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Linux Partition Naming Convention (IDE Drive Mappings)

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Q. I am new to Linux and I not able to understand /dev/hdc (is it C: drive?) under Linux. This is quite confusing for a new Linux user like me. What device naming convention followed by Linux? Can you explain it in layman's term?

A. Linux does not follows DOS or Windows XP style partition names or drive names. It is true that it is a bit confusing for a new Linux user. Linux use combination of bus and . For example if you are using IDE hard disk or CDROM it is will use HD word. If you are using SCSI interface it will use SD word.

A typical home pc or laptop has 2 or 4 IDE channels as follows:

- ide0 = primary
- ide1 = secondary
- ide2 = tertiary
- ide3 = quaternary

For example:

- ide0 = primary master = hda
- ide1 = primary slave = hdb
- ide2 = secondary master = hdc
- ide3 = secondary slave = hdd

and so on...

SCSI devices are listed as devices sda, sdb, sdc, sdd, sde, sdf, and sdg in the /dev directory. Similarly, partitions on these disks can range from 1 to 16 and are also in the /dev directory.

Now each hard drive has 4 primary partitions (limit of PC x86 architecture). First partition is denoted by number 1. For example:

- First partition : /dev/hda1
- Second partition : /dev/hda2
- Third partition : /dev/hda3
- Fourth partition : /dev/hda4

You can run command **fdisk -l** to display list of partitions:



WARNING! These examples may result into data loss. Use fdisk command with **caution** as it manipulate your partition table.

```
# fdisk -l
```

Output:

```
Disk /dev/hda: 20.0 GB, 20060651520 bytes
255 heads, 63 sectors/track, 2438 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

Device Boot      Start          End      Blocks   Id  System
/dev/hda1    *           1         1275     10241406   83  W95 FAT32
/dev/hda2             1276         1530     2048287+   82  Linux swap / Solaris

Disk /dev/hdb: 80.0 GB, 80060424192 bytes
255 heads, 63 sectors/track, 9733 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
```

| Device | Boot | Start | End | Blocks | Id | System |
|-----------|------|-------|------|-----------|----|----------------------|
| /dev/hdb1 | * | 1 | 2432 | 19535008+ | 83 | Linux |
| /dev/hdb2 | | 2433 | 2554 | 979965 | 82 | Linux swap / Solaris |
| /dev/hdb3 | | 2555 | 6202 | 29302560 | 83 | Linux |
| /dev/hdb4 | | 6203 | 9733 | 28362757+ | 5 | Extended |
| /dev/hdb5 | | 6203 | 9733 | 28362726 | 83 | Linux |

In above output /dev/hda1 is FAT32 partition with Windows XP installed (windows XP/Vista C:).

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