Barometer of fixed Internet connections in Serbia

H2 2018 – H1 2019

Content

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1 Summary of global annual results

1.1 nPerf score, all technologies combined

nPerf barometer summary table - S2 2018/ S1 2019
Fixed Internet connections in Serbia

	MTS	Orion	SBB
Download bitrate	17.11 Mb/s	20.44 Mb/s	**50.23 Mb/s**
Upload bitrate	3.61 Mb/s	3.89 Mb/s	**5.93 Mb/s**
Latency	55.32 ms	61.38 ms	**39.47 ms**
nPerf Score	70 322 nPoints	72 058 nPoints	★ 96 786 nPoints

* The formula for calculating the score has changed since 1 January 2018, so the values are not comparable with those of previous publications. See details in the publication.

SBB subscribers enjoyed the best fixed Internet performance in the last two semesters

Based on the nPerf score which takes into account the upload and download bitrates as well as the latency, all technologies combined.

1.2 Our analysis

From July the 1st 2018 and June the 30th 2019, nPerf users conducted 170.399 connection tests on Serbia's three largest Internet Service Providers. SBB dominates the market in terms of performance of fixed Internet connections by being the first on download and upload speed tests and latency tests. 32 Mb/s is the average download speed of Serbian people which is a good global performance. However, as in many other countries, this result probably hides the digital divide between areas.

SBB is the fastet Internet Provider far ahead

During the last 12 months, SBB has provided the fastest Internet connections on fixed networks in Serbia. With an average download speed of 50 Mb/s, SBB is far ahead from its competitors, indeed, the second one is Orion with 20 Mb/s. So the gap between SBB and its competitors is around 30 Mb/s !

With 50 Mb/s, SBB customers are sure to enjoy all the greedy uses in bandwidth such as watching a movie in 4K, multiscreens uses at home, 4K Gaming…

SBB first on latency, a good news for gamers

Besides being the fastest provider on fixed networks, SBB is the most reactive with a very good latency, 39 ms; so if you are a gamer and need short latency, SBB does the job.

Conclusion

On fixed networks, one provider clearly makes the difference. With a download speed of 50 Mb/s and a latency of 39 ms, SBB has no rivals.
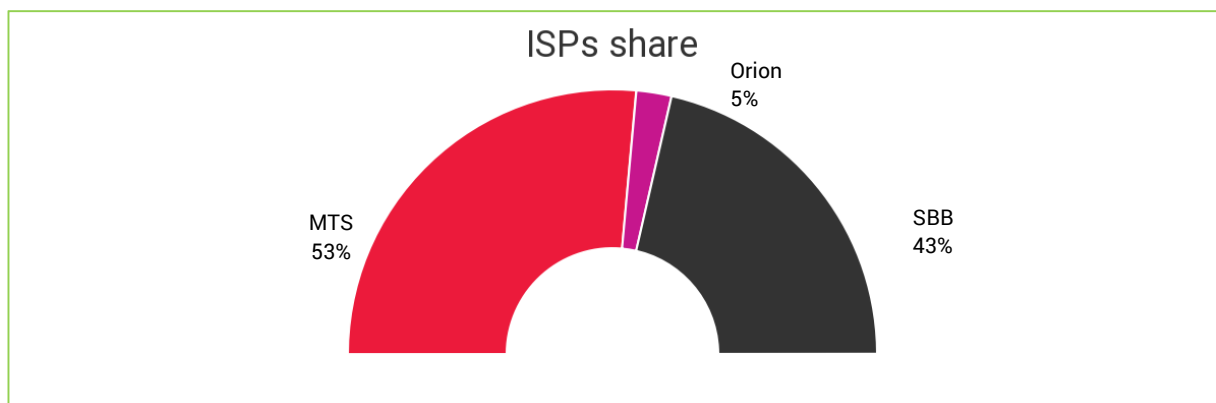
2 Overall results, all technologies combined

