Network and service operators: observations and actions

ITU Webinar on "Network performance, QoS and QoE in the light of a global pandemic“

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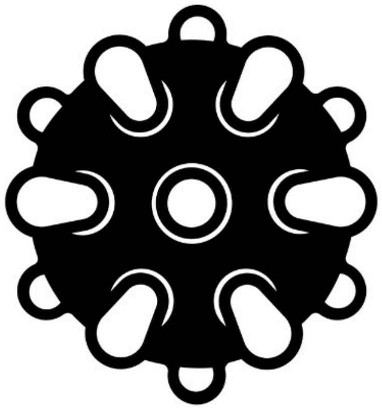
DURING THE CRISIS

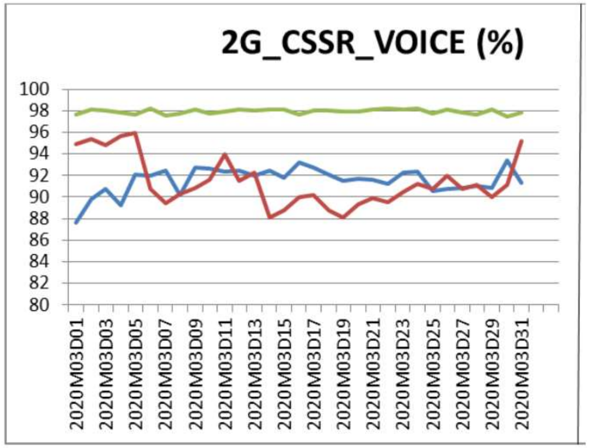


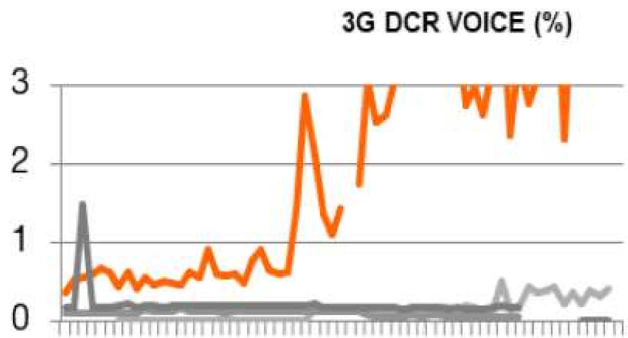
The sudden increase of traffic volume (mostly in March) had finally almost no negative impact on end users

The CAPACITY of networks was enough to swallow the increase.

Day by day operation during the crisis required an increase of MONITORING. Supervision of performance and QoS KPIs at the heart of the process.

In the future, the design of networks will evolve towards more FLEXIBILITY and resilience.

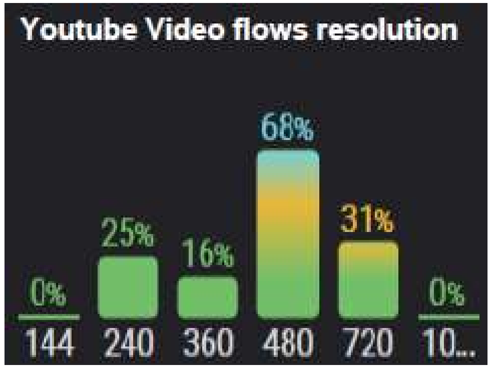




Anticipation from operators

Note: often coordinated with national or regional authorities (e.g. E.U.)

- **Agreement with service (Youtube, Netflix) providers to limit the throughput of their applications (back to SD, no 4K) without impacting user experience**
  - Recall: 60 % of DL internet throughput in Europe is taken by video streaming (Netflix: 12 %, Youtube 8 %)
  - Up to 40 % throughput reduction thanks to this action
  - Helped trade-off between perceived QoS vs simultaneous session number (resolution downgrade, but no decrease of quality in terms of availability/access),
  - Other decision: to postpone the launch of services (Disney+ in France)



- **Increasing mobile base station capacity (provisionally) in collaboration with vendors**
  - negotiations and contractual/operational governance

Commercial adaptation of service operators

Two trends:

