What I'm interested in talking about today is fog computing. I'd like to have first of all a high level overview, what is fog computing?

Fog computing is an extension of the cloud paradigm. It's taking those concepts of the cloud – the flexibility, the agility, the distributed nature, the compute network and storage – and moving that closer to where the devices are actually generating the data. So moving that cloud closer to the ground.

What are the advantages of moving the cloud computing power a little bit closer to the source?

If you really see the amount of data that is being created every day – the 2020 number, the 50 billion devices are going to be connected – what's going to happen with the bandwidth requirements? What's going to happen with the SLAs? How much delays are going to be introduced if you start sending all of those data towards the cloud? So this is where this whole idea of fog computing started. How can I basically put some checks and balances a virtual wall around all the data before sending it towards the cloud? What are some other things by quick analysis I could do closer to the device and get that decision done instead of sending everything to the cloud?

Give me some examples of why would you want to move computing closer to the source?

It introduces a couple of elements. First we can push quality of service down a lot closer to those devices generating data. We can do security out there; we can also run applications. Because we have a full compute stack, we can run applications that are good at doing things like localized analytics. We could do data optimization – so prioritizing data as it's traversing the way. Those types of elements are important to be able to deal with this scale and complexity that IoT introduces.

It sounds like a lot of advantages. What are the disadvantages of fog computing just so we put things in perspective?

If you really see the fog computing itself I would say right now it's pre-chasm. The real thing comes into play once you start to deploy these new technologies at scale. A lot of these scaling issues still need to be worked out and this is how I think we'll find out more about how the technology is going to roll out, get into that post-chasm phase, once we start to see some of the bigger deployments.

We're pretty early on in IoT, let's say we're at a 2 out of 10 in IoT, where are we in fog computing?

Basically I would say like the number you said at the scale of 1-10 we are at 2 in IoT, you could see that the idea of fog computing came once we got into this stage of IoT, when people started to realize that the number of devices, which are going to be connected on the Internet and the other protocols,
the data is staggering. There will be scaling issues that’s why the middle between the cloud and the network has been introduced to take care of some of the scaling issues.

**When should we be considering fog and no fog?**

Brian: Looking at the fog, you first have to identify what the scale of the number of devices that you have, the amount of data that you’re generating, what sort of ability to respond to incidents, what’s your threshold there. As some of those things increase, the amount of data, minimizing the amount of down time that you can have or minimizing the reaction time you have to an event – that’s going to push you towards that fog direction.

Salman: Being a technologist and forward two decades, looking into multiple technologies and how they kind of came, rolled out and a lot of cases, disappeared as well. I don’t like the words migration; I’m more in the integration and hybrid approach. This is what we’re going to see with the fog as well and if things go well, who knows, it’s going to be on migration but in the foreseeable future I would say it’s more about integration, it’s more about hybrid deployment models.