David Starr: Welcome to the Microsoft Industry Experiences Team Podcast. I'm your host David Starr and in this series you will hear from leaders across various industries discussing the impact of digital disruption and innovation sharing how they've used Azure to transform their business. You can find our team online at aka.ms/index or on Twitter @Industry XP.

David Starr: Ryan Rugg is the global head of insurance for R3 and leads the company's insurance strategy to drive business growth. Ryan, welcome to the show.

Ryan Rugg: Thanks for having me. I really appreciate it.

David Starr: You're also responsible for strategic design, development, and commercialization across the ecosystem of blockchain innovation within the insurance industry. So, you really are tied right up to blockchain and insurance. This is where you spend your time?

Ryan Rugg: Yes. We opened the Center of Excellence for Insurers and Reinsurers at R3 in 2017 with ACORD and since then have seen a large amount of reinsurers grow on our platform. It's been wonderful to spearhead that initiative.

David Starr: That's great. And Nick Leimer is the Principal Industry Lead for insurance at Microsoft in the industry experiences team. He advocates for Microsoft Azure within the insurance industry and is a recognized thought leader in the insurance IT space. Nick, welcome to the show.

Nick Leimer: It's great to be here. I'm really excited to hear what Ryan has to say. We've talked a couple times at different conferences. Microsoft's been happy to support Corda in our workbench and across multiple different parts of our platform.

David Starr: So you guys met at a conference recently and there was a conversation that you felt, Nick, was strong enough to have a conversation on the podcast. What was it that was so compelling about this solution?

Nick Leimer: I was actually at a blockchain event and every single insurance company that I was talking to, the only solution they were really interested in was Corda. They had started someplace else, "Oh, and then we moved to Corda," and "and then we moved to Corda." So even if they had started in someplace else, everyone was ending up that way. So it was clear even as much as a year ago, that that was the direction that all the major insurers were going to even if they started off on another platform. They just ... The distributed ledger technology within Corda fit most closely with what they were comfortable with.

David Starr: So is that what you have found Ryan, is that it's just the ledger model of Corda that feels comfortable for insurance companies?

Ryan Rugg: Thank you, Nick, for the kind words.

Ryan Rugg: I think it really goes back to the beginning. So, when R3 first started out as a consortium sandbox back in September, 2015, doing several different proof of concepts on Ethereum, [inaudible 00:03:07], chain, so forth, it was never our intention to build our own platform. But finding that none of the other ledgers out there were, from a privacy scalability standpoint, up to the standards of our consortium, we were basically forced to build our own platform from the ground up with our members for the members. I think that really is unique.

Ryan Rugg: We hosted monthly architect working group calls to figure out what were the characteristics of a traditional blockchain that needed to be in distributed ledger, such as Corda. We still take lines of code from the community and really building a community around it. I think that's why we've seen such a large reception in all industries but especially insurance.

Ryan Rugg: Insurance is going through a digital transformation. Blockchain is just one of the components of it, but from a security standpoint where information on Corda is only shared on a bilateral and multilateral basis ... so only parties that need to see the information see the information ... I think is extremely important characteristics. So, I think that's why we've seen a lot of insurers kind of gravitate towards our platform. But, we are a startup of 200 plus people. People don't typically start on Corda. We don't have as large of a community as other ledgers out there, but it is growing, which is really exciting. So it's exciting to see more and more people moving over.

David Starr: What blockchain consortium models are you working with? What do you see people wanting?

Ryan Rugg: So we work with several different consortiums in insurance right now. We have Insurwave, which is live, which is on Azure. You guys have worked very closely with the EY Guardtime team that brought the project with Maersk live last April, which is really exciting. We also work with B3i, which is a consortium out of Europe that started off primarily reinsurance, but they've really scaled that and working on a project called [inaudible 00:05:09]. We also here in the U.S. work with a non-for-profit consortium called RiskBlock Alliance. It's wonderful to see all these different consortiums in a partnership that Microsoft and R3 have, really helping them get live. It's been a journey for us all and, the lessons learned, I'm hoping that together we can help speed up the time for adoption and really grow the network.

David Starr: You mentioned Insurwave went live on Azure. What kind of product is that?

Ryan Rugg: So, in Insurwave ... Nick, feel free to chime in. I know you've worked very closely with this project.

