

OpenWrt/LEDE 2017 Survey

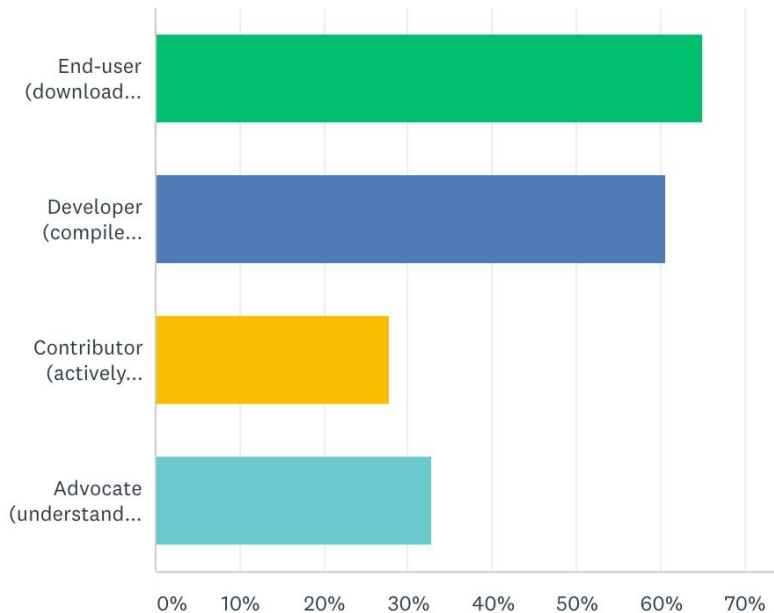
Presented at OpenWrt/LEDE
Summit 2017
Prague, Czech Republic



28% of 137 Survey Respondents are Contributors

How do you use OpenWrt in your organisation?

Answered: 137 Skipped: 0



For personal use 84.68% 105
For business use 61.29% 76

Responses –

–
End-user (download pre-built firmware image and reflash a device) 64.96% 89

–
Developer (compile openwrt images from source code, with possible modifications) 60.58% 83

–
Contributor (actively participate in OpenWrt development, submitting changes, chatting on IRC and/or e-mail lists, etc.) 27.74% 38

–
Advocate (understand personal and business value, recommend to others) 32.85% 45

Total Respondents: 137

Uses for OpenWrt/LEDE

Wi-Fi Router (lots)

VPN (x7)

IoT (x6)

Freifunk (x6)

Gateways (x6)

OpenVPN (x5)

Wireless Printers (x4)

Embedded devices (x3)

TOR Server (x2)

TCP (x2)

Gluon (x2)

Luci (x2)

DDNS (x2)

Samba36 (x2)

Mail Server (x2)

Bridge/Repeater (x2)

Mesh Network Nodes

Virtual Machines

Wireless Extender

Examples of Specific Products

ar71xx/Qihoo C301

ASUS RT56N/RT66U

35xx

Atheros and Broadcom products

CI40

Ignitenet 60ghz radio

Linksys (wrt1xxx, wrt3200acm,
wrt1900ac v1)

Mikrotik RB951

Netgear (wndr3700v2, wndr3800,
wndr4700, Nighthawk R7800)

Netonix wisp poe switch

Raspberry Pi

TP-Link (Archer, 1043ND, wdr841,
wdr3600)

Turris

Ubiquiti Nanostation or Picostation

Zabbix and normal SNMP pull

Zerotier

Other Application Uses

BackupPC server/NAS

Bandwidth monitoring

Bird (ospf)

Border firewall

Coova-chilli

Enigmabox

FPGAs

Fwknopd

Gargoyle

HIPswitch security devices

Host for process control in an observatory,
controlling dome and telescope operations

Load controller for electric water heaters

Minidlna

Multiwan

Netfilter

Network Monitoring Node

Noddos

Parental Control

Radio link for solitary building

Security System

UCI/uBus

Virtual Machines

Alternatives to OpenWrt/LEDE Used

AirOS

Cisco

DD-WRT

EdgeOS

Fritzbox

Gargoyle

Homebrew distribution

Mikrotik

Stock firmware

Tomato

Turris OS

Ubuntu

Yocto

Enhancement Suggestions - General Technology

Automated, Better	Improved
automatic testing, automatic updates (like Freifunk/Gluon), frequent security updates	improve Luci2, improve UCI error handling, since possible to input invalid values, and "commit" does not provide applied status
better upgrade with extra pkgs installed, cross-compilation support, completely built toolchain, no host-installed tools	saved vs running configuration, auto revert back in case of client disconnection (e.g., mikrotik safe mode)
faster parallel builds that support pre-built external tool chains cleanly	web ui needs to be modernized, updated Lucl configuration - see padavan's for example - everything is done with 2 clicks
more CI, more auto-test, regression-test	multiple default configurations to choose from
better support old low mem models, for me no I2TP mean I almost bricked device	security improvements need to be better communicated: is CVExxx an issue and how to upgrade certain packages etc.
more testers	security by default (DNSCrypt)
rally around a dev board to bring strong support to it -- has to be easily accessible and affordable for the community	opkg needs improvements, and an updater
streamline the build process, easier to port to new platforms	

