Welcome back to Up to Speed, a Verizon podcast. For today’s episode Kyle Malady, Verizon’s Chief Network Operations Officer, and Acting Chief Technology Officer sat down for a fireside chat in front of a live audience with Moon Javaid, the Vice President of Strategy and Analytics for the San Francisco 49ers. Moon shared a behind-the-scenes look at some of the work it takes to prepare a stadium for 70,000 people on game day, and he talked about how connectivity and realtime data are essential to the fan experience today. But first, Kyle kicked things off with a 60-second swift.

>> KYLE MALADY: We’re going to start this thing off. We do a little thing in Verizon where we ask executives like a bunch of questions in 60 seconds and see what kind of answers you give. Because sometimes it’s enlightening, interesting, and funny. In 60 seconds we got to fire all of this off.

>> MOON JAVAID: Let’s do it!

>> KYLE MALADY: You ready to roll?

>> MOON JAVAID: Yeah.

>> KYLE MALADY: The first one is easy. Favorite foot to watch.

>> MOON JAVAID: Football.

>> KYLE MALADY: Okay. Favorite sport to play?

>> MOON JAVAID: Basketball.
KYLE MALADY: This one is easy, too. I can answer it. Favorite college team?

MOON JAVAID: Northwest Wild Cats.

KYLE MALADY: Of course! Go Cats. All-time greatest rivalry?


KYLE MALADY: Ooh. Greatest sports comeback of all time?

MOON JAVAID: Cavs down 3-1 in the NBA finals, LeBron delivering the championship.

AUDIENCE: Oohhh!

MOON JAVAID: Sorry!

KYLE MALADY: Tailgate or sky box?

MOON JAVAID: Oh, God, I'm spoiled. Sky box. I'm sorry.

KYLE MALADY: Peanuts or hot dogs?

MOON JAVAID: Hot dogs.

KYLE MALADY: Go for it or punt?

MOON JAVAID: Go for it.

KYLE MALADY: Favorite sports movie?

MOON JAVAID: Remember the Titans.
>> KYLE MALADY: Wow. Okay. Best sports game ever attended?

>> MOON JAVAID: USA-Algeria, South Africa World Cup where Landon Donovan netted it in the 90th minute.

>> KYLE MALADY: You win. I'm dropping the mic.

>> MOON JAVAID: Awesome.

>> KYLE MALADY: Sports legend, living or dead, who you would like to have a drink with.

>> MOON JAVAID: Oh, God. I'm going to get booed again from my response. Maybe I want to change it. But my immediate think is LeBron.

>> KYLE MALADY: All right. Yeah. Best mascot?

>> MOON JAVAID: Best mascot? Benny the Bull.

>> KYLE MALADY: All right. What's your favorite sports team? Come on, that's easy.

>> MOON JAVAID: 9ers.

[Applause]

>> KYLE MALADY: Good. Thank you, buddy. There's a couple things here. So your current assessment of game day in sports today, and, you know, do you think customers are satisfied? And how would you portray the NFL versus some of the other sports and where you are on the journey there?

>> MOON JAVAID: Very good question. Our fans satisfied? I think that's a difficult question to answer. Because I think often fans don't know if they're satisfied or not. So they might articulate that they're dissatisfied because they're dissatisfied about a certain component, but they're overall satisfied with the experience. I would say that our show rates and attendance levels are significantly high. We renew our season
ticket holders at 99% every year. If you ask fans if they're going to renew, you'll get closer to 60-70% of fans who say they'll renew, when in reality 99% will renew. So I think there’s a little bit of a disconnect between what fans will be able to articulate that they're satisfied, versus what is internally happening. But overall, I believe fans are satisfied because they're coming to the games and coming to the experiences. Does that mean that they're satisfied a 10 out of 10? No. Absolutely there is a lot of room for growth like in the fan experience and for what teams and sports teams holistically can do to help improve a fan's experience from the time they leave their home to the time they come back after the event is finished.

