



## For Cloud Professionals, part of the On Cloud Podcast

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**Title:** A COVID success story: bringing workers safely back to on-site at Broadcom

**Description:** When COVID-19 hit, many companies went to full-remote work models. However, as the pandemic stretches on, many companies are rethinking their strategy. In this episode, David Linthicum sits down with Deloitte's Sid Mehrotra and Broadcom, Inc.'s Stanley Toh to discuss how Broadcom used cloud native technology to build a mobile health-monitoring, reporting, and contact-tracing solution that enables them to safely bring workers back to the office. The solution—which was rolled out in five short weeks—is easy-to-use, scalable, and cost-effective via a pay-per-use model. The bonus? It's also flexible enough to be used post-COVID as a mobile platform that can connect anyone to anything at Broadcom.

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**Operator:**

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**David Linthicum:**

Welcome back to the On Cloud podcast, your one place to find out how to make the most of cloud computing for your enterprise. This is an objective discussion with industry thought leaders who provide their own unique perspective around the pragmatic use of cloud-based technology. Today on the show, we have Stanley Toh, and we have Sid Mehrotra. And we're going to look at exactly what's happening at this company, Broadcom. So, let's go ahead and get the down-low from each of you guys. So, Sid, tell me what you do and how you came to be here.

**Siddharth Mehrotra:**

Thanks, David. Hey, this is Siddharth Mehrotra. So, I am a cloud native transformation leader in Deloitte and also lead the cloud native development, the group offering that Deloitte has. So, pretty much everything that happens with respect to the cloud transformations, migrations is the place where I play. I got introduced with Stan a few months back when COVID was at its peak, and we were looking out, having discussions about how we can enable Broadcom and work together to come up with a platform or a solution to safely get employees back to work.

**David Linthicum:**

So, Stanley, you're the head of enterprise and user services and experience at Broadcom, Inc, so tell me what that entails and what's a typical day in the life of Stanley?

**Stanley Toh:**

Thanks for having me here, David. So, the title may sound interesting, but it's actually not that interesting. Basically, I take care of everything that touches the end user from identity management to all the collaboration suites to anything that goes into the end user PC client hardware and software, client security, support services, executive services, site support, training, end user communications, M&A, audit and compliance. So, basically anything that touches the end user. It's not that exciting, but it keeps me busy.

**David Linthicum:**

I can't imagine many other exciting jobs. And so, so, Sid, how did you meet Stanley and what have you guys been working on?

**Siddharth Mehrotra:**

So, it was an interesting discussion that we had with Broadcom. The problem statement started out with this unwanted situation of COVID and lots of disruption happening in the industry. Broadcom was one of the pioneers on that front of trying to find a platform or a solution or a process, that can safely get their employees back to work. And as a part of that discussion, the brainstorming with Stan and his team, we came up with a few problem statements. One is that this is a short-lived problem. What we don't know at this point of time is how long this problem is going to be.

**David Linthicum:**

So, considering the COVID-19 stuff, I mean, everything changed. Ultimately we shifted priorities, moved to leveraging technology in different ways, moved to different protocols and dealing with a health concern that really wasn't on the radar screen. So, what was the imperative? What problems were you looking to solve at Broadcom?

**Stanley Toh:**

So, David, in Broadcom, 75 percent of our workforce actually are R&D engineers, so they need access to their lab resources where all their machines and technical instruments are, where they need to do testing and development. And the other thing we also find that, you know, when you are doing face-to-face collaboration, decision making is faster and product design is actually more effective too. So, we are trying to bring people back to work, and right now we are actually 50 percent in the US. So, you work two weeks in the office and two weeks from home. It's a 50-50 percent shift rotation. But, David, to bring people back, it's not only just technology.

So, in Broadcom, right, we actually created a corporate health and safety council comprised of HR; workplace services, or in some area you guys may know it as facilities; the emergency health and services; IT; legal; corporate communication; the compliance team; the data privacy team. So, what we came together is we created a – what we call a COVID-19 response process and SOP, not only from the facilities and workplace cleaning perspective; it's also social distancing policy. Come up with a policy, compliance policy. And then since we are a global company, we have to adhere to all the local laws and regulations. Every country is different. We even put in things like health screening procedures, however, to tie all this together and bring people back to work, we need an effective way to do contact tracing and also notification in case of tests and impact.

**David Linthicum:**

So, Sid, what solutions were brought to bear to solve this problem?

**Siddharth Mehrotra:**

When Stan, as he was explaining, this was a very interesting problem, because it was not a technology solution that can be proposed and implemented. We had to look at the processes that they have already in place so that it seamlessly integrates with it. It was already an overwhelming activity for people who are actually doing contact tracing, whether it's HR or it's compliance teams, the process monitors. So, what we had to do was come up with a fairly interesting human centric design.

