

BEREC Summary Report on the status of internet capacity, regulatory and other measures in light of the Covid-19 crisis

In a joint statement with the European Commission, on 19 March 2020, on how network operators can cope with the increased demand of network capacity, BEREC committed to a special reporting mechanism to ensure regular monitoring of the Internet traffic situation in each Member State, in order to be able to respond swiftly to capacity issues. Furthermore, BEREC is collecting information on other measures implemented by National Regulatory Authorities (NRAs) as well as on other initiatives by public and private parties throughout Europe.

This report focuses on, and summarises, the main updates of an ongoing monthly information gathering exercise, and includes the most recent data provided to BEREC by its constituent NRAs as of 15 December 2020. This month's report provides an update on the information collected by BEREC regarding the status of networks in Member States (see section 1.2 below) based on a 'traffic light' illustration. During the entire reporting period (i.e. since BEREC first published a report on how the Covid-19 crisis is impacting internet capacity etc.), 33¹ NRAs have shared their data about the impact of the crisis on electronic communications networks and the actions taken so far in their respective Member States.

Please refer to the previous iterations of this summary report² for further details on some of the early measures applied by NRAs during the crisis. Regarding the future of this regular report, BEREC and the European Commission will discuss the appropriate approach for collecting and publishing the information in 2021.

1. Status of internet capacity

In general, while traffic on fixed and mobile networks have increased during the Covid-19 crisis, no major congestion issues have been reported by NRAs to BEREC.

¹ The following NRAs have contributed so far to the information gathering exercises: AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HR, HU, IE, IT, LT, LU, LV, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, and SK.

² The previous iterations of the summary report can be found at:
https://berec.europa.eu/eng/document_register/search/?reference_number=&title=summary+report&contents=&category_id=&date_from=&date_to=&search=1

For this report, 3 NRAs³ have provided updates of substance (i.e. information highlighting changes in answers to the questions asked in BEREC's information gathering exercise) on the status of internet capacity in their Member State since the previous information gathering exercise (24 November 2020), while 19 NRAs⁴ have explicitly mentioned that either the situation remains stable or there is nothing new to report. Please refer to previous iterations of the internet capacity summary report for further details on some of the early measures applied by NRAs during the crisis.

Key updates since previous report

- *In HU, the NRA received one report of a temporary congestion which caused some technical errors in the core network of one ISP, leading to a hardware failure in the core router of the ISP.*
- *In IT, due to new local and national restrictions in October 2020, an ongoing increase in traffic has been reported (compared to the situation in mid-February 2020), but with no issue of exceptional network congestion in mobile and fixed access networks.*
- *In PT, overall internet traffic has increased since the last status update, due to an increase in fixed data traffic (which represents 96% of total traffic).*

1.1 Status of networks

In general, three phases in the evolution of internet traffic have been observed during the crisis: sharp increase, stabilisation and a decrease from the peak.

The following updates on the status of internet traffic have been reported:

In HU, while the status of internet traffic remains stable, the NRA recently received one report of a temporary congestion which caused some technical errors in the core network of one ISP. The sudden increase in user traffic resulted in a hardware failure in the core router of the ISP. The congestion was handled by redirecting the traffic until the failed device was replaced. Shortly thereafter, a software error occurred in the DNS server of the same ISP, which was fixed within a few hours. It is unclear at this stage if there was a connection between the two incidents.

In IT, due to new local and national restrictions, since October 2020 a significant increase in traffic has been reported (in comparison with mid-February 2020 (week7)) but with no issue of exceptional network congestion in mobile and fixed access networks. Week 49 registered a significant increase in mobile data traffic. Compared to week 7, week 49 showed an increase

³ NRAs from the following Member States have provided substantive updates since the previous data gathering exercise: HU, IT, and PT.

⁴ NRAs from the following Member States having explicitly mentioned that there were no changes since the previous data gathering exercise: AT, BE, BG, CY, CZ, DE, DK, FI, FR, HR, LT, LV, MT, NL, NO, RO, SE, SI, SK.

of 48% in intensity and up 46% in volume. Regarding mobile voice traffic, a stabilization can be observed as, compared to week 7, there was an increase of 14% in intensity and 21% in volume for week 49. A significant increase in fixed data traffic was registered in week 49, compared to week 7, as intensity and volume grew by 55% and 66% respectively.

