

Open source OS is gateway to future, claims Inteno

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“The open source winds are blowing,” declared Conny Franzen, CEO of Swedish broadband CPE veteran Inteno Group, via video call with Faultline this week.

A developer of hardware-agnostic open source operating systems for residential gateways, through its software subsidiary iopsys, Inteno is seeing internet service providers opening up to the open source model. Getting there has been a slow burner, however, and Faultline has occasionally faced resistance by reminding vendors of the elephant in the room which is that higher-end ISPs prefer proprietary embedded software over open source. Open source advocates like Inteno want us to leave that opinion back in 2018 where it belongs.

Indeed, Franzen quickly namedrops BT as a tier 1 customer of the iopsys open source SDK, based on OpenWrt, for platform-independent gateway software. We return the compliment by mentioning Vodafone as one of the key drivers behind the prpl project, to which Franzen responds by saying Inteno was one of the first contributors to the venerated prpl open source effort.

It just so happens that the prpl Foundation released its prplOS v2 software reference platform on the very same day as our fast-moving, high-level chat with Franzen. The iopsys SDK supports EasyMesh too, although Franzen described Inteno as “mostly OpenWrt experts.”

Driven by non-profit group Software in Public Interest, OpenWrt is an open source embedded operating system based on Linux, with the primary advantage being that it will run on many available WiFi repeaters and gateways irrespective of the chipset. Vendors like Inteno have taken OpenWrt and charged at the trend of decoupling hardware and software for a platform independent – but still carrier-grade – gateway.

Franzen unapologetically compared the iopsys SDK to what Android delivers with its mobile OS empire. It takes a hardware abstraction layer, high-level APIs and lets customers subscribe to an SDK to be preloaded onto their own hardware – onto which ISPs can add all the features and functions unique to them.

“To improve customer satisfaction, we need low and high-level open APIs. When we get this, nothing can stop the industry from delivering future services,” added Franzen.

The significance of this is that if a service provider is running three separate operating systems on a variation of hardware across its installed base, this makes life difficult when onboarding future features like the latest smart home applications. Separating software from hardware with high-level APIs via OpenWrt opens up service providers to continuous integration to improve offerings over time, for example by delivering maintenance upgrades only once instead of multiple times. Shorter time to market can be achieved with cost savings made along the way.

For the Inteno Group umbrella, a revelation came circa 2010. Before this, it was developing residential gateways on various chipsets with various software platforms, but decided to shake up this structure for a number of reasons, one of which being complexities when bugs were spotted, which would require laboriously writing separate updates for each supported software. Switching to an open source OS model changed the game for Inteno, building a PoC on OpenWrt and then developing software with a hardware abstraction layer to run independently on a range of hardware, while processing data from the gateway in the cloud. Inteno eventually launched its own hardware-agnostic software as a product in 2013, before spinning out iopsys from the in-house R&D set-up in 2018.

In the same year, Inteno Broadband Technology, the gateway division, was merged with European FTTH product developer Genexis – creating a merged business with sales amounting to about \$68 million at the time. Having these two separately operated product and software businesses is good for helping the overall group focus, Franzen tells us.

Most recently, in June 2021, it bolstered the iopsys software division with the acquisition of Seliro, also a developer of operating systems for WiFi products. This

created a joint software business generating sales of approximately \$10 million at the time of the deal, while we are informed that the 90-person software side is growing quickly, as is the 130-person strong product business of Genexis.

Inteno Group itself is celebrating turning 30 this year (as is the author of this piece). While not a regular on the pages of Faultline, we have come to recognize Inteno as a notable contributor to open source residential gateway projects – having pivoted its business model in 2018 to offering a hardware-agnostic open source operating system for residential gateways.

In terms of competitors, Inteno's two-pronged product/software business means it steps on the toes of a lot of familiar names. Airties, Technicolor, SoftAtHome, and Sagemcom all come up in conversation as WiFi software stroke hardware vendors that can be a competitor one day and a partner the next for Inteno Group.

These are all companies collectively working towards the goal of promoting hardware-independent software, while ultimately competing for the same business.

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