



Urząd Komunikacji Elektronicznej

Report on monitoring implementation of Regulation 2015/2120 in relation to open internet access in Poland

Warsaw, June 2017

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List of acts and abbreviations

- **Memorandum** – Memorandum of 29 March 2016 on making informed choices by end-users of internet access services on public telecommunications networks
- **Telecommunications Act** or **TA** – Telecommunications Act of 16 July 2004 (consolidated text Journal of Laws 2016, item 1489, with amendments)
- **Regulation** – 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
- **Complaints Regulation** – Regulation of the Minister of Administration and Digitization of 24 February 2014 on complaints about the telecommunications service (Journal of Laws 2014, item 284)
- **Act of 29 August 1997** on the Protection of Personal Data (consolidated text Journal of Laws 2002, No. 101, item 926, with amendments)
- **Act of 19 November 2009** on gambling (Journal of Laws 2016, item 471, with amendments)
- **Act of 16 February 2007** on competition and consumer protection (consolidated text Journal of Laws 2017, item 229, with amendments)
- **Act of 9 June 2016** on amendment of the Act on promoting development of broadband services and networks, and several other Acts (Journal of Laws 2016, item 903)
- **Act of 23 September 2016** on out-of-court consumer dispute resolution (Journal of Laws 2016, item 1823)
- **BEREC Guidelines** – BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules - BoR (16) 127
- **AC** – Admission Control
- **ACL** – Access Control List
- **ADR** – Alternative Dispute Resolution
- **ADSL** – Asymmetric Digital Subscriber Line
- **ATM** – Asynchronous Transfer Mode
- **BEREC** – Body of European Regulators for Electronic Communications
- **BSA** – Bitstream Access
- **CDMA** – Code Division Multiple Access
- **DPI** – Deep Packet Inspection
- **EDGE** – Enhanced Data rates for GSM Evolution
- **ETSI** – European Telecommunication Standards Institute
- **GSM** or **2G** – Global System for Mobile Communications
- **GPRS** – General Packet Radio Service
- **HDTV** – High Definition Television
- **HSPA+** – Evolved High Speed Packet Access
- **IAS** – Internet Access Service
- **IDS** – Intrusion Detection System
- **IPS** – Intrusion Prevention System
- **IPTV** – Internet Protocol Television
- **ISP** – Internet Service Provider
- **IWF** – Internet Watch Foundation
- **NAT** – Network Address Translation
- **LTE** or **4G** – Long Term Evolution
- **LTE Advanced** – Long Term Evolution Advanced

- **President of UKE** – President of the Office of Electronic Communications
- **President of UOKiK** – President of the Office of Competition and Customer Protection
- **P2P** – Peer-to-Peer
- **QoS** – Quality of Service
- **SD** – Standard Definition
- **SLA** – Service Level Agreement
- **SMTP** – Simple Mail Transfer Protocol
- **TCP** – Transmission Control Protocol
- **Triple Play** – bundled services: voice, internet, television
- **UDP** – User Datagram Protocol
- **UMTS or 3G** – Universal Mobile Telecommunications System
- **VDSL** – Very High Speed DSL
- **VoLTE** – Voice over Long Term Evolution
- **VPN** – Virtual Private Network
- **xDSL** – a family of “last mile” access systems, provided by means of symmetrical copper lines, including ADSL and VDSL
- **4K** – TV standard that has four times higher resolution than HDTV

Introduction

The following report constitutes the fulfilment of the obligation imposed on the President of UKE, as the national regulatory authority for the market of telecommunications services, by Article 5 (1) subparagraph 2 of 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. This obligation requires national regulatory authorities to publish annual reports concerning monitoring rights to open internet access, present findings on that matter, and to provide these reports to the Commission and BEREC. In line with the BEREC guidelines, the first report should be published by 30 June 2017, for a period from the day of the entry of the Regulation into force, i.e. 30 April 2016, until 30 April 2017.

In Poland, implementation of the Regulation began on 1 January 2017, thus the report describes monitoring activities of the President of UKE over a period from 1 January 2017 to 30 April 2017.

The Regulation introduces solutions favourable for subscribers, laying down uniform conditions for equal internet access in the European Union, corresponding rights of end-users, and obligations of internet access providers. Providers of internet access services are required under the provisions of the Regulation to treat all traffic equally, without discrimination, restriction or interference, independently of its sender or receiver, distributed content, used or shared applications, services, and terminal devices. Traffic management measures used by providers should be transparent, non-discriminatory, proportional and shall not be based on commercial considerations. Provisions of the Regulation prohibit all traffic management measures that go beyond those laid down and justified in the Regulation.

Prior to implementation of the Regulation in Poland, consultations were held with entrepreneurs and Chambers of Commerce on the solutions for implementation of new provisions. This report presents the results of monitoring compliance, by the President of UKE, of practices used by internet access providers in the Polish market and data on the quality of the internet access services used by the Polish users.

Chapter 1 – Application of the provisions of Regulation 2015/2120

Application of the provisions of Regulation 2015/2120

The Regulation entered into force on 29 November 2015, but in line with Article 10 (2) its provisions apply from 30 April 2016.

On 29 March 2016, a Memorandum on making informed choices by end-users of internet access services on public telecommunications networks was signed by the Minister of Digital Affairs and five major mobile service providers in Poland (P4 sp. z o.o., Orange Polska S.A. Polkomtel sp. z o.o., T-Mobile Polska S.A., Cyfrowy Polsat S.A.).

According to the Memorandum, telecommunications undertakings who signed the document, agreed to include in their offers at least one "trial" internet access service offer during the period from 30 April 2016 to 31 December 2016, so as to permit end-users to check the quality of provided internet access services, and possibly terminate the contract within 14 days from its conclusion. Furthermore, telecoms undertakings enabled users to test the quality of provided internet access service for 14 days prior to conclusion of contract. Signatories of Memorandum have committed themselves to communicate the abovementioned offers and include them in current sale.

Poland notified the European Commission that it availed itself of the measure available pursuant to Article 10 (3) of the Regulation. This provision allows the possibility of national measures that applied

prior to 29 November 2015, including self-regulatory schemes, to stay in force up to 31 December 2016. Therefore, as stated earlier, implementation of the Regulation in Poland started on 1st January 2017.

Regulatory authorities

An authority responsible for monitoring and ensuring compliance with Articles 3 and 4 of the Regulation, and promoting the continued availability of non-discriminatory internet access services at levels of quality that reflect advances in technology is, according to Article 5 (1) of the Regulation, the national regulatory authority. In Poland, pursuant to Article 190 of Telecommunications Act, the authority concerned is the President of the Office of Electronic Communications.

