

Re: Setup problems – fdisk, overlapping sectors?

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On Sun, 02 Oct 2005 02:10:51 +0200, <matthewt@gmail.com> wrote:

> *It's a small appliance type machine running a Via processor. I have
> built several of these w/ 20gig drives – no problems...*

Since you fail to quote the earlier messages I have to gather the information from three messages.

Ummm...

You have built several machines of the same type,
o Appliance type
o running a Via processor
o with 20 Gb drives, except two have 40 Gb drives instead

The 40 Gb drives are Samsung 2.5".

The two with 40 Gb behave differently.

You cannot boot those two from CD without setting `ide=nodma` on the kernel boot command line, do I get it right? (What are the symptoms when you don't supply `ide=nodma`? Can we infer that the disk interface is traditional IDE?)

You use `fdisk =>` meaning you have booted some kernel and are running `fdisk` under that kernel. With `ide=nodma`.

You set up one or more partitions, then hit "w" and return.

`Fdisk` queries the kernel about the number of bytes per sector and the total capacity in bytes of the disk, and uses `lseek()` and `read()` to read the second and the last sector of the disk.

In my test case, the disk had no extended partition.

`Fdisk` uses `lseek()` and `write()` to write a 512-byte block to the start of the disk, calls `sync()`, waits for two seconds, calls an `ioctl()` to make the kernel reread the partition table,

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and repeats sync()–sleep()–ioctl(), sleeps for another four seconds, and exits.

If you changed any logical partitions fdisk probably called llseek to reach the proper sector, read the sector, modified the memory copy of the sector, called llseek() again to access the same sector again, then wrote the modified sector back. Repeat for each partition modified. Or perhaps for all logical partitions.

Now you restart fdisk, but the partition data do not correspond to the data written.

The exact nature of the differences between written and subsequently read is perhaps not so important as noting that the content of one or more sectors have changed.

Just for the record, the number of partitions is the same... as before? as written? I guess the disks had empty partition tables when you started, so you mean the same as written. Some partition(s) have changed type to ntfs (where ext3?)
Partition start (first sec