



# **Report on the National Implementation of the Regulation (EU) 2015/2120**

Zagreb, June 2017

Following the entry into force of the Regulation<sup>1</sup> :

National regulatory authorities shall closely monitor and ensure compliance with Articles 3 and 4, and shall promote the continued availability of non-discriminatory internet access services at quality levels reflecting advances in technology. For those purposes, national regulatory authorities may impose requirements concerning technical characteristics, minimum quality of service requirements and other appropriate and necessary measures for one or more providers of electronic communications services to the public, including the providers of internet access services.

**National regulatory authorities shall publish reports on an annual basis regarding their monitoring and analysis, and provide those reports to the Commission and to BEREC.**

BEREC should monitor the implementation of the net neutrality provisions of the Regulation within the scope of BEREC Guidelines.

The reports must be published on an annual basis, and NRAs should publish their annual reports by June 30<sup>th</sup> for the periods starting from May 1<sup>st</sup> to April 30<sup>th</sup>. The first report is to be provided by June 30<sup>th</sup> 2017, covering the period from April 30<sup>th</sup> 2016 to April 30<sup>th</sup> 2017 (the first 12 months after the implementation of the Regulation). As well as being published, the reports should be provided to the Commission and to BEREC. In order to enable the Commission and BEREC to more easily compare the reports, BEREC recommends that NRAs include at least the following sections in their annual reports:

1. an overall description of the national situation regarding compliance with the Regulation;
2. description of the monitoring activities carried out by the NRA;
3. the number and types of complaints and infringements related to the Regulation;
4. main results of surveys conducted in relation to supervising and enforcing the Regulation;
5. main results and values retrieved from technical measurements and evaluations conducted in relation to supervising and enforcing the Regulation;
6. an assessment of the continued availability of non-discriminatory IAS at levels of quality that reflect advances in technology;
7. measures adopted/applied by NRAs pursuant to Article 5(1).

Therefore the report follows the BEREC recommendation.

## **1. Overall description of the national situation regarding compliance with the Regulation**

Croatian regulatory authority for network industries (HAKOM) is responsible for enforcing the Regulation (EU) 2015/2120. During 2016/17 in order to implement the Regulation, HAKOM has performed many internal and external activities:

- established internal Net Neutrality Team (NNT) consisting of employees from the relevant departments (legal, communication services, consumer protection, radio communication);

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<sup>1</sup>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.

- HAKOM held several meetings with ISPs, stimulating ISPs to carry out own self-assessment or internal compliance with the Regulation;
- market survey without requesting information from ISPs (e.g. checking the relevant information on the ISP' s web pages, such as the general terms and conditions);
- analysis of complaints and reports by the end-users
- HAKOM has started collecting the relevant data from operators;
- in accordance with BEREC's guidelines, HAKOM conducted an official assessment of video streaming zero-rated services for which there is a doubt that it does not comply with the TSM Regulation;
- HAKOM participated in the preparation of draft amendment acts to the Electronic Communications Act in order to comply with the Regulation which is in charge of the Ministry of Maritime Affairs, Transport and Infrastructure of the Republic of Croatia

Furthermore aside from the provision of internet access services , the providers of content, applications and services should also provide electronic communication services which require specific levels of quality that are not assured by internet access services,. In order to avoid the negative impact from the provision of other services on the availability or the general quality of Internet access for the end users it is necessary to provide sufficient capacity. The provision of those services that are not within the scope of Internet access services, should not be at the expense of the availability and overall quality of Internet access services for the end users. National regulatory authorities should ensure that electronic communications providers respect this requirement and therefore should assess the impact on the availability and overall quality of Internet access services by analysing, inter alia, service quality parameters (such as latency, delay variation, packet loss) levels and the effects of network congestion, actual speeds compared to advertised, Internet access services compared to non-Internet services.

Bearing in mind the above-mentioned HAKOM initiated the following measures, at the end of 2016,

- a) defining the manner of transparency measures implementation for ensuring the open internet access (technical characteristics and minimum quality of the same category of service) and clarification of applied traffic management techniques,
- b) defining how to control traffic management of the operators and times of special traffic management in case of congestion or network security,
- c) defining the method of monitoring and analysing the impact of specialized services on the Internet access service (accessory and base part of the network),
- d) defining other measures regarding sufficient network capacity to provide high-quality Internet access;

In the observed time period, HAKOM has not received any complaints from the end users regarding the difficulty of using the Internet access service in the part related to blocking or slowing down the usage of certain apps and services or price discrimination for the relevant period.