Enhancement Suggestions - Features

Features	Structure
nodejs, php7 with full support for reactphp, container support	easier way of using current kernel on targets like x86
better xdsl support, Broadcom ADSL would be nice?	difficult for new devs to understand the Makefile system, feeds, etc. -- and then how to customize them
better OpenVPN integration (automated key generation etc.)	HAL to get rid of vendor proprietary APIs / BSPs
multi-endpoint USB devices	lose odhcpd it doesn't work
better support for nand devices	switch from custom to mainline Linux switch device framework
SoC Realtek support - we all know it's a nightmare but there are so many devices	set a release date for the next x months/years
TDMA Support (Ubiquiti Airmax, Mikrotik NV2, etc) and TR69 and some kind of Orchestration or Control Panel Tool	reproducible builds
make the x86-64 platform more universal (add virtualisation and simple graphical interface support for HMI's)	user-defined wifi regulatory domain (both indoor and outdoor channels)

Enhancement Suggestions - Technology Specifics

Connectivity	Performance
802.1x dynamic VLANs (for eduroam and spacenet)	fastpath, HNAT and other techniques need higher priority to improve bandwidth speeds
3G/4G modem connection manager	better wifi drivers - but that's a vendor problem
60 GHz support	better wifi performance and stability, especially 802.11ac
802.1x dynamic VLANs (for eduroam, spacenet)	reduce latency, increase throughput
business features (802.11krv)	reduce memory/flash requirements
central mgmt of multiple APs, Client Steering	support for hardware nat and hardware ipv6
MTK Wi-Fi drivers	
luci plugin for guest networks	

Documentation Suggestions - wiki

- more in your wiki for newer firmwares
- reformat and cleanup the wiki
- fill the missing gaps in the wiki, especially on some device pages and some UCI details
- especially for UCI, the wiki should be a first class reference
- move documentation site to GitHub pages to use a CDN
- best practices wiki for top n topics like captive portal, radius server, simple access point (disable DHCP, using all ports for LAN), bridge mode, repeater, etc.
- single wiki (LEDE and OpenWrt)
- big fan of the wiki — fresh development documentation would be nice (e.g. how to modify the kernel config)
- integration with wikidevi project instead of maintaining separate device DB
- more frequent content updates with real use cases (identify people to maintain specific pages)
- ask the community for "owners" of various sections of the wiki
- host periodic "what's new" hangout events with core team, and find volunteers to document what they heard

Docs - device support, forum, e-mail, publishing

Device Support

- help target audience answer question: should I install it on my parents wifi router?
- improve "recommended devices" list and make the current devices list better
- processing of openwrt/LEDE
- not available, out of date, or incomplete for many hardware devices
- list of well-supported hardware
- after finding target device, direct the user to the specific firmware to download or, target arch..

Forum, e-mail, publishing

- big FAQ if we want users to stop asking the same questions over and over on the forum
- forum responses should point to documentation (create new content if not already addressed)
- proper email list for user focused announcements and discussion
- announcement mailing list for new releases
- how to customize OpenWrt (full Reference Manual)
- published book would be great

Docs - specific topics

- ubus/procd/netifd universe
- kernel modules
- build system
- buildbot / Gitlab CI integration
- DTS file
- watchdog
- OpenVPN
- upgrading and security related issues
- LUCI2 / uBus (urgent)
- CLI (uci documentation)
- tested recipes for both CLI and web UI for common use cases (repeater, access point, dual wan, etc.)
- philosophy behind certain procedures and the build system, so it's easier for outsiders to enter
- better documentation on all the different variables in Makefiles