Ryan Rugg: Last April, Insurwave was built by EY Guardtime for a Maersk application that brought in MS Amlin, XL Catlin, Guard, Willis Towers Watson, and really just the coordination of all the processes that they're doing and transactions. So, when a

claim happens or when a policy's recorded, everyone has kind of the same copy of the policy at the same time. So, what I see is what you see.

Ryan Rugg: In insurance expense ratios are stubbornly high. We're between 25 and 35 percent. So, imagine not each of those entities had to reconcile that information, that until it was all agreed on it wasn't recorded in ledger. And I think what's fascinating about this project is that if you talk to Lars, the head of risk at Maersk is ... and I think Nick, he actually mentioned this at the event we were together ... is really reimagining the way insurance is done. He's like, "Through telematics, I know if my ship is in pirate water. I know the age of the hull. I know more details about that ship." That migrating from a static insurance policy where you price it on an annual basis to more a dynamic model, where once you had this information organized, you can price on a real-time basis.

Nick Leimer: It's exciting that it's global and it's fully implemented and it's live now. It's a great selling point of the power of blockchain. So, you have these big ships that are traveling around the world with lots of different cargo and you're making sure in real time that they're where they're supposed to be and if they're not where they're supposed to be, you can automatically increase their premiums or invalidate their coverage, because they're in a war zone or where there are pirates, etc.

Nick Leimer: The same model could be used for other things where ... in commercial entities, globally the way those smart contracts are set up could be used for lots of other things. So, it was a great thing to go live. Great from a selling perspective. You have big ships and pirates and it's kind of exciting to talk about.

David Starr: So, let's talk about it a little bit more. We have to as insured entities report those sorts of status to our insurance companies, right? So, we're going to sign up for a temporary policy that will get me through this situation, is that it?

Nick Leimer: There are different options that could kick in. It depends on how you have your smart contract set up. I think in this case, it was an automatic escalator. If you went off a different course and you were in a war zone or in an area with pirates, you had notified and then different options were given to you. Even if you were not connected, say, to the internet because of the way it's set up, the minute you become ... it's constantly keeping track of where the ship is at all times. So, if you, "Oh, I'll just turn off my satellite connection," it knows where you are. It's going to report back when it reconnects too. So, it's real to know all the risk that are impacting the ship in real time and report back and everyone that's on that contract knows it and at the same time. So, it's that whole idea of distributed ledger and sharing that information also eliminates additional risks, but it just simplifies things and so much more efficient.

David Starr: Nick, what did you mean by "smart contract?"

Nick Leimer: So, a smart contract is ... it's built in the structure within Corda that if Event A happens, then B, C, D, or E happens after that. We've had some examples with some other companies, sort of again, something that's sort of really interesting is if you're tracking a product from the factory to your store.

Nick Leimer: For example if it's ice cream ... It moves to the truck, the truck's cold, the truck driver turned off the refrigeration, the ice cream melted, and turned it back on, right, and got to the store. So, it delivered frozen, but in between it melted. You could easily set up a smart contact with IOT sensors built into the shipping container that, hey ... all sorts of things could happen. Could you send an email or text notification that my ice cream has melted, now it's at the store. What do you want me to do? Do you return it back to the store or do you destroy the product? Those sorts of things.

Nick Leimer: So, there's lots of things that are related to insurance and blockchain that can all fit together with that smart contract. And there are lots of parallels with lots different event-driven changes to the policy. I know the RiskBlock Alliance, for example, is building out a whole series of use cases to help implement this as well.

David Starr: Well, thank you for that Nick. I want to go back to Ryan really quickly and ask, as a Microsoft partner you have five apps in the Azure marketplace and I'm wondering what kind of impact that's had on your business.

Ryan Rugg: Azure, you guys have been early supporters and it's been an incredible journey with you guys. In insurance, we've talked a little bit about Insurwave. Nick just mentioned RiskBlock Alliance, who is also working very closely with you guys, which has been wonderful. They're piloting first notice of loss and proof of insurance, tying in that whole smart contract conversation ... proof of insurance and first notice of loss being able to automatically trigger those payments ... a smart contract being a series of if-then statements.

Ryan Rugg: We also have B3i, which is working closely with you guys. We have a large insurer that is currently in the process of spinning up a network in Asia as well. So, it's been really exiting and it's not just in ... and I know this conversation's around insurance, but you guys have also been a big supporters with the banks.

