Stateless TCP

In this model, network state is decoupled from network processing enabling

- Elastic scaling
- Fault tolerance
- Easier software updates ...

But what about TCP endpoints?

TCP buffer recovery

Designed in two levels

The first level allows correct L7 protocol operation during recovery and scaling events

The second level allows applications to interact with the remote data buffers

Architecture

Each server runs a series of Stateless TCP stacks

Clients access their services through a load balancer or through an SDN switch

Prototype and Future work

Prototype is being built on the top of mTCP and DPDK

Redis as the remote datastore

Evaluating using HTTP server and Apache Bench as the benchmark

Early results show that Stateless TCP reduces throughput by less than 20% comparing with vanilla mTCP

Finish the prototype

What use cases and functionalities should we consider as future work?

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