C z e c h   T e l e c o m m u n i c a t i o n   O f f i c e
with headquarters at Sokolovská 219, Prague 9
P.O. Box 02, Prague 025, Postcode 225 02

Prague, 18 August 2020
Ref.: ČTÚ-31 723/2020-610

On the basis of public consultation under Section 130 of the Act No. 127/2005 Coll., on electronic communications and on amendment to certain related acts (the Electronic Communications Act), as amended (hereinafter "the Act") and on the basis of the decision of the Council of the Czech Telecommunications Office (hereinafter "the Office") under Section 107(9)(b) of the Act, and in order to implement Section 9 of the Act the Office as the appropriate state administration body under Section 108(8)(a) and (b) of the Act hereby issues this Measure of General Nature

General Authorisation No. VO-S/1/08.2020-9, amending General Authorisation No. VO-S/1/07.2005-9 laying down the conditions for the provision of electronic communication services, as further amended

Article 1

General Authorisation No. VO-S/1/07.2005-9 laying down the conditions for the provision of electronic communication services, as amended by General Authorisation VO-S/1/07.2007-11, General Authorisation VO-S/1/01.2012-2 and General Authorisation VO-S/1/09.2014-5, is hereby amended as described below:

1. In Article 2(2) at the end of point (d) a comma shall replace the final full stop and new points (e) and (f) are inserted, reading as follows:

"e) provider of an Internet access service at a fixed location in fulfilment of the obligation stemming from Article 4(1)(d) of the Regulation (EU) 2015/2120 of the European Parliament and of the Council of 25 November 2015 laying down measures concerning open internet access and amending Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services and Regulation (EU) No 531/2012 on roaming on public mobile communications networks within the Union (hereinafter only the "Regulation"), shall specify, in the contract for the provision of publicly available electronic communications services, particular speeds and description of the impact of discrepancies on the exercise of consumer rights according to the specifications stated in Annex 1 to this General Authorization,

f) provider of a mobile Internet access service in fulfilment of the obligation stemming from Article 4(1)(d) of the Regulation, shall specify, in the contract for the provision of publicly available electronic communications services, particular speeds and description of the impact of discrepancies on the exercise of consumer rights according to the specifications stated in Annex 2 to this General Authorization."

2. Annexes 1 and 2 are inserted, reading as follows:

Annex 1 to General Authorisation No. VO-S/1/07.2005-9

Specification of the Internet Access Service at a Fixed Location

1	Maximum speed	**Maximum speed** is the data download and upload speed which must be determined realistically with regard to the technology used and its transmission capabilities and with regard to particular deployment conditions which give limits for the download and upload direction. The maximum speed must be realistically achievable on a given network termination point (NTP) with a possible variation caused demonstrably only by physical properties of the NTP in question. Information on the possible variance and its physical causes must be indicated in the subscriber contract. The value of the maximum speed corresponds to the TCP throughput of the transport layer according to the ISO/OSI reference model. Maximum speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s). Verification of the realistically achievable value of maximum speed is based on the ITU-T Y.1564 standard. The above mentioned can be expressed by the following formula: $$R_{max}(\text{download, L 4}) \rightarrow R_{max}(\text{download, L 2}) \geq$$ $$\geq 95\%\ IR_{CIR+EIR}(\text{download}),$$ $$R_{max}(\text{upload, L 4}) \rightarrow R_{max}(\text{upload, L 2}) \geq$$ $$\geq 95\%\ IR_{CIR+EIR}(\text{upload}),$$ where R_{max} is the maximum speed, L 4 is the transport layer according to RM ISO/OSI, L 2 is the data link layer according to RM ISO/OSI, $IR_{CIR+EIR}$ is the resulting information speed according to ITU-T Y.1564 corresponding to the input parameter in the form of defined value of the maximum speed R_{max} (L 1).
2	Advertised speed	**Advertised speed** is the data download and upload speed which the Internet access service provider uses in its commercial communication, including advertising and marketing, in connection with the promotion of Internet access service offers, and with which it identifies the Internet access service when concluding a contract with the end user. The value of the advertised speed is not greater than the maximum speed. The value of the advertised speed corresponds to the TCP throughput of the transport layer according to the ISO/OSI reference model. Advertised speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s). The above can be expressed by the following formula: $$R_{inzer}(\text{download, L 4}) \leq R_{max}(\text{download, L 4}),$$ $$R_{inzer}(\text{upload, L 4}) \leq R_{max}(\text{upload, L 4}),$$ where R_{inzer} is the advertised speed, R_{max} is the maximum speed, L 4 is the transport layer according to RM ISO/OSI.
3	Normally available speed	**Normally available speed** is the data download and upload speed the end user can expect and actually achieve at the time when using the service. The value of the normally available speed corresponds to at least

