

**A tight estimate of job completion time in vehicular clouds**

**Abstract:**

Inspired by the success of conventional cloud services, researchers have recently introduced the concept of a vehicular cloud. In this work, we envision a vehicular cloud involving cars in the parking lot of a major airport. The patrons of the parking lot are typically on travel for several days, providing a pool of cars that can serve as the basis for a datacenter. We investigate the effect of a redundancy-based job assignment strategy on job completion time in vehicular clouds. We offer a tight theoretical analysis of the expected job completion time under this strategy. We also discuss various approximations of the expected completion time. A comprehensive set of simulations have confirmed the accuracy of our theoretical predictions.