



UCL Department of Computer Science
CS M038/GZ06: Mobile and Cloud Computing
Spring 2013
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One-pager: Walter (Sovran *et al.*, 2011)

Due: Start of lecture, 20th March 2013

Instructions: *in your own words, answer the following questions as succinctly as possible (in 200–500 words total, but shorter answers within this range are encouraged). Quoting figures or text from the assigned reading or from any other source is specifically prohibited.*

Suppose you use Walter to store users' Amazon shopping carts, where a shopping cart consists of several items, each with an associated quantity. You configure Walter to geo-replicate across several data centers with long distances between them. Your goal is to avoid conflicting forks of the shopping cart contents. To achieve that goal, can you arrange to store shopping carts in a way that all modifications to shopping carts use fast commits, or must some modifications use slow commits? If you can always use fast commits, explain why, and which operations supported by Walter you can use to implement the shopping cart in this way. If not, explain in exactly which cases slow commits are necessary to avoid conflicting forks.