2.1 Data amount and distribution

From **July 1, 2018** to **June 30, 2019** we counted **170.399 tests**, distributed after filtering as follows:
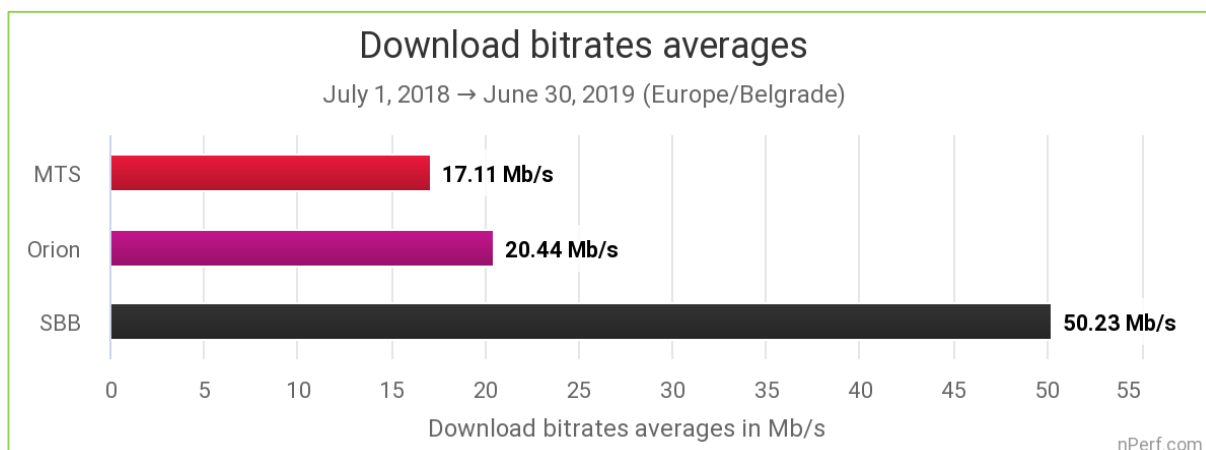
Country	Tests
Serbia	**145.836**

Breakdown of tests by provider

ISPs share

MTS 53%
Orion 5%
SBB 43%

2.2 Download speed

In 2018-2019, the average download speed in Serbia was 32 Mb/s.

Download bitrates averages

July 1, 2018 → June 30, 2019 (Europe/Belgrade)

MTS **17.11 Mb/s**

Orion **20.44 Mb/s**

SBB **50.23 Mb/s**
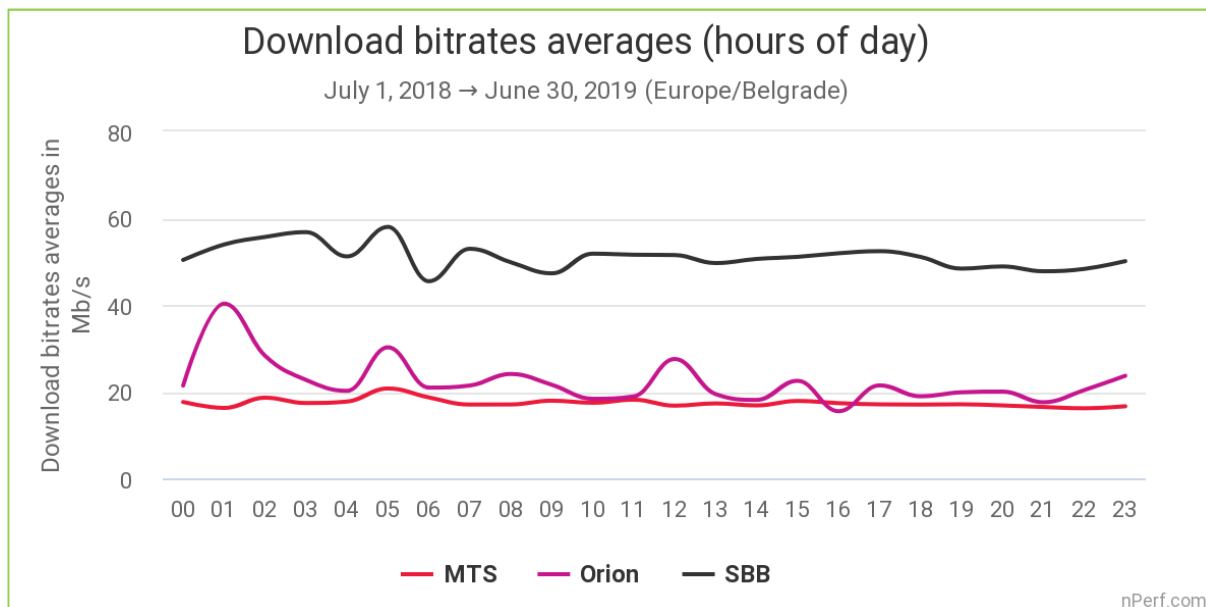
Download bitrates averages in Mb/s

nPerf.com

The highest value is the best.