Regardless of the competences of the President of UKE, some practices, including advertising of internet access services violating the provisions of the Regulation, in case of accrual of sufficient evidence listed in the Act of 16 February 2007 on Competition and Consumer Protection¹, may constitute a practice infringing collective consumer interests. According to provisions of the Act of 16 February 2007 on Competition and Consumer Protection, the conduct of proceedings concerning practices infringing collective consumer interests falls within the responsibility of the President of UOKiK.

In case where using measures for traffic management entails processing of personal data, these practices may be subject to analysis and evaluation in terms of compliance with provisions, e.g., of the Act of 29 August 1997 on the Protection of Personal Data. In line with Art. 8 (1) of the aforementioned Act, the supervisory authority for the protection of personal data in Poland is Inspector General for Personal Data Protection.

Amendment of Polish legislation and other measures taken in line with the Regulation

In order to ensure efficient protection of rights resulting from the Regulation, Member States were required to adopt provisions regarding penalties applicable to infringements on certain provisions of the Regulation. Polish legislature fulfilled the abovementioned obligation by amending TA, including penalties and extended powers of the President of UKE by:

- inserting in Article 209 (29) (a), according to which, those who do not fulfil obligations laid out in Articles 3, 4, and Article 5 (2) of the Regulation are subject to pecuniary penalty;
- amendment of Article 192 and inserting point (5a) (a) that empowers the President of UKE to fulfil obligations resulting from provisions of the Regulation.

Under the Regulation, national regulatory authorities are required to monitor and report. National regulatory authorities should 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 access².

Chapter 2 – Measures of the President of UKE

Legal basis for the measures of the President of UKE

According to Article 190 of TA the President of UKE is a regulatory authority with respect to telecommunications services markets.

¹In conformity with Article 24 (1) and (2) of Act of 16 February 2007 on Competition and Consumer Protection, practices infringing collective consumer interests are prohibited. A practice infringing collective consumer interests shall mean any activity of an undertaking which is unlawful, contrary to established custom, and detrimental to such interests, in particular: a breach of the obligation to provide consumers with reliable, true and complete information, unfair commercial practices or acts of unfair competition.

²Recital 19 of the Regulation.

For this reason, the President of UKE, pursuant to Polish legislation, is the authority responsible for monitoring compliance with provisions of the Regulation.

By the Act of 9 June 2016 on amendment of the Act on promoting development of broadband networks and services, and several other Acts, the scope of responsibilities of the President of UKE was extended by issues related to supervision, monitoring, certification, control and reporting.

In Article 192 (1) of TA, the added point (5a) (a) indicates that the scope of responsibilities of the President of UKE is to fulfil the obligations imposed on the national regulatory authority and to control the fulfilment of other obligations resulting from the provisions of the Regulation. Other obligations are the obligations concerning the safeguarding of open internet access.

Subscriber complaints and ADR proceedings

The President of UKE constantly analyses inquiries and requests for intervention addressed to UKE, in order to identify potential violations of provisions of the Regulation, intervene in case of such violations or violation of the end-users' rights under the Regulation.

In complaints concerning the provisions of the Regulation, which were received by the President of UKE, subscribers indicated problems and malfunctions associated with:

- blocking access to websites by blocking IP addresses;
- underperformance of the contract, by providing internet access with a lower speed in reference to that specified in the contract;
- underperformance of the contract, by providing internet access, which prevents customers from using other services e.g. computer games.

The President of UKE has analysed these complaints to determine if there might arise a need to initiate administrative proceedings, but by reasons of the scope and scale of these infringements, has not decided to initiate such.

In addition, the President of UKE is empowered to carry out proceedings to handle out-of-court disputes in line with the Act of 23 September 2016 on out-of-court consumer disputes. The proceedings are carried out at the consumer's request or ex officio, if the protection of the consumer's interest is required. Disputes concerning rights and obligations arising from the Regulation were not the subject of proceedings of the President of UKE until the moment when the report was prepared.

Penalty proceedings

In accordance with the Regulation, Member States were required to adopt provisions concerning penalties applicable to infringements on Article 3, 4 and 5 of the Regulation.

Therefore, Article 209 (1) point (29a) was introduced to the TA, in line with which any person who fails to fulfil the obligations specified in Articles 3, 4 and 5 (2) of the Regulation becomes subject to pecuniary penalty. The President of UKE imposes pecuniary penalty by means of a decision resulting from administrative proceedings. The amount of the pecuniary penalty is up to 3% of the revenue achieved by the punished entity in the previous calendar year. The President of UKE while imposing the amount of penalty payment takes account of the scope of violation, the entity's activity to date and its financial abilities.

By 30 April 2017 the President of UKE did not pursue any procedure of imposing a penalty or any other administrative proceedings dealing with the practice of the internet access service providers that might have violated the provisions of the Regulation.

Monitoring of the Regulation pursuant to Article 5 (2) of the Regulation

In monitoring compliance with obligations set out in Articles 3 and 4 of the Regulation, under Article

5 (2) of the Regulation, on 27 March 2017 the President of UKE requested 20 internet access service providers (ISPs) to answer the questions set out in a questionnaire prepared by UKE (UKE questionnaire), concerning:

- contractual provisions and commercial practices,
- traffic management,
- evaluation of IAS performance and impact of specialised services on overall quality of internet access service,
- transparency requirements concerning ISPs,
- complaint handling procedures.

The President of UKE addressed the request to the following ISPs: P4 sp. z o.o. , Orange Polska S.A. Polkomtel sp. z o.o., T-Mobile Polska S.A., Aero 2 sp. z o.o., Asta-Net S.A., Beskid Media sp. z o.o., Cyfrowy Polsat S.A, Inea S.A., Internet Union S.A., Koba sp. z o.o., Korbank-Media Cyfrowe sp. z o.o., Multimedia Polska S.A., Netia S.A., Nordisk Polska sp. z o.o., Oxyllion S.A., Poznan Housing Cooperate (Poznańska Spółdzielnia Mieszkaniowa) „Winogrady”, Toya sp. z o.o., UPC Polska sp. z o.o. and Vectra S.A.

Selection criterion of internet access providers arose from the percentage coverage of services in terms of the number of users (85% of the market – in regard to the services provided in the mobile network, only taking into account users of dedicated mobile devices 2G/3G/4G – modems/keys/cards – and CDMA) and service area of Poland. In addition to the largest shareholders in the market, 5 local providers were also selected.

