

Check It Out! Podcast Transcript

Episode #60

“Thanks to the internet and copious amounts of data,
the future is now”

Sno-Isle Libraries, May 18, 2020



Ken Harvey:	00:00	Ever heard anyone refer to the Internet of Things? Well, in this episode, we'll spend some time with a senior executive in the world of technology, who leads teams responsible for building mixed reality and intelligence systems for more than 9,000 companies and firms across the globe. Our chat with Rodney Clark, Microsoft's Vice President of the Worldwide Internet of Things and mixed reality is next. Welcome to season three, episode 60 of Check It Out!, the Sno-Isle Libraries podcast for life-long learners with inquiring minds.
Speaker 2:	00:42	The views and opinions expressed on this podcast may not necessarily reflect the official position of Sno-Isle Libraries.
Ken Harvey:	00:50	I'm Ken Harvey, your host for this episode of Check It Out! Podcast, and I am joined with a wonderful co-host who has actually been a prior guest on our podcast, Lynne Varner, who's the Associate Vice Chancellor for Washington State University, Everett campus. Hi, Lynne.
Lynne Varner:	01:06	Happy to be here.
Ken Harvey:	01:07	Boy, I'm so glad to have you with us and we are inviting in to the studio this afternoon, and actually it's a studio at a different location, we are on the WSU Everett campus in a beautiful and impressive building that is here on campus that just seems to be so technically advanced. I'm just amazed and really just kind of proud of having something like this in our region.
Lynne Varner:	01:36	It's a wave of the future.
Ken Harvey:	01:38	Well, we're going to be talking to someone who is bringing the future to us, and we are really pleased to have an opportunity this afternoon to have a conversation with Rodney Clark, who is the Vice President of the Worldwide Internet of Things and Mixed Reality team from Microsoft. Rodney, thank you so much for joining us,

(Continued)

Rodney Clark: 01:56 Ken, thanks so much for having me, and Lynne, thank you for the invitation to be here today.

Lynne Varner: 02:00 You're welcome.

Ken Harvey: 02:01 Well, Rodney, I understand that you're responsible for building intelligence solutions for Microsoft clients and everything from cloud, computing and things that I and the audience are going to learn more about this afternoon, but for thousands of partnering organizations and clients.

Rodney Clark: 02:23 Yeah, the Internet of Things is a phenomena. It's a wave. It's a reality. Yeah, we-

Ken Harvey: 02:31 Well, it used to be a future thing that I would hear people talking about. You're saying it's a reality now.

Rodney Clark: 02:33 It is a reality, and we'll talk more about that in just a minute, but the job that I have and the privilege that I have is working with companies who want to participate in this reality and this new opportunity of building solutions that connect everyday devices and experiences to cloud and data. And there are over 8,000 of these partners in our ecosystem that all work together with Microsoft to bring these solutions to our joint customers.

Ken Harvey: 03:01 Well, I'm thinking that it's probably not a surprise to our audience that Microsoft would be prominently mentioned in a conversation like this, but others might be thinking, "Well, gosh, I just remember that Microsoft developed the operating system from my computer, and maybe I've heard about these tablets. I think they call them Surface tablets and all, but I didn't realize that Microsoft was involved in the Internet of Things, whatever that is."

Rodney Clark: 03:33 Yeah. Microsoft as a company is involved in the number of things. Thank you for mentioning Surface, a nice plug there for Surface PCs and tablets. Thank you, but the Internet of Things for Microsoft is all about capitalizing on this phenomena that we call edge to cloud. The things in Internet of Things are these devices, billions of devices that proliferate, everything from sensors on stoplights to point of sale machines in grocery stores to automobiles and the systems that sit within, all of those end points, those things are generating data and information that ultimately create insights and have organizations take actions based on those datas and insights. Microsoft is in the cloud business, and the processing of that data, the processing of that

analytics is all about the now and the future, which is cloud compute.

