Subject: Re: Floating Point Bug on Intel Pentium CPUs
Posted by nowicki on Fri, 25 Nov 1994 13:51:29 GMT
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In article <3b04ks$3c6@jhunix1.hcf.jhu.edu>, murthy@pha.jhu.edu (Jayant Murthy) writes:
> Gregory D. Nowicki (nowicki@tardis.larc.nasa.gov) wrote:
> : In article <3avsus$22n@spool.cs.wisc.edu>, Liam Gumley <liamg@ssec.wisc.edu> writes:
> : >This is not strictly IDL related, but may affect IDL users on Pentium
> : >platforms who run complicated models. Recent discussion in the
> : >comp.sys.intel newsgroup has focussed on the discovery of a bug
> : >in the floating point unit on Intel Pentium CPUs. The bug is evident
> : >during divide operations. The following code reportedly will show the
> : >bug. It should give zero (or near enough to it), but on the Pentium
> : >it returns z = 256.
> : >
> : >x = 4195835.
> : >y = 3145727.
> : >z = x - (x/y)*y
> : >
> : >Apparently some kind of chip replacement strategy is being considered
> : >by Intel. For more details, tune to comp.sys.intel
> : >
> : >Cheers,
> : >Liam.
> : >liamg@ssec.wisc.edu
> : >
>
> : Above problem only there if using DOUBLE precision math, (DOUBLE in IDL,
> : real*8 in Fortran, double in C, etc.)
>
> : -Greg
>
> : /* Greg Nowicki | Mail Stop 401A | LIDAR Applications Group */
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> : /* nowicki@tardis.larc.nasa.gov | My opinions and mine alone . . . */
>
> Not true. I get it using plain old FLOATs on my P90.
>
> Jayant
> --
>
> Jayant Murthy   murthy@pha.jhu.edu
> 410-516-7027

Sorry to repost all the above stuff, but much is lost if I cut some out.

You must have found a different bug in compiler, chip, or ??? This FDIV

bug is said to ONLY affect numbers when doing double precision floating point math, and the precision that is affected is said to be below the threshold of pecision using any other type of math.

The above info has been gleened from comp.sys.intel, where if this discussion continues, I suggest we more it to.

Sorry to continue off the topic of IDL.

-Greg

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