Subject: Part of issue 237
From: Van Snyder

1 Introduction

In issue 237, the editor remarks that COMPATIBLE rounding is exactly specified, but NEAREST rounding is not.

There are two problems here. First, the definition of "round to nearest" is absent if the processor does not support the IEEE standard. The second is that the specification of how rounding occurs in case of equal distance to the two nearest values only exists in the case when the IEEE standard is supported.

This paper attempts to define the NEAREST rounding mode as precisely as is the COMPATIBLE rounding mode.

2 Edits

Edits refer to 00-007r1. Page and line numbers are displayed in the margin. Absent other instructions, a page and line number or line number range implies all of the indicated text is to be replaced by immediately following text, while a page and line number followed by + indicates that immediately following text is to be inserted after the indicated line. Remarks for the editor are noted in the margin, or appear between [and] in the text.

224:39-40 [Editor: Replace "correspond ... IEEE standard" by "be the closer of the two nearest representable values if one is closer than the other. If the two nearest representable values are equidistant from the original value, the value resulting from conversion shall be as specified for "round to nearest" by the IEEE standard if the processor supports the IEEE standard; otherwise which of the nearest representable values is used is processor dependent."]

225:8-15 [Editor: Delete the part of issue 237 that this paper addresses.]