

Impact of the COVID-19 pandemic on the Internet latency

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Collaboration with

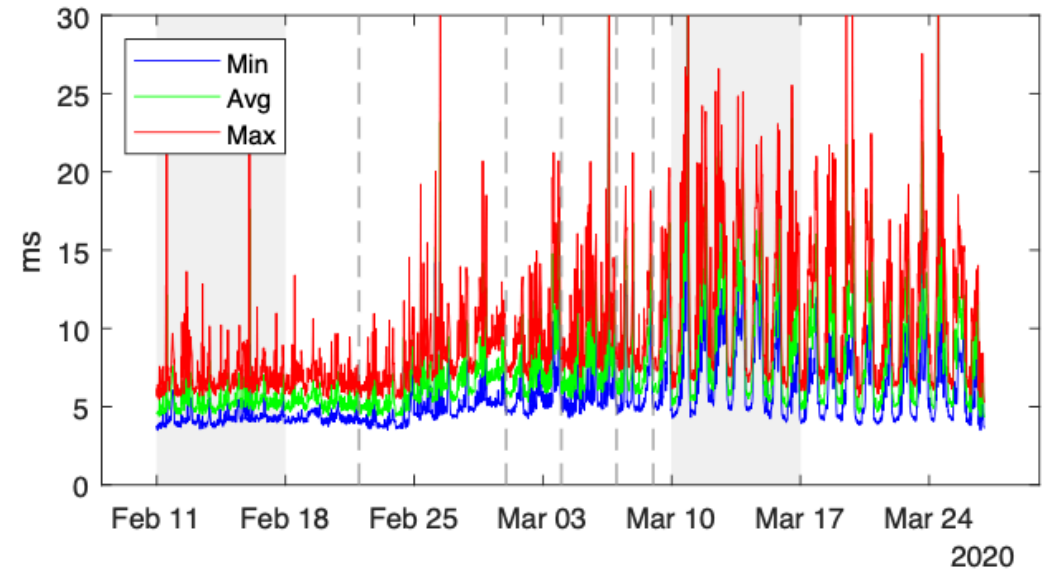
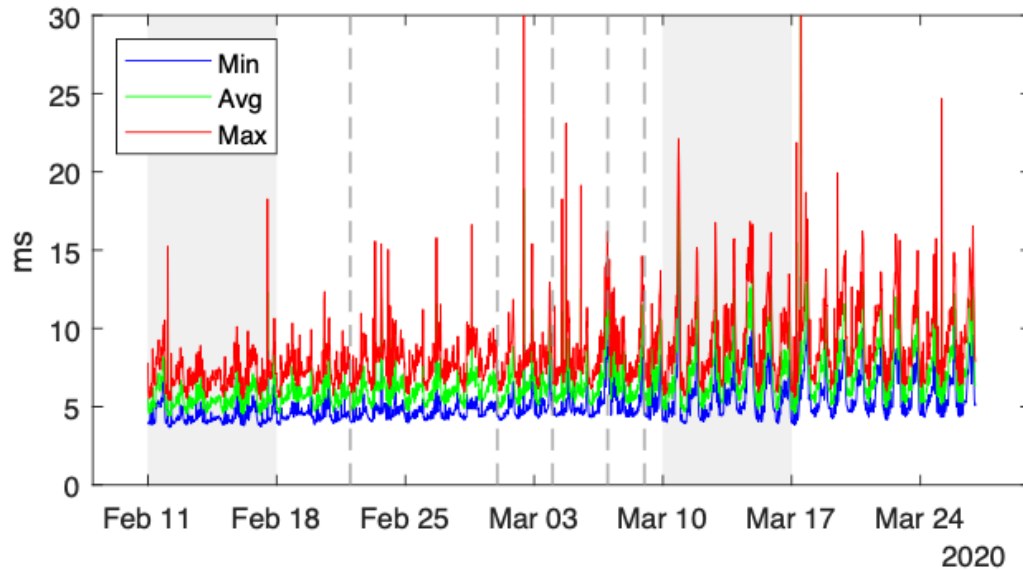
Valerio Luconi (CNR)

