

Barometer of fixed internet connections in Switzerland

2021 Report



Publication of
February 1st, 2022

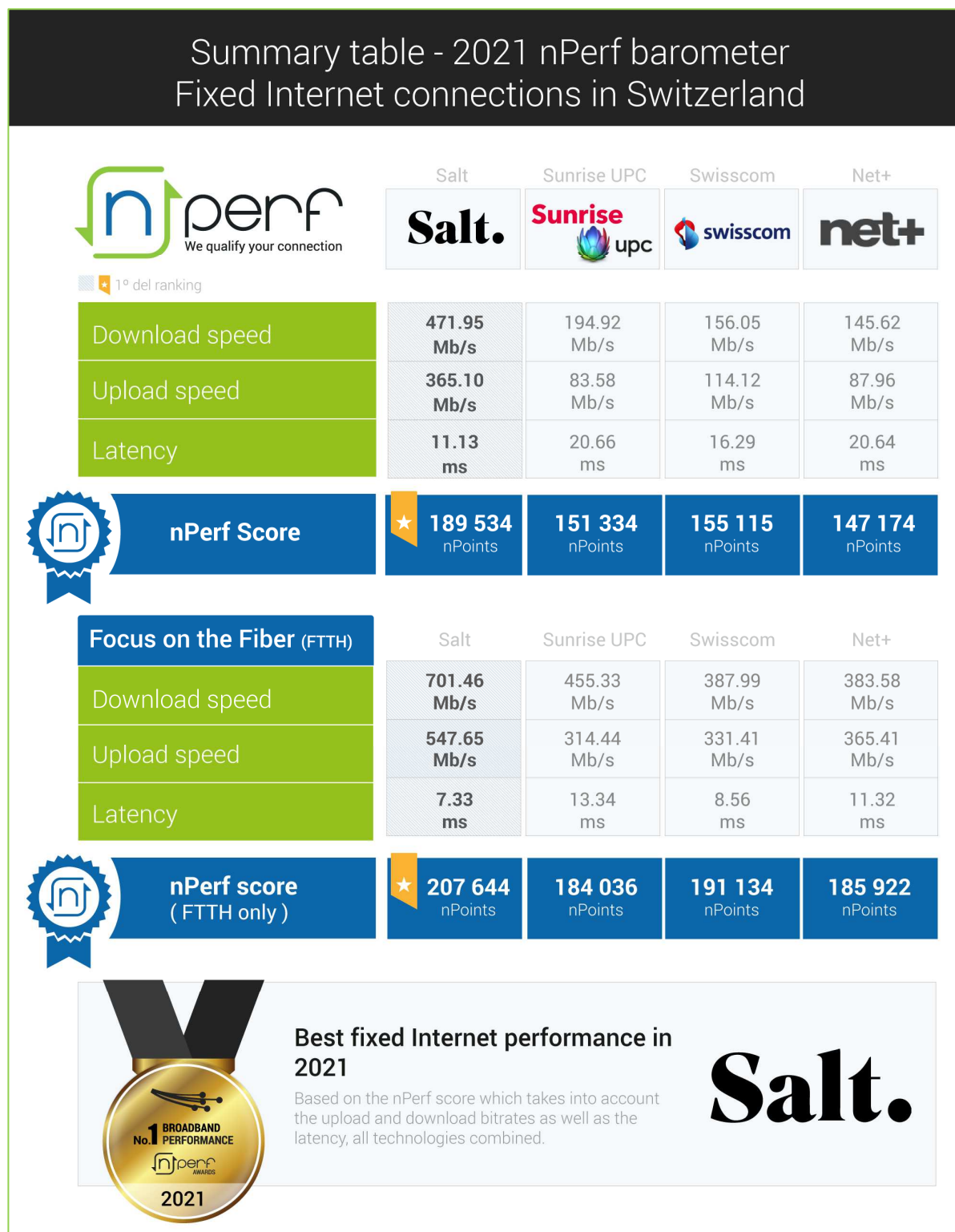


Content

| | | |
|-------|---|----|
| 1 | Summary of global results..... | 2 |
| 1.1 | Summary table and nPerf score | 2 |
| 1.2 | Our analysis..... | 3 |
| 2 | Results, all technologies combined | 4 |
| 2.1 | Data amount and distribution | 4 |
| 2.2 | Download speed | 4 |
| 2.3 | Upload speed | 6 |
| 2.4 | Latency | 7 |
| 2.5 | nPerf score | 8 |
| 3 | Optical Fiber Results | 9 |
| 3.1 | Data amount and distribution | 9 |
| 3.2 | FTTH download speed | 9 |
| 3.3 | FTTH upload speed | 10 |
| 3.4 | FTTH latency | 11 |
| 3.5 | nPerf score, zoom on the FTTH..... | 11 |
| 4 | Methodology | 12 |
| 4.1 | The panel..... | 12 |
| 4.2 | Speed and latency tests | 12 |
| 4.2.1 | Objectives and operation of the speed and latency test..... | 12 |
| 4.2.2 | nPerf servers | 12 |
| 4.3 | Statistical accuracy | 12 |
| 4.4 | Filtering of test results | 13 |
| 5 | You too, participate in the nPerf panel!..... | 13 |
| 6 | Custom analysis & contact | 13 |

1 Summary of global results

1.1 Summary table and nPerf score



Salt, the best fixed Internet performances in 2021.

1.2 Our analysis

In 2021, nPerf users have performed **83 593** connection tests on Switzerland's four largest ISPs.

In 2021, People in Switzerland have enjoyed an average download speed of 195 Mbps and 120 Mbps in upload. Swiss households are among the best-connected ones in Europe with these broadband performances.

