
Subject: Interrupted System Calls reading from NFS on Sun Solaris

Posted by [sitongia](#) on Mon, 27 Jun 1994 19:16:45 GMT

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I haven't gotten anywhere with Sun or RSI on this one yet, so I'm wondering if anyone else has seen this and has some insights. A program running under IDL on a Sun running Solaris 2.3 will read data from another Sun over NFS and barf about an "Interrupted system call". Moments later, run again, it works fine.

```
IDL> filtcal
```

```
% OPENR: Error opening file: /swing/d/lites/invert/op07_std/a___header.
```

```
Interrupted system call
```

```
% Execution halted at READ_FLOATS </home/hao/stokes/src/idl/read_floats.pro(34)> (OPENR).
```

```
% Called from B_IMAGE_STR </home/hao/stokes/src/idl/b_image.pro( 74)>.
```

```
% Called from B_IMAGE </home/hao/stokes/src/idl/b_image.pro( 205)>.
```

```
% Called from C_IMAGE_STR </home/hao/stokes/src/idl/c_image.pro( 62)>.
```

```
% Called from C_IMAGE </home/hao/stokes/src/idl/c_image.pro( 239)>.
```

```
% Called from FILTCAL <azcal.pro( 262)>.
```

```
% Called from $MAIN$ .
```

```
IDL> filtcal
```

```
lightness.pal
```

```
IDL>
```

Anyone else seen this sort of thing before? I've applied plenty of patches, and this problem isn't in the Sun bugs database. Could it be caused by a hardware problem?

Thanks,
Leonard

--Leonard E. Sitongia	HAO Sun Unix System Manager
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Subject: Re: Interrupted System Calls reading from NFS on Sun Solaris

Posted by [caron](#) on Thu, 30 Jun 1994 16:32:13 GMT

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I know that interrupted system calls in UNIX are a normal occurrence. The correct thing to do is (almost always) to simply re-issue the call. (See Leffler et al, p 47-48). What is surprising is that this behavior is seen at this high of an API. Typically you are using some library routine that takes care of it (e.g. fread()). What is READ_FLOATS actually calling? If it is calling an i/o routine that does not handle return EINTR, (read() ?)

then I would guess that the correct solution is that READ_FLOATS should handle it (by looking for it and then reissuing read), and not allow it to propagate up.

I am not sure on the details of how NFS works, but EINTR is gotten when the system issues a system call that may take a long time to complete (eg I/O) and a signal comes along that must be serviced. I think that "saving the state" of the system call is too hard, so after servicing the signal, the OS just returns from the system call with EINTR, more or less telling the calling routine to "try again". Probably theres lots more subtleties, but I think thats the vanilla explanation.

Subject: Re: Interrupted System Calls reading from NF
Posted by [sitongia](#) on Thu, 30 Jun 1994 17:56:14 GMT

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In article ar9@ncar.ucar.edu, caron@acd.ucar.edu (John Caron) writes:
> I know that interrupted system calls in UNIX are a normal occurence. The
> correct thing to do is (almost always) to simply re-issue the call.
> (See Leffler et al, p 47-48). What is surprising is that this behavior
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> then I would guess that the correct solution is that READ_FLOATS should
> handle it (by looking for it and then reissuing read), and not
> allow it to propagate up.

Thank you for your explanation. READ_FLOATS is calling READU. Perhaps there's a way to do error handling and retry the read in READ_FLOATS. At this point we've been running successfully for a short time since I've removed the "intr" mount option. The filesystem is automounted hard,fg, without intr. Next I'll try mounting background to avoid clients hanging, of course.

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