

TCP global synchronization

TCP global synchronization in computer networks can happen to TCP/IP flows during periods of congestion because each sender will reduce their transmission rate at the same time when packet loss occurs.

Routers on the Internet normally have packet queues, to allow them to hold packets when the network is busy, rather than discarding them.

Because routers have limited resources, the size of these queues is also limited. The simplest technique to limit queue size is known as **tail drop**.

The queue is allowed to fill to its maximum size, and then any new packets are simply discarded, until there is space in the queue again.

This causes problems when used on TCP/IP routers handling multiple TCP streams, especially when bursty traffic is present.

While the network is stable, the queue is constantly full, and there are no problems except that the full queue results in high latency.

