

microsoft.public.windowsxp.hardware: Re: Hot Swapping a SATA drive in Windows 2000 and XP.

## Re: Hot Swapping a SATA drive in Windows 2000 and XP.

**Source:**

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.hardware/2004-09/0798.html>

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**From:** Chris S (*myname\_at\_see.signature.com*)

**Date:** 09/03/04

Date: Fri, 03 Sep 2004 16:41:59 -0700

Well, it seems that 'add-in cards' are treated differently. In this thread (<http://www.techsupportforum.com/showthread.php?t=12439>) someone says '...Remember that Windows calls every add-on controller a "SCSI" controller... it's an archaic leftover which will probably be corrected someday.'

My Maxtor SATA/150 card installation manual says, in the section on Confirm Driver Installation, "...Click Device Manager ... ; Click the '+' in front of SCSI Controllers. 'WinXP Maxtor SATA/150 PCI Card' should appear" – so clearly, they expect their driver to show up as a SCSI device.

Given that the devices are treated as SCSI, it's somewhat logical that their attached devices will be treated as SCSI too. So I don't think I'm going to get far with my PCI Card SATA controllers (in terms of removable storage), do you?!!

So I will see what I can do with my built-in promise controller; I abandoned it because it didn't pass SMART info (which I need for various reasons), but maybe with all the latest chipset drivers and such, it will be usable and may show up as a non-SCSI device, and thus allow me to better configure the 'removability' aspect.

But this still kinda blows my original strategy of having SATA cards in all my computers, and using SATA drives the same way I currently use USB2 drives – which really sucks!

On Fri, 03 Sep 2004 12:04:03 -0700, Nathan McNulty <nospam@msn.com> wrote:

>First, my SATA controller is onboard since I have an ASUS P4P800  
>Motherboard. I don't see anything listed as SATA or SCSI, but I do see  
>Intel(R) 82801EB Ultra ATA Storage Controllers and my drive is showing  
>under the second Primary IDE Channel. When I open the properties of the  
>drive for my internal, I am offered to uncheck Write Behind Caching, but

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>that is it. For my external, it offers whatever I want.

>

>Try installing these chipset drivers and see if they help:

><http://www.guru3d.com/newsitem.php?id=1671>

>

>You may have an old version of the drivers that don't fully support SATA

>Storage. Also, you can try Intel Application Accelerator to make

>changes to your drive instead of Windows. You can get that here:

>[ftp://aiedownload.intel.com/df-support/4857/eng/iaa23\\_enu.exe](ftp://aiedownload.intel.com/df-support/4857/eng/iaa23_enu.exe)

>

>-----

>Nathan McNulty

>

>Chris S wrote:

>> OK, good – so SCSI is the clue here. The funny thing is ... I have

>> two computers at home and one at work that I'm setting up in this

>> manner, different mobo brands, different OSs, different SATA cards,

>> etc and they are all showing up with SCSI controllers.

>>

>> So please tell me, Nathan: in device manager, on your system, where

>> DOES the SATA controller show up – what label, etc? Knowing that

>> would help!

>>

>> At home, I have an Asus P4PE and an Asus P4B533, both with Win 2K.

>> Had 'latest' chipset drivers as of a year ago, but I'll check again.

>> One has a built-in Promise Fastrack SATA controller which I quit using

>> because it didn't pass SMART info.

>>

>> At work, I have a Dell Dimension, very new (3.4 GHz), no idea about

>> chipset drivers but I'll see what I can download from dell. This is

>> Win XP Pro.

>>

>> The home machines have the Adaptec/Silicon Image SATA card, and the

>> work machine has the Maxtor/Promise SATA card.

>>

>> In device manager, the SATA cards show up under the heading of 'SCSI

>> and RAID controllers' – on all three machines, two different OS's,

>> two SATA card brands!

>>

>> So knowing what I 'should' see in device manager will give me

>> something to aim for!

>>

>> Thanks!

>>

>> On Fri, 03 Sep 2004 01:17:35 -0700, Nathan McNulty <nospam@msn.com>

>> wrote:

>>

>>

>>> Things showing up as SCSI is just odd. I have nothing like this on my

>>> system. I would go into Device Manager (Start-Run-devmgmt.msc) and

>>> remove these devices. Install the latest chipset drivers and reboot.

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>>>If after installing the latest chipset drivers and a clean configuration  
>>>of the drives it doesn't work, I would try a fresh install of XP as a  
>>>last resort if possible.

>>>

>>>-----

>>>Nathan McNulty

>>>

>>>

>>>Chris S wrote:

>>>

>>>>Well, I'm stumped. I just took an old 10 gig maxtor drive (ata) and  
>>>>put it in my SATA enclosure (which does pata/sata conversion). The  
>>>>drive shows up no problem. I formatted it as FAT32, but still, the  
>>>>two 'optimize' options on the 'policies' button are grayed out.

>>>>

>>>>This is somewhat consistent with my other tests, which have included  
>>>>'native' SATA drives (though I can't afford to re-format the 'real'  
>>>>sata drive at the moment).

