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Subject: Re: [patch 1/2] [RFC] Simple tamper-proof device filesystem.

Posted by [serge](#) on Tue, 18 Dec 2007 02:53:33 GMT

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Quoting Tetsuo Handa (penguin-kernel@i-love.sakura.ne.jp):

> Hello.

>

> Serge E. Hallyn wrote:

> > But your requirements are to ensure that an application accessing a

> > device at a well-known location get what it expect.

>

> Yes. That's the purpose of this filesystem.

>

>

> > So then the main question is still the one I think AI had asked - what

> > keeps a rogue CAP\_SYS\_MOUNT process from doing

> > mount --bind /dev/hda1 /dev/null ?

>

> Excuse me, but I guess you meant "mount --bind /dev/ /root/" or something

> because mount operation requires directories.

Nope, try

```
touch /root/hda1
```

```
ls -l /root/hda1
```

```
mount --bind /dev/hda1 /root/hda1
```

```
ls -l /root/hda1
```

But I see tomoyo prevents that

> MAC can prevent a rogue CAP\_SYS\_MOUNT process from doing

> "mount --bind /dev/ /root/".

> For example, regarding TOMOYO Linux, you need to give

> "allow\_mount /dev/ /root/ --bind 0" permission

> to permit "mount --bind /dev/ /root/" request.

Ok, that answers my question. Thanks.

(I won't go into "who gets to say allow\_mount" :)

> Did you mean "ln -s /dev/hda1 /dev/null" or "ln /dev/hda1 /dev/null"?

> No problem. MAC can prevent such requests too.

Then it sounds like this filesystem is something Tomoyo can use.

thanks,

-serge

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Subject: Re: [patch 1/2] [RFC] Simple tamper-proof device filesystem.  
Posted by [Tetsuo Handa](#) on Tue, 18 Dec 2007 03:40:25 GMT  
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Hello.

Serge E. Hallyn wrote:

```
> Nope, try
>
> touch /root/hda1
> ls -l /root/hda1
> mount --bind /dev/hda1 /root/hda1
> ls -l /root/hda1
```

```
[root@sakura ~]# touch /root/hda1
[root@sakura ~]# ls -l /root/hda1
-rw-r--r-- 1 root root 0 Dec 18 12:04 /root/hda1
[root@sakura ~]# mount --bind /dev/hda1 /root/hda1
[root@sakura ~]# ls -l /root/hda1
brw-r----- 1 root disk 3, 1 Dec 18 2007 /root/hda1
```

Oh, surprising.

I didn't know mount() accepts non-directory for mount-point.

But I think this is not a mount operation

because I can't see the contents of /dev/hda1 through /root/hda1 .

Can I see the contents of /dev/hda1 through /root/hda1 ?

> Then it sounds like this filesystem is something Tomoyo can use.

I had / partition mounted for read-only so that the admin can't do

'mknod /root/hda1 b 3 1' in 2003, and I named it

"Security Advancement Know-how Upon Readonly Approach for Linux" or SAKURA Linux.

This filesystem (SYAORAN) is developed to make /dev writable and tamper-proof  
when / partition is read-only or protected by MAC.

TOMOYO is a pathname-based MAC implementation, and

SAKURA and SYAORAN were merged into TOMOYO Linux. ;-)

Regards.