alladin

Nettest

An implementation of BEREC's recommendations

Andreas Gaber

September 26th, 2016

In order to provide robust quality measurement results, the crowd-sourced approach must aim to collect a large number of participants.
BEREC 25.09.2014

alladin

~3 Million
complete measurements
in all 28 EU countries
In total out of 191 countries

The success of the crowd-sourced approach relies on a low threshold for participation.

BEREC 25.09.2014

alladin

alladin

Statistical analysis, historical measurements, heatmaps, social media integration, gaming ...

In best case Open Data.

Details about the measurement methodology should be made available, and open source code should be considered as an option.

Furthermore, transparency of collected data (“open data”) should also be sought.

BEREC 25.09.2014

alladin

Comparability of individual sample measurements, comparability at higher levels such as comparability between IASes, and between countries…

…so that degradation of certain offers, or degradation caused by specialised services, can be identified…

BEREC 25.09.2014

alladin

An important quality indicator for net neutrality is achieved by monitoring the effects of congestion in the network.
BEREC 25.09.2014
alladin

Blocking of traffic
Availability of specific services (VoIp,..)
Changing of content
DNS spoofing
Traffic management detection

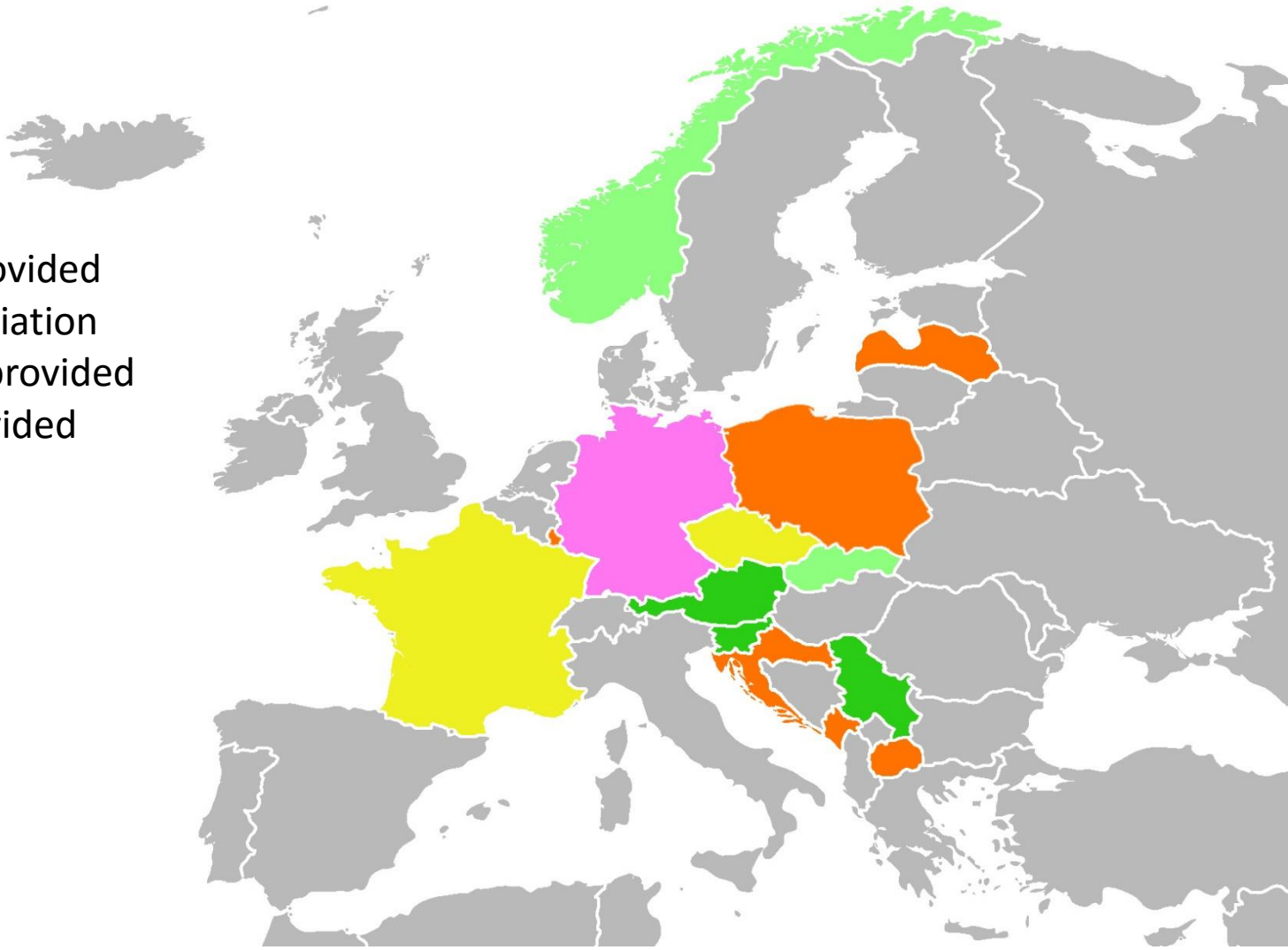
alladin

Thank you for your attention!

Andreas Gaber
Alladin-IT GMBH
Kaiserstrasse 8, 1070 Wien, Austria
+43 1 890 08 47
https://nettest.specure.com/
andreas.gaber@alladin.at

Legend:

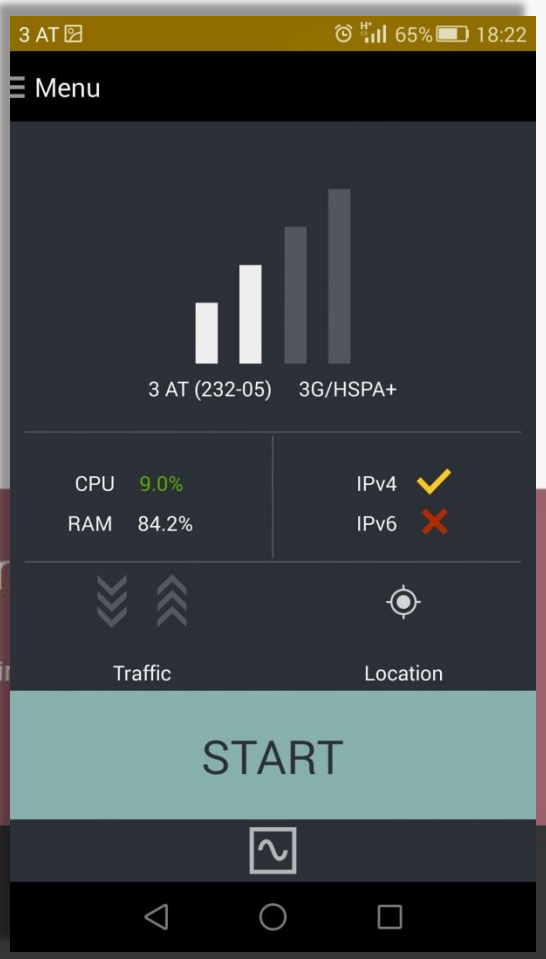
- Operator provided
- Under negotiation
- Third party provided
- Already provided
- Ongoing



alladin

Disclaimer: This is a beta version of the NetTest web application. Any measurements, results and any other information provided here are not representative and are made available for testing purposes only.

Start Your NetTest now!