According to data available at the end of 2016, selected internet access providers provide services for 69.81% of internet access users in the fixed network, and for 99.2% of internet access users in the mobile network. The total amount of users using internet access was 7 100 000 for the fixed network and 7 400 000 for the mobile network.

The President of UKE received answers from 19 providers of internet access services.

Certified monitoring mechanism

Even though the Regulation does not require Member States and National Regulatory Authorities to establish and certify the monitoring mechanism, the President of UKE has undertaken conceptual and analytical work regarding the possibility of implementing a certified mechanism of quality control for internet access services for end-users. In order to learn the opinions of telecom undertakings and chambers of commerce on the concept of a certified internet service speed monitoring mechanism, intended for use in fixed and mobile networks, the President of UKE organised meetings with interested entities. Participants were informed about possible variants of introducing the certified mechanism:

1. Certification of one of the existing tools in the market,
2. Delivering the tool by the President of UKE,
3. Certification of a tool provided by the operators.

Expectations for the mechanism have been presented, and the three proposals for the mechanism were compared in detail.

Currently, intensive analytical work is being carried out taking into account the results of the consultation with entrepreneurs and the Chambers. UKE work team compares individual, technically feasible solutions, verifies requirements, options and achievable results, whilst systematically analyzing the work on the concept of a common internet quality monitoring system which is led by BEREC.

The right laid out in Article 3 (1) of the Regulation states that every end-user of internet access service shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service. It is therefore forbidden for internet access providers to use commercial practices and contractual terms restricting the availability or the possibility to share the content, application and services or changing the way they operate for political, technological or commercial reasons.

The President of UKE requested 20 suppliers, listed in Chapter 2 of this report, to provide information concerning conditions of the provision of internet access services, which could affect the scope of the right specified in Article 3 (1) and (2) of the Regulation. ISPs were particularly obliged to provide information concerning cases and principles of differentiation of data transmission as well as about digital content access services or services provided electronically with the use of internet access services offered by the providers, any restrictions on access to applications, services or content, and restrictions on the use of telecommunications terminal devices for data transmission. Some providers have reported that they offer parental control and possibilities for end-users to limit access to harmful content for minors, such as pornographic and violent content. Providers reserve the right to suspend services and limit their scope, however without differentiation of access to individual content, application and services available through the internet, in case the subscriber improperly performs the contract in a situation of a breach of the terms and conditions of the agreement for the provision of telecommunication services. In addition, a basic reason for limiting data transmission parameters in case of providers of services in mobile networks, is the use of an available data bundle specified in the contract, which may entail complete blocking of transmission or limiting the speed of data transmission. In principle, this kind of limitation of internet access services is applied without distinction of the content, application or service.

According to the analysis of the received replies, there are internet access services available in the Polish market, which provide a zero rate for some types of data transmission (the so-called zero-rating offers). In such offers, the internet service provider uses price equal to zero for data transmission associated with a particular application or application category (and data is not included in the data limits applicable to internet access services). Zero-rating offers in the Polish market enable the use of services available via internet, such as access to streaming audio/video content, access to social media and instant messengers, access to on-demand audiovisual media services, prepaid top-ups and related banking services, navigation services, banking services, and access to customer support applications.

Zero-rating offers are the subject of analysis of the President of UKE for compliance with the provisions of the Regulation, as they may affect the choice of the end-user and the market of providers delivering electronic services via the internet. The assessment of individual practices is done by analyzing the terms and conditions of individual offers and their potential impact on the end-user's right to open internet specified in Article 3 (1) of the Regulation.

Providers as part of applied standard contracts for commercial reasons do not limit the use of telecommunications terminal devices. However, there are terms and conditions limiting the use of telecommunications terminal devices which:

- have been registered as stolen or lost;
- do not meet the requirements set by applicable regulations or international standards e.g. established by ETSI;
- are not intended for connection to the public network;
- are connected in places that are not network termination points.

Traffic management measures

By provision of Article 3 (1) subparagraph 1 of the Regulation, providers of internet access services shall treat all traffic equally, when providing internet access services, without discrimination, restriction or interference, and irrespective of the sender and receiver, the content accessed or distributed, the applications or services used or provided, or the terminal equipment used. The provision of Article 3 (3) subparagraph 2 of the Regulation, allows the use of appropriate traffic management measures, which are based on objectively different technical quality of service requirements of specific categories of traffic. According to Article 3 (3) subparagraph 3 of the Regulation, it is allowed to use traffic management measures other than reasonable in the cases and under the conditions referred to in points a-c of Article 3 (3) of the Regulation.

By sending the UKE questionnaire, the President of UKE requested 20 providers, listed in Chapter 2 of this report, to provide information on the conditions of provision of internet access services and specific information concerning the traffic management measures.

The evaluation of the results of the investigation leads to the conclusion that providers of internet access services, during their provision, use traffic management measures, consisting in:

1. traffic prioritization (2 providers),
2. slowing down and limiting data transmission (1 provider),
3. limiting the ability to connect or blocking traffic to and from specific network end-points to ensure integrity and security of networks and services.

The solutions used in this regard include (among others):

- security systems, such as: protection systems Firewall, ACL, blacklists, IDS,
- intrusion prevention system (IPS),
- access control mechanisms (AC),
- anti-spam solutions for SMTP traffic,
- in the situation of identified threats, the following solutions: sinkhole, blackhole, honeypot³,
- blocking potentially dangerous TCP/UDP ports. The analysis of the responses indicates that some providers block all ports for incoming traffic. Certain providers – selected ports e.g.: 25, 53, 123, 135-139, 445 and others that are presumed dangerous, whose list is updated.

Identifying the security risks can be accomplished by the providers' own security unit and/or by cooperating security organizations operating within the ICT sector (by providing e.g. lists of lock-ins).

4. blocking internet traffic in order to fulfil obligations resulting from the regulations.

Providers have explained that the provisions of the TA oblige them to use traffic management measures. In this respect it is necessary to distinguish the obligations arising from:

- a) Article 3 (3) (a) of the Regulation.

Article 180 (1) TA is relevant as to require immediate blocking of content/information at the request of authorized entities if it could pose danger to national defence, state security and public safety and order.

Providers of internet access services have indicated that they are currently preparing their network systems for performing obligations arising from Article 15f (5) of the Act of 19 November 2009 on gambling, which will enter into force on 1 July 2017. The obligation to block access to content

³sinkhole, blackhole, honeypot – ways of neutralizing or taking control of network traffic generated by malware.

indicated by the Minister of Finance in the Domain Register for the purpose of offering gambling against the act arises from the aforementioned provision of law.

b) Article 3 (3) (b) of the Regulation

Article 175 and Article 175c of TA require to immediately block content/information which can threaten the security and integrity of the network, services and transmission of communication in relation to the services provided by them.

