

Daniel Newman	Hey, everyone. We're back at the Main Scoop with the main scoop, with the main man, Joe Doria. How you doing, bud?
Joe Doria, Jr.	I'm excellent. Here in New York City. Great place to be. Great to be with you today.
Daniel Newman	Yeah, back in the chair of Mr. Lotko, which I miss, the Dan Newman and Greg Lotko show.
Joe Doria, Jr.	No, it's great. Yeah.
Daniel Newman	But the Dan and Joe show.
Joe Doria, Jr.	Dan and Joe. Yeah.
Daniel Newman	And maybe even a Dan Joe and Joe?
Joe Doria, Jr.	Yeah, Dan Joe.
Daniel Newman	DJ too.
Joe Doria, Jr.	DJ too.
Daniel Newman	You can do that today. But yeah, it's good to be back in the Main Scoop.
Joe Doria, Jr.	Our guest.
Daniel Newman	It is good to be back. I was heading off between tapings, and I wanted to go buy myself a coffee, and I didn't have any cash. And it turns out it wasn't a problem at all for me, because I had a credit card with me. But today we're going to talk a little bit about payments and rails, and we're going to have a friend from Mastercard, Joe, but you pulled out your wallet earlier, and I just was thinking maybe for the sake of the show, let's just show everybody what you got going on there. Let's show everybody what you got going on there.
Joe Doria, Jr.	Yes. I'm giving away my age. Okay, but I still have cash.
Daniel Newman	No, no. Hold on. Let me see that. No, I just got to see that. All right, there you go. Cash does still have value, by the way.
Joe Doria, Jr.	You know the problem with cash, too, is if you lift it like that, can't replace it.
Daniel Newman	Really?
Joe Doria, Jr.	So, yeah.
Daniel Newman	We should talk more about that.
Joe Doria, Jr.	We should talk more about that.
Daniel Newman	We should bring our guest on. But some interesting things that are going on out there, I think. You can't say for everyone but you, and probably everybody out in our audience, everybody that watches the show, all of you, you would probably tend to agree that the vast majority of your transactions have moved from physical cash, you know what I said, except for you, to now, whether it's on a credit card or on an app. Remember you used to leave your house with without your wallet and you'd be completely panicked? But nowadays, if you have an Apple Pay or you have a number of different payment rails even on your device, like, I have left my house with no cash and no wallet, and I've been able to go to the grocery store, I've been able to go out to a meal. We've come really far.

Joe Doria, Jr.	We've come really far. And I have too, as well. That's my security blanket. I think that's just the way it was for me. But there's probably a lot of folks out there like me as well. But clearly, innovation in this space, the payment space, is really accelerating. There's so many different frictionless, easy payment methods and alternatives that we have today, that it's amazing.
Daniel Newman	And what you're really alluding to is the rise of financial technology. They use the word FinTech, but we have basically seen the way money moves. There's a multi-trillion-dollar economy. I think they say, within the next five years or so, the rails for payments is going to be like \$15 trillion. And I can promise you there's not \$15 trillion in cash circulating around out there.
Joe Doria, Jr.	That's right.
Daniel Newman	It's not happening. But there's other trends, Joe. There's buy now, pay later. We've literally seen, now people can take out a mortgage to buy a bicycle. And you can say, "I'm going to buy this." And it's not any longer about credit card or even going out and filling out some sort of specific credit with a certain store, but it's now just, services have been put into place that have really technologized all of our interactions with consumption. And now we basically never need that wad of cash anymore, and we can live our entire lives cash-free. The world's come a long way.
Joe Doria, Jr.	I feel like at the end of this, I'm just going to have to let it go.
Daniel Newman	I told you I'll help you. Just hand it to me, I will make sure it gets in.
Joe Doria, Jr.	I'm going to commit to take my first business trip with just my phone, and see how that goes.
Daniel Newman	You'd probably still use the taxis that don't have credit card machines in them, right? Do you remember when you used to ask? Then you have to knock on the door. "Do you take a card?" There's an app. It's called Uber.
Joe Doria, Jr.	Uber.
Daniel Newman	Uber, Joe.
Joe Doria, Jr.	I'm a big customer, actually.
Daniel Newman	Do you have that?
Joe Doria, Jr.	Yes.
Daniel Newman	Okay. So you've come a long way.
Joe Doria, Jr.	I've come a long way.
Daniel Newman	We have a guest, though. I know everybody loves hearing it from us here on The Main Scoop, Joe.
Joe Doria, Jr.	Yes, I know.
Daniel Newman	But we have a guest. You want to bring him on?
Joe Doria, Jr.	I do. We have Joe Schuler from Mastercard with us today, and excited to talk to you about what you see from a Mastercard perspective, and what's happening in the payment space. Welcome, Joe.
Daniel Newman	Joe, are we right? What do you think?
Joe Schuler	Yeah. I just got back from a trip to Europe, and I think I started the trip with about \$35 in cash on me, and I think I ended the trip with about \$32 in cash on me. And I think that was just to pay a bellhop. And anymore, I think they

