CEO of Silicon Valley networking firm looks to future

March 22 2017, by Troy Wolverton, The Mercury News

At least on the surface, networking products aren't the most exciting tech gadgets. But they're what make the internet - and all the devices, apps and services that communicate through it - work.

Rami Rahim knows a thing or two about networking and how important it is. He's been at Juniper Networks, the innovative long-time rival of Cisco, for 20 years and has been the Sunnyvale company's CEO for the last three. With the networking industry going through a transitional period, Rahim has been focusing Juniper on new opportunities, like the cloud, security and the internet of things.

Rahim recently spoke with The Mercury News about some of those new opportunities, his vision for the network of the future, and the importance of diversity for his company and Silicon Valley. This interview has been edited for length and clarity.

Q: How has the networking industry changed since you started at Juniper?

A: There have been a few really big inflection points. In the early days, it was the introduction of TCP/IP as a common protocol that became the language of the internet and the foundation of any and all services today. Back when the company first started, we took a bet on TCP/IP, which is good, because had we bet on something else, this company wouldn't be around, and we wouldn't be having this interview.

A decade later - and this was partially as a result of Juniper's innovation - it was really about the introduction of high-performance routers. They're routers that architecturally did things in very different ways. That's what's ultimately resulted in the ability for the internet to scale to what it is today. I think we triggered a lot of the innovation and the competition that exists in the industry today as a result of that.

The inflection point that we're going through today is that of cloud computing. Pretty much any new, innovative services today that we enjoy on a daily basis are developed, tested, delivered from the cloud. And that's certainly the biggest trend that is driving our industry and our strategy as a company today.

Q: The internet in general and cloud services in particular are booming. But overall revenue at Juniper and for the networking industry are growing slowly, if at all. Why aren't networking companies benefiting more from the boom?

A: You have to dissect the overall revenue. If you look at our products that really cater to this cloud transformation - take, for example, our QFX switching product line - in the fourth quarter, that grew at 90 percent year over year.

Where we are focusing on the big trends and innovating to satisfy the big trends - the cloud being the biggest - we're actually seeing really good growth.

Q: In the consumer electronics industry, the big trend is the internet of things. Do you see that being a driver for the networking industry?

A: Absolutely. As we move to literally billions of devices generating data and the need to absorb that data and process it, the demands on the global network are only going to increase. And the need for the kinds of

innovation that Juniper has been developing over the years only continues.

But there are some unique trends as you get into internet of things. Every IoT device now becomes a potential pinhole for some bad guy to go and exploit in order to compromise people, data, infrastructure. So the need for a really scalable security paradigm becomes of paramount importance.

There will also be a need for there to be a tight loop between sensing information that comes from IoT devices, processing and then acting on that information. What that means for the network is that these cloud data centers will need to get more distributed so they become closer to the end users and to the devices themselves. That is a fundamental shift in networking architecture that is also driving our strategy. That's a tremendous opportunity for Juniper from my perspective.

Q: Juniper has been talking about developing "self-driving networks." What do you mean by that?

A: Today networks tend to be too brittle; too manual in how they run and are operated; too error prone - i.e., there are too many humans that are touching networks that are causing inadvertent errors that are making them unreliable. We believe the answer to this problem is automation - giving networks the ability to run themselves, to self-heal, to self-optimize.

The result is going to be far more reliable networks that require far fewer humans to actually operate. Today, there are too many network operators that are stuck keeping the lights on.

Now, this is not something that's going to happen overnight. There are already steps that we have taken, but - very similar to a self-driving car -

this is going to be a trend that's going to take time, not just from a technology standpoint, but from a confidence-building standpoint.

Q: You made a statement last year about how Juniper values diversity. What was your reaction to the immigration ban President Trump signed?

A: Diversity has always been extremely important. I firmly believe that innovation doesn't come from any one individual. Innovation, especially today, comes at the cross section, the intersection of ideas. And typically the best innovation happens when that cross-section of ideas comes from people with very diverse backgrounds.

Companies like Juniper need to have access to the best talent, both here in the U.S. and worldwide. Juniper, in fact, is an example of one of the many Silicon Valley companies that was started by an immigrant.

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Rami Rahim

Age: 46

Position: CEO, Juniper Networks

Previous jobs: Numerous positions at Juniper, including executive vice president and general manager for development and innovation and executive vice president and general manager of its platform systems division. Prior to joining Juniper, worked as an ASIC engineer at ATI Technologies.

Education: Bachelor's in electrical engineering, University of Toronto; master's in electrical engineering, Stanford.

Family: Married with children

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Five things about Rami Rahim

1. He was employee No. 32 at Juniper.

2. He holds 17 U.S. patents in networking technologies.

3. His first car was a Volkswagen Corrado

4. His "guilty pleasure" is chocolate - always chocolate.

5. He grew up in Canada.