[320] Storage

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Terms: memory, storage, disk, partition, file system, virtual disk

Memory

https://en.wikipedia.org/wiki/Random-access_memory

Storage

https://en.wikipedia.org/wiki/Hard_disk_drive

https://en.wikipedia.org/wiki/Solid-state_drive

```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
```

```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
```

00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011

C drive

D drive

00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000

sda [disk]

sda1 [partition]

```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
```

sda2

```
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
```

sdb

```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
```

sda [disk]

sda1 [partition]

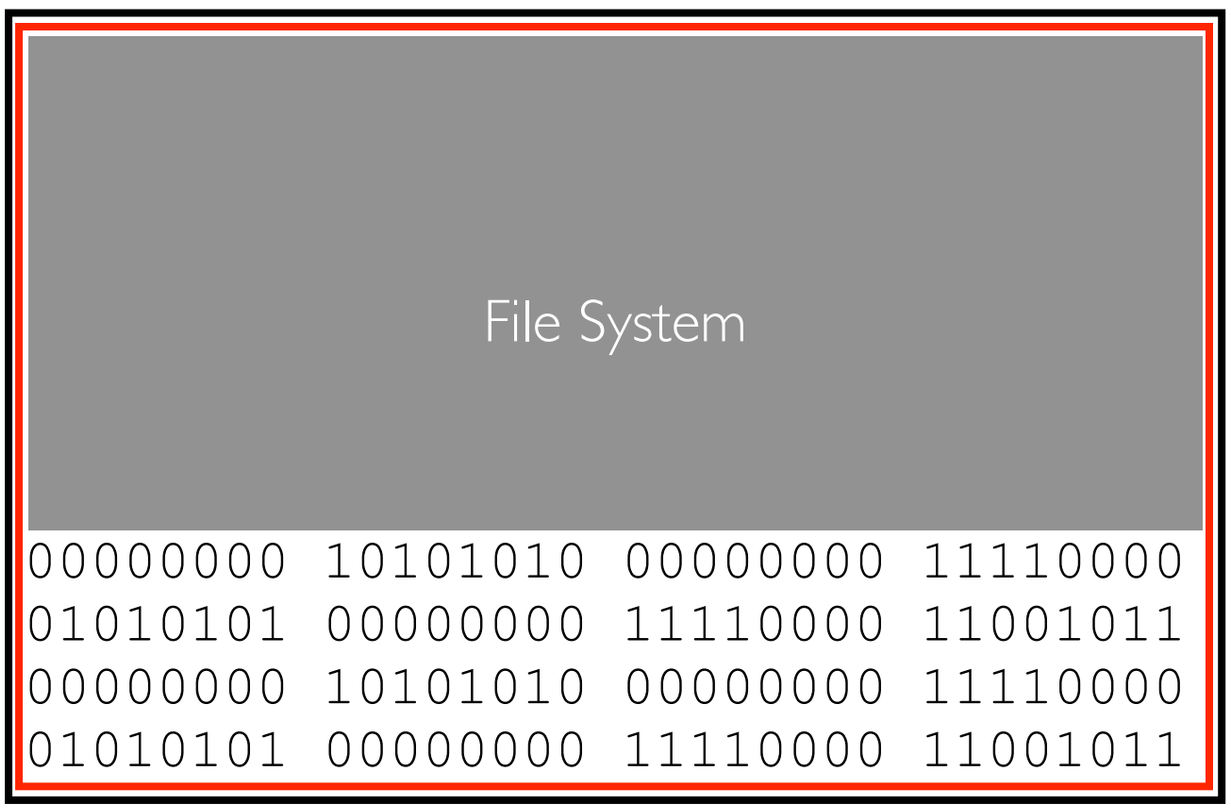
```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
```

sdb

```
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
01010101 00000000 11110000 11001011
00000000 10101010 00000000 11110000
```