## **2. Description of the monitoring activities carried out by the NRA**

As stated in the Regulation, national regulatory authorities play an essential role in ensuring that end-users are able to exercise effectively their rights and that the rules on the safeguarding of open internet access are complied with. HAKOM as a Croatian regulatory authority has carried several monitoring activities (market survey with/without requesting information from ISPs , several meetings with ISPs, analysis of

complaints and end-user reporting,....) in order to ensure that providers of electronic communications to the public, including providers of internet access services, comply with their obligations concerning the safeguarding of open internet access.

In order to monitor the traffic management (TM) practices of ISP's HAKOM requested the information from ISP's and continuously monitor the potential TM problems through appeals of the end users regarding blocking or slowing down the Internet access speed. HAKOM made several surveys regarding NN issues (which included TM questions). The analysis of received responses showed that TM measures are only applied by the operators as a preservation of integrity and security and as a congestion management measures -> not discriminatory. ISPs specify in contracts ("terms and conditions") in a clear and comprehensive way the impact of traffic management measures, description on how the measures might affect the end-user experience in general and with regard to specific applications and any measures applied when managing traffic which uses personal data.

Also, in April 2017 HAKOM launched HAKOMetar Plus, a mobile (crowd sourcing) application for users in order to measure the download and upload data rate as well as the ping and signal strength. It also provides some network services tests (e.g. "TCP-ports" and "UDP-ports" test for detection of blocking of specific ports, Traceroute test and VoIP test for possible delaying or throttling of traffic, etc.).

In order to evaluate traffic management practices applied by ISPs, at the end of 2016, HAKOM started a project in cooperation with Faculty of Electrical Engineering and Computing, University of Zagreb in order to produce detailed questionnaire (*QoS mechanism used in network (CoS, DSCP or EXP); number of traffic classes and implemented rules of prioritization; aggregation factors used; peak traffic values on average in busy hour; rules for upgrading operators network elements; security issues*) for existing implemented TM practices of ISP's in Croatia. First expected results of the questionnaire will be available in July 2017. It is planned, within this cooperation, to make an in-depth analysis of current electronic communications services and their traffic patterns on the Internet and define traffic behaviour of different categories of traffic.

HAKOM also made a survey among ISPs on port blocking practices and has come to the conclusions that ISPs do not use permanent port-blocking measure, but only temporary ones. Main reasons indicated by ISPs for blocking ports (23, 25, 53, 135, 445 etc.) are SPAM, preventing DDoS attacks and safeguarding users from malware, spoofing, etc.

In Croatia, the national Data Protection Authority (DPA) is responsible for enforcing the data protection obligations referred to in Article 3(4) ("Any traffic management measure may entail processing of personal data only if such processing is necessary and proportionate to achieve the objectives set out in paragraph 3). Additionally, HAKOM has no knowledge of any breaches of data protection and privacy obligations during the relevant period.

Regarding monitoring of IAS performance, assessment is performed at the user and market level. In order to give possibility to the end users to measure the performance of IAS offers and to check whether the ISP is fulfilling its contract, HAKOM designed certified monitoring mechanism called HAKOMetar - tool for

measuring fixed broadband Internet access speeds. Results of measurements can be used in the process of resolving complaints if speed is not in accordance with the contract. User complaint can be sent directly from the application. Also, the end users have possibility to use HAKOMetar Plus - mobile crowd sourcing application – for measuring mobile/WLAN broadband Internet access speeds. Results are summarised into aggregated values for different categories such as ISPs, access technologies and geographical area which can be used from end user side for the comparison of IAS offers in the market as well as for considering the availability of different IAS offers or offer ranges provided by ISPs and their penetration among end-users. From HAKOM's side these results are used for:

- cross-checking that the published information is in line with monitoring results;
- checking that specialised services are not provided at the expense of IAS;
- checking that the performance of IAS is developing sufficiently over time to reflect advances in technology.

In Croatia there are several zero rating services, such as music streaming services and video streaming/IPTV services. HAKOM officially analysed offer of one provider where there is a differentiation in charging after the data cap is reached. When the data cap is reached, all traffic is extra charged, except for the traffic associated with this zero rated service. By the end of June, we expect the completion of the official assessment of this zero rated service and the solution will probably be in the direction that the operator must change the terms of provided service in a way that after data cap is reached all traffic has to be equally charged.

HAKOM completed the formal assessment of the provision of specialised services by ISP and came to conclusion that most fixed ISPs are offering "specialized services" – such services are not used or offered as a substitute for IAS and are not provided at the expense of the availability or the general quality of IAS.

