**OpenWrt: install local package with opkg**

What if you built a package locally and want to install that instead? Do this instead of setting up your own web server:

1. Copy your package (.ipk file) to /tmp on the router:   
# scp mypackage\_brcm63xx.ipk root@172.30.33.1:/tmp/

2. Log on the router, cd /tmp and install the local package:   
root@OpenWrt:~# opkg install mypackage\_brcm63xx.ipk

Index of /chaos\_calmer/15.05/ramips/rt305x/packages/base/

<http://downloads.openwrt.org/chaos_calmer/15.05/ramips/rt305x/packages/base/>

Index of /chaos\_calmer/15.05/ramips/rt305x/packages/packages/

<http://downloads.openwrt.org/chaos_calmer/15.05/ramips/rt305x/packages/packages/>

The root filesystem is made of a read-only SquashFS partition that can’t be modified after installation. All the modifications on this initial root filesystem are contained in a writable JFFS2 partition. That’s why uninstalling a program shipped by default won’t reclaim any space in SquashFS partition. Quite the opposite in fact: it will probably use some space on the JFFS2 partition to account for deletions of files.

<https://forum.openwrt.org/viewtopic.php?id=53840>

If you don’t need some packages and would like to have more free space, build your own image only the packages you need.

**Include Packages**

1. **Collectd**

collectd is a small daemon which collects system information periodically and provides mechanisms to store the values in a variety of ways.

<https://wiki.openwrt.org/doc/howto/statistic.collectd#available_packages>

1. **Webcam with the Linux UVC driver**

<https://wiki.openwrt.org/doc/howto/webcam>

# opkg install kmod-video-uvc mjpg-streamer

# vi /etc/config/mjpg-streamer

Change option enabled ‘0’ to ‘1’.

# /etc/init.d/mjpg-streamer enable

# /etc/init.d/mjpg-streamer start

[http://192.168.1.1:8080?action=snapshot](http://192.168.1.1:8080/?action=snapshot) for taking one image

[http://192.168.1.1:8080?action=stream](http://192.168.1.1:8080/?action=stream) for stream of images.

Dependencies for mjpg-streamer:

* libpthread
* libjpeg (verify\_pkg\_installable) pkg libjpeg needs 97 kb

**Exclude Packages**

1.ppp (Point-to-Point Protocol) is just necessary for stuff that needs it. In case of a router not having a modem attached, that’d be pppoe or pptp client/server. So if you don’t use those, remove them to save some tiny space.

* ppp
* ppp-mod-pppoe

2.LEDE project:

* kmod-dma-buf
* kmod-nf-contrack
* kmod-nf-ipt
* kmod-nf-nat
* kmod-nf-nathelper

**Compile Firmware**

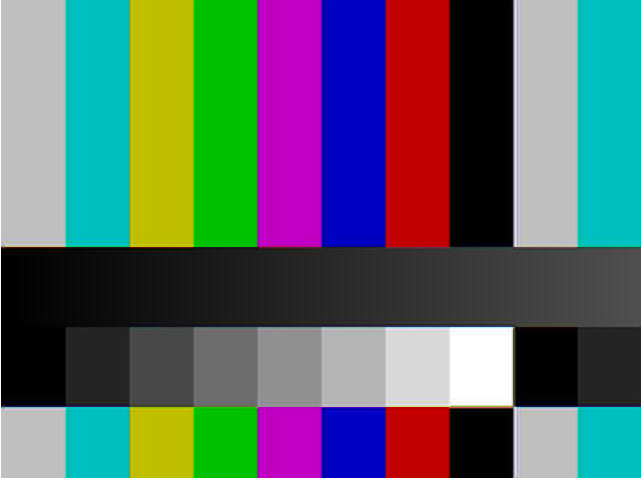
Test 1: UVC

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-uvc libpthread libjpeg mjpg-streamer collectd librt zlib libltdl -kmod-dma-buf -kmod-nls-base -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe"