All technologies combined, **SBB** subscribers benefited from the best fixed internet download in the last two semesters.
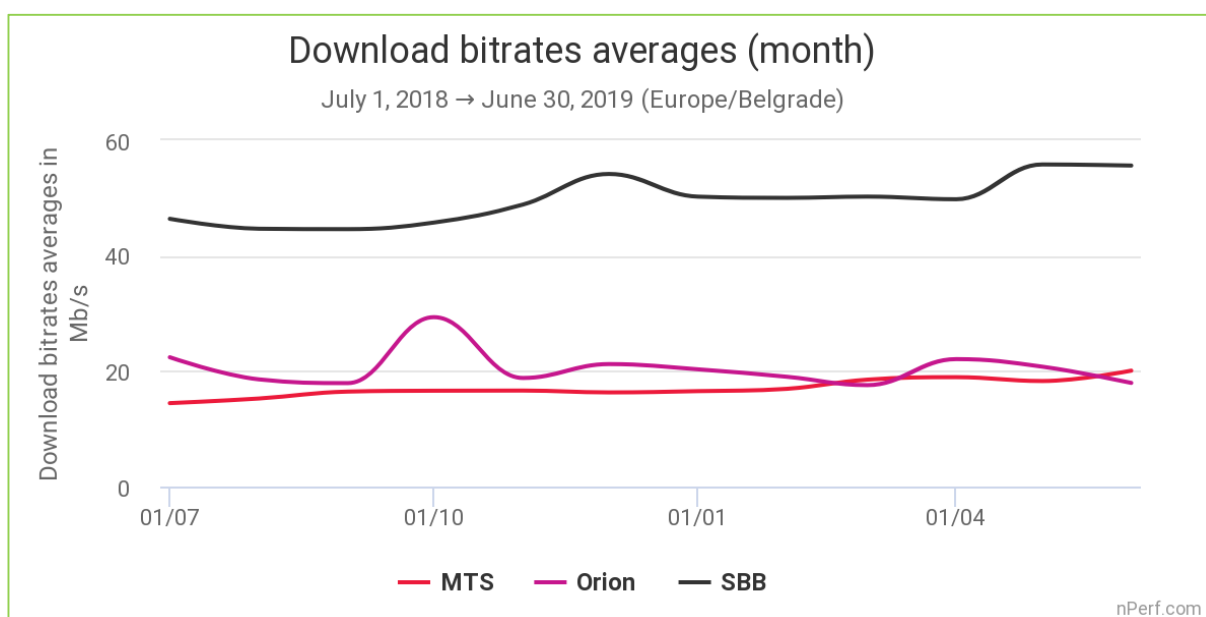
Download bitrates averages (month)

July 1, 2018 → June 30, 2019 (Europe/Belgrade)

Download bitrates averages in Mb/s

— MTS — Orion — SBB

nPerf.com

The highest value is the best.

Above graph illustrates the ability of providers to maintain a constant download speed over the period regardless of network load (number of connected clients).

Globally, all ISPs improved slightly their performance throughout the last two semesters, but it is mostly SBB that has made the most progress and is thus at the top of the ranking on this KPI.

Download bitrates averages (hours of day)