HAKOM is also monitoring and enforcing ISPs' compliance with their transparency obligations set out in Art 4 by conducting market survey without requesting information from ISPs (e.g. checking the applicable "terms and conditions"), by requesting information from ISPs and by analysing of complaints and end-user reporting. Based on submitted documentation by the operators, HAKOM concluded that most of the operators in the fixed network are compliant to the Regulations and have noted all the information except for the part of defining normally available speed. Based on submitted answers by the ISPs on related questionnaire and according to the conducted review of the terms and conditions in ISP contracts, HAKOM concluded that all mobile ISPs are in compliance with the Regulations.

In order to perform monitoring of transparency requirements on ISPs HAKOM performed surveys and analysis to check if ISPs have specified and published the required information according to Article 4(1) by checking that such information is clear, accurate, relevant and comprehensible. Also, HAKOM made cross-checking that the published information is consistent with monitoring results regarding Article 3, such as traffic management practices, IAS performance and specialised services and that end users are informed about transparent, simple and efficient procedures to address complaints as required by Article 4(2).

### 3. The number and types of complaints and infringements related to the Regulation

In line with the Regulation HAKOM ensured that ISPs follow certain good practices regarding procedures for addressing complaints, such as: informing end-users in the contract as well as on their website, in a clear manner, about the procedures put in place, including the usual or maximum time it takes to handle a complaint, providing a description of how the complaint will be handled, including what steps the ISP will take to investigate the complaint and how the end-user will be notified of the progress or resolution of the complaint and informing the end-user of the means to settle unresolved disputes if the end-user believes a complaint has not been successfully handled by the ISP. Within the competence HAKOM is also handling and making dispute resolution between end users and ISPs.

In Croatia ISPs have established “transparent, simple and efficient procedures to handle the end-user complaints...” according to Article 4(2). Procedure is the same as for other complaints regarding quality of service, bill problems etc. The user can file a complaint twice to the operator and in case of non-satisfactory resolution, the user can file complain to HAKOM. This approach is prescribed in national legislation (Act and Ordinance).

HAKOM neither provided any additional guidelines nor imposed additional transparency or information requirements on ISPs after coming into force of the Regulation because most regulations with regard to transparency or information requirements on ISPs was already prescribed in secondary legislation (Ordinance on the manner and conditions for the provision of electronic communications networks and services (OG No. 154/11, 149/13, 82/14, 24/15 i 42/16). For example, important provisions related to transparency are written in:

- Article 7. - General business terms and conditions - RELATIONS WITH END USERS
- Article 8. - Subscription contract - RELATIONS WITH END USERS
- Article 37. - Operator's obligations - INTERNET ACCESS SERVICE.

A clear and comprehensible explanation of the remedies is available to the consumer in national legislation in the event of any continuous or regularly recurring discrepancy between the actual performances of the internet access service regarding the speed. Remedies for a discrepancy available for end users are price reduction or early termination of the contract. In other words, in case the end user complains against broadband speed over fixed electronic communications network, the end user must submit the results of at least three (3) tests to the operator, conducted in a period of five (5) consecutive days (at least one test must be carried out every 24 hours) which shows that speeds is below 70% of maximum/advertised speed. Tests are carried out by means of a certified tool HAKOMETar for broadband speed tests prepared by HAKOM. The results of the tests represent adequate proof in the procedure for the resolution of complaints made by the end users pursuant to Article 50 and 51 of the Act and tests may be repeated by the operator and /or HAKOM, depending on the circumstances. In case of non-conformance of IAS (minimum speed) with the contract terms the end user: can change to a package which is more appropriate for the delivered broadband speed, can be offered some kind of a monthly discount or can terminate the contract without compensation, at the end user’s discretion.

HAKOM is monitoring the number of end-user complaints regarding QoS of delivered services which is much broader than the scope defined in the Regulation. In the time period from April 30<sup>th</sup> 2016 until April 30<sup>th</sup> 2017 through HAKOMETar certified tool there were submitted 130 end users complaints regarding achieved minimum speed (N.B. in observed period around 10 000 measurements were conducted).