5. Blocking traffic in line with the agreement of GSMA Mobile Alliance Against Child Sexual Abuse Content

One of the internet access service providers uses in its network the practice of blocking traffic identified by Internet Watch Foundation (IWF) as content connected with net abuse. The provider's explanation shows that the above action is part of the agreement of GSMA Mobile Alliance Against Child Sexual Abuse Content, in order to fight illegal content on the internet, concerning child abuse. Another provider indicated that it blocks in its network as part of parental control the content identified by the IWF.

The abovementioned traffic management practices are subject to the analysis of the President of UKE in terms of compliance with the provisions of the Regulation, as they may affect the possibility to use open internet by end-users. The actions taken are therefore aimed at counteracting the circumvention of users' rights defined in Article 3 (1) and (2) of the Regulation by using traffic management practices.

In addition, the conducted survey shows that providers of internet access services offer as part of their retail offerings services that enhance end-users' internet safety, among others by installing software on terminal devices to protect it against viruses, malware, hacker attacks and warning before entering pages that are identified as unsafe. It was also pointed out that the functional part of the aforementioned offer was a parental control service.

Providers also listed other factors that could affect the use of the internet access service. They indicated, for example, that assigning end-users with a dynamic IP address may result in excluding or limiting their ability to use the webpages, services or applications that require a static, public IP address, or that introducing the NAT mechanism, assigning non-routable addresses to end-users' terminals, blocking traffic on some subscriber terminals and blocking UDP ports may cause problems in using some services (e.g. P2P services).

Providers have also explained that although some of the traffic management measures are implemented in the network on a continuous basis, they become active only when necessity arises.

All interviewed providers of the internet access services indicated that they did not block the VoIP traffic. Also, encrypted traffic on their networks is treated in the same way as unencrypted traffic.

Regarding the ability to activate/deactivate limitations listed in subsections 1-5, most of the providers of internet access services have indicated that end-users do not have direct influence on network settings, nor are they able to activate or deactivate the abovementioned limitations.

Providers have also explained that due to the fact that the telecommunications business is not limited only to the provision of internet access services, network traffic management is governed by the general principles of network management. All digital transmissions in the network are divided into traffic classes, higher priorities are given to traffic related to network management and network control, in relation to the rest of the traffic.

Specialised services

The Regulation introduces the possibility of offering specialised services, along with the internet

access services, which by their character have to be provided on a certain level of quality, which cannot be provided by means of internet access service in accordance with the traffic management principles set out in the Regulation. Virtually all types of entities are enabled to provide such services. In accordance with Article 3 (5) of the Regulation, specialised services are services other than internet access services, which are optimized for specific content, applications and services or a combination thereof, where the optimisation is necessary in order to meet requirements of the content, applications or services for a specific level of quality.

According to the internet access providers' statement, 8 of them (out of 19) do not provide specialised service.

Service providers who have declared the provision of specialised services have stated that they provide the following specialised services:

- a) outlined in the BEREC Guidelines:
 - IPTV services – 7 providers
 - VoLte services – 2 providers
- b) Services not covered by the BEREC Guidelines:
 - IP telephony (related to IPTV service, especially within the broadly provided triple play services in Poland by the widespread form of telecommunication services provided by cable operators in Poland),
 - VoIP telephony for businesses and consumers,
 - private network services for businesses (VPN infrastructure),
 - layer 2 data services– (L2) – e.g. services in Ethernet and ATM etc.,
 - other services, such as email for Blackberry, telemetric services, video, audio Spotify,
 - network services - transmission of traffic signalling, management and control of telecommunications systems and services.

While reporting provision of specialised services, the majority of the services were provided by the undertakings on their own account and on their own behalf. However, one of the entrepreneurs (key in the Polish telecommunications market) has offered intermediation in providing IP video services.

All telecommunications undertakings who have reported offering specialised services stated that they analyse network load, and that specialised services that they offer do not deteriorate conditions of offered internet access services in their networks. Most of them have outlined the way in which they analyse the impact of specialised services on provision of the internet access services, mainly based on analyzing the load of individual network segments and interventions of users of those services.

The analysis of the replies to the UKE questionnaire shows that the concept of “specialized services” is not understood uniformly. This finding will be further analysed. In particular, it is necessary to clarify whether, in relation to declared specialized services, the provision of specialized services has actually occurred and, in the event of confirmation, examine whether a particular service is offered without prejudice to the provisions of the Regulation.

In addition, from the analysis of the answers to the UKE questionnaire a conclusion may be drawn that internet access services of different levels of quality are provided in operators' networks – including a single ISP which provides both regular, and SLA-based (Service Level Agreement) internet access services. This offer concerns especially business users. This may mean differentiation (prioritization) of transmission from different users. This form of offering is provided under different models:

- 1) offering both regular services and the SLA-based services under the same brand,
- 2) offering by the same telecommunications undertaking telecommunications services under two

brands— one for regular services and another for SLA-based services (especially for businesses),
3) offering only internet access services for businesses (SLA-based).

An explanation is therefore required, if differentiating the service levels of providing internet access services e.g. by offering internet access services – with or without SLA – is without prejudice to the provisions of the Regulation.

Transparency of contracts

From the date of application of the provisions of the Regulation in Poland, contracts for the provision of internet access services must contain, in accordance with Article 4 (1) of the Regulation, information about:

- the way in which traffic management measures applied by the provider could affect the quality of internet access services, the privacy of end-users and the protection of their personal data;
- the impact of the volume limitation, speed and other quality of service parameters on internet access services, and on the use of services;
- the impact of specialized services on the internet access service;
- speed rates for fixed and mobile networks.

The obligation imposed on service providers is to ensure that end-users are fully informed about the service they are purchasing and their rights under Article 4 (1) of the Regulation.

The analysis of information and documentation obtained by the President of UKE from providers allows us to state that:

- the requested providers have amended the contracts for the provision of internet access in order to implement the obligation;
- ISPs have changed the terms and conditions of the contracts in accordance with the procedure for amendments arising directly from the amendment of the law, in which case the content of the proposed changes shall be publicized at least one month prior to their implementation;
- service providers, depending on the type of offer and the group of subscribers, fulfil the obligations arising from Article 4 (1) of the Regulation by inserting the relevant contractual provisions in the body of the main contract within the meaning of Article 56 (3) of TA as well as in the regulations for providing telecommunication services, price lists of services, promotion regulations; some providers have provided detailed offer parameters related to the quality of internet access services in dedicated attachments.