In PT, overall internet traffic has increased since the last status update, due to an increase in fixed data traffic. On 6 December 2020, data traffic was 77% above the volume registered the week before the pandemic was declared. Mobile data traffic has not changed in comparison to the situation in November. On 6 December 2020, mobile data traffic was still 10% above the volume registered the week before the pandemic was declared. Fixed data traffic has increased in comparison to the situation in November. On 6 December 2020, the volume of fixed internet traffic was 82% above the volume registered the week before the pandemic was declared. Fixed internet traffic represents 96% of total traffic.

1.2 Status of networks

Figure 1 below illustrates the results of a data collection exercise that BEREC launched in October 2020 regarding the status of networks across Europe. NRAs were asked to provide a response on the overall status of telecommunications networks in their respective countries, based on the following categorisation:

- Green: Networks are working well, Covid-19 is not creating issues for the availability or general quality of IAS. No exceptional traffic management measures justified.
- Yellow: Covid-19 is causing limited congestion issues affecting the general quality of IAS (e.g. with 1 or 2 ISPs or networks). Exceptional traffic management measures might be possible, but would require close scrutiny of the NRA under OI Regulation.
- Red: Severe and/or widely spread network congestion issues due to Covid-19 affecting the general quality of IAS and exceptional traffic management measures are likely justified and/or used.

27 NRAs⁵ have responded to this request (26 of which have indicated 'status green' and 1 of which has indicated 'status yellow'). In the case where an NRA did not respond, the map appropriately shows 'no data' for such countries⁶. As set out in section 1.1 above, HU indicates that there has been limited network congestion in light of some technical errors in the core network of one ISP.

⁵ AT, BE, BG, CY, CZ, DE, DK, ES, FI, FR, HR, HU, IE, IT, LT, LV, ME, MK, MT, NO, PT, RO, RS, SE, SI, SK and TR.

⁶ In this case, 10 countries: AL, BA, CH, EE, EL, IS, LI, NL, PL, and XK. The map also includes a number of non-BEREC countries, which are clearly indicated as per the legend.

