28% of 137 Survey Respondents are Contributors

How do you use OpenWrt in your organisation?

Answered: 137   Skipped: 0

- End-user (download...)
- Developer (compile...)
- Contributor (actively...)
- Advocate (understand...)

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

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

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

<table>
<thead>
<tr>
<th>Connectivity</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>802.1x dynamic VLANs (for eduroam and spacenet)</td>
<td>fastpath, HNAT and other techniques need higher priority to improve bandwidth speeds</td>
</tr>
<tr>
<td>3G/4G modem connection manager</td>
<td>better wifi drivers - but that's a vendor problem</td>
</tr>
<tr>
<td>60 GHz support</td>
<td>better wifi performance and stability, especially 802.11ac</td>
</tr>
<tr>
<td>802.1x dynamic VLANs (for eduroam, spacenet)</td>
<td>reduce latency, increase throughput</td>
</tr>
<tr>
<td>business features (802.11krv)</td>
<td>reduce memory/flash requirements</td>
</tr>
<tr>
<td>central mgmt of multiple APs, Client Steering</td>
<td>support for hardware nat and hardware ipv6</td>
</tr>
<tr>
<td>MTK Wi-Fi drivers</td>
<td></td>
</tr>
<tr>
<td>luci plugin for guest networks</td>
<td></td>
</tr>
</tbody>
</table>
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
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/netfd 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
- IoT type of sw integration
- HNat support
- Better Integration
- Many functions in LuCi, smtp s
- More functions in LuCi
- Support for a GUI
- Built in bandwidth management
- Advanced features for Wireless
- Sensor support
- Ongoing updates
- opkg updater
- More Subscription Process Detail
- Raid 1 on Attached Drives
- add ED25519 keys to dropbear
- Better Nand Flash
- Fast Path
- tcp_bbr / fq
- Upstream Patches
- Wiki for Best Practices
- Wiki Easier to use
- Support Old Devices
- TDMA Support
- Support for Latest/Newer Board
- Onboarding for New Users
- Failsafe for IPv6 prefix deleq
- Timely Releases
- Safer Upgrades
- Walled garden
- Power management
- Auto Updater
- 4G connection manager for modem
- Integrated GCNAT port forward
- Better SysUpgrade, Backup
- Authorized guest Wifi
- DFS support
- Unify LEDE/OpenWRT
- Documentation
- 802.1x dynamic VLANs (for edur)
- Easy way to use current kernel
- Seamless upgrade between versi
- Better VLAN support
- Memory Usage Reduction
- Fast Path and similar technolo
- Client steering
- Better Nand Flash
- Bussiness Features like 802.11k
- CLIs for use cases
- Client steering
- Easier VPN setup
- Automatic verification of Build
- Batman for mvebu
- A simple gui (LUCl) for virtua
- Address CVEs Quickly
- More mesh network support
- More frequent security updates
- Config Conflict Resolution Too
- Centralised configuration supp
- Config Conflict Resolution Too
- Central management of multiple
- More frequent security updates
- Support for smart/managed swit
- Fastpath
- More mesh network support
Planned Roadmap Activities

- Documentation
  - testing ipv6 further
- Fastpath
  - 802.11ad/ax
  - TDMA Support
- Parental Control
- CAPWAP
- STP; Integrate it into LEDE
- CLI Wizards for Use Cases
- Upstream Patches
  - TR69 Support
- 802.3ad
- TCP_bbr / fq
- TR-069 support
  - Hnat
- LoRa and web interface
  - New web UI
- SQM and QoS/Buffer bloat issue
- Orchestration or Control Panel
- Adding some luci applications for
  - Faster Releases
- IEEE802.15.4 integration in
  - ne
  - integrating w/ custom vendor hl
- Package Maintenance
  - Testing bug fixes
  - Wired 802.1x support
- Central config management syst
- Improve ubus for multiple cli
- Faster updates to packages
- integrating Gateworks BSP
Interested in OpenWrt/LEDE Training?

- Yes, as a participant: 40.94% (52)
- Yes, as a trainer: 6.30% (8)
- No: 52.76% (67)

TOTAL: 127
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