The President of UKE, on the basis of the collected data, analyses the content of respective standard contracts. When analysing the transparency of standard contracts, the President of UKE considers factors such as the location of the provisions in one or more documents binding for the subscriber, the form of presentation of quality parameters, including contract terms, terms and vocabulary used in the contract, in particular the use of specialist language, the use of references, the size and legibility of the font used in the contract. In the event of a breach of obligations under the Regulation, the President of UKE will take the necessary action.

This report is limited to a detailed analysis of the download and upload speeds of fixed and mobile networks, given the specific role of those provisions in protecting the end-user's rights to open internet, the right to information about the contractual service and the effectiveness of redress due to improper performance of the contract.

As an example of implementation of Article 4 (1b) of the Regulation information from service providers about required speed and latency for each type of internet access service can be quoted:

- VoIP telephone services - 64 kbps download and upload, 150 ms latency;

- web browsing - 1 Mbps download, 200 ms latency;
- watching video in SD quality - 2 Mbps download, 200 ms latency;
- watching videos in HD quality - 6 Mbps download, 200 ms latency;
- watching videos in 4 K quality - 18 Mbps download, 200 ms latency;
- HD video calling - 1.5 Mbps download and upload, 150 ms latency;
- network games in real time - 2 Mbps download and 1.5 Mbps upload, 30 ms latency.

An example of implementing Article 4 (1c) of the Regulation is informing end-users about the 12 Mbps band congestion, which means the speed of the internet access service in the package with the TV service when using the service is reduced by 12 Mbps. In addition, each set-top-box in the multi-room service reduces internet access capacity by further 12 Mbps while simultaneously using all services.

As a summary of the results of the market survey, the first to be outlined is the way of understanding speed in fixed networks. And so - different ways of specifying minimum speed are adopted in the market:

- some providers use only the percentage ratio of the speed usually available and the minimum speed to the maximum speed without specifying these values in kbps or Mbps when defining speed indicators;
- another group of providers uses a percentage ratio of the minimum speed to the maximum speed when defining some indicators;
- some indicators are presented by the ISPs using numeric values to specify the speed;
- the last group of providers uses only numeric values when determining speed indicators.

Providers use different units, some of them specify the speed in kbps and some in Mbps. In contracts, the rates of download and upload speed for internet access services in fixed networks, both minimum and normally available, are determined at different levels in relation to the maximum speed. This is due to the technology in which the internet access service is provided and the line length, and they are determined separately for different offers or promotions. The ratio of the minimum speed indicator to the maximum speed is very different and in case of one supplier can vary from 10% of the maximum speed to 100% of the maximum speed for the minimum download speed. In the case of a download speed indicator, the minimum speed is set at between 10% and 100%, the speed normally available from 60% to 100% of the maximum speed, while for the upload speed the minimum speed is set at between 2% and 80% and the normally available speed from 60% to 100%.

Depending on the provider, the above parameters are indicated in the main contract, the terms and conditions for the provision of services, the rules of promotion or in the price list of telecommunications services.

The analysis of material collected by the President of UKE on the understanding of the **normally available speed** shows that ISPs operating in the Polish market have different reference periods for which the normally available speed is determined:

- most providers have adopted a reference period of 24 hours;
- some refer this speed to the entire settlement period, which is typically one month in the mass market;
- a certain group of providers did not specify in what period the availability of the normally available speed should be considered, indicating that this is the speed available in most cases.

For the **advertised speed**, most providers will take the maximum speed in fixed networks.

IAS providers through fixed networks generally stipulate that the actual data rate available to the user may be different from the maximum speed and depends in particular on:

- current capabilities of the telecommunications network, including its technological limitations;
- peak network loads, including other telecom operators or other network users, with an unplanned increase in the number of active users;
- undesirable actions intended to generate artificial traffic;
- technical limitations and configuration of subscriber equipment, in particular non-operator's routers;
- using the service with several terminals simultaneously (simultaneous launch of several data streams);
- installation in the subscriber terminal applications lowering the speed (anti-virus, firewall, etc.);
- using radio access at low signal level of the service (e.g. significant distance from operator equipment, interference from other radio or high-emitting devices, physical obstacles to wireless communications, legal restrictions on the power of transmission equipment or restrictions related to the characteristics of wireless standards);
- limitations outside the service provider's network resulting from the short-term increase in traffic generated by the network resulting from the technological nature of the network, from the sudden rise in popularity of the content, application or service, or the requirements defined by providers of content, applications or services other than the operator.
- limiting the maximum line speed in connection with the selected internet access offer variant, i.e. the bandwidth of the internet access service provided with symmetric copper paths within the BSA (using xDSL access) depends on the path length, line quality, attenuation, and technical capabilities of the operator.

In accordance with the provisions of the Regulation, ISPs also provide download and upload speed rates for mobile networks:

- the estimated maximum download and upload speed - as part of internet access services for most mobile service providers, was determined so that the end-user was aware of the achievable maximum speed for the internet access service provided at the various locations, under actual conditions of use;
- estimated maximum speed is determined separately for different network technologies (e.g. 2G - GSM-GPRS, GSM-EDGE; 3G - UMTS, UMTS-HSPA, HSPA+; 4G - LTE, LTE Advanced) that affect the maximum speed available to the end-user.

Providers in determining the speed in the contract indicate that it is possible to obtain it in favourable circumstances, in particular in the absence or significant reduction of internet traffic from other users using shared network resources, and that this is a speed dependent on many factors. These factors include the telecommunications equipment used, its category and software, including operating applications, network technology used, strength and quality of radio signals, distance from the base station, factors affecting radio propagation (such as geographic, urban, atmospheric, structure and the attenuation of building materials used in building construction), the number and activity of other end-users serviced by each base station, the type of a SIM card used. At the same time they state that only certain network technologies are available in certain areas of Poland, so the parameters of the internet access services may vary depending on the location in which the service is used.

Providers fail to state what they mean by *significant deviations* from the respective advertised download and upload speeds, and they do not explain how significant deviations from the respective advertised download and upload speeds (Article 4 (1) (d)) could affect the end-user's use of the rights referred to in Article 3 (1). In addition, they do not specify what they mean by significant and continuous or regularly recurring difference between the actual performance of the internet access service and the performance described in Article 4 (4) of the Regulation.

It has been confirmed that providers provide information on the implementation of Article 4 (1) of the Regulation by publishing rules and regulations, price lists or other applicable standard contracts on websites or by creating dedicated service quality pages on the website.