Current Electronic Communications Act does not prescribe rules on penalties applicable to infringements of Articles 3, 4, and 5 pursuant to Article 6 of Regulation (EU) 2015/2120 yet. Thus, the draft law on Act on amendments to the Electronic Communications Act is in the process of adopting law and prescribes: *Article 119. Serious violations of Electronic Communications Act:*

*(1) A legal entity shall be punished for a violation with a fine ranging from HRK 100,000 to 1,000,000 in the following case:*

*- if it fails to accordance with the rules of the Regulation referred to in Article 1a, paragraph 2, point 2 of Electronic Communication Act on the protection of equal and non-discriminatory treatment of traffic providing the Internet access services, transparency measures to ensure access to the open Internet and the protection of related rights of end-users , or if he does not comply with the requirements of the Agency and measures prescribed by the Agency has in order to control and monitor the implementation of this Regulation.*

*(2) For the violation referred to in paragraph 1 of this Article the responsible person in a legal entity shall also be punished with a fine ranging from HRK 20,000 to 100,000.*

#### **4. Main results of surveys conducted in relation to supervising and enforcing the Regulation**

As mentioned before , HAKOM has carried out several monitoring activities (market survey with/without requesting information from ISPs, several meetings with ISPs, analysis of complaints and end-user reporting,...) in order to ensure that providers of electronic communications to the public, including providers of internet access services, comply with their obligations concerning the safeguarding of open internet access.

Based on submitted answers by the ISPs on related questionnaires and according to the conducted review of the terms and conditions in ISP contracts, HAKOM concluded that all fixed ISPs are in compliance with the Regulations on minimum, maximum, advertised upload and download speeds except for the part of defining normally available speed. HAKOM has not specified a unique national approach for defining normally available speed yet, because there is a high threshold for minimum speed. For the time being we have communicated to the operators that they are obliged to determine and publish the normally available speed within the user's contracts.

In addition, HAKOM concludes that all mobile ISPs are in compliance with the Regulations on advertised and estimated maximum upload and download speeds. In their contracts ISPs defined advertised and estimated maximum upload and download speeds of the IAS (the estimated maximum speeds are available in a geographical manner providing mobile IAS coverage maps with estimated/measured speed values of network coverage in all locations for different network technologies).

Additionally, mobile ISPs must ensure a trial period for the usage of the IAS in the duration of at least five (5) days and make possible to the subscriber to terminate the contract within that period without paying the penalty for early termination of contract.

## **5. Main results and values retrieved from technical measurements and evaluations conducted in relation to supervising and enforcing the Regulation**

Regulation enables the implementation of a monitoring mechanism certified by the national regulatory authority, for determination of non-conformity of performance for the purposes of triggering the remedies available to the consumer in accordance with national law.

In order to better monitor the contracted conditions regarding QoS of fixed broadband IAS, in 2012 HAKOM released a certified monitoring mechanism (HAKOMetar) enabling the end-users to determine whether there is non-conformity of performance and to obtain related measurement results which can be used for proving non-conformity of performance of their IAS. In the process of implementing measurement methodologies, HAKOM considered guidance on methodologies developed during BEREC's work on QoS in the context of Net Neutrality. HAKOMetar is certified software tool for measuring the speed of the broadband Internet access in fixed networks. Motivation for making HAKOMetar was to gather data about the end user connection in order to be able to provide information about the possible quality degradation. Results of the tests represent adequate proof in the procedure for the resolution of complaints made by the end users. When implementing a measurement methodology HAKOM ensured that measurements can decrease, to the extent possible confusing internal factors within the user's environment, such as existing cross-traffic and wireless/wireline interface, the following conditions must be met for the correct usage

- end user must connect his/her client device directly with the wired connection to the CPE set up as a terminating device by the ISP;
- only this client device (and the CPE) should be present in the local area network of the end user;
- end user must close all applications on his/her device apart from HAKOMetar;
- client device should have enough CPU, disc space and memory resources available.

The details of measurement methodology are made transparent a published on HAKOM's website.

If the results show that the operator did not ensure minimum broadband access speed to the end user - user can change to a package which is more appropriate for the delivered broadband speed or to terminate the contract without compensation, at the user's discretion. There is a national specification in relation to the different types of speeds laid down in Art 4(1) d. According to the Ordinance on the manner and conditions for the provision of electronic communications networks and services, in service contracts and in the advertisements, operators must specify the minimum and maximum speed, while minimum speed must not be lower than 70% of the maximum speed.

In the period from April 30 2016 until April 30 2017 through HAKOMetar certified tool around 130 end users complaints regarding achieved minimum speed were submitted (N.B. in observed period around 10 000 measurements were conducted). From these data it is apparent that the vast majority of operators provide internet access speeds that are also contracted within subscription contracts. According to the conducted individual measurement results shown that the vast majority of the users who have performed the measurements using HAKOMetar are achieving at least minimum speeds stipulated by the Ordinance (70% of maximum speed in three measurements during 5 consecutive days). On average those users achieved around 90% of maximum/advertised speed.