- Ken Harvey: 04:34 So let me try and just translate what I think I just heard you say and I'm thinking of maybe members of my own family and neighbors who are saying, "Gosh, I heard him say a lot, but I'm not exactly sure what all of that meant." So what I think I heard was that you're saying that there are devices all around us and they may be refrigerators. They might be microwaves. They might be washing machines, or they may be things within our automobiles that are keeping track of things like how many times we open or close the door or what the tire pressure is or how many times that the wheel goes around and it takes those measurements and it shares that information somewhere, but in the olden days, and I don't know how far back to go from the olden days. Was that five years ago?
- Rodney Clark: 05:39 We should just stop there, yeah.
- Ken Harvey: 05:44 10 years ago? That wasn't so much the case, but I hear you saying that today it is, that this data is actually, can be, can be captured and outside that device itself, and that companies can ... They can take that data, translate it into information, and gain knowledge and wisdom from it, that helps them make decisions.
- Rodney Clark: 06:07 Yeah, and let me give you a couple of real world examples, because whenever I give that first response, I get the next reaction, which is exactly where you went. "Okay, so what does that mean?" Fitbit. Many of us have Fitbits when I think of Fitbit, I think of personal cloud, so I always ask the question, "How many personal clouds, Ken, do you have or do you think you have?" Do you think you have zero? Do you think you have 10? Just give me ...
- Ken Harvey: 06:32 Probably more like 25.
- Rodney Clark: 06:34 Yeah. You're probably right, and I'm going to give you an example of three, just real-life consumer examples that demonstrate the Internet of Things and the power. I started with Fitbit and that was a little bit leading. I cheated a little bit, but the Fitbit is collecting information. It could be how many steps you took, which is sometimes the most obvious application and use for that. It could be health and vital signs. It could be a number of things, but all of that information is being funneled up to a cloud, one of your many personal clouds that's collecting and gathering data on you, day to day monitoring your health statistics. So imagine that that's tied into personal

health record. You can track your heartbeat and rhythm over a week. Obviously you get your fitness data and information, but that then becomes powerful data for a health provider potentially, or for you to give to a doctor or health provider. I have an alarm at home. I control with my phone. It's Simply Safe is the name of the actual company.

- Rodney Clark: 07:38 I have a doorbell, Ring. Those are two additional personal clouds. My Ring data and information not only collects the number of people who've touched my doorbell and has an image of them, but it also allows me to see the profile of the entire neighborhood if I so choose to opt in. Now, that's a personal cloud for me, but for a company like Ring, that's also data and information that they can share, that they can sell back to us as consumers on how to keep neighborhoods safe for whether or not there's a threat. My alarm, I mentioned earlier, unfortunately, these things aren't tied together always. And maybe we can talk more about that later, but I can control my home that might be on the other side of the state of Washington. Or while I'm sitting with you here, I can monitor and see through a camera what's happening around my perimeter, or I can turn it on and off to let someone in, my son coming home who's forgotten his keys. So all of those-
- Ken Harvey: 08:35 And we're seeing more and more television commercials that are actually showing that that happening.
- Rodney Clark: 08:39 Yes, yes. And all of those are just real practical examples of the Internet of Thing at work. And we don't realize it every single day, but it is the reality that I mentioned.
- Ken Harvey: 08:51 Wow.
- Lynne Varner: 08:52 I just, not kidding, two minutes ago, I felt my phone buzz and it was our dog walker because our, when she walks in our front door, it shows on my phone, then it shows that she's going out the back door, and then if I want, I can bring up the camera and see my dog in the backyard.
- Rodney Clark: 09:10 Yeah, exactly. And I'm going to give you a sense for how geeked out that I am about the role that I have and what we do. My family was home for the holiday. We had a debate. Now again, I'm a technologist, so this wouldn't happen in your average household. It just happens in mind where I think about the Internet of Things all the time. We were having a debate on which door was most often used to come in and out of the house, so my contention was, it was the door leading from the

home into the garage and everyone else, I was out numbered, three to one, was that it was the actual front door.

