SMART/OS 11

prplWrt for commercial products

David La Cagnina
The sellable product

SMART/OS

- Subscriber facing applications
- Mesh WiFi, Speedtest, Containers
- Device Management, Telemetry
- VoIP, IPTV, Internationalization, WebUI
The hidden dependencies

- Platform & Security Updates
- Base Router Services
- Configuration management
- Hardware integration
- Build system
A tech startup with the backing and size of a corporation.

800+ broadband service provider customers
1.4M+ devices managed per month on globally deployed SaaS platform
3M+ devices in service

120 people organization with 68% engineering

Acquired to lead industry towards open ecosystems and in-home services
Introduction

- David La Cagnina
Until Now

bloated binary blobs + redundant work + One-off investments = expensive products & less choice
A feature’s shadow

Initial effort

Maintenance effort
The real effort

- Marketable features
- Common features & Base system
- Maintenance, upgrades & security patches
The closed source way
There is a better way

joint work on common features + more resources for differentiation = faster TTM & better products

Open Source
The open source way

the essence of **SMART/OS**
The business comparison

A single company’s effort

- Marketable features
- Common features & Base system
- Maintenance, upgrades & security patches

A collaborative approach
Harmonizing the ecosystem

Chipset integration

Service integration
# OpenWrt & prplWrt

<table>
<thead>
<tr>
<th>prpl Low Level API</th>
<th>SoC &amp; drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kernel Layer</strong></td>
<td><strong>Hardware</strong></td>
</tr>
<tr>
<td>(Drivers for Wi-Fi, Ethernet, Bluetooth, WAN, LEDs, Buttons, etc.)</td>
<td></td>
</tr>
</tbody>
</table>

## Hardware

<table>
<thead>
<tr>
<th>prplWrt</th>
<th><strong>DHCP/DNS</strong></th>
<th><strong>HTTP/S</strong></th>
<th><strong>Syslog</strong></th>
<th><strong>QoS</strong></th>
<th><strong>Peripheral</strong></th>
<th><strong>Toolchain &amp; SDK</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>xDSL, Fiber, PON</td>
<td>3G, LTE &amp; 5G</td>
<td>BLE, ZigBee, DECT, ...</td>
<td>Multicast</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### SMART/OS 11

#### SMART/CLOUD services

**Application Layer**
- Parental Control
- Security
- IoT

**prpl High Level API** *coming in 2020*

<table>
<thead>
<tr>
<th>SMART/OS apps &amp; services</th>
<th>Device Management</th>
<th>Auto Configuration</th>
<th>TR-181, etc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Language</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPTV</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WiFi Analyzer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WiFi Speedtest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Package Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video Stream Analyzer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VPN</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Live Security Updates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hitless Updates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telemetry</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WiFi Mesh</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**OpenWrt & prplWrt**
- DHCP/DNS
- HTTP/S
- Syslog
- QoS
- Peripheral
- Toolchain & SDK
- xDSL, Fiber, PON
- 3G, LTE & 5G
- BLE, ZigBee, DECT, ...

**prpl Low Level API**

**Kernel Layer**
- **SoC & drivers**
  - (Drivers for Wi-Fi, Ethernet, Bluetooth, WAN, LEDs, Buttons, etc.)

**Hardware**
Device Roadmap

Available now for:

- WiFi Router
- DSL IAD
- WiFi Mesh AP

Coming in 2020:

- GPON HGU
- XGS-PON HGU
- WiFi 6
A call for further collaboration

- Common features & Base system
- Maintenance, upgrades & security patches
Summary & call to action

• Commercial, carrier products running prplWrt are now available

• OEMs:
  • Contribute at prpl

• Operators:
  • Maintain pressure on silicon vendors to support prpl
  • Stop buying closed-source devices

• Software Service vendors:
  • Integrate once with prplWrt and reap the benefits
    • on numerous platforms
    • from numerous vendors
    • and numerous Operators
Thank you!