For mobile/WLAN networks HAKOM in April 2017 released HAKOMetar Plus. HAKOMetar Plus, a mobile (crowd sourcing) application for iOS and Android smartphones, is a measurement tool for users which measure the download and upload data rates as well as the ping and signal strength. It provides information for users about current service quality of their internet connection (mobile and WLAN network) and helps in building awareness and knowledge on actual data rates and service quality. Results of the tests are informative and they don't represent adequate proof in the procedure for the resolution of complaints made by end users. Nevertheless, results which are summarised into aggregated values for different categories and geographically represented on maps can be used for comparison of IAS offers in the market as well as for considering the availability of different IAS offers or offer ranges provided by ISPs and their penetration among end-users. Also, HAKOM uses these results for cross-checking that the published information (coverage maps and available speeds in mobile networks) are consistent with monitoring results.

#### **6. An assessment of the continued availability of non-discriminatory IAS at levels of quality that reflect advances in technology**

At the moment non-discriminatory IAS doesn't affect networks development and implementation of new technologies by operators so the levels of QoS are the same or better. These allegations are confirmed by the fact that last year there were low number of complaints on QoS by the end users and that operators offer tariff plans with higher speeds than before.

#### **7. Measures adopted/applied by NRAs pursuant to Article 5(1)**

National regulatory authorities have to closely monitor and ensure compliance with Articles 3 and 4 of the Regulation, and promote the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology. For those purposes, national regulatory authorities may impose requirements concerning technical characteristics, minimum quality of service requirements and other appropriate and necessary measures on one or more providers of electronic communications to the public, including providers of internet access services. As we mentioned before HAKOM has introduced certified monitoring mechanism - HAKOMetar for measuring fixed broadband Internet access speeds in order to give customers possibility to compare the speed contracted with the service provider. Furthermore, in view of the obligations arising from this Regulation regarding the mobile network, HAKOM has implemented a new tool that should serve the users for informational measurement of the quality of the Internet access and mobile network (HAKOMetar Plus).

Also the most regulation relevant to transparency or information requirements on ISPs was already prescribed in secondary legislation as we mentioned before. Thus, the general terms and conditions prescribed in the Article 7 of the Ordinance besides the other end user important issues must contain the following:

- provisions on the termination of the provision of a public communications service, collection of the monthly fee in case of temporary disconnection of the subscriber terminal equipment, and on conditions for the termination of contract;
- provisions on behaviour towards the end users in cases when the operator of public communications service is unable to provide the requested service due to circumstances in the area of electronic communications infrastructure;
- clearly and appropriately described level of quality of services provided;
- compensation for damage or refund arrangements if contracted quality levels are not met;
- manner of dispute resolution (transparent, simple and efficient procedures to address complaints of end-users relating to their rights);
- provision by means of which an operator of public communications lays down in a simple, clear and transparent manner the conditions of use of equipment related to the subscription, in particular:
  - conditions for the usage and return of equipment after the termination of subscription with a special indication of a deadline for the return of the equipment, if such obligation exists, with the deadline for return being the fifteenth (15) day after the date of issuing of the bill containing charges for the equipment and that the fee will be cancelled in case of return
  - conditions for replacement of equipment in case of loss, fault or change in conditions of use of the service;
- the contents of the form/s of the request for start/change/termination of subscription;
- information about customer service as the competent service of the operator for resolution of subscribers' complaints;
- provisions on the manner of processing personal data of end users of services;
- complete, detailed, accurate and transparent description of services understandable to end users, in particular information on:
  - possible maximum deviation from the contracted data transfer speed with detailed explanation of reasons leading to deviation,
  - restrictions that may be imposed on end users in relation to access and distribution of lawful content and launching of applications, as well as the use of services requested;
  - additional services;
  - about all restrictions related to dialling emergency service numbers when providing public VoIP services.
- the right of users to a trial period of using mobile communication services. In other words, in case of contracts for use of broadband Internet access over the mobile electronic communications network by means of a USB stick with obligatory minimum duration of contract, the operator must ensure a trial period for use of the service in the duration of at least two (5) days and make possible to the subscriber to cancel the contract within that period of time without paying the penalty for early termination of contract. A subscriber shall be obliged to pay for the traffic in the trial period. The operator must provide the same option on the basis of an explicit user's request in case of conclusion of a contract for use of a public voice service in the mobile electronic communications

network when the user receives a free trial SIM card without a mobile device for the duration of the trial period. A trial SIM card for testing the availability of the service may be activated in the pre-pad service system and the activation must be enabled with the payment of the minimum amount of the bill.