Armstrong: Using Plume's Smart Wi-Fi Technology to Deliver a Superior Broadband Experience

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Contents

Summary

As customers' demands on the broadband networks increased, Armstrong, like many other broadband service providers, started to see an increase in service calls related to customers' home Wi-Fi networks. Additionally, Armstrong noticed that an increasing number of customers were moving to retail Wi-Fi options. These issues were driving greater operational costs through both service agents' calls and truck rolls, as well as weakening Armstrong's position and brand in the home.

To solve these problems, Armstrong decided to invest in "smart Wi-Fi" technology. The goal was to improve the quality of the Wi-Fi experience for its customers while lowering its own operational costs. For its solution, Armstrong chose Plume-designed SuperPod wireless access points and cloud- and AI-driven smart home experience management platform. This case analyzes the reasons behind that decision and the operational outcomes.

Key points

- Armstrong focused on four-key attributes for its Wi-Fi platform vendor selection:
  - Excellent home coverage
  - Simple-to-use customer application
  - Cost effectiveness
  - Advanced management software that enabled remote technical support to the home.
- Plume came out on top across all four areas in Armstrong's internal testing. The tri-band capability of the Wi-Fi SuperPods along with Plume's management tools set the solution apart from the other vendors Armstrong evaluated.
- To ease the vendor integration process, Plume invests heavily in its clients' onboarding by supplying training, software APIs, and named project managers. This led to one of the smoothest transitions in Armstrong's recent history.
- As with all new customer premises equipment (CPE), deploying a new technology across the entire customer footprint takes time and, two years on, Armstrong is still operating in a multi-vendor CPE environment. However, Armstrong believes it is making good progress and by employing Plume's cloud-driven platform expects to eventually reach 100% of its broadband customers with Plume technology.
- Armstrong's ambition is to offer the best broadband service in the world; and this means best connectivity and best overall experience. Its focus therefore is to provide a range of complementary Wi-Fi-related applications around the standard service, a benefit that is brought by Plume's experience management platform.

- Since investing in Plume's platform, Armstrong has witnessed a 30% reduction in Wi-Fi related service calls, a 33.8% increase in NPS and 18.75% reduction in customer churn. Other success KPIs of note include a 12.5% increase in its broadband subscription base and a 10.5 percentage point increase in customers on its Wi-Fi platform from 60% to 70.5%.
- Thanks to the cloud-based platform, Plume enabled Armstrong to transition to a self-installation model for the first time. Today 3.5-10% of Armstrong's weekly orders are now completed by the customer via a self-install kit, and this number is growing.

Business context

Armstrong: a brief overview

Armstrong has been in the cable TV business since the 1960s and launched its first broadband service in 1997. The company is the 11th largest multiple systems operator (MSO) in the US, operating in Pennsylvania, Ohio, Maryland, West Virginia, Kentucky, and New York. As well as cable telecommunications, the Armstrong group has business operations in residential and business professional security, property development, electronic manufacturing services, and services solutions, providing heating, cooling, and plumbing services.

In terms of its broadband business, Armstrong now serves more than 300,000 broadband customers via a mix of coaxial cable and optical fiber. Historically, the company has mainly faced xDSL-based competition; with its DOCSIS and fiber technology, Armstrong is in a strong position within its territory. However, it recognizes that the competition is now becoming stronger as it migrates toward 5G-FWA and FTTH technology.

Wi-Fi pain points

Over the past few years, Armstrong has seen home Wi-Fi increasingly become a necessity to both its service offering and its customers. Broadband customers now see Wi-Fi as a critical element of the internet service and therefore it is simply expected that service providers offer a Wi-Fi option as part of their broadband offering.

Before its partnership with Plume, Armstrong did offer Wi-Fi CPE options, but they tended to be inferior devices to those that consumers could buy from retail channels. Like most service providers around the world, Armstrong tended to provide Wi-Fi service using a broadband router, the deployed architecture always being one or two years behind the technical capability of independent retail competitors.

Over time, Armstrong's customers' use of broadband has evolved to support an increasing number of connected devices spreading to all corners of the home. Given Armstrong's typical deployment of a single standalone gateway, Wi-Fi coverage became an issue for its customers. This in turn led to an increase in customer service calls relating to the in-home Wi-Fi service, increasing operational costs, truck rolls, and a trend toward customers purchasing alternative retail device options.

If left unchecked, this latter trend would have had both a negative impact on Armstrong's positioning and brand within the home, as well as causing further increases in support and operational costs. Armstrong found that it was receiving calls to troubleshoot third-party configurations (even when the fault was with the third-party product), and the complexity of that support was an additional source of operational costs; the trends demanded a new solution.

Creating a new connected home experience

Armstrong's vendor requirements

Armstrong was quick to recognize the growing importance of the home network for both its customers and its own business operation and became an early adopter of the new "Smart Wi-Fi" platforms.

To fix its Wi-Fi pain points, Armstrong searched for an alternative Wi-Fi solution that would provide its customers with an improved home broadband experience while enabling Armstrong to manage the Wi-Fi network more efficiently. Its solution definition requirements focused on four key attributes:

- **It must provide excellent home coverage.** Armstrong recognized that it's not possible for a single solution to resolve 100% of customer issues, but the new solution had to be capable of resolving the vast majority of problems to be considered successful.
- **It must come with an app.** Armstrong didn't have its own home Wi-Fi application before this project. To enable the customer to have better and more efficient control of their Wi-Fi network the company felt it was important that the vendor it chooses must offer this capability.
- **It must be cost effective.** Investing in a new advanced home Wi-Fi platform obviously comes at a cost. Even though there may be numerous advantages to new solutions over legacy Wi-Fi modems, the investment still must make business sense. As in all such business decisions, therefore, choosing a cost-effective solution always comes into the equation.
- **It must offer cloud-driven management software to enable greater remote technical support.** This wasn't a capability that Armstrong had with its legacy platform, which meant that remote technical support teams were operating "blind" as they had no information or data on what was going on within the customer's home network. This led to inefficient fault handling and increasing operational costs.

