

# FreeSandal

樹莓派, 樹莓派之學習, 樹莓派之教育

## OPENWRT 的世界

2018-10-02 | 懸鉤子 | 發表迴響

來自於『開源』世界，本就該『自由』◎

### OpenWrt

OpenWrt 是適合於嵌入式裝置的一個 Linux 發行版。

相對原廠韌體而言，OpenWrt不是一個單一、靜態的韌體，而是提供了一個可添加軟體包的可寫的檔案系統。這使使用者可以自由的選擇應用程式和配置，而不必受裝置提供商的限制，並且可以使用一些適合某方面應用的軟體包來客製你的裝置。對於開發者來說，OpenWrt 是一個框架，開發者不必麻煩地構建整個韌體就能得到想要的應用程式；對於使用者來說，這意味著完全客製的能力，與以往不同的方式使用裝置，OPKG 包含超過 3500 個軟體。預設使用LuCI 作為web互動介面。

openwrt | Attitude Adjustment (r28054) | 负载: 0.39 0.13 0.08 修改数: 0 [管理界面](#)

状态 系统 服务 网络 退出

系统 管理界面 软件包 启动项 LED 配置 备份/恢复 升级固件 重启

### 系统 - 软件包

- [修改软件包的同步源和安装地址](#)
- [更新软件列表](#)

下载并安装软件包:

过滤器:

#### 状态

空闲空间: **81% (4.15 MB)**

#### 已安装软件包

软件包名称	版本
<a href="#">删除</a> base-files	79-r28054
<a href="#">删除</a> busybox	1.18.5-1
<a href="#">删除</a> crda	1.1.1-1
<a href="#">删除</a> dnsmasq	2.57-2
<a href="#">删除</a> dropbear	0.53.1-4
<a href="#">删除</a> firewall	2-34
<a href="#">删除</a> hotplug2	1.0-beta-4
<a href="#">删除</a> iptables	1.4.10-4
<a href="#">删除</a> iptables-mod-contrack	1.4.10-4
<a href="#">删除</a> iptables-mod-nat	1.4.10-4
<a href="#">删除</a> iw	0.9.22-2
<a href="#">删除</a> kernel	2.6.39.4-1
<a href="#">删除</a> kmod-ath	2.6.39.4+2011-08-10-1
<a href="#">删除</a> kmod-ath9k	2.6.39.4+2011-08-10-1
<a href="#">删除</a> kmod-ath9k-common	2.6.39.4+2011-08-10-1
<a href="#">删除</a> kmod-button-hotplug	2.6.39.4-3
<a href="#">删除</a> kmod-cfg80211	2.6.39.4+2011-08-10-1
<a href="#">删除</a> kmod-crc-ccitt	2.6.39.4-1
<a href="#">删除</a> kmod-crypto-aes	2.6.39.4-1
<a href="#">删除</a> kmod-crypto-arc4	2.6.39.4-1
<a href="#">删除</a> kmod-crypto-core	2.6.39.4-1
<a href="#">删除</a> kmod-input-core	2.6.39.4-1
<a href="#">删除</a> kmod-input-gpio-keys-polldev	2.6.39.4-1
<a href="#">删除</a> kmod-input-polldev	2.6.39.4-1
<a href="#">删除</a> kmod-ipt-contrack	2.6.39.4-1
<a href="#">删除</a> kmod-ipt-core	2.6.39.4-1
<a href="#">删除</a> kmod-ipt-nat (trunk+svn7367)	2.6.39.4-1

LuCI 0.10

## 歷史

2003年底Linksys公司推出WRT-54G，一款基於MIPS架構的無線路由器，使用802.11g標準使得頻寬在理論上能

夠達到54M，在當時是一次巨大的進步。WRT-54G作業系統以Linux取代vXworks，哥倫比亞大學法學院教授 Eben Moglen向Linksys提出開源要求。2003年7月，Linksys迫於壓力，開源了WRT54G的firmware，不久<sup>[何時?]</sup>svaseasoft公司開發了Alchemy。從此無線路由器進入了可以刷機的時代。2004年1月出現所謂的OpenWRT，第一個版本是基於Linksys源碼及uclibc中的buildroot專案。2005年初，BrainSlayer釋出了一個新的發行版：DD-WRT。接著又有HyperWRT。2005年初，OpenWRT開發小組釋出第一個「experimental」版本，這版本跟Linksys的GPL源碼已大相徑庭，使用Linux核心源碼2.4.3x，還使用了更模組化的buildroot2。2005年以後有White Russian版本。2011年9月21日，juhosg接手OpenWrt，並釋出了wr703n的官方源碼。2013年4月，發布OpenWrt 12.09，Linux核心版號為3.3版。

由於WRT54G價格低廉，OpenWrt又開源免費，成為學習嵌入式Linux最佳平台。OpenWrt本身未帶任何UI，需要通過LuCI，webif等各種延伸介面，LuCI介面是使用率最高的Web管理介面。

OpenWrt 首發，天下第一版

the first White Russian releases for WRT54G routers !

