Topic:

Mailbox Switch: A Scalable Two-stage Switch Architecture for Conflict Resolution of Ordered Packets

Abstract:

Traditionally, conflict resolution in an input-buffered switch is solved by finding a matching between inputs and outputs per time slot. To do this, a switch not only needs to gather the information of the virtual output queues at the inputs, but also uses the gathered information to compute a matching. As such, both the communication overhead and the computation overhead make it difficult to scale. Recent works on the two-stage switch architecture showed that conflict resolution can be easily solved over time and space without communication and computation overhead. However, the main problem of such a two-stage switch architecture is that packets might be out of sequence. In this talk, a scalable solution called “Mailbox Switch” will be presented.