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## ONVIF Pi and ONVIF-Emulator IP CAM Usage

**ONVIF Pi** is a Raspberry Pi Security Camera System which uses Raspberry Pi (recommend Pi2 or above) with Pi camera module (CSI Pi camera module, both 5MP and 8MP are supported).

ONVIF-Pi has RTSP server: h.264 and MJPEG video encoder, video source from Pi camera and ONVIF Profile S support. But you cannot login via console terminal and control via webpage.

Using ONVIF VMS software to search and control ONVIF-Pi and ONVIF-Emulator IP CAM, such as Lingodigit [ONVIF Device Tool on Linux](https://lingodigit.com/onvif_nvcdemo.html)

[https://lingodigit.com/onvif\\_nvcdemo.html](https://lingodigit.com/onvif_nvcdemo.html)


or ONVIF Device Manager on Windows <https://sourceforge.net/projects/onvifdm/>.

ONVIF VMS Device Manager : ONVIF account and password: admin/admin

The screenshot shows the ONVIF Device Manager v2.2.250 web interface. At the top, it indicates the user is logged in as 'admin' with a 'Log out' button. The main header displays 'admin/admin'. The interface is divided into three main sections:

- Device list:** A sidebar on the left showing a list of devices. The selected device is 'ONVIF-Emu' with details: Firmware 1.0, Address 192.168.1.251, and Location Default.
- ONVIF-Emu configuration:** The central area shows the ONVIF logo and a menu of settings including Identification, Time settings, Maintenance, Network settings, User management, Certificates, Web page, and Events. Below this is a 'NVT' section with a 'Refresh' button and a video stream viewer showing a live feed of a bird.
- Identification details:** A right-hand panel displaying fields for Name (ONVIF-Emu), Location (Default), Manufacturer (Lingodigit Co., Ltd.), Model (ONVIF-Emulator), Hardware (ONVIF-Emulator), Firmware (1.0), Device ID (00000000), IP address (192.168.1.251), MAC address (08-00-27-E7-82-E3), ONVIF version (2.20), and URI (http://192.168.1.251:8080/onvif/device\_service). 'Apply' and 'Cancel' buttons are at the bottom.

