Push vs. Pull: An Energy Perspective

Reference:

D. Burgstahler, U. Lampe, N. Richerzhagen and R. Steinmetz, “Push vs. Pull: An Energy Perspective,” in: Proceedings of the 2013 6th IEEE International Conference on Service Oriented Computing & Applications (SOCA 2013), p. 190-193, IEEE Computer Society, December 2013. ISBN 978-1-4799-2701-2.

Abstract:

In many application scenarios, such as traffic guidance or ambient living, services need to notify mobile applications about status changes. Such notifications to mobile devices can be realized using two principal approaches, namely push- and pull- based. Apart from functional differences, the two options likely result in different energy consumption, which is an important aspect due to the battery constraints of contemporary mobile devices. This paper provides a detailed assessment of energy consumption in pull- and push-based notification scenarios, considering different payload sizes and notification intervals. Our results indicate that an educated choice among both options may, depending on the specific application scenario, facilitate energy savings of up to 19%.