**How to deal with issue of hot shards (refer to click ad example)**

With the above scaling strategies, we should be able to handle a peak of 10k clicks per second. **There is just one remaining issue, hot shards.** Consider the case where Nike just launched a new Ad with Lebron James. This Ad is getting a lot of clicks and all of them are going to the same shard. This shard is now overwhelmed, which increases latency and, in the worst case, could even cause data lo

Just launcedh an ad for lebron james and now it’s causing problems for us,

We can further partiion the data

. One popular approach is to update the partition key by appending a random number to the AdId. We could do this only for the popular ads as determined by ad spend or previous click volume. This way, the partition key becomes AdId:0-N where N is the number of additional partitions for that AdId.

What are some major differences between stream and batch processing?

Key pts for stream processing:

Stream processing has very low latcency