# ONVIF Pi booting information, for example: DHCP IP 192.168.1.10

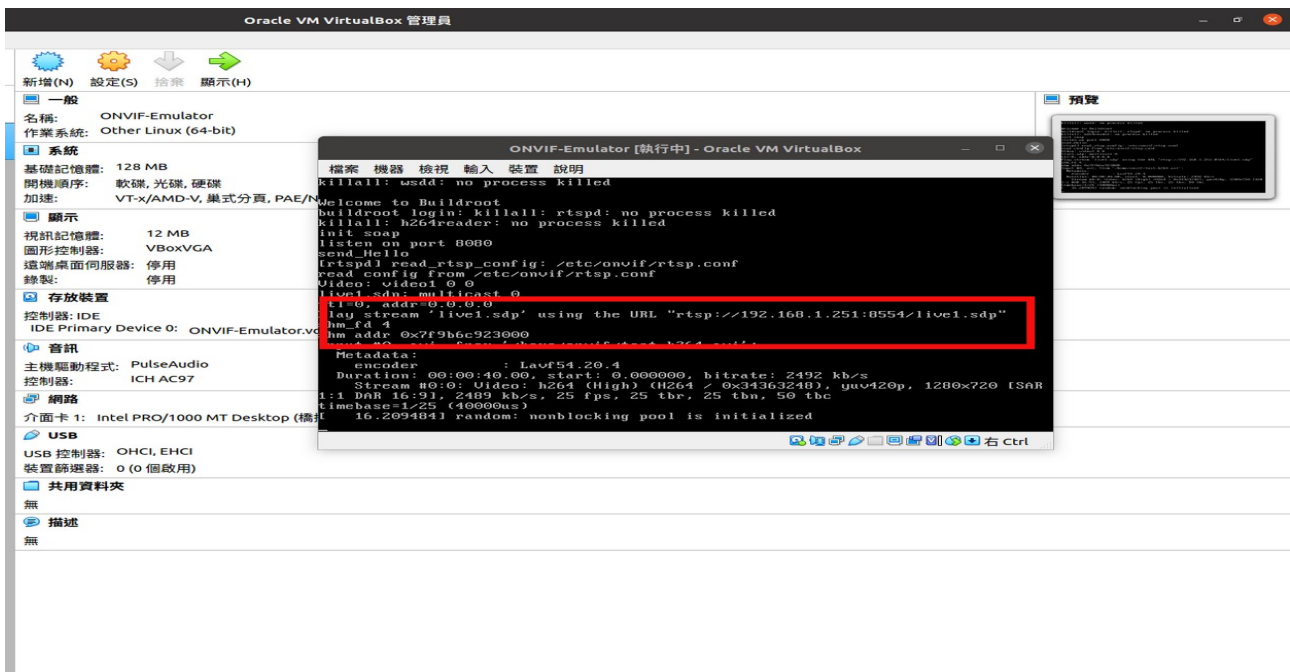
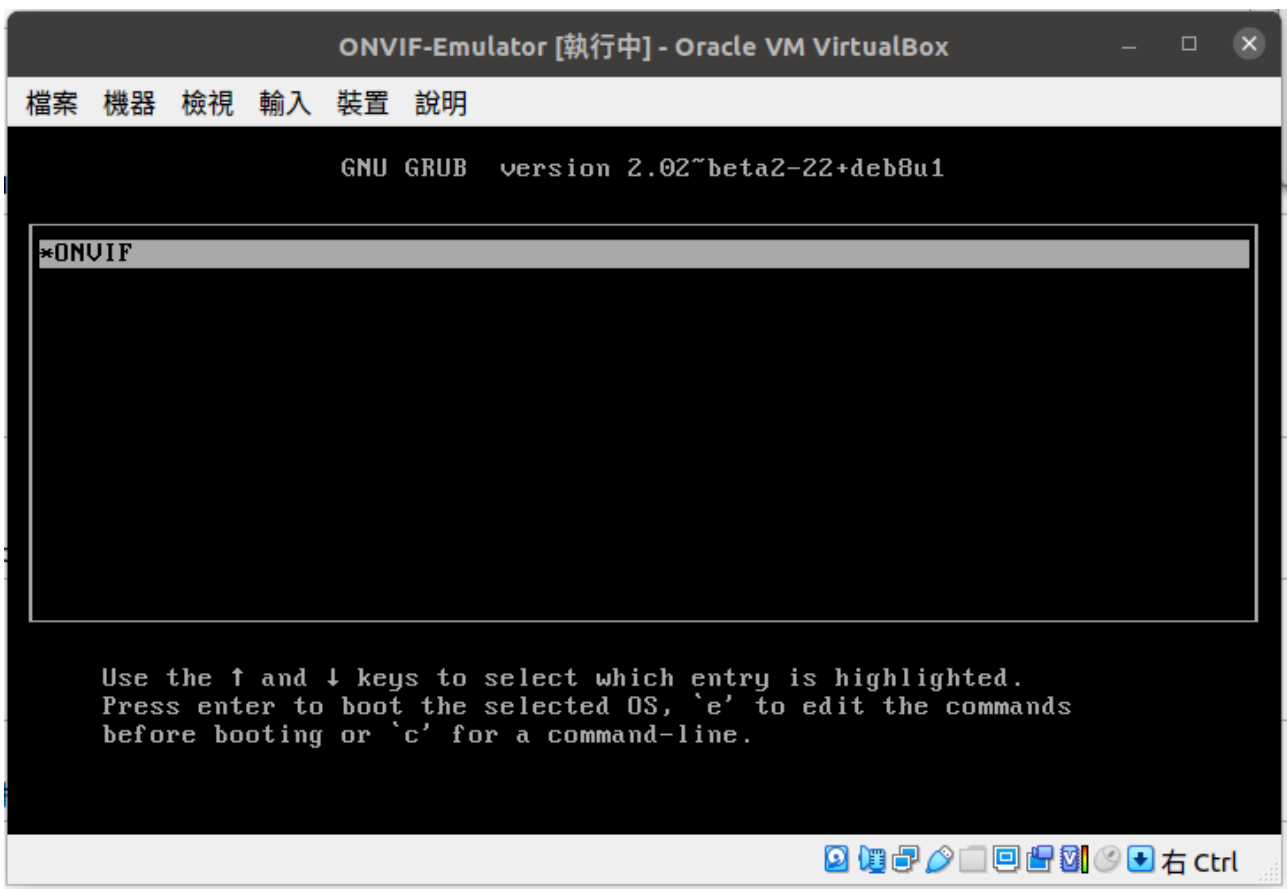


```
OK
Starting lighttpd: OK
[ 5.678470] urandom_read: 1 callbacks suppressed
[ 5.678483] random: syscfg: uninitialized urandom read (4 bytes read)
dhcp: 1
udhcp: -i eth0 -b -A 3 -o -0 subnet -0 router
udhcp: started, v1.32.0
[ 5.916930] SMSC LAN8700 usb-001:003:01: attached PHY driver [SMSC LAN8700] (mii_bus:phy_addr=usb-001:003:01, irq=
[ 5.930082] smsc95xx 1-1.1:1.0 eth0: hardware isn't capable of remote wakeup
[ 5.955630] smsc95xx 1-1.1:1.0 eth0: Link is Down
[ 6.000133] input: Logitech Wireless Keyboard PID:4023 as /devices/platform/soc/3f980000.usb/usb1/1-1/1-1.2/1-1.2:
[ 6.014626] logitech-hidpp-device 0003:046D:4023.0003: input,hidraw2: USB HID v1.11 Keyboard [Logitech Wireless Ke
udhcp: sending discover
[ 6.133458] input: Logitech Wireless Mouse as /devices/platform/soc/3f980000.usb/usb1/1-1/1-1.2/1-1.2:1.1/0003:046
[ 6.147519] logitech-hidpp-device 0003:046D:4054.0004: input,hidraw3: USB HID v1.11 Mouse [Logitech Wireless Mouse
[ 9.115520] smsc95xx 1-1.1:1.0 eth0: Link is Up - 100Mbps/Full - flow control off
udhcp: sending discover[ 9.129270] IPv6: ADDRCONF(NETDEV_CHANGE): eth0: link becomes ready

dhcp: sending select for 192.168.1.10
dhcp: lease of 192.168.1.10 obtained, lease time 4294967295
deleting routers
[ 9.451566] random: avahi-autoipd: uninitialized urandom read (4 bytes read)
[ 9.483098] random: avahi-autoipd: uninitialized urandom read (4 bytes read)
daemon already running on PID 205
killall: ntpd: no process killed
ntp enable: 0
Starting ONVIF: [ 9.648454] random: onvifd: uninitialized urandom read (4 bytes read)
OK
eth0 IP=192.168.1.10
killall: ussd: no process killed

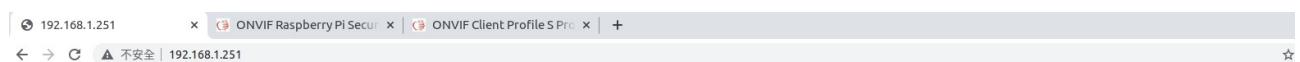
Welcome to ONVIF-RPi
rpi login: [ 12.154313] random: crng init done
[ 12.166916] random: 1 urandom warning(s) missed due to ratelimiting
restart encoder ...
killall: rtspd: no process killed
killall: avenc: no process killed
stream ready at rtsp://127.0.0.1/live
stream ready at rtsp://127.0.0.1/video
stream ready at rtsp://127.0.0.1/audio
mmal: mmal_uc_component_create: failed to create component 'uc.ril.camera' (1:ENOMEM)
mmal: mmal_component_create_core: could not create component 'uc.ril.camera' (1)
done
ONVIF listen on port 8080
send_Hello: hello http://192.168.1.10:8080/onvif/device_service
[ 24.665108] usb 1-1.2: USB disconnect, device number 4
[ 27.524293] usb 1-1.2: new full-speed USB device number 5 using dwc_otg
[ 27.670453] usb 1-1.2: New USB device found, idVendor=046d, idProduct=c534, bcdDevice=29.01
[ 27.682498] usb 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=0
```

