

Close lid to encrypt

Hard disk encryption in Linux suspend mode

Tim Dittler

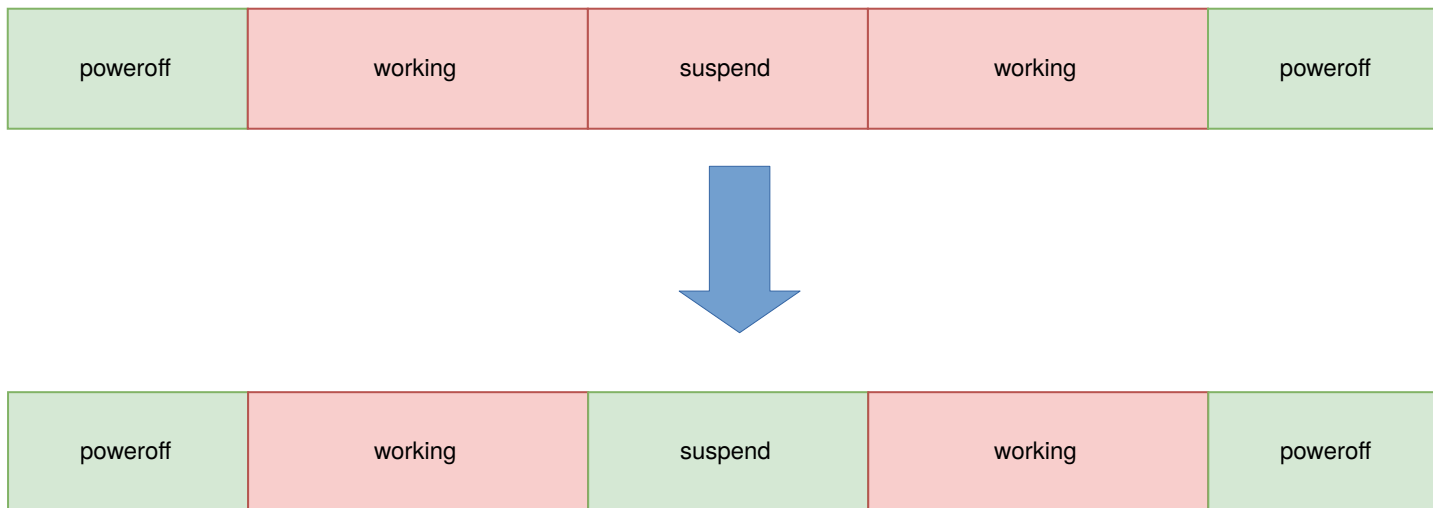
FOSDEM, 02.02.2020

What's „Close lid to encrypt“?

- **Project by Jonas Meurer and me**
 - Freelancing systems engineers living in Germany
- **Full-disk encryption in suspend mode**
- **For Debian and derivatives**

Why is it useful?

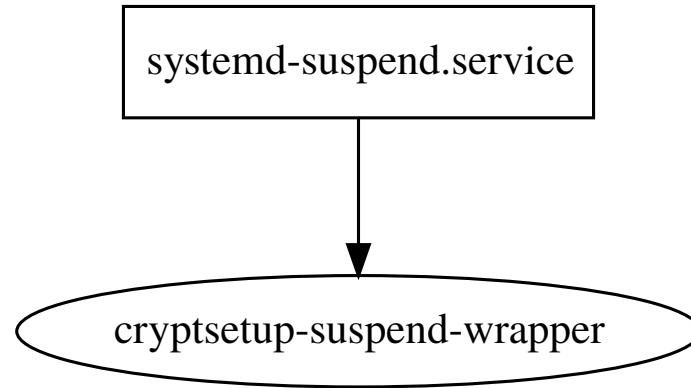
- **Full-disk encryption protects your data only at rest**



