

FS20

DISTRIBUTED SYSTEMS

In the news, week 17

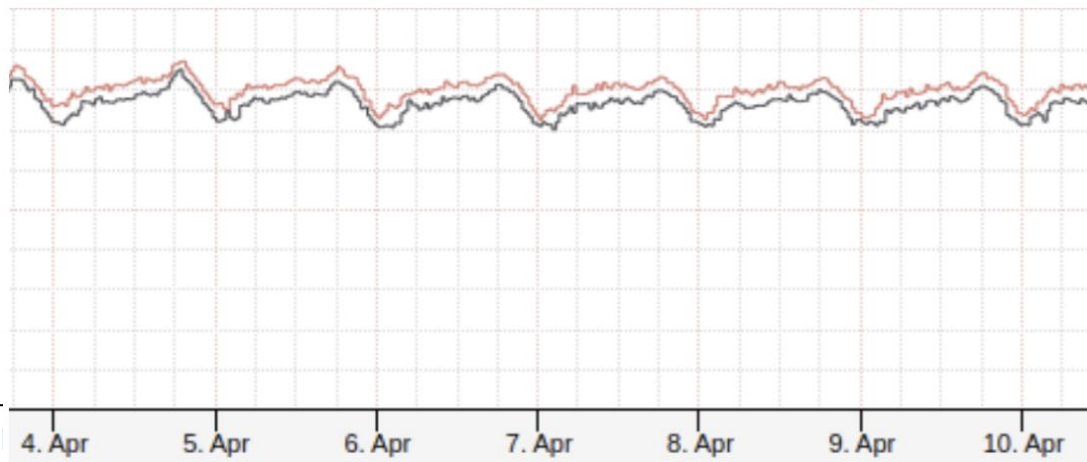
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Distributed Systems - In the News

■ 20.04.2020: How Netflix brings safer and faster streaming experiences to the living room on crowded networks using TLS 1.3

- “We want playback to start instantly”
- TLS 1.3 → lecture 2, slide 22, 1 round trip less, only 2 RTT
- Perfect Forward Secrecy → if a session key leaks, other sessions are secure (possible with TLS 1.2, 1.3 enforces it)
- Play delay decreased by 3-8%



TLS 1.2 (in Red) and TLS 1.3 (in Black) median play delay.

- “7.4% improvement in media rebuffers. This result implies that using TLS 1.3 with 0-RTT is more efficient and can reduce the CPU load.”

■ 14.04.2020: Comparing HTTP/3 vs. HTTP/2 Performance

- HTTP/3 is QUIC (lecture 2, slide 23), only 1 RTT
- “For a small test page of 15KB, HTTP/3 takes an average of 443ms to load compared to 458ms for HTTP/2. However, once we increase the page size to 1MB that advantage disappears: HTTP/3 is just slightly slower than HTTP/2 on our network today, taking 2.33s to load versus 2.30s”
- Congestion Control: New Reno vs. BBR

Questions?



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