>> KYLE MALADY: In all of sports, what league do you think has the best, what would you would consider, the best experience?

>> MOON JAVAID: Obviously I'm biased. Our team has made over 200 enhancements in our building. We're five years old. I think that is a testament to what we do and how we listen to our fans. And I think the most progressive league is the NBA. This dates back historically and it takes time for things to move. The NFL is the big 500-pound gorilla in the room. We are the highest grossing NFL league out there and it's not even close. And, you know, there is the joke. Like NFL owns a day of the week. We are kind of the marquee league. But at the same time, I think the NBA and what David Stern realized at the time is he wasn't there and he wanted to get there. So he became really innovative and pushed forward that end-game experience. You see other leagues doing that, too, like the NHL and MLB have made progressive changes over the last 10 years, and I'm talking about a business infrastructure side to compete and put out innovative products for your time. I think the NFL is starting to do that now. It's been more recent, the last five years, as opposed to the NBA being about 15 years ago. I think we're catching up with the NFL being more innovative.

>> KYLE MALADY: How does the NFL work? Do you guys try to innovate yourselves? Does the NFL give you guidelines? Is it like a franchise where they provide technical support to you? Or do they leave you on your own to do your own thing and maybe use that as a competitive advantage?

>> MOON JAVAID: So, I'll answer the question differently. What the NBA does is they have a group called TBMO Team Business Marketing and operations. And what that is, is it's almost like a consulting group that goes out to each one of the teams and talks about best practices and what each team does, and I think that really helped propel the NBA forward. I think from the NFL perspective that practice hasn't really been in place, so you have a lot more of the teams operating independently. I think now you're starting to see the NFL do that over the last five years, and even the last two years they've made significant advances in being able to share best practices that are across the league. So we get a weekly newsletter now like the best things we saw in last week's games. And we can borrow ideas from what other teams are doing. And I
think that is a good step in the right direction towards being innovative. But even though I work for the NFL, I would highlight the NBA as being really best in class there.

>> KYLE MALADY: So talk to us a little bit about how you use your systems and your analytics to figure out what's kind of going on around here and then make any business changes.

>> MOON JAVAID: Yeah, I could probably go through our survey focus group happy or not impressions and how we evolved that over time, because that's probably the most impactful for you as fans. If I go back to 2013 when I started and our business strategy department started. By way of comparison, when I started at the 9ers in 2013, only 25% of sports teams had one person working in business strategy. So 75% of teams didn’t even have a single individual working in business strategy. If you fast forward five years later, two-thirds of teams now have a business strategy department. So you're starting to see the building blocks that are getting in place to be able to be innovative and make changes and digest data and analyze and interpret it and make recommendations off of it. But we started in 2013 and immediately came out with our survey. So we had a survey that we delivered to everyone that comes to our games. And we developed a report process around it so if you came to a game then the very next morning you would get a survey. We get a response rate of about 10-15%, which for a survey is quite good. We’re getting 2500-3500 responses per game from our fans. And we compiled that feedback and put it together and effected a Tableau visualization. We met with our shareholders and walked them through their respective areas. Wi-fi, retail, ticketing and entry, parking lots. And we would sit down with the stakeholder and say this is what the fans are saying. We might need to improve X, Y, Z areas. I think that process has helped us out. We have made 200 changes over the course of the last five years based off of our fans' feedback, analyzing those surveys.

>> KYLE MALADY: But how did you even do that because you're basically telling somebody their baby is ugly and you got to fix something. Do you just bring the data?

>> MOON JAVAID: Yeah. No. That's a very good question.

>> KYLE MALADY: It's great that you have the insights. But how do you get people to do --.

>> MOON JAVAID: That is 100% the key, I think, to success. When I hired my department and we talk about the individuals, what I'm looking for mostly is soft skills. Looking for the ability to work with other individuals. I came from a consulting
background where I had to work with clients day in and day out. But for the most part my client was a one-time client. Fast forwarding right now, all my clients are every department around the organization. I have to make sure they like me and they want to work with me and that they're seeking me out in all future cases.

