prplWrt

Business powered
by
open source

What is prpl

open-source, community-driven, collaborative, non-profit

Working on standards, APIs and software for IoT, embedded devices and the smart society of the future

35+ member companies and organizations

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ISPs fail to capitalize on CPEs for in-home revenue

Despite having their routers at the center of domestic networking

New challenges require adaptation, …

but router stacks cannot deliver.

Differentiation has become a combination of hardware and software

Most current stacks are monolithic in design with added-on inefficient upgrade functionality.

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BBF
USP
McAfee
Together is power.
IoTivity

Application layer services for broadband devices are becoming the norm

Features are regarded as a sales argument, but need to be part of the whole product lifecycle.

Cyber-Security is becoming a key-driver for all business and consumer decisions

Time-to-market and cost constraints often drove the quality of implementation.

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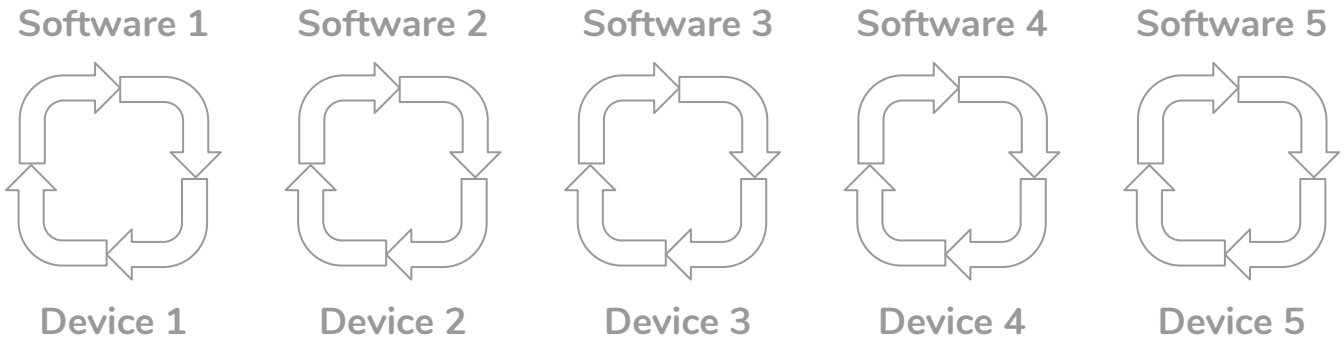
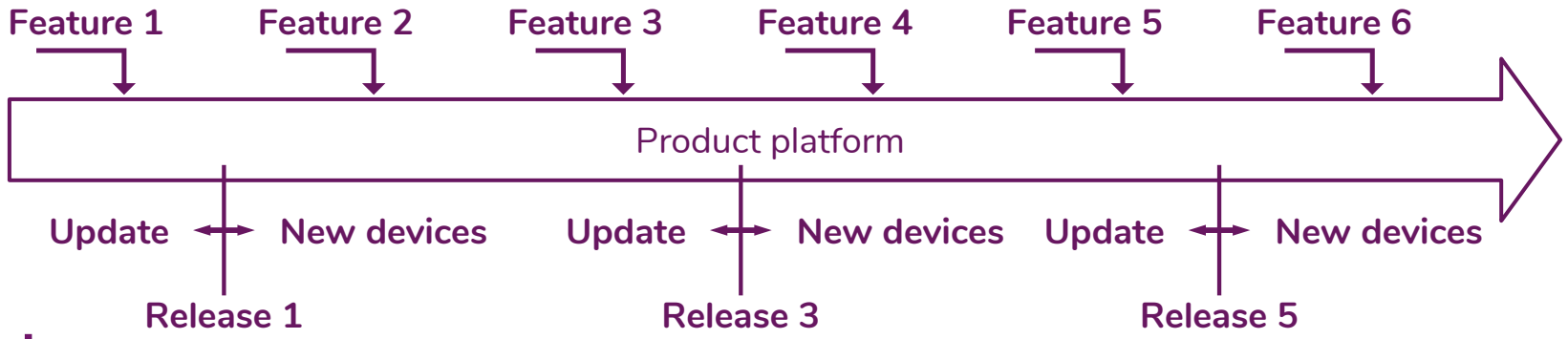
Stop cycles of redone work & one-off investments