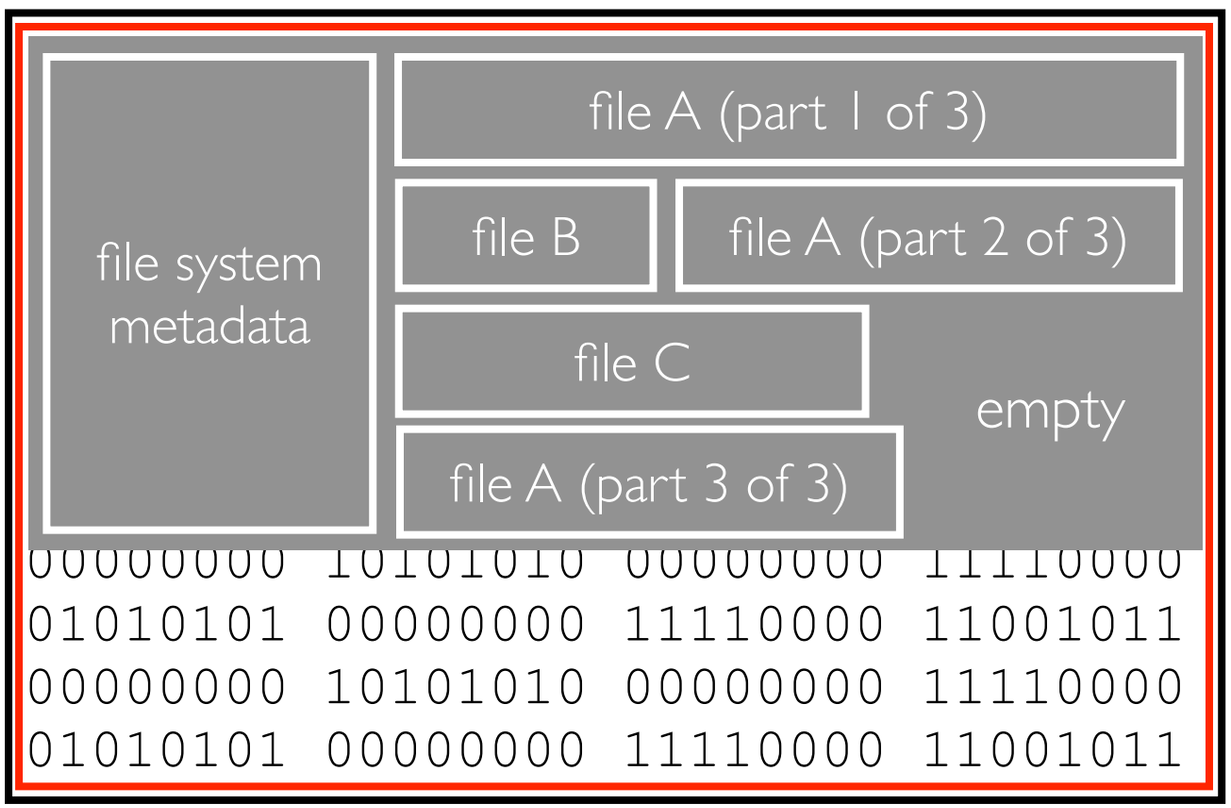
sda [disk]