Rodney Clark: 09:44 So I put an occupancy sensor up right above the garage exit, and then one above the door. It wasn't there for long, but we put it up there for two weeks and tracked all the patterns. Well, I was the only one that used the garage exit and they were right, but it was the data and the point is that it's the data and information that allowed me to make a decision as to whether or not I need it 30 seconds more on that front door entry, or if I needed to add that 30 seconds more. So that's my personal data and information. I'm making decisions based on that. Imagine the power of this and what we actually enable customers to do when they look at their data and information in a set of decisions that they have to make.

Ken Harvey: 10:27 So I think that's really a powerful example because as a communications and marketing professional, I know that quite often, our organizations, whether we're for profit, nonprofit, public, or what we can find the decision makers, may be prone to make decisions that are based upon their own very narrow set of data or their interpretation of a very narrow set of data and perception that may in fact be materially wrong and what you were indicating in your example is, "Hey, if you widen your data set, it may show you just how far off the reality is."

Rodney Clark: 11:17 Absolutely. Absolutely. And there are a lot of examples. I'm going to give you one other one. It's slightly graduated from the home experience or the Fitbit experience, but when we walk into a grocery store, I'll do that today on my way home, look around and see just the average grocery store. And you'll look up and you'll see a camera. Now in the old days, that was just security. It was looking at people coming-

Ken Harvey: 11:44 Five years ago.

Rodney Clark: 11:44 ... in and out. Well, now you have companies like Genetech who are building these devices that have the cognitive capability, not only to map and track the X number of people coming in and out of the store, but it's also monitoring patterns, traffic patterns in the store, and also monitoring how many people come from the North side of the store with X goods in their hands versus the South side of the store with these goods.

Rodney Clark: 12:15 And the retailers then can use that to monitor layout or to put items. It's not your typical everyone walks in and turns to the right. This is hardcore analytics and data that strata cast their analytics platform is giving retailers. Now much better in a

clothing store when you have things on sale, but the point is that you have companies using and leveraging that data and why wouldn't Whole Foods or QFC or any other store want to know if they should put sunflower seeds in the fruit section, because it's considered a nutritious snack, or if it should go in the snack food section. Simple decisions like that can happen-

- Ken Harvey: 12:52 I want to know that because I love sunflower seeds.
- Rodney Clark: 12:54 Yeah. You look like a sunflower seed guy so I thought I'd throw that out there.
- Ken Harvey: 12:58 Thank you.
- Rodney Clark: 12:59 But it's valuable information to any organization at any level when you get to the right set of data. And that's, again, a thing that the Internet of Things provides.
- Ken Harvey: 13:08 Well, let's talk just a little bit about the wide range of companies that you see who really want to take advantage of, tap into this type of insight building.
- Rodney Clark: 13:24 Yeah. We work across multiple industries. There is a set of horizontal technologies that are things like remote monitoring and maintenance, predictive analytics. Let's take energy and oil and gas for a second. The upstream flow of petroleum from refinery to pump, you have to be able to monitor all of these switches and points within to ensure that there is no failure point, because if there is a failure point in the petroleum coming through, it can cost time, which equates to millions of dollars. Well, we have companies in manufacturing and oil and gas that build switches and devices to predictively analyze and monitor the health of that switch that allows the petroleum to flow through. If they can determine that there's an issue before it actually happens again, cost savings. Healthcare, everything from ultrasound machines, to CT scanners, you see a lot of technology in the hospital that's used in a predictive way.
- Rodney Clark: 14:31 A fun one for us is Starbucks is implementing an Internet of Things solution at their coffee shops, their Mastrena machines. Again, predictive analytics determining whether or not they need to roll out a service truck to fix a machine that a barista maybe thought was an issue, but it turns out to be a wrong button pressed. Exchanging recipes, believe it or not Starbucks has recipes for all of their coffee drinks and for years this was information that was exchanged over USB drives and not secure at all. Well, they're using this technology to push those things

down to the local stores. We talked about retail earlier, manufacturing, you name it. There is an industry play for the Internet of Things.