>>>>

>>>>I even took my USB memory stick, and was able to format it as NTFS,  
>>>>and it still had the two 'optimize' options available on the  
>>>>'policies' tab, so NTFS/FAT don't appear to be the deciding factor  
>>>>here.

>>>>

>>>>The essence of the problem seems to be that my two SATA cards (one  
>>>>Adaptec/Silicon Image card, one Maxtor/Promise card) present  
>>>>themselves as SCSI adapters, and thus, disks connected to them are  
>>>>treated as SCSI disks.

>>>>

>>>>Do your SATA adapters and associated drives show up as SCSI devices?

>>>>

>>>>The only other variables I can think of are the specific settings in  
>>>>the 'disk management' applet; I could make it 'basic' or 'dynamic'  
>>>>(I've chosen both at various times, seems to make no difference),  
>>>>primary or extended (think I've tried both);

>>>>

>>>>I just spent \$150 on a bunch of 6 foot external SATA cables, and  
>>>>internal sata connector posts (to provide 'female' sata connectors on  
>>>>back of computer) so I'd like to proceed with this, but at this point  
>>>>I'm running out of ideas!

>>>>

>>>>Thanks!

>>>>

>>>>On Thu, 02 Sep 2004 00:06:05 -0700, Nathan McNulty <nospam@msn.com>  
>>>>wrote:

>>>>

>>>>

>>>>

>>>>>I will try to help as best as I can. I believe you need to have the  
>>>>>drive formatted as FAT32 to use Optimize for Quick Removal. This is  
>>>>>simply what I choose to use for my SATA drive. I would update the

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>>>>> chipset drivers, format the drive again, and then set the options right  
>>>>> there. XP will not format FAT32 larger than 32GB unless you use  
>>>>> something different to format it. I simply connected the drive  
>>>>> internally and used a Windows 98 Bootdisk. Your method may vary ;) )  
>>>>>  
>>>>>-----  
>>>>> Nathan McNulty  
>>>>>  
>>>>>  
>>>>> Chris S wrote:  
>>>>>  
>>>>>  
>>>>>> And still more info ... I just plugged my SATA drive into my XP Pro  
>>>>>> office computer (my home computer mentioned below is Windows 2000),  
>>>>>> which has a Maxtor SATA/150 PCI Card (which is a promise device under  
>>>>>> the covers). Going to the properties of the drive in this  
>>>>>> configuration, I do see a 'policies' tab, but when I select it, the  
>>>>>> two 'optimize...' options are grayed out, and the 'Optimize for  
>>>>>> performance' is the option selected. So I can't change it to 'optimze  
>>>>>> for quick removal' ....  
>>>>>>  
>>>>>> Stranger and stranger ... ;) )  
>>>>>>  
>>>>>>  
>>>>>>> On Wed, 01 Sep 2004 21:44:24 GMT, Chris S <cschofie@nospam.home.com>  
>>>>>>> wrote:  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>> Well, the plot thickens, as they say ... on my home system, when I  
>>>>>>>> plug in my SATA drive, and go to it's properties (the same place where  
>>>>>>>> I saw 'policies' on the USB drive below), I only see 'Disk Properties'  
>>>>>>>> and 'SCSI Properties'. On the 'Disk Properties' tab, there is one  
>>>>>>>> option – Write Cache enabled; it's grayed out and unchecked. On the  
>>>>>>>> 'SCSI Properties', there are two options: 'Disable tagged queueing'  
>>>>>>>> and 'Disable synchronous transfers'. Both are available (i.e., not  
>>>>>>>> grayed out), and bot are not checked.  
>>>>>>>>  
>>>>>>>>> So the bottom line is, I don't have the 'policies' tab in the first  
>>>>>>>>> place, which is where you are going to set the various optimization  
>>>>>>>>> choices. How come my SATA drives are being treated as 'SCSI', while  
>>>>>>>>> yours are not? Is that the root cause here?  
>>>>>>>>>  
>>>>>>>>>> My controller is an Adaptec 'SATA Connect' card, which shows up, under  
>>>>>>>>>> device manager, as a SCSI device 'Adaptec Serial ATA 1205SA Host  
>>>>>>>>>> Controller', and it's control panel applet says it's a Sil 3112 Rev 2  
>>>>>>>>>> device.  
>>>>>>>>>>  
>>>>>>>>>>> Thanks!  
>>>>>>>>>>>