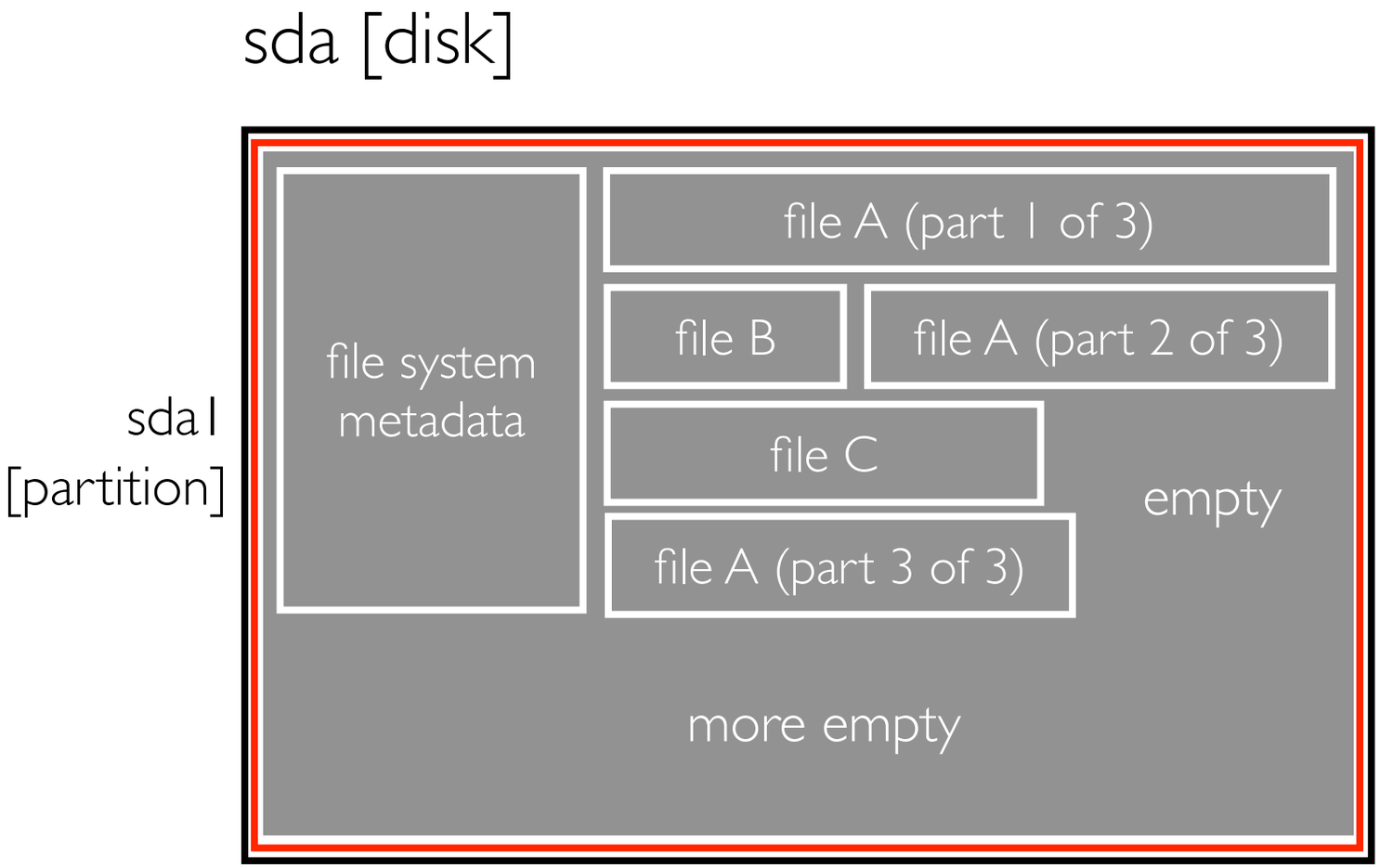
sda1
[partition]

