

## Jerry Chan podcast audio.wav

**Charles Miller** [00:00:00] Jerry Chan is the new CEO of TAAL, a Canadian technology company providing Bitcoin and blockchain services on the Bitcoin SV blockchain. TAAL is a publicly traded company. Last year it changed its name from Squire Mining. Jerry is continuing the move away from mining to emphasize a new service oriented role as a blockchain transaction processor. Jerry and I made contact between our respective homes so I could ask about how he plans to implement this new business model.

**Voiceover** [00:00:35] You're listening to CoinGeek conversation. With Charles Miller.

**Charles Miller** [00:00:40] Well, hi, Jerry, thanks very much for making contact all the way from Japan to London.

**Jerry Chan** [00:00:46] Thank you very much, Charles. It's always a pleasure to have a chance to talk with you again.

**Charles Miller** [00:00:51] Congratulations on your new job as chief executive of TAAL just a few weeks ago, I think.

**Jerry Chan** [00:00:57] Yes. Thank you very much. It's exciting. And I'm looking forward to really helping drive the industry forward.

**Charles Miller** [00:01:05] Well you've already set out some ideas about what you hope to achieve at TAAL. And I wanted to ask you about one, which was that you see Bitcoin in 2020 as entering what you've called 'a four year crossover period'. What did you mean by that?

**Jerry Chan** [00:01:24] So Bitcoin for the last 10 years has been operating off a subsidy model where the initial supporters, the initial nodes, the infrastructure providers for the network, were incentivized to do so and to grow the network's capacity and grow the network size by a built-in protocol subsidy. It's how new coins are brought into the system.

**Charles Miller** [00:01:51] Yes, basically they create their own new coins as reward for doing the work right?

**Jerry Chan** [00:02:00] Exactly. Exactly. So that has been the regime, that has been the model. And that's how miners or block producers in the network have been profitable for the last 10 years. And the one thing that's interesting about Bitcoin is that the inflation schedule is well-defined. It's an inflation that exponentially decays over time. That decay takes the form of a halving every four years.

**Charles Miller** [00:02:26] So that makes mining less profitable in these steps every time the halving takes place.

**Jerry Chan** [00:02:34] Exactly. Exactly. So currently we are in a twelve point five block regime. And what I referred to when I said, you know, this is the four years where we're at a crossover point is because we are going to see Bitcoin - BTC at least switch over - well actually all the bitcoins, but BTC is the last one to switch and probably the most economically significant. It's going to switch over to 6.5 coins per block. Now what happens then is that for the next four years, every block that's produced is only going to create 6.5 Bitcoins. And the model of just running mining rigs, hashing or mining, it's just

not going to be profitable any more than a couple of years. And we're already going to probably see a lot of traditional crypto mining outfits, they're going to be you out of business. Because, as we all know, we're running mining rings has a significant energy cost to it. And that energy cost needs to be paid on a constant basis. It's not something that you can pay upfront and to sort of sit back and then, you know, wait, kind of like an investment. It's more like a constant - it's not more like it is - a constant outflow of cash. And so this is going to start happening this year because we aren't seeing an increase in in Bitcoin prices to counteract that. So I think it's going to happen, where a lot of traditional mining companies are going to realise that their business model is broken. So that's why this four year regime I'm speaking of this crossover point, it's a crossover from the old business model of being a traditional miner to the new business model where you have to be profitable by processing transactions. And the more transactions you process, the more more revenue you stand to make.

**Charles Miller** [00:04:35] Because each transaction comes with a little transaction fee. Right.

**Jerry Chan** [00:04:41] Yes, exactly. So the miners are going to have to come out of the dark. Come out of the mines, as it were, and be transparent, be above board, be the actual real regular companies, as, you know, blue chip companies, they have to come out of the woodwork and actually run a legitimate business very much in the open.