Docs - wishful thinking

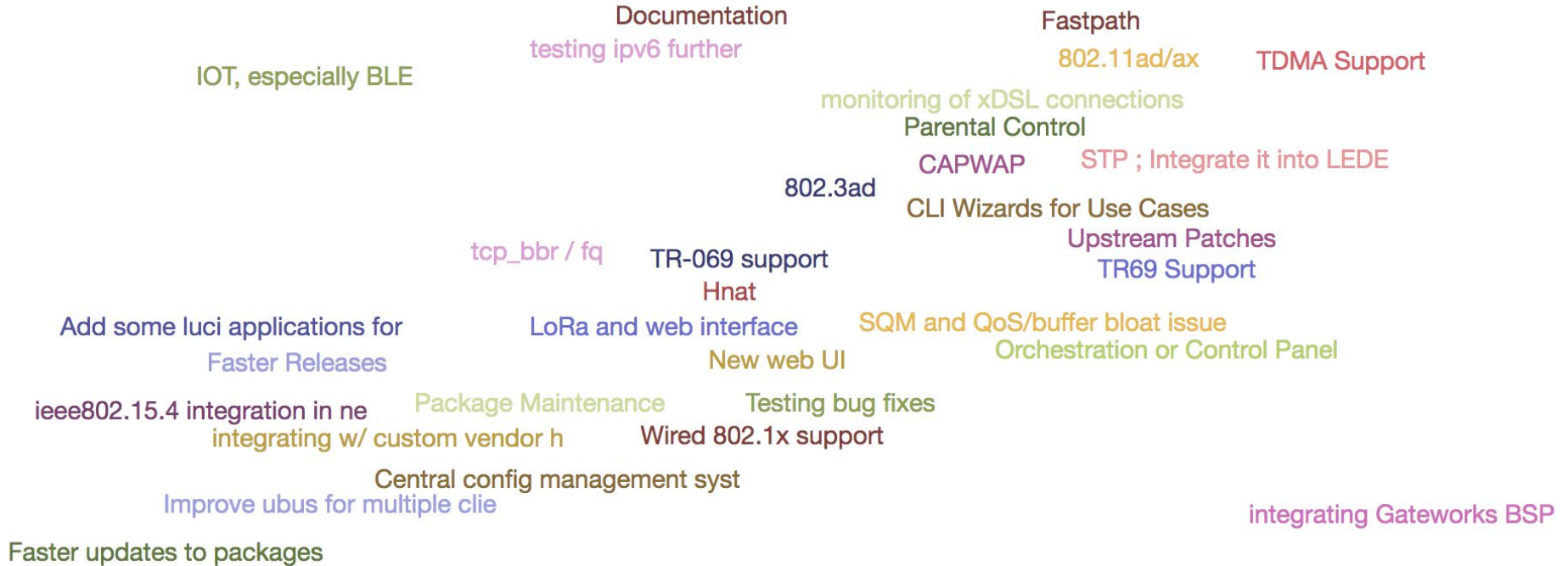
- document everything — it's a whole stack on its own
- user guides and examples rather than incomprehensibly long pages (e.g., http://ledeproject.org/docs/user-guide/network_configuration)
- core 'basic' docs for those with minimal tech knowledge (this can be hard and unrewarding)
- help for newcomers... there seems to be a disconnect between new users and developers
- many undocumented parts should be figured out from source code
- core components and libraries have little documentation (in wiki and in code itself) which means it takes newcomers quite some time to understand what is available and how to use it
- document features and use cases
- step by step instructions for the current release (too many docs only have 10.3 directions)
- better overview/structure, document processes on how to contribute
- development environment and/or workflow, update and sync the latest feature/change
- too fragmented, varies greatly in quality (some components - ubus/netifd - lack in-depth info)
- lede website nice but most docs at openwrt, need merge / clean up (e.g., wrt1200 and mikrotik)
- a lot of times I find missing information (last time, batman)
- more documentation is needed in using SDK

more, always more...

