OPEN NINTH:

CONVERSATIONS BEYOND THE COURTROOM

WHAT'S NEXT...IS HAPPENING NOW

EPISODE 7

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(Music.)

>> Welcome to Episode 7 of "Open Ninth: Conversations Beyond the Courtroom" in the Ninth Judicial Circuit Court of Florida.

And now here's your host, Chief Judge Frederick J. Lauten.

>> JUDGE LAUTEN: Welcome to Episode 7 of "Open Ninth." My name is Fred Lauten. I'm the Chief Judge of the Ninth Judicial Circuit, and we're excited to have as our guest today Sam Chon from Cisco.

Sam, why don't you tell us a little bit of your background. I understand you went to UCLA as an undergraduate, and swam for a Division 1 school. Tell me a little bit about your background and how you got here to Orlando for Cisco.

>> SAM CHON: Absolutely. So I joined Cisco Systems back in 1998, and worked as part of their unified communications group. So back in the late '90s, Cisco invested in something called unified communications, and that's an area where I had a lot of background expertise. Just some prior work in the industry.

So I came to Cisco in 1998 as a systems engineer working primarily on technology, and have been there ever since, except for a five-year stint that I did at Microsoft between 2004-2009.

But all of it has been under the umbrella of this notion of unified communications, which is really technology designed to bring people together. So it could be audio, it could be video, you know, web conferencing, those type of things, and all the tools that are associated with that.

>> JUDGE LAUTEN: Sam, one of the ideas that prompted this interview was, we were sitting around talking and we thought if an individual walked into a courtroom in 1916 and took a look at it and then fast-forward all the way to 2016 and took a look at a courtroom, the courtroom would look relatively the same. There might be some changes, obviously, in design, and a couple of features that would change.

And we contrasted that to what if an individual walked into an operating room in 1916 and then fast-forwarded and walked into an operating room in 2016. And our impression was that it would look radically different, and largely because of technology.

So it seems to us that maybe the courts are a little slow with technology. And as an expert in the field, I'm curious if we could talk a little bit about the current and future trends in court technology.

So what trends do you see as it pertains to courts and technology in courts?

>> SAM CHON: So I agree with your initial assessment, which is I think the courts tend to be relatively far behind.

And I think that your observation between, you know, 1916 and 2016 is an accurate one.

You know, this court here, the Ninth Circuit Court in particular, I know, based on some research that I've done trying to become an expert in this area called connected justice, this is perhaps one of the most advanced technological courtrooms, not only in the United States, but in the world.

But largely, you know -- and I recall some old western movies that I've seen where you have, literally, the circuit judge is riding around on a house.

You're right. When you walk into the room, the format is still the same. There's still a judge sort of at the head of the court and then a couple of podiums for either side of the argument and, you know, perhaps a jury.

The only things that have really, you know, changed in the modern context is, perhaps, we've got some video screens, you know, to display some information or some audio to capture it.

But there's very little other adoption that's very apparent in the courtroom. Most of the technological adoption we've seen has really been in the back office. And I think the Ninth Circuit, with your leadership and some of the things that Matt and his team has done, has really shown that.

But what we've seen is back office operations like court reporting, and in some case court interpretation, being moved to more efficient platforms.

But what's in the courtroom itself, I think, has been relatively slow to adopt. And some of it, I think, has been some legal concerns. I know that in your -- I think it's improper to call it a business, but in your field, precedent is extremely important. And being able to bring technology into the courtroom in an evidentiary context, for instance, is a bit challenging to do.

But at the same time, you know, the world is beginning to evolve, and, you know, much of the type of information and the challenges that are occurring in the world are, in fact, based on technology. So, you know, we need to start seeing much more technology astuteness and adoption within the context of the court itself.

But whether it's efficiency or whether it's on the legal side, we're starting to see that movement. But it's much more on the back end that we see the adoption today.

>> JUDGE LAUTEN: You mentioned Matt. Let me just identify, that's Matt Benefiel, who's the court administrator for the Ninth Circuit. And he has an interest in and a background in technology and court administration, and his staff are very interested in innovations and court technology.

You mentioned, you know, one of the constraints in a courtroom is, certainly in the criminal courts, there's a Constitutional right to confront one's witnesses. And so for the most part, that means the witness has to be sitting there in the witness stand with the lawyer being able to see the witness, and most importantly, the jury being able to see the witness.

So most, as you've mentioned, most of the advancement seems to be in evidence presentation. I see PowerPoints now where you didn't see that before. In our Courtroom 23, we have video screens shared by each juror so that they're not straining to look at documents or even video clips if -- and those are increasing.