So I think a couple different analogies or quotes that I would have for our team front and center is number one, we aren't the winners. In any given case we are never supposed to highlight that we are doing something. If we're highlighting something up to Alan that hey we made these changes. It's the V.P. of Stadium Operations made these changes. The V.P. of Ticketing made this change. So we're celebrating everyone else in the organization, which, you know, you have to put them forward in order for them to come back to you. If you take all the credit, no one is going to come back to you.

>> KYLE MALADY: You're not getting 200 things done if you're taking all the credit.

>> MOON JAVAID: And the second piece of that, too, maybe this isn't the best analogy. But it's the lose the battle to win the war. Have a long-term perspective. Being an analyst and being very heavily involved in data, we tend to be very convicted about this is what the data is showing, this is the best way of doing things. And I think when you're early in your career, it's really hard to understand why people won't take that data and won't make the decisions based off of what you're highlighting. But I talked to them a lot about, you know, rolling with it and just if the stakeholder is not comfortable with it, they're the ultimate decision maker. It's okay to like lay back on this one and try to get the next results down the line. It's all about building that relationship so that in 2-3 years' time they're going to be actively seeking us out. And then they're going to be listening to us.

>> KYLE MALADY: Perfect.

>> MOON JAVAID: I would say we're five years into business strategy, and it really did take about 2-3 years for it to stick. And it was challenging in that first year. We're coming in and, you know, department heads could have taken a perspective of hey man we've been running this for 20 years, why do we need you? To their credit, they did not. They were open. But they might not have been familiar with looking at data in a way that we were providing them or even at all in some cases, because they had been operating from what they knew historically and what they learned. It took a bit of time to change that dynamic. And I think that we knew it would take that time. So we were patient with it.
KYLE MALADY: That's fantastic. You talked a lot about data and I understand that. We're all engineering and tech people. You get data and you believe the data.

MOON JAVAID: Yes.

KYLE MALADY: What's one of the weirder things that as you've started collecting data and doing surveys and looking at things and trends, what is the one thing that kind of, you know, there may be many, but what is one thing that sticks out in your mind when you looked at the data it was totally contrary to the belief set that the organization had that you had to kind of muscle through?

MOON JAVAID: The biggest one, and it was a surprise to me. We figured it out right away, is concessions revenue goes up when the team performs poorly.

(Laughter).

Every other revenue category goes down. Like tickets become harder to sell. People don't buy jerseys. But like now you have people who are in their seats. If we're winning, all your fans are going to be in your seats and watching the game. The moment that we start to lose or you feel it's out of grasp, like you're going to go out and buy a beer and I have the data to support it. I think that was a little counterintuitive to me. I was so used to seeing the sales go down when we weren't performing, and I was like how did we go up? Something must be wrong. Check the data again. And we checked it. And I had them divide it by quarter. So it's like dividing sales by quarter. We saw huge spikes in the second and third quarter in sales when our team wasn't performing as well. Maybe it shouldn't have been counterintuitive to me, but it was at first.

Are concessions open longer?

MOON JAVAID: They're not open longer. But our retail store is open longer after a win. So after a game, after a win, our sales go up significantly in the retail store.

KYLE MALADY: See, I would imagine if you have losing records, too, maybe your season ticketholdership would go down a little bit, as well. But you suggest no. You suggest it's 99% they re-up.
MOON JAVAID: There's a couple of different factors to that. One is attributed to our fans. We call them the faithful. They come in season in, season out. The second piece is we have an SBL or PSL product. You pay anywhere from 2-80,000 dollars for the right to purchase your seats. So you've made this investment in it. So you do have to re-up every year with buying your tickets. But I think that really helps out with keeping our numbers high. And then, you know, hopefully we've provided a great experience for you. Obviously, I can't perform the product in the field. I want us to win. I'm a diehard sports fan. I want us to be 16-0 every year, but the reality is that can't be the case. I'm going to go into an analogy here. I went to a sports game with my dad who years ago. This one will make you happy. It was the can Cavs losing to the Warriors. And my dad is hold and I don't get that much time to spend with him. And I was like really upset with myself that I just couldn't be happy at the game. I was just really upset. And like the experience was great and I'm like I'm not going to get this many more moments with my dad, but I just can't be happy. But I hope there are fans who aren't like me who can be happy and we can provide them with a great experience and it will overall be a fun day. Because, you know, you can't control if we win or lose.

