Contribution ID: **235**                                               Type: **not specified**

# Supporting multiple low power modes for system wide suspend

In the TI K3 AM62 Family of devices the hardware supports multiple Low Power Modes that retain context in the DRAM. However, Linux doesn't have direct awareness or any solid framework that allows a user to select a particular system-wide low power mode. This makes it challenging for any user to select which low power mode to enter in the SoC.

After discussions with the community and with inputs from previous Plumber's, TI was able to come up with a new approach to this problem. The new Low Power Mode S/W ARCH in AM62 family relies on constraints collected from the pm_qos of various devices and CPUs to make decision of which system wide state to enter when a user wants system to suspend.

This talk will try to cover what has been implemented so far on Kernel side and also how firmware also has an important role to play in this solution. Moreover, the talk will also cover alternate approaches for how certain states can be modeled as idle-states and how s2idle and kernel pm governors can help decide on the low power modes to fit more generic ARM SoC's.

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**Session Classification:**  Power Management and Thermal Control MC

**Track Classification:**  Power Management and Thermal Control MC