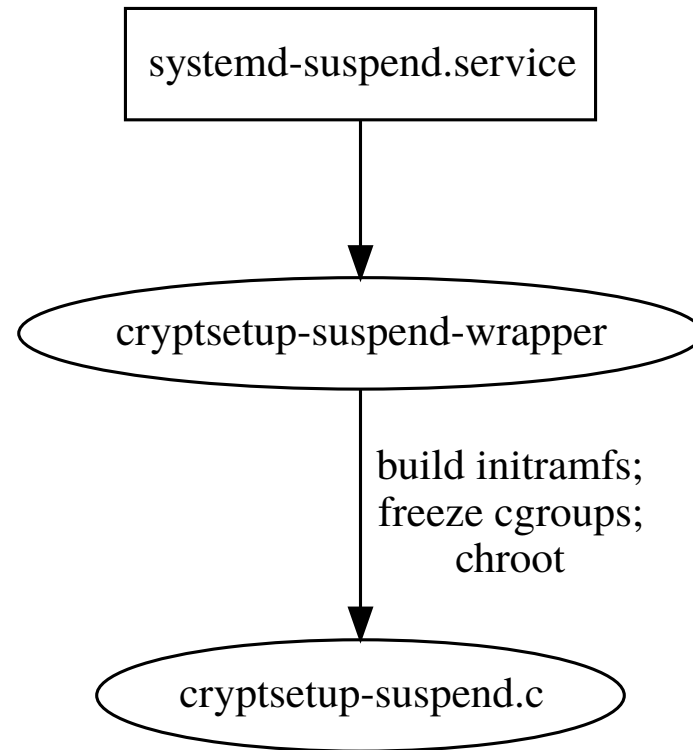
Why is it difficult?

- **Well, we're locking away your running operating system!**
- **Race conditions**
 - Prevent access to locked filesystems
 - Otherwise kernel will wait forever
- **Memory management**
 - Swap on harddrive is encrypted

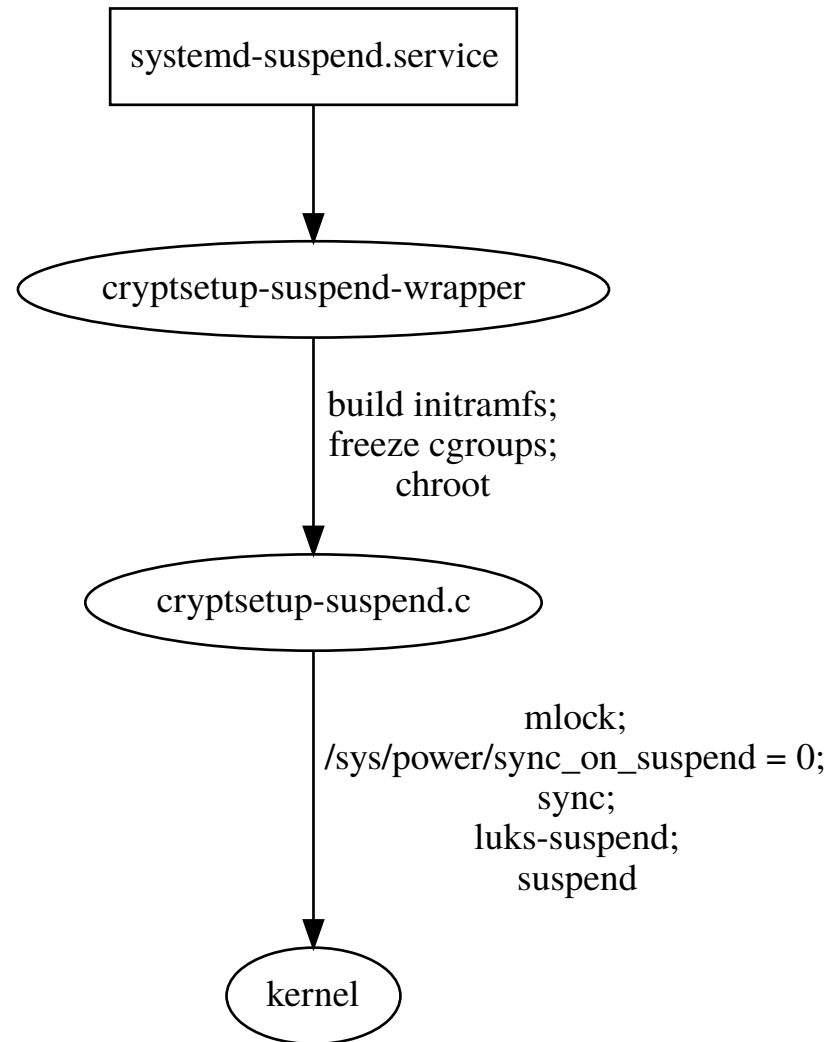
How is it implemented?