July 1, 2018 → June 30, 2019 (Europe/Belgrade)
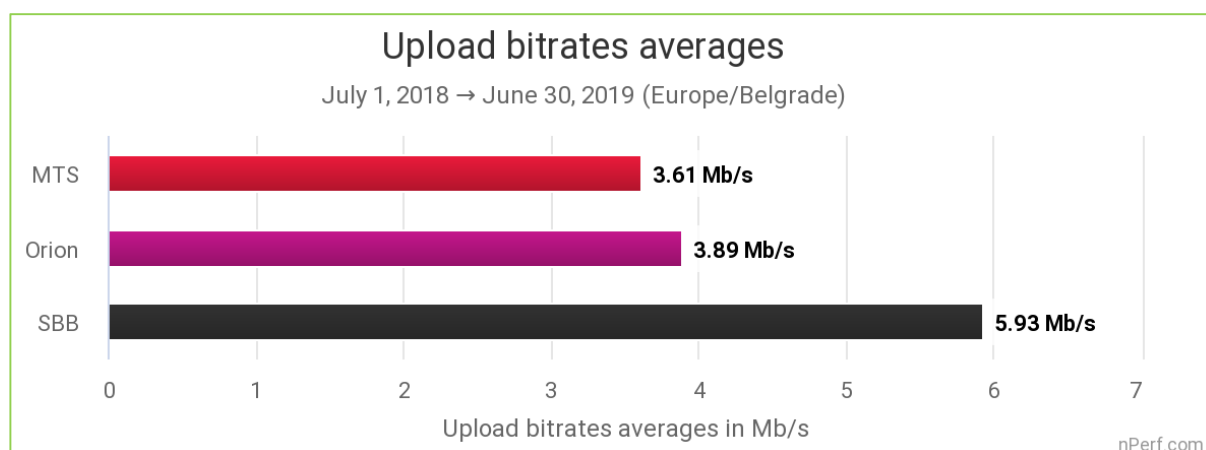

The highest value is the best.

This graph illustrates the ability of providers to ensure a constant download speed throughout the day, regardless of network load (number of connected clients).

We note that there is no decline of the troughput during the busy hours.

2.3 Upload speed

In 2018-2019, the average upload speed in Serbia was 5 Mb/s.

Upload bitrates averages

