DCMTK - Bug #1092

Unit test failures on Debian i386 with GCC 13

2023-11-27 12:35 - Marco Eichelberg

Status:	Closed	**Start date:**	2023-11-27
Priority:	Normal	**Due date:**	
Assignee:	Marco Eichelberg	**% Done:**	100%
Category:	Library and Apps	**Estimated time:**	0:00 hour
Target version:	3.7.1+		
Module:	ofstd	**Compiler:**	
Operating System:			

Description

The Debian team has changed the default behavior for ieee double float (excess precision=standard) for the i386 platform when using GCC 13.
This leads to a number of failures of DCMTK's unit tests:

- ofstd_OFTime
- ofstd_variant
- dcmdata_decimalString_1
- dcmdata_decimalString_2
- dcmdata_decimalString_3
- dcmdata_floatingPointDouble
- dcmfg_ct_acquisition_type

Some examples of failed test cases:

- FAILED test 'dcmdata_decimalString_1' at ./dcmdata/tests/tvrds.cc:41: (-4.99) should equal (-4.99)
- FAILED test 'dcmdata_decimalString_1' at ./dcmdata/tests/tvrds.cc:42: (500.005) should equal (500.005)
- FAILED test 'dcmdata_decimalString_1' at ./dcmdata/tests/tvrds.cc:43: (0.666) should equal (0.666)

All test failures essentially boil down to this: OFStandard::atof("-4.99") != -4.99, for given pairs of string and double.
It is most likely related to the changed handling of floating point numbers caused by -fexcess-precision=standard, which is only supported for C++ code starting with GCC 13.

History

#1 - 2024-06-26 10:12 - Jörg Riesmeier

- Status changed from New to Closed

- Assignee set to Marco Eichelberg

- % Done changed from 0 to 100

- Module set to ofstd

Closed with commit ecbf61cb7.