P754

Submitter Email: ieee@oakapple.net
Type of Project: Revision to IEEE Standard 754-2008
PAR Request Date: 21-Jul-2015
PAR Approval Date: 03-Sep-2015
PAR Expiration Date: 31-Dec-2019
Status: PAR for a Revision to an existing IEEE Standard
Root Project: 754-2008

1.1 Project Number: P754
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Title: Standard for Floating-Point Arithmetic   **Changes in title:** ~~IEEE~~ Standard for Floating-Point Arithmetic

3.1 Working Group: Working Group for Floating-Point Arithmetic (C/MSC/754_WG)
Contact Information for Working Group Chair
  Name: David Hough
  Email Address: ieee@oakapple.net
  Phone: 408-202-1102
Contact Information for Working Group Vice-Chair
None

3.2 Sponsoring Society and Committee: IEEE Computer Society/Microprocessor Standards Committee (C/MSC)
Contact Information for Sponsor Chair
  Name: Ralph Kearfott
  Email Address: rbk@louisiana.edu
  Phone: 337-993-1827
Contact Information for Standards Representative
None

4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot: 05/2017
4.3 Projected Completion Date for Submittal to RevCom: 05/2018

5.1 Approximate number of people expected to be actively involved in the development of this project: 30
5.2 Scope: This standard specifies formats and methods for floating-point arithmetic in computer systems -- standard and extended functions with single, double, extended, and extendable precision -- and recommends formats for data interchange. Exception conditions are defined and standard handling of these conditions is specified.

5.3 Is the completion of this standard dependent upon the completion of another standard: No
5.4 Purpose: This standard provides a method for computation with floating-point numbers that will yield the same result whether the processing is done in hardware, software, or a combination of the two. The results of the computation will be identical, independent of implementation, given the same input data. Errors, and error conditions, in the mathematical processing will be reported in a consistent manner regardless of implementation.

5.5 Need for the Project: Correct, expand and update IEEE 754-2008

5.6 Stakeholders for the Standard: All computer producers and users.

Intellectual Property
6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?: No
6.1.b. Is the Sponsor aware of possible registration activity related to this project?: No

7.1 Are there other standards or projects with a similar scope?: No
7.2 Joint Development

Is it the intent to develop this document jointly with another organization?: No

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8.1 Additional Explanatory Notes (Item Number and Explanation): A number of technical and editorial errata were discovered in the 2008 version. These have been collated by participants in that effort.
The purpose of the revision is to incorporate these and other
non-controversial corrections that may be found.

The 1985 and 2008 IEEE 754 standards were also adopted by ANSI and by IEC: ISO/IEC/IEEE 60559:2011 though I don't know the mechanics of
that process nor the contacts.

As with previous versions, testing efforts will most likely revolve around academic institutions and individual consultants. I'm not aware of any such effort that offered "certification" as opposed to simply testing.