

## Minimal quality indicators for the publicly available telephony service

### Preliminary definitions:

"terminal network point" = physical point where an end user is offered access to a public electronic communications network;

"direct service" = service offered by an electronic communications services provider who also offers the access network or therefore leases a dissociated local loop;

"indirect service" = service offered by an electronic communications services provider, the network for such service being selected by the user through a carrier selection procedure;

"telephony service" = publicly available electronic communications service the scope of which is the provision, in real time, of direct transport of voice through the public switched network/networks, therefore allowing any end user to use an electronic communications equipment connected at a fixed terminal network point for the purpose of communicating with another user who uses another equipment connected to another terminal network point.

"common access to the local loop" – providing access to the operator's local loop or to the local sub-loop allowing the beneficiary to use non-vocal frequencies within the frequency spectrum available on the twisted metallic pairs; the local loop may be further used by the operator to provide telephony service to the public.

### General considerations:

Minimal indicators apply only to standard conditions of service quality. They do not apply in case the user chooses to pay more for a higher quality level of the provided services.

For each calculated parameter, telephony services providers shall ensure that all classes of clients/users (business, residential...) are covered.

The services provider who charges tariffs for these services, irrespective of whether he is a direct or indirect services provider, has the responsibility to verify the quality of telephony services and periodically compare it with the minimal quality indicators.

<b>Indicator</b>	<b>Measured Parameters</b>	<b>Measurement Units</b>	<b>Limited Values Imposed</b>
<b>The necessary period of time for connection to the service</b>	The period of time necessary for 95% of the cases	Actual number of days (applies only to direct services)	Max. 700 days
	The period of time necessary for 99% of the cases	Actual number of days (applies only to direct services)	Max. 900 days

	% of the cases solved during the agreed time	%	Min. 98%
<b>The percentage of malfunctions</b>	Malfunctions/access line/year	% for direct services	Max. 6%
		% for indirect services	Max. 5%
<b>The period of time necessary to solve the malfunctions</b>	The period of time for solving 80% of the access lines malfunctions	Actual number of days (for direct services)	Max. 14h
	The period of time for solving 95% of the access lines malfunctions	Actual number of days (for direct services)	Max. 16h
	The period of time for solving 80% of the other types of malfunctions	Actual number of days (for direct and indirect services)	Max. 24h
	The period of time for solving 95% of the other types of malfunctions	Actual number of days (for direct and indirect services)	Max. 48h
	% of solved malfunctions during the time agreed with the user	% for direct services	Min. 98%
		% for indirect services	Min. 99%
<b>The unsuccessful calls rate</b>	% of the total local calls	% (for direct and indirect services) number of answered observations=	Max. 2%  Min 50% of the total average value of the number of calls made (this average value is also provided)
	% of the total national calls	% (for direct and indirect services) number of answered observations=	Max. 3%  Min 50% of the total average value of the number of calls made (this average value is also provided)
	% of the total international calls	% (for direct and indirect services) number of answered observations=	Max. 5%  Min. 50% of the total average value of the number of calls made (this average value will be also provided)
<b>The period of time necessary to establish the connection</b>	The average period of time necessary for establishing the connection for local calls	Sec. (for direct and indirect services) number of answered observations=	Fixed service: max. 1.5 sec.  Min. 50% of the total average value of the number of calls made (this average value will be also provided)

	The period of time necessary for establishing 95% of the total local calls	Sec. (for direct and indirect services) number of answered observations=	Fixed service: max. 2 sec.  Min 50% of the total average value of number of calls made (this average value will be also provided)
	The average period of time necessary for establishing the connection for national calls	Sec. (for direct and indirect services) number of answered observations=	Fixed service: max. 1 sec. Mobile service: max. 3 sec.  Min 50% of the total average value of number of calls made (this average value will be also provided)
	The period of time necessary for establishing 95% of the total national calls	Sec. (for direct and indirect services) number of answered observations=	Fixed service: max 1.5 sec Mobile service: max 3.5 sec Min 50% of the total average value of number of calls made (this average value will be also provided)
	The average period of time necessary for establishing the connection for international calls	Sec. (for direct and indirect services) number of answered observations=	Fixed service: max. 2 sec.  Min. 50% of the total average value of number of calls made (this average value will be also provided)
	The period of time necessary for establishing 95% of the total international calls	Sec. (for direct and indirect services) number of answered observations=	Fix service: max. 3 sec.  Min. 50% of the total average value of number of calls made (this average value will be also provided)
<b>The answer time for operator services</b>	The average answers time  % of calls towards operator services which were answered in maximum 10 seconds	Sec  %  number of answered observations=	Max. 10 sec.  Min. 90%  Min 50% of the total average value of number of calls made (this average value will be also provided)
<b>The public payphone availability</b>	% of the operational public payphones	%  number of answered observations=	Min. 95%  Min. 50% of the total average value of number of calls made (the average value will be also provided)
<b>Bill fairness</b>	%	%	Max. 2%

Notes: 1. For indicators also requiring the provision of number of observations made, in case the services provider chooses to process all the events, the response shall be "all".

