Ovum

On the Radar: Plume Platform

Enabling the smart home by first delivering fast, reliable, secure Wi-Fi

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Summary

Catalyst

With the increase in consumer IoT devices, cybersecurity is becoming a prominent issue for residential customers. However, most consumers do not have the necessary technical know-how to protect their home networks and connected devices, leading to a heightened level of concern about family security and privacy issues. These, in turn, create new barriers that prevent increased adoption of smart home technologies and services. To help protect, as well as reassure consumers, all players in the ecosystem – including broadband service providers – need to commit to making smart homes easier to manage and more secure. The starting point for this is the home network, and detecting, protecting, and responding to the devices, applications, and technologies that homeowners and family members connect to it.

Key messages

- Connectivity issues dominate inbound calls to broadband service providers, with the customer experience intrinsically linked to the speed and reliability of their Wi-Fi connections.
- Plume Adaptive Wi-Fi is designed to deliver video, voice, and data to every corner of the smart home, whether large or small.
- Plume's cloud-based software-defined networking (SDN) platform enables new over-the-top (OTT) services, preemptive care, and IoT-based smart home capabilities.
- OpenSync, an open-source device middle layer, provides any home router, Wi-Fi access point, or device with the SDN controls and cloud connectivity to deliver these OTT services.

Ovum view

Consumers want the best possible internet experience, which means fast, reliable, secure Wi-Fi. Broadband service providers can deliver this to their residential customers using the Plume Platform – a cloud-controlled, data-driven approach to smart home connectivity, cybersecurity, and IoT device management.

Recommendations for service providers

Why put Plume on your radar?

Delivering high-quality, high-speed, voice, video, and data services to the home is challenging enough, but this seems trivial compared to the amount of time, money, and effort that goes into Wi-Fi and home networking troubleshooting. Then there is cybersecurity, customer privacy, and child safeguarding to consider. Who is going to take the lead? By partnering with Plume, broadband service providers can tackle these challenges head on, delighting customers, and paving the way for new products and services.

Plume's technology and open-source OpenSync project lets service providers deliver a fast, reliable, and secure "internet" deep into smart homes, both large and small. Plume also offers a choice: a turnkey solution to accelerate time to market, or a white-label solution for a more holistic brand

experience. Plume makes available a full range of back-end tools to manage tier-1, tier-2, and tier-3 support, network planning, customer analytics, and network operations. APIs provide customized service lifecycle management options based on the service provider's needs.

Highlights

Background

Plume was founded in 2014 by Fahri Diner (CEO), Adam Hotchkiss, Sri Nathan, and Aman Singla. The company is headquartered in Palo Alto in the US, with additional offices in Switzerland, Slovenia, Poland, and Taiwan. Plume is privately funded by Jackson Square Ventures, Liberty Global, Comcast Cable, Shaw Communications, Samsung Venture Investment Corporation, and Presidio Ventures (an affiliate of J:COM, Japan's largest cable operator). Plume launched its self-optimizing Wi-Fi solution in 2016 and has since established the open-source OpenSync project for the delivery, curation, and management of services and devices for smart homes.

Current position

At the time of writing, Plume reports that approximately 10,000 new smart homes come online every day and that the average smart home has 21 connected devices per household. IoT and media devices account for 39% of this number, representing 6,000 different device types and 229 IoT brands. However, getting the best out of these devices can be a struggle, even with high-bandwidth fiber and DOCSIS 3.1 connections. For example, Netflix advises a physical Ethernet connection to stream Ultra HD to a 4K TV, even though today's Wi-Fi standards support transmission speeds well beyond the 25Mbps required.

The demarcation line for consumer broadband services used to be the residential gateway but Plume argues that this has shifted to any connected device within the home. Hence, Plume developed its Adaptive Wi-Fi technology to deliver video, voice, and data to every corner of the smart home, whether large or small. Operators can offer Plume Adaptive Wi-Fi as a managed service for residential customers through Plume's cloud-based SDN platform.

Plume identified (and neutralized) 4.5 million individual threats between April and June 2019, with malware and spyware at the top of the list. Computers and mobile phones were the most targeted devices, but IoT devices, including streaming boxes, Wi-Fi speakers, and TVs, were attacked approximately 1 million times. Plume AI Security suite uses machine learning and artificial intelligence to tighten device security. In-line protection features protect devices from known cyberattacks, while Plume's Advanced IoT Protection service uses behavioral analysis and anomaly detection to protect residential devices.

Plume provides 24×7 tier-2 and tier-3 support, with tools and dashboards customized for network operations teams and technical support personnel. Offered as a SaaS solution, Plume performs the heavy lifting by hosting the Plume Cloud on AWS, maintaining and supporting the platform thereafter. Cloud updates and feature enhancements are provided each month, providing the broadband service provider with new benefits to existing deployed customers. Plume's processes and engagement model are tried and tested with some of the largest operators. The service Plume offers directly to consumers is the same stack that it customizes for service providers.

Looking ahead, the adoption of OpenSync by the residential broadband/IoT market ecosystem will have a bearing on Plume's longer-term success. However, it is still early days, and the industry is not known for its fast pace of change. However, Plume has already established a clutch of significant operator partnerships, including Comcast, Bell, TalkTalk, and Virgin Media. The company is also partnering with Samsung (SmartThings), Stanley Black & Decker, Sagemcom, Sercomm, CIG, Qualcomm, Broadcom, Quantenna, Mediatek, Celeno, AWS, OpenWrt, and RDK.

Data sheet

Key facts

Table 1: Data sheet: Plume Design

Product name	Plume Platform	**Product classification**	Platform-as-a-service, smart home services, whole-home Wi-Fi, and cybersecurity
Version number	n/a	**Initial release date**	2014
Industries covered	Telecommunications, Wi-Fi, smart home, IoT, and cybersecurity	**Geographies covered**	Global
Relevant company sizes	Tier-1, tier-2, and tier-3 broadband service providers	**Licensing options**	Hardware designs; OpenSync device software is open source
URL	www.platform.plume.com www.opensync.io	**Routes to market**	Direct-to-consumer, service provider partnerships
Company headquarters	Palo Alto, US	**Number of employees**	Less than 200

Source: Plume

Appendix

On the Radar

On the Radar is a series of research notes about vendors bringing innovative ideas, products, or business models to their markets. Although On the Radar vendors may not be ready for prime time, they bear watching for their potential impact on markets and could be suitable for certain enterprise and public sector IT organizations.

Further reading

"Smart home cybersecurity is a must for greater consumer IoT adoption," CES006-000083 (July 2019)

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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