# Tails - Bug #14933

## Feature # 5630 (Resolved): Reproducible builds

### stable branch is not reproducible: differences in some .fa.html website files

11/08/2017 10:38 AM - intrigeri

<table>
<thead>
<tr>
<th>Status:</th>
<th>Resolved</th>
<th>Start date:</th>
<th>11/08/2017</th>
</tr>
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<td></td>
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<td>Category:</td>
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<td>Estimated time:</td>
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<td>Target version:</td>
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<td>Spent time:</td>
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<td>Starter:</td>
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<td>Code</td>
<td>Affected tool:</td>
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<td>Blueprint:</td>
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</table>

**Description**


diffoscope output attached.

**Related issues:**

Related to Tails - Bug #12726: There should be a date on the notes in the New... Resolved 06/17/2017

**Associated revisions**

Revision 0a484302 - 11/10/2017 12:49 PM - intrigeri

auto/build: normalize file timestamps in wiki/src before building (refs: #14933)

The copy of the website included in the ISO image has "Posted" timestamps that apparently match when we cloned the Git repository. This is expected since we build the website with the rcs setting disabled. Normalizing timestamps before building should fix this.

What's surprising though is that only a few pages seem to be affected, while I would expect that all inlined pages without an explicit meta date should trigger the exact same problem. But anyway, normalizing mtime should fix it everywhere, so if it works, let's not bother investigating this further.

One potential drawback of this commit is that it may make it harder to refresh an older, cached build of the website when we reintroduce this option in the future: ikiwiki will have a hard time knowing which pages it should refresh. We'll see.

Revision cd1a448c - 11/13/2017 10:55 AM - bertagaz

Merge remote-tracking branch 'origin/bugfix/14946-mergebasebranch-breaks-reproducibility'

Fix-committed: #14946, #14933
Revision 3a622350 - 12/12/2017 11:40 AM - anonym

Vagrant: never build the wiki early.

This has caused several issues throughout the years, the lastest instance being the reopening of #14933, so let's just remove this feature. The optimization this allows for when rebuilding the same branch frequently (together with the keeprunning option) was probably only used by me, and rarely at that, so I'd argue it is not worth the maintenance cost.

Will-fix: #14933

Revision 19befbd9 - 12/14/2017 07:20 AM - intrigeri

Merge remote-tracking branch 'origin/bugfix/14933-non-deterministic-inline-posted-timestamp' into stable (Fix-committed: #14933)

History

#1 - 11/08/2017 10:39 AM - intrigeri

I'll have a very quick first look in the hope I can easily find out where the root cause is. If the fix is not trivial I'll coordinate with anonym to see who handles this.

#2 - 11/08/2017 11:23 AM - intrigeri

- Status changed from Confirmed to In Progress
- Assignee changed from intrigeri to anonym
- % Done changed from 0 to 10
- Type of work changed from Research to Code

I think we didn't notice this earlier because the fix for #12726 had been merged into master but not into stable. Yesterday I've merged master into stable (precisely thinking about such potential problems) which is why we now see it. I'm glad we noticed this before we're closer to the 3.3 release.

So, in the source of affected pages we have [[inline pages="doc/encryption_and_privacy/gpgapplet.warning" raw="yes" sort="age"]]. The mtime of wiki/src/doc/encryption_andPrivacy/gpgapplet.warning.fa.po is used as the timestamp I see in the diffoscope output matches:

08:08:29 + TAILS_GIT_DIR=/home/vagrant/amnesia
08:08:29 + [ ! -d /home/vagrant/amnesia ]
08:08:29 + git clone /amnesia.git/.git /home/vagrant/amnesia
08:08:29 Cloning into '/home/vagrant/amnesia'...
08:08:34 done.

I think the mtime is used (instead of the time of last change in Git) because our ikiwiki.setup disables the rcs parameter. I suspect we should normalize such timestamps of files in wiki/src before building the website in auto/build, just like we already do for config/binary_local-includes and config/chroot_local-includes. anonym, wanna give it a try or should I?

Now, honestly I'm a bit confused: I don't understand why this problem only appears for this specific inlined page and only in Farsi. The way I understand the problem currently, all inlined pages without an explicit meta date should trigger the exact same problem.

Might it be the problem I was refering to in "non-deterministic inlined posts' date: any inline can be affected as long as it uses a template that displays the date; this is the problem that made us do 104d7f89fd0a83962eb6eb891e1c2d90c9c62b0 initially; your validation code addresses that… as long as it covers all affected inline directives; I think it does" (#12726)? Apparently I was wrong and we don't check all affected inline directives. But if merely normalizing mtimes works, let's not bother.

05/04/2020
#3 - 11/08/2017 11:23 AM - intrigeri
- Related to Bug #12726: There should be a date on the notes in the News section of the website added

#4 - 11/10/2017 12:18 PM - intrigeri
- Assignee changed from anonym to intrigeri

#5 - 11/10/2017 12:41 PM - intrigeri
- QA Check set to Ready for QA
- Feature Branch set to bugfix/14933-non-deterministic-inline-posted-timestamp

(I have to make this RQA otherwise Jenkins won't test reproducibility.)

