

# S1 EP11 - The No-Compromise 5G vRAN Solution

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Joel Brand, Senior Director of Product Marketing and Peter Carson, Senior Director of Solutions Marketing discuss the implications of 5G-cloud convergence and Marvell's unique approach to the challenges of virtualizing the 5G RAN. Tune in to hear more about Marvell's transformation, position in the market and how it is extending its silicon leadership from established networks to emerging ORAN/vRAN architectures.

## Speaker

### Joel Brand

Senior Director of Product Marketing

### Peter Carson

Senior Director of Solutions Marketing

## Host

### Christopher Banelos

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#### **C** Christopher Banelos 00:04

Welcome to the Marvell Essential Technology Podcast. I'm your host, Chris Banelos. On today's episode, listen into a conversation with Joel Brand, Senior Director of Product Marketing and Peter Carson, Senior Director of Solutions Marketing, discussing how Marvell is helping to demystify vRan technology, and explain Marvell's unique approach to enabling cloud scale 5G radio networks without compromise.

#### **P** Peter Carson 00:36

Joel, give us a little bit more on your background.

#### **J** Joel Brand 00:39

I have been in the wireless industry for a fairly long time pretty much my entire career have gone through multiple generations of the G technology, 3G, 4G 5G, but I've dabbled in, in Wi-Fi and all kinds of military radios. So we got a pretty well rounded perspective on the wireless industry.

#### **P** Peter Carson 01:03

Joel now tell us a little bit about Marvell's transformation and its mission.

#### **J** Joel Brand 01:08

So we've transformed the company in the last five years since Matt Murphy joined as a CEO, from a company that focused on very high volume, consumer type applications into a company that focus very much on the infrastructure side, still silicon provider, but for the infrastructure side, like cloud infrastructure, like transport infrastructure, and obviously 5G infrastructure.

**P Peter Carson 01:39**

Since we're here to talk about 5G help us understand Marvell's position in the radio access network, the RAN.

**J Joel Brand 01:45**

Marvell is quite unique in terms of its 5G offering, we are the only silicon vendor who offers merchant solution for 5G radio access network processing. And as such, we are also dominant vendor in the 5G space. If you look at the 5G networks today, users that are connected but But 50% of the users out there that connect to the network would encounter Marvell silicon somewhere along the processing path.

**P Peter Carson 02:23**

Every infrastructure market seems to have a cloud migration story. So how is the cloud intersecting with 5G? And why is it important?

**J Joel Brand 02:31**

Yeah, that's a that's a really interesting topic. The 5g Network any wireless network on a scale of a consumer network is a very distributed network. And the idea is always to minimize the complexity of the distributed element and and centralize as many aspects of the network processing as we can. And that reduces maintenance costs, it reduces the need to travel and maintain very complex equipment in the field. And as we are centralizing equipment, there is a desire to take advantage of what the cloud infrastructure coding for infrastructure technologies have evolved significantly over the last 20 years. And the idea is to take advantage of this evolution and take advantage of the latest and greatest in cloud technology to manage the centralized element of 5g processing. And in the process will try to centralize as much as we can have that very distributed by Nature Network.

**P Peter Carson 03:45**

From your earlier comments Joel, Marvell, clearly has a formidable position and RAN silicon. But what does the company bring to the cloud environment?

**J Joel Brand 03:54**

Yeah, we are clearly very strong in the in the 5G space. But we are just as equally strong in the cloud infrastructure business. In fact, just like we are processing the unique protocol stacks of 5G, we're also processing the protocol stacks that are commonly used on the internet, TCP IP, and the the companion protocols to aid like IP SEC. And other security capabilities are processed in hardware in silicon, and just like we have the OCTEON fusion product line that is targeting the 5g networks, we have the OCTEON product line in the process of business unit that are targeting the TCP IP networking. And that obviously is what we know is the internet. And that's what the cloud is all about.

**P Peter Carson 04:49**

We hear a lot of hype about oRAN and vRAN. How do these architectures enable cloudification of the RAN?