So, it was basically bringing Deloitte's hybrid approach, along with the processes, policies and the patterns that Broadcom has, integrating technology and human intelligence together, and on top of it, getting in the best of the breed that we have on the cloud native strategy, development and process into the mix to come up with a solution, which in this case is called My Path. And In Broadcom we call it at Connect@Broadcom. It basically brings in all of these groups, together. We worked with Stan to have workshops, and these were fairly immersive workshops. And kudos to Stan and his team that everybody participated, each and everyone—virtually.

**Stanley Toh:**

Virtually.

**Siddharth Mehrotra:**

Virtually, exactly. Virtually we collaborated with the legal and compliance team, with HR, with communications team and all the stakeholders, looking into each and every aspect of how the My Path solution can be brought in, still have the human element of not just here it is, use report here and you will be exposed, so on and so forth. But bringing all the human element to where somebody can't accidentally report. Somebody may feel afraid because I am just having some symptoms which may not be COVID symptoms, but I still want to err toward the side of caution and not necessarily bring down the entire site of asking everybody to quarantine themselves. That was an interesting aspect how we actually brought out the solution, and it has been great. Stan can correct me, but the latest statistics says that we are in about 10+ countries right now and close to...

**Stanley Toh:**

Sixteen thousand employees.

**Siddharth Mehrotra:**

Getting onto the platform on a daily basis, they use the app, now using the app means that the human element and the process coming into the picture, right. That while they are using the app and everything, the processes are in place -- if you actually at any point of time try to get in the Broadcom offices, the security, they check whether you have actually done your survey. Things are working in such a great fashion that even though the situation is growing worse across the globe, Broadcom is still up.

**David Linthicum:**

Wow.

**Stanley Toh:**

To add to what Sid said, right, we actually implemented this in five weeks from start to finish. So, the pressure on the team to get mobile forced everybody to get the app up and running, and the app interface has to be so simple that we don't have to teach every single employee to use it, right, because you are talking about a global workforce across many countries, over 16,000 employees. You won't have time to teach every single one of them. It has to be easy, fast, scalable, and we deployed in five weeks.

**David Linthicum:**

That's amazing. So, what -- ultimately you guys went with cloud native based solutions, which seems to be a very popular way to do it now, certainly it's the ability to optimize the solution for the cloud platform that you're running on. So, what underlying technologies did you select? Sid, I'll start with you and then I'll go to Stanley.

**Siddharth Mehrotra:**

So, one of the primary reasons, first and foremost, I'm leaving the general paradigms where everybody comes up of why we want to use cloud native technologies, right. Here in this case, it was one is cloud as we know is a disruptive technology, gives lots of benefits if you use properly, plus the current situation of COVID itself, it was disruptive in the market. But Stan already discussed and explained what they were trying to achieve by doing that. What we were also looking out for is, one, we don't know how long this solution is going to be required. It may be six months; it may be a year. We don't know. Plus, we should be having the capability of expanding it at a click of a button, having the cost to a minimum so that you actually pay only for the time and duration that you're using it and not just continuously paying for it.

These were the two key pillars that we decided that let's use a cloud native technology and go ahead and implement solution on top of it. Plus, we carefully selected each and every service that is required from the cloud native platform so that we don't use any of the services that require a consistent cost. It's pay-per-use. Each and every technology is pay-per-use. And lastly, what we also were looking out for, what's after COVID. So, the solution should be in such a way, or the technologies and implementation should be in such a way, that you can actually start moving the dial towards a non-COVID situation if required, and that's exactly what we are actually planning right now.

As soon as the news of vaccines and everything are coming out, month or two months before that, Stan and I were in a discussion on deciding what we can do to eventually have the app, have the platform, but it is not just COVID. It can be for more productivity-based feature sets that the system can have. So, all of these factors, the three factors that I mentioned, there's one that drives all the rationale behind it. Using cloud native technologies is not a dead investment. Even though the situation demands that you have to have a usable solution, we can still repurpose the solution for doing other things, more meaningful things, more productivity-based things with the same platform without having to, throw away everything.

**David Linthicum:**

So, what was your take on this, Stanley?

**Stanley Toh:**

If you look at it, this deployment was globally, and it's on mobile phones. Each country had a different carrier, right, so I cannot tie a solution to an on-prem solution that is very regionalized. The experience will be very bad for the end users. Say the cloud solution actually enabled us not only for the speed and scalability, it's also far-reaching to any country. When we deploy this, we are not only looking at the US like we are earlier; it's to ten countries. It's as far-flung as down in South America, in Brazil, in India, in Japan, in Malaysia, in Singapore. It's all over. It's all over the globe.

