

## Redmine - Defect #29855

### add\_working\_days returns wrong date

2018-10-27 08:46 - Yutaka Hara

<b>Status:</b>	Confirmed	<b>Start date:</b>	
<b>Priority:</b>	Normal	<b>Due date:</b>	
<b>Assignee:</b>	Go MAEDA	<b>% Done:</b>	0%
<b>Category:</b>	Issues	<b>Estimated time:</b>	0.00 hour
<b>Target version:</b>	Candidate for next minor release	<b>Affected version:</b>	3.3.7
<b>Resolution:</b>			
<b>Description</b>			
Redmine::Util::DateCalculation#add_working_days(date, n) returns wrong date when date is holiday and n is a multiple of 5.			
Example:			
<pre>irb(main):004:0&gt; Setting.non_working_week_days =&gt; ["6", "7"] irb(main):001:0&gt; include Redmine::Utils::DateCalculation irb(main):002:0&gt; add_working_days(Date.new(2018, 10, 27), 5) =&gt; Mon, 05 Nov 2018 # Expected Fri, 02 Nov 2018 irb(main):003:0&gt; add_working_days(Date.new(2018, 10, 28), 5) =&gt; Mon, 05 Nov 2018 # Expected Fri, 02 Nov 2018</pre>			
Tested with trunk@17598			
<b>Related issues:</b>			
Related to Redmine - Defect # 14846: Calculation of the start date of followi...		<b>Closed</b>	

## History

### #1 - 2018-10-28 02:46 - Go MAEDA

- Related to Defect #14846: Calculation of the start date of following issues ignores the "non-working days" setting added

### #2 - 2018-10-28 02:47 - Go MAEDA

- Category set to Issues

### #3 - 2018-10-28 02:53 - Go MAEDA

- Description updated

- Status changed from New to Confirmed

- Affected version set to 3.3.7

I have confirmed that 3.3-stable and 3.4-stable are also affected.

### #4 - 2018-10-30 02:29 - Go MAEDA

- Description updated

### #5 - 2018-11-07 07:56 - Mizuki ISHIKAWA

- File fix-29855.patch added

I think that applying this patch will solve the problem.

The code of the `add_working_days` method changes quite a bit, but all the tests succeed.

Any feedback is welcome.

#### #6 - 2018-11-25 07:54 - Go MAEDA

The suggested fix works fine but it is much slower than the current code. I think we need to consider whether this will affect the performance of Redmine.

```
$ bin/rails r bench-29855.rb
Warming up -----
  before 12.236k i/100ms
  after 997.000 i/100ms
Calculating -----
  before 159.524k (± 4.7%) i/s - 807.576k in 5.073660s
  after 10.597k (± 3.4%) i/s - 53.838k in 5.086474s
```

Comparison:

```
before: 159524.1 i/s
after: 10597.0 i/s - 15.05x slower
```

```
require 'benchmark/ips'
```

```
include Redmine::Utils::DateCalculation
```

```
Benchmark.ips do |x|
  x.report('before') do
    add_working_days(Date.today, 30)
  end

  x.report('after') do
    result = Date.today
    30.times do
      result = next_working_date(result + 1)
    end
    result
  end

  x.compare!
end
```

#### #7 - 2018-12-01 09:50 - Go MAEDA

- Assignee set to Jean-Philippe Lang

- Target version set to 3.3.9

Jean-Philippe, do you think we can accept this performance deterioration?

I think it is OK because 'add\_working\_days' method will not be executed hundreds of times by the user's single operation. So, it does not affect the

performance of Redmine.

**#8 - 2018-12-02 08:53 - Jean-Philippe Lang**

- Assignee changed from Jean-Philippe Lang to Yutaka Hara

Mizuki ISHIKAWA wrote:

| Any feedback is welcome.

