Riot

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Cisco pushes IoT analytics to the extreme edge with mist computing

By Alex Davies

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This year has seen Cisco pushing itself into almost every aspect of the IoT network, from cloud platforms to home gateways and connectivity standards. This week, it has turned its attention to the way all the data from those 'things' is analyzed and harnessed, with its most ambitious big data play to date.

This relies on being able to capture and analyze data almost anywhere, playing to Cisco's strengths in distributed systems. While early cloud computing was all about centralized data centers, the future introduction of billions of objects to the mix is shifting attention to the network and the edge, where most processing will need to take place.

Cisco coined the term 'fog computing', which sees the principles of cloud computing pushed to the edge of the network, particularly to support IoT applications (or IoE – internet of everything – as Cisco prefers to call it). Now it has added a new term, 'mist computing', which is an even more dispersed version of that fog. That means locating analytics tools not just in the core and edge, but at the 'extreme edge' – actually in many of the devices. So while the firm has previously focused many of its IoT launches on the gateway (the edge or the fog) it is now differentiating itself, in an already crowded space, by going a step further, into the mist of the end points.

This means carrying out analysis as locally as possible, in order to support immediate actions. This saves on the time and network burden of getting the data to a remote cloud-based analytics platform, and may aid agile decision making. For instance, if a retail store collects information about a visitor, it could immediately trigger a relevant promotion. That data may also have to travel to the cloud to be aggregated for other purposes, such as tracking overall shopping behavior trends, but the important thing, according to Cisco, is to be able to make those decisions quickly and locally.

This sees the firm bidding to become a big data analytics provider, not just a supplier of the infrastructure to deliver that data to a third party. The highest value in the IoT will rest with the firm with the smartest analytics, as giants like Google, with their huge investments in AI-driven tools, well know. Cisco is clearly determined not to be the 'dumb pipe' that delivers data and profits to somebody else.

It set out that goal as part of its thirtieth birthday celebration this week, an event at which it was keen to reawaken confidence that it has a strong strategy for the next generation, in which networks will be software-driven and success will lie in analytics not gigabits.

Its slogan for its new tools is 'Connected Analysis for the Internet of Everything' and this trades on a perennial Cisco claim, that its networks connect more end points than any other company's, giving it extensive reach as well as understanding of how to plan a hyper-distributed environment.

It plans to offer a set of packages for specific vertical sectors or enterprise/carrier functions at first, recognizing that the revenues in the IoT will be far more forthcoming in industrial environments – many of which are simply upgrading from conventional M2M to a broadband, more intelligent approach – than from consumer systems. It will package its own network kit and devices with third party end points and its analytics offerings, or just offer the data tools to users of its networks.

There are eight packages in all at this stage, one specifically for carriers (Connected Analytics for Service Providers). This processes huge quantities of data about network and users, to help operators understand how their subscribers are behaving and how the network is performing, and so help to make decisions about infrastructure planning and customer experience improvement.

"These insights help service providers deliver a better and more personalized experience, such as more accurate recommendations on the types of movies a customer may enjoy or the ability to send out alerts regarding usage in advance of billing cycles," Cisco said.

For service provider WiFi users, the analytics for mobility offering uses location data to help operators plan capacity and tailor pricing to usage patterns, among other functions.

Other packages include analytics for contact centers; event management/stadiums; retail; IT data management; and collaboration. All of them build on the vendor's IOx internet of things framework.

CEO John Chambers told the launch event: "It's not about connecting things. Connecting things is the easy part. It's the ability to connect things and bring them together for business outcomes that's key."

Unleashing yet another buzz-phrase, he said the industry was entering a new generation of analytics with the IoT, 'Analytics 3.0' (the first generation was about historical data and the second harnessed social media and unstructured information). The third adds true real time operations and inputs from vast numbers of sensors, which makes it impossible to bring all the data back to a central warehouse – hence the push to build analytics into routers and gateways, but also into sensors, WiFi devices and other end points such as the pumps in gas stations.

Of course, Cisco argues that nobody else has the distributed architecture to achieve that in real time but it is even looking beyond its own router or even SDN sales and moving up into a services layer where it has rarely ventured before. This year has seen it increasing its services staffing and launching high level offerings to offset the slowdown in conventional network revenues, for enterprises and carriers. One example is the Intercloud 'cloud of clouds', which links cloud providers with data sources in order to carry out analytics on a global basis.

Edzard Overbeek, SVP of Cisco Services, said in a statement: "There is a massive shift in the market where the remote device at the edge is quickly becoming an incredibly strategic tool to share and collect data, enable more informed decision making, and deliver the best customer experience possible. But, if customers don't have the right analytics solutions in place to make sense of it, that data is useless."

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