Prof. Alessio Vecchio (Univ. of Pisa)

Dataset

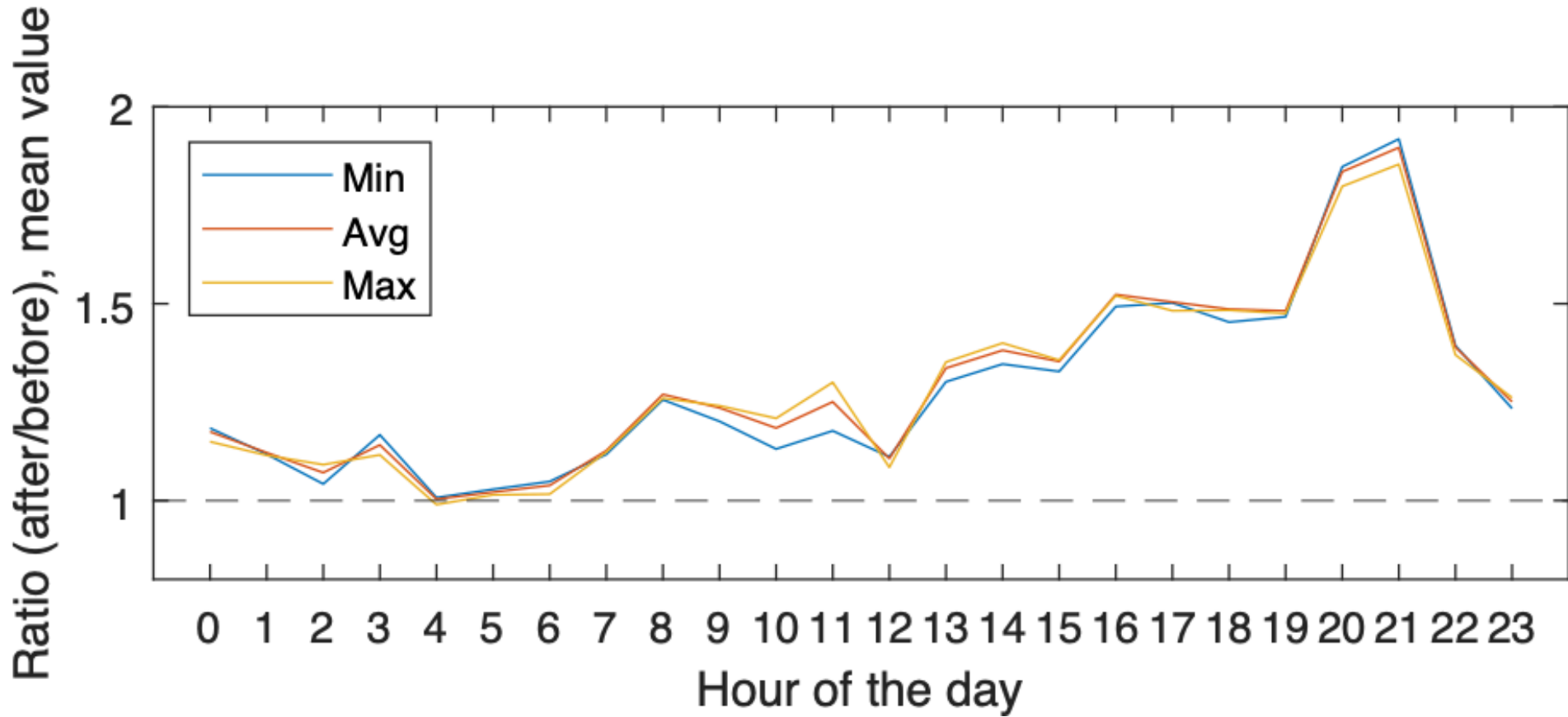
- We use RIPE Atlas
 - Anchoring Measurements and User defined measurements
 - From February 10 to March 27
- We use only periodic measurements
 - Sending at least 3 packets every ping
 - Reporting values for at least 10 days
 - With both source and target in Europe
- Size:
 - Anchoring measurements: 6+ billion
 - User defined measurements: 500+ million