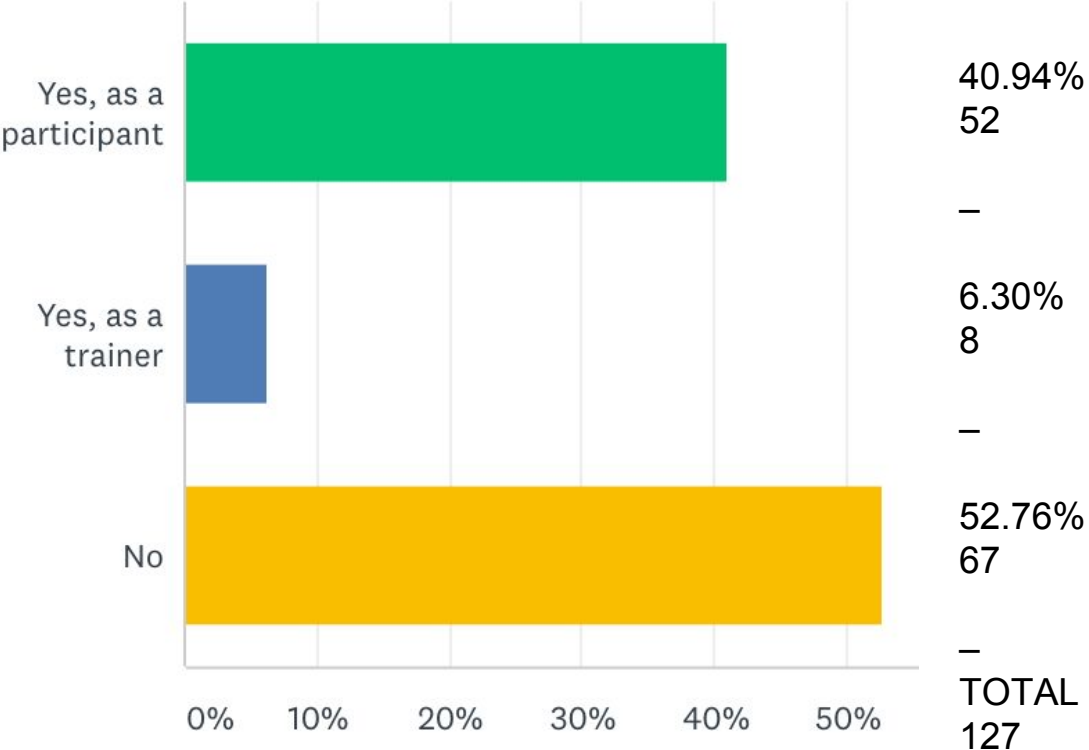
Specific Requests

Orchestration or Control Panel
faster owrt+lede merge, origin
Refactor Web UI
Data Integration Packages
Improve Performance
HNat support
IoT type of sw integration
Reduce Flash Requirements
Better Nand Flash
Built in bandwidth management
More functions in LuCI, smtp s
Support for a GUI
Advanced features for Wireless
Sandboxing
Auto signed upgrade with md5 f
support for TR69
ieeee802.15.4
Ongoing updates
Sensor support
Make the LUCI2/UCI/uBus integr
Raid 1 on Attached Drives
opkg updater
More Submission Process Detail
Better Luci Interface
application jails
DS-Lite as Default Package
add ED25519 keys to dropbear
Fast Path
Failsafe for IPv6 prefix deleg
IPV6 prefix deleg
"out of the box" firmware
Multiple Default Configuration
tcp_bbr / fq
Upstream Patches
Timely Releases
Wiki for Best Practices
Support Old Devices
Wiki Easier to use
Onboarding for New Users
Safer Upgrades
Walled garden
Failsafe Mode
TDMA Support
Support for Latest/Newer Board
I2tp by Default in all Devices
Integrated GCNAT port forwardi
size reduction / lto for packa
Reduce Bloat
CAPWAP
DNSCrypt by default
Power management
Auto Updater
Parental Controls
4G connection manager for modu
Better SysUpgrade, Backup
Kernel 4.9 on X86-64, which is
Network Raid (drbd)
Authorized guest Wifi
DFS support
Unify LEDE/OpenWRT
Multi-WAN uplink with failover
New web UI
Improve Wifi Drivers
Automatic update
Documentation
Package Mirror on v6 to instal
Docker Build Machine
Dual boot images
reduce memory requirements
support for Netconf/YANG
802.1x dynamic VLANs (for edur
Low Latency
Fast Path and similar technolo
Automatic security updates
TR69 Support
Seamless upgrade between versi
LoRa
Better VLAN support
Business Features like 802.11k
Easy way to use current kernel
Macsec
Memory Usage Reduction
Client steering
CLI Wizards for use cases
Improve Config Backup
Automation
Centralised configuration supp
Easier VPN setup
Automatic verification of Buil
Central management of multiple
Fastpath
More frequent security updates
Config Conflict Resolution Too
Batman for mvebu
A simple gui (LUCI) for virtua
Support for smart/managed swit
Address CVEs Quickly
More mesh network support

Planned Roadmap Activities



Interested in OpenWrt/LEDE Training?



Respondent Organization Types

Semiconductor	0.83%	1
–		
Board manufacturing (e.g., ODM)	9.09%	11
–		
Product sales (including hardware, e.g., OEM)	15.70%	19
–		
Software development and professional services	24.79%	30
–		
Software licensing or software product sales	4.13%	5
–		
Education or research or non-profit foundation	14.05%	17
–		
Individual developer	30.58%	37
–		
Individual end-user	43.80%	53
–		
Other	23.14%	28
–		
Total Respondents:		121

