Cradlepoint connects the elements of IoT with SD-WAN and NetCloud

CHRISTIAN RENAUD

24 JAN 2017

The mobile routing vendor has combined cellular routing, edge computing, cloud management, and a partner application 'sandbox' to address the people, places and things within the Internet of Things.

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Following its acquisition of Pertino in late 2015, Cradlepoint has developed software-defined wide area networking (SD-WAN) competencies that complement its core value proposition of mobility and performance/cost cellular routing. The company's NetCloud offering combines the larger industry trend of cloud managed network devices with components of device connectivity and management IoT (Internet of Things) platforms.

THE 451 TAKE

Cradlepoint has combined cellular routing, edge computing, cloud management and a partner application 'sandbox' to address emerging IoT opportunities. The vendor sits at the sweet spot between cellular connectivity for IoT devices that lack the option of physical connectivity, software-defined networking for policy-based routing, and application execution at the network edge for latency- and cost-sensitive applications. Cradlepoint's portfolio presents an attractive platform for third-party software developers for edge analytics applications for multiple IoT use cases.

CONTEXT

Cellular-connected IoT devices, such as traffic lights, kiosks and digital signage, are often overshadowed by better-known IoT use cases, such as transportation or manufacturing. In the 451 Research Voice of the Enterprise: IoT, Vendor Evaluations survey, 34% of respondents indicate that they currently or plan to use 3G as connectivity for their IoT projects (with 27% indicating plans to use LTE-A). Cellular connectivity is used for primary connectivity for applications where physical network connectivity is unavailable or otherwise impractical, and is being increasingly leveraged as secondary connectivity for sites with physical network access for either additional bandwidth or for failover connectivity for critical applications.

Cradlepoint is best known as a provider of mobile routers and gateways that leverage 4G/LTE and cloud-delivered network services; it expanded into SD-WAN with its December 2015 acquisition of Pertino Networks. The company has subsequently developed NetCloud, its cloud-delivered services offering that connects the company's edge gateways and routers; end-user devices running Windows, Linux, Android or iOS; and third-party routers and computers running the NetCloud client software. These devices connect to an overlay network with integrated security, management and analytics, which in turn connects to third-party applications via an app gateway.

The overlay network and device management service within NetCloud, NetCloud Manager (previously Enterprise Cloud Manager), optimizes traffic delivery and cost by leveraging SD-WAN capabilities implemented by Cradlepoint. The company has developed its own SD-WAN offering that utilizes its multi-sim/multi-carrier capability to enable customers to utilize the fastest or least expensive connection, depending on application demands and carrier pricing.

Now the company is taking its NetCloud and SD-WAN capabilities on the road by installing its mobile router platforms in vehicles (consumer automobiles and fleet vehicles) and mobile assets, such as mining equipment and refrigerated containers. Serial interfaces on the Cradlepoint routers are being connected to standard onboard diagnostic ports on vehicles to read parameter IDs on the status of various vehicle components.

PRODUCTS

Cradlepoint's router portfolio ranges from branch-office products with integrated Wi-Fi to IoT (M2M/in-vehicle)-optimized ruggedized platforms. Depending on the platform, each model offers one or more cellular data options (including support for LTE-A), GPS and recently announced support for the First Responder Network Authority's Band 14 National Public Safety Broadband Network. The high-end platforms also support an application sandbox environment where third-party developer partners can execute their code on the device, securely distributed via the NetCloud Manager platform.

This application execution at the edge device is proving to be a critical capability in IoT deployments. In the 451 Research Voice of the Enterprise, IoT, Organizational Dynamics 2016 survey, 44% of respondents indicate that data is initially processed at the IT infrastructure where IoT data is generated (edge devices). This edge computing is re-

quired for latency-sensitive (control loop) traffic that is intolerant to the inherent round-trip delays in cloud-based services; applications where there may be security or data sovereignty concerns raised by sending sensitive data to a remote location; or applications like many of those targeted by Cradlepoint, where network connectivity is not readily available and consistent.

STRATEGY

Cradlepoint sells its products and services indirectly through channel partners and integrators primarily. For larger opportunities, such as with Redbox and its 40,000 video rental kiosks, Cradlepoint partners directly as companies progress through their own internal 'make versus buy' decision-making processes. Other opportunities are driven by traditional channel resellers and integrators, carriers, and partners, such as Blyncsy, a small independent software vendor and integrator that has demonstrated its system for tracking citizens as they move around metropolitan areas by installing it in the application sandbox on Cradlepoint routers sitting in traffic intersections.

COMPETITION

The IoT market is composed of multiple vertical markets, such as transportation, energy, smart cities and manufacturing, among others. Each market has targeted players, such as CalAmp, which comes from a telematics device OEM background and is adding new technological capabilities to its hardware portfolio that will directly compete with Cradlepoint, including its LMU series products with 4G LTE and edge computing capabilities. Cradlepoint's traditional nemesis, Cisco, has low-end gateways for the IoT market and a robust routing stack, but is less likely to tolerate low-margin/high-volume businesses.

SWOT ANALYSIS

STRENGTHS
Cradlepoint's strong mobile routing competency and broad portfolio positions it well for emerging IoT applications that lack dedicated network connectivity.

WEAKNESSES
Mobile IoT gateways represent a competitive market with dedicated (and inexpensive) platforms from legacy telematics vendors, as opposed to the margin-rich router market that Cisco has developed.

OPPORTUNITIES
The combination of assets that Cradlepoint brings to the table for large IoT use cases, such as transportation, sets it apart from legacy vendors in the space.

THREATS
Alternative WAN technologies will erode the percentage of IoT edge connections that rely on cellular technology, which will require Cradlepoint to adapt or face a potentially shrinking addressable market.