## OpenWrt Version History

### Beginning

The OpenWrt project started in January 2004. The first OpenWrt versions were based on Linksys GPL sources for WRT54G and a buildroot from the uclibc project. This version was known as OpenWrt “stable release” and was widely in use. There are still many OpenWrt applications, like the Freifunk-Firmware or Sip@Home, which are based on this version.

In the beginning of 2005 some new developers joined the team. After some months of closed development the team decided to publish the first “experimental” versions of OpenWrt. The experimental versions use a heavily customized build system based on buildroot2 from the uclibc project. OpenWrt uses official GNU/Linux kernel sources and only adds patches for the system on chip and drivers for the network interfaces. The developer team tries to re-implement most of the proprietary code inside the GPL tarballs of the different vendors. There are free tools for writing new firmware images directly into the flash (mtd), for configuring the wireless lan chip (wlcompat/wificonf) and to program the VLAN-capable switch via the proc filesystem.

分分合合人間事：

### LEDE

Linux嵌入式開發環境專案（Linux Embedded Development Environment，LEDE），是路由器韌體專案OpenWRT的一個復刻分支專案，並繼承原來OpenWRT的開發目標。<sup>[3][4][5][6][7]</sup>2018年1月 LEDE 和 OpenWRT 正式宣布合

併，合併後的專案使用 OpenWrt 的名字。<sup>[8]</sup>

## 歷史

原OpenWRT開發者社群，已經長時間沒有關鍵性更新以及對新裝置的支援，而關於這些的討論也遲遲未有結果，這使得一群OpenWRT核心貢獻者感到不滿。2016年5月，大部分原OpenWRT社群的核心開發組成員決定另立新專案，暫時以「Linux Embedded Development Environment」（Linux嵌入式開發環境）作為專案名稱，一年後才正式以暫定名稱的縮寫LEDE定名。<sup>[9]</sup>LEDE的原始碼基本繼承原OpenWRT，但相應的開發者社群採用新的更具執行力的討論規定和決議流程。

2017年6月，LEDE社群和OpwnWRT社群均同意將原OpenWRT專案合併至LEDE專案之中。<sup>[10]</sup>LEDE專案的名號將不再使用，而是繼承原來OpenWRT的名號，但沿用LEDE社群的版規和流程規定。<sup>[10][11]</sup>原始碼以LEDE專案為主線，以LEDE 17.x 為基礎，將OpenWRT的原始碼逐步合併至LEDE Snapshot上，完成後將封存原OpenWRT的舊版本原始碼並不再維護（但最新的 15.05 CC 版仍然會獲得安全性更新），至2018年1月，原始碼已整合完成。<sup>[12]</sup><sup>[13]</sup>對開發人員和使用者來說，一個明顯的標誌是，自2017年12月10日釋出的LEDE Snapshot版本中，其SSH登入歡迎資訊已經採用OpenWRT的標識。OpenWRT和LEDE的討論串、技術文件等也在逐步合併中。

聚聚散散世上情：

## About the OpenWrt/LEDE project

OpenWrt is a highly extensible GNU/Linux distribution for embedded devices (typically wireless routers). Unlike many other distributions for these routers, OpenWrt is built from the ground up to be a full-featured, easily modifiable operating system for your router. In practice, this means that you can have all the features you need with none of the bloat, powered by a Linux kernel that's more recent than most other distributions.

## What is OpenWrt?

Instead of trying to create a single, static firmware, OpenWrt provides a fully writable filesystem with optional package management. This frees you from the restrictions of the application selection and configuration provided by the vendor and allows you to use packages to customize an embedded device to suit any application. For developers, OpenWrt provides a framework to build an application without having to create a complete firmware image and distribution around it. For users, this means the freedom of full customization, allowing the use of an embedded device in ways the vendor never envisioned.

Learn more at the OpenWrt wiki...