So, the cloud technology actually enables us, or give us the option to be able to deploy to anywhere, any scale in a very short time period. And then Sid has also pointed out, now that I have a mobile app platform, we are looking at enhancing it to making it really connect everything in Broadcom. That's why we call it Connect@Broadcom. We are actually looking at adding digital badging. Why do you need your physical badge anymore? Why can't a mobile phone be your digital badge? You know, we are looking at a mass notification platform, not only for COVID. It could be for any announcement, right, and all the various collaboration tools. If you look at it, everyone is mobile right now. Be it they come back to the office or be it at home, everyone is mobile, and your mobile phone -- I don't know if you're as old as me and Sid, David, my mobile phone right now has more memory and it has more capacity than my first laptop computer back in the '80s.

**David Linthicum:**

Yeah, I'm that old.

**Stanley Toh:**

Okay, we are in the same boat. Then you understand what I'm saying.

**David Linthicum:**

So, Sid, back to you. Ultimately this has to have an impact, and so how did you team up with Broadcom and Stanley to kind of understand what kind of impact you needed to have? Has to be some objective, some way of declaring success, and how did you measure success moving forward and, you know, what was your kind of take on the impact inside Broadcom?

**Siddharth Mehrotra:**

So, David, that's a fantastic question, and I wouldn't be lying, and just to be completely honest at this point in time, when we both discussed this out, frankly speaking, it was a daunting task. I actually had doubts whether we would be able to achieve the timelines and the speed of market that Broadcom needed, what Stan specifically needed.

**Stanley Toh:**

Come on, Sid, nothing is impossible!

**Siddharth Mehrotra:**

*[Laughter]* I know. Now I can say that. Now I can definitely say that. Getting this out, and it was 16,000; 20,000 people, right. It's a cloud-based solution, performance is the key, and it's a mobile-based platform. So, the performance has to be milliseconds. You don't stay on a particular screen for a few seconds and then – the very first thing that I usually do is close the app and start it again and say that this app doesn't work properly the way I want it to work, right. So, our success criteria was not just that this platform is adopted across the globe in Broadcom. This was being monitored by the CEO and CIO in Broadcom. So, they were looking at all sorts of statistics, how many people are using the app, is the app functioning properly, is it doing what it is supposed to do, how many surveys are being conducted, how many people are checking into the office?

So, when we were actually ready, we actually built out a very elaborate analytics engine behind the scene which actually generates these statistics, monitors these statistics and alerts us at any point of time if we see a particular dip in the stats. And that could be a lot of legitimate reasons. For example, weekends. We see a sudden dip in the usage of the apps, right, and the cost goes down. So, we were looking at not just how the app is performing and the usage of the app, but the analytics was actually linked up with Broadcom's internal systems, so now they actually can right now monitor not just that the people are using the app, but are they using the app after the person has badged into the office or before badging into the office. So, the data analytics engine is exhaustive, it's complete, and it is pretty much real time. We have an AI bot integrated within this platform. The users don't have to call somebody. They can just check into it and the system sends a response within the app itself saying that, okay, this is what you need to do.

**David Linthicum:**

Stanley, back to you. Did people within Broadcom understand the impact you guys brought, and did they appreciate the amount of work that had to go into something like this and also the speed in which you did it?

**Stanley Toh:**

Yes, they do, because ultimately employee safety is our primary focus, you know, that's why we work with the corporate communications, the HR and the legal team, and together we can actually communicate effectively to the employees that their safety is our primary focus, right, and with this app, they are able to do a daily self-check health survey to see if they are safe to come to work or not, right. And they do this survey and generate the work pass even before they leave the house. Like Sid said, you know, it can be easily enforceable by the security team when they come on campus. And then if an employee is, knock on wood, medically tested positive, they have a platform where they can easily report to HR. They don't have to think of which phone number I have to call or which e-mail I have to call. They just go through the app and report from there.

And then when they report from there, the HR team gets notified immediately, and any potentially-exposed employees are automatically notified and advisory sends them what's the next step. So, like Sid said, it's a true end-to-end process. And a lot of the time, and David, when someone is sick, when they are tested COVID-positive, the first thing is they will be so worried and they could be so sick. How can they remember who they came in close contact with? And another thing is the campus is huge. We have thousands of people working around you. Who do you know? Do you know every single person on campus that you came in contact with?