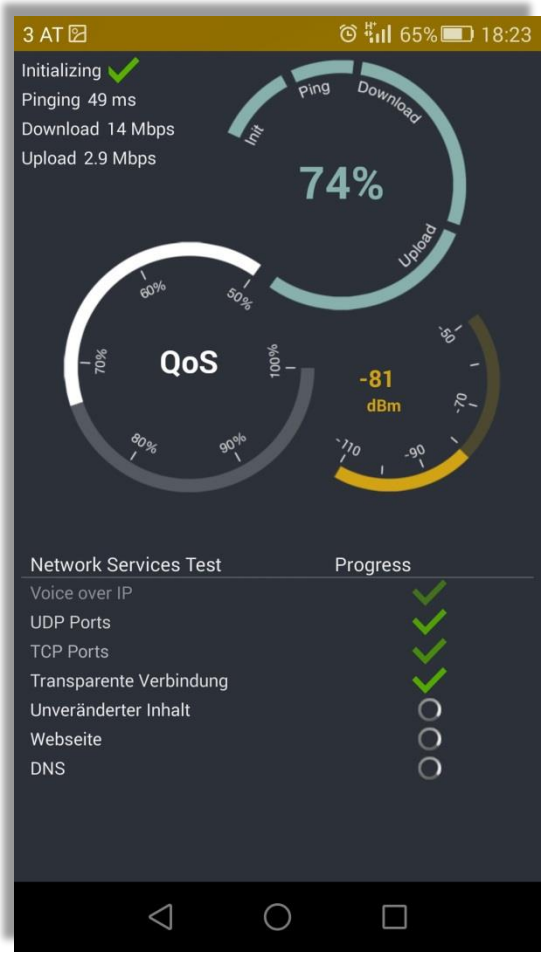
Additional Information

I want to provide additional information regarding my connection

Specure

alladin

3 AT
65% 18:22
Initializing
Pinging 49 ms
Download 14 Mbps
Upload 2.9 Mbps
Init
Ping
Download
Upload
50%
Mbps
-81
dBm
sec
3 AT (232-05) HSPA+
IP: 77.119.129.88
Server: SPECURE-SERVER (Nürnberg)


3 AT
65% 18:23
Initializing
Pinging 49 ms
Download 14 Mbps
Upload 2.9 Mbps
Init
Ping
Download
Upload
74%
QoS
-81
dBm
Network Services Test
Progress
Voice over IP
UDP Ports
TCP Ports
Transparente Verbindung
Unveränderter Inhalt
Webseite
DNS

Measurement result from 2016-04-26 16:22:33

Measurement result

Download speed	14.34 Mbps
Upload speed	2.95 Mbps
Signal strength	-81 dBm
Ping	49 ms

Quality of service

Web page 1/1

The website test downloads a reference web page (mobile Kepler page by ETS

Target: https://www.akostest.net/kepler/
The web page has been transferred successfully.

```
The transfer of https://www.akostest.net/kepler/ took 2.4 s.

Transferred data downlink: 176.3 kB
Transferred data uplink: 22.7 kB
HTTP status code: 200
```

