity with new to industry instruments like intraday FX swaps, what this results is very clear business cases. It saves costs because of you know, high intraday liquidity buffers they may need to maintain it creates new revenue streams leveraging on surplus funds, which may be lying idle in, in domestic currencies. So that's that's about the key value props, in terms of key use cases, I'll touch upon just a couple of them. So global clearing and settlement that's payments is what we live with. As we speak. We just completed a trial with JP Morgan, DBS bank and Mizuho bank for patios FX posted settlement based on payment versus payment. So that's global FX settlement. The third one we talked about was really about liquidity solutions, whether it is intraday FX swaps, whether it is solutions, which are multi bank, multi country liquidity mean movement, whether it is programmability, just in time payments. So those those three would be the key use cases. Again, from a party perspective, which party was enabling for participants. So clearly exciting times, as are now leveraging on the advantage. And the interesting part is, customers and businesses now are actually seeing these benefits, and they're actually openly encouraging their bankers to move towards the next gen solutions.



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Excellent. Okay. Yeah. Very exciting time, as you say. And I think yeah, that step of having clear camera



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So value propositions to demonstrate is going to be a very big part of scaling this kind of technologies kind of platform up. But let's talk about Yeah, that that process of, you know, scaling these networks and realizing the value that you guys have been have been discussing what else is needed, what additional components I guess, have to kind of fall into place for, for this to become a more widespread set of systems?



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I think two points that are live applications that are scaling already. And I think that is, you know, there's some potential risk of being stuck in, you know, to the land a little bit with a lot of the projects that are going on, I think we should not hold back from already trying some of these commercial applications that are there. It's only by trying and actually applying live use cases, that we go into the details of how the platform works. So POCs are great to experiment

use cases, and also bringing different parties together, I think public and private partnerships, from that perspective is very important. And in fact, I think this is how obviously, partier was born out of the project, with with the amas, it started as a project, and then it kind of formed into a private outcome with commercials application. So I think we need to make sure we get to that commercial use case. And that can only happen by more participants coming onto these network, applying the use cases that are already in place with other participants, but also finding new use cases to apply. I think a lot of the new projects that are underway to put together wider governance and framework. As we discussed project agora, for example, it will be very important to get participants to work on common frameworks and governance models and also call for some of these challenges that we talked about around processes, duplicate processes that are taking place today across markets, across markets, different regulatory environment. But all of this really requires I think there's two big elements technical, deep technical expertise, and also governance expertise as well, where deep collaboration are needed. So I think, you know, overall, what I would say is for the industry to leverage existing solutions that are available out there for specific use cases and more coming on board as well. And also to be part of, you know, the wider private public partnership projects that are working towards solving some of the wider challenges as well. Yeah, yeah, it really does seem like any progress in developing this kind of unified ledger system is going to have to take place collaboratively, right, it's not going to be something that a given institution is going to be able to stand up for everyone to use them on their own.



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So anything to add to add to that.



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Yeah, so Bassick has highlighted the important aspects, I just reiterate a couple of them, interoperability, whether it's in terms of standards, solutions, governance models, is very, very critical. Clearly, the world of digital islands is impractical. That said, we do recognize clearly there are next gen solutions and platforms like patio. And there are legacy platforms which exist and a huge number of financial institutions still leverage on those. And it's important really to be able to have that element to realize and interoperate not just within next gen platforms, as in and more and more go live. But it's also important to make sure that the last mile connectivity to the legacy platforms, the legacy domestic clearing networks, and so on, so forth is enabled. So that's key bus exactly highlighted that from a policy framework perspective, the regulators are extremely forward looking. And that's really you know, being a catalyst for change in the industry. We also see big benefits coming out of W CBDCs. As and when they go live across different markets. Clearly there are use cases whether it's in terms of multi settlement bank solutions, which provide a 24 by seven settlement beyond RTGS as so, so, there are important aspects there which are which are keenly awaited by the industry and platforms like us. Equally importantly, talked about 24 by seven solutions. 24 by simple and whether symptoms of real time settlement is important. 24 by seven liquidity is key



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And that really is what drives global commerce in terms of both efficiency, reducing risk. And finally, in terms of driving innovative use cases for the industry. So it's all about in a nutshell,

collaboration is all about also realizing that the classic



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is the African proverb that if you want to go fast, go alone. But if you want to go far, then go together. And that really is what we really are highlighting as a point of view. And the industry is really coalescing around around this perspective.



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Yeah, yeah, absolutely. I think. Yeah. So again, really highlighting the importance of those collaborative efforts. And I think, you know, your call for wholesale CDC, I think, is also very, very timely. It's, you know, the digital VCB is talking a lot about the digital euro



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as a retail solution, but recently where there's been an ECB speakers, talking about the digital euro, the first question from bankers and payment service providers in the audience's fine, yes, on the retail side, but will you please do a wholesale one first. So yeah, hopefully, hopefully, they'll take heed of that. I think having having the cache leg, you know, the format for that sort of would, would allow people to, to develop more comfortably, the solutions to interact with that. I'm afraid we're gonna leave it there, running out of time. So thanks very much to bash checking the tool. It's been great to have you guys, thank you for your insights. And I'm sure we'll be continuing this discussion to see what you've been getting up to over the next few months.



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Thank you. Awesome. Thank you. And thank you very much to our listeners for tuning in today. We've got a lot more coming on. This topic is a very exciting space as you've heard today, so keep an eye on our website and social media, and your podcast libraries. For more content on this sort of topic. We also have a digital assets report coming in September, which we'll be covering this sort of thing in a lot more details. Thank you for joining us for this edition of the fifth podcast. If you found today's conversation engaging. Make sure to stay tuned for additional thought provoking discussions on artificial intelligence, Central Bank, digital currencies and digitalization of finance by subscribing to our channel. Stay connected of the latest developments by following us on our LinkedIn page on Fifth digital monetary Institute.