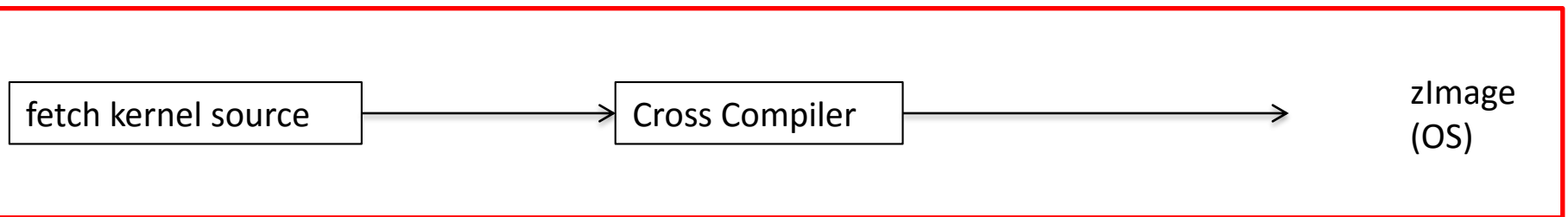
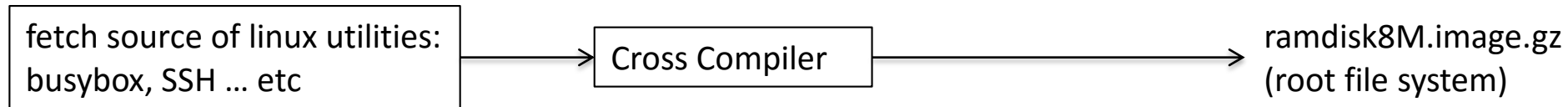
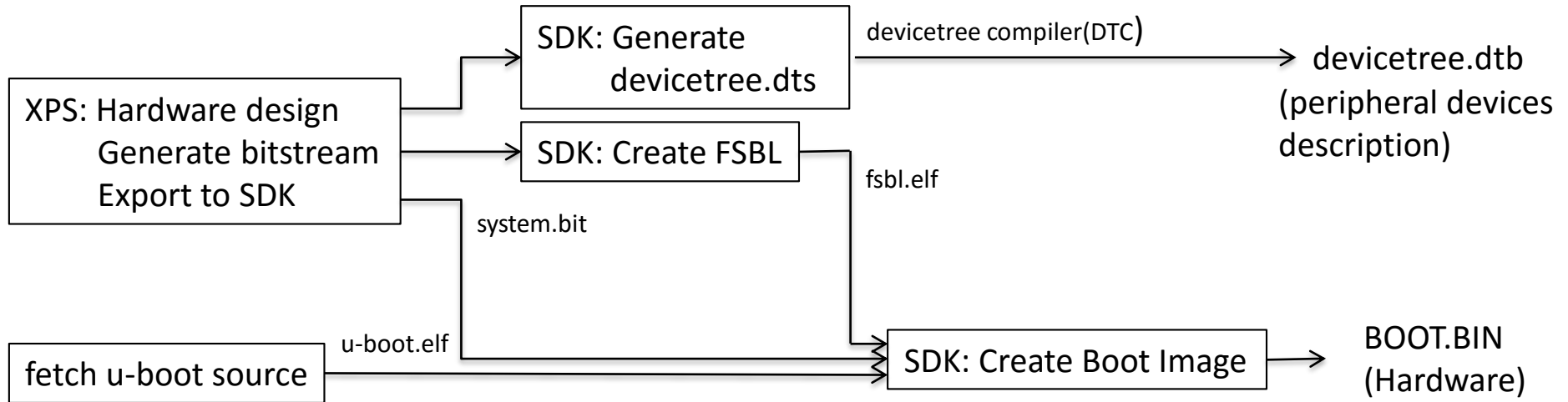


