

How we helped a consumer access point retailer switch its WiFi chipsets from proprietary to open source drivers

Background

The client is a major consumer electronics player selling retail mesh access points for the home market.

The Problem

- 1. The client had been using WiFi chipsets from a specific vendor but wanted to use the open source variant of the driver rather than the vendor's proprietary driver.
- 2. The open source driver was known to be deficient in performance by about 20% and was not as stable as the proprietary version.
- 3. The retail access point business is built on the story of performance, stability, and ease of use. Any negative impacts on these three criteria would degrade the technical reviews and hence the viability of the client's business.

When this upgrade was completed there were still a variety of issues due to the specific changes done by the client and so we worked through the list by categorizing and prioritizing stability and performance issues. Over a one year period, this process resulted in a significant improvement to the code base that eliminated all known performance gaps and stability issues. As a result, the rate of reported customer issues dropped significantly. This also helped the client in their new product launch, as they were able to release a newer generation of chipsets with much smoother performance.

The Solution

We were connected to the client by one of the chipset vendors because of our expertise in open source drivers and upstreaming. The product was already launched and in the market but was not getting good reviews on two of the three key criteria – performance and stability. We were asked to help with both of those.

The client shared the list of all the reported issues and their expectations on throughput and stability. We suggested that we will first analyze all the known issues and come up with a plan of action.

After a full review we determined that the following needed to be done:

1. The client was on an older version of the chipset vendor's SDK release. So the first step would be to upgrade to the latest version. However, because there were plenty of modifications done to the SDK by the client, this upgrade needed to be done precisely, going over one change list at a time rather than a wholesale upgrade. This also included a kernel version upgrade.
2. A full test cycle then needed to be performed to identify all the pending issues and address them.

Business Benefits



Enhanced market competitiveness of the product



Significant improvements to the next-gen product, leading to positive customer acceptance and reviews



Improved feedback cycle due to all the improvements made to the chipset drivers