- **Special offers with cheap prices**
  - Mostly for IP TV bundles (often offered for free in March and April)
  - But also for
    - mobile voice (longer monthly duration for same price)
    - mobile videotelephony (e.g. Happy hour 19-20)
    - mobile data (e.g. +10 GB/month)
    - Banking (e.g. 0 € account fee from 1 operation/month)
- **Philanthropy through services**
  - e.g. possibility to donate 5 € by SMS to Red Cross, donation of SIM cards to social car associations

QUESTIONS:

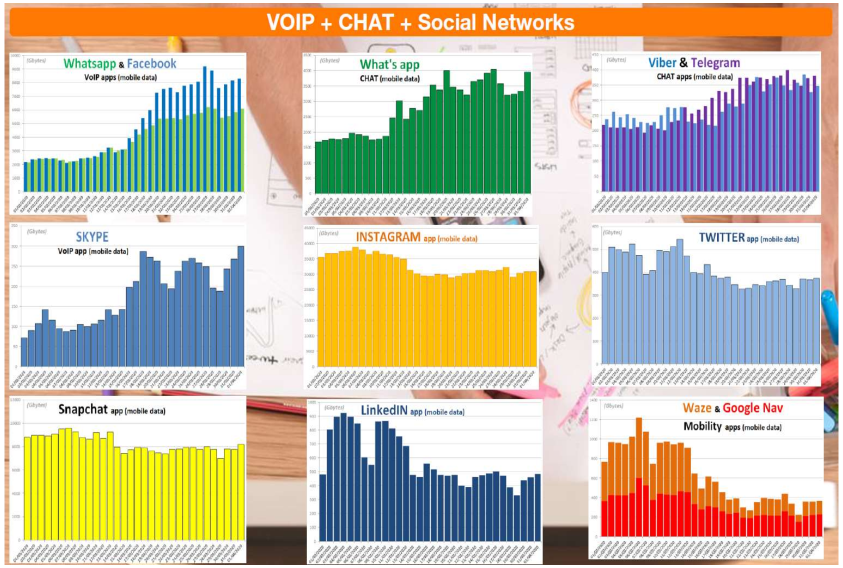
Will these actions last beyond the end of the current crisis?

What impact of these new offers on networks and on QoS?

AFTER THE CRISIS

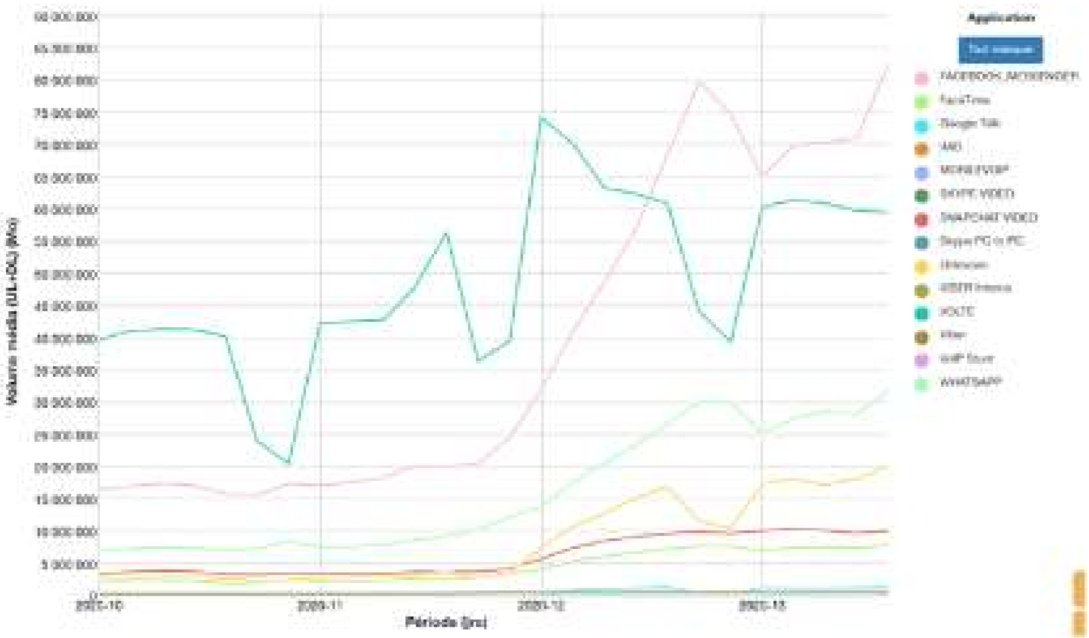
Evolution of usages and habits, some temporarily, some not