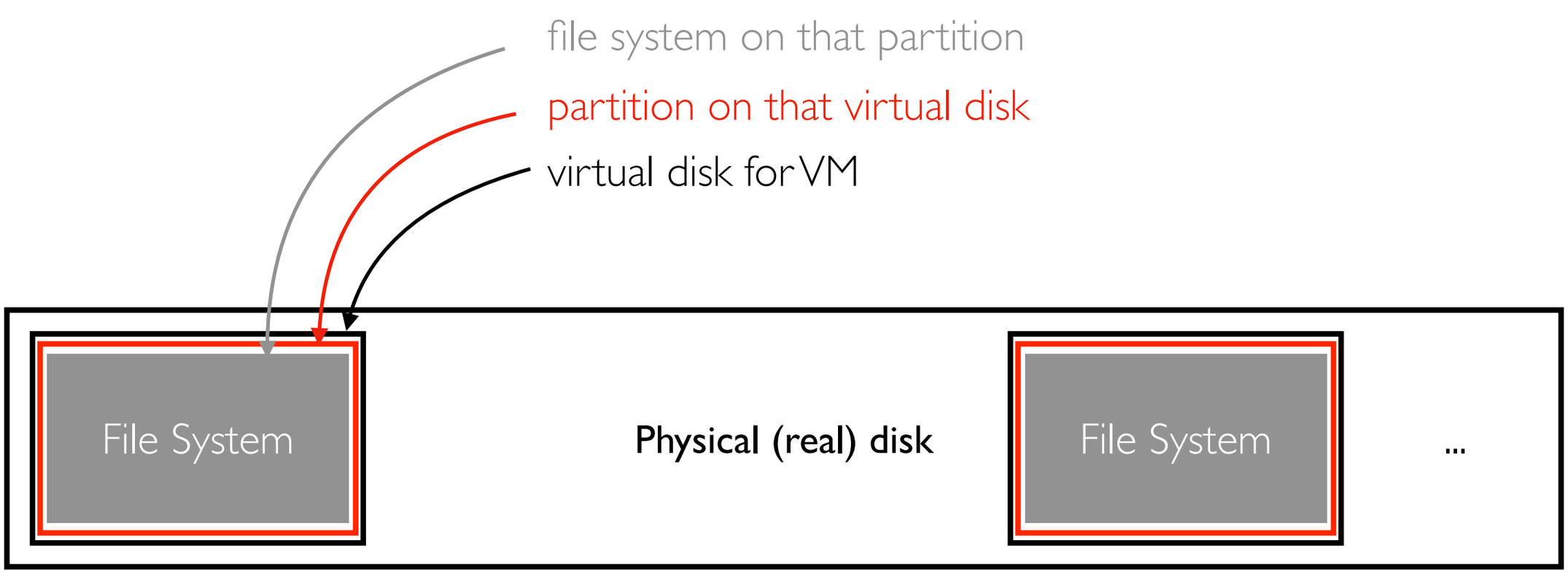


sda [disk]

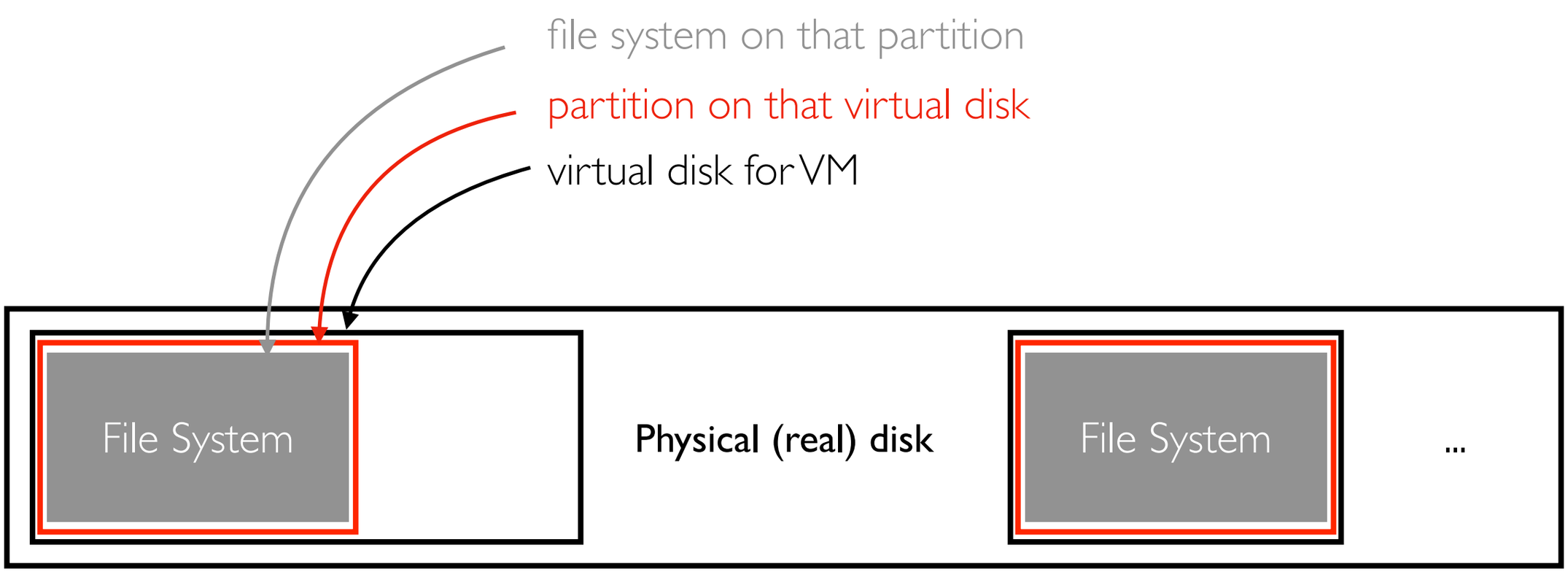
sda1 [partition]