Ken Harvey: 15:21 Hmm. Well, I'll tell you what my mind is just swimming with a number of questions to ask you, but I think we're going to take a short break and when we come back, what I'd love to do is kind of learn more about you and how you got into this stream of consciousness and occupation and how you made it a career that might be instructive to some in our audience who have either children or grandchildren or themselves may be kind of mid career and thinking, "Okay, where do I want to go from here?" So we're going to take a short break and we'll be back in just a minute,

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Ken Harvey: 16:31 Enjoying this episode of the Check It Out podcast? Head over to the iTunes store, Google play music store, or most other podcast stores to subscribe, rate the podcast, or leave a review. Your rating and review will make it easier for others to find the Check It Out podcast, wherever it's available.

Ken Harvey: 17:00 Well, we're back with a conversation with Rodney Clark, who's the Vice President of the Worldwide Internet of Things and Mixed Reality with Microsoft and I'm, just wanted to remind you, that I'm joined with a cohost who I normally don't have, but Lynne Varner, who is the Associate Vice Chancellor at Washington State University Everett. Then Lynne again, I'm really glad that you are riding shotgun for me.

Lynne Varner: 17:23 We might have to make this a regular thing. I'm enjoying it.

Ken Harvey: 17:26 Well, let's talk about that, figure out how we can do that. Hey, Ronnie, I can see here in my notes that you've been with Microsoft for at least a couple of decades now, and that's got to be really kind of fascinating, that trajectory. Did you start out at Microsoft in your career?

Rodney Clark: 17:50 That is a compliment, Ken. First off, thank you for asking that because I was nine years somewhere else before Microsoft, but I was at IBM for nine years.

Ken Harvey: 17:59 So they call that an overnight success.

Rodney Clark: 18:01 Overnight success, that's right. I was at IBM for nine years prior to Microsoft, and I'd been at Microsoft for 21 years now.

Ken Harvey: 18:10 So you mentioned earlier when you used the example about your family and the bet that you all had in terms of which entry is the one most often used. You described yourself as a technologist, and then you also mentioned, I think you used the word geek early on, but as a child, did you know about Microsoft and did you think, "Okay, I'm going to work for them one day and I'm going to be a Vice President?"

Rodney Clark: 18:38 No, I didn't. In fact, as a child, I wanted it to be an ice hockey player and I was on, what I considered to be at that time, a very deliberate path. And at some point I was introduced to science in high school, through a program called MESA, mathematics engineering and science achievement. And it opened my eyes to just a new way of thinking. It didn't necessarily change my deliberate career path at that point, but it broadened my perspective. From there I looked at possible summer jobs in high school, and I started working at Hewlett Packard as a high school student. Again, eye opening experience. I was also the son of an IBM family. My mother worked there, my stepmother worked there. My father worked there so I grew up knowing of the company IBM, but had vowed, never, ever to go to work for IBM because I wanted to be an ice hockey player, right, who had this now side fascination with science.

Rodney Clark: 19:56 Long story short, I ended up working at IBM through the end of college and it was an eyeopening experience. And while I've never, I'm not an engineer, I majored in sales and marketing, but I've always had a fascination for the technical. And I've always been curious. I've always asked the question, "What if?" In fact that might've been one of the marketing slogans for one of those companies. I won't say which one it was, but I've always been fascinated by science and the possibilities and what technology enabled and what I saw in those early days at IBM. So when I got to Microsoft, it was exercising this passion that I had around technical business. By the way, I had a great career at IBM. I didn't leave there for better or worse. I actually left because I thought I could feed this need to explore and to get different experiences.