July 1, 2018 → June 30, 2019 (Europe/Belgrade)

Provider	Upload bitrates averages in Mb/s
MTS	3.61 Mb/s
Orion	3.89 Mb/s
SBB	5.93 Mb/s

The highest value is the best.

All technologies combined, **SBB** subscribers benefited from the best fixed internet upload speed in the last two semesters.
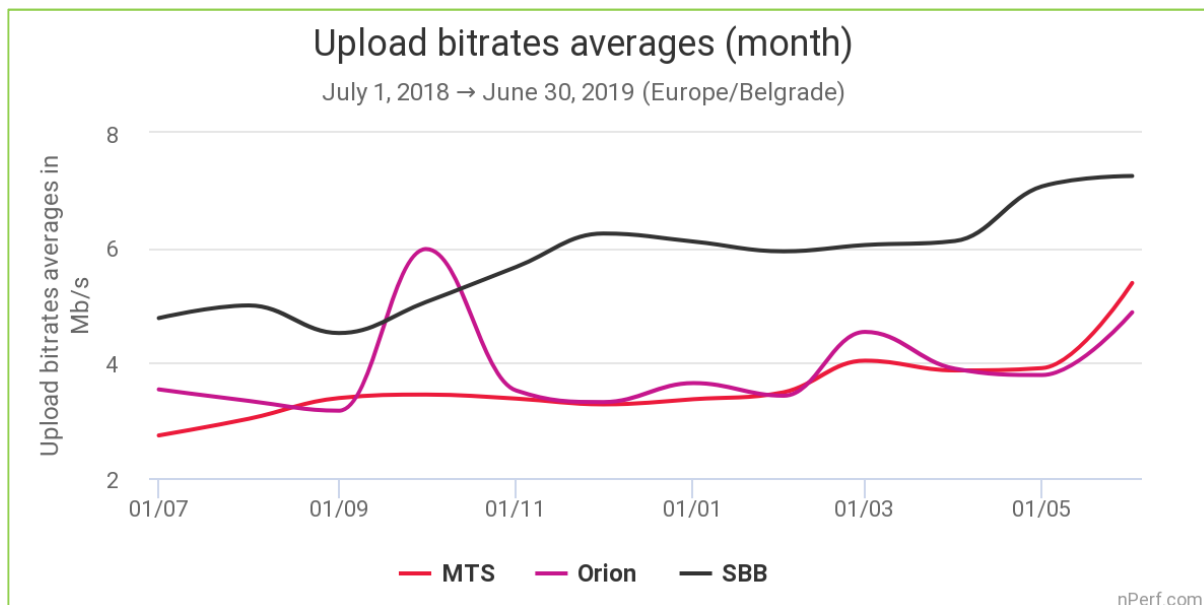
Upload bitrates averages (month)
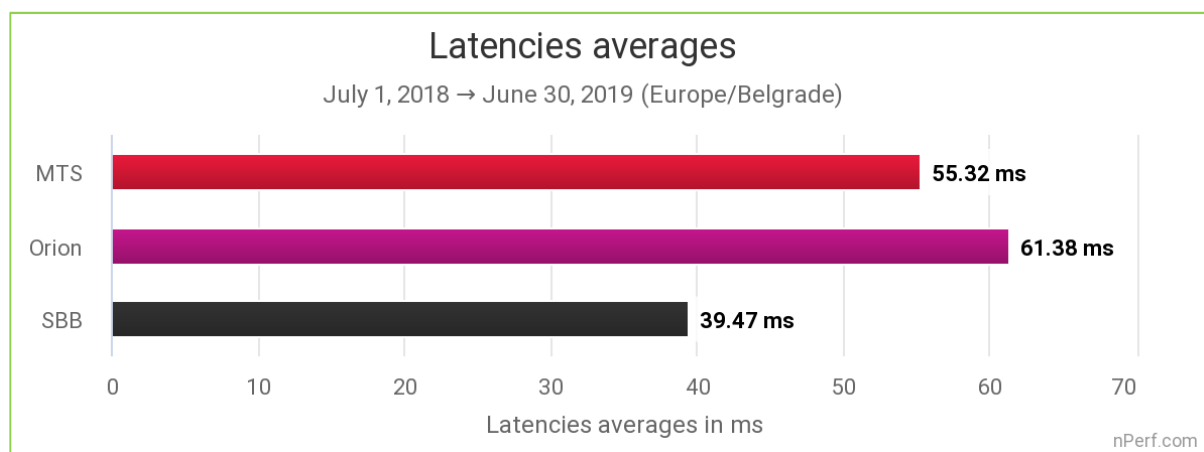### July 1, 2018 → June 30, 2019 (Europe/Belgrade)