But what else do you envision could happen in courtrooms that isn't happening now that might happen in the future?

>> SAM CHON: Sure. I think, you know, in the context of the technology where I have some specialization, which is unified communications, you know, what the technology is designed to do is to bridge time and distance. That's essentially its foundational function, virtually bringing in somebody from afar.

So where I see this headed is a couple of areas. I think that historically, you know, challenges in a court, whether it's been in a criminal or civil context, have been relatively local. You could only commit a crime or challenge

someone in the context of about how far away that you could walk, in the old days, or drive. Things like that.

But now in the modern world, of course, we're a much more global society. And I think what that essentially means is, you know, the law has to be much more accommodative to being able to hear cases that do -- that do have individuals that are much more globally dispersed. And the notion of having to come to the courtroom, you know, itself, sometimes is just too high a bar for many people to overcome.

>> JUDGE LAUTEN: So let's talk about that a little bit. Let's focus for a moment on a civil trial, as opposed to a criminal trial because of the Constitutional right --

>> SAM CHON: Sure.

>> JUDGE LAUTEN: -- to confrontation.

I had the opportunity years ago to travel to your business' headquarters in Orlando, and it was amazing. I walked into a room with a crescent-shaped table, and three high-def screens, each of them had a camera mounted on the top of them. The back wall was painted a beige color, and I think it had your logo on it and one potted plant. I'm not sure about that, but I think I recall that.

And all of the sudden a switch was thrown. And all these three high-def screens was the opposite end of the crescent table that made it look like a complete circular table. And to my left was somebody from -- I think it was

Houston or California somewhere, and to my right was someone from Boston.

We started talking. The speaker system was so sophisticated that someone was on the left side of the high-def screen, their voice was strongest on the left side of the room. And the person on the right, their voice was strongest on the right side of the room.

And after about three minutes, we all forgot that we were thousands of miles apart. It felt like we were in the same room.

Tell me a little bit about that. I was amazed at that technology.

>> SAM CHON: Sure. I think what you're referring to, we call immersive telepresence. Again, getting back to the theme of bridging time and distance, the complaint historically about video conferencing, we can certainly see into the far-end room. But in many cases, it was difficult to hear and see the person, and the technology itself actually got in the way. So what immersive telepresence is was an engineering and design effort on our part to really take away those barriers.

So to your point, you know, having the audio come from the direction where the individual is seated. And, in fact, I don't know if you happened to notice it, but when you sit across the table, the aspect ratio or the perspective of the

far-end person is supposed to be lifelike. In other words, if that individual's six-foot tall, then that person appears to be six-foot tall if you were sitting across that table.

But the fundamental effort is make the technology completely disappear. And your experience should be that as a participant in this, is that as if I were literally in the same room having that conversation. And hopefully short of, you know, the handshake, perhaps, beginning at the end --

>> JUDGE LAUTEN: It felt that way. It was amazing.

We talked a little bit about technology, and I'm pretty ignorant about technology. But one of the challenges that we were told you-all have technologically is that it's easier to make the video look as realistic as you can than the sound.

What's the greater technological challenge, getting the video clear and as realistic as it can be or sound as realistic as it can be?

>> SAM CHON: Sound is always the primary challenge for us because, you know, rooms are difficult. Cameras can be, you know, pan tilted or zoomed. There's been a lot of advances in biometrics, so our cameras, for instance, can now recognize, you know, head and shoulders. And as you move across the room or sway in a seat, you know, the camera can pick up on those type of things and figure out where you are.

But sound is much more of a challenge because there's not only, you know, the clarity of sound itself, but we want

to give sound more of a 3D aspect. Meaning, if you're sitting across the room at somewhat of a distance, we want to be able to capture that depth and richness of sound in addition to just simply the clarity.

And in many cases, you know, if you're having a conversation, if the video were to disappear, you can continue with the conversation. It perhaps would not be as rich an experience and would be rather annoying, but the conversation can continue. And that's not the case with sound. Sound goes down --

>> JUDGE LAUTEN: That's a very interesting point --

>> SAM CHON: -- you're pretty much done.

>> JUDGE LAUTEN: -- and certainly true for what we're doing right now.

So it's somewhat easy to see that in that experience, a civil judge could sit in his or her hearing room and take testimony from an expert witness, let's say in California, while the judge was in Florida. And the lawyers could question the witness, and it would seem pretty realistic.

One of the things I joked about is -- because it was a high -- very impressive system, and I joked, wow, this is impressive, but would really be impressive if the witness were holographed into this room.

And then someone ran out and got a computer and said, let me show you something, and showed me a video, I think it

was the CEO of Cisco, but someone in the United States appearing on stage in a conference in India who was holographed in.

