QUBERCOMM

How we helped an OEM integrate both RDK-B and OpenSync middleware into its WiFi chipsets in just 3 months

Background

The client is a major OEM that is part of a $3B communication conglomerate. It builds networking products that simplify life for IT, while enabling them to deliver exceptional user experiences. Using their products and solutions, any organization—regardless of size or sophistication—can easily deploy, manage and expand a converged IT/OT network, while addressing unique business outcomes.

The Problem

- The OEM client had been using WiFi chipsets from a specific vendor for several years and their ISP customers have been asking for middleware integration including RDK-B and OpenSync.
- They did not have the relevant experience in RDK-B and OpenSync middleware.
- The bigger challenge was that the compatibility matrix provided by these two middleware indicates that the RDK-B version the client wanted was lower than what OpenSync could work with.
- The client needed these two middleware to work — and quickly — or else they were going to lose a major ISP customer.
- The client needed someone with the skill and experience to address the challenges of middleware integration and backporting — but also someone with a solid understanding and expertise in that specific chipset driver.

The Solution

We were invited to participate when the client had only 3 months to provide the ISP with a working demo of the chipset, RDK-B and OpenSync all working together, and had only 1.5 months to productize it and get the certification from the relevant partners.

We were chosen because of our expertise in the middleware, our expertise in the drivers of this chipset, and our willingness to work with them through a strenuous schedule – nominally this would not have been possible under 6 months where we had only 3 months.

We had to break down the tasks in such a way that will first demonstrate that it is possible to make the two middleware compatible — even if their respective vendors do not claim compatibility. Only after we have proven this can productization begin. So we split our efforts into two parts:

1. A team focused on the specific items to demonstrate viability in terms of backporting from compatible version to non-compatible version for the RDK-B and OpenSync middleware.
2. Another team focused on bridging the driver gaps to fit into the OpenSync and RDK-B needs for their respective versions.

Once each of these two tasks was independently accomplished, the greater task of integration was successfully completed. However, there was a major issue in that the certification entity was using scripts that had some assumptions about the software based on the first chip on which they implemented the certification. Many of those assumptions were broken in this OEM's choice of chipset. Hence certification, which was thought to be a formality, ended up being the biggest risk. The certification entity shared the scripts; since we went through and realized the invalidity of the assumptions that were made by the original authors, we thus had to modify all their scripts to be more generic.

Dealing with one middleware vendor is tough enough. Dealing with two middleware vendors and making them compatible with each other and work in unison with the specific driver required a degree of technical expertise that few possessed — but which we were privileged to provide to our client.

Business Benefits

The client successfully secured its business with the ISP

With multiple middleware options enabled on their platforms, the OEM is now able to offer a bigger variety of options to ISPs

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