**Charles Miller** [00:05:07] I mean, Squire Mining is the old name for TAAL. And it was a a mining business.

**Jerry Chan** [00:05:16] Yes.

**Charles Miller** [00:05:17] And you're making this transition. But but my question, I suppose, is: the amount of transaction processing work that you are able to get is somewhat out of your hands, really, isn't it? It depends on the rest of the ecosystem developing and people having transactions for you to process. So can you do more than just sort of sit there and hope that these transactions are going to materialize?

**Jerry Chan** [00:05:45] We can. We can, of course. You're you're right. We are just a part of the ecosystem. The transaction processing model depends on a scalable network, scalable protocol. And then, folks, you know, transaction processing businesses need to be able to process those transactions. But we're definitely at the mercy of the actual ecosystem producing the amount of transactions that are required in order for transaction processors to remain profitable. So this crossover point and this four years, we are going to need to see transaction volume surpass subsidies - block subsidies. What I mean, is the fees from transaction volumes in this four years is going to need to surpass the block subsidies that are given by the network. Because if it doesn't, then we're falling behind and we're all transaction processors, everybody who has a long term view on the viability of the Bitcoin network is betting on the fact that we have to get this transaction generation side up and running, which depends on the entire economy, the entire ecosystem, the community, every start-up out there, every big business, every medium business, everybody who's who's building something which produces transactions, great. All the better.

**Charles Miller** [00:07:17] You've used this phrase "chain death", which is the sort of ultimate disaster here, where miners or transaction processes are unprofitable to such an extent that they just give up and go home. I mean, how real a possibility is that?

**Jerry Chan** [00:07:37] It's possible enough that people should be really worried about it. I don't want to put numbers because I didn't go through a rigorous quantitative process to come to this conclusion. But, you know, I did throw some spitball numbers, some rough estimates with some relatively conservative assumptions to work out what percentage of BTC miners are profitable enough to survive a 50 percent drop or close a 50 percent drop in revenues. And if you work it out, there's very few scenarios where the demographics of the miners, the strong versus weak miners work out such that the capitulation of the weak miners is enough to subsidize that the survivors such that they actually stay in the black after the halving. So this is the cause of change deaths. Now, there is a secondary effect too, and I think it's worth thinking about or talking about. The secondary effect is that when BTC miners know this, start thinking about this, they will obviously try to save themselves. It's kind of like the Titanic effect, right? If you know, the ship is sinking, you're going to start running for the lifeboats. If you're a borderline marginally profitable miner who's mining on BTC right now, you're probably very, very worried that you're not gonna be profitable after the halving. So what are you gonna do? You're going to try to make your position stronger. You're going to try to go on and get funding. You'll probably get bridge funding, a bridge loan, or you'll try to increase your hash power so that you are a bigger miner or do any sorts of things, maybe reduce your electricity costs or whatnot, or maybe diversify. Now, the lifeboat analogy comes in is if all the weak miners start bolstering themselves up, strengthening themselves so that they become strong miners. Then the percentage of strong miners to weak increases. Well, then what happens then is now when the capitulating miners population has gone down, then the amount of extra reward the survivors gonna make is going to have to be shared among all of them. Now there's a lot more of them.

**Charles Miller** [00:10:09] It's a curious thing that the more efficiently the industry becomes, the more trouble it's in?

**Jerry Chan** [00:10:14] In a way, yes. Because they are being more efficient at doing the wrong business. They're getting more efficient at crunching, at just privately mining and trying to make their profit by selling the coins they mine. That's why we at TAAL say we're we're not a mining company anymore. I mean, we we still do mining, but we're not a mining company because we're not planning to make our profits from the from the business of mining.

**Charles Miller** [00:10:44] One thing that I thought was very interesting in one of the pieces you wrote was that you pointed out that Bitcoin SV gets more than half the transactions on BSV, BTC or BCH, but it only has nought point seven percent of the hash power. So that's a quite extreme situation. And I'm I'm wondering whether that really means that the transaction fees are too low because surely with that advantage in transactions, anyone constraining on BSV should be profitable. But that's not the case you say. I suppose the question then is how many more transactions are going to be required for TAAL or anyone else who is relying on transaction fees to get into profit?

