
The Crypto Exchange: From Paper to Digital: The California DMV's Leap Into Blockchain Technology**Host: Ethan Ostroff****Guest: Addison Morgan****Ethan Ostroff:**

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Today, I'm joined by my colleague Addison Morgan to discuss a significant update from California where the Department of Motor Vehicles has digitized 42 million car titles on the Avalanche blockchain network. So, this initiative allows users to claim, track, and manage their digital titles via the DMV's application without needing to physically visit the DMV's offices. The time required to transfer vehicle titles has been drastically reduced from two weeks to just a few minutes using blockchain technology.

While blockchain efforts have primarily focused on the financial services industry, this initiative highlights a growing acceptance of blockchain technology within governmental operations, suggesting a potential increase in investment and exploration of blockchain solutions across various public sectors.

Addison, thanks so much for joining me today. I want to jump right in and discuss this new use case of the blockchain technology and what it means more generally for the blockchain industry. So, I thought we'd start talking a little bit about the executive order that Governor Newsom in California executed during 2022. It seems like this initiative by the DMV is consistent and part and parcel of that promise to make California a leader in Web3 in the use of blockchain technology. So, maybe just start by giving our listeners a little bit of background on Executive Order N-922, if you would.

Addison Morgan:

Sure, Ethan. Thanks for having me. So, as you noted, Governor Newsom executed Executive Order N-922 during 2022, and this was primarily in response to the Biden administration's executive order, which sought to compel federal regulatory agencies to research and report on potential governmental youth cases, blockchain technology.

California, as it is in many respects, was the first state to publicly endorse a plan to update its legacy governmental systems with blockchain technology. So, although the California DMV's implementation of blockchain technology, it doesn't appear to be based on any of the agency studies that Governor Newsom requested, but like you noted, this is a very interesting development for the industry as a whole.

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Ethan Ostroff:

Interestingly, why do we think that the California DMV adopted blockchain technology in this particular instance? I mean, was there something that compelled them or caused them to consider this different type of use?

Addison Morgan:

Sure. I mean, California is a very populous state, as we know. Like you noted in the intro, California has issued 42 million car titles, which is just a mind-boggling number. It seems based on the press release that the state was primarily concerned with vehicle registration fraud, which honestly, I didn't really know was running rampant, in California and the states more generally. But if you think about it conceptually, paper titles or paper vehicle title, it can be fabricated.

Someone can create a fake title, sell you a vehicle that's actually secured by a lien, owned by a dealership, and once you purchase that vehicle, that dealership has the ability to repossess that vehicle, due to their perfected security interests. This seems to be the primary concern of California, not only can you kind of fabricate or create fake sales, but you could also kind of effectuate odometer rollbacks, VIN cloning, and title washing. These are all things that can be effectuated through paper titles.

Ethan Ostroff:

Yes. I mean, I will say, gosh, this is an unusual thing that we see in our litigation work for companies in the indirect auto financing space. I mean, both from a consumer litigation perspective, where people are saying, "Hey, you shouldn't have repossessed this vehicle. You didn't have a valid title," right?

Addison Morgan:

Yes.

Ethan Ostroff:

But also in the commercial context as well, I mean, we have cases going on now where we've got people who are dealers and getting floor plan financing who allegedly engaged in fabrication of titles to be able to get the financing to purchase the vehicles and then essentially sell the vehicles twice. So, it's a significant issue for indirect financing companies in the auto space.

I guess what I'm wondering about is, I mean, why choose the blockchain route? In other words, look, the idea of an electronic title, is not new and has existed for some time in many states. So, why go blockchain instead of just a digital title?

Addison Morgan:

It's true. So, California has an electronic lien and title program, and I believe Florida also does as well in many states, like you suggested, but that ELT program cannot perform the same functionalities as a blockchain. So, the ELT program can reduce fraud in theory, right? Because if you don't have access to the paper titles, it becomes that much more difficult to persuade or

influence the California DMV who manages these electronic titles to kind of unmistakably add some sort of variable that was not supposed to be there.

But if California truly wants to eradicate vehicle registration fraud, which it seems like it does, the only way to do that is to tokenize these paper titles entirely and put them all on blockchain.