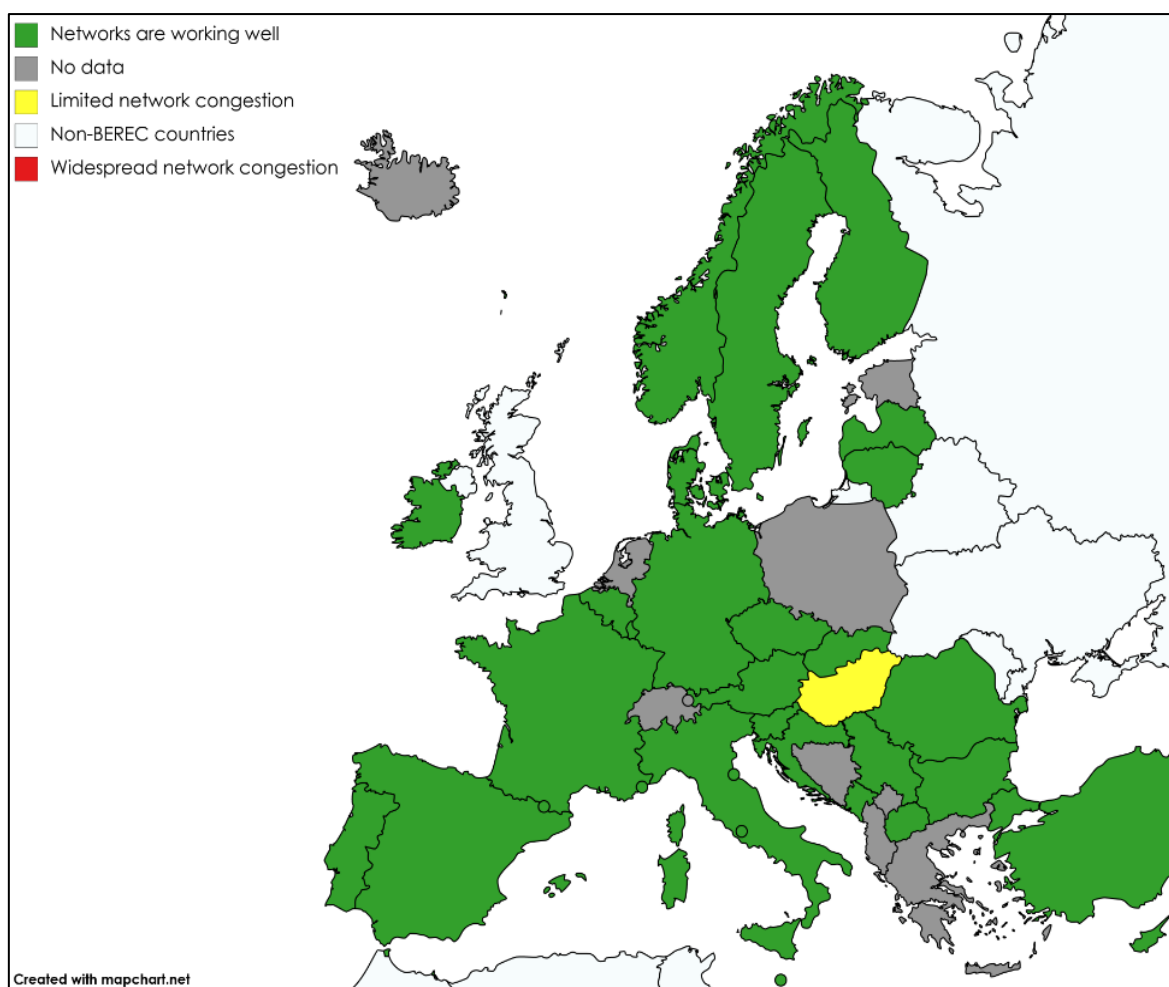


Figure 1: Status of networks (based on information submitted by NRAs up to, and including, 15 December 2020)

1.3 Regulatory actions taken

NRAs are monitoring the situation and are collecting data from ISPs and other market players about the status of their networks, but are doing so with different regularity. However, no NRAs provided an update of substance with respect to regulatory actions taken in November.

1.4 Actions taken and communication by operators

No NRA has provided new information to be included in this section of the report.

2. Other measures taken by NRAs, public institutions and market players

Key updates since previous report

- *IT submitted information related to measures implemented by the NRA and operators regarding the provision of free mobile data to end-users during the upcoming Christmas period*
- *AT, DE, IT and TR provided an update concerning their tracing applications*

2.1 Measures implemented by the NRA

No NRA has provided new information to be included in this section of the report.

2.2 Measures implemented by operators

IT reported that the government has asked mobile operators to provide users with free data traffic during Christmas holidays in order to ease and encourage virtual communications among family members and friends over a period in which many restrictions on personal movement will be in force. The three main Italian operators have accepted the government invitation.

2.3 Measures to monitor the spread of Covid-19

BEREC has asked NRAs if there are any tracing applications/solutions in place in their Member State in order to monitor the spread of Covid-19. Information provided earlier to BEREC is available in previous iterations of this summary report.

An update on the issue of tracing applications/solutions, as of 15 December, has been provided to BEREC by AT, DE, IT, TR.

AT reported that as of 11 December, 1.3 million users have downloaded the Stopp Corona App.

DE informed BEREC that more than 5.2 million test results have been transmitted via the app, and around 115,000 positive test results have been notified by app users. As of 11 December, 23.8 million downloads have been registered.

IT reported that as of 14 December just over 10 million users downloaded Immuni, the Italian tracing application.

TR reported that as of 26 November more than 10 million downloads of the tracing application have been registered in the Google Play store. TR also reported that as a result of examination and malware analysis, signatures were created for mobile applications and malware, and malware activities were detected accordingly. In this context, TR detected 211 fake conference applications and implemented the necessary procedures. A Covid-19 threat intelligence report

was published on the CERT Communications Platform which is a secure communications platform among the national CERTs and sectoral and institutional CERTs, and shared with the relevant parties. 42 malware reviews and 569 malware information were shared in the report. Due to the increase in the use of remote working methods, 19,350 vulnerabilities have been detected by scanning remote management services and necessary warnings have been issued to the relevant public institutions. 987 harmful droppers and command & control centres related to Covid-19 were blocked.