2. All the observations necessary for the calculation of these parameters shall be carried out between 11:00a.m. – 14:00p.m.

**3. The values in this table are for orientation purposes. Their establishment depends on the opinions of interested parties.**

## 1. The necessary period of time for connection to the service

### Definitions:

The necessary period of time for connection to the service represents the interval of time between the moment when the direct services provider receives the request to provide the service and the moment when this service becomes available for the user who made the request.

This parameter shall apply in the following cases: installation of a new line, the existing access line becomes the property of another user, installation of a supplementary access line, including the case of PSTN to ISDN transfer, but shall not apply in case the user changes the network operator and the new operator uses a divided access segment to the local loop.

**This parameter is applicable only for the fixed telephony service.**

### Considerations on the parameter measurement:

The following statistics will be provided: the time period during which 95%, respectively 99%, of the requests are solved and the percentage of the requests made during the period of time agreed with the user.

The time period requested for the first parameter will be calculated in actual days and not in working days. The cases when the user requests the service to be provided with a delay shall not be included in the calculation of the parameter.

The service provider shall make publicly available the daily timetable regarding the points for which are received requests for connection to his services.

The data and information included in this indicator shall be reported on an annual basis.

## 2. Malfunctions reported per access line per year

### Definitions:

A valid malfunction report is a report regarding the end or degradation service, is written by the end user, and is sent to the network operated by the services provider through which the respective service is carried, or to any other network interconnected with it. The cases when service ends or is interrupted due to the damage of equipment on the user's side of the network terminal point (NTP) are excluded.

The reports on the basic or primary access percentage (BRA/PRA) or on the multi-line analogue access shall be registered as a unique report, irrespective of the number of activated or affected channels. Additionally, the number of considered access lines shall be equal to one for primary or basic access rates, irrespective of the number of activated channels.

In case the service is provided indirectly, the number of access lines shall be replaced by the number of registrations of the service (CLI or pin codes registrations).

An access line represents a circuit able to establish a vocal link between user's equipment and the local office.

*Considerations on parameter's measurement:*

This parameter is calculated by dividing the total number of valid reports on malfunctions added during the data collection period, to the average number of access lines or of service registrations existent in the respective network during the period of time of the evaluation.

An average number of lines or registrations of the service in the network shall be taken into consideration and this number shall be calculated depending on the service variation during the given time interval.

The reports on malfunctions shall be generally presumed as valid, except for the case when there are strong reasons that prove the contrary.

Statistics shall be separately calculated for direct and indirect services.

The indicator shall be reported on an annual basis.

### 3. The period of time necessary to solve the malfunctions

*Definitions:*

The period of time necessary to solve the malfunctions represents the time interval measured between the moment the malfunction reported at the public address indicated by the services provider and the moment when the service element or service complained about is brought to its normal operation parameters.

*Considerations on the parameter's measurement:*

The provider of telephony services shall make publicly available the time interval when notifications regarding certain malfunctions can be forwarded to the communicated public address.

The cases when the service provider concludes a contract with the user and commits himself to provide preferential services in order to solve the malfunctions, others than currently offered services, shall not be taken into consideration.

The following parameters shall be calculated: the time period necessary to solve the malfunctions of the access lines, in case of valid reports, for the fastest 80%, respectively 95%, of the cases, the time period necessary to solve all the reported malfunctions, in case of valid reports, for the fastest 80%, respectively

95%, of the cases, and the percentage of malfunctions solved, during the time period agreed with the user, from the total amount of validly reported malfunctions.

The statistics shall exclude the cases regarding malfunctions the remedy of which stands inside other interconnected electronic communications networks from which the telephony services provider may not receive information related to the remedy of the problem occurred.

The statistics shall quantify the malfunctions solved during the data collection period, irrespective of the moment when the malfunction is reported.

#### 4. The unsuccessful calls rate

Definition:

An unsuccessful call made to a valid identification number, correctly dialed, which does not receive either a busy tone or a calling tone, or an answer signal within the first 20 seconds after the necessary information is received by the network.

Considerations on the parameter's measurement:

The unsuccessful calls rate represents the percentage rate between the number of unsuccessful calls and the total of calls registered during a specified time period.

Statistics shall be separately conducted regarding the percentage of unsuccessful calls at local, national, international level, as well as regarding the number of observations made for each statistic.