**Jerry Chan** [00:11:43] Well, while I think at least a lot more, I think currently the transactions, we would have to be doing probably as a network, you know, millions of transactions a day, maybe each transaction processor. I don't have the numbers off the top of my head, but I think generally the breakdown of a block in terms of transaction fees versus rewards is something like it's about 10 percent or something.

**Charles Miller** [00:12:10] Ten per cent transaction fees?

**Jerry Chan** [00:12:10] Yeah. You know, that feels about right to me. I would be surprised it was more than ten percent. So we've got to do ten times better, ten times more transactions as we currently do now. And it's really hard to predict because the growth of transactions will be exponential. Because if people start using it, then everybody starts using it because the price of transactions don't generally go up, the more transactions that are produced. That's kind of like the secret, as it were, of Bitcoin scaling. I mean, of BSV anyway - it was originally Bitcoin, but BTC and the others sort of lost the plot because they thought that scaling meant fewer but more expensive transactions. But no, the key, the secret to scaling to the point where the network is profitable for everyone is that there is no limit to the amount of transactions you can process. I mean, practical limit anyway. But knowing that, that means that the transactions remain fixed, the price of each individual transaction remains fixed. So therefore, people who want to use the platform, aren't worried that by using it they increase the price. So then there's no supply side constraint which would artificially constrain the transaction growth.

**Charles Miller** [00:13:51] Could you explain to me a little bit about this market in transactions? What I don't really understand is supposing I have an app that is going to generate a lot of transactions. First of all, can I. Who decides what my transaction fees will be? And second, can I sort of approach TAL and say, I want you to process things for me? Or how does that side of it work as well?

**Jerry Chan** [00:14:17] Absolutely. So you can do both. The beauty of Bitcoin was that you can produce transactions and you can send it out at whatever the network or consensus fee rate is - which for BSV it's point five] Satoshis is per byte. So it's it's it's a size-based fee so the bigger transaction you send the more expensive. And point five Satoshis bite, just to give you a U.S. dollar feel of it, it's still for an average payment transaction, it's less than half a cent. It's I think it's like point three of a penny. So it's very small. If you start sending something more interesting like smart contracts, something with actual code in it, which a lot of the projects now that we know about and we're dealing with are looking at doing, then you'll probably run into the maybe 20 to 50 cents, less than one dollar, but definitely it depends on your smart contract.

**Charles Miller** [00:15:20] But who's setting that price?

**Jerry Chan** [00:15:22] That the network consensus rate. So that's the rate that you don't need to ask anybody. Because that's just what most miners have set it to. Now, that being said, some miners may set it lower. So you don't know. There's there's a new thing that we released, a great thing that came up by the Bitcoin SV node team, and that we were helping test and develop called Miner API or Merchant API. We just call it MAPI because of two M's in there. And that allows anybody on the network to query a miner or a transaction processor directly and ask them what is the price for this transaction. Now that's a good way to get sort of an ad hoc real-time price. That still is a price, a fee rate that you can get just in the open network. The second thing you mentioned is can you come to a transaction processor directly? And of course that that's our entire transaction processing business model. This is the thing that we want to make more well-known to the economy and the community at large is that if you have a very, very big transactional volume you want to process and you have specific SLAs [service-level agreements], then you should definitely come to us. And we can work out something, we can work on a deal where you just send us your transactions directly and then we'll process it for you at a cheaper than open network price.

**Charles Miller** [00:16:51] This is probably a really stupid question, but if I have a relationship as a business with TAAL to process my transactions, what happens if a rival miner is the one who verifies the block? The next block? I mean do my transactions still, they're presumably still okay somehow?

