

Ruby master - Bug #13331

Inconsistent conversion of Float into Decimal

03/19/2017 06:55 PM - msatkiewicz (Maciej Satkiewicz)

Status:	Assigned	
Priority:	Normal	
Assignee:	mrkn (Kenta Murata)	
Target version:		
ruby -v:	ruby 2.4.0	Backport: 2.2: UNKNOWN, 2.3: UNKNOWN, 2.4: UNKNOWN

Description

One would reasonably expect the equality `1.to_d * f == f.to_d` to hold for every Float value `f`, i.e. multiplying by `DigDecimal`'s unit can be viewed as an alternative way of casting Float into Decimal; or simply one could expect that `BigDecimal#*` should always invoke `Float#to_d` on it's argument. Yet for some Floats (e.g. 64.4) the results differ, as showed in the provided script. This can cause a bug in some application contexts.

Originally I asked about that on Stackoverflow:

<http://stackoverflow.com/questions/40472933/inconsistent-conversion-of-float-into-decimal-in-ruby/40473007>

See the comprehensive answer by Stefan who points out that it is due to different precisions being used in `Float#to_d` and `BigDecimal#*`.

History

#1 - 03/19/2017 09:57 PM - msatkiewicz (Maciej Satkiewicz)

- Description updated

#2 - 03/29/2017 02:16 PM - mrkn (Kenta Murata)

- Assignee set to mrkn (Kenta Murata)

- Status changed from Open to Assigned

Continue this in <https://github.com/ruby/bigdecimal/issues/70>

Files

multiplication_by_unit.rb	1.9 KB	03/19/2017	msatkiewicz (Maciej Satkiewicz)
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