You may not know, right. You may know the person by face, but you may not know their name, and I'm guilty of that, right. I know a lot of people through interaction daily. I know their face, but I cannot remember their name all the time, right. And we have a campus so large, we have so many large campuses, we need to be able to effectively contact those people who are potentially exposed and then give them the next step of what to do, and on top of that, all this contact tracing has to be confidential. So, the information is kept in a very secure manner in Deloitte Converge Health Platform. And the Converge Health Platform is actually built for the healthcare industry, so it has all the HIPAA compliance and everything. So, when we launch this, right, the employee knows that not only we're keeping them safe, but their information is also secure so that they're not afraid to use the app to do positive reporting.

**David Linthicum:**

So, moving forward, and we're going to go ahead and make this the last question, I'd love to get some input from both of you. So, how do we envision all this investment in time, risk, and to be optimized after the pandemic's gone? And, Stanley, I'd like to go to you first, then Sid.

**Stanley Toh:**

Okay, after the pandemic is gone, we don't know how long this will last. Like Sid said, it could be six months, twelve months, eighteen months. So, we want to make sure that it is a platform that is resilient, and if we have to prolong it, we will do it. But to optimize the value, right now Sid gave me a mobile app platform. I can virtually do anything I want to it, and like I said earlier, now my mobile phone is actually more powerful than my first laptop. We can build anything on the platform that we want. We want to truly build a mobile platform that connects everyone to anything in Broadcom.

And Sid and I have been talking virtually, you know, and we have been working for so many months, and we have actually never met face-to-face, but you know, maybe one day. Maybe one day, and we have been exchanging ideas. Why can't we make this into a one app that, to the employee, they come into this one app and they can do anything they want and everything they need in their daily life in Broadcom, even things like doing approvals, booking rooms, checking in, checking out, things like that in one mobile app platform. Since we have it, might as well maximize the value.

**David Linthicum:**

So, Sid, back to you, but I'm going to augment the question a bit. So, as we're working with Broadcom and Deloitte brought talent to bear, what do you think were the critical success factors in working together as a team with a partner?

**Siddharth Mehrotra:**

Sure, it's a very interesting question. If I look back, right, the requirements or the vision that comes out is never related to technology. It's always related to how we can assist the end users. I'll take one example that Stan mentioned sometime back. Digital badging. We have seen that in hotels that we go and stay. There are digital access keys and everything created, right. But just think about the fact that I can get rid of that and have a digital badge that defines which offices I have access to. And if I'm traveling from, say, from here to Japan, this is a system that needs to be updated that this person requires access to X offices in Japan and my phone works for it.

But having said this, we see the value in it. What we don't see is that it requires a variety of skill sets. It's not just that I need a person with cloud native technology skill set and he or she will be able to build this out. It's a process that's required behind the scene, right. You require research to be done. And getting this variety of skill set of people together in a cohesive unit. One is that it's a daunting task. Second, it's difficult to get the right mix together. And even if you get it, the price point is just going to be humongous. What we brought in as we were discussing with Broadcom is getting Deloitte's hybrid approach where we basically create a team with a variety of skill sets. It just depends upon the vision and we plan out the required skill set for building up the team and then get them together into a single unit as soon as we can.

And you know that we just delivered this together with Broadcom in about five weeks. It is not just called cloud native technology. It has analytics team, it has a process team, it has reporting team, all having the core base technology not only cloud native, but there is our hybrid approach, which actually helped us in delivering the value that Broadcom needed.

The new processes that we're thinking about, the new features we're talking about, whether it is digital badge, it is meeting integrations, it is their enterprise search integrations, we – as a matter of fact, I think we missed our one key point. So, I think the key part or the key message that I would like to leave as to how we were able to deliver what we were able to deliver and what we will deliver in the future is our key strength of having the hybrid team approach, getting things together and delivering a view, and then go on to the next endeavor.

**David Linthicum:**

Wow, man. Let's leave it at that. That was a great, great story, guys. I mean, I was really appreciative of the fact that you guys got together, were able to leverage technology as a force multiplier, leverage cloud effectively, and solve a problem and do so in record time. I rarely hear of things going up in five weeks' time. I guess the impossible is possible. So, if you enjoyed this podcast, we want you to like and subscribe on iTunes or wherever you get your podcasts. Also don't forget to rate us. also check out our past episodes, including the On Cloud podcast hosted by my good friend, Mike Kavis, and his show "Architecting the Cloud." If you'd like to learn more about Deloitte's cloud capabilities, check out [deloittecloudpostcast.com](http://deloittecloudpostcast.com). If you'd like to contact me directly, you can reach me at [dlinthicum@deloitte.com](mailto:dlinthicum@deloitte.com). So, until next time, best of luck with your cloud solutions. We'll talk to you guys real soon. Be very safe.

**Operator:**

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