# ONVIF-Emulator IP CAM, Install via Virtual Box



ONVIF-Emulator IP CAM, Got IP 192.168.1.212. After ONVIF-Emulator IP CAM is booted, you can see the Webpage.

```
killall: wsdd: no process killed
Welcome to Buildroot
buildroot login: killall: rtspd: no process killed
killall: h264reader: no process killed
init soap
listen on port 8080
send_Hello
[rtspd] read_rtsp_config: /etc/onvif/rtsp.conf
read config from /etc/onvif/rtsp.conf
Video: video1 0 0
live1.sdp: multicast 0
t1=0, addr=0.0.0.0
lay stream 'live1.sdp' using the URL "rtsp://192.168.1.251:8554/live1.sdp"
shm_fd 4
shm addr 0x7f9b6c923000
Metadata:
encoder : Lavf54.20.4
Duration: 00:00:40.00, start: 0.000000, bitrate: 2492 kb/s
Stream #0:0: Video: h264 (High) (H264 / 0x34363248), yuv420p, 1280x720 [SAR
1:1 DAR 16:9], 2489 kb/s, 25 fps, 25 tbr, 25 tbn, 50 tbc
timebase=1/25 (40000us)
[ 16.209484] random: nonblocking pool is initialized
```



## Welcome to ONVIF Device Emulator

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Device Control

Power control

Event Topic=tns1:UserAlarm, Active= true  false

ONVIF Device Test Tool v16.01 Test Report: [Download](#)

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