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Evolving fw_devlink and its support for ->sync_state()

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For DT based platforms fw_devlink allows us to track supplier/consumer dependencies, which helps to avoid having drivers returning -EPROBE_DEFER, while they probe their devices. Moreover, fw_devlink provides the so called ->sync_state() support, allowing a driver for a supplier device to receive a notification through its ->sync_state() callback, when all its consumer devices have been probed successfully.

The ->sync_state() support has recently been added to the generic PM domain (aka genpd) and it's available since v6.17-rc1. However, several problems have been reported since its introduction, some still remains to be addressed by more general improvements to fw_devlink.

In parallel we are also working on adding ->sync_state() support to other subsystems, such as the common clock framework, for example. Hence it's becoming increasingly important to address these generic problems with fw_devlink, to avoid similar issues we now have with genpd.

Let's discuss these problems in more detail and try to find solutions for how to fix them.

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