

Centralized Peak Consumption Smoothing Revisited for Habitat Energy Scheduling

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Abstract : Currently, electricity suppliers must predict the consumption of their customers in order to deduce the power they need to produce. It is, then, important in a first step to optimize household consumption to obtain more constant curves by limiting peaks in energy consumption. Here centralized real time scheduling is proposed to manage the equipment's starting in parallel. The aim is not to exceed a certain limit while optimizing the power consumption across a habitat. The Raspberry Pi is used as a box; this scheduler interacts with the various sensors in 6LoWPAN. At the scale of a single dwelling, household consumption decreases, particularly at times corresponding to the peaks. However, it would be wiser to consider the use of a residential complex so that the result would be more significant. So, the ceiling would no longer be fixed. The scheduling would be done on two scales, firstly, per dwelling, and secondly, at the level of a residential complex.

Keywords : smart grid, energy box, scheduling, Gang Model, energy consumption, energy management system, wireless sensor network

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