Complaint handling procedures

Providers of internet access services have applied to the received complaints about infringements of Article 3 and Article 4 (1) of the Regulation procedures resulting from Regulation of the Minister of Administration and Digitization of 24 February 2014 on complaints about telecommunications services, especially with respect to the form of filing complaints and responses, procedure including acknowledgement of receipt of the complaint, time of handling the complaint, content and form of response to the complaint.

Some providers, in connection with the new transparency obligations for contracts, in particular in connection with the quality of service indicators, have implemented additional internal complaint procedures for the quality of internet access services provided that clarify the quality measurement process and the provider's behaviour aiming at verifying the correctness of the telecommunications service complaint.

For the vast majority of providers, the subscriber may obtain information about the status of the complaint personally, during a visit to the customer service centre, by calling the telephone helpline, electronically using electronic means.

Quality of internet access services

The Regulation requires the President of UKE to support the availability of internet access services maintaining quality levels that reflect technical progress. The internet access services offered to end-users should allow the use of web-based applications and services, which requires ensuring an adequate level of quality. Considering the above, the President of UKE undertakes activities in the area of monitoring the quality of services. The IAS quality data for downloading and uploading speed and ping delays are presented below. The data comes from April 2017 and April 2016, making it possible to present not only the current situation, but also the trend of changes throughout the year. The data was collected on the basis of measurements carried out with the help of publicly available and popular in Poland measuring applications offered by V-SPEED B. Szymczak, P. Jarzab s.c., that is:

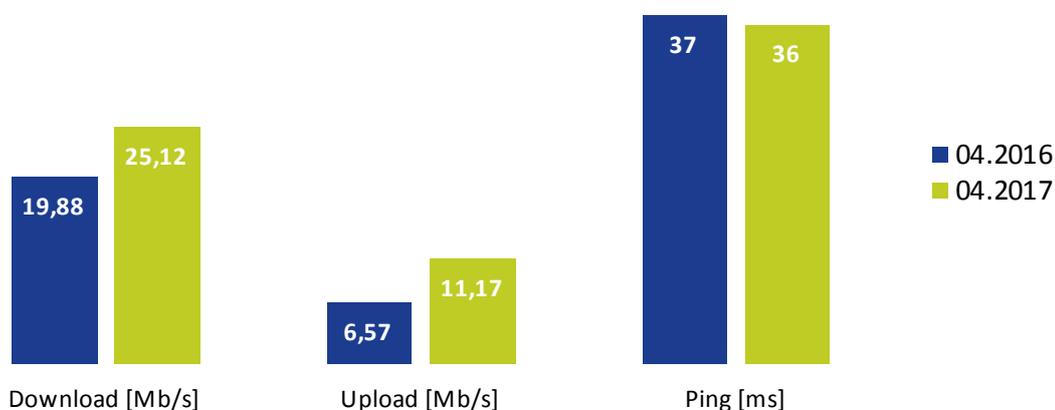
- the application available through a web browser at www.speedtest.pl. The results cover all access technologies in fixed and mobile networks (approximately 1.3 million tests were performed in April 2016 and approximately 1.7 million tests were performed in April 2017);
- *Internet Speed Test* application available on mobile devices. The results cover all access technologies in mobile networks (approximately 78,000 tests were performed in April 2016 and approximately 111,000 tests were performed in April 2017);

The sample size distribution was not statistically selected as representative of the domestic internet access market. At the same time, however, a large number of measurements allows the formulation of conclusions of a general nature, especially in the context of the trend of change.

It should be borne in mind that the measurements were carried out by the internet users themselves and are affected by their devices, tariff plans limitations, the use of home Wi-Fi technology, the number of active devices, radio waves propagation conditions, etc. In this way, the data obtained will allow us to know the actual quality of the service that end-users use and, to a lesser extent, the technical capabilities of ISPs.

Chart 1.

Browser application - all providers

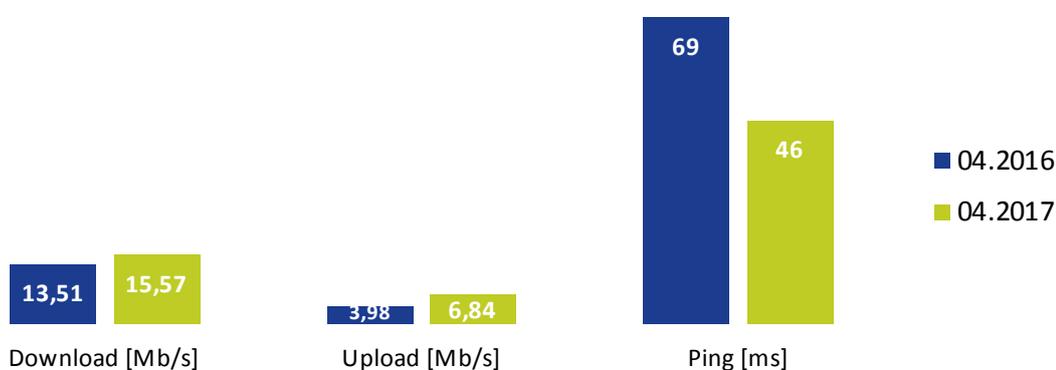


Average speed in both directions and delay from browser application for all providers.

There is a noticeable upward trend in the average data rate in both directions. Average latency is at similar levels and allow users to use real-time web services.

Chart 2.

Mobile application - all mobile providers

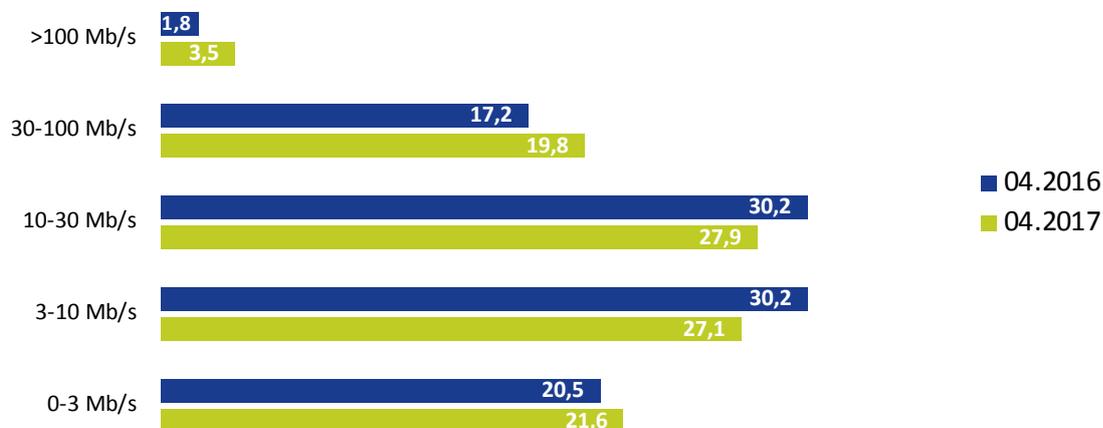


Average speed in both directions and latency from mobile application

The upward trend in average speeds in both directions for most IAS providers in mobile networks, with a mean decrease in average latency (23 ms), is predictive for the future. A similar tendency is observed when using LTE technology alone, when the average latency value has also dropped considerably from 49 ms to 37 ms. This level of latency allows users to use real-time web services.

