

TRAILBLAZERS TALK

Ravi Kumar S.,
President, Infosys,
in conversation with
Bob Lord, SVP, Cognitive
Applications & Ecosystems, IBM

Link to conversation: <https://infy.com/32u9yaT>

Ravi Kumar S. (RK): Hello everyone. My name is Ravi Kumar, president at Infosys. Welcome to this next new chapter of trailblazers in our beautiful hub at Hartford. Today I have a very distinguished guest, Bob Lord, senior vice president, Cognitive Applications at IBM. Bob actually runs Cognitive Applications applying A.I. to the IBM landscape. He additionally looks at the IBM Developer Advocacy Program. And he was the first Chief Digital Officer of the firm in 2016. Prior to IBM, Bob was president at AOL, CEO at Razorfish and is an MBA from Harvard University.

Thank you Bob for coming over to the Hartford hub. And thanks for launching the program here for developer advocacy.

Bob Lord (BL): Great, thanks for having me Ravi. It's really exciting to be here.

RK: Absolutely. So Bob, let me tee up the first question. The first one, the very exciting news about the 53 Cubit quantum computer which IBM has launched, is getting launched in October. **[BL: Yes]** I think this is the largest one of all the quantum computers you have done since 2016. **[BL: Yes]** I know that Google has one with 72 but that's not open for, it's a lab thing. It's not open for users. **[BL: Yeah]** This is going to be on the cloud. What does this do to quantum computing?

BL: Yeah. Well look, I think the theory around quantum computing is that we will start solving problems that we have not been able to solve before. And actually I don't think it's a cubit race. I actually think it's a race about how effectively you can use the computing power itself. So I think cubits is sort of a measure that's somewhat irrelevant in the race of how do you effectively actually figure out how to develop on this, right? So we have partnerships going on with like Exxon Mobile right. And we're trying to figure out at a level how does energy actually get made at a molecular level and only through quantum computing will we be able to figure that out. Once we figure that out then we'll be able to figure out how we can make energy more effectively than we can than we do today. So there are some really really I think interesting problems. We've opened up our platform as you know to the development community and some colleges like UNC where they're able to access the quantum computing power to really help us figure out how to get, how to harness that power and how do we actually develop on it. So we're pretty excited about it. Look, it's going to evolve, it's going to continue to evolve. But I do believe that we will fundamentally change the way. People think about compute computing and how computing power exists.

RK: And do you think we're pretty close to that inflection point where this would be commercialized at some.. you know quantum computing has been restricted to labs **[BL: Yeah]** for all its hype.

BL: Well when I talked to my friends at research right, I think we still are on a journey to get there. I think it's a matter of the more developers we get on the platform, the more we get corporate sponsorship on the platform and the more we get very narrow around what the problem is we're trying to solve the more likely we'll have some breakthroughs but we're not there yet. We're not there yet.

RK: But lot of research, 200-plus research papers, I'm told, a ton of work happening through its lab. **[BL: Yeah]** But the next question I wanted to ask you about is the big news on Red Hat. It's been probably the single biggest in spite of the size of IBM, it's one of the largest acquisitions IBM has done and actually the largest in the tech world. You've pivoted a lot of your future on the Red Hat ecosystem. Tell us a little bit about where you go forward from here.

BL: It is I think, it is the largest software acquisition in the history of IBM and not only sort of the software industry. I do believe it is one of the fundamental pivot points around the direction of the software industry. Red Hat has done a phenomenal job about advocating for open source which is, you know, IBM's always been a very big supporter of open source so philosophically this idea around rallying around Linux and sort of the open source community, the idea that open source spurs innovation and I believe and I know our enterprise clients are coming to us wanting to support this open source world and figuring out how to do that. Red Hat has come up with a really interesting model whether you think about Linux and Red Hat OpenShift, a model where enterprises can lean in harder on open source and feel protected about what the investment is they're putting in place. So that was really the premise of why. There is an infrastructure battle out there right between IBM and its competitors. We believe in a hybrid cloud world. We don't believe that it's going to be a public cloud world only. Hybrid cloud is essential to enterprises and we know only 20 percent of our clients' workloads have actually moved to the cloud. There's 80 percent of those enterprise mission-critical workloads that need to move. Hybrid cloud is,