	<p>even have Tap To Pay. So yeah, we obviously are moving into a world beyond cash, which is a big part of Mastercard's vision.</p>
Daniel Newman	<p>Yeah, I had a vision for a business, Joe, called Tip.Me. I've said that because in other parts of the world it's not as prominent. But you mentioned a good thing with around the world, payments are different. But I said, I was in Vegas at a conference recently. Someone runs out and helps my bag, and these folks make a good part of their money on tips. I'm not you. No cash wad, no cash, period.</p> <p>And I was like, "I want tip you. How do I tip you?" And you're starting to see, maybe it's a Venmo, maybe it's something serviced by a different... But a lot of these, there's just not actually a great app for it yet. There's not a great app to actually tip people in a tip economy. So instead, we write the tips into the credit card receipts that we're doing when we put it on our Mastercard.</p>
Joe Doria, Jr.	<p>Exactly. Exactly.</p>
Daniel Newman	<p>Like the plug, Joe?</p>
Joe Schuler	<p>Yeah, I like that. Appreciate it.</p>
Daniel Newman	<p>You like that. So, where do you see the payment space headed?</p>
Joe Schuler	<p>Mastercard's all about empowering economies, empowering individuals, to build a sustainable economy where everyone prospers. And one of the ways we do that is by making payments and banking accessible. We don't necessarily experience it as much in the United States as we do in Europe and Third World countries, but access to banks is nearly impossible. So making that kind of commerce available closer to the customer, the consumer, is something that we're very keen on. Still in a safe and secure fashion is really what Mastercard's all about.</p>
Daniel Newman	<p>So under what a lot of you're saying, I hear the word experience coming out. So you want to empower experience as you want to empower better customer experiences. How do you foresee that? We alluded to some of the stuff in the beginning when we were talking, but most of the experience I have using digital payments is still pretty close to the experience I've had for 20 years. So what are some of the things that really are the innovations that are driving better customer experiences?</p>
Joe Schuler	<p>But I think the key is what you said, it's the customer experience. If people have to be challenged to use the technology, they're just not going to use it. I think we're seeing an evolution of both the merchant and the consumer space. So everybody has to come to this together. So you can't just have the great consumer capabilities without the merchants embracing them, and having the capability of acceptance. So it's an ecosystem that really has to evolve and develop.</p>
Joe Doria, Jr.	<p>Let's take this back to, as you like to tell me, to the main scoop, the mainframe theme. How does mainframe fit into your business?</p>
Joe Schuler	<p>The mainframe has been around Mastercard for more than 50 years, certainly has served us well, and drives the majority of our revenue through that platform. It's still the single greatest transaction processing platform</p>

	that there is. I think the experiential piece is what's driven by some of the more cloud-based, some of the more hybrid cloud-type environments, where we still use the mainframe, the actual core switching capabilities, and then expose those great services, those great technology opportunities in place, that Mastercard brings to the consumer, while still having that secure and safe experience on the backend to safeguard against fraud, and ensure that your transaction gets handled in an appropriate manner.
Joe Doria, Jr.	Joe, give us a sense of transaction volumes at Mastercard. How is that trending?
Joe Schuler	Yeah. Our trends are certainly very positive, 25% or more growth. Just a general direction, we do about 20,000 transactions per second during some of our peak volumes. We also approach more than 400 million transactions on a given peak day. So it's obviously a very fast-paced business. Downtime costs millions, so we have to run our systems on a very highly available, highly resilient system.
Joe Doria, Jr.	Can you comment on any downtime that you've had historically?
Joe Schuler	Touch wood, we haven't had any major incidents of late, so no, I can't.
Joe Doria, Jr.	It's amazing to me that each one of those 20,000 transactions per second have integrity, and complete. And all of us take that for granted in our daily lives, that we can expect that to happen every time.
Joe Schuler	I think the other thing to keep in mind is that 20,000 transactions is not even necessarily representative of the amount of traffic that hits. So transactions can have multiple legs, multiple responses. So there's an exponential number and amount of traffic that's generated from a single card swipe.
Joe Doria, Jr.	Amazing.
Daniel Newman	Security's a mountain for the financial technology space, if you look across FinTech and across payment rails. And everybody's worried about that mainframe, historically speaking, very security driven. But what are you seeing as security and the technologies, and obviously the Black Hat and all, how are you addressing staying in front of and staying secure at Mastercard?
Joe Schuler	Sure. That's an ongoing effort. It's nonstop. We've got a great security team, a lot of security professionals, that are involved with extending that secure front as far out as we can. The mainframe benefited from being behind several layers of security for many, many years. And whether it's your handheld mobile phone or whether it's your laptop, as you extend that interface to the consumer, you have to double down on security, and really make sure that you're securing right from the very end point, from the edge, all the way back to the mainframe, where we process the transaction.
Joe Doria, Jr.	So operational efficiency for the platform at scale, with coming out of the pandemic and all the rise in digital services and digital consumption that's going on now. And are we in the post-pandemic? But even after that situation, I think the demand is still there. It's there for the long run now, it's a change that took place. A lot of customers I talk to are saying that they're doubling down on efficiency, or doubling down on less is more right

