

Enable ubuntu on i.MX8QXP

Yocto BSP: L4.14.98_2.0.0_GA

Rootfs: ubuntu16.04-core

Board: i.MX8QXP-MEK

There are some issue at present which only use VPU hardware decode by **gplay-1.0**(such like apt-get install **mpv** can not use vpu). Can not enable GPU also (the imx-gpu-viv after version 6 not support X11 backend. Although **Gnome** support wayland backend, I cloud not enable GPU also).

1. Build Yocto **L4.14.98_2.0.0_GA**
2. Compile the kernel separately to replace yocto kernel
3. Download ubuntu rootfs
\$ mkdir ~/rootfs && cd ~/rootfs
\$ wget <http://cdimage.ubuntu.com/ubuntu-base/releases/16.04.6/release/ubuntu-base-16.04.6-base-arm64.tar.gz>
\$ mkdir ubuntu-rootfs
\$ tar -xvf ubuntu-base-16.04.6-base-arm64.tar.gz -C ubuntu-rootfs
\$ cd ubuntu-rootfs
\$ ls
4. Install qemu-user-static on PC to simulate arm64 environment
\$ apt-get install qemu-user-static
\$ cp /usr/bin/qemu-aarch64-static /usr/bin
\$ cp -b /etc/resolv.conf etc/
5. Simulate arm64 environment
\$ cd ../
\$ vi ch-mount.sh
(copy the content to ch-mount.sh)

```
#!/bin/bash
```

```
#
```

```
function mnt() {  
    echo "MOUNTING"  
    sudo mount -t proc /proc ${2}proc  
    sudo mount -t sysfs /sys ${2}sys  
    sudo mount -o bind /dev ${2}dev  
    sudo mount -o bind /dev/pts ${2}dev/pts  
    sudo chroot ${2}  
}  
function umnt() {  
    echo "UNMOUNTING"
```

```

sudo umount ${2}proc
sudo umount ${2}sys
sudo umount ${2}dev/pts
sudo umount ${2}dev
}
if [ "$1" == "-m" ] && [ -n "$2" ];
then
    mnt $1 $2
elif [ "$1" == "-u" ] && [ -n "$2" ];
then
    umnt $1 $2
else
    echo ""
    echo "Either 1'st, 2'nd or both parameters were missing"
    echo ""
    echo "1'st parameter can be one of these: -m(mount) OR -u(umount)"
    echo "2'nd parameter is the full path of rootfs directory(with trailing '/)"
    echo ""
    echo "For example: ch-mount -m /media/sdcard/"
    echo ""
    echo 1st parameter : ${1}
    echo 2nd parameter : ${2}
fi

```

(chroot to arm64 filesystem)

```
$ ./ch-mount.sh -m ubuntu-rootfs
```

6. Install package and configuration

0) Update software list

```
$ apt-get update
```

For the previous errors: “apt-get update” failed with the below message.

```
>Could not execute 'apt-key' to verify signature (is gnupg installed?)
```

Referring to the below post,

<https://askubuntu.com/questions/759071/cant-update-upgrade-du-to-could-not-execute-apt-key-to-verify-signature>

① I changed access permissions as below and it worked.

```
#chmod 777 tmp
```

② Set DNS auto update failed, with error log “/usr/sbin/dpkg-reconfigure: resolvconf is not installed”

This is solved by installing resolvconf.

Or echo nameserver 8.8.8.8 > /etc/resolv.conf

1) Install package you need

```
$ apt-get install \  
  language-pack-en-base \  
  sudo \  
  ssh \  
  net-tools \  
  network-manager \  
  iputils-ping \  
  rsyslog \  
  bash-completion \  
  htop \  
  vim \  
  resolvconf \  

```

2) Add user

```
$ useradd -s '/bin/bash' -m -G adm,sudo yourusername  
$ echo "Set password for yourusername:"  
$ passwd yourusername  
$ echo "Set password for root:"  
$ passwd root
```

3) Set host name

```
$ echo 'ubuntu.yourusername' > /etc/hostname  
账号: imx8qxp  
密码: root
```

4) Set DNS auto update

```
$ dpkg-reconfigure resolvconf
```

5) Configure the serial port, add ttyS0.conf under /etc/init

```
start on stopped rc or RUNLEVEL=[12345]
```

```
stop on RUNLEVEL [!12345]
```

```
respawn
```

```
exec /sbin/getty -L 115200 ttyLP0 vt102
```

7. Exit simulate environment

```
$ exit
```

```
$ ./ch-mount -u ubuntu-rootfs
```

8. replace filesystem

```
$ mkdir mountpoint
```

```
$ umount /dev/sdb2
```

```
$ mkfs.ext4 /dev/sdb2
```

```
$ mount /dev/sdb2 /home/gnar/mountpoint
```

```
$ cp -a /home/gnar/rootfs/ubuntu-rootfs /* /home/gnar/mountpoint/  
$umount /dev/sdb2  
$umount /home/gnar/mountpoint  
$sync
```

9.(option) Access to external networks by NXP internal networks.

```
$ vim /etc/apt/apt.conf
```

```
Acquire::http::Proxy "http://wbi\yourID:yourpassword@apac.nics.nxp.com:8080";  
Acquire::https::Proxy "http://wbi\ yourID:yourpassword@apac.nics.nxp.com:8080";  
Acquire::ftp::Proxy "http://wbi\ yourID:yourpassword@apac.nics.nxp.com:8080";  
Acquire::socks::Proxy "http://wbi\ yourID:yourpassword@apac.nics.nxp.com:8080";
```

10.(option) Install desktop on ubuntu

```
$ apt-get install gnome-core (support x11 and wayland) or $ apt-get install xfce4 (only support  
x11 but is a lightweight desktop environment )
```

(your terminal can not came up)

If you install is Gnome, should set language can use gnome-terminal

```
$ vim /etc/locale.gen
```

Comment **en_US.UTF-8 UTF-8**

```
$ localectl set-locale LANG=en_US.UTF-8
```

```
$ reboot
```