we believe, the answer to be able to do that where you have some hosting on public and you have some posted on private, and then there is a mix. So if we fundamentally believe in hybrid cloud, just follow my logic for a second, we absolutely believe container management and containers and Kubernetes is the alternative that will make that happen. So when you take an application and you break it into its micro services, container management is absolutely the way that we need to go there. We then fundamentally believe that Red Hat OpenShift is the best container management platform that's out there right now in order to manage that and then therefore IBM public cloud is going to be, is engineered to actually manage that Red Hat OpenShift Container World the best. We also recognize that a lot of our clients are on 5, 6 different clouds right. So we're not going to fool ourselves to say you've got to move everything over to the IBM cloud, but we're going to need to, through Red Hat OpenShift, manage the orchestration and multi cloud management process across this hybrid cloud world. So at the core of it when you know that we are fundamentally, our belief around hybrid cloud we know that there's gonna be a multi cloud world, Red Hat OpenShift helps to facilitate that infrastructure layer at its core and that's that was really the driving force for why we did the acquisition that we did. At IBM now, when I own this, I own our supply chain product Sterling and I own our asset management product called Maxima which a lot of you are familiar with. Though both of those products their infrastructure is going to be hosted in Red Hat OpenShift. Right so we are going to develop no application at IBM unless it's on as a basis of Red Hat OpenShift and Linux and Open Source. And that's a really really important aspect of a direction that IBM's taking around infrastructure.

RK: That was really spot on. In fact hybrid cloud, every customer I meet with has kind of reconciled to the fact that hybrid cloud is the future. **[BL: Yes]** It's not going to be a solo drive one on a particular cloud environment especially public cloud. I think it's going to be a combination of the two.

I saw a recent announcement on cloud packs **[BL: Yeah]** which is about the container management piece which you spoke about. It's about taking all your applications cloud native and actually moving them on OpenShift **[BL: correct]**. Tell us a little bit about that.

BL: Yeah. So when we think about Red Hat OpenShift right, it's not only, the direction here is get that infrastructure layer in place so that you can manage multiple, across multiple clouds you can manage the data. What we've announced with IBM cloud packs, let's take one of them, there's five of them, one of them is around data and AI. What the IBM data and AI cloud pack allows you to do is to plug in to Red Hat OpenShift because the foundational level, the infrastructure layer is in Red Hat OpenShift. So if you have a data strategy or an A.I. strategy, you're able to share that data and you're able to share those machine learning models through the Red Hat OpenShift infrastructure across clouds and across...

RK: So it allows you to do it in a secure and in a rapid way...

BL: In a rapid way. And our integration cloud pack will allow you to take a WebSphere application, modernize that WebSphere application into micro services, containerize it on the Red Hat OpenShift, run it, build it once and then deploy it anywhere that you need to on the cloud infrastructure going forward. And I know the team is going to go through a lot of that training but this idea that the Red Hat OpenShift is really that horizontal layer that's being seeded in our enterprises because think about it Ravi, I mean a lot of our clients haven't gone to public cloud because they're afraid to move their mission critical allocations. **[RK: Absolutely, absolutely]** So and a lot of our competitors are talking about hybrid cloud but it's only their stack. They're only talking about their public cloud or they're only talking about their private cloud. Right, well we're talking about when we talk about hybrid cloud is not only allowing you to leverage the power of the public cloud and also leverage the power of what you do on a private cloud but to go across multi clouds of where it may exist so that you can actually do that.

RK: Would you also orchestrate across the clouds?

BL: Yes. And that is, that's part of the cloud pack, it is the multi cloud orchestration because as you know as developers, the containers managing all those containers can get pretty complex very very quickly.

RK: And you announced five of them now. How many more are on the way?

BL: So we have five in process. When I look at my portfolio I could anticipate that there would be a re-launch of my supply chain products as cloud packs or the Maximo portfolio being announced as cloud pack just to keep on that theme. But security will probably be the next area that we attack specifically around cloud packs because that has to be integral to the container management. So how do you actually build security into the container itself and how do you know that there is a threat within that container itself and leveraging arsenal and some of the Red Hat tools within those container management.

So it's a platform for all of us to rally around at IBM to make your jobs a lot easier when you're actually taking these big monolithic applications and modernizing them for your clients, which is there's a lot of work there. You know I mean a lot of these large airlines right they have their big big booking systems and they have their big flight operations systems. A lot of them don't want to touch those applications but in the long run they're going to have to start to at least get them down into macro services right and then get them into micro services and containers fundamentally is the way that we believe needs to go.

RK: Bob, you know switching gears, you've done quite a bit of digital transformation in your previous stint as IBM's Chief Digital Officer. One of the things I see about cloud migration work with all our customers is the transformation needed on those workloads is sometimes missing from the plot. They do a lift and shift, and they kind of don't think enough about the transformation and the opportunity to transform that workload. **[BL: Yeah]** Tell us a little bit about how clients should approach this in context through digital transformation, especially that's an opportunity for you to create micro services. **[BL: Yeah]** There's an opportunity to modernize the landscape as much as it is needed while you use that, while the journey of migration is important, the bigger virtue is to do the transformation around it.

BL: Yeah. So you know I'm actually really excited about the practice area that we're talking about, app modernization, together, what we can do together because I do think it was really simple right. In the world of 'I'm going to move everything to public cloud because there's a cost advantage to it,' the first place that everyone went was their marketing sites and they put them up in public cloud. So that was sort of... the same thing happens when you start talking about big monolithic applications. What should I do first, we'll lift and shift right, let's just lift it up and let's shift it over here and let's host it somewhere else. **[RK: That's a capex to opex play]** Yeah that doesn't really get you real savings it doesn't get you, when the system goes down you're still in the same trouble you were before and actually maybe you're in more trouble because you're not actually sure where it's hosted or where it's actually being protected right. And it's probably in more cyber threat because you've actually lifted and shifted it right. So counter to and that's why I think Kubernetes is such a great technology because it allows us to think through this application and at a fundamental level just sort of think about how I need to break up that application even at a macro services level because you wouldn't ever think about that if you were just lifting and shifting right which is we went through that chapter in the last two years. So as you start to do you learn about Kubernetes and as you start to understand container management, you start thinking about the application very differently. You start thinking about how we can actually carve it up into, call it macro services and then take those macro services and then get it down to the micro services that can be containerized so it's much more digestible for the client and it's less risky for our client than I would suggest you the lift and shift strategy that was going on. Because a lot of the times the lift and shift strategy was a cost savings event.

RK: It was primarily moving fixed cost to available cost. And it wasn't as much about transforming the workload.

BL: That's right. And when we work with some large airlines and you know when they're redoing their they have to rebook when flights get canceled of course you know when they then have taken that process apart they can sort of migrate into the new microservice world by taking pieces of it. So it's only the front end of the booking not the back end of the booking. You know you can upgrade your seat. You can so you can sort of tiptoe into it and then ultimately the whole big monolithic application is in this new container management system. So you can sort of migrate over it. And I think you guys will talk a lot about that today.

RK: Awesome. You know let me tee up one last question for you. Before we wind up this session this is your favorite topic – developer advocacy. **[BL: Yes. Yeah]** And you've been talking about it. You completely transformed the program in the last two years. **[Yeah]** I heard from 2016, I'm told it's almost 300 percent increase. **[Yeah no, it's been fantastic]** Yeah and I'm told last year, the Call for Code program which you launched for societal impact, using the developer community as a catalyst to do that. What's the goal of this program and where do you see this going from here?

BL: You know it's really interesting when I came into IBM because you know as the CEO of Razorfish, I was a consumer of IBM services and products. And one of the things I learned from IBM when I was a CEO was they would come in and train my technologists at Razorfish and those technologists that would go into my clients would actually sell the IBM products, this was you know IBM WebSphere Commerce like you know it was years and years ago so I'm dating myself, but this idea that I had, IBM had evangelists within a company called Razorfish and we would go out and we would actually sell. So what I was surprised about was given how modern sort of access had got to technology, IBM hadn't necessarily made its code accessible. So this idea the first thing I needed to do, when we know that you have the 24 million developers in the world. They're influencing 95 percent of I.T. buying decisions now, yes the CIO has the ultimate check right. But at the fundamental level, what cloud to use, what AI tool to use, what block chain version to use, the developer is the one that's really making the decision...

RK: And buying has become very democratized right, very democratized to the bottom of the pyramid as well as functional departments of firms are buying them without the CIO in the loop.

BL: Yes exactly. So for me it was all about how do I get developers to have access to our code in a minute. And that was our mission in the first year was I digitized every asset that we had. We took apart Watson down to its core APIs. And now you can basically, I can get online and I can actually develop a Watson chat bot in a minute. Right. I've now tasted I've understood what Watson has to offer. Right. And now I can scale it into the enterprise and I can scale it into my application. So that was chapter one of the digitization of the asset. But then rather I needed everyone to know I needed the world to know that now IBM was accessible because a lot of the reputation IBM had was I couldn't get access to IBM based on the history of what it was about. So then we launched something, it's a five year Call for Code program. It's probably one of the most professionally rewarding things that I've ever done in the world in my career. And what we did was we basically unleashed the code on social good and natural disasters is probably one of the most fundamentally biggest challenges we have around the world. We're never going to prevent the disaster from happening but we sure the heck can do a lot more than filling up sandbags. Right. And with technology we can actually help people and help first responders in ways that they've never even realized to do that. And as we started to go through that journey you realize that the Red Cross, the United Nations, the Clinton Foundation, there were a lot of siloed initiatives going on. And through our effort we've been connecting all of those things together around solutions, technology solutions that enable people to come together so that after disaster happens you know who needs water, you know who needs emergency care. And the first responders can actually sort of sort through that. So we've had solutions come forward around predicting tsunamis. We've had solutions come forward about putting up how to hotspot right after a disaster, so there's some communication going on. We've partnered with AT&T FirstNet to actually get our solutions in place. And we've had a tremendous response. And what the teams are using are those digital assets that we've put up online to actually activate into their solutions so we're in year two of it, we're about to announce the winner October 11th and we're down to the five competing parties. But we had about 5,000 submissions this year, we had over 156 countries. It has been a phenomenal sort of success from the standpoint of taking the great IBM technology that we used in banking, that we've used in governments, that we use in the retail, unleashing it and allowing it to be used for social good like something like natural disasters. And I really do appreciate Infosys leaning in with us in Call for Code especially the India team, the Indian team who's leaned in in the competition.

RK: In fact you know you were telling me before we started talking about it that Nigeria was number two.

BL: Isn't that fascinating and it just speaks to this idea that if you have a great self-service portal I think someone said it before, do it yourself. If you have a great self-service portal, you can light up a country like Nigeria. Right. You don't need people on the ground to do it. We did virtual hackathons you know through Slack, [**RK:** You can just raise aspirations] just really get after it. And the solutions that have come through have been sort of profound and sort of mind-blowing because they're not solutions that we would have ever predicted. So for example, somebody came up with an idea about after an earthquake in Nigeria you don't know whether I could go back into the building. So they actually used Watson A.I. to actually use a drone to scan the building to see whether it should be retrofitted or whether the building should be knocked down...Fast forward to the disaster at Notre Dame. Right. And what happened with Notre Dame, we used that same technology with that same application to help that team figure out what are the infrastructure problems that are actually happening in Notre Dame, when we did a hackathon there. So the technology ends up being extensible and this idea that we put it into the open source world so that it can be shared across any of these sort of natural disasters or you know sort of big events that happen is really part of the whole program and part of the thing I'm most proud of.

RK: This is so exciting. Looks like you're so passionate about this.

BL: No I love it. You know it's just you know when you have eminent judges like you know. Jim from the Linux Foundation, President Clinton. I mean we've got we've got people that are reviewing these applicants to make decisions. It really just rallies the company, it rallies you. And you know ultimately that you're helping to save lives through this through this initiative. So yeah I'm very excited about it.

RK: Thank you Bob. Thanks so much for this conversation today. Thank you again for coming to the Hartford hub.

BL: Great. Thank you.

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