openQA Project - action #71845

tests fail in circleci with "Non-zero wait status: <non-negative number>" but "All <X> subtests passed"

2020-09-24 12:46 - okurz

Status:	Resolved		**Start date:**	2020-09-24
Priority:	Normal		**Due date:**	
Assignee:	okurz		**% Done:**	0%
Category:	Concrete Bugs		**Estimated time:**	0.00 hour
Target version:	Ready			
Difficulty:				

Description

Observation

For example
https://app.circleci.com/pipelines/github/os-autoinst/openQA/4328/workflows/2380a4fe-7ea3-4f46-b0ad-99f9aacb9e7e/jobs/41532/steps
shows:

```
[08:43:42] t/api/09-comments.t ................        All 7 subtests passed
[08:43:58] t/api/10-jobgroups.t ............... ok   17566 ms ( 0.17 usr  0.01 sys + 15.13 cusr
0.81 csys = 16.12 CPU)
[08:44:16] t/api/11-bugs.t .................... ok   14348 ms ( 0.03 usr  0.00 sys + 12.18 cusr
1.48 csys = 13.69 CPU)
[08:44:30] t/api/12-admin-workers.t ........... ok   14216 ms ( 0.00 usr  0.00 sys + 11.71 cusr
1.83 csys = 13.54 CPU)
[08:44:44] t/api/13-influxdb.t ................ ok   13538 ms ( 0.01 usr  0.00 sys + 11.65 cusr
1.26 csys = 12.92 CPU)
[08:44:58] t/api/14-plugin_obs_rsync_async.t .. ok   46127 ms ( 0.07 usr  0.00 sys + 16.40 cusr
2.93 csys = 19.40 CPU)
[08:45:44] t/api/14-plugin_obs_rsync.t ........ ok   97631 ms ( 0.10 usr  0.01 sys + 81.41 cusr 1
0.57 csys = 92.09 CPU)
[08:47:22] t/api/15-search.t .................. ok   13592 ms ( 0.02 usr  0.00 sys + 11.22 cusr
1.63 csys = 12.87 CPU)
[08:47:35] t/api/15-users.t ................... ok   12358 ms ( 0.01 usr  0.00 sys + 10.75 cusr
1.02 csys = 11.78 CPU)
[08:47:48]

Test Summary Report
-------------------
t/api/09-comments.t              (Wstat: 14 Tests: 7 Failed: 0)
  Non-zero wait status: 14
```

t/api/09-comments.t reported "All 7 subtests passed" and also the "tests" tab in circleCI does show that all tests passed and the artifact file, e.g.
https://circle-production-customer-artifacts.s3.amazonaws.com/picard/forks/58f7029dc9e77c000129905e/46416941/5f6c5695c60fc5
19f3c9f54a-0-build/artifacts/artifacts/api/09-comments.t?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20200924T124432
Z&X-Amz-SignedHeaders=host&X-Amz-Expires=60&X-Amz-Credential=AKIAJR3Q6CR467H7Z55A%2F20200924%2Fus-east-1%2
Fs3%2Faws4_request&X-Amz-Signature=3605db1a4895c0bab1d91b1656cb39c5bfede6a15b027eed28259d127a4f7542 shows in
the end:

```
ok 7 - no (unexpected) warnings (via done_testing)
1..7
```

so all tests passed and "done_testing()" has been passed.

- https://app.circleci.com/pipelines/github/os-autoinst/openQA/4328/workflows/2380a4fe-7ea3-4f46-b0ad-99f9aacb9e7e/jobs/415 32/steps shows that t/api/09-comments.t failed
- https://app.circleci.com/pipelines/github/os-autoinst/openQA/4329/workflows/01c4a5ce-86aa-4ba7-b77e-4a5a3d216c3d/jobs/41 542 shows t/api/01-workers.t failed as well as t/api/02-iso.t .

Problem

tests abort even though everything else looks fine. We do not know what is wrong here.
https://perldoc.perl.org/Test/More.html#EXIT-CODES
describes that Test::Builder itself would return 0 if all tests passed, 255 if the test aborted prematurely or a non-zero number corresponding to the number of failed tests if any. So this is most likely not the problem here.
Reading the source code of TAP::Formatter suggests that "Non-zero wait status: " has something to do with the exit code of other processes that we might wait for (implicitly or explicitly).

- **H1:** could be that it only happens in circleci because we run with "Devel::Cover", compare to
  https://stackoverflow.com/questions/36639621/what-does-non-zero-wait-status-9-mean-when-running-test-using-develcover
- **H2:** Something to do with processes in the background, maybe because they close stdout/stderr? See
  https://github.com/UPC/ravada/issues/194
- **H3:** It's because of SIGALRM due to OpenQA::Test::TimeLimit and we somehow do not get the message that the test timed out , see man 7 signal. Maybe because subprocesses do not handle the alarm in the same way as the main process should do. But the tests already finished so this might still be about stuck background processes

Related issues:		
Related to openQA Project - action #71464: Show output of failed tests within...	**Resolved**	2020-09-17

History

#1 - 2020-09-24 12:50 - okurz

- Description updated

#2 - 2020-09-24 13:01 - okurz

- Description updated

#3 - 2020-09-24 13:32 - okurz

minimum reproducer:

```
#!/usr/bin/env perl
use Test::Most;
use FindBin;
use lib "$FindBin::Bin/../lib";
use OpenQA::Test::TimeLimit '2';
pass 'ok';

END {
    sleep 3;
}

done_testing();
```

triggers:

```
$ prove t/api/01-workers.t
t/api/01-workers.t .. All 1 subtests passed

Test Summary Report
-------------------
t/api/01-workers.t (Wstat: 14 Tests: 1 Failed: 0)
  Non-zero wait status: 14
Files=1, Tests=1,  2 wallclock secs ( 0.03 usr  0.00 sys +  0.09 cusr  0.00 csys =  0.12 CPU)
Result: FAIL
```

same with do { 1 } while(1); so this is not about an incompatibility between "sleep" and "alarm" or so.

So my most probable hypothesis right now is that Devel::Cover is involved. Either it is stuck itself completely (unlikely) or it just takes much longer. In the end, the output that we see with "Non-zero wait status: 14" just means: "The test timed out after done_testing()" (within the 'END' block). So not pretty but still a clear situation. So what we could do is scale each timeout when running in CI and/or under Devel::Cover.

#4 - 2020-09-24 14:09 - okurz

- Status changed from New to In Progress

- Assignee set to okurz

#5 - 2020-09-24 14:23 - okurz

https://github.com/os-autoinst/openQA/pull/3419

#6 - 2020-09-29 08:06 - okurz

- Related to action #71464: Show output of failed tests within circleci log view, like on local prove calls, not only "Tests" tab added

#7 - 2020-09-29 09:00 - okurz

https://github.com/os-autoinst/openQA/pull/3419 merged. https://github.com/os-autoinst/openQA/pull/3420 to have lowered and more restrictive timeouts. I needed to cover OBS as well to be more forgiving.

#8 - 2020-09-29 14:02 - okurz

- Status changed from In Progress to Feedback

#9 - 2020-10-08 18:37 - okurz

- Status changed from Feedback to Resolved

https://github.com/os-autoinst/openQA/pull/3420 merged. I consider all done here.