Impact on Italy



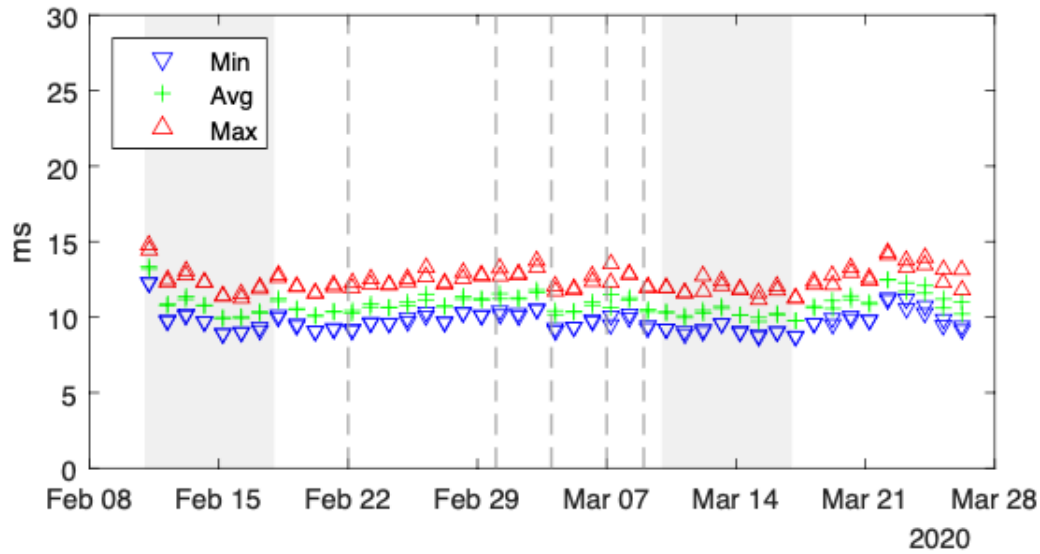
- Comparing “before” and “after”
- We plot the increase of RTT above the minimum value collected for each source-target pair

Remote working?

