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Is Linux Suspend ready for the next decade?

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Users demand speed, reliability, and low-power from system-suspend. To assure Linux can meet these goals, Intel's upstream kernel team built "sleepgraph" a decade ago, and we have been running and improving it ever since.

Today, Linux OEM's demand over 10,000 consecutive successful suspend iterations to demonstrate suspend reliability. And so our efforts have evolved from function and performance to stress-testing. Our modest development lab is on track to complete over 5-million suspend-resume cycles this year – primarily by stealing time on lab development systems during off-peak hours.

Continuous stress testing has cast light on new pain points. Most failures stem from intermittent device driver quality – typically breaking in Linux rc1, but sometimes regressing as late as rc8! Long term testing has also shown failures stemming from uncontrolled changes in hardware configuration, network environment, even temperature matters!

We have found a diminishing return in longer endurance tests. More value comes from spreading testing across different hardware. We need help from our co-travelers in the community to broaden the hardware population being tested. We need help from you!

And so we will demonstrate how easy it is for community members to contribute by running sleepgraph – encouraging you to do so in your lab, and on the laptop that you have in front of you, whether you interpret the results (and file bugs) yourself, or forward them to a repository where they can be analyzed by experts.

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