Unmodified content 2/2

Transparent connection 4/5

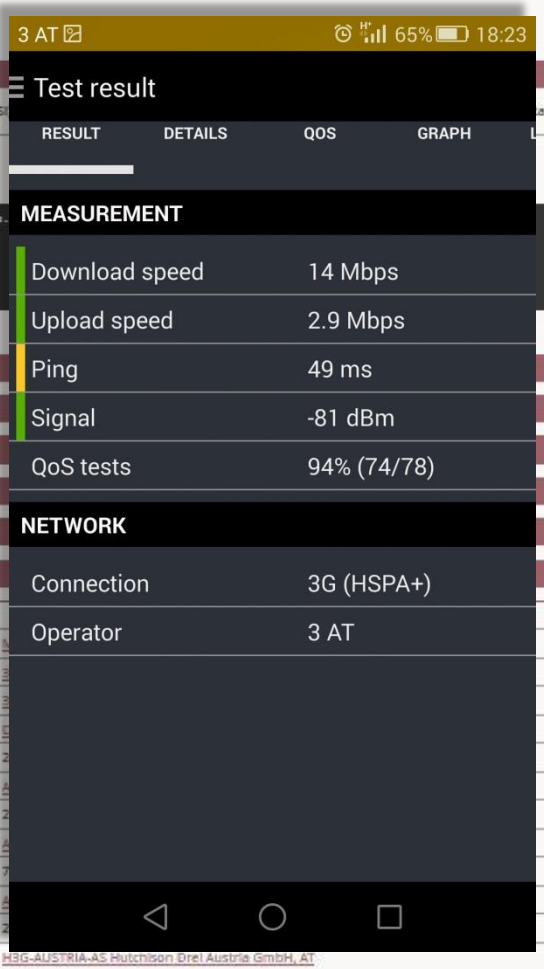
DNS 35/38

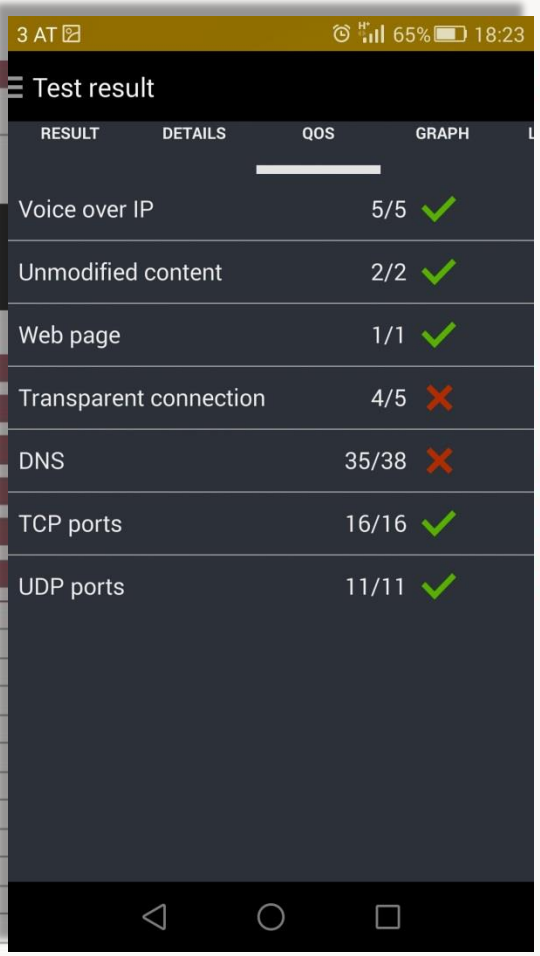
TCP ports 16/16

UDP ports 11/11

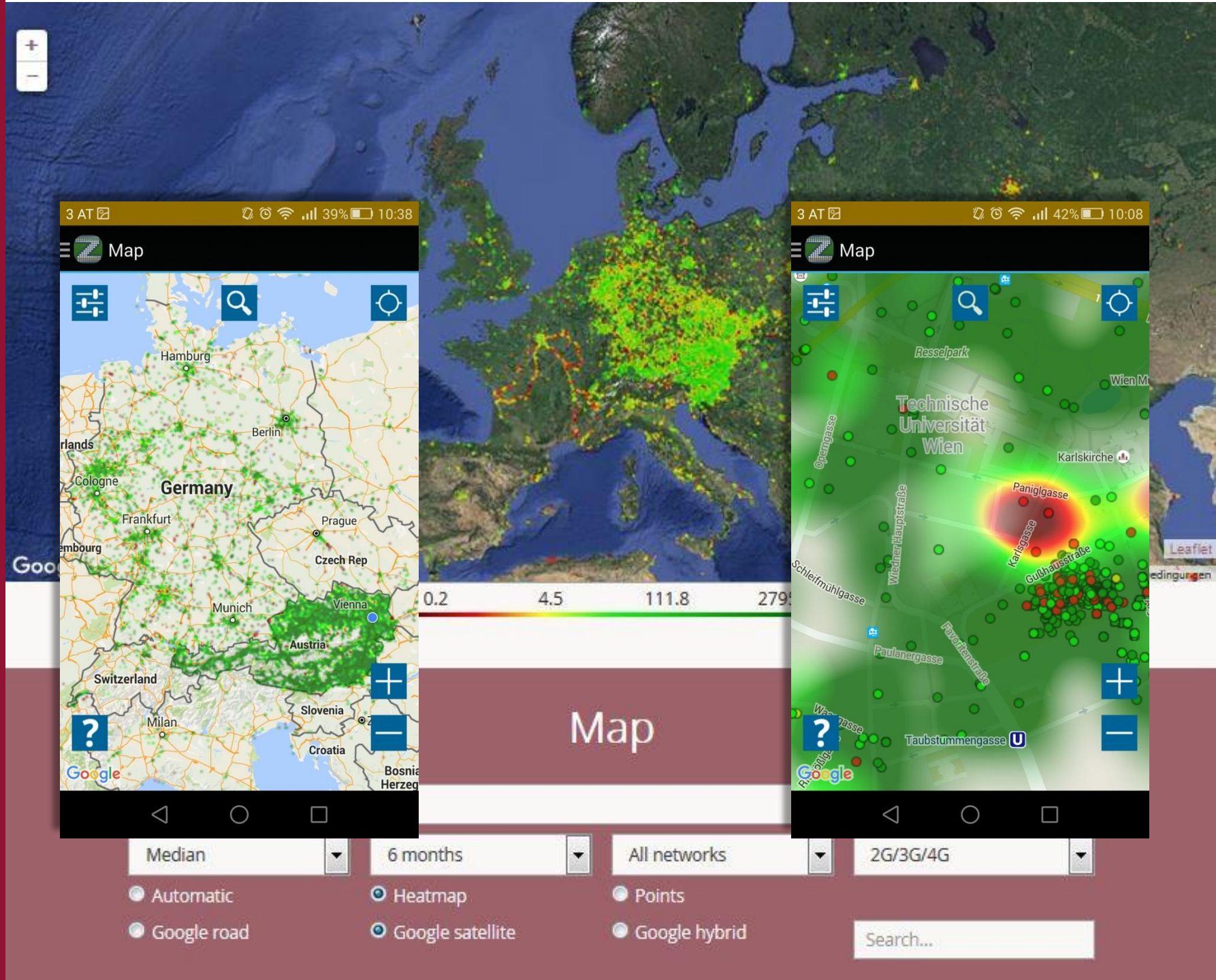
Voice over IP 1/5

Test result (click on linked value for advanced search)	
Network type	
Connection Technology	
Network (display)	
Operator	
Mobile network MCC-MNC	
Country of network	
Home network MCC-MNC	
SIM home country	
IP (anonymized)	
Country of IP	
AS number	
IP network name	H3G-AUSTRIA-AS Hutchison Drei Austria GmbH, AT
Country of AS	Austria
Platform	Android
Model	Huawei P7-L10
Model (native)	HUAWEI P7-L10
Data If_dl (dl-test)	13 MB
Data If_ul (dl-test)	0.24 MB
Data If_dl (ul-test)	0.070 MB





alladin


3 AT 39% 10:38
Map
Hamburg
Berlin
Germany
Cologne
Frankfurt
Prague
Czech Rep
Munich
Vienna
Austria
Switzerland
Slovenia
Milan
Croatia
Google
3 AT 42% 10:08
Map
Resselpark
Technische Universität Wien
Karlskirche
Paniglgasse
Karlsgasse
Gußhausstraße
Schleifmühlgasse
Paulanergasse
Taubstummengasse
Google
0.2
4.5
111.8
Map
Median
6 months
All networks
2G/3G/4G
Automatic
Heatmap
Points
Google road
Google satellite
Google hybrid
Search...
Leaflet

alladin

BEREC recommendations 1/3

According to report published on 25.09.2014, Body of European Regulators recommends following parameters of IAS quality monitoring system:

Parameter	Recommendation	NetTest compliance
IP layer measurements	*Measuring at least following IP layer parameters: upload and download speed, delay, jitter, and packet loss ratio.*	yes
Including all types of IAS	*The recommended IP layer metrics are applicable for fixed as well as wireless/mobile Internet access services.*	yes
Monitoring degradation of service	*When evaluating potential degradation of IAS as a whole, BEREC recommends that such measurements are conducted over time to allow trend analysis.*	yes
Crowd-sourcing	*Regarding aggregated results, BEREC recommends - for reasons of cost-effectiveness and user-friendliness - that averaging (based on data gathered from all participating users) should be done based on crowd-sourcing.*	yes
Software-based agent	*Implement end user transparency measurements in a user-friendly manner (a software-based measurement agent downloaded to end user equipment).*	yes

