IEEE Task P854

Minutes, 19 July 1984

The radix-free floating-point working group of the Microprocessor Standards Subcommittee of the IEEE Computer Society met from 7:10 p.m. to 9:15 p.m. at McMahon Hall, University of Washington in Seattle. Fourteen people were in attendance.

The meeting, held in conjunction with the SIAM Summer Meeting, consisted of a number of announcements and procedural items, a presentation by Jim Thomas, and an informal discussion led by Vel Kahan.

Formal progress with the IEEE.

A semi-annual progress report for P854 is required. Cody is in the process of preparing one to be sent to Bob Davis (Microprocessor Standards Committee), and a copy will appear in a future mailing.

The IEEE Computer Society has been restructured, and Fletcher Buckley of RCA is now the Vice President for Standards.

The balloting body for P754 has been formed and the ballot is on the streets with an August 30 return date. If passed without serious technical dissent, it will then go to the full standards committee of the Computer Society, and thence to the IEEE.

Publication of P854 Draft 1.0.

Our manuscript is to appear in the August 1984 issue of IEEE Micro. The editor had asked that the (anonymous) committee be the author with a sidebar listing the participating members. Cody had expressed tentative reservations about this in view of the enormous amounts of time which had gone into both draft standard and commentary and asked for other views. Those authors present at the meeting were unanimously and vigorously opposed. Cody agreed to pursue keeping human authors.

Earlier tentative enthusiasm notwithstanding, the ACM Transactions on Mathematical Software is now showing reluctance to reprint the Micro article as is. We were asked whether there would be any chance of substantial rework. A quick canvass showed no chance whatever. Cody will tell TOMS that it's a take-it-or-leave-it proposition.

Kahan's summary report has already hit the streets in the Signum Newsletter.

Any sort of publication in the IEEE Computer Society's Computer seems hopeless.

Conferences.

Cody brought to our attention that the triennial IEEE conference on computer arithmetic was scheduled for early June 1985 in Urbana.

Future meetings schedule.

Comments on the Micro article cannot be expected much before November. There was limited response to the question whether an earlier meeting on language support would be desirable, hence no action. Cody will pursue a meeting date in August. Kahan expressed a desire to get more software houses involved, and to that end will scour advertising claiming "IEEE (anything)", adding the names of the putative purveyors to the mailing list.

Standard Apple Numeric Environment (SANE)

Jim Thomas shared with us an internal Apple presentation on SANE. Copies of the presentation were made available to the attendees and for the mailing. The intent of the presentation is to persuade Apple executives that whether or not an industry standard for floating-point is desirable, a corporate standard most definitely is. "Twenty-five years of experience shows us that it is easier to take a clean arithmetic and improve the speed than to take a fast arithmetic and make it cleaner."

Implementation Survey.

Prof. Kahan gave an informal tutorial on the state of various P754 and P854 implementations. He focused particularly on the various strategies for dealing with the extended formats: (1) not supported at all--e.g., National and Microsoft's support for the 8087; (2) used internally only--e.g., HP 71B; (3) available but rather difficult to get at--e.g., Intel's support for the 8087; and (4) standard--e.g., SANE. On the question of language issues, Kahan strongly endorsed the recent initiative of Richard James which tries to pull together the various issues in a form that language implementers will recognize. The initial draft of this effort is IEEE P854/84-3.8.

F. N. Ris

26 October 1984