Ethan Ostroff:

Well, why couldn't you just require everyone to rely exclusively in electronic titles? I mean, how does the use of blockchain technology differentiate itself in this use case from other methods that are already in place and being used pretty widely?

Addison Morgan:

True, right. You're absolutely right. I mean, the DMV, like we just discussed, already has an electronic database in existence. So, I can access an electronic version of my title on the California DMV system. But the issue is that doesn't really provide end users. So, consumers, indirect auto finance companies like you were discussing earlier, it doesn't provide them with the ability to manage these titles on their own in a peer-to-peer fashion.

Right now, even in the kind of electronic lien and title program regime, the California DMV still acts as an intermediary, as a gatekeeper, so to speak. So, if I wanted to sell my vehicle, I still need to ask the California DMV to issue some sort of title or title release. A vehicle title conceptually, and this is, I don't think most people think of a title like this, but a vehicle title is really a real-world asset in the sense that a consumer or an indirect auto finance company for that matter cannot effectuate the sale or the purchase of a vehicle without that title. By having this in my possession, I no longer need to rely on the California DMV to kind of effectuate these processes on my behalf.

Ethan Ostroff:

Okay. So, it seems like one sort of impact or result of this is end users will be able to hold their vehicle titles and digital wallets, right?

Addison Morgan:

Exactly. Precisely. Just to kind of reiterate the point I just made, this is the distinct difference between the California's ELT program versus the blockchain that they are proposing to adopt. The press release didn't specify it, but I think we can both presume that these 42 million titles will be tokenized in a general sense, so they will be transformed into non-fungible tokens that end users can actually host in their own digital wallets, and that should provide them the ability to transact any way in which they please.

Ethan Ostroff:

So, notwithstanding combating fraud from this perspective, are there any additional benefits that we might expect to see from this new case by the DMV?

Addison Morgan:

Yes. Combating fraud is obviously the primary object of this program, but I think in, maybe in unintended insular consequence of the program be that – it just removes friction from the core transaction process. So, if I want to sell a vehicle, generally speaking, as we discussed earlier, I'll have to at some point in time engage the DMV to either release my title or print me a paper one.

In this scenario that we're discussing now, I imagine that what will happen is when a buyer approaches a seller to purchase his or her vehicle, if the seller has the car title in a digital wallet, now the seller doesn't actually lose out on sales. Because think about a situation in which a buyer approaches you to purchase your vehicle, but you don't actually have the paper title in your possession. You may have to go to the DMV. You might have to run home and get it. But the seller, for whatever reason, him or her, I mean, they want to purchase the vehicle right at this moment, and are really pulling the screws to you to make the sell. But in this situation, you're kind of hamstrung because you don't have access to the document that will permit you to make that sell.

So, I think that having a vehicle title as an NFT in your wallet, it will just make these processes so much more seamless and just remove friction from them entirely.

Ethan Ostroff:

But what if the person loses their keys to their wallet?

Addison Morgan:

Ouch. Well, that is a great point. And I'm sure that the DMV collaborating with the consulting firm that they are working with as well as the Avalanche network, I'm sure that they will build in some parameters to ensure that if a user does lose his keys to his wallet, maybe the DMV kind of as the primary centralized validator of this proposed blockchain, we'll have some sort of backstop in place where, "Hey, Ethan Oshroff. Although we're trying to create this blockchain to be extremely decentralized, we do have these stopgaps in place." So, if you lose your private keys or you no longer have access to your wallet, holding a particular vehicle title, as long as you provide X amount of information, we can give you that title, so to speak.

Ethan Ostroff:

Yes. So, something to look for in the future to see how they address that potential issue. I mean, it made me think also of, I mean, doesn't it seem possible that there are companies who have a lien on a vehicle, right? And the vehicle is titled in an indirect auto financing company's name, right? So, do they now need to have people working at each of these companies who understand blockchain technology can actually operate within this network in order to transfer titles is appropriate? I mean, do car dealerships –

Addison Morgan:

A very good point.

Ethan Ostroff:

What about mom-and-pop car dealerships just down the street who are selling used cars? What if they don't have people at those particular dealerships who understand or know about anything about blockchain technology? How do they go about using this in the way it's intended?