		60% of the value of the advertised speed and is available 95% of the time during one calendar day. The value of the normally available speed corresponds to the TCP throughput of the transport layer according to the ISO/OSI reference model. Normally available speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s).
		The above can be expressed by the following formula:
		$$BDR\ (download, L\ 4) \geq 60\%\ R_{inzer}\ (download, L\ 4),$$
		$$BDR\ (upload, L\ 4) \geq 60\%\ R_{inzer}\ (upload, L\ 4),$$
		where
		BDR is the normally available speed, R_{inzer} is the advertised speed, L 4 is the transport layer according to RM ISO/OSI.
4	Minimum speed	**Minimum speed** is the lowest data download and upload speed which the Internet access service provider agreed to provide to the end user under the contract. The value of the minimum speed corresponds to at least 30% of the value of the advertised speed in the form of the TCP throughput of the transport layer according to the ISO/OSI reference model; this means that the data download or upload speed will not fall below the minimum speed value. Minimum speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s).
		The above can be expressed by the following formula:
		$$R_{min}\ (download, L\ 4) \geq 30\%\ R_{inzer}\ (download, L\ 4)$$ and, at the same time, $$SDR\ (download, L\ 4) \geq R_{min}\ (download, L\ 4),$$
		$$R_{min}\ (upload, L\ 4) \geq 30\%\ R_{inzer}\ (upload, L\ 4)$$ and, at the same time, $$SDR\ (upload, L\ 4) \geq R_{min}\ (upload, L\ 4),$$
		where
		SDR is the actually achieved speed, corresponding to the value of TCP throughput, R_{min} is the minimum speed, R_{inzer} is the advertised speed, L 4 is the transport layer according to RM ISO/OSI.
5	Significant continuous discrepancy	A **significant continuous discrepancy** from the normally available speed (download and upload) is such discrepancy that creates a continuous decrease in the performance of the Internet access service, i.e., a decrease in the actually achieved speed corresponding to the TCP throughput determined by measurement below the defined value of the normally available speed at an interval of more than 70 minutes.
		The above can be expressed by the following formula:
		$$SDR\ (download, L\ 4) < BDR\ (download, L\ 4)$$ and, at the same time, $$T_{BDR}\ (download) > 70\ minutes,$$ or $$SDR\ (upload, L\ 4) < BDR\ (upload, L\ 4)$$ and, at the same time, $$T_{BDR}\ (upload) > 70\ minutes,$$
		where

		SDR is the speed actually achieved, corresponding to the value of TCP throughput, BDR is the normally available speed, L 4 is the transport layer according to RM ISO/OSI, and T_{BDR} refers to the length of the interval of exceeding the value of the normally available speed corresponding to the start time of the measuring process when the value of the actually achieved transmission speed is lower than the defined value of the normally available speed.
6	Significant recurring discrepancy	A **significant recurring discrepancy** from the normally available speed (download and upload) is such discrepancy at which there are at least three decreases in the actually achieved speed corresponding to the TCP throughput determined by measurement below the defined value of the normally available speed at an interval longer than or equal to 3.5 minutes within a time period of 90 minutes. The above can be expressed by the following formula: $$SDR\ (download,\ L\ 4) < BDR\ (download,\ L\ 4),$$ and, at the same time, $$\exists\ t_1,\ t_2,\ t_3: T_{BDR}\ (download) \geq 3.5\ minutes$$ and, at the same time, $$(t_3 - t_1) \leq (90\ minutes - T_{TestB}),$$ or $$SDR\ (upload,\ L\ 4) < BDR\ (upload,\ L\ 4),$$ and, at the same time, $$\exists\ t_1,\ t_2,\ t_3: T_{BDR}\ (upload) \geq 3.5\ minutes$$ and, at the same time, $$(t_3 - t_1) \leq (90\ minutes - T_{TestB}),$$ where SDR is the actually achieved speed, corresponding to the value of TCP throughput, BDR is the normally available speed, L 4 is the transport layer according to RM ISO/OSI, $t_x\ (x \in N^+)$ refers to the start time of the test during which the value of the actually achieved speed fell below the value of the normally available speed, T_{BDR} refers to the length of the interval of exceeding the value of the normally available speed corresponding to the start time of the measuring process when the value of the actually achieved speed is lower than the defined value of the normally available speed, T_{TestB} is the length of one test within the measuring process.