Is that part of the future in technology?

>> SAM CHON: I think it is, actually. And I know exactly the video you're referring to. That was a video of a gentleman by the name of Marthin De Beer who was our vice president at the time of the communications technology group. And using, fundamentally, the same technology you've used in the courtroom, we're able to take essentially a 3D rendering of the individual and bring them on the stage. And as that person sort of walked across the stage back and forth, you could see with some depth, you know, that individual moving.

So that was an experiment that we did. That was a while ago, and it was commercially unavailable because it's rather expensive to do.

But the reality is as you fast-forward about ten years -- because I think that video was about ten years old -- is we're starting to see, you know, that 3D capability become much more of a commercial reality. Obviously, 4K screens, as an example, you know, in the room -- or in the stores which do have some depth of field are under a thousand dollars just in the commercial marketplace.

And you're seeing applications like Pokemon Go, as an example, which is augmented reality. Or how do I take, you

know, video and then overlay it with some other type of virtual experience to bring a more -- whether it's a rich experience or more information to what it is that I'm looking at.

You know, I think there is. And certainly there's the notion of virtual reality, which is to take the real part out of it, if you will, and then have some sort of animated rendering.

>> JUDGE LAUTEN: So in the near future, in my children's lifetime, might witnesses be holographed into a hearing room or maybe even a courtroom?

>> SAM CHON: I think the technology is there today. I mean, for instance, with video game consoles, there's virtual reality glasses, you know, that you can purchase at relatively inexpensive cost that give you that 3D experience.

I think the challenge is probably more, you know, on the legal side with the acceptance of the court, whether it's civil or criminal. But just, you know, having that accepted as a technology.

>> JUDGE LAUTEN: Right. Again, when we get back to the confrontation clause, it raises issues about, can you confront a witness who's not actually in the same room? And in the same civil context, though, you might take testimony from a witness, not on a screen like we were talking about, but potentially in the future, they'll appear to be in a

chair, but they're really hundreds, thousands of miles away.

And you think that that's a realistic possibility going forward in the future?

>> SAM CHON: Technologically, that is commercially available today.

>> JUDGE LAUTEN: Amazing.

>> SAM CHON: Again, I think the challenge is more the processes and the adoptions within, you know, your industry than anything else.

>> JUDGE LAUTEN: Well, let's talk a little bit about expense for all of this technology.

So it's amazing just thinking about what's possible raises issues of Star Trek-like possibilities. But what about cost associated with all of the technology that we're talking about? How expensive and how do most courts tend to fund the purchase of technological equipment?

>> SAM CHON: Sure. So the expense has come down considerably. And it's come down considerably because of three different factors.

Factor No. 1, I think, is just consumerization. The fact that things like iPhones and Android phones are ubiquitous on the market today. You get manufacturers like Cisco get economies of scale. So, you know, the devices or the components that make up the technology themselves have become so much less expensive over the last five or ten

years, you know, we've passed on that savings.

That immersive telepresence system, for instance, that you referred to, the three-screen experience. A couple of years ago, that was something on the order of $250,000 at list price. And to your point, you had to change the room. You had to paint it a certain color and probably had to dedicate that piece of real estate for that particular function.

Today, those type of systems are well under $100,000 at a consumer level, even starting under $3,000 for a hardware-type of unit that I see that you have right here in this room as an example. So the cost has come down considerably because the consumer market has driven that.

The other thing that's occurred is sort of the operational expense aspect versus capital expense aspect. In other words, sort of in the older days, if you wanted to make a purchase of goods, it more or less required a capital purchase.

But because manufacturers like Cisco have evolved towards moving down the notion of leasing or other financing options, you know, the reality is that many of the technologies can be bought on a cost-per-month basis or cost-per-user basis in a subscription-type of setting.

So for the courts, as an example, where I know you tend to be lighter on the CAPEX and heavier on the OPEX spending,

it makes it much easier to consume the technology because it's a like-for-like type of purchase, versus I got to buy all this hardware.

The third thing that's occurred that I think is quite important is the emergence of cloud delivery services. So what I mean by that, if you look at this technology that you have in the room --

>> JUDGE LAUTEN: And why don't you tell our listeners what you're pointing out and describe it a little bit.

>> SAM CHON: Absolutely. So what you have in the room is a Cisco SX10. So it's a little video conferencing unit. So you can see the bread basket-shaped device that's under the monitor. And then this little tablet here kind of controls it, and it's designed for video conferencing.

So this little device here, which is what is apparent to the user, there's actually a significant amount of back-end technology that you don't see that controls the device. So whether it's identifying where the other person is negotiating protocols between two like systems, there's a lot of magic, if you will, that occurs kind of in the back end.