## A reboot of the OpenWrt community

In 2016, the LEDE project was founded as a spin-off of the OpenWrt project and shared many of the same goals. The project aimed at building an embedded Linux distribution that makes it easy for developers, system administrators or other Linux enthusiasts to build and customize software for embedded devices, especially

wireless routers. The name *LEDE* stood for *Linux Embedded Development Environment*.

Members of the project included a significant share of the most active members of the OpenWrt community and intended to bring new life to Embedded Linux development by creating a community with a strong focus on transparency, collaboration and decentralisation.

LEDE's stated goals were:

- Build a great embedded Linux distribution with focus on stability and functionality.
- Make regular, predictable release cycles coupled with community provided device testing feedback.
- Establish transparent decision processes with broad community participation and public meetings.

The formation of the LEDE project was decided to solve long standing issues that were deemed unfixable from within the OpenWrt project/community:

1. Number of active core developers at an all time low, no process for getting more new people involved.
2. Unreliable infrastructure, fixes prevented by internal disagreements and single points of failure.
3. Lack of communication, transparency and coordination in the OpenWrt project, both inside the core team and between the core team and the rest of the community.
4. Not enough people with commit access to handle the incoming flow of patches, too little attention to testing and regular builds.
5. Lack of focus on stability and documentation.

To address these issues, the LEDE project was set up in a different way compared to OpenWrt:

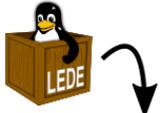
1. All communication channels are public, some read-only to non-members to maintain a good signal-to-noise ratio.
2. Decision making process is more open, with an approximate 50/50 mix of developers and power users with voting rights.
3. Infrastructure is simplified a lot, to ensure that it creates less maintenance work for us.
4. More liberal merge policy, based on our experience with the OpenWrt package github feed.
5. Strong focus on automated testing combined with a simplified release process.

## **Announcing the OpenWrt/LEDE merge**

As of January 2018, both the OpenWrt and LEDE projects agreed to re-merge back under the OpenWrt name.

The new, unified OpenWrt project is governed under the rules established by the former LEDE project. Active members of both the former LEDE and OpenWrt projects contribute to the unified OpenWrt.

## **Joint future**



LEDE's fork and subsequent re-merge into



OpenWrt did not alter the overall technical direction taken by the unified project. OpenWrt will continue to work on improving stability and release maintenance while aiming for frequent minor releases to address critical bugs and security issues like LEDE did with the 17.01 series and its multiple point releases until now.

Old pre-15.05 OpenWrt CC releases are not supported by the merged project anymore, leaving them without any future security or bug fixes. The OpenWrt CC 15.05 release series did receive a limited amount of security and bug fixes, but due to its lacking integration in the release automation, no further binary image releases were made.

The merged project uses the code base of the former LEDE project. OpenWrt specific patches not present in the LEDE repository but meeting LEDEs code quality requirements got integrated into the new tree while the source code has been moved to [git.openwrt.org](https://git.openwrt.org) with a continuously synchronized mirror hosted at Github. The original OpenWrt codebase has been archived on Github for future reference.

The remerged OpenWrt project is legally represented by the Software in the Public Interest (SPI) – an US 501(c)(3) non-profit organization which is managing our OpenWrt trademark, handling our donations and helping us with legal problems.

Infrastructure formerly available under the [lede-project.org](https://lede-project.org) domain has been mostly moved to corresponding [openwrt.org](https://openwrt.org) subdomains and redirects were put in place when appropriate.

## Name

	The name <i>OpenWrt</i> stems from the beginning of the open wireless router movements, starting with the first White Russian releases for WRT54G routers, marking the start of future wireless router firmware development.
	The name <i>LEDE</i> is an abbreviation for Linux Embedded Development Environment, a reference to its flexibility and embedded buildroot origins, making it a solid choice for embedded Linux applications far beyond the wireless router and network appliance realm.

## Meeting Logs

[IRC](#) meeting logs done during the LEDE fork can be viewed here.

且從樹莓派 3B 來講起？！

## Index of (root) / releases / 17.01.4 / targets / brcm2708 / bcm2710 /

### Image Files

These are the image files for the **brcm2708/bcm2710** target. Check that the sha256sum of the file you downloaded matches the sha256sum below.

*Shortened image file names below have the same prefix: `lede-17.01.4-brcm2708-bcm2710-...`*

IMAGE FOR YOUR DEVICE	SHA256SUM	FILE SIZE	DATE
<a href="#">rpi-3-ext4-sdcard.img.gz</a>	e76bbbb6bac72345aea0b15a0cf5df99004ecc99db43c7d5843af1cad48f3281	8297.3 KB	Wed Oct 18 13:27:32 2017