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/sys/power/sync_on_suspend ???



index : kernel/git/torvalds/linux.git

Linux kernel source tree

[about](#) [summary](#) [refs](#) [log](#) [tree](#) **[commit](#)** [diff](#) [stats](#)

author Jonas Meurer <jonas@freesources.org> 2020-01-16 12:53:54 +0100
committer Rafael J. Wysocki <rafael.j.wysocki@intel.com> 2020-01-16 21:47:03 +0100
commit [c052bf82c6b00ca27aab0859addc4b3159dfd3a4](#) (patch)
tree [5d705708933306bc2c9600133255c8110869bd3a](#)
parent [5c0e9de06577ba7599b75f97a8bb8cc63f6cb2ad](#) (diff)
download [linux-c052bf82c6b00ca27aab0859addc4b3159dfd3a4.tar.gz](#)

PM: suspend: Add sysfs attribute to control the "sync on suspend" behavior

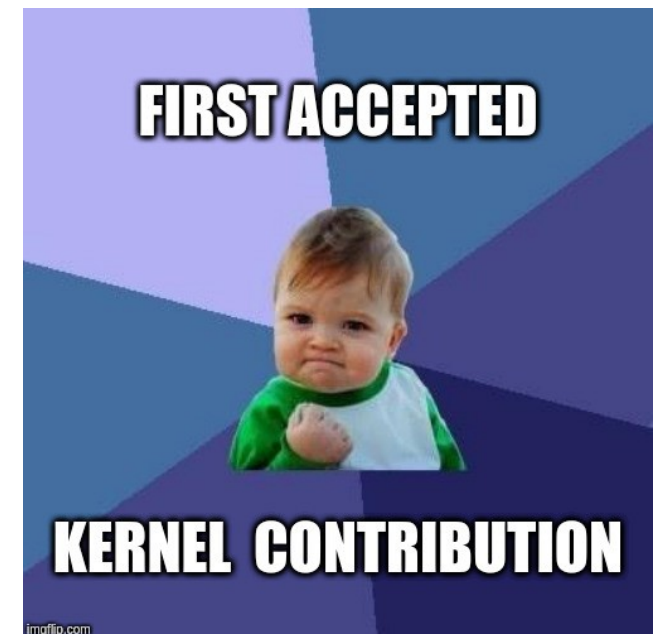
The sysfs attribute `/sys/power/sync_on_suspend` controls, whether or not filesystems are synced by the kernel before system suspend.

Congruously, the behaviour of build-time switch `CONFIG_SUSPEND_SKIP_SYNC` is slightly changed: It now defines the run-time default for the new sysfs attribute `/sys/power/sync_on_suspend`.

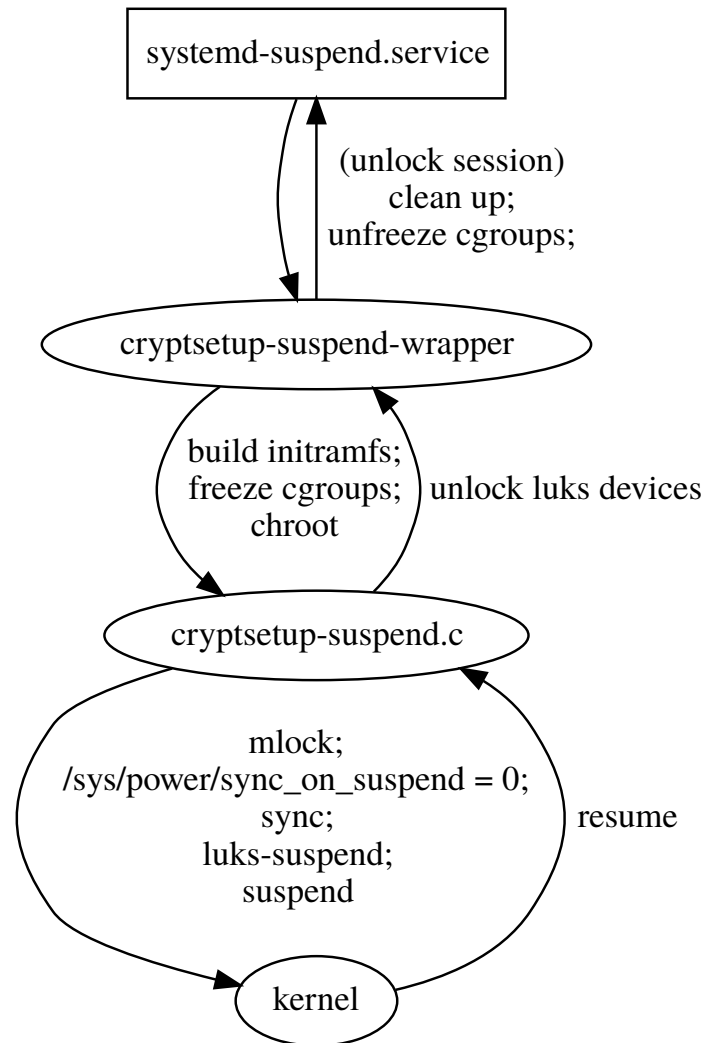
The run-time attribute is added because the existing corresponding build-time Kconfig flag for (`CONFIG_SUSPEND_SKIP_SYNC`) is not flexible enough. E.g. Linux distributions that provide pre-compiled kernels usually want to stick with the default (sync filesystems before suspend) but under special conditions this needs to be changed.

