

FS20

DISTRIBUTED SYSTEMS

In the news, week 18/19

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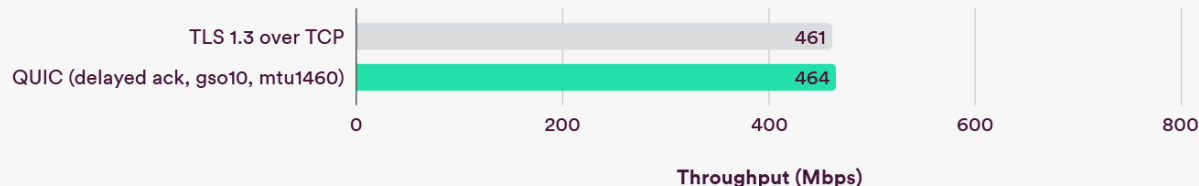
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■ 30.04.2020: Can QUIC match TCP's computational efficiency?

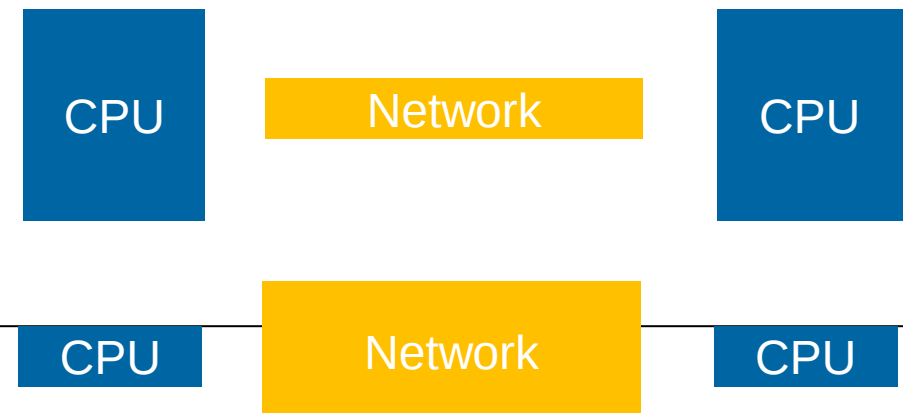
- [Fastly](#), CDN and edge cloud
- Building their own QUIC implementation
 - <https://github.com/h2o/quicly> (C)
- Soon standardized by [IETF](#)
- Question: what is the computational cost of QUIC compared to TCP
- Synthetic benchmark

Sustained throughput at 100% CPU utilization

fastly.

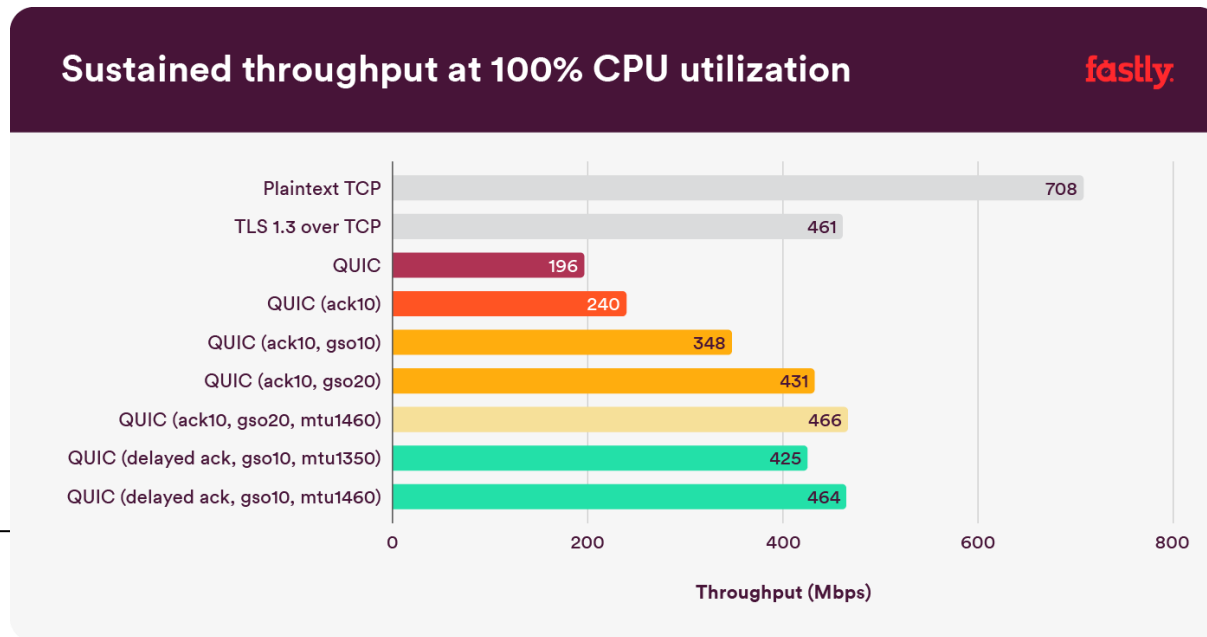


- TCP/UDP runs in kernel space, QUIC does most of work in user space
- “anticipated two major sources of computational”
 - Acknowledgement processing (copy user space/kernel space, encryption)
 - Per-packet sender overhead (kernel has no state, routing for every packet)
- Measurements: CPU load if network fully loaded vs. fully CPU load and measure network



Distributed Systems - In the News

- CPU limited to 400MHz
- TCP: 708 Mbps
- TCP + TLS 461 Mbps
- QUICly: 196 Mbps
 - Reduced nr of acks: 240Mbps
 - Generic Segmentation Offload: 431Mbps
 - Increase packet size: 466Mbps



■ 19.04.2020: [Git branch naming conventions](#)

- Opinion! – use your own naming in your agile setup
- Example: 722-add-billing-module
 - 722: issue ID
 - add-billing-module: short description

■ 02.05.2020: [Git Branch Naming Conventions for the Real World](#)

- “feature branches rarely address such a large item as “billing module”
- “each subtask would have issue tracker IDs but they often don’t”
- “GitHub and GitLab have adopted referencing the issue in the commit”
- “remain free to name our branches as we see fit”

■ 03.05.2020: [Is the Cloud Recession-Proof?](#)

- Not sure...

Questions?



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