

# Random Notes

Out-of-place stuffs...

## Computer Network IP Addresses

In the original IPV4 scheme, there are 5 classes for IP addresses. NA= Network address, HA = host address. NA = 0 implies local network, HA = 0 implies broadcast, HA = 1 usually for gateways (router @ interface address).

1. **CLASS A** Format: 1-bit ID [0] | 7-bit NA | 3-byte HA ; Range: 1.x.x.x - 126.x.x.x (0.x.x.x & 127.x.x.x reserved) ; Net-Mask: 255.0.0.0
2. **CLASS B** Format: 2-bit ID [10] | 14-bit NA | 2-byte HA ; Range: 128.x.x.x - 191.x.x.x ; Net-Mask: 255.255.0.0
3. **CLASS C** Format: 3-bit ID [110] | 21-bit NA | 1-byte HA ; Range: 192.x.x.x - 223.x.x.x ; Net-Mask: 255.255.255.0
4. **CLASS D** Format: 4-bit ID [1110] | 28-bit multicast address
5. **CLASS E** Format: 5-bit ID [11110] | 27-bit reserved
6. **Private Net Addresses (RFC1918)** Range1: 10.0.0.0 - 10.255.255.255 ; Range2: 172.16.0.0 - 172.31.255.255 ; Range3: 192.168.0.0 - 192.168.255.255

**Subnet Mask** is a method used to obtain more network groups from existing classes. HA is masked with a *subnet mask* and used as NA.

In the newer IPv4 implementation, masks are no longer fixed - classes are no longer used to define a network. IPV4 notation takes the form of x.x.x.x/y where x is an 8-bit number and y gives the number of bits used to mask out the network address.

## Video Notes

### NTSC

- used mainly in US, Japan
- 60 Hz, 525 lines at 30 fps (480i)
- resolution  $\Rightarrow$  720 x 480 (DVD-NTSC?)

### PAL

- used mainly in UK, Europe, SE Asia
- 50 Hz, 625 lines at 25 fps (576i)
- resolution  $\Rightarrow$  720 x 576 (DVD-PAL?)

| Standard         | Supported Aspect Ratio |
|------------------|------------------------|
| MPEG             | 1:1 4:3 2.11:1 16:9    |
| TV               | 4:3 16:9               |
| Settings         | Resolution             |
| Fullscreen (Std) | 4:3                    |

| Settings   | Resolution        |
|------------|-------------------|
| Widescreen | 16:9 (LetterBox)  |
| Widescreen | 16:9 (Anamorphic) |

## Issue Running ImageMagick's Convert

I got the following error message

```
convert-im6.q16: attempt to perform an operation not allowed by the security policy `EPS'
```

I got the solution from [here](#). It turns out, there is a security feature that we need to grant. Edit file /etc/ImageMagick-6/policy.xml. Find the following line,

```
<policy domain="coder" rights="none" pattern="EPS" />
```

and change the rights value to read|write.

## Live Video Streaming using ffmpeg

Dumping this here as it is for now...

```
# may run on ramdisk?
```

```
- hls?
```

```
ffmpeg -f v4l2 -i /dev/video0 -strict experimental -pix_fmt yuv420p  
playlist.m3u8
```

```
- generic segmenter?
```

```
ffmpeg -f v4l2 -framerate 25 -video_size 640x480 -i /dev/video0 -f segment -  
segment_time 10 -segment_format_options movflags=+faststart out%03d.mp4
```

```
- option to place keyframe every 2s (every 50 frames at 25fps)
```

```
-c:v libx264 -r 25 -g 50
```

```
*note: segment_time should be multiple of keyframe interval
```

We need to modify /etc/apache2/mods-available/mime.conf

```
AddType application/x-mpegURL .m3u8
```

```
AddType video/MP2T .ts
```

# Analysis of Android (cheap, china made) disk partition layout

Dumped...

```
https://spflashtool.com/download/
SP_Flash_Tool-5.1916_Linux.zip
```

```
=> ./adb shell
```

```
$ cat /proc/mtd
```

```
dev:      size  erasesize  name
```

```
$ cat /proc/dumchar_info
```

| Part_Name            | Size                 | StartAddr            | Type | MapTo        |
|----------------------|----------------------|----------------------|------|--------------|
| preloader            | 0x000000000000880000 | 0x0000000000000000   | 2    | /dev/misc-sd |
| mbr                  | 0x00000000000080000  | 0x0000000000000000   | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| ebr1                 | 0x00000000000080000  | 0x00000000000080000  | 2    |              |
| /dev/block/mmcblk0p1 |                      |                      |      |              |
| pro_info             | 0x00000000000300000  | 0x00000000000100000  | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| nvrnm                | 0x00000000000500000  | 0x00000000000400000  | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| protect_f            | 0x00000000000a00000  | 0x00000000000900000  | 2    |              |
| /dev/block/mmcblk0p2 |                      |                      |      |              |
| protect_s            | 0x00000000000a00000  | 0x000000000001300000 | 2    |              |
| /dev/block/mmcblk0p3 |                      |                      |      |              |
| seccfg               | 0x00000000000020000  | 0x000000000001d00000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| uboot                | 0x00000000000060000  | 0x000000000001d20000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| bootimg              | 0x00000000000600000  | 0x000000000001d80000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| recovery             | 0x00000000000600000  | 0x000000000002380000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| sec_ro               | 0x00000000000040000  | 0x000000000002980000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| misc                 | 0x00000000000080000  | 0x0000000000029c0000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| logo                 | 0x00000000000300000  | 0x000000000002a40000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| expdb                | 0x00000000000a00000  | 0x000000000002d40000 | 2    |              |
| /dev/block/mmcblk0   |                      |                      |      |              |
| android              | 0x00000000035200000  | 0x000000000003740000 | 2    |              |
| /dev/block/mmcblk0p4 |                      |                      |      |              |
| cache                | 0x0000000000e200000  | 0x00000000038940000  | 2    |              |
| /dev/block/mmcblk0p5 |                      |                      |      |              |
| usrdata              | 0x0000000009e360000  | 0x00000000046b40000  | 2    |              |

```
/dev/block/mmcblk0p6
bmtpool      0x00000000001500000  0x00000000ff7700a8    2
/dev/block/mmcblk0
Part_Name:Partition name you should open;
Size:size of partition
StartAddr:Start Address of partition;
Type:Type of partition(MTD=1,EMMC=2)
MapTo:actual device you operate

$ getprop ro.build.ab_update
- returns nothing... so, using A-only partition scheme (instead of newer A-B
scheme)
```

From:

<https://azman.my1matrix.cc/> - **Azman @MY1**

Permanent link:

<https://azman.my1matrix.cc/doku.php?id=notes:random&rev=1770522381>

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