Ryan Rugg: That brings us up topic of interoperability. I think that's another reason we saw a lot of insurers migrate to Corda, is they realize the importance of the network effect and having the ability to work with the banks and settlements and speeding up that whole process. Working with you guys also on the Corda network, which allows these different business network operators such as B3i, RiskBlock, Insurwave, to have that interoperability on a global network.

David Starr: You mentioned financial services and banking. What about financial services are you seeing blockchain being used for, and in particular, are they using Corda?

Ryan Rugg: We started out as a banking consortium back in September 2015, where nine banks approached our CEO David Rutter that were spending hundreds if not millions or dollars on different proof of concepts on different ledgers and really wanted to band together. The breadth of projects that we've seen emerge from there is everything from cash-in payments, obviously, settlements, remittance, tokenizing of assets overall ... You know we're working on a project right now with HQLAx which is basically tokenizing buckets of bonds to speed up settlement to satisfy the bank's LTR requirements ... syndicated loans, really any use case that has several disparate parties that need to be held ... have that same truth, that shared vision, connecting on a network, is where we've seen the best use cases.

Ryan Rugg: I'm taking on the responsibility of taking on some other industries. We open-sourced a platform back in 2016 and since then we've seen other industries that I don't think that we ever imagined would be using Corda, such as oil and gas, telecom, healthcare. We're really putting some innate developed apps on open source. So, now we're putting some resources behind them as well and trying to help connect and move the rest of the network.

David Starr: R3 has on it's home page, "Blockchain for every business in every industry." Does every industry, and even business, need blockchain? And if so, why?

Ryan Rugg: You know any business overall that has a lot of ... I've said this before ... disparate parties that need to have the same information, but may have the contracts set up with different fields in different order and continually has reconciliation breaks and you have to have a lot of manual interaction. I think that's insurance is so interested in this, because their infrastructure's relatively old and emails and faxes and really labor intense. But, being able to connect to the network where a contract is not recorded until all parties agree to it, is not just for insurance or financial services. We've really seen the whole gamut being built on it. That being said, blockchain is not for every business. I've seen overall it more on a B2B basis right now. Starting to see some B2C emerge, but definitely more on the B2B side. That being said, it could evolve that way. That's where we are in the maturity of this technology.

David Starr: Well, speaking of that, I'm going to ask you one last but really fun question and it applies there. What uses of blockchain will really catapult this into common usage, do you think, in insurance? What's going to cause the inflection point?

Ryan Rugg: I think from my standpoint, it's getting all the data onto the ledger is the first step. The use cases that we've seen is really connecting these parties on Corda to get the data on there. But, I think what really is fascinating to me ... and I'm sorry to see it emerge this year ... is, several of our partners kind of seen the convergence of multiple technologies. So, not just blockchain, but using blockchain almost as that fundamental, that building block per se, that gets the data organized, but evolving that to the future. So, if you think of the consortium MOBI, which is an automobile end consortium, looking at usage-based insurance. So, if you think of autonomous vehicles, and you're going to

only be in the car for an hour, do you want that annual policy or do you want that micro-policy for an hour?

Ryan Rugg: Or, Nick was talking about dynamic policies with ice cream or cargo where if you ship goods from Asia to the U.S. and mid-shipment the goods spoil and you have these IOT sensors that are sending data to a ledger, you could actually start having dynamic policies where you're paying it out real time and you could reorder the goods or whatever the case is. So, I think that that was a long way of saying that blockchain will be the way to organize the data, really streamline health insurance industry, [inaudible 00:16:50] digital transformation, but also allow the data now to create new lines of revenue through new businesses that are evolving through the convergence of multiple tech.

David Starr: Blockchain is such a hot topic right now, I really can't wait to air this episode. But, unfortunately, we're out of time. And Ryan, I want to thank you so much for joining us today on the show, and Nick, you too, and invite you back maybe for an update in a year or so, see how you're doing.

Ryan Rugg: I would love it. Thank you guys so much for the time. It was a real pleasure speaking with you and it's always a pleasure to work with Microsoft.

Nick Leimer: Great. Thanks.

Ryan Rugg: Thanks for the time.

Nick Leimer: We appreciate it.

David Starr: Thank you for joining us for this episode of the Microsoft Industry Experiences Team Podcast, the show that explores how industry experts are transforming businesses with Azure. Visit our team at aka.ms/index and don't forget to join us for our next episode.