ZedBoard Lab 2

Kernel Image

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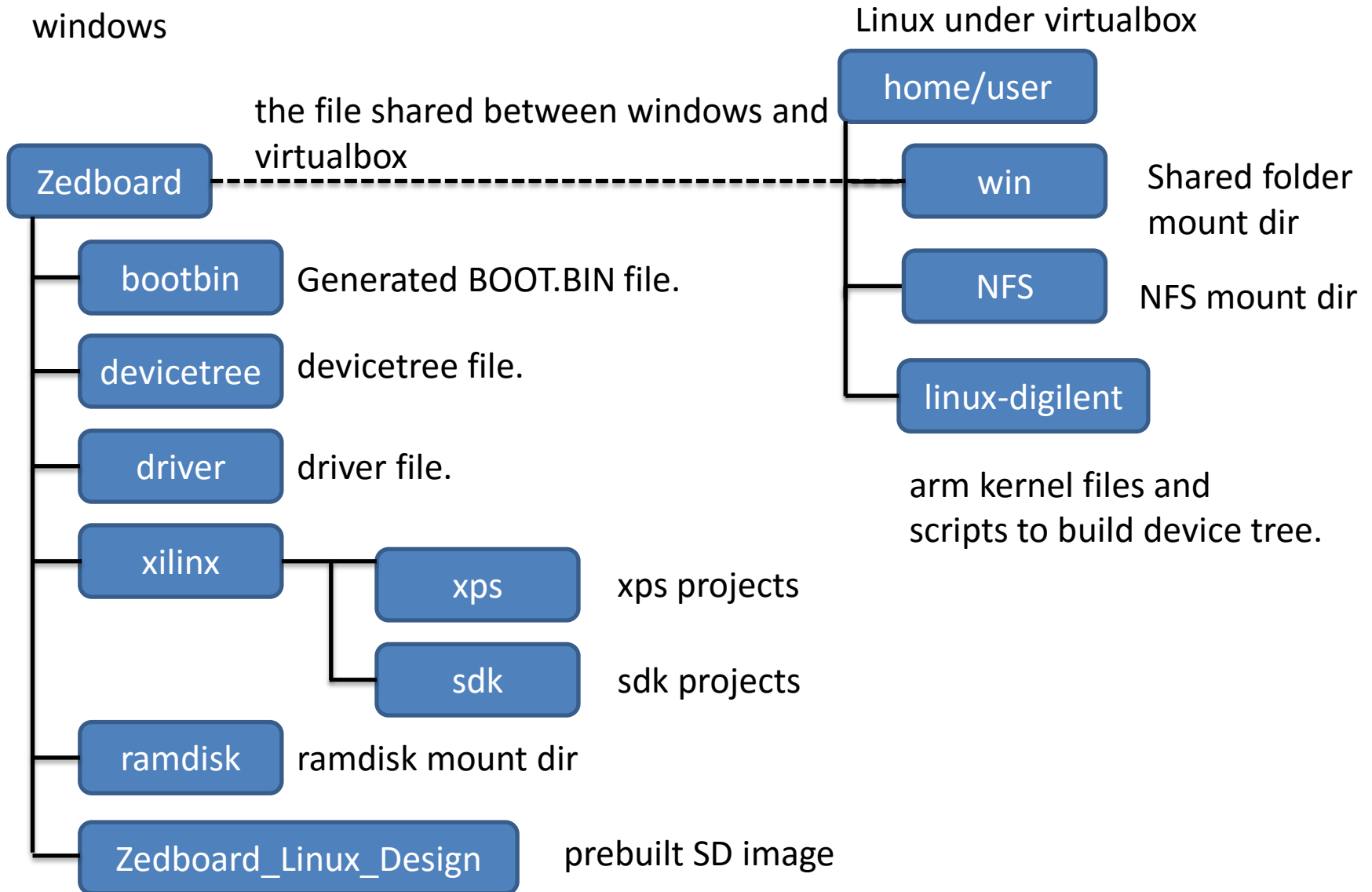


Kernel Image

- There are different kinds of kernel image: ulmage, zImage.
 - In our case, we use zImage.
 - Originally, Network File System (NFS) is not supported in the prebuilt image. You can try it (refer to LAB0)

```
sudo mount -t nfs -o  
nolock,proto=tcp,port=2049,mountport=32767  
<IP>:/home/hadoop/NFS <mount dir>
```
 - To support NFS, we need to recompile our zImage.
- You should set Cross Compiler first. If not, refer to Lab0.

File placement



Install git and fetch kernel source

Referred from the document of digilent: [website](#)

```
sudo apt-get install git
```

```
cd ~/
```

```
git clone https://github.com/Digilent/linux-digilent.git
```

and wait for download

load and modify config

make ARCH=arm diligent_zed_defconfig

(if you haven't install libncurses install it by

sudo apt-get install libncurses5-dev)

make ARCH=arm menuconfig

```
.config - Linux/arm 3.6.0-digilent-13.01 Kernel Configuration

Linux/arm 3.6.0-digilent-13.01 Kernel Configuration
Arrow keys navigate the menu. <Enter> selects submenus --->.
Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes,
<M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </>
for Search. Legend: [*] built-in [ ] excluded <M> module < >

[ ] Patch physical to virtual translations at runtime
(0x0) Physical address of main memory
  General setup --->
  [*] Enable loadable module support --->
  [*] Enable the block layer --->
  System Type --->
  Bus support --->
  Kernel Features --->
  Boot options --->
  CPU Power Management --->

v(+)
```

<Select> < Exit > < Help >

Activate NFS

Under File systems ->

[*] Network File Systems ->

[*] NFS client support for NFS 2

[*] NFS client support for NFS 3

[*] NFS client support for NFS 4

```
.config - Linux/arm 3.6.0-digilent-13.01 Kernel Configuration

Network File Systems
Arrow keys navigate the menu. <Enter> selects submenus --->.
Highlighted letters are hotkeys. Pressing <Y> includes, <N> excludes,
<M> modularizes features. Press <Esc><Esc> to exit, <?> for Help, </>
for Search. Legend: [*] built-in [ ] excluded <M> module < >

--- Network File Systems
<*> NFS client support
<*> NFS client support for NFS version 2
<*> NFS client support for NFS version 3
[ ] NFS client support for the NFSv3 ACL protocol extension
<*> NFS client support for NFS version 4
[ ] Provide swap over NFS support
[ ] NFS client support for NFSv4.1 (EXPERIMENTAL)
[ ] Root file system on NFS
[ ] Use the legacy NFS DNS resolver
v(+)
```

<Select> < Exit > < Help >

Compile kernel

Leave and save

Compile the kernel image by
make ARCH=arm

The zImage will appear under ~/linux-digilent/arch/arm/boot

Try it yourself:

boot up with the new zImage and test the NFS.

```
mount -t nfs -o nolock,proto=tcp,port=2049,mountport=32767  
<IP>:/home/hadoop/NFS <mount dir>
```