Addison Morgan:

Very good point. I don't know if we have the information at our disposal for me to accurately answer your question, so I'll speculate. But assuming that this is kind of a mandatory opt-in proposal, meaning that even if I don't understand blockchain technology, given the fact that California is going to digitize all 42 million titles, then I likely will have to learn. So, what I anticipate will happen is that there will be some sort of California DMV NFT title 101, maybe course or press release disseminated to the public at large to kind of counteract the point you're making. Because, yes, not everybody is familiar with this technology and kind of the underlying processes that are implicated by the technology. For those who are not –

Ethan Ostroff:

I mean, you can think about it like my 80-something-year-old parents have a car. They want to sell it. They got to figure out how to use blockchain technology in order to transfer the title? That part of it, it would be very interesting to follow this and figure out how this shakes out and see how they address all these issues. But it just seems like kind of a potential nightmare for a lot of people to be required to go through this path in order to transfer title when a lot of people, obviously aren't adept at using this technology. I mean, that sort of dovetails into like the more technical aspects, right? Is California creating its own, is this a public blockchain, private blockchain? How is this going to work from a technology perspective?

Addison Morgan:

Sure. I mean, the press release wasn't extremely substantive. They did note that the DMV is going to create a subnet on Avalanche networks. Before we kind of get into the nuts and bolts of what a subnet is, let's just discuss avalanche for a brief second. The Avalanche network is a layer one blockchain, similar to Ethereum and Solana. Those are some very popular layer one blockchains in today's ecosystem. So, as a layer one blockchain, the network is responsible for validating any transactions that occur on that network.

So, Avalanche is different because it effectively works as a layer zero. Think about like this concept, blockchain as a service. The DMV is really engaging Avalanche and this other consulting firm, I believe, the name of the consulting firm is Oxhead Alpha. Together as a unit, they are creating a subnet on Avalanche's network. So, the California DMV's kind of title-based blockchain will live on top of Avalanche's blockchain. It technically is its own blockchain, but the transactions themselves will still be occurring on the Avalanche network.

Ethan Ostroff:

Yes, it's fascinating, like the technology aspects of this. Do we have a sense of the validation process? I mean, who validates or who's responsible for validating the transfers of title for vehicles?

Addison Morgan:

Good question. We're doing a lot of speculation on today's episode because there's just not a lot of information. But I presume that the DMV will be the primary validator, at least initially. Now, there's always, I think it's best practice to have multiple validators in a blockchain, but at least initially, the DMV will be the primary validator and more than likely for the reasons you proposed earlier.

If I have users who are unfamiliar with this technology, then I need to ensure that if anything goes awry, these people can make a phone call or two to get things back in order. So, the DMV will be the primary validator and it is highly likely that eventually they will vet third-party validators bring them in just to ensure that there is some sort of decentralized ethos to their blockchain. They don't want to be the only entity validating these transactions in the network, not only because it kind of detracts from decentralization, but also because there could be some issues with respect to slashing and things like that.

Ethan Ostroff:

So, is this a private blockchain or a permission blockchain? Do we know?

Addison Morgan:

I don't believe we know at present. The only information that I saw in a press release was that this will be a subnet. The press release didn't state whether it would be a permission subnet or a permission list subnet. But I think, at least initially, this may be permissioned if the – so, it won't be public. Just so the DMV can ensure that everything is running smoothly, just initially. I mean, this is essentially a pilot program.

Ethan Ostroff:

Yes. I mean, that's why I thought it might be a private blockchain, right?

Addison Morgan:

Agreed. Agreed.

Ethan Ostroff:

That gives the DMV or its delegated operator the ability to override, edit, or delete. Because it doesn't make sense that you would use a public blockchain in this circumstance, right? But in any event, it'd be interesting to follow this along to see exactly how they operationalize this, right?

So, one thing that came to mind when we're talking too, I think it was in 2023. I think there was a prior press release from California saying it would build the vehicle title transfer blockchain on the Tezos network, right? But now we're talking about this newest statement specifically talking about working on the avalanche network. Do we have any insight on this or what might have changed?