Chart 3.

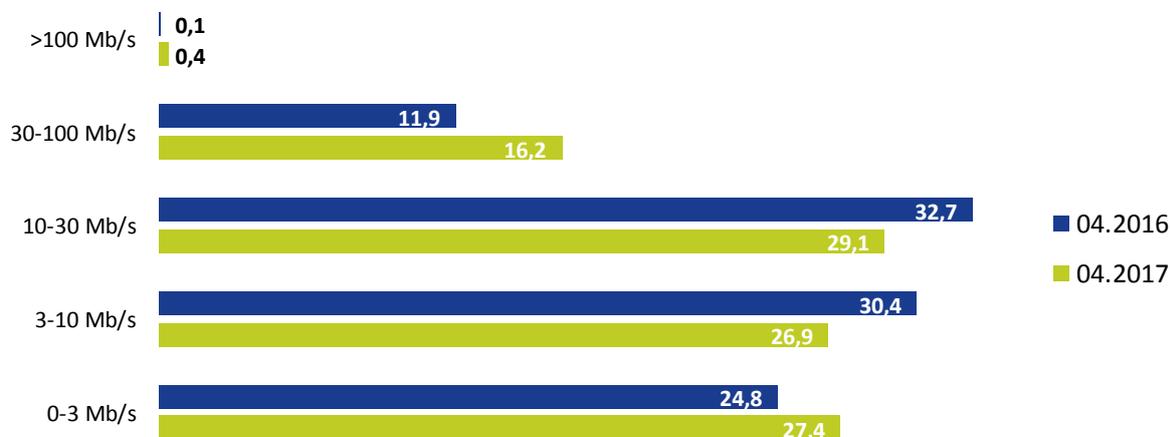
Browser application - all providers (in %)



Distribution of the number of download speed measurements in brackets

Chart 4.

Mobile application - all mobile providers (in %)



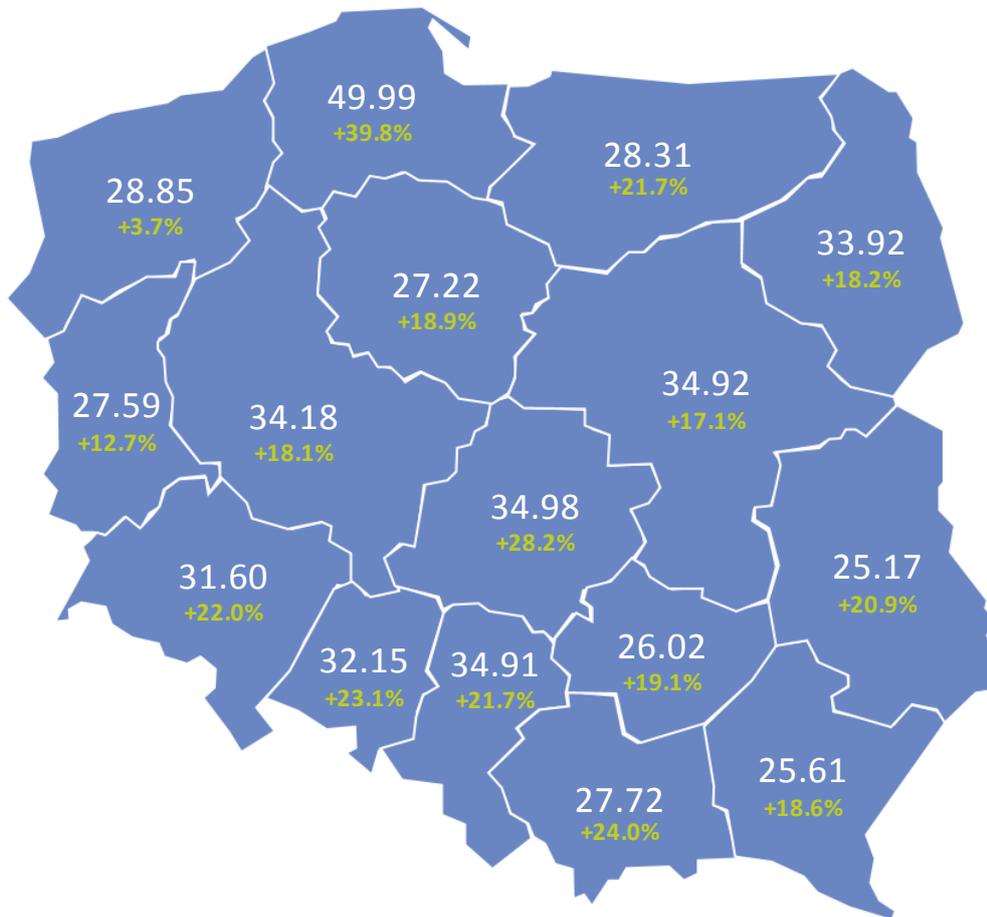
Distribution of the number of download speed measurements in brackets

The results show that over the year there has been an increase in the share of speeds between 30-100 Mbps and over 100 Mbps. This direction of change is consistent with the increase in the share of fibre-optic technology in fixed networks and the increase in the share of LTE technology in mobile networks. This is a positive signal in the context of the implementation of the Digital Agenda 2020 in Poland⁴.

⁴ Digital Agenda 2020 assumes that Europe needs fast and ultra-fast internet access which is widely available and competitive in terms of prices. This programme aims at ensuring that all Europeans have broadband access at 30 Mb/s or more by 2020 and at least half of the European households access above 100 Mb/s.

Chart 5.

