

Re: Help, help, help, more help, extra help, HELP! how to turn off IDE DMA...

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 - *Date:* Fri, 7 Sep 2007 09:34:08 -0700
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If it doesn't boot, does that mean that the bootloader is never jumping to Windows CE at all, or Windows CE doesn't start, failing somewhere after it's called by the bootloader?

If it's failing in the bootloader, I'd guess that the size of the card is much larger than what you used to work with or find on the open market and the bootloader was written depending on those assumptions. It might assume, for example, that the FAT is smaller than 64K, which is unlikely with a large modern card, unless it was formatted with very large clusters.

Paul T.

"Toby Douglass" <toby.douglass@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:MPG.214b0a0148a0188b989755@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

Hi, everyone.

I've been working on a Windows CE problem here at work for the last two weeks and I'm reaching the point where I may be taken away for induced insanity.

Your assistance in avoiding this fate is much appreciated!

We have a legacy very small form factor (3.5" hard disk size in fact) PCB which is an x86 PC. It boots from a CF card which is plugged into a socket on the end of an IDE channel. It uses a Geode, so it's got the CS5530 companion chip, which has the DMA issues (16 byte transfers, locks up on non-aligned/different size requests, etc). The unit has pretty much everything else – serial, USB, 64mb RAM, floppy drive, PS/2 keyboard, etc.

We've been using it with Windows CE 2.0 since it was originally developed, many years ago.

What we've found is that with modern flash cards, CE doesn't boot. We had two old flash cards, which still work.

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They gave this problem to me – "Toby, we think you have the right combination of intelligence and pedantry to solve this".

Gee, thanks.

So, after a week or so of intelligent and pedantic investigation, I pretty much came to the conclusion that CE was trying to use DMA and the controller was locking up; for the difference between the old cards and the new cards is that the new cards support DMA and the old cards do not.

(Also, I can boot a mini–knoppix off of a CF and it works fine – because it runs in PIO mode. I suspect it is detecting the CS5530 and knows not to use DMA. Unfortunately, porting to Linux isn't an option ==)

So, from all the stuff I've read in Usenet and the Web, I conclude what I want to do is turn IDE DMA off in the registry.

(Worryingly, the BIOS IDE settings for turning DMA off don't have an effect; this is the one piece of evidence which contracts my conclusion. I'll be speaking to the board manufacturer this morning – they're in Taiwan, fortunately, we have a Taiwanese native for our engineering manager!)

I've read a number of posts which have registry snippets from CE (I'm using 6.0) and they show people fiddling with the DMA and Settings fields.

The problem I have is that I'm just not seeing those registry paths in my platform.reg. I've added the ATAPI driver (and its entire subtree) and...there's simply nothing there, under "builtin", for IDE. Nothing. Zip. Nada. Zilch.

I can see in platform.reg that genericide.reg (or whichever IDE registry file is appropriate) is being included. I can modify those files – but then I used FileMon to log all file accesses during a build and NONE of those files were touched. So modifying them does nothing.

I noticed people in posts talking about a GeodeIDE registry entry and a Geode CEPC with CE 5.0 (five point zero), so in the end I uninstalled 6.0 and put 5.0 in and sure enough, there's a Geode CEPC. Using that hasn't worked either – but then that environment ALSO doesn't show the registry paths I see people talking about in posts.

So, I'm just CONFUSED.

How is CE (lets talk about six point zero here) know what registry settings to use for IDE? is it that my build isn't including IDE and is freezing up because of that? but if so, why is it not including IDE when I've selected the ATAPI driver? furthermore, given there seems to be a Geode specific IDE driver configuration (geodeide.reg, which seems

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to be configured correctly), surely that should actually *work* with the CS5530 chip? and if so, why isn't Windows detecting that at boot time and working?

Please, please, please help!