updating "wd" driver on OSR502 and newer, Re: Hard Disk Performance

Source: http://unix.derkeiler.com/Newsgroups/comp.unix.sco.misc/2004−05/0323.html

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From: Bela Lubkin (*belal_at_sco.com*)
Date: 05/20/04

```
Date: Thu, 20 May 2004 18:59:45 GMT
To: scomsc@xenitec.ca
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IanC wrote:

> *"Bela Lubkin" <belal@sco.com> wrote in message*
> *news:20040520112406.GV10272@sco.com...*
> > *cut*
> > *We inch closer...*
> >
> > *You need to trick the test it's using; which is easy:*
> >
> > *ISL_DEV=1 btldinstall /mnt*
> >
> > *This defeats a specific test in file /wd506/install/preinstall on the*
> > *"wd BTLD"; it isn't any sort of general magic.*
> >
> *from an earlier posting*
> *>Again, I think this will work but I haven't tested it. If you test it,*
> *>please let me know (1) if you got it to link in, (2) if it booted, (3)*
> *>if you saw any performance change.*
>
> .
> *Thanks Bela*
>
> *I have now loaded the new driver.*
>
> *I links OK*
>
> *It boots OK*
>
> *The backup job used to take 22 minutes.*
>
> *It now takes 99 seconds − wow*

Excellent!

> *This is on a fairly modern PC with a UDMA 7 drive. I expect that the*

> performance improvement will not be as great on earlier machines.

You're probably right. OSR5 is fairly conservative about which chipsets it will attempt UDMA on. The older machines will also contain slower drives and slower controllers (in some random combination that will often mismatch fast drive / slow controller or vice versa...) But it will probably make a striking difference on a good proportion of them.

> How 'safe' do you think it will be to use this on older machines ?

You should run your first test machine this way for a few weeks first, in case there's something you haven't noticed. You should also be sure to have good backups of each machine you modify −− this is uncharted territory and you shouldn't act like it's totally safe, even if it turns out to be.

The driver is _intended_ to work correctly on all hardware it's ever worked on. If something goes wrong it won't be because code to support old quirky hardware has been intentionally removed or repurposed. But mistakes are always possible.

> I will need to automate the installation in order to get it to 250 sites
> without driving around with a floppy disk − any ideas?

Yes: `btldinstall` doesn't actually care whether the stuff it's installing is on an actual filesystem. If you mount the "wd BTLD" image, you can save off the key parts:

```
mount ... /mnt
cd /mnt
tar cf − wd wd506 install | compress −H > /tmp/wd.btld.Z
```

This makes a ~185K tarball for me. Of course you'll want to actually modify ./wd506/driver/wd/Space.c with the added swab() function.

Now, to install this on a random machine:

```
mkdir /tmp/wd.btld
cd /tmp/wd.btld
zcat /tmp/wd.btld.Z | tar xf −
ISL_DEV=1 btldinstall /tmp/wd.btld
```

Choose "wd506" unless you're on an OSR507 machine, then "wd".

You can actually add that `divvy` binary to the mix if you want. BTLDs are a simple enough format. Extract the parts you need, then add the divvy binary as ./wd/new/etc/divvy, link it to ./wd506/new/etc/divvy, and remake the archive. Installing the modified BTLD will drop in the new /etc/divvy (overwriting the original one, so don't do this until you're sure).

If you want to further automate things like relinking and even rebooting, you can add your steps to the script ./wd/install/postinstall (and its link, ./wd506/install/postinstall).

You could optionally also modify ./wd506/install/preinstall to remove the test for ${ISL_DEV}. Beware that these two scripts are _not_ linked together and have different contents −− you need to preserve that. In any case, it's best not to change ./wd/install/preinstall this way, since exactly the same payload is installable from the "Wd Driver Supplement" on OSR507, with the added benefit of removability.

So, to summarize:

[installing ftp://ftp.sco.com/pub/openserver5/drivers/OSR507/btld/wd/
"wd BTLD" on OSR502/OSR504/OSR505 −− OSR506/OSR507 already work.]

− mount the SCO−supplied "wd BTLD" image somewhere
− copy the contents of its subdirectories wd, wd506, install to a work directory
− in the work directory:
: modify wd*/driver/wd/Space.c with the added swab() function (http://groups.google.com/groups?selm=20040519115426.GO10272@sco.com)
: modify wd*/install/postinstall as desired
: optionally modify wd506/install/preinstall to not check ${ISL_DEV}
: optionally add wd*/new/etc/divvy (hard−linked to each other) (ftp://ftp.sco.com/pub/openserver5/drivers/OSR507/btld/wdsupp/VOL.000.004)
− make a compressed tarball of the results
− distribute to a machine
− extract into /somewhere
− `ISL_DEV=1 btldinstall /somewhere` (or `btldinstall /somewhere`)

The simplicity of BTLD format comes with a price: BTLDs cannot be removed. Which is one reason you should be sure you have backups of each individual machine.

You must include the contents of ./wd as well as ./wd506, even if you don't have any OSR507 systems in the mix. For many files, ./wd contains the real meat and ./wd506 just a reference to the real file in ./wd.

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I haven't addressed OSR500. If someone wants to try this procedure on a 5.0.0 system and report back to me, I can probably repair whatever goes wrong. I suspect the kernel won't link; show me the error messages...

>Bela<