

Flexible Floating-Point Standard Proposal (was: Decimal ... JOSS)

Source: <http://sci.tech-archive.net/Archive/sci.math.num-analysis/2005-03/0188.html>

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Steve Richfield <Steve@NOSPAM.smart-life.net> wrote in message news:<1110910906.bf168b09db3256f249d01177da071767@teranews>...

> *Hey, you're stealing my thunder! Take a look at my kitchen sink proposal*
> *at <<http://www.smart-life.net/FP>> Perhaps we should be borrowing from*
> *each other's kitchen sinks?!*

Looking at your web page further, I see that what you appear to be proposing is a standard for the following:

A software floating-point support package for a computer that will receive a request that it provide floating-point computations which satisfy certain properties, and which will meet that request using a floating-point format supported by the underlying hardware if possible, and will simulate a format in software with those properties if necessary.

A hardware floating-point coprocessor could also implement this as a standard.

This is an interesting idea. Why is the committee dealing with IEEE 754 ignoring it?

There is actually a simple reason. Although an interesting idea, it would require effort to implement. Thus, the fact that it exists as an alternative is not enough to lead to an effort to standardize it.

The effort to create IEEE 754 resulted from a groundswell of demand among people using computers to perform numerical calculations, based on the fact that the floating-point offered on at least some architectures (i.e., the hexadecimal floating-point of the IBM 360 series) was inadequate, and that gradual underflow was sorely needed.

Some items, such as affine infinity, were dropped from IEEE 754 – they were implemented on the 8087, but not on its successors, therefore.

If enough people who work with numbers think that something like your proposal is needed, then, once they take it up, this idea **will** go somewhere; but there has to be a real demand before it is felt that it is worth the effort.

John Savard