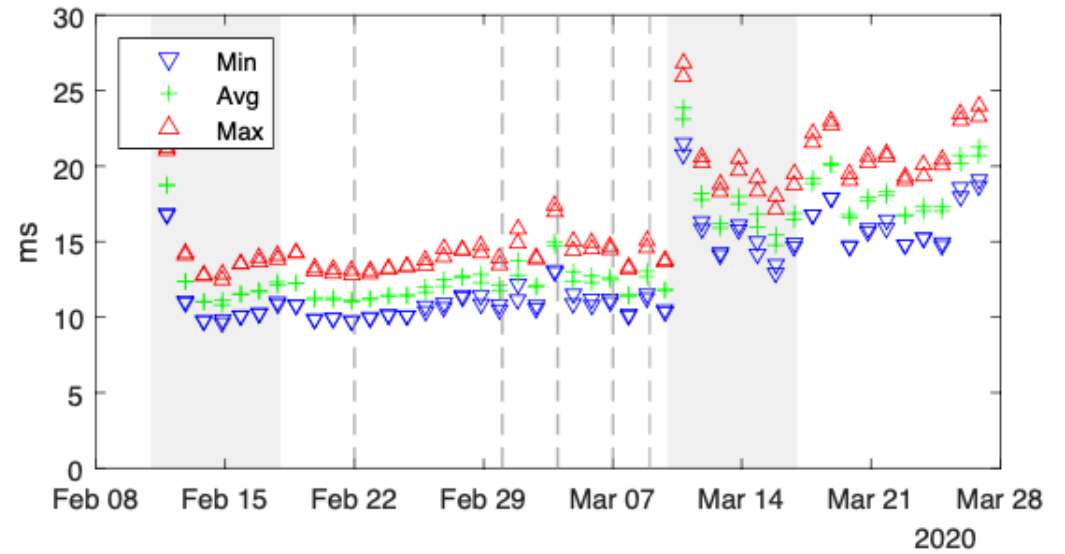


- No! It's probably entertainment

YouTube

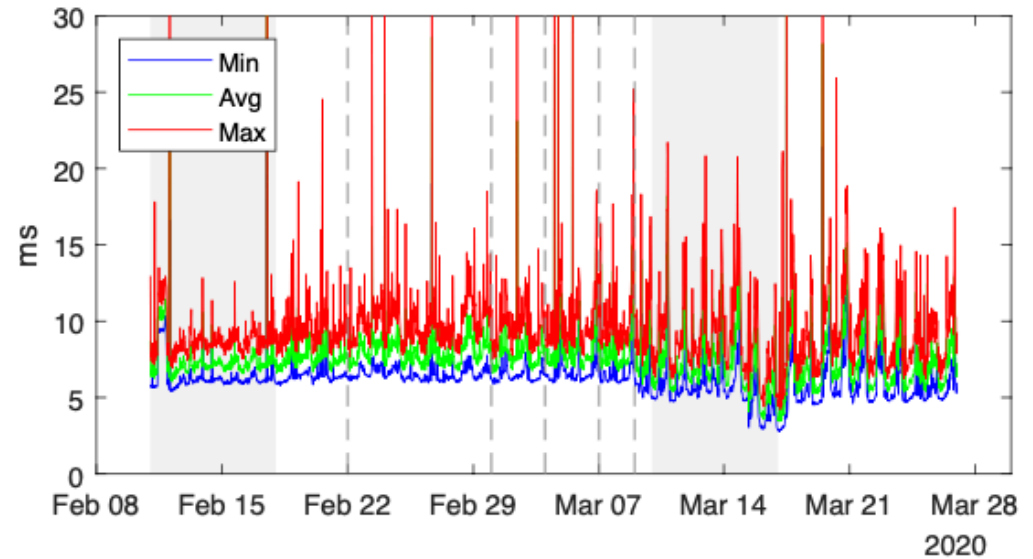
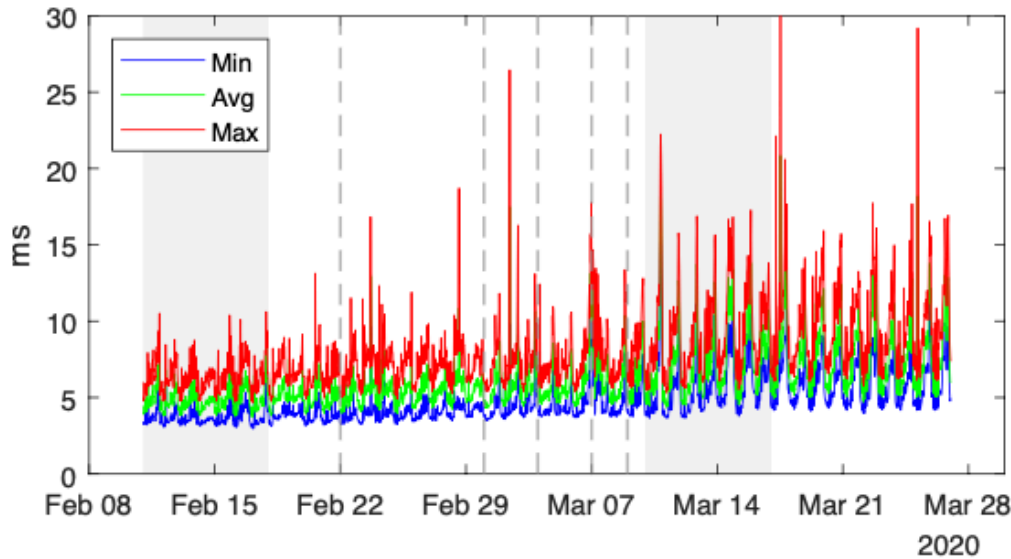