One example for such a special condition is user-space handling of suspending block devices (e.g. using `cryptsetup luksSuspend` or `dmsetup suspend`) before system suspend. The Kernel trying to sync filesystems after the underlying block device already got suspended obviously leads to dead-locks. Be aware that you have to take care of the filesystem sync yourself before suspending the system in those scenarios.

Signed-off-by: Jonas Meurer <jonas@freesources.org>
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How is it implemented?



Demo

Demo

File Machine View Input Devices Help

Activities Firefox ESR Feb 1 22:31

bxl.indymedia.org

https://bxl.indymedia.org/spip.php?page

(((Publiez !)))

Editorial

Occupy Le Space

posté le 11/01/20

Mots-clés
solidarité luttes
sociales

FR | Venez

samedi 1er février 2020 10:00
lieu : Le Space
adresse : rue de la clé 26, Bruxelles

occuper le Space avec nous On a reçu récemment une mauvaise nouvelle. Le nouveau propriétaire a d'autres plans pour le bâtiment qui abrite le Space (il a hâte de participer au processus de gentrifications/embourgeoisement du quartier Dansaert). Et le Space, la maison culturelle hybride bruxelloise, ne rentre pas dans ses plans

samedi 1er février 2020

- 09h00 - OFFDEM
posté le 15/01/20 - Agenda
- 09h30 - How to organize - formation
posté le 24/12/19 - Agenda
- 10h00 - Occupy Le Space
posté le 11/01/20 - Agenda
- 16h00 - Resistencia - Rencontre latino-américaine et fête Insumisa
posté le 29/01/20 - Agenda

APPEL A
posté le 31/01/20

Bruxelles sociale, fo
commerci
syndicats

campagne
posté le 31/01/20 - Lo

Appel à dons de li
Queer
posté le 31/01/20 - Lo

Solvay sc
de Jean-F
Clamadie
posté le 30/01/20

What's next?

- **More testing**
- **Merge upstream**
 - Debian Bullseye: „apt install cryptsetup-suspend“
- **How to handle situations with low available memory?**
- **There are more secrets in your memory than LUKS keys**

Thanks

- **Cryptsetup authors**

- Jana Saout <jana@saout.de>
- Clemens Fruhwirth <clemens@endorphin.org>
- Milan Broz <gmazyland@gmail.com>
- Ondrej Kozina <okozina@redhat.com>

- **Cryptsetup Debian maintainers**

- Guilhem Moulin <guilhem@debian.org>
- Jonas Meurer <jonas@freesources.org>

Thanks

- **Inspiration**

- Vianney le Clément de Saint-Marcq
<vleclement@gmail.com>
 - <https://github.com/vianney/arch-luks-suspend>
- Jen Bowen <jen@nailfarmer.com>
 - <https://github.com/nailfarmer/debian-luks-suspend/>

Thanks

Prototype
Fund

=

JETZT BEWERBEN



Bewerbt euch vom 1.2. bis 31.3.2020 für die Runde 8!

Mehr Informationen findet ihr unten auf der Seite, in diesem **Blogpost** und in unserem **Begleitforschungsreport**.



**[https://salsa.debian.org/
mejo/cryptsetup-suspend/](https://salsa.debian.org/mejo/cryptsetup-suspend/)**

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