Specification of the Mobile Internet Access Service

1	Estimated maximum speed	**Estimated maximum speed** for data download and upload is the maximum speed for a specific service in a given location which is realistically achievable in real operating conditions, at a location with a sufficient signal level outside of buildings. The value of the maximum speed corresponds to the TCP throughput of the transport layer according to the ISO/OSI reference model. Estimated maximum speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s).
2	Advertised speed	**Advertised speed** is the data download and upload speed which the Internet access service provider uses in its commercial communication, including advertising and marketing, in connection with the promotion of Internet access service offers, and with which it identifies the Internet access service when concluding a contract with the end user. The value of the advertised speed is not greater than the estimated maximum speed. The value of the advertised speed corresponds to the TCP throughput of the transport layer according to the ISO/OSI reference model. Advertised speed is indicated as numerical value in bits per second (e.g., kb/s or Mb/s). The above can be expressed by the following formula: $$R_{inzer}(\text{download, L 4}) \le R_{odmax}(\text{download, L 4}),$$ $$R_{inzer}(\text{upload, L 4}) \le R_{odmax}(\text{upload, L 4}),$$ where R_{inzer} is the advertised speed, R_{odmax} is the estimated maximum speed, L 4 is the transport layer according to RM ISO/OSI.
3	Significant continuous discrepancy	A **significant continuous discrepancy** from the advertised speed (download and upload) shall be such discrepancy that creates a continuous decrease in the performance of the Internet access service, i.e., a decrease in the actually achieved speed corresponding to the TCP throughput determined by measurement below 25% of the advertised speed value at an interval of more than 40 minutes. The above can be expressed by the following formula: $$SDR(\text{download, L 4}) < 25\%\ R_{inzer}(\text{download, L 4})$$ and, at the same time, $$T(\text{download}) > 40 \text{ minutes},$$ or $$SDR(\text{upload, L 4}) < 25\%\ R_{inzer}(\text{upload, L 4})$$ and, at the same time, $$T(\text{upload}) > 40 \text{ minutes},$$ where SDR is the speed actually achieved, corresponding to the value of TCP throughput, R_{inzer} is the advertised speed, L 4 is the transport layer according to RM ISO/OSI, and T refers to the length of the interval of exceeding the limit value corresponding to the start time of the measuring process, i.e., when

		the actually achieved SDR speed falls below 25% of the advertised speed value R_{inzer}.
4	Significant recurring discrepancy	A **significant recurring discrepancy** from the advertised speed (download and upload) shall be such discrepancy at which there are at least five decreases in the actually achieved speed corresponding to the TCP throughput determined by measurement below 25% of the advertised speed value at an interval longer than or equal to 2 minutes within a time period of 60 minutes. The above can be expressed by the following formula: $\qquad$ SDR (download, L 4) < 25% R_{inzer} (download, L 4), and, at the same time, $\qquad$ $\exists\ t_1, t_2, t_3, t_4, t_5$: T (download) ≥ 2 minutes and, at the same time, $\qquad$ $(t_5 - t_1) \leq (60\ \text{minutes} - T_{testB})$, or $\qquad$ SDR (upload, L 4) < 25% R_{inzer} (upload, L 4), and, at the same time, $\qquad$ $\exists\ t_1, t_2, t_3, t_4, t_5$: T (upload) ≥ 2 minutes and, at the same time, $\qquad$ $(t_5 - t_1) \leq (60\ \text{minutes} - T_{testB})$, where $\qquad$ SDR is the speed actually achieved corresponding to the value of TCP throughput, R_{inzer} is the advertised speed, L 4 is the transport layer according to RM ISO/OSI, t_x ($x \in N^+$) refers to the start time of the test during which the value of SDR fell below 25% of the advertised speed value R_{inzer}, T refers to the length of the interval of exceeding the limit value corresponding to the start time of the measuring process, i.e., when the actually achieved speed falls below 25% of the advertised speed value R_{inzer}, T_{testB} is the length of one test within the measuring process.	".

Article 2

Effect

This General Authorisation shall come into effect on 1 January 2021.

Explanatory note
(available only in CZ)

On behalf of the Council
of the Czech Telecommunication Office

Hana Továrková
Chair of the Council
of the Czech Telecommunication Office