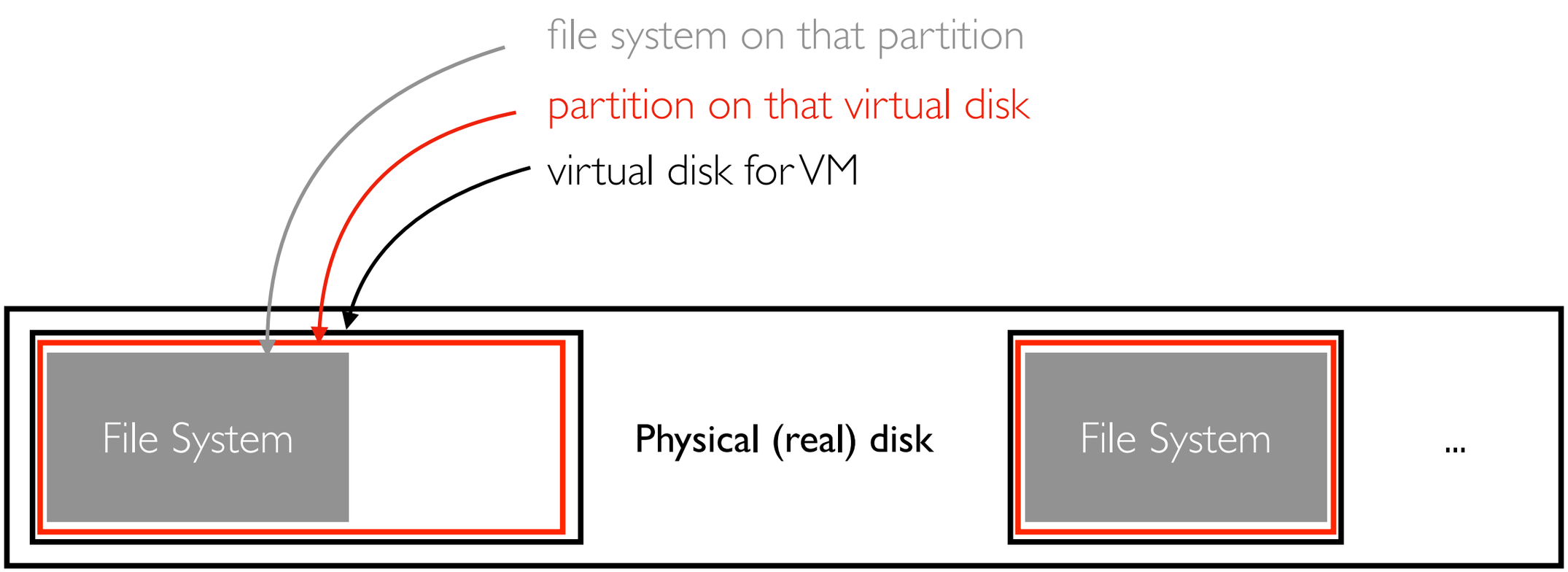

sda [disk]
sda1 [partition]
file system metadata
file A (part 1 of 3)
file B
file A (part 2 of 3)
file C
empty
file A (part 3 of 3)
more empty



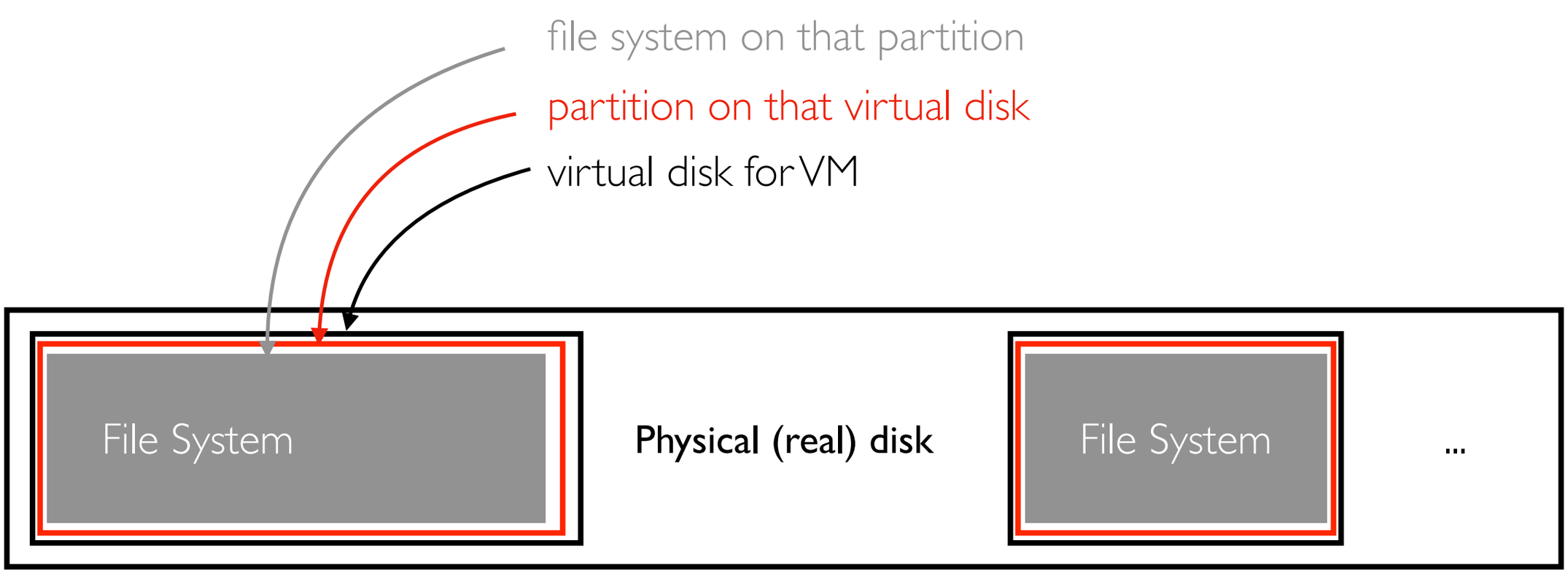
Unlike real disks, virtual disks (for VMs) can be resized, if you pay for it!



step 1: grow disk in cloud console (and pay for it!)



step 2: grow partition with `growpart`



step 3: grow file system with resize2fs