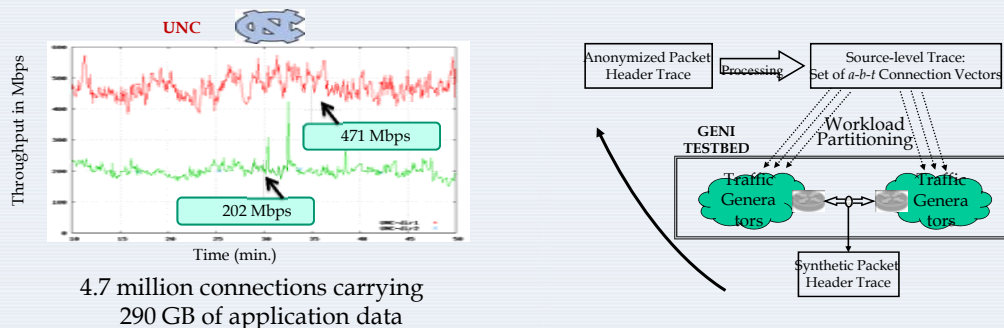




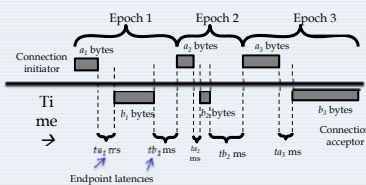
Original Traffic

GENI-Tmix is UNC's Tmix traffic generation system running on GENI testbeds. Experiment shown on right uses a fraction of this traffic as input and runs on two ProtoGENI nodes



TCP Trace to Tmix Connection Vectors

We analyze every connection found in a trace of TCP/IP headers to produce a "connection vector" for each connection. A connection vector includes the connection's start time relative to the beginning of the trace and a descriptor of each request-response exchange in the connection. A request-response exchange, called an "epoch," is described by a 4-tuple consisting of the request size (called the "a" unit size), the response size (called the "b" unit size) and two endpoint latency values (called the "t" values); one for the server-side "think time" between a request and its response and one for the user/client "think time" between successive requests. Unidirectional transfers have only an *a* or *b* value depending on the direction of transfer.



Epoch1: > a_1 bytes t_{a1} ms < b_1 bytes t_{b1} ms	Epoch2: > a_2 bytes t_{a2} ms < b_2 bytes t_{b2} ms	Epoch3: > a_3 bytes t_{a3} ms < b_3 bytes t_{b3} ms
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Output of Experiment on ProtoGENI

