

The Batch Pattern

given:

set of items

function $f(\text{item})$ to apply to each item

solution:

collect k items (batch them)

then apply modified $f()$ on all items in batch simultaneously

The Batch Pattern

advantages:

might be cheaper to apply $f()$ on a set of items

drawbacks:

delays processing of individual items

implementation hints:

must limit time delay (latency) for individual item



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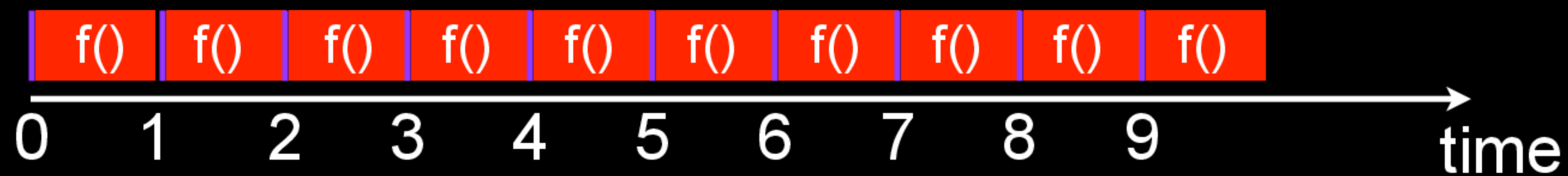
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must find sweet spot: latency vs. throughput

elephant optimization

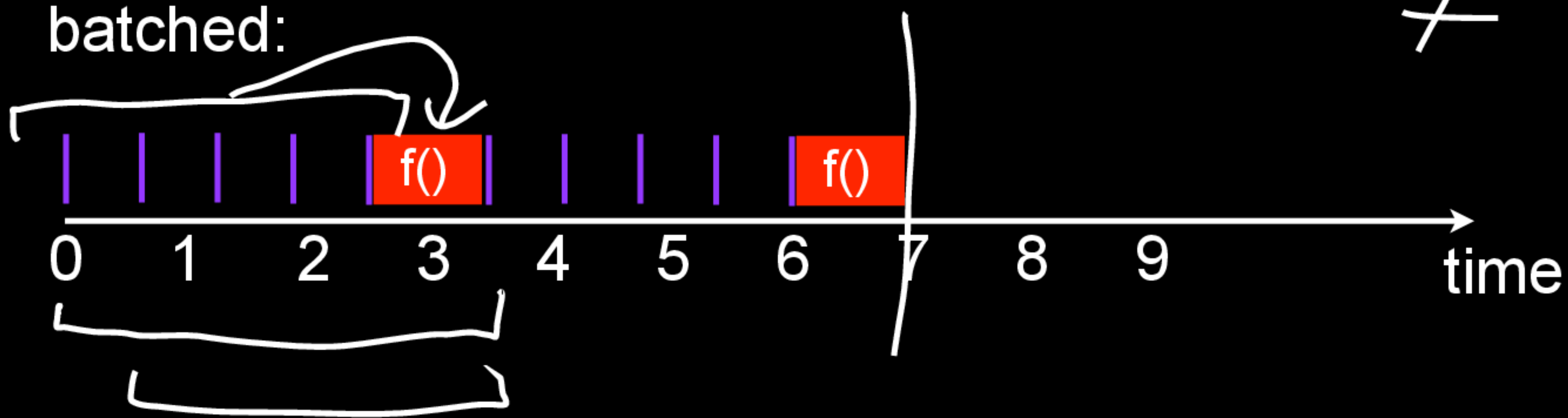
Latency versus Throughput

non-batched:



$$\frac{10}{10} = \underline{1}$$

batched:



$$\frac{10}{7} = \underline{1.43}$$