- Rodney Clark: 20:52 And I end up in this role very intentionally, but also in a way, if I look back that was what we call today, this growth mindset. So always asking that what if question? And I saw an opportunity about six years ago for these devices that were embedded and fixed and at the time we were building our cloud business and I asked, "Hey, what if we were actually talking about cloud for those things that have traditionally been fixed purpose devices?" And it wasn't the birth of our Internet of Things business. The Internet of Things is an industry phenomena, but it was for me the continuation of this fascination with technology.
- Lynne Varner: 21:38 But it all started with you being curious and asking, "What if?"
- Rodney Clark: 21:42 That's right. That's right. And that's one of the things I talked to a lot of students about today or early in career. I use the term, you've heard me say deliberate earlier. And I also use this term emergent to sometimes compensate for this growth mindset that we all hear about and talk about now and it's real. But it's the emergent thinking, the ability to incorporate things that were perhaps not a part of your intended path but being open enough to see where the puck is going, if I can use that hockey analogy. And so my encouragement to the early in career in students is to not be so fixed on what you want to be when you grow up. You have to allow yourself to experience different things. If I hadn't, I wouldn't be sitting here in this podcast and I wouldn't have the role that I have today.
- Lynne Varner: 22:39 That is so true. I tell our students to prepare yourselves to be flexible and be nimble. What you get your degree in may not necessarily be what you work in.
- Rodney Clark: 22:50 That's right. Absolutely.
- Ken Harvey: 22:51 Well, that seems like it's that's so valuable an admonition for how to approach today and tomorrow, because it just seems like that so many of the things that the jobs and even careers that a student today may be preparing for, or someone who's just entering the workforce, may be being asked to do, those things may not be around 20 years from now, 30 years from now. There may be other things that essentially new jobs that had not existed before.
- Rodney Clark: 23:31 Yeah, Ken, my first job at IBM was going around and convincing people that they could do the same job on their PCs as they were on their fax machines, sending messages like how many fax machines do you see? Save a few industries that need them for regulatory reasons, but the whole business model at the

time when I entered into the workforce was around upselling people to these higher purpose fax machines that were in essence PCs and sending electronic messages that way. And who knew that we'd be talking about Fitbits and occupancy monitors inside your home that can monitor where you're going and how often you're going there.

Ken Harvey: 24:15 So with that said, is there anything that you're seeing happening in terms of the way that someone who maybe is mid-career maybe in their, they've been working for 10 or 15 years and they're thinking, "This is not taking me where I want to go. I'm going to look to see where I go from here. Do I need more education to do that? Or is there a self study or do I just need to jump out and just take, find another job?" Is there anything that you would encourage them to do? Either one of you Lynne or Rodney?

Rodney Clark: 24:56 Yeah. I counsel a lot of mid career people inside and outside of the industry and most conversations are around, "How do I become more technical?" I do think, and this is specific to the area that I'm in, which is technology. The case is laid for people to become more technical if you look at this thing that Microsoft calls Tech Intensity, what it nets out to is that these companies that have not traditionally been technology companies are becoming increasingly digital. And so you have to have some minimum level of digital competency in order to stay-

Ken Harvey: 25:42 Relevant.

Rodney Clark: 25:43 In order to stay relevant and it's created an interesting thing where there's a shortage of data scientists, but if you're in a finance capacity, you've got to know a little bit about the technology in order to do the best job even for the most consumer of consumer brands and companies. Your CEOs today, 33% of them have technical backgrounds and if you look at the last 10 appointments of fortune 500 CEOs, many of them have grown in their companies through a technical path. And so there's two points and you didn't ask this question, but it's probably important for me to make it now, especially as it relates to my time here with the students today and the faculty. Because tomorrow's CEOs are today's technologists, it's ever so important that we accelerate STEM programs that we have our females, our students of color, even that mid career person thinking about, "What impact do I want to make in the business?" If we're not pushing and supporting people on that path and we miss out on the opportunity to be in that C-suite tomorrow. Now, not every person mid career, every student has

an ambition to be in C-suite. The point is to make sure that you stay relevant and in the game.

Lynne Varner: 27:12 We're focusing a lot here in Everett on interdisciplinary efforts, around STEM, and then something like communication or business, because we think every student needs to have comfort with technology, whether you're going into retail, whether you plan to be a writer, you need to be able to explain ideas that are technical in nature. You need to be able to communicate with software engineers, software designers so everyone has to have some capacity in STEM, no matter where you're actually going to end up in your career. So we try to encourage our students that way. Not everyone wants to major in engineering, but you do want to understand how engineers think and how to convey possibilities to them so that they can actually create it for you.

Rodney Clark: 28:01 Yeah.