**Jerry Chan** [00:17:13] Yeah, it's still OK. So there's a lot of different interesting business models behind the dynamics that are going to be between, inter-miners and versus client to transaction processor. Sorry I use the terms sort of interchangeably because I'm not fully converted over "miners" is just the act of hashing. "transaction processes", TPs, although I think TP these days mean something different thanks to Coronavirus and quarantines but the TPs, TPBs transaction processing businesses... So one way is if you just if you give it to us directly and then it's only supposed be mined by us, then obviously we can get you probably the best price. If it's something that you can give it to us but, you know, you can also give other people that then we can probably give a maybe somewhat better price than going to the open market, but not not as good as if it's exclusive. And of course, there's always going to be between TPBs, there will be communication channels where we can also pass transactions between TPs and there's technologies that we're working out on the back end of between the communications, inter-miner communications that make this all kind of work. But I'm telling you about what I feel is going to eventually happen. We're still in the market building phase right now. I think for probably the remainder of the year, we're gonna be working on all of these intricacies. And as different transaction processors move to this model, we'll be able to build more and more sophisticated sort of, I guess, solutions, you can call them, but offerings for the market so that any sort of specific use case can be catered to.

**Charles Miller** [00:19:17] We've talked about TAAL's business model, but I just wanted to ask you some sort of basic stuff about TAAL. It's a publicly traded company, which is unusual in this sector, I think. And how many how many people does it have?

**Jerry Chan** [00:19:36] I don't know the exact number, but it's twelve-ish. And the reason is it's split over a couple of locations. And also we employ some contractors for some more operational parts of the company. So therefore, it depends on how you count the headcount. But we're relatively still small. Yes. Even though we're a public company.

**Charles Miller** [00:19:59] Do you know roughly how many actual mining computers you have?

**Jerry Chan** [00:20:04] We kind of keep those secret because in the mining business you don't really want to ever reveal how much hash power you have control. But I will say it's it's in the hundreds of petahashes. We're talking upwards of less than a hundred thousand more than 50.

**Charles Miller** [00:20:36] That gives me a general ballpark anyway. And last time we spoke, it was actually probably last year. And you're just joined the Bitcoin Association. Before that, as you mentioned, you. You've been with some investment banks, including Goldman and JP Morgan. How big a deal for you personally is this job as CEO of TAAL?

**Jerry Chan** [00:20:57] It's a great opportunity. I was really, really lucky and also blessed, I guess. But it's really a great opportunity, because I think the thing in the past when I was always... I mean, I've always been pushing the same... I've always had the same vision. I guess it's been mostly consistent since I really got deep into Bitcoin probably around 2015. And I think finally, this is the position where I can actually put to action a lot of the ideas

and a lot of the things that I wanted to see built on top of Bitcoin, because it's always been in the past a very big drain on my time and resources, having to deal with just the fact that you need to convince upper management of the value of certain things, of potential business lines of building prototypes to do something new. It's not really politically easy to start a new business line which will cannibalize your old ones, the ones that have been producing for you over decades. So therefore it's always gonna be a challenge politically. Therefore you're always gonna have to exert that sort of, you always have to push upwards. But I think the thing which immediately made me jump at this role was like, you have a chance to have at the reins of a company in the space that has the right vision. And in our case, is public, too, so that means there's a standard of transparency that we have to abide by. We have to be audited. So we're very much above the board. So that removes a lot of the apprehension, I suppose, that other companies in this space might have experience. And to be in a company in the space where you can deploy your vision without actually having to have arguments with your boss or their boss's boss about whether or not it's going to make money, who wouldn't want that? I mean, this is why people's set off to start their own business.

**Charles Miller** [00:23:26] It seems to me that when you were working in your previous corporate roles, you were in sort of the establishment, as it were, but you were championing the outsider and now you are at a sort of cutting edge of the new world. But in a very establishment way, as you've said, it's a public company and it's very much trying to be part of the corporate world, isn't it?