	<p>now, as new value with the rise in scale, but now taking that forward into the future, is that the way you guys see it?</p>
Joe Schuler	<p>Absolutely. Right now we are doing significant development in the cloud, significant development, trying to reduce our costs and become more efficient. The mainframe again, still is a major player in that space, but especially as we face things like data sovereignty and requirements to bring the data on soil, data privacy regulations throughout the world, we have to flex to get more creative with how we're actually meeting those requirements. And so that includes mostly a hybrid solution, where we can deploy anywhere we need to be safe and securely.</p>
Joe Doria, Jr.	<p>Yeah. I think a lot of what I see is, the hybrid architecture is foundational. And you move and do things where it makes most sense. So, front-end cloud applications that make sense there, and then your back end is transactional on the mainframe, and you put those two together, you can do a lot of different and new things.</p>
Joe Schuler	<p>For all the things the mainframe is, it's not a great point solution, it's not a great thing to just drop in small countries where you have an on soil requirement. So that's one of the headwinds that we face. So we have to get to a point to where we have multiple tools in our toolbox that can meet the requirements of both the consumer and the regulators and the merchants.</p>
Daniel Newman	<p>That's a lot of complexity, though. Anything where there's money moving, there's a tremendous amount of regulatory and compliance scrutiny. As a global payment rail, you guys are facing headwinds and constraints in every place you want to do business. And as you mentioned, you're one of the ultimate democratizers of financial services, because you can offer and get into places with a lot less lift than trying to put a bank that's going to be locally regulated, but you still have to deal with that.</p> <p>So the hybrid architecture, what is your approach to being able to be fast, nimble, but also compliant, and within meeting all the data sovereignty and placement requirements, is there any tips or tricks out there for that?</p>
Joe Schuler	<p>Well, I don't know if it's so much tips or tricks as much as it is our culture. Our culture is all about growing and growing fast, but also maintaining our security posture. I think that one thing that you hit on there is, how do you meet so many headwinds? We've got a situation where, as consumers, if your card gets declined, even if it's a false decline or if it's a true decline, it goes to the back of your wallet. And that hits us just as hard as a regulator saying, "You can't use that card in our country."</p> <p>So I think that we have many, many canaries in the coal mine, so to speak. We always know where our bell weather is, we always know what our true north is, which is safe, secure commerce, democratizing commerce, bringing commerce to the individual to support economies around the globe, so that everyone prospers.</p>

Daniel Newman	<p>Where does it go from here? What's the next innovation? I heard a bunch of things. Obviously, you've got the internal innovation that enables you to scale. The hybrid architecture, the mainframe data, working with the cloud first data. But ultimately, we started with the CX.</p> <p>You mentioned some things about analytics. One of the things I think about is being able to look in something like an Apple Pay, and that's just an example, I'm trying to relate to everybody, because I'm sure Mastercard has its versions of these things, too. But to be able to look quickly, see all your payment information on your device, and interact with it, quickly identify fraud apps that ask you, rather than waiting for a call or getting a false decline. So there's lots of that, but what's next? Is it AI-driven? What are the things that are going to power the next wave of consumer?</p>
Joe Schuler	<p>Mastercard is driven more towards multi-rail, embracing more networks, really trying to make that experience more ubiquitous, so that you don't have one application that ties into your credit transactions, one application that ties into your debit transactions, one application that creates the virtual card IDs.</p> <p>So I think that we have some experiences with products that we offer, where a single interface is used for all payments, which can be from whatever back end it needs to be from, whether it's your bank or multiple banks. So I think streamlining and smoothing out that process, and giving people a single interface, is really what the consumer, and even the merchant are driving for.</p>
Joe Doria, Jr.	<p>Yeah. For all the comments on cash earlier, I use cards, the modern implementations of today, and they are super easy and convenient to use. And the more of that, the more I use them. So I'm there. I'm there with the rest of the world on that. And there's so much new value coming from how you shop, and the rewards and other things. Lounge access for guys that are on airplanes often. So just a lot of exciting stuff happening there.</p>
Joe Schuler	<p>And tying all that together is really what the future holds, right? So the ability to, you mentioned earlier, finance a payment. There are solutions that tie directly into the credit card, that you know now have the ability to say, "I want this over payments," rather than, "I want to pay this off at the end of the month." So those seamless integrations are really where the future is for electronic payments and digital payments.</p>
Daniel Newman	<p>Well Joe, Joe, Joe squared, we appreciate having you guys on the show. A lot of fun here. Always good to talk with y'all on The Main Scoop.</p>
Joe Schuler	<p>Thanks.</p>
Daniel Newman	<p>For everyone out there on The Main Scoop, we appreciate you tuning in, because the opportunity to be part of our show today was priceless. See y'all again soon.</p>