KYLE MALADY: That's really what it is.

MOON JAVAID: But I can try to control everything else around it.

KYLE MALADY: Shifting gears around it. There's been a lot of technology advancement. There's been a lot of science advancement in the last five years or so. What have you guys specifically leveraged to give you more insights?

MOON JAVAID: Yeah, I think the biggest push, I'm probably going to highlight two products. It's been working with Happy or Not, it's those kiosks. And I get an absolute kick out of the fact that I think it's a very hold technology that we've gotten great results in. I think it's something pretty innovative taken from the past. So we have 175 of these terminals displayed throughout the stadium. When you hit a button, we're tracking that in realtime. If a sufficient number of unhappy faces get popped up over a 15-minute timeframe, it will send me a mobile app alert and I'll know that there is a problem in that area of the stadium and can send someone over to address the issue. We're effectively able to take an old technology and repurpose it. When we called Happy or Not, sports was not on their radar at all. And how they operated was not really in realtime. They were recording the results in realtime, but none of their customers ever asked for it. I called them up and asked for it, and they were happy to deliver it. So we're really able to make a lot of realtime changes for it now based off of that technology. I think if I fast forwarded that a year, so we launched that in 2017. So we were really happy with the results of it in 2017, so in 2018 we partnered with SAP and we developed what we called the executive huddle, which is a digital board room.
So now I'm ingesting eight different streams of data in realtime like up in a control room. It's game three of it right now. But really starting to pick up patterns of when people are coming into our building, how we can redeploy our staff accordingly to get more ticket takers into the area where people are coming in, or redeploy people to go to different parking lots. I can understand if a parking lot is getting more full now than what it would be until previous games. Redirect fans. Or purchase patterns. From one perspective, it's like hey, I want more dollars. But B, if I don't have more dollars, something might not be working. Cashiers might not be there, they might not be trained, we might have run out of food, but there is a problem there. And so I can send someone over there to investigate it. So I think those two areas where I'm really pushing on realtime is something where I think that we pushed on a lot within our organization, and something where I would say we're probably the innovators within sports in this particular domain.

>> KYLE MALADY: Oh, cool, man. So, I have a few more questions, but before I ask them, do any of you have questions for Moon?

>> AUDIENCE: I have a question. Do you use those surveys today to find out what interesting technologies you can use in the survey? For example, even if you're in the stadium, do you want to see V.R. replays or A.R. overlays? Things like that?

>> MOON JAVAID: Yes. So the question was if we leveraged surveys to find out what new technologies that fans want. So not every game. But once a year we'll shoot out what I call our state of the union survey, which is a lot more robust of a survey, which will ask questions on our organization, our marketing, players that might be favorites, on some of our partners that we have, too. But we don't really as so much on technology so much. I think that one thing that I'm focused on, and it's not a very exciting answer. And when I talk at conferences or at panels, a lot of my peers, everyone says this. They want to work on the sexy pieces. They want to work on A.R. or V.R. I want to work on things that are going to affect to 65-70,000 people. Until I feel great that I've maximized the experience for the masses, I don't want to focus on technology that might only affect 2-3-5% of fans. It doesn't make sense for me from a time allocation perspective. So once I get more comfortable and I feel like we've really maximized the fans' experience, then I'll probably start delving into pieces like that. That doesn't mean that we don't do A.R. or V.R. We do. One of the coolest things is we have an A.R. souvenir cup. It's augmented reality. You can fire it up and you'll get some exclusive content that is available nowhere else but that cup. V.R., we don't really delve into much. I've sat through dozens of V.R. pitches, and, you know, I don't know why it's the case, but in every demo something always goes wrong. And the CEO is trying to get it to work right and it's like the reality is you've probably lost me in five seconds, because that's probably how much time I have with the customer. If I put that on a customer's head and in five seconds it's not working, they're probably walking onto the do the next thing. I might wait a little bit for the technology to catch up. I want to see something more tried and true and ready to go at scale when I want to push something like V.R.
KYLE MALADY: How important is wireless connectivity in the stadium for your fans? They view it as a must-have kind of thing?