**Jerry Chan** [00:23:56] Yeah, exactly. Exactly. And yeah.

**Charles Miller** [00:23:59] The regulatory side of this must be very complicated because you've got people working for you in all sorts of different jurisdictions. Is that a big part of your agenda?

**Jerry Chan** [00:24:13] Yeah, it is part of the stuff that we plan to work out so that we have a [unclear] that's favourable, but the business is very global and it's a technology business so it's kind of the same argument of if you released Snapchat or Facebook, you don't really necessarily have to ...it doesn't really matter so much where your people are so long as you keep control of data and all that kind of stuff and security in terms of data privacy and all that kind of [thing]. But we're not dealing with too much customer information so it's less of that worry. What we do have to be cognizant of is some customers may have restrictions on where they can have their transactions processed because they have a regulatory jurisdiction which says that you must have your servers within the boundaries of our country. South Korea is a good one. And so if we want to be able to address those industries with our Bitcoin blockchain solutions, then we do need to keep in mind that some customers may want to control the jurisdiction where their transactions are processed.

**Charles Miller** [00:25:31] What difference has it made to the business, the whole virus situation over the last months and where we are at the moment? In some ways, it's a digital business and some people have said this is actually going to herald the development of value and finance. Although on the other hand, of course, it's devastating economies. What's your take on all that?

**Jerry Chan** [00:26:04] I agree with both those statements. It's tragic in many ways both in the biological death count point of view and also the economic point of view. The other thing that the pandemic has really severely disrupted is the entire supply chain for the

production and logistics that have to do with the mining rigs being shipped out of China. It's caused the entire industry to freeze effectively.

**Charles Miller** [00:26:39] Does that work to the advantage of TAAL in that the sort of traditional mining business is in big trouble? Or does it affect you equally?

**Jerry Chan** [00:26:51] I think it works to our favour because obviously TAAL - I mean, all of BSV miners - don't have that much hash power compared to the global amount of hash power and SHA256 mining that exists. So certainly it does help, but it's not the critical part of our business because it doesn't matter at the end of the day how many blocks we produce if our business model is not dependent on mining. It's not the amount of mining reward that's going to keep us afloat. It's the amount of business we make from transaction processing. And if you have no limits on the size of blocks you can produce, then it doesn't really matter how many blocks you produce in a day, so long as you get all your transactions in them.

**Charles Miller** [00:27:40] So when you look around, you've set out your vision for being open for transaction processing, when you look around the industry, what is your best hope for making that possible? Where do you see this coming from?

**Jerry Chan** [00:28:00] I see this coming from businesses, established institutions and enterprises who are going to start looking at Bitcoin SV because you're going to see coming in this year a lot of pilot projects which are from established industries outside of cryptocurrency and digital assets, digital currencies. And that's important because I feel that for the digital currency ecosystem to be serving itself, it's kind of like blowing your own sails, right? I mean, there's only so much you can toot your own horn before it's just a bubble, right? And for it not to be a bubble, you need to be pulling money and investment from outside.

**Charles Miller** [00:28:49] I think one hopeful sign of that example is EHR Data, the health care company. I saw that they are talking about if they were able to put the prescriptions in the USA on chain, that would generate possibly up to 32 billion transactions a year. That must gladden the heart a bit. But how realistic is it? I mean, how practical is that in the next foreseeable future would you say?

**Jerry Chan** [00:29:25] Totally possible, totally possible. Technically, we're probably very close to be able to do that probably by late this year. We can say like technically that that's doable.

**Charles Miller** [00:29:36] But they've got to deal with the whole healthcare industry, which is extraordinarily complicated?