The highest value is the best.

Above graph illustrates the ability of providers to maintain a constant upload speed over the period regardless of network load (number of connected clients).

Globally, all ISPs have improved their upload speed during the last two semesters.

2.4 Latency

In 2018, the average latency in Serbia was 49 ms.

Latencies averages
July 1, 2018 → June 30, 2019 (Europe/Belgrade)

MTS	55.32 ms
Orion	61.38 ms
SBB	39.47 ms

Latencies averages in ms

The lowest value is the best.

All technologies combined**, SBB** subscribers benefited from the best internet latency in the last two semesters.
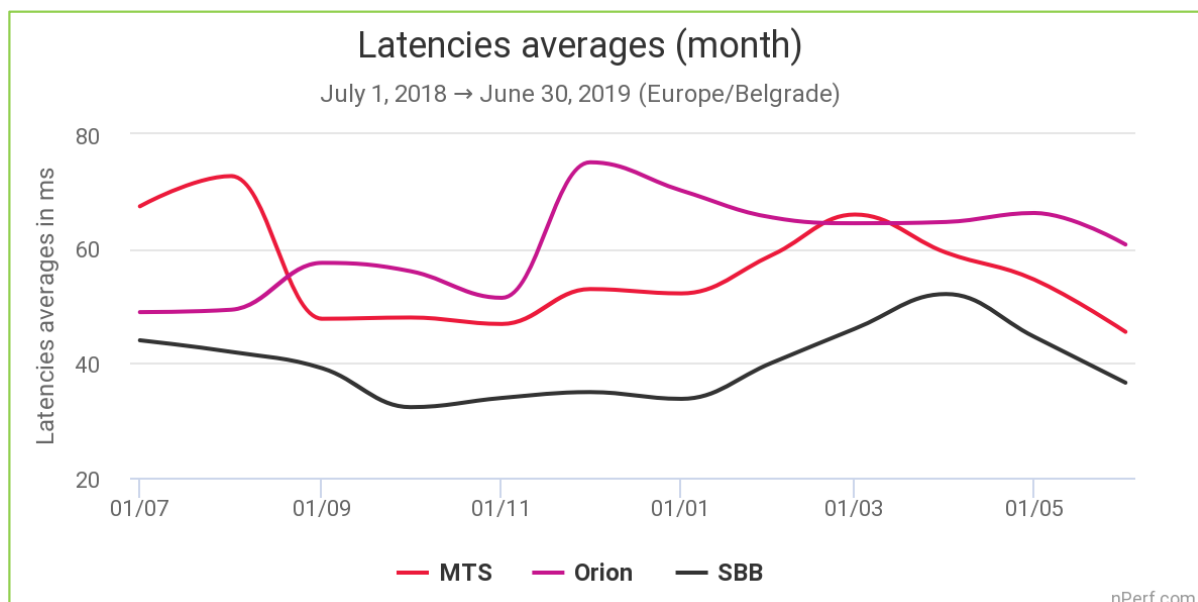
Latencies averages (month)
July 1, 2018 → June 30, 2019 (Europe/Belgrade)
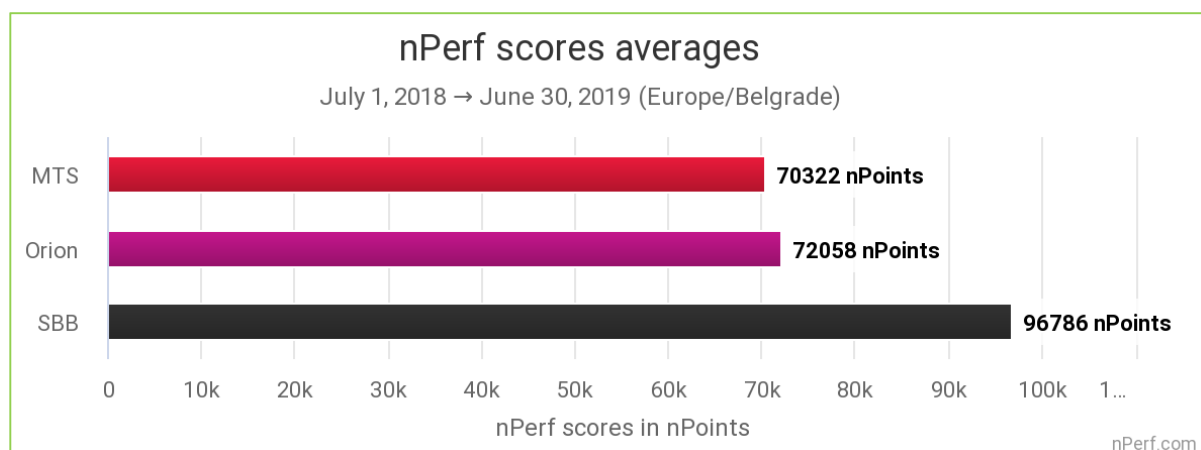
The lowest value is the best.

This graph illustrates the ability of providers to maintain a constant latency during the period, regardless of network load (number of connected clients).

We note that SBB provided fairly stable average latency, while Orion degraded its and MTS improved it.

2.5 nPerf score, all technologies combined

The nPerf score, expressed in nPoints, gives an overall picture of the quality of a connection. It takes into account measured bitrates (2/3 Download + 1/3 Upload) and latency. These values are calculated on a logarithmic scale to better represent the perception of the user.

Thus, this score reflects the overall quality of the connection for mainstream consumer use.

nPerf scores averages
July 1, 2018 → June 30, 2019 (Europe/Belgrade)

	nPerf scores in nPoints
MTS	70322 nPoints
Orion	72058 nPoints
SBB	96786 nPoints

The highest value is the best.

SBB subscribers enjoyed the best fixed Internet performance in the last two semesters.