Collaborate and develop a platform approach



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Mission

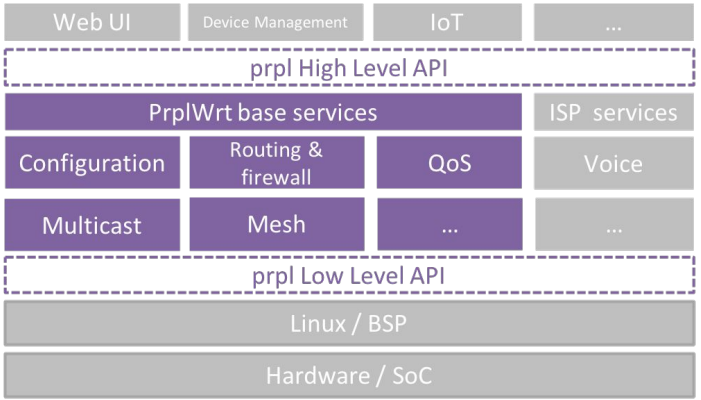
Build an open source framework for secure and future-proof router & gateway stacks, characterized by standardized APIs to enable a new service ecosystem.

The combination of standardization & open source

Develop internally or give your suppliers an openly developed framework

A single API for on-device software (High-level API)
Lower integration cost and take control of the consumer touch-point. Develop once, deploy on any device.

A single API for chipsets and SoCs (Low-level API)
Seize negotiating power in procurement by going multi-SoC in record time. Standards APIs for: WiFi, DSL & PON, QoS, voice, multicast and more.



Open, free carrier-grade frameworks & implementations
Benefit from software developed by industry leaders. prpl is developing open source frameworks for router stacks as well as reference implementations other specifications such as EasyMesh or OMCI.

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Product view

An open source reference implementation that evolves with ISP requirements

Enterprise features

- DSL, PON & Cable
- Wi-Fi Alliance EasyMesh
- Cross-device coordination
- Device management clients

Carrier-grade security

- Software hardening (eg. static code analysis)
- Reflash & side-loading protection (eg. Software signing)
- Quality Assurance & Testing (eg. independent certification)
- Monthly Security releases

Community Projects & contributions

- Core services & routing
- Modularization & packages
- Toolchain & image configuration

Not-for-profit, independent & community driven

(Not limited to particular chipset vendor, hardware manufacturer or ISP)

Implement RFQ features once and reuse across vendors

(Keep features in private feed or upstream to prplWrt or even OpenWrt)

Much faster detection and correction of security flaws

(Upstream managed security patches and updates)

Continuous roadmap & feature development

(Development priorities are set by members and contributors)

Resource pooling

(Members are encouraged to contribute non-differentiating features to enhance the overall stability of the stack)

Lower development cost for external innovation

(ISP partners can develop solutions based on open source stack without need for NRE and access to ISP technology)

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prplWrt approach

Make open source as easy as 1-2-3

Step 1

Get “prplWrt script”

maintained from prpl github

Step 2

Execute “make”

sets up OpenWrt toolchain and build environment and adds & configures PrplWrt feed

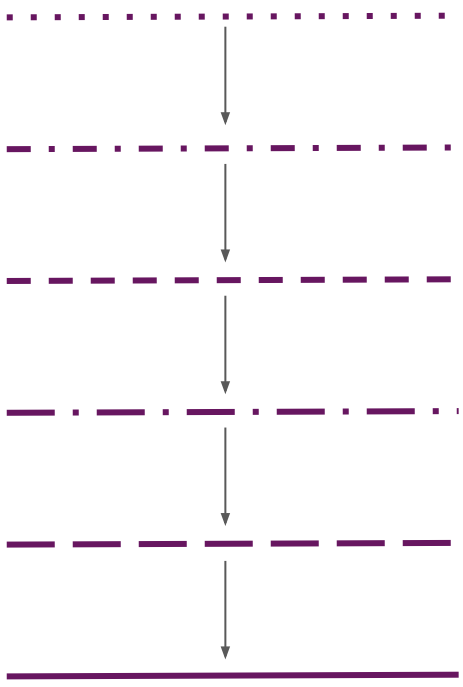
Step 3

Use “menuconfig”

