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How the Internet of Things is blowing everything up

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How the Internet of Things is blowing everything up

It's a huge opportunity, but a daunting one.

The Internet of Things (IoT) is a \$1.46 trillion market opportunity and specifically, the United States and Western Europe are leading the pack, followed by Japan and Asia Pacific. Almost 150,000 devices will start connecting almost every minute by the year 2025. Right now it's almost like 5000 devices connecting every minute, and experts predict it'll give birth to a massive shift in the next eight to nine years.

"All the devices we have now are going to generate data and that's going to be a data deluge," **Sathya Atreyam**, research manager at IDC's Worldwide Mobile and Internet of Things (IoT) says at the NetEvents' Global Press & Analyst Summit 2016 held in Saratoga, California. "Almost 3.8% of the data which will be generated is IoT relevant and IoT actionable is actually 8.6 times of the actual data which was generated. In total, we are looking at almost 180 zettabytes by the year 2025. But it's a huge amount of data coming in," he adds.

A sense of panic

The Internet is about to be taken away from people and their web browsers and will be turned over to things. Users are going to be outnumbered a hundred to one in the use of the Internet. Is the Internet that we now have designed for and useful in that kind of arrangement? **Glenn Ricart**, founder and CEO of government initiative US Ignite, says that most of the things that we're going to have are going to be smart have some kind of a local impact.

"We're going to see the rise of something called edge computing, local cloud computing. It will be elastic just like cloud computing. A lot of the cloud computing things will still apply, but it's going to be local. That means that we're going to need to have a new structure for the Internet to support the Internet of Things in our communities."

Frank Wiener, vice president for marketing, Wedge Networks, says "When you're thinking about the connectivity of the Internet of Things, to your point, the key thing is if you're going to bring the Internet of Things and allow the innovation that it offers to come to life, the security officers in the enterprise have to allow it to happen. The interesting thing about the Internet of Things is it introduces new threat opportunities in at least two dimensions. One is that there is the potential that somebody can hijack the Internet of Things and somehow take over its control to have direct effect that way. The other is does it become a point of entry where they can move laterally to infect other things. So, in order for the Internet of Things to come to life through connectivity we have to address the security aspects in order to achieve that full potential."

But where will this shroud of security come? **Milind Pansare**, director of strategic marketing, Aerohive Networkse answers that with IoT, security is an interesting issue because traditionally what Wi-Fi security has been about is users have enterprise authentication 21X. "You come in, you authenticate yourself to the network and then what happens with devices that are now on these wireless LANS, they put them on PSKs, on a single shared PSK often on a single SSID. That's what happens even actually, strangely enough, on guest networks in the enterprise."

How open is the system?

The firms who are providing network access ought to provide the ability to do software-defined programming of their networks, according to Ricart. "But you can't allow everyone to do software-define the carriers' network right, that would be crazy. Oh, unless you put it in a slice. Maybe you can programme your own slice, so software-defined networking for your slice of the carriers' network. So then you're ending up paying the carrier for the slice and then you are managing software-defined networking within that slice," he adds. That creates an ecosystem which is open."

Pansare couldn't agree more as he adds that open Application Programming Interface (APIs) are happening right now. But Wiener warns that in terms of innovating and allowing firms to come together, it is important to address the security that allows people to turn it on and use it. "But along with that, the security aspects have to have incredibly low latency because some of these applications are not going to be very latency sensitive, but others are going to be extremely latency sensitive. So being able to do policy enforcement and security enforcement with an eye toward latency and solutions that scale massively but also address the latency considerations are a key factor as well."

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