#6 - 11/10/2017 03:39 PM - intrigeri
- Assignee changed from intrigeri to anonym
- % Done changed from 10 to 50

Woohoo, my fix works. The ISO is still not reproducible in our CI environment: [https://jenkins.tails.boum.org/view/Tails_ISO/job/reproducibly_build_Tails_ISO_bugfix-14933-non-deterministic-inline-posted-timestamp/1/artifact/build-artifacts/diffoscope.html](https://jenkins.tails.boum.org/view/Tails_ISO/job/reproducibly_build_Tails_ISO_bugfix-14933-non-deterministic-inline-posted-timestamp/1/artifact/build-artifacts/diffoscope.html) but for a different reason, that I've reported on [#14946](https://github.com/). I think this problem won't affect release builds but I'm not 100% sure and anyway I've found a rather trivial fix. In any case that should not block fixing this problem.

#7 - 11/10/2017 03:42 PM - intrigeri
- Blocks Bug #14946: Topic branches that lag behind their base branch don't build reproducibly with mergebasebranch build option added

#8 - 11/11/2017 02:53 PM - anonym

intrigeri wrote:

Woohoo, my fix works.

Yay!

The ISO is still not reproducible in our CI environment: [https://jenkins.tails.boum.org/view/Tails_ISO/job/reproducibly_build_Tails_ISO_bugfix-14933-non-deterministic-inline-posted-timestamp/1/artifact/build-artifacts/diffoscope.html](https://jenkins.tails.boum.org/view/Tails_ISO/job/reproducibly_build_Tails_ISO_bugfix-14933-non-deterministic-inline-posted-timestamp/1/artifact/build-artifacts/diffoscope.html) but for a different reason, that I've reported on [#14946](https://github.com/). I think this problem won't affect release builds but I'm not 100% sure

I'm 99% sure this isn't a problem for releases: they are built from a tag which makes mergebasebranch into a noop.
During the 3.3 release, we noticed this problem was not really gone: when $TAILS_MERGE_BASE_BRANCH is not set, the wiki is built in vagrant/provision/assets/build-tails, where the timestamps have not been yet cleaned. When it gets refreshed later in auto/build, the problem with the openpgp_applet fa.html files is not fixed.
During the 3.3 release, we noticed this problem was not really gone: when $TAILS_MERGE_BASE_BRANCH is not set, the wiki is built in vagrant/provision/assets/build-tails, where the timestamps have not been yet cleaned. When it gets refreshed later in auto/build, the problem with the openpgp_applet fa.html files is not fixed.

I can confirm that building with mergebasebranch produces the same ISO each time on my system:

md5: 25adfb21ffed21iac154aa6669d87163 tails-amd64-3.3.iso
sha1: 7bf7f11f206803d4690d1ce7d4da35735ea262 tails-amd64-3.3.iso
sha256: 82b1286442be5f72d68d36166a3562de7b12472d0e94692ca64fcc6e6a113e343 tails-amd64-3.3.iso
sha512: 0ef9de2d3965c067384556df6d4faa5a9f2e196069c0a62d4e23558bfb141b566b6473078e50a1f89c62fb0da792609415
cf73429c69181ee32ad97fe005 tails-amd64-3.3.iso

So, most likely Jenkins built that exact image, but the artifacts from all jobs built from that commit are absent. I've instead asked jvoison to rebuild Tails 3.3 with mergebasebranch set. If he gets the same SHAAAA as me, we're good, imho.

As for the actual fix, see 3a622350a5 which removes the early wiki build -- I'm probably the only one using it (together with keeprunning), which isn't very often, and if I ever really need it I can just drop .build-wiki into build-tails temporarily.
$ TAILS_BUILD_OPTIONS="mergebasebranch" rake build
[…]
$ md5sum tails-amd64-3.3.iso
25adfb21ffed211ac154aa6669d87163  tails-amd64-3.3.iso
$ sha1sum tails-amd64-3.3.iso
7bf7f11f206803d4690d9f1ce7d446357355ea262  tails-amd64-3.3.iso
$ sha256sum tails-amd64-3.3.iso
82b1286442be5f72d68d36166a352de7b12472d0e94692ca64fcccc6e6a113e343  tails-amd64-3.3.iso
$ sha512sum tails-amd64-3.3.iso
0ef9de2d39d60c063f06455e6a4697e345e45678a457355ea262  tails-amd64-3.3.iso
$ lsb_release -a
Distributor ID: Ubuntu
Description: Ubuntu 17.04
Release: 17.04
Codename: zesty
$ uname -a
Linux jv 4.10.0-42-generic #46-Ubuntu SMP Mon Dec 4 14:38:01 UTC 2017 x86_64 x86_64 x86_64 GNU/Linux
$

#19 - 12/13/2017 04:48 PM - anonym
- Assignee changed from anonym to intrigeri
- % Done changed from 70 to 80
- QA Check changed from Dev Needed to Ready for QA

Success! Please review'n'merge into stable!

#20 - 12/13/2017 06:54 PM - intrigeri
Code review passes. I've updated the branch so it has a chance to build on Jenkins.

#21 - 12/14/2017 07:22 AM - intrigeri
- Status changed from In Progress to 11
- % Done changed from 80 to 100

Applied in changeset 108f5bd9ca8955b52610a8a720e67491b1cc566.

#22 - 12/14/2017 07:23 AM - intrigeri
- Assignee deleted (intrigeri)
- QA Check changed from Ready for QA to Pass
Merged! Let's see how it goes next time we release :)

#23 - 01/04/2018 06:26 PM - intrigeri
- Target version changed from Tails_3.5 to Tails_3.4

#24 - 01/09/2018 08:52 PM - anonym
- Status changed from 11 to Resolved

Files

diffoscope.html 15.3 KB 11/08/2017 intrigeri