**Jerry Chan** [00:29:41] That's right. So I think most of the complication will be on their side in converting a lot of their existing business to instead of writing to whatever traditional database they're writing to, generate transactions instead. Or maybe not instead for a while, probably in parallel. But the healthcare industry is a very exciting space to watch. And this goes back to Covid 19. You can imagine all the possibilities that people from that industry is now thinking about that they probably wouldn't have really thought too hard about prior because there was no real pressing need. But, you know, there is a lot of need that we're seeing now. A lot of criticisms of a lot of different countries of how they could have handled the pandemic outbreak better and what better way for tracking, for tracking cases or tracking vaccine production, for tracking test results? All these kind of things are

made better with an immutable global ledger, wouldn't you think? So I think that is certainly a space worth watching.

**Charles Miller** [00:30:45] And I guess that it's only going to take one big credible industry to show that this works and it could have a sort of domino effect?

**Jerry Chan** [00:30:58] Exactly.

**Charles Miller** [00:30:59] You talked when we last spoke about hoping that Google and Amazon might take an interest. I mean, is that still on the agenda?

**Jerry Chan** [00:31:08] Well, not so much anymore. I mean, I still wish and I still hope they do, but I think it's more tractable that that folks like the health care industry and the logistics industry are going to jump on the Bitcoin bandwagon first now, because they have a real need which can be served and massive amounts of savings that can be done by using Bitcoin SV as part of their technology solution. And not even just saving costs: they stand to probably make a lot of money over their competitors. That will massively outweigh the potential of, say, Amazon using Bitcoin as a payment method because, you know, people have been talking about using Bitcoin as a payment method for 10 years. There are sufficient payment methods around the world that you don't really need Bitcoin as the payment method. It's great as an alternative, but it's not needed. I mean, there are still places where they are - I'm not saying everywhere it's not needed, but I think the indices will grow where there's most profit to be made at the end of the day.

**Charles Miller** [00:32:26] A final question, if I could just keep you for one more. If TAAL makes this transaction processing business work as obviously you're hoping it will, how difficult will it be to protect the business that you have? Or will it be very easy for rivals to just jump in and say 'oh, here's a good business, why don't we get into this and then maybe we'll offer it at a slightly lower rate'?

**Jerry Chan** [00:32:52] We welcome that. I honestly welcome more players that jump in. This is an industry [where] I do believe that the more players are, the bigger the pie grows, the more profitable we all become. And so I don't intend to drive a strategy with a goal of monopoly, for instance. Because growing the ecosystem and the market is more important than growing any one company, I believe. But we have made some strategic deals and there will be more to come that in my view will keep us unique in the solutions that we can offer versus what our competitors can. One of them, which I can talk about because I think the press release came out on earlier this week was a strategic deal that we made with nChain, which gives us access to licence some of the patents that they have, which are very, very applicable to the transaction processing business and some of the other businesses we are looking to grow into in the coming years or two. So I think that's going to hopefully give us a competitive edge. But, you know, people shouldn't think of that as like 'oh, then then it's done. It's over'. I mean, the great thing about capitalism is that there's not one way of doing things. And if other people can think of a better way, a more efficient and more profitable way of doing it, then that's great. So I think I welcome the challenge.

**Charles Miller** [00:34:31] Well, Jerry, thank you so much for spending your evening with me. You must go off and have your dinner or I'm gonna go and have my lunch in London. It's been great talking to you and I hope we can catch up again in a few months to see how all this is developing in your new role.



**Jerry Chan** [00:34:48] Wonderful. Yeah, absolutely. Always a pleasure talking to you, Charles.

**Charles Miller** [00:34:52] Thank you very much. Bye for now.

**Jerry Chan** [00:34:55] Thank you, good night, or good day.

**Charles Miller** [00:35:01] Many thanks to Jerry, Chad. Next week, I'll be hearing from an entrepreneur who might be one of TAAL's big customers in future, Jeff Chen is building a browser on the BSV blockchain, which could mean millions of transactions to be processed. Please join me, Charles Miller, next week to hear all about that. And do please like share and subscribe to CoinGeek conversations. Until next week. Thanks for listening and goodbye.