Why Plume?

To select a vendor for its new Wi-Fi platform, Armstrong ran a series of side-by-side tests on a shortlist of potential solutions. Based on the results of these tests Armstrong felt that Plume was the only vendor to meet all four of the required characteristics, coming out, in Armstrong's opinion, ahead of the competition in all areas.

In Armstrong's view, one of the key advantages of the Plume platform is that it uses a third radio for the backhaul. The other mesh-based solutions tested tended to share the radio spectrum across

both the access point and backhaul, cutting the transmission capabilities in half. By using a dedicated radio for backhaul, Armstrong found that Plume's solution always provided a consistent level of service, optimizing the overall customer experience.

Plume's platform is also plug and play and, through an easy-to-use app, can easily be self-managed by the customer. Armstrong found that a single SuperPod is often capable of covering a smaller household, but additional pods can be quickly and easily added simply by plugging them into an available electrical socket. If the network wasn't performing optimally, the plug-and-play nature of the technology meant that pods can simply be unplugged and moved to a different location by the client – more often than not resolving their issue. Provided with a simple-to-use consumer app called HomePass, consumers can quickly review the quality of the current network topology and carry out their own troubleshooting if and as necessary.

In terms of management software, Plume provided a full subscriber experience management suite, called Haystack. This management platform provides the following:

- Panorama: a software dashboard providing in-home visibility to enable efficient remote support.
- Frontline: a set of tools and dashboards for network ops and technical personnel to increase customer experience and satisfaction.

At the time of Armstrong's vendor evaluation, Plume was one of the few to offer such a network operations center (NOC) tool, at least to this level of sophistication.

Integration experience

Integrating a new vendor into the network is always a major undertaking for any network operator. A significant amount of training is needed for field staff and other internal departments including sales. There is also a significant amount of IT integration to be done. However, Plume assigned a dedicated project manager to Armstrong as well as providing all the APIs the company needed to help with the technical integration. This resulted in a very smooth transition – one which Armstrong claims was possibly one of the smoothest in recent history.

Rollout and go-to-market strategy

Armstrong's aim is to have Plume in every customer's household

Armstrong's goal is to reach 100% of the customer base with Plume technology. However, new CPE technology always takes time to permeate through the network and, two years on, Armstrong is still operating a mixed vendor environment. Nevertheless, the company feels good about the progress it has made in two years.

All new broadband customers other than those subscribing to Zoom Express get Plume SuperPods as standard. Zoom Express customers don't receive Plume as part of their package but can opt for the technology as an additional option. No customer is obliged to take the Plume Wi-Fi solution, but 95% of new customers do.

Non-Zoom Express customers are entitled to two SuperPods as part of the service offering. Before the investment in Plume, professional installation was standard for new Armstrong customers, and is still common practice. In such cases the field technician will advise the customer as to how many pods they really need on the day of installation – for some clients Armstrong has found that a single SuperPod is sufficient. For clients that need more than two SuperPods, Armstrong is happy to provide more with a one-off activation fee.

Plume has also enabled Armstrong to transition to a self-installation model – a model Armstrong was reluctant to use previously due to quality concerns. Today however, 3.5-10% of weekly orders are now completed by the customer via a self-install kit, and this number is growing.

When it comes to Wi-Fi applications, Armstrong's focus is on providing the best customer experience. Its ambition is to have the best broadband service in the world – this means the best connectivity and the best overall experience. Wi-Fi is a big part of that experience and so are all the elements associated with it such as network control, guest access, and cybersecurity. In Armstrong's view, therefore, it is not wise to pick and choose what applications customers get and which they don't (for free); they must be provided with the whole experience.

Success metrics and overall outcome

The investment in Plume technology has led to a significant increase in coverage performance, and a related improvement in the customer experience. From an operational point of view Armstrong claims that the benefits have been substantial. Not only have Wi-Fi-related service calls been reduced by 30%, but the operator is able to handle customer concerns and issues that do arise far

more efficiently than before. This has led to a 33.8% increase in its net promoter score (NPS) and a reduction in subscriber churn of 18.75%. Providing a better customer experience has also reduced the number of expensive truck rolls.

Other success KPIs include:

- Since launching Plume, Armstrong's broadband subscriber base has increased by 12.5%
- Prior to launching Plume, 59.7% of Armstrong's customers were on Wi-Fi, since launching Plume that number has increased to 70.5%
- Armstrong has achieved over 100K Plume customer deployments in just over 2 years despite the pandemic and supply chain challenges

As it plans for the future, Armstrong is looking forward to offering Wi-Fi 6 to the top two tiers of its customer base. On average, Armstrong's customers now have up to 16 devices per home, and this is only going to increase. Wi-Fi 6 will bring faster speeds, greater throughput, capacity, and will have better spectrum management. As a result of choosing Plume's cloud-driven platform, Armstrong is extremely well placed to seamlessly manage such technology transitions, as well as add new applications and services across the entire deployed base at speed and scale. Armstrong was hoping to have already made this upgrade, but things have been a little delayed due to the COVID-19 pandemic and the global chip shortage. Rollout therefore is expected shortly.

Appendix

Methodology

Omdia Case Studies leverage in-depth interviews with key stakeholders as well as offering a review of any available documentation, such as financial reports, press releases, and company presentations.

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