alladin

BEREC recommendations 2/3

Parameter	Recommendation *(as stated in BEREC report)*	NetTest compliance
Accuracy	*Accuracy requires that results are obtained from a clearly defined population and their statistical treatment is well documented, so that results can be interpreted without bias.*	**yes**
Comparability	*This includes "plain" comparability of individual sample measurements, but also comparability at higher levels, such as comparability between IASes, and between countries when possible, so that degradation … can be identified with a sufficient level of confidence.*	**yes**
Security	*The system components must be robust and protected against security attacks, and availability, integrity and confidentiality of the measurement data must be secured during storage and transmission.*	**yes**
Privacy	*This implies that the user must be informed which data are collected, for what purpose and what information shall be included, how data will be used, and specifically that some information may be made available to the public.*	**yes**
Legal value	*The system governance must be designed in a way which mitigates conflicts of interest and ensures credible results.*	**yes**

alladin

BEREC recommendations 3/3

Parameter	Recommendation *(as stated in BEREC report)*	NetTest compliance
End user enablement	*For regulators to set up a measurement system with the overall aim of being objective and provider-independent and enabling users to undertake measurements implies and maybe even intends that an end user will rely on and make further use of the measurement results.*	**yes**
Future-proof	*The system design should ensure flexibility, extensibility, scalability and adaptability.*	**yes**
Open source code	*Details about the measurement methodology should be made available, and open source code should be considered as an option to achieve this requirement. Knowledge of source code is therefore the ultimate tool to make the measurement methodology transparent.*	**yes**
Open data principle	*Furthermore, transparency of collected data ("open data") should also be sought, with due respect for the limitations of national legislation.*	**yes**

alladin