

Ruby - Misc #19096

[Question] Time with `-00:00` offset is in UTC

11/01/2022 02:48 PM - andrykonchin (Andrew Konchin)

Status:	Closed	
Priority:	Normal	
Assignee:		
Description		
It's a bit unexpected but		
<pre>Time.new(2022, 1, 1, 0, 0, 0, "-00:00").utc? # => true</pre>		
But time with +00:00 or 0 offset is treated as not UTC time:		
<pre>Time.new(2022, 1, 1, 0, 0, 0, "+00:00").utc? # => false Time.new(2022, 1, 1, 0, 0, 0, 0).utc? # => false</pre>		
Is it an intentional behaviour? In this case could you please clarify the reason why it works this way?		
<hr/>		
<pre>ruby -v ruby 3.1.2p20 (2022-04-12 revision 4491bb740a)</pre>		

History

#1 - 11/01/2022 02:48 PM - andrykonchin (Andrew Konchin)

- Description updated

#2 - 11/01/2022 03:28 PM - sawa (Tsuyoshi Sawada)

On my computer, which is set to JST (+0900), the three examples make no difference:

```
Time.new(2022, 1, 1, 0, 0, 0, "-00:00").utc? # => false
```

#3 - 11/01/2022 03:58 PM - zverok (Victor Shepelev)

On my computer (GMT+2, Europe/Kyiv timezone), the same behavior is reproducing since 3.1 (and on the current head).

```
[Time.new(2022, 1, 1, 0, 0, 0, "+00:00").utc?, Time.new(2022, 1, 1, 0, 0, 0, "-00:00").utc?]  
# => [false, true]
```

Before that (2.7 and 3.0), both are false.

I'll try to debug it later this week if nobody else does.

#4 - 11/01/2022 04:41 PM - zverok (Victor Shepelev)

Oh, it is actually deliberate, see [#17544](#):

In RFC 3339, -00:00 is used for the time in UTC is known, but the offset to local time is unknown.

#5 - 11/01/2022 05:15 PM - andrykonchin (Andrew Konchin)

Indeed. But I assumed this feature only affects `#strftime's %z` directive, not treating a time zone offset.

I've checked on Ruby 3.0.3 and -00:00 wasn't treated as UTC:

```
Time.new(2022, 1, 1, 0, 0, 0, "-00:00").zone  
# => nil
```

#6 - 11/01/2022 05:17 PM - andrykonchin (Andrew Konchin)

- Description updated

#7 - 01/28/2023 02:23 PM - andrykonchin (Andrew Konchin)

[@zverok \(Victor Shepelev\)](#) Thank you for pointing at the original ticket.

TBH I was waiting so long for some official confirmation because I haven't found any mentioning that <https://bugs.ruby-lang.org/issues/17544> affects not only Time#strftime method but also a way how utc offset argument (in Time construction methods) is handled. Even [added tests](#) don't check this behaviour.

#8 - 01/28/2023 11:16 PM - nobu (Nobuyoshi Nakada)

- Status changed from Open to Closed

It is [git!296a2cab](#).

See also the related [changesets](#).

#9 - 01/29/2023 12:11 AM - andrykonchin (Andrew Konchin)

[@nobu \(Nobuyoshi Nakada\)](#) Thank you!

#10 - 02/01/2023 01:36 AM - duerst (Martin Dürst)

I'm not sure whether and how much this is relevant, but please note that the Sedate WG in the IETF has a draft (<https://www.ietf.org/archive/id/draft-ietf-sedate-datetime-extended-07.html>, close to final) that updates RFC 3339 (<https://www.rfc-editor.org/rfc/rfc3339>). For details, please check <https://www.ietf.org/archive/id/draft-ietf-sedate-datetime-extended-07.html#name-updating-rfc-3339>.

#11 - 02/08/2023 08:38 AM - nobu (Nobuyoshi Nakada)

duerst (Martin Dürst) wrote in [#note-10](#):

I'm not sure whether and how much this is relevant, but please note that the Sedate WG in the IETF has a draft (<https://www.ietf.org/archive/id/draft-ietf-sedate-datetime-extended-07.html>, close to final) that updates RFC 3339 (<https://www.rfc-editor.org/rfc/rfc3339>). For details, please check <https://www.ietf.org/archive/id/draft-ietf-sedate-datetime-extended-07.html#name-updating-rfc-3339>.

Thank you for the interesting information.

Although that draft seems not recommending use of -00:00, but it also says

the present specification however does not formally deprecate this syntax.

at <https://www.ietf.org/archive/id/draft-ietf-sedate-datetime-extended-07.html#section-2-6>