(a) RTT values collected between 05:00 UTC and 06:00 UTC

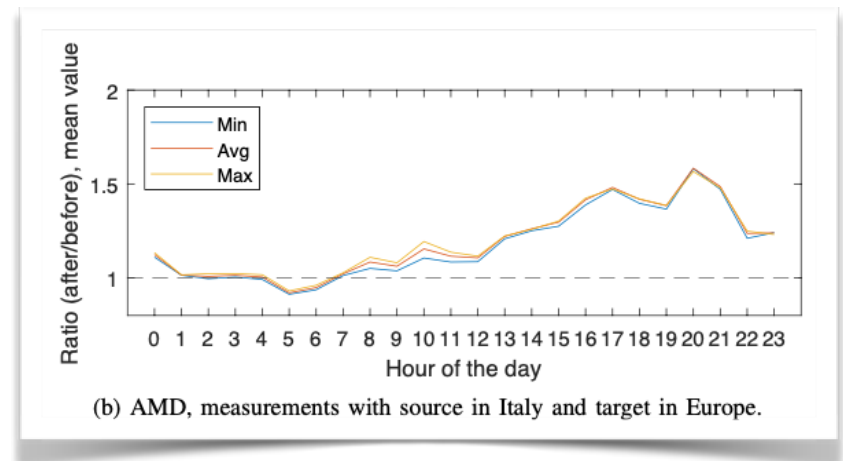


(b) RTT values collected between 20:00 UTC and 21:00 UTC

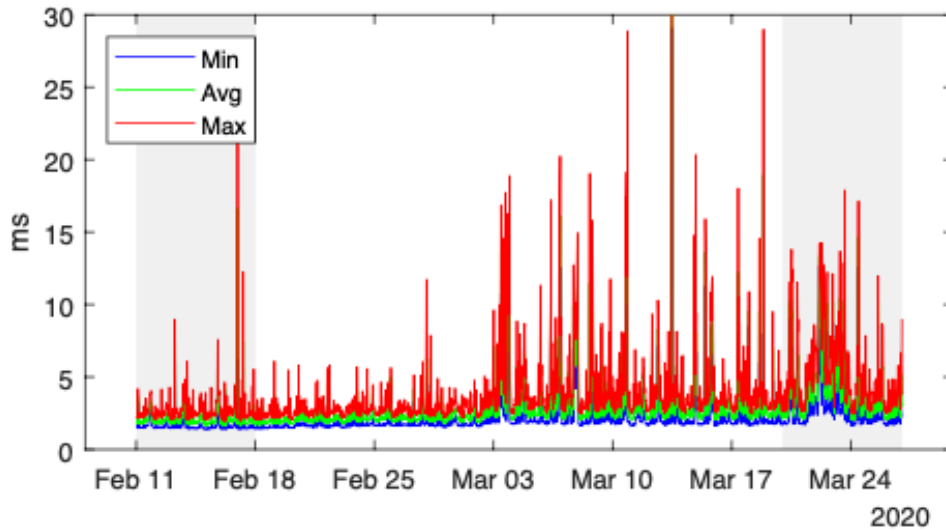
IPv4 and IPv6



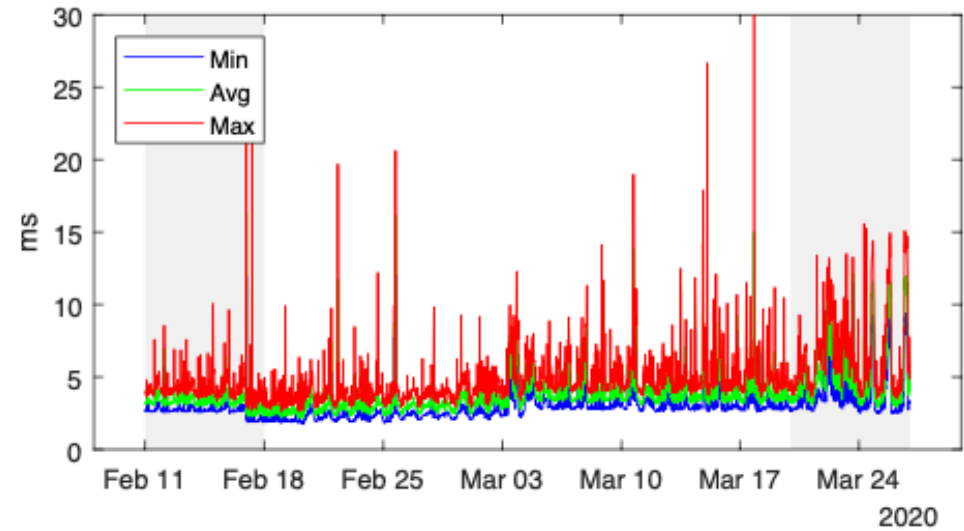
- Increase of RTT doubles for IPv4
- IPv6 is slightly impacted (actually, it improves)
- Possible cause: IPv6 is less available in access network