Note that data from Sunrise and UPC operators have been merged.

Salt has offered the best internet performances in the country to its subscribers.

Salt led the market in terms of performances on fixed networks with its top spot in download and upload speeds, as well as excellent network latency. Its speeds of several hundred Mbps, almost symmetrical, are the result of a predominantly fiber network but also of a particularly good choice of technology by equipping its network with 10 Gbps compatible equipment.

Other Internet providers are penalized by a marketing segmentation. Indeed, Salt is the only provider who delivers symmetric 10 Gbps broadband.

Note also that, if the performance is below the theoretical one, it's because customers don't have yet the equipment (powerful chipset, ethernet cable, new generation of Wi-Fi...) that allows them to reach 10 Gbps.

Swisscom, a nice second place.

Thanks to good speeds and above all good latency, Swisscom obtained a deserved second place in the general ranking, all technologies combined.

Sunrise UPC, in third place.

The new group, with a download speed close to 200 Mb/s, nevertheless fails to keep up with the good progress of Swisscom.

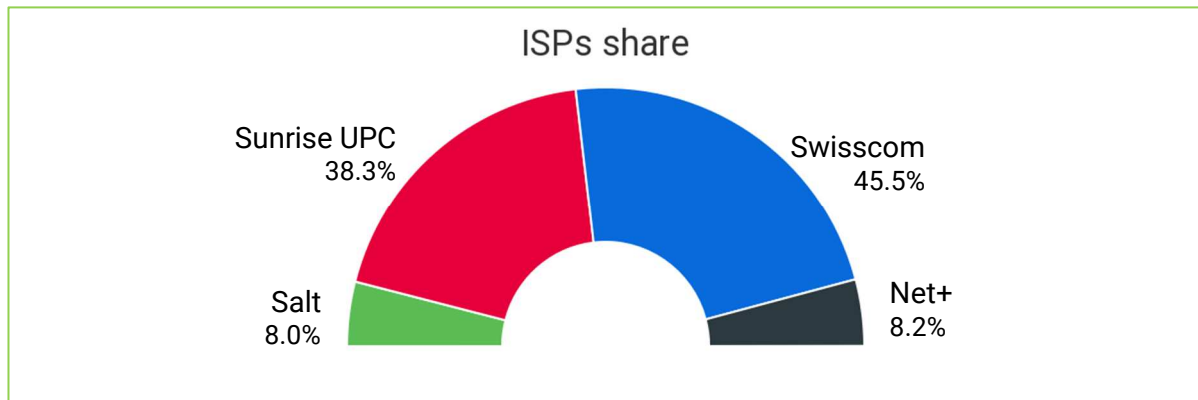
2 Results, all technologies combined

2.1 Data amount and distribution

From **January 1, 2021** to **December 31, 2021** we counted **83 593** tests, distributed after filtering as follows:

