



does s2idle always generate PrepareForSleep? when and when not?

The s2idle sleep state does not always generate the PrepareForSleep D-Bus signal. It depends on how and from where the s2idle transition is initiated.

When s2idle generates PrepareForSleep:

- When the system suspend to s2idle is initiated through systemd/logind (e.g., via `systemctl suspend` or GUI suspend), the PrepareForSleep(TRUE) signal is emitted before entering s2idle.
- After resume from s2idle, PrepareForSleep(FALSE) is emitted to signal wake-up.
- This reflects systemd's role in managing system sleep state transitions, including s2idle as a lightweight suspend variant.

When it may NOT generate PrepareForSleep:

- If the system enters s2idle by low-level kernel or hardware mechanisms not mediated by systemd/logind, PrepareForSleep may not be emitted.
- Direct writing to `/sys/power/state` by user programs or the kernel without systemd involvement can bypass these signals.
- Also, some platforms may have s2idle as the default suspend mode without full systemd notification integration.

Summary:

- PrepareForSleep signals are reliably generated for s2idle sleep state **only when systemd/logind is the sleep transition initiator**.
- For kernel-only or hardware-initiated s2idle, PrepareForSleep may not be generated because those signals are systemd-specific D-Bus signals to userspace.

This matches the Linux kernel doc explanation that labels s2idle as a software suspend with the kernel support level, but the PrepareForSleep signal is a systemd-specific signal generated on suspend transitions managed by systemd/logind. ^[1] ^[2] ^[3]

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1. <https://docs.kernel.org/admin-guide/pm/sleep-states.html>

2. <https://www.freedesktop.org/wiki/Software/systemd/inhibit/>

3. <https://www.freedesktop.org/software/systemd/man/systemd-sleep.conf.html>
4. <https://gist.github.com/julianlam/166823c982fd20ee4a748442cc77bbef>
5. <https://community.frame.work/t/responded-linux-deep-sleep/2491>
6. <https://www.dell.com/community/en/conversations/linux-general/dell-latitude-5420-5520-s3-suspend-deep-sleep-not-working-on-ubuntu-2104/647f950ef4ccf8a8de77bc2f>
7. https://www.reddit.com/r/Amd/comments/xbi3q9/amd_prepares_s2idle_fixes_for_amd_ryzen_6000/
8. <https://community.frame.work/t/responded-linux-s2idle-sleep-random-power-usage-increase/26905>
9. <https://bbs.archlinux.org/viewtopic.php?id=292820>
10. <https://forum.manjaro.org/t/hibernate-suspend-hybrid-sleep-functions-work-incorrectly/129017>