The indicator shall be reported on an annual basis.

#### 5. The time period necessary to establish the connection

Definitions:

The time period necessary to establish a connection represents the time interval between the moment when the information about the address required for the establishment of the connection is received and the moment when the caller receives a busy tone, a calling tone or an answer call from the called party.

In case of networks using a parallel signaling system, the parameter's measurement may start at the moment when sufficient information is provided for starting the search of the required address or for the signal to be routed by the network.

Considerations on the parameter's measurement:

Statistics shall be separately calculated with respect to the following: the average value (in seconds) necessary for establishing calls at local level, the time period (in seconds) during which 95% of the total telephony local links are established, the average value (in seconds) necessary for establishing calls at national level, the time period (in seconds) during which 95% of the total

telephony national links are established, the average value (in seconds) necessary for establishing calls at international level, the time period (in seconds) during which 95% of the total telephony international links are established; additionally, the number of observations separately made regarding the establishment of national and international calls shall also be emphasized.

The calls considered unsuccessful are not subject to these statistics.

The indicator will be reported on an annual basis.

## 6. The answer time for operator services

### Definition:

The answer time for operator services represents the time interval between the moment when the information on the address of an operator service is correctly received by the network and the moment when the human operator responds to the calling user in order to provide him the requested service.

### Considerations on the parameter's measurement:

The services referred to by this indicator are services called by using special access formats (short numbers, except for the emergency services access numbers, 112 type). Fully automatically provided services are not subject to these statistics.

The following parameters shall be calculated: the average answer time and the percentage of those calls made to the operator's services that received an answer within less than 20 seconds.

The indicator shall be reported on a quarterly basis.

## 7. The availability of public pay telephones

### Definition

The public payphone means a telephone, available to the general public, that can operate as a calling terminal as well as a called terminal. The payment for using payphones may include coins, banking cards or telephone cards.

### Considerations on the parameter's measurement:

There shall also be calculated the percentage of operational public payphones that use card and/or coins, from which the user may use the services provided, from the total payphones in this category.

The indicator shall be reported on a quarterly basis.

## 8. The bill fairness

### Definitions:

A complaint regarding the fairness of the bill represents an expression of dissatisfaction of the user regarding the received bill. This kind of complaint shall

not be considered as a type of request for supplementary information regarding the received bill.

Nevertheless, reports regarding malfunctions draw attention towards certain wrong functioning of the telephony service, not including complaints regarding the fairness of the bill.

Considerations on the parameter's measurement

The percentage of complaints regarding the bill fairness from the total of bills issued during the data collection period shall be calculated. All received complaints shall be taken into consideration, irrespective of their validity.

The indicator shall be reported on a quarterly basis.

Minimal cumulative features of a telephone call

Services provided shall meet the essential requests from the operational, electric, acoustic, environmental, electro-security and electromagnetic compatibility standpoints, as imposed by the standards and technical specifications regarding the users' terminals as well as the lines used to provide these services.

These requests are considered met in case only "type approved" user terminals are used, as these terminals observe the conditions under:

<b>Standard Code</b>	<b>Brief Description</b>
CD 2.9.1.1, version 4, 1993	The technical specification for subscriber's telephone (micro receiver terminals, with speaker and hands-free, and terminals with facilities for persons with hearing deficiencies)
CD 2.9.2.1, version 3, 1993	The technical specification for public payphone
CD 2.9.1.7., version 1, 1993	The technical specification for the group of plugs used for connecting the terminal equipment to the public network
CD 2.9.1.3, version 1, 1992	The technical specification for terminal equipment able to be connected to the public telephony network (automatic dialing device, answering machine, subscriber telefax)
SR EN 55024 (CISPR 24), 2001	Equipment for information technology. Immunity features. Limits and measurement methods
SR EN 55022, 2000. (CISPR	Equipment for information technology. Radio electric disturbances features. Limits and measurement methods



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PBX CS 2.9.3, 1992	Technical specification for subscriber's system
ITU-T Q.23, 1993	Technical features of push-button telephone sets
SRETS 300488, 1997	Telephony for persons with hearing deficiencies. Features of telephones with additionally amplified reception for persons with hearing deficiencies
ETS 300677, 1995	Public Switched Telephone Network (PSTN); requirement for handset telephony
I-ETS 300480:1996	Public Switched Telephone Network (PSTN); testing specification for analogue handset telephony

The quality standards imposed to telephone lines must cover the transmission of telephone signals, provided there are no attenuations larger than those under the above-mentioned standards.

**The present provisions on the minimal quality indicators of the telephony service can be revised and/or completed according to the adopted technical regulations, following such order and observing such procedure as provided by the law.**