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>>>>>>>On Wed, 01 Sep 2004 09:31:29 -0700, Chris S <myname@see.signature.com>  
>>>>>>>wrote:  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>Thanks Nathan. Is the setting of FAT32 a pre-condition to getting the  
>>>>>>>'Optimize for Quick Removal', or am I formatting as FAT32 for another  
>>>>>>>reason? I don't believe I have any compelling reason to go with NTFS  
>>>>>>>with these particular drives so if that's the trick, I'll certainly go  
>>>>>>>with it.  
>>>>>>>  
>>>>>>>I just popped in a USB memory stick, and went to the 'policies' tab,  
>>>>>>>and the two choices/explanations are as follows:  
>>>>>>>1) "Optimize for Quick Removal - This setting disables write caching  
>>>>>>>on the disk and in Windows, so you can disconnect this device without  
>>>>>>>using the Safe Removal icon"  
>>>>>>>2) "Optimize for performance - This setting enables write caching in  
>>>>>>>Windows to improve disk performance. To disconnect this device from  
>>>>>>>the computer, click the 'Safely Remove Hardware' icon in the taskbar  
>>>>>>>notification area".  
>>>>>>>  
>>>>>>>So ... this suggests it's perfectly OK to go with either option, it's  
>>>>>>>just that, if you choose 'performance', you need to 'safely remove'  
>>>>>>>the device first. Is the very appearance of that 'safely remove  
>>>>>>>hardware' icon in the taskbar restricted to FAT32 devices?  
>>>>>>>  
>>>>>>>I'll go home and play with this for a while and report back ...  
>>>>>>>thanks!  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>On Wed, 01 Sep 2004 00:01:30 -0700, Nathan McNulty <nospam@msn.com>  
>>>>>>>wrote:  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>  
>>>>>>>You have a couple of options. First would be to format the drive as  
>>>>>>>FAT32, which you may or may not want to do. Second, you will need to  
>>>>>>>change the way the device is set up. Connect the device, open Device  
>>>>>>>Manager, double click on the hard drive in question, click the Policies  
>>>>>>>Tab, then set it to Optimize for Quick Removal. I use FAT32 on my  
>>>>>>>removeable SATA drives and set them to Optimize for Quick Removal, but  
>>>>>>>you may be able to do it differently.  
>>>>>>>  
>>>>>>>-----  
>>>>>>>Nathan McNulty  
>>>>>>>

Re: Hot Swapping a SATA drive in Windows 2000 and XP.

>>>>>>>>

>>>>>>>>Chris S wrote:

>>>>>>>>

>>>>>>>>

>>>>>>>>

>>>>>>>>>SATA drives are theoretically hot swappable; the power and data  
>>>>>>>>>connectors are designed for 'hot' removal, with ground wires  
>>>>>>>>>connecting first, and the interface is designed to deal with the  
>>>>>>>>>various surge issues – this is well known.

>>>>>>>>>

>>>>>>>>>I've used several USB 2.0 external drives, and before you remove them,  
>>>>>>>>>you are supposed to 'stop' them; presumably to flush any delayed  
>>>>>>>>>writes that may be in progress, etc.

>>>>>>>>>

>>>>>>>>>But when I plug in a SATA drive, it does not show up as a device to be  
>>>>>>>>>'safely removed' in the 'Safely Remove Hardware' applet that shows up  
>>>>>>>>>if I plug in a USB device.

>>>>>>>>>

>>>>>>>>>I've done some tests; when I plug in a SATA drive (a data drive,  
>>>>>>>>>obviously, not a boot drive), a new hard drive shows up, no problem.  
>>>>>>>>>I can read and write to this drive, no problem. And if I unplug it,  
>>>>>>>>>or power it down, the drive letter simply disappears – no error  
>>>>>>>>>messages or warnings whatsoever. All sounds good.

>>>>>>>>>

>>>>>>>>>HOWEVER, I could not find a file that I had written to the drive.  
>>>>>>>>>This has all the markings of a write-cached file not being written to  
>>>>>>>>>the device. So it occurred to me that, somehow, I should be able to  
>>>>>>>>>'stop', or 'dismount', or otherwise 'software disconnect' this drive  
>>>>>>>>>before I actually remove it. But the only relevant option I can find  
>>>>>>>>>for the device is to disable write caching – is that what I should be  
>>>>>>>>>doing? I'd rather not do that as it will generally slow down  
>>>>>>>>>performance, but if it is the only way to guarantee data integrity,  
>>>>>>>>>that's what I'll do.

>>>>>>>>>

>>>>>>>>>I've seen posts from others that indicate this is a regular practice,  
>>>>>>>>>so I just wondered, how do I guarantee my files have been 'flushed'  
>>>>>>>>>before removing the drive?

>>>>>>>>>

>>>>>>>>>Thanks!

>>>>>>>>>For email, send to chris at panties domain dot com, Remove panties and replace domain with  
attbi.

>>>>>>>>>

>>>>>>>>>For email, send to chris at panties domain dot com, Remove panties and replace domain with  
attbi.

>>>>>>>>>

>>>>>>>>>=====

>>>>>>>>>Remove 'nospam' from email to reply – Thanks

>>>>>>>>>

>>>>>>>>>

>>>>>>>>>For email, send to chris at panties domain dot com, Remove panties and replace domain with attbi.

>>>>>>>>>

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>>>>

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>>

>>

>> =====

>> *Remove 'nospam' from email to reply – Thanks*

For email, send to chris at panties domain dot com, Remove panties and replace domain with attbi.