Add specific packages or configurations needed for the build target

Implementation

prplWrt is an extension of great community efforts



.config

Product changes (SKU specific additions, packages and changes)

Extensions and features needed for specific consumer product

Vendor changes (company or customer specific additions, packages and changes)

Software vendor specific packages and extensions

Category changes (Device type specific patches and packages)

Eg. access technology requirements, LAN management

Target changes (Board specific drivers, patches and extensions)

Eg. drivers and base patches

Base changes (patches, packages and extensions)

Eg. package versions and additions not yet accepted or ready for upstream

Community baseline

Eg. OpenWrt™

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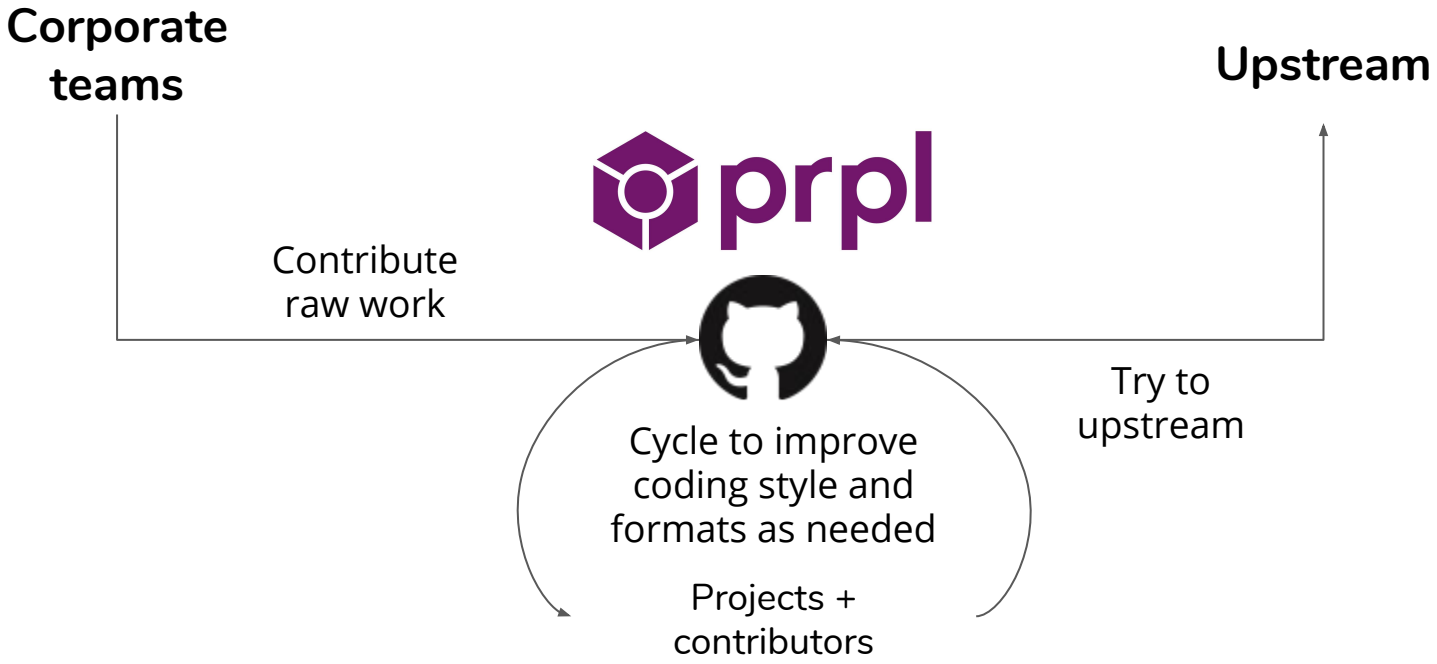
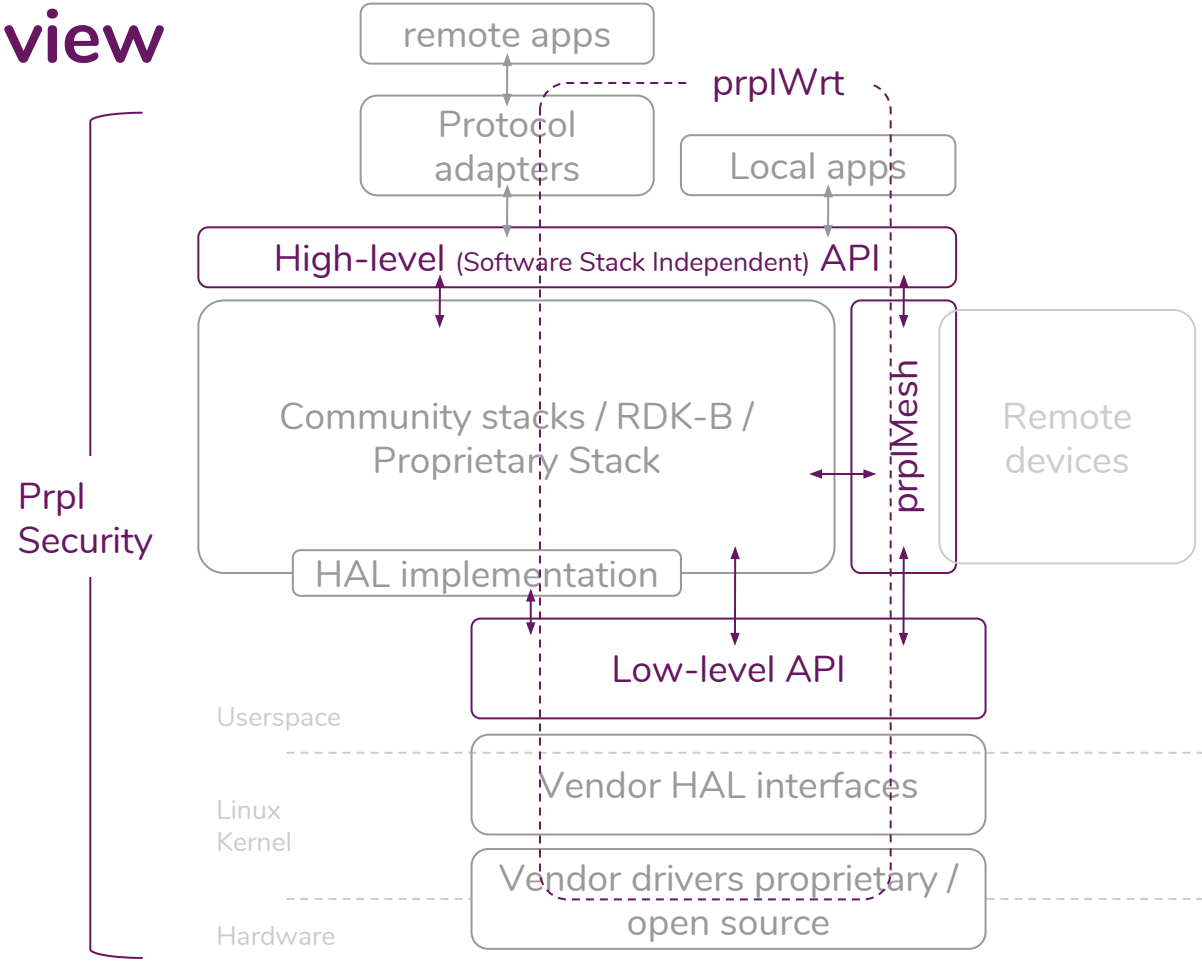
Open source community relationship

Prpl is trying to bridge between business and open source software development



Technical view



prplWrt roadmap

Build up capabilities through a string of demonstrators and quarterly releases

0.9.1
Target: OpenWrt summit

- Base build system
- Smartphone as WAN (USB)
- AngularJS WebUI
- User management
- WiFi
- VDSL
- Security hardening
- Cross-device management
- Multicast
- QoS

0.9.2
Target: Q4 2018

- Voice
- TR-* client
- EasyMesh
- Bonding

Roadmap

- PON
- Containers
- Cable
- Application runtim

Connectivity: DSL → LTE & hybrid → PON

Platforms: Intel GRX550, Intel VRX518, Intel WAV500 → EcoNet

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Go and see the demo

Thank you

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First things first

A big thanks to the countless contributors and volunteers

Nothing of what we are doing would have been possible without the hard work, conviction and persistence of the community that fuels prpl and especially prplWrt.

THANK YOU

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