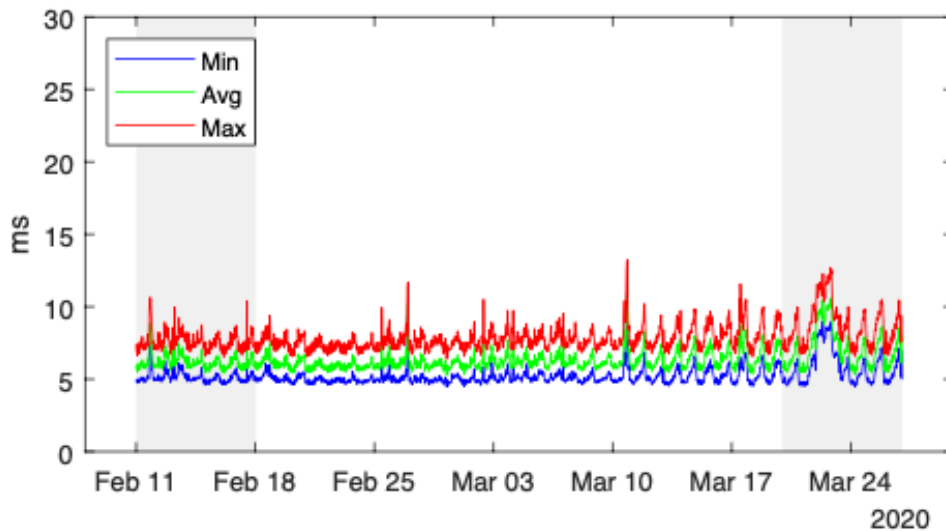
Sweden and rest of Europe



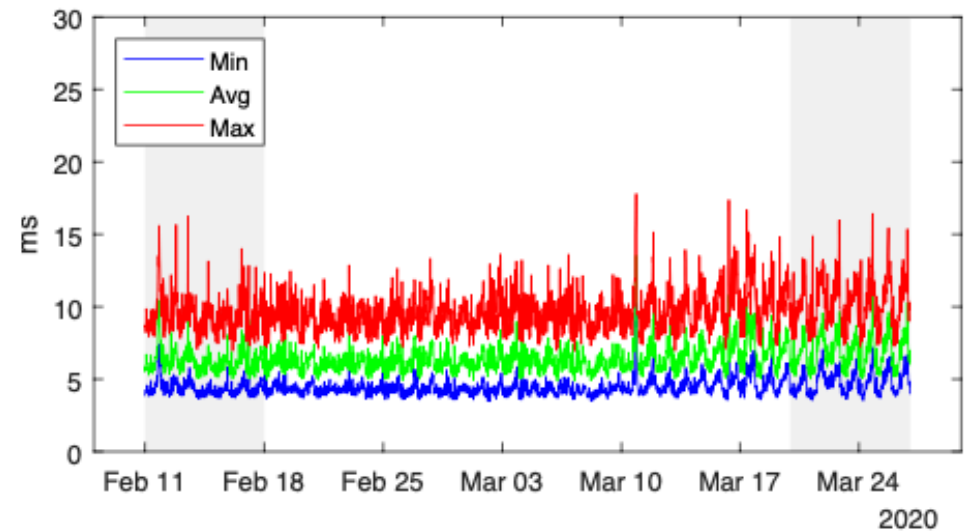
(g) AMD, from SE to SE.



(h) UDMD, from SE to SE.



(i) AMD, from EU to EU.



(j) UDMD, from EU to EU.

Questions?

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