

# [patch] rm can have undesired side-effects

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*Source:* <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/hackers/2006-10/msg00214.html>

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  - *Date:* Sun, 29 Oct 2006 23:28:47 +0100
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Hello

The rm utility provides a "-P" option for overwriting files before removing them. I was wondering about the behaviour of it on regular files with more than one hard link.

I just wrote a few lines in a file, created an hard link to it and "rm -P" the first one. The content of the second one was just lost too.

I wonder if this is a desired feature, in accordance to some standard, or just something so improbable that nobody got in trouble with it (yet) ?

I guess that in some circumstances this may be an issue. As an example, for associating UIDs with user names in an anonymous FTP server, you may have to provide a copy of the /etc/passwd file... or maybe you will just think about creating a hard link to it.

I guess that it can be fixed (in case it is not desired) by:

- Ignoring the -P option when the link count is greater then one, or
- Asking the user whether he is ready to lose data, assuming "no" if the -f option is set, or
- Asking the user whether he is ready to lose data, assuming "yes" if the -f option is set.

I have attached a patch that implements the first behaviour. I think here is the best place to speak about this, maybe before thinking about filling-in a problem-report?

Regards,  
Romain

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pgp: 8DAB A124 0DA4 7024 F82A E748 D8E9 A33F FF56 FF43 (ID: 0xFF56FF43)  
(plain text =non-HTML= PGP/GPG encrypted/signed e-mail much appreciated)  
diff -ru /usr/src/bin/rm/rm.1 rm/rm.1  
--- /usr/src/bin/rm/rm.1 Fri Mar 31 01:58:14 2006  
+++ rm/rm.1 Sun Oct 29 22:44:17 2006

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@@ -92,6 +92,8 @@

.Nm

to generate an error message and exit.

The file will not be removed or overwritten.

+This option is silently ignored if the file link count is greater than  
+one and overwriting it would cause data loss.

.It Fl R

Attempt to remove the file hierarchy rooted in each file argument.

The

```
diff -ru /usr/src/bin/rm/rm.c rm/rm.c
```

```
--- /usr/src/bin/rm/rm.c Tue May 16 18:14:51 2006
```

```
+++ rm/rm.c Sun Oct 15 22:55:05 2006
```

@@ -289,7 +289,7 @@

continue;

```
/* FALLTHROUGH */
```

default:

```
- if (Pflag)
```

```
+ if (Pflag && (1 == p->fts_statp->st_nlink))
```

```
if (!rm_overwrite(p->fts_accpath, NULL))
```

continue;

```
rval = unlink(p->fts_accpath);
```

@@ -357,7 +357,7 @@

```
else if (S_ISDIR(sb.st_mode))
```

```
rval = rmdir(f);
```

```
else {
```

```
- if (Pflag)
```

```
+ if (Pflag && (1 == sb.st_nlink))
```

```
if (!rm_overwrite(f, &sb))
```

continue;

```
rval = unlink(f);
```

**Attachment: [pgp6wIYIAaXma.pgp](#)**

*Description:* PGP signature