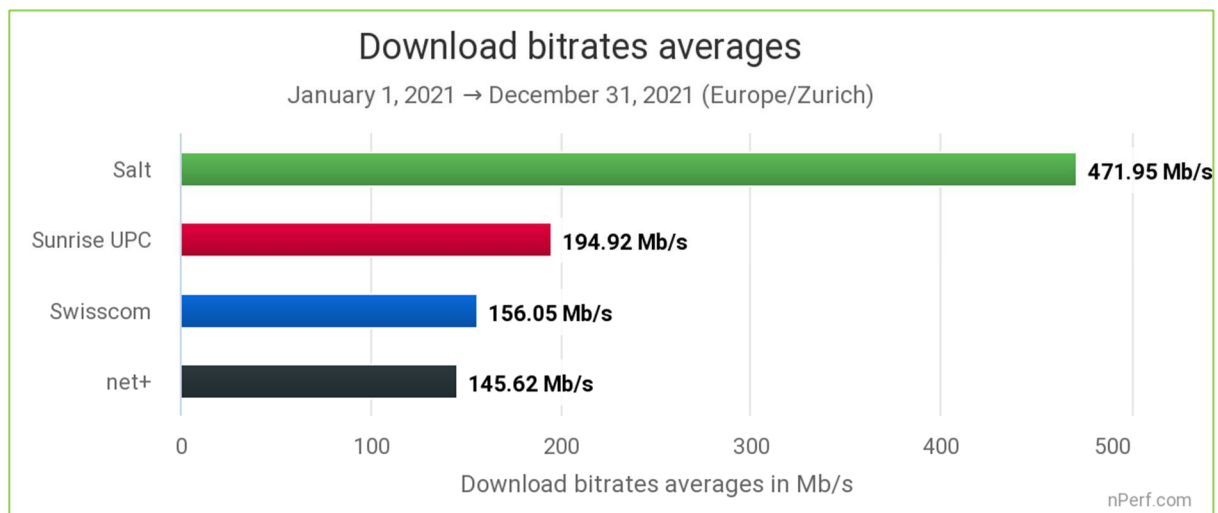
| Country | Tests |
|-------------|---------------|
| Switzerland | 68 055 |