$ curl http://172.19.48.73:8080/?action=snapshot  
curl: (7) Failed to connect to 172.19.48.73 port 8080: Connection refused

Test 2: UVC

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-uvc libpthread libjpeg mjpg-streamer collectd collectd-mod-cpu collectd-mod-df collectd-mod-processes collectd-mod-memory librt zlib libltdl -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe"



Test 3: UVC

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-uvc libpthread libjpeg mjpg-streamer motion collectd collectd-mod-cpu collectd-mod-processes collectd-mod-memory librt zlib libltdl -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe"

failed

Test 4: GSPCA

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-gspca-core kmod-video-gspca-ov519 libpthread libjpeg mjpg-streamer collectd collectd-mod-cpu collectd-mod-processes collectd-mod-memory librt zlib libltdl -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe"

failed

Test 5 : gstreamer + collectd

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-gspca-core kmod-video-gspca-ov519 libpthread glib2 libxml2 libgstreamer1 collectd collectd-mod-cpu collectd-mod-processes collectd-mod-memory librt zlib libltdl -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe"

too big

Test 6: gspca + mjpg\_streamer

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$ make image PROFILE=DCS930LB1 PACKAGES="kmod-video-gspca-core kmod-video-gspca-ov534 libpthread libjpeg libv4l v4l-utils mjpg-streamer -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -ppp -ppp-mod-pppoe -libuci -libip6tc"

I have a D-Link DCS-934L A1, and flash the firmware to OpenWrt according to the installation in DCS-930L, it works well. But a big problem is the camera cannot work. I cannot stream the video. I already knew that supported webcam drivers can be sorted in two families: UVC and GSPCA. Unfortunately, I cannot find my device in the vendor list(ideasonboard.org and mjmwired.net). In: https://wiki.openwrt.org/toh/d-link/dcs-930l, it says the Image sensor is Omnivision OV780. So I tried the similar ones: ov519 and ov534. And build my custom firmware including: kmod-video-gspca-ov534 or kmod-video-gspca-ov519. I also included the package: mjpg-streamer.

From the log: uvcvideo, 1b3b:2970

Test7: uvc + mjpg\_streamer

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$make image PROFILE=DCS930LB1 PACKAGES="usbutils kmod-usb-core kmod-usb2 kmod-video-core kmod-video-uvc libpthread libjpeg libv4l v4l-utils mjpg-streamer -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -libip6tc"

Test8: fswebcam

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$make image PROFILE=DCS930LB1 PACKAGES="kmod-usb-core kmod-usb2 kmod-video-core kmod-video-uvc libv4l v4l-utils fswebcam libgd -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -libip6tc"

Test8: uvc + mjpg\_streamer

tiger@tiger-OptiPlex-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$make image PROFILE=DCS930LB1 PACKAGES="kmod-usb-core kmod-usb3 kmod-video-core kmod-video-uvc alsa-utils libpthread libjpeg mjpg-streamer -kmod-dma-buf -kmod-nf-conntrack -kmod-nf-ipt -kmod-nf-nat -kmod-nf-nathelper -usign -firewall -ip6tables -kmod-ip6tables -kmod-ipv6 -odhcp6c -libip6tc"

Test9: mjpg-streamer

tiger@tiger-990:~/Downloads/OpenWrt-ImageBuilder-15.05.1-ramips-rt305x.Linux-x86\_64$make image PROFILE=DCS930LB1 PACKAGES="kmod-ipt-conntrack kmod-ipt-core kmod-ipt-core kmod-nf-conntrack kmod-nf-ipt kmod-nf-nat lightSensor-daemon libpthread libjpeg mjpg-streamer -kmod-crypto-aes -kmod-crypto-arc4 -kmod-crypto-core -kmod-i2c-core -kmod-nf-conntrack6 -kmod-nf-ipt6 -libncurses -ip6tables -kmod-ip6tables -kmod-ipv6 -kmod-slhc -odhcpd -odhcp6c -libip6tc -wpad-mini"