Ken Harvey: 28:02 I think those things are so important and I'm looking at the clock and realize we've only got about two or three minutes left. I do want to, I think Lynn and I both wanted to just ask you about something and I will just set it up this way. It just so happens that the three of us are professionals of color and that is for me, wonderful that we're having this conversation. With that being true, what are you seeing in terms of kind of diversity and inclusion in the technology field and at Microsoft? Are you optimistic or pessimistic about kind of where you're seeing things going in terms of kind of opportunities and the ability of individuals who are given those opportunities to flourish?

Rodney Clark: 28:50 Yeah. We have a long way to go, and that's an industry statement and it's programs like STEM and some of the outreach that we have for girls who code, black girls who code, man code, and the programs that we sponsor as Microsoft. The engagements that we have with universities like Washington State University, HBCU's that will continue to support it. The numbers and the statistics reflect that we have a long way to go. I think our technical representation, African American, black representation inside of Microsoft is three and a half percent. It's actually a point off of our actual African American, black representation for the company which is four and a half percent. And these are stats and data that we publish and so even just taking those two very small numbers, which suggests that we still have a long way to go and seeing that representation in technical roles or these biz dev roles that lead to technical outcomes, we have a long way to go.

- Rodney Clark: 29:48 For me personally, I made a statement earlier around really, really thinking about the C-suite and my role and in my responsibility from an industry, I'd like to see more black CEOs. And I know that the only path is to ensure that we have just a large group of technically competent black leaders coming up through the ranks of all companies. And so for me, that's an area that I am personally putting some time and some effort behind and I'm happy to say that my company is supporting me in that effort as well.
- Ken Harvey: 30:24 I love that. So in the last minute that we have, I'm going to throw a zinger at you, had not prepared you for this one, but you mentioned the wage with your family in terms of betting, which door with people coming through. And so mentioning family, do you have within your family or in your early years, a meaningful story around learning or libraries or reading or anything you'd love to share and maybe end this conversation with?
- Rodney Clark: 31:02 Yeah, there's ... Thank you for asking that question and I'm thinking, there are a number that come to mind, a number of stories that come to mind. I was just on holiday with my kids who go to school back East and it's the one time now a year that we all get a chance to spend time together and guess what we did on our beach time. We all read the same book and talked about it and debated it for the entirety of the trip. I don't know necessarily at what point that value crept into our being as a family, but I'm thinking about many other memories where, that was instilled through my folks as a value. And it's this notion of lifelong learning. Now, we didn't learn much from this book. It was more of a suspense, but it created an amazing amount of conversation and curiosity.
- Lynne Varner: 32:04 I love that. I think especially because my son's about the age of your son. If I ask him something directly, he's like, "Oh, nothing. It was okay." But if I ask him about an idea or an article or a book he's reading, he'll talk about it and parts of him will come out and I learn more about him than if I asked him straight out.
- Rodney Clark: 32:22 Yes, absolutely.
- Ken Harvey: 32:24 There is something very powerful about both reading and sharing a read together and also knowing how to ask questions around it that helps to ensure there's conversation that ends up actually reinforcing that sense of, we're family and we can talk about things. And we can talk about things that might range from silly to very serious. So Rodney, this conversation has just gone by way too quickly and we would love to find some time to

extend the conversation through another interview if you're ever open to it.

Rodney Clark: 33:05 Absolutely. Thank you so much again for having me. I enjoyed it and I'd love a chance to come back and spend more time.

Ken Harvey: 33:12 So we have been chatting with Rodney Clark, who is the Vice President of the Worldwide Internet of Things and Mixed Reality for Microsoft. He has graciously given us some of his time as part of his visit to the WSU Everett campus, where he is spending some time talking with faculty and students and helping to kind of point the way into the future. Thank you, Rodney.

Rodney Clark: 33:39 Thank you.

Ken Harvey: 33:39 Thank you, Lynne.

Lynne Varner: 33:40 Thank you, Ken.

Speaker 4: 33:41 Cuddle up with your preschooler reading fun books like Goodnight Moon or Chicka Chicka, Boom, Boom. You'll find 100 enjoyable picture book titles, were hand selected by Sno-Isle librarians, guaranteed to create delightful and meaningful afternoon and bedtime experiences all while helping your children learn to read. Find the countdown to kindergarten list and many more online at Sno-Isle Libraries.

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