Breakdown of tests by provider



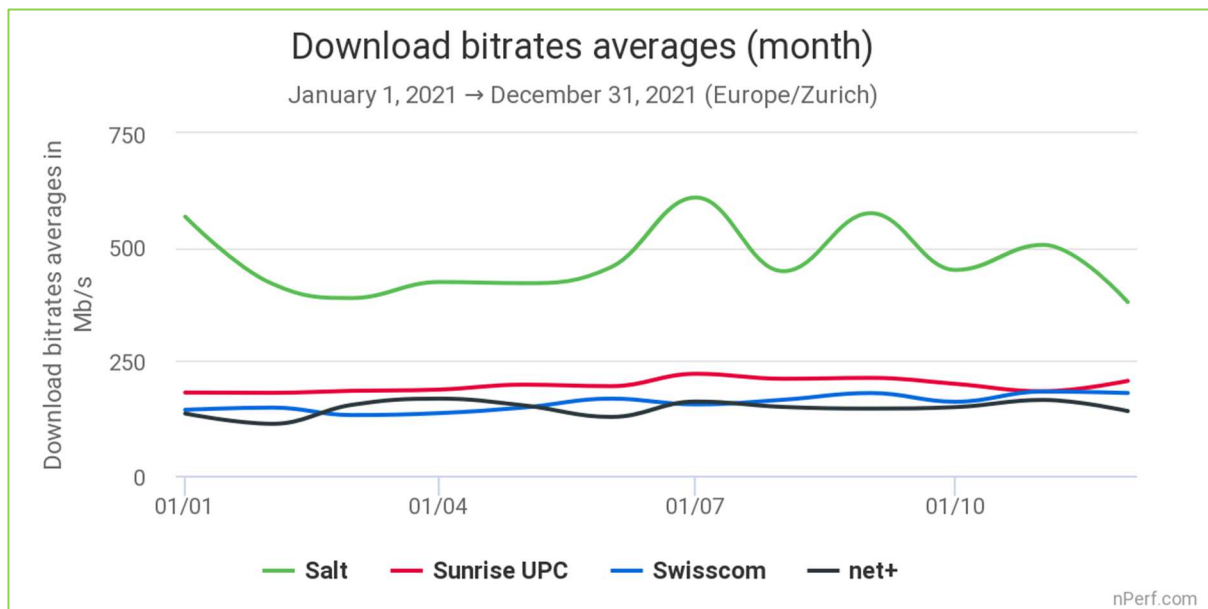
2.2 Download speed

In 2021, the average download speed in Switzerland was **195 Mb/s**.



The highest value is the best.

All technologies combined, **Salt** has offered the best download speed to its subscribers in 2021.

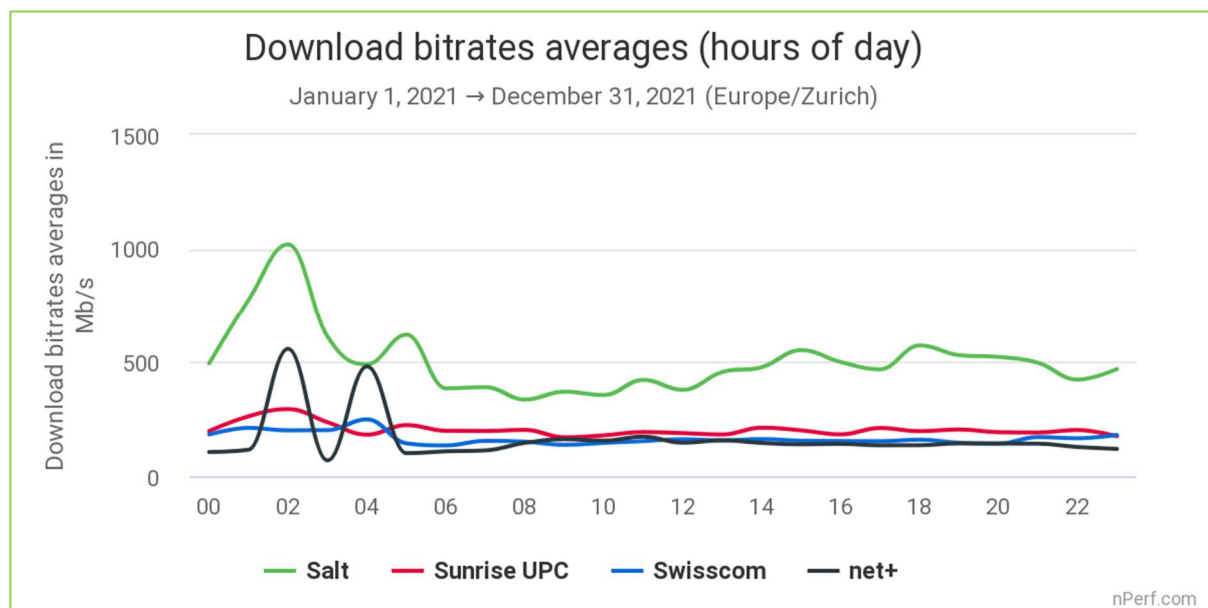


The highest value is the best.

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

Salt continued to increase its throughput in 1 year (by +13% i.e +53 Mb/s compared to 2020).

The other ISPs such as Swisscom and Net+ have also made very good progress in 1 year, respectively by +47 Mb/s and +34 Mb/s