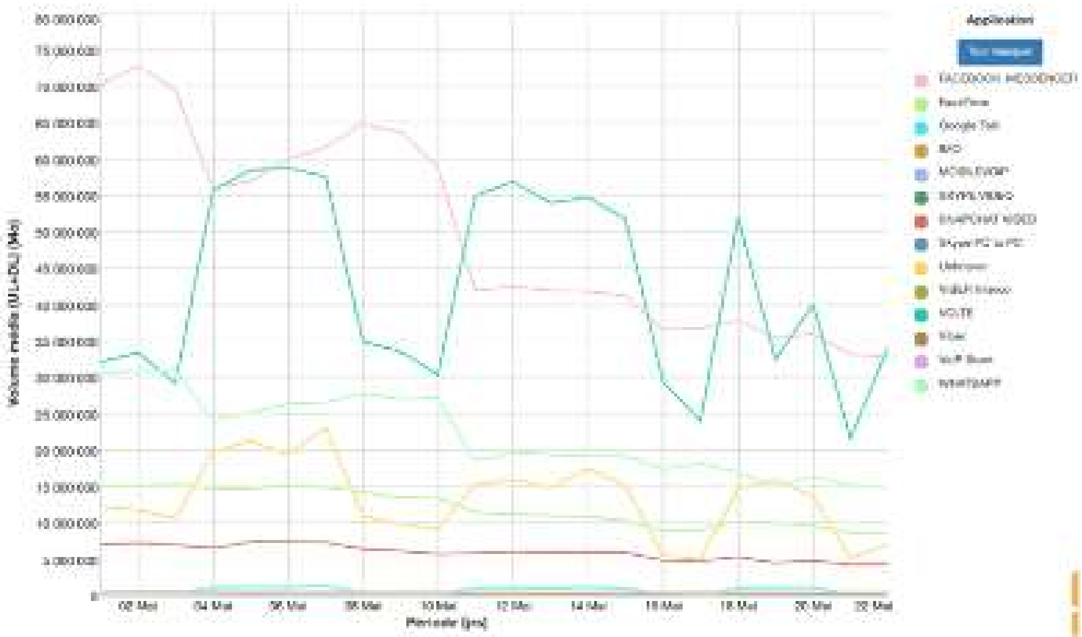
- **More people working from home, many even in countryside**
- **Wide usage of OTT VoIP (exceeded VoLTE traffic), videotelephony and videoconference (+80 % in some countries)**
- **E-commerce becomes a regular habit, even in new types of business (restaurants, local shopping)**
  - Acceleration of existing trend (+40% in 3 months!)
- **Strong demand on gaming applications**
- **SMS in slight decrease but MMS increasing**
- **Mobility apps traffic drop**



Traffic of some applications: evolution in March 2020

Example of OTT VoIP applications in France (mobile)





March: explosion of usage

May: back to normality, but new habits in place

Challenges to come in terms of QoS and QoE

- **Network coverage in less dense zones**

- **Prioritization of flows in Home LANs**

- **QoE and security of E-commerce**

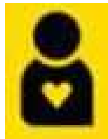
The CoVid19 crisis amplified already existing trends concerning the usage of digital services and the associated risks/challenges

- **Digital inclusion**
  - Remote access to critical services: e-health, e-education
  - E-culture (i.e. not only mainstream entertainment)
  - Accessibility of services for disabled, elderly
  - Problems due to low network coverage
  - Risk of screen addiction

- **Green IT**
  - Homeworking = less transport ➔ less pollution
  - Wider usage of digital services ➔ more energy comsumption (datacenters, devices)

- **Digital Safety**
  - More surface to fake news
  - Risk on preservation of personal data (contact tracing…)
  - Cybercriminality

- **Working conditions**
  - Remote access to corporate information system (VPNs, etc.)
  - No longer direct contact with customers
  - No suitability of homes for a regular work (room, furniture, network access, other inhabitants, etc.)
  - No longer separation between private and professional lives ➔ impact on psychological health



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