**Week 12: Zab Protocol**

**Overview**

Last week, we looked at the CAP and PACELC theorems and the Zookeeper consistent key-value store. This week, we are going to revisit some of the implementation details of Zookeeper. In particular, we will aim to understand the Zookeeper atomic broadcast (Zab) protocol, what correctness guarantees it provides, and how it works.

**Reflection Questions**

Re-read section 4 of Hunt, et al. 2011 from last week before reading Junqueira, et al. 2011.

* What problem is the Zab protocol meant to solve?
* What correctness criteria does it satisfy?
* Explain the basics of the leadership selection, leading, following, and liveness states and associated algorithms.
* Explain the mathematical notation that is used.
* How does the number of participating servers impact the number of operations per second?  Why?