Download results [Mbps] - all providers

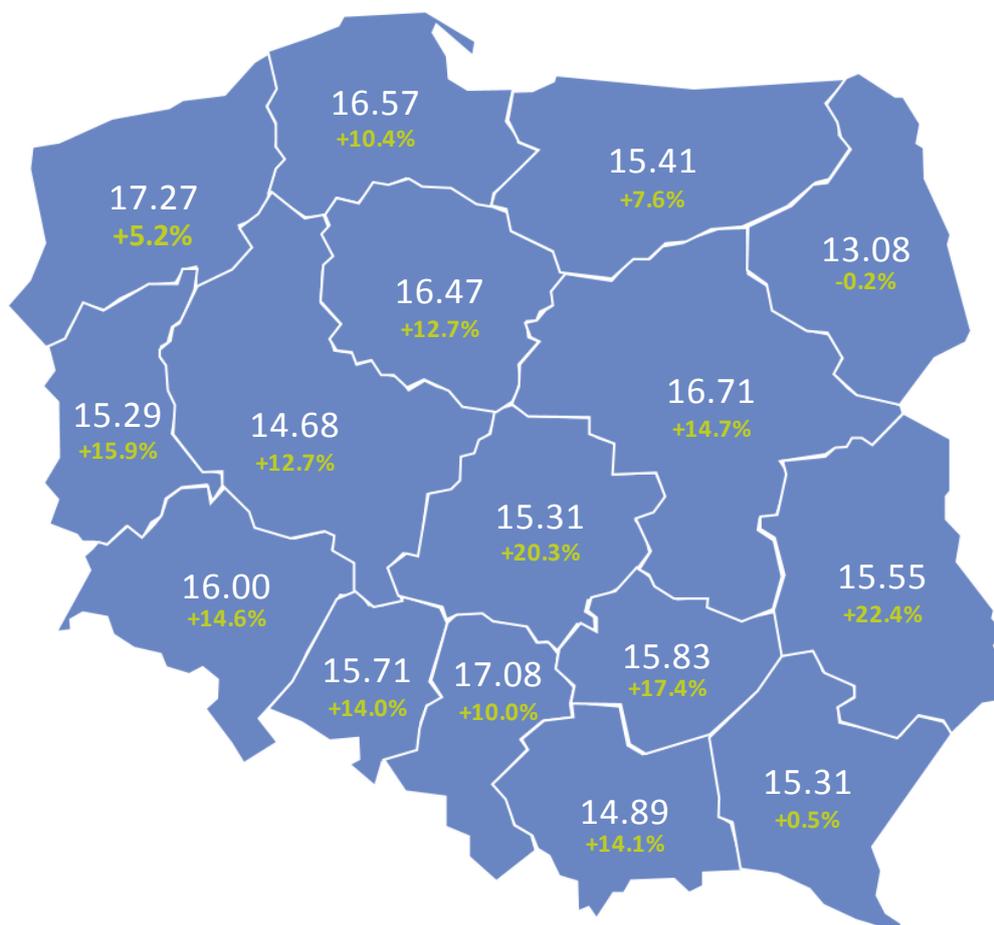


Average download speed and y/y change for a browser application for fixed-line providers

The average data rates for downloading data in fixed-line networks across the country are similar. In April this year in comparison to the same period last year, in all voivodships an increase in average speed of data download was recorded (4-40%). A similar tendency was observed in all voivodships with regard to average speed in the upload direction (24-51%). In addition, in most voivodships, the average value of latency of data streams (3-10%) was reduced, with the exception of Kujawsko-Pomorskie, Wielkopolskie, Lubuskie and Zachodniopomorskie Voivodships.

Chart 6.

Download result [Mbps] - all providers



Average download speed and y/y change for a mobile application

The average speed rates for downloading data in mobile networks across the country are similar. As compared to April 2016, the average data download speed (0.5-22%) increased in almost all voivodships, except in Podlaskie and Podkarpackie Voivodships. The biggest increase in the average download speed was achieved in Lubelskie and Łódzkie Voivodships. For the upload direction these speed increases are more pronounced and range from 31% to 51%. In all voivodships a significant reduction in average data stream latency (28-41%) was observed.

In April 2017, the share of LTE measurements was 69% of all mobile network measurements made by means of a mobile application. In April 2016 this share was 56%. This proves an increase in the use of LTE for data transmission in mobile networks, which contributes directly to the increase in service quality.

Conclusions

The findings based on the information gathered from the ISPs on the status of implementation of the Regulation allow us to provide conclusions regarding each area of the new regulation:

- In the Polish market there are internet access services with zero rates offered for some types of data transmissions (the so-called zero-rating offers). Each offer of this type is subject to the analysis of the President of UKE in terms of compliance with the provisions of the Regulation, due to the possibility of influencing the end-user's right of choice and the market of entities providing services provided electronically via the internet. The evaluation of individual practices takes into account their potential impact on the end-user's right to open internet as defined in Article 3 (1) of the Regulation.
- As regards fulfilling the obligations specified in Article 4 (1) of the Regulation, it should be noted that the providers monitored by the President of UKE have made amendments to the contracts due to the application of the Regulation. The changes have been implemented in a non-uniform manner, and it is difficult to talk about the standard model for implementing these changes, particularly as regards speed indicators for internet access services. Due to different implementation models as well as the short period in which the Regulation has been in force, this issue will be subject to active verification.
- The traffic management practices used by the providers are currently being analyzed. The President of UKE seeks to identify and eliminate practices that do not comply with the provisions of the Regulation, which restrict the use of open Internet, guaranteed to end-users by Article 3 (1) and (2) of the Regulation.
The final evaluation of the practices involved requires additional information and explanations to be obtained. Disclosure of possible practices incompatible with the provisions of the Regulation will be the basis for further actions of the President of UKE.
- As regards actions related to Article 3 (5) of the Regulation an in-depth analysis of the issue of specialised services is required in order to establish a uniform understanding of this concept.
- Providers have introduced transparent complaint handling procedures and have adopted the procedure set out in the Complaint Regulation as standard.

Referring to the availability of the IAS in Poland, it was found that the results of the measurements indicate a clear increase in the download and upload speeds and a decrease in packet latency between April 2016 and April 2017. This trend is reflected in the increased number of measurements whose download speed results are in the range of over 30 Mbps and above 100 Mbps, which is a positive signal in the context of the Digital Agenda 2020. However, it should be noted that still 77% of the measurements give a result of less than 30 Mbps, whereas the average value is 25 Mbps. The analysis at the level of individual voivodships indicates a uniform distribution of the quality of services across the whole country.

The President of UKE monitored a wide range of entities and a large number of standard contracts which are verified for the first time in terms of compliance with the Regulation. He thus opened the process of assessing the implementation of the obligations stemming from the Regulation. In the event of a breach of obligations, the President of UKE will take the necessary action.