DateCalculation#working\_days should be fixed in a similar way to be consistent with the proposed fix. These new assertions should pass:

Index: test/unit/lib/redmine/utils/date\_calculation.rb

```
=====
--- test/unit/lib/redmine/utils/date_calculation.rb (revision 17671)
+++ test/unit/lib/redmine/utils/date_calculation.rb (working copy)
@@ -41,6 +41,8 @@
   assert_working_days 8, '2012-10-11', '2012-10-23'
   assert_working_days 2, '2012-10-14', '2012-10-17'
   assert_working_days 11, '2012-10-14', '2012-10-30'
+  assert_working_days 5, '2012-10-20', '2012-10-26'
+  assert_working_days 5, '2012-10-21', '2012-10-26'
   end
end
```

**#9 - 2018-12-02 08:55 - Jean-Philippe Lang**

- Assignee changed from Yutaka Hara to Go MAEDA

**#10 - 2018-12-02 12:39 - Marius BALTEANU**

- Assignee changed from Go MAEDA to Jean-Philippe Lang

I took a look and there are some strange (or wrong) test cases the we should review before changing anything else.

Taking the following test scenario:

```
def test_working_days_with_non_working_week_days
  with_settings :non_working_week_days => %w(6 7) do
    assert_working_days 14, '2012-10-09', '2012-10-27'
    assert_working_days 4, '2012-10-09', '2012-10-15'
    assert_working_days 4, '2012-10-09', '2012-10-14'
    assert_working_days 3, '2012-10-09', '2012-10-12'
    assert_working_days 8, '2012-10-09', '2012-10-19'
    assert_working_days 8, '2012-10-11', '2012-10-23'
    assert_working_days 2, '2012-10-14', '2012-10-17'
    assert_working_days 11, '2012-10-14', '2012-10-30'
  end
end
```

assert\_working\_days 4, '2012-10-09', '2012-10-15'

2012-10-09 was Tuesday

2012-10-15 was Monday

The number of the expected working days according to the test is 4. But in my opinion, it should be 5 days (Tuesday, Wednesday, Thursday, Friday and Monday). 4 could be only if we exclude the end date from the count. if we do this, than the number of the expected days for the 2 assertions proposed by Jean-Philippe should be 4 because we need to exclude Friday (2012-10-26).

Also, it sound incorrect to say that between '2012-10-09 - 2012-10-15 (Tuesday - Monday)' and '2012-10-09 - 2012-10-14 (Tuesday - Sunday)' are the same number of working days (4).

Jean-Philippe, what do you think? I'm in favour of including the end date in the count.

#### #11 - 2018-12-02 17:23 - Jean-Philippe Lang

Marius BALTEANU wrote:

*The number of the expected working days according to the test is 4. But in my opinion, it should be 5 days (Tuesday, Wednesday, Thursday, Friday and Monday). 4 could be only if we exclude the end date from the count. if we do this, than the number of the expected days for the 2 assertions proposed by Jean-Philippe should be 4 because we need to exclude Friday (2012-10-26).*

#working\_days and #add\_working\_days are used to reschedule an issue when the start date is changed. Its duration is calculated with #working\_days and the new due date is calculated with #add\_working\_days. If there is no "non working day", they should behave like Date#- and Date#+.

#### #12 - 2018-12-02 17:35 - Marius BALTEANU

- Assignee changed from Jean-Philippe Lang to Go MAEDA

Jean-Philippe Lang wrote:

*#working\_days and #add\_working\_days are used to reschedule an issue when the start date is changed. Its duration is calculated with #working\_days and the new due date is calculated with #add\_working\_days. If there is no "non working day", they should behave like Date#- and Date#+.*

Thanks, but are still not clear for me the expected results so I'll leave Go Maeda or Mizuki ISHIKAWA to fix this issue.

#### #13 - 2018-12-08 07:33 - Jean-Philippe Lang

- Target version deleted (3.3.9)

#### #14 - 2018-12-08 09:28 - Go MAEDA

- Target version set to Candidate for next minor release

### Files

fix-29855.patch

1.64 KB

2018-11-07

Mizuki ISHIKAWA