nPerf scores averages
July 1, 2018 → June 30, 2019 (Europe/Belgrade)
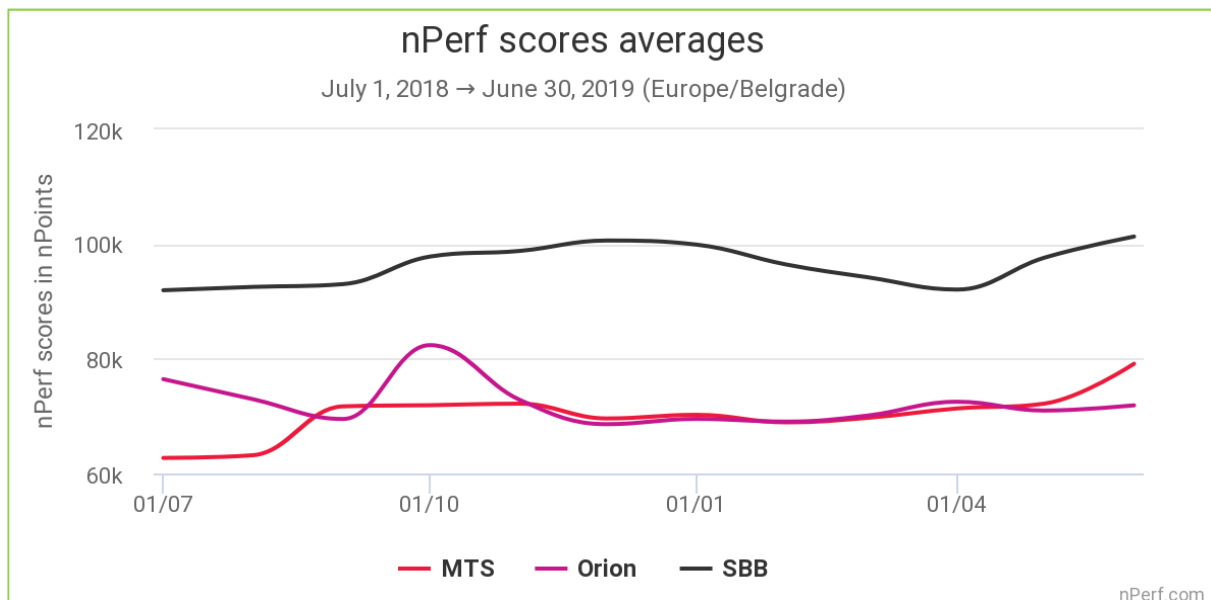
The highest value is the best.

Globally, SBB and MTS have improved slightly their performance in the last two semesters while Orion is quite stable.

3 Methodology

3.1 The panel

nPerf offers an Internet speed test application, which can be used for free at www.nPerf.com.

Everyone is free to use nPerf to measure the speed of their Internet connection. All users of the nPerf application form the panel of this study.

In addition, the results from the nPerf speed tests integrated on our partner websites are also included in the panel.

The largest number of speed tests have been carried out on the website of our partner in Serbia: http://www.umrezen.in.rs/

Thus, the nPerf study is based on thousands of tests, making it the study with the largest panel in Serbia.

3.2 Speed and latency tests

3.2.1   Objectives and operation of the speed and latency test

The purpose of the nPerf Speed Test is to measure the maximum capacity of the data connection in terms of data rates and latency.

To achieve this, nPerf establishes multiple connections simultaneously to saturate the bandwidth to accurately measure it. The speed used for the barometer is the average speed measured by the application.

Speed measurements thus reflect the maximum capacity of the data connection. This rate may not be representative of the user experience experienced during normal use of the Internet, as it is measured only on nPerf servers.

The measured bit rate can be impacted by the quality of the user's local network, especially since the expected flow is high. Thus, for an optical fiber internet connection, a local WiFi or Power-Line connection can greatly reduce performance. However, since these constraints are identical to all market operators, they do not bias the comparison. In addition, the user is made aware of these constraints and invited to use a wired local connection for testing very high speed.

3.2.2   nPerf servers

To ensure maximum user bandwidth at all times, nPerf relies on a network of servers dedicated to this task.

These servers are located with hosts in Serbia abroad. **Local providers are welcome to install nPerf servers, that's free!**

The total bandwidth available worldwide is greater than 4 Tb/s.

3.3 Statistical accuracy

With regard to the total volume of unit tests, the statistical precision used in this publication is:

✓ 3% for absolute values

If, for a given indicator, one or more operators have results very close to the best, in the confidence interval defined above, these will be share first place.

3.4 Filtering of test results

The results obtained are subject to automatic and manual checks to avoid duplication and to rule out possible abusive or fraudulent use (massive tests, robots ...).

Tests performed on cellular connections (2G, 3G, 4G) are also excluded from this barometer.

4 You too, participate in the nPerf panel!

To participate in the panel, simply test your connection on the website www.nperf.com. For mobile Internet, you can also use the nPerf app, available for free on the Apple AppStore for iPhone and iPad, on Google Play for Android devices and on the Windows Store for Windows Phone and Windows Mobile devices.

5 Custom analysis & contact

Do you need further study or want to get the raw data, punctually or automatically, to compile it yourself?

You can contact nPerf via www.nPerf.com "Contact Us" section or directly from the mobile app.

Phone contact: +33 482 53 34 11

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Stay in touch with us, follow us!