Historically, companies have had to purchase those items, those sort of back-office items. In many cases, you had to have a staff, perhaps, at least part time, that would manage those items.

But now what's happened over the last few years is that

with cloud delivery capability, the manufacturers themselves, or other providers, can provide the back office function. So the only thing that you would need to do is sort of register, if you will, you know, your device to whomever your cloud provider is and, you know, perhaps you pay them a nominal fee for, you know, utilization on a permanent basis, but your only investment really is in the local device. And that's the only thing that you need to worry about.

>> JUDGE LAUTEN: Let me just make sure I understand this. So our circuit, for example, might purchase a small piece of equipment, or a piece of equipment, but everything that it takes to effectively use that, we're almost leasing. We're paying some fee for you-all to run all of that back-end technology, and so we have to either lease or purchase a smaller piece of equipment, and we pay a fee for your services that backs it all up?

>> SAM CHON: That's absolutely right. And even this piece of equipment here, this SX10 unit, which I think lists at $39.95, you know, even that could be leased. So you're talking about, you know, a per-month device in the tens of dollars, if you will, over a three-year lease period.

>> JUDGE LAUTEN: Is that how courts are tending to finance advances in technology these days in your experience?

>> SAM CHON: The courts -- as we mentioned a little earlier -- are still late to adopt. But in the courts where

I have seen adoption take place, they're much more keen, you know, to take advantage of the leasing or the operational expense options than the CAPEX for exactly the reasons we talked about.

>> JUDGE LAUTEN: So if you could tell us what you envision a courtroom might look like in 2056, how would you describe that?

>> SAM CHON: Well, if history holds, I think, within at least the court itself, we'll still see the same layout and format. I think it's probably hard to evolve -- much harder to evolve that as history sort of dictates. Hopefully I think what we'll see is much more technology, you know, again, being used in a back office, you know, context.

I know this court in particular, for instance, you know, brings interpreters in remotely. An individual doesn't have to walk into the courtroom, you know, to provide those interpretation services. They can be, you know, perhaps wherever they happen to be to provide those services.

Court reporting, you know, is something that I think can essentially disappear from the courtroom itself. The function can actually reside, you know, in the back end.

But I think that perhaps one of the bigger opportunities is really having the notion of a completely virtual courtroom. I know that some cases are certainly worse than others and the stakes are much higher.

But, you know, in my experience, the balance of the type of hearings that you hear are probably much lower, traffic violations or, you know, smaller-type of infractions and things like that where the stakes aren't that big of a deal, if you will.

And the notion of being able to offload those type of hearings off from a brick-and-mortar courthouse, which obviously is very expensive to maintain and kind of difficult to get through Orlando traffic to get here today, as an example.

>> JUDGE LAUTEN: Right.

>> SAM CHON: Being able to take that mass of hearings and literally hear it in a virtual context, and perhaps have people coming from their homes to present their arguments, I think, is realistic and hopefully the direction the court goes.

>> JUDGE LAUTEN: Well, we certainly hear from attorneys one of the advantages of video conferences is they don't have to fly an expert from San Francisco, California, to Orlando, Florida. They can just tell them to go in front of a screen and present and it saves lots of costs to their client and everyone involved.

But I'm also curious about evidence presentation 50 years from now. I'm wondering if, let's say there were an automobile accident, and the collision and the mechanics of

the collision were an issue. I'm wondering if that could be recreated sort of virtually. I'm trying -- I'm wondering if I might see seven jurors in a box wearing headsets and virtually seeing the accident recreated and the mechanics of it all.

Do you envision things like that? Is that what we're talking about in addition to all the other things you mentioned?

>> SAM CHON: Again, exactly what you're talking about. Sort of that augmented reality-type of experience is something that's commercially available today. And it's being used in a lot of industries.

I know architects, for instance, are able to use virtual reality goggles for a potential buyer where you could literally see the home before it's in the ground. And an individual can even start decorating that home, you know, figuring out where they're going to put their sofa.

>> JUDGE LAUTEN: Before anything has ever started?

>> SAM CHON: Exactly.

>> JUDGE LAUTEN: Amazing.

>> SAM CHON: That's pretty common out there in the marketplace. So, you know, I think making the leap into the legal world is probably -- it's not a commercial expense issue, in my opinion. It's probably more, you know, the acceptance of the technology.

>> JUDGE LAUTEN: Attitude. I see. Is that the single greatest thing you think the courts can do in technology in the next decade? It's just attitude and starting to think a little bit outside the box?

>> SAM CHON: I think that's -- you know, it's definitely the case. In -- within the courtroom itself -- again, I know there's a lot of challenges, and you could certainly speak, you know, more to that than I ever could. I've never been in a hearing except as a juror. Actually, in this court right here.

But where I think that the biggest advantage lies for the court, again, is in the -- a lot of the back office functions. You know, I think those who happen to watch courts on TV only think about it as sort of a judge and a bailiff and maybe a few other staff. But what I've come to learn in my personal experience is there's a significant number of people that one never encounters in the courtroom that are required to make that courtroom operate.

And, again, a lot of those functions, which, you know, in my opinion, could be done in a virtual context, and there's great opportunities to scale. And a lot of that -- the money that's expended to manage that back-end organization could be used to make the court operations and processes much more, you know, efficient than they are today. So it's a lot less apparent in the courtroom, but no less

important, I think, to the operation of the court.

>> JUDGE LAUTEN: We've been talking only about the trial courts. And while you were speaking, it dawned on me, I wonder if 50 years from now the appellate courts, who now just read a typed transcript of what was said during the course of a trial, might have the technology where they say, I want to listen to one witness' testimony. It's the key to this appeal. And they press a button and not just listen to it, but actually see it, and that would be the record that they would have. They'd have some sort of record of the real trial with real expressions and watching movement. I imagine that's not too far from a possibility.

And we haven't even talked about the whole appellate record issue.

>> SAM CHON: That's a very good point.

Again, I think that the technology itself is there. I think what's gonna cause the adoption in many cases is going to be the generational shift. You know, and some of the things that -- some of the statistics I know today, in the United States, there's roughly 70 million baby boomers and there's roughly 70 million, you know, millennials out there. But the baby boomers are reaching retirement age at the rate of about 10,000 people a day. That's just here in this country.

So, you know, as that sort of migratory shift occurs,

naturally in society, the reality is the people who are coming into the -- into the workforce today and the future lawyers and judges of the world, you know, they grew up in a world where, you know, reading a document, perhaps, is somewhat archaic.

They watched YouTube or, you know, watched a video on demand, you know, from -- for entertainment purposes and things like that. And I've got to think that that's going to bleed into the way that people are actually going to run their businesses or run their courts.

And I think as that occurs, it's going to become inevitable that people are much more open to having hearings -- I know they're recorded audio today, and in many cases not even recorded via video. But making people much more comfortable with that and making the record available going forward, I think, is going to occur.

>> JUDGE LAUTEN: Are you optimistic or pessimistic about the technology in society?

>> SAM CHON: That's a good question. I don't know that I put a -- any sort of material ranking on that. I think that I'm neither optimistic nor pessimistic. I almost think it's just an inevitability.

People want the technology for good purposes or bad. That's what they're used to. So I think it's going to just -- it's going to evolve. Whether we use it in -- for

good reasons or bad are sort of up to the people.

>> JUDGE LAUTEN: Let me ask you this final question, Sam. Is there some technological advancement that we can't even imagine right now? In other words, in your field, can you kind of see the future or are there sort of events that might happen where we go, no one could even conceive of this technology and now we have it.

That's -- I'm just curious whether we know the technological future or it lies beyond our comprehension right now.

>> SAM CHON: Wow. That's -- that's a great question, and I'm certainly, you know, no Jules Vern where I can imagine the future. But at least in the context of my background, anyway, where I think things are going, I think this notion of augmented and virtual reality are becoming much more important. Because I think that if you think about the way that we perceive the world, we're sort of limited by, you know, our five senses.

And, you know, I know in a legal context, when you happen to see an incident, if you have five different witnesses, as an example, from five different perspectives, you tend to get five different answers and variations on the answers. That's the limitations that we have.

But I think that, you know, as you bring augmented and virtual reality in and can recreate certain experiences and

sort of broaden people's horizons and viewpoints, that there's gonna be a lot more convergence of what people think based on those type of realities.

So, you know, I think that going forward is one of the things I think is going to be really interesting about how we perceive the world, if you will.

>> JUDGE LAUTEN: Sam, I want to thank you so much for your appearance today. This is a fascinating conversation. I want to assure our listeners that we're both sitting in the room right across from each other. But if I understand the future, we might be in entirely different places and be able to carry on this conversation as if we were in the room together.

Thank you so much for appearing with us today.

>> SAM CHON: Thank you. I'll shake your hand just to prove we were actually here.

>> JUDGE LAUTEN: Thank you. There we go. Thank you, Sam.

>> Thank you for listening to "Open Ninth: Conversations Beyond the Courtroom" brought to you by Chief Judge Frederick J. Lauten and the Ninth Judicial Circuit Court of Florida.

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