Addison Morgan:

So, we don't have any insight. I don't think Oxhead Alpha, the consulting firm, the California DMV is using. They never released a follow-up after issuing that 2023 press release, as to why they decided not to engage the Tezos blockchain to build out this kind of bi-pilot blockchain program.

But I have a few thoughts as to why the California DMV ultimately decided to go with Avalanche. Tezos is a very reputable and high-quality blockchain network. It's a layer one like Avalanche, Solana, Ethereum. However, Tezos is not EVM compatible. That EVM acronym stands for Ethereum Virtual Machine.

So, in order for you to be a prominent layer one blockchain in the DeFi space, you need smart contract functionality, which Ethereum has, and all of the other kind of competing layer one blockchains also have smart contract functionality like in Avalanche.

Tezos also has smart contract functionality, but the issue is it's not interoperable with Ethereum. So, think about this. If you want to sell your car and you have your vehicle title as an NFT in your Tezos-based wallet, but you want to sell your vehicle to someone who primarily use the Ethereum. Right now, in order for make that transfer happen, it would be extremely difficult because, like I noted, Tezos is not compatible. Their smart contract language is not compatible with Ethereum's.

So, AVAX is. AVAX is EVM compatible. I can live on AVAX, leverage the low gas fees to execute transactions, but I can also send assets to folks who enjoy transacting on the Ethereum network. As Ethereum is kind of like the leading, and it probably will for at least the next three or five years until something changes, Ethereum is the leading DeFi layer one network. So, I think all the competing layer one blockchains like AVAX, they were built intentionally to be interoperable with Ethereum so that they can give their user basis access to the most liquid market. Right now, the most liquid DeFi market lives on Ethereum.

I don't think California's decision to engage AVAX as opposed to Tezos, is any knock on Tezos. Tezos' founder, has a Ph.D in applied mathematics. This guy is very intelligent. I've read the white paper. It's very interesting, but I think it boils down to marketability and functionality. As you noted, there may be individuals who are not well-versed in blockchain technology. If we just kind of look at Tezos and Avalanche, compare them on that basis alone, I think it's much easier to utilize Avalanche through a MetaMask or some other EVM-based wallet versus Tezos, which you can't even use MetaMask to access Tezos as blockchain.

I think from that standpoint, the California DMV, they wanted to leverage a blockchain that is seamless and easy to learn and most importantly is interoperable with Ethereum.

Ethan Ostroff:

Interesting thoughts and I appreciate that. This is going to be a very interesting development to follow. I keep going back to like my 80-year-old parents and them wanting to sell their own car, right? And having someone who's of similar or near their age show up to buy their car and have cash in their hand. If they were in California, they'd have to figure out how to use the blockchain that the DMV is creating, right? What we assume is it going to be some sort of private

blockchain, in order to transfer the title to the buyer. I just have a hard time. I mean, considering the percentage of the population that actually is actively engaged in blockchain technology and understands how to use it, like the entire population of California all of a sudden is going to have to go through this process and use this technology in order to transfer titles. It just makes me scratched my head.

But again, a very interesting use case. I mean, to me, there's already blockchain use cases, for example, for real estate and real estate transfers. One can imagine a similar type of initiative in an attempt to digitize land records and actually be able to transfer title to real property on a blockchain network as well. You can also imagine for people who've ever had to go out there to a courthouse and actually search through old land records to trace the chain of title, and do the stuff that, literally, people used to have to spend, before things were online, especially you spend sometimes days in a damp basement in the bottom of some random courthouse, right? In some random place, in some random state trying to figure this stuff out and make sure your title is clear, and all of these paper records going back in some instances.

I mean, I live in Virginia, in some instances, going back to King and Queen grants in the 1600s, right? You can imagine why there might be a lot of localities who would want to get all that paper in a digital format, on a blockchain, to allow for the transfer of those titles to occur in that way, that this is a very interesting use case to follow to see how they go about solving all these various sort of questions or holes you could poke and to say, "Well, what about this? But what about this?"

So, it was super interesting to follow it. Thanks again, Addison, for flagging this interesting development and joining me today to talk about it. I'm certainly looking forward to talking about this again in the future.

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