MOON JAVAID: Huge. And that's something I'll say I personally take for granted because we are so fortunate here. We developed our wi-fi infrastructure here. Very different than every other stadium in the world. So our wi-fi is deployed from the bottom up instead of top down. So we have 1600 access points located throughout our stadium. We can support an incredible, like we have never run into a bandwidth issue and we hosted the Super Bowl. The largest bandwidth usage was actually at a One Direction concert.

(Laughter).

Not surprised. But yes. In addition to our wi-fi infrastructure, we also have purchased a DAS network. So the redundancy there, in case one system goes down, we'll actually be able to support an entire system. We can have 40,000 cell users on LTE speeds on our network and we would be fine. We haven't had to do that, because it's redundant. But I take it for granted. When I talk to my peers, they're talking about all of these different things that they need to do to get there. For me, I think about our fans when we're in the building. I want you to be able to do whatever you want to do. I don't want to force you to do something. You should be able to do whatever you want to do because it's your day and whatever makes you have fun you should do. And honestly that means providing a good wi-fi bandwidth experience because people want to be on our social networks. When we look at our upload rates onto our networks, it's all like Instagram, Facebook.

KYLE MALADY: Pictures, right.

MOON JAVAID: I don't want to direct you to another place. I want you to do what you want to do. And you need wi-fi and cell networks to be able to do that.

KYLE MALADY: We keep trying. Brian, I saw that you had a question?

AUDIENCE: Yeah. I was just going to say how important is it for you to actually
interact with them during the game and collect data? And are you doing that? Because you need a good cell network and wi-fi network as you referenced.

>> MOON JAVAID: Yeah, with the Happy or Not kiosks.

>> AUDIENCE: That's not their device. I'm wondering about your device. I'm wondering about the wireless customer?

>> MOON JAVAID: So we have our mobile app that's running. So we have a Levi Stadium app and a 49ers app. A significant portion, like let's just say over 50% of our fans, over 65% of our fans are on one of those apps on a game day. So I can see what you're doing. You know, large order magnitude I'm not going down to the individual level. And we've never had any types of issues. And then we do ask questions like afterwards in surveys. On your wi-fi, any issues with connectivity? Problems? And we will look at access points after a game to like reconfigure them and make sure they're working properly for those pockets of people who are dissatisfied from our post-game surveys. During a game, most traditional push notifications out, like any company would do. Remember to load your ticket on your phone before you leave your house. If you're parked in a certain lot, we might give you directions on how to get to your lot. I might ask you to check out a specific concession stand if you're seated in a certain area, or the deal of the day. But I'm not really heavily into monitoring the app on a game day.

>> KYLE MALADY: What you were saying before when we were chatting, you know a lot anyway. You know what seat the person is sitting in, if they used a credit card somewhere. You probably have a lot of data anyway without using a device.

>> MOON JAVAID: You probably gave a better answer than I did, but yeah. Because you're on your mobile device and if you're one of our season ticketholders, you have our app and you have our tickets and the parking loaded on there, I know when you're scanning into the parking lot and coming into the building, and I know when you're transacting in our concessions and retail and where you're seated. I have a lot of good data points that I'm already generating right now without having to locate exactly where you are within our stadium and without getting too invasive within the mobile app.