**J Joel Brand 04:56**

Yeah, we do hear a lot of a lot of hype but there is substance behind that hype. We talked about what it means for the cloud and the RAN to intersect. And we talked about the fact that it's about centralizing a lot of the of the processing. In order to do that we need some sort of inter standard interfaces that allow us to connect remote distributed equipment, to decentralized cloud like infrastructure. And that's where oRAN and vRAN come in. ORAN stands for Open OpenRAN is all about defining the interfaces between the different elements of the radio access network, fronthaul, backhaul, mid haul infrastructure, interfaces to Orchestration and management systems, and all kinds of other control environments. In vRAN stands for virtualized RAN, is kind of the next step in that evolution, leveraging cloud infrastructure like virtualization capabilities, and bringing the centralized element of hand processing into that virtualized environment of the clubs and service. Yes, there's a lot of hype. But these are critical elements to make the future RAN in cloud converge.

**P Peter Carson 06:21**

ORAN and VRAN are making progress clearly. But the market remains small. What's so challenging about this transition?

**J Joel Brand 06:29**

It is a very challenging transition on multiple levels. Yes, there is an element of technology that needs to be standardized, accepted, globally, products need to become available. But there are bigger challenges than that the biggest challenge is really the business around there needs to be commercial justification to move to oRAN and vRAN, it sounds very sexy, it sounds very promising, the idea of combining the cloud and the run, but it needs to be translated to particular economical benefits, whether it's reduced cost, whether it's reduced power. And it's challenging to achieve that. So so far, the industry has experimented with solutions, but not solutions that are competitive with the traditional deployments of distributed radio access network. And as a result, the the ramp up of these kinds of solutions is slow for the time being.

**P Peter Carson 07:38**

What are Marvell's answers to these challenges and how do they differ from alternative solutions?

**J Joel Brand 07:44**

So, we are the the leader in the distributed radio access network environment today. And what we are doing we are bringing those capabilities into the virtual into the oRAN environment, oRAN interfaces have been available in our SOC s for a very long time and customers are using them. The next step is to take that in bring that into the virtual RAN environment, the ability to use standard servers, standard virtualization environment. And, and we do that by adding some capabilities to the to the SOC s, like, for example, PCIe interfaces, and packaging it with the software and hardware, such that it can go into standout server. And the beautiful thing about it is that it brings the same type of performance and features that are today wildly deployed all over the world. Using our silicon, it brings that to that cloud environment take advantage of the many, many years of our development and our customer development, and what the operators have gotten used to in terms of capabilities, features, performance, versus capacity and things like that.

**P Peter Carson 09:09**

Let me wrap this up with a forward looking question. As Marvell helps the industry turn the corner on ORAN and VRAN. What do you see as the next major challenge in 5G infrastructure?

**J Joel Brand 09:21**

Yeah, that kind of presume that we already solved the OVA and VLAN problem we can move on? I don't think we're quite there. I think there is a lot to do to actually realize the oRAN vision and the view and vision, both in terms of just the tactics of getting it into a virtualized environment and connecting it network, but also in terms of bringing new services that would justify this kind of architecture. We talked about the business challenges, those need to be addressed fully. I think that new services will justify this architecture the whole concept of intelligent controller, and the ability to connect that into a silicon like ours would open the door for these kinds of, of services. And we very much are focused on that. But independently on that, obviously the 5g network continue to evolve and people are already starting to talk about 6G. And we are looking forward to that. We're looking ahead to that. And we will be implementing the features and services ahead of the industry to enable all our customers to continue to go with us.

**P Peter Carson 10:36**

That was great having you on today's podcast, you got such passion and insights on this hot industry topic. I really look forward to continuing the conversation with you.

**J Joel Brand 10:44**

Thanks, Peter. Always a pleasure. Thanks for having me.

**C Christopher Banelos 10:49**

Thank you for listening to the Marvell Essential Technology Podcast. As always, please feel free to visit our website to learn more, and we'll see you on the next episode.



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