>> KYLE MALADY: Let me ask one more and then we'll take another one and maybe we'll wrap up. But where do you see the customer? I mean where do you hope the customer experience is say like five years from now?
MOON JAVAID: That's a great question. I mean there's so many different lenses I
could walk through that. But I think first and foremost, I hope and I believe that a lot
more sports teams are going to be leveraging technologies like Happy or Not or the
executive huddle and be solving your challenges on game day in realtime. I want to
take a step back from answering that. I think it's a challenge that like as a fan I never
realized before I worked in sports, but we have 70,000 fans coming into our building on
a game day. We have about 3500 employees that are temporary employees that we're
bringing in on a game day that haven't worked in our building before. And, you know,
they get trained for 30 minutes and then they're representing our brand. We have 600
points of sale that are only operational 10 days a year. And, you know, 75 restrooms,
50-75 restrooms that are in our building. Identifying challenges that you as a single
customer has is hard. It's hard. And I want to make sure that your experience is
great. So I think you're going to see a lot more of that. And I think if I talked about
business strategy, I highlighted that five years ago, you know, 75% of teams didn't have
a business strategy department. You didn't need it twenty years ago to succeed in
sports. I think you do today. And I think you do today. And I think teams recognize
that. Teams realize there are other things you can do with your time. Other programs
you can watching, other things you can be doing. It's no longer given that you're
coming to us on a Sunday. So we need to remain competitive and I think that teams
are going down that avenue. I think as you look at stadium design, I'm also involved
with Elevate, which is a consulting company that the 9ers launched in partnership with
other entities.

I'm looking at other prospective customers out there and new stadiums that are being
built. And you're seeing a lot of new progressive things, which are pretty cool. But
you're seeing a trend toward more flexible spaces. So areas for fans to socialize and
congregate that aren't necessarily club space. It might not even be, I mean I'm starting
to see spaces that aren't even like field views. So I saw a concept of building a food
tuck hall that you can't even see the field, but it's adjacent to it, so you can go check
out the game and check out the food trucks and come back in. You're starting to see a
lot more of that. I think you're starting to see a lot of the traditional structures around
suites change a little bit. I think that model is changing very rapidly. Companies don't
desire as much of the 20-unit suites. They're more liking to entertain on a 4-8%
perspective. So you're starting to see new types of concepts pop up like low seats, low
boxes, theater boxes, those are kind of the new buzzwords that are coming out. And
we work pretty closely with one of the best architects and designers in the space. And
I've gotten to see some of the new plans for some of the new stadiums that they're
unveiling and you're seeing some new innovative things that are happening out there. I
think teams understand the evolving space and understand that they need to innovate
and change, because that's where everyone is innovating and changing, not just within
sports, but as a whole. So I think you're starting to see that change happen now and
it's going to start to happen a lot more over the next 5-10 years.
>> KYLE MALADY: Super. I look forward to it. And I wouldn't mind sitting in a little box of 4-8 people. But I need to work on the traffic getting out of the stadiums. That's the biggest problem for me. We need to work on traffic. That's always a killer.

>> MOON JAVAID: That's my last plug for what we do. So we actually have a reputation. And it's funny how reputations kind of stick. Because it was after our first couple of games that it took a while. It's really hard to figure out how 70,000 fans are going to exit your building at the same exact time when you think people are going to do one thing and they do the complete opposite of what they're going to do the first time. So our egress times after our first year average about 75 minutes. And our egress time is how long it takes us to empty our lots. NFL best in class standard is 42 minutes. And last year we were at 32 minutes.

>> KYLE MALADY: Wow, great.

>> MOON JAVAID: We are considered to be the NFL best in class standard right now for how to come to exit the parking lot.

>> KYLE MALADY: I will now.

>> MOON JAVAID: Come to our games, and exit fine.

>> KYLE MALADY: It takes me like two hours to get out of The Giants' stadium. Ridiculous. But anyway, everybody, Moon, let's thank him for all his willingness to come out and talk to us. I appreciate it.

[Applause]

(Music)

>> Thanks for listening. You can follow us on Instagram and Twitter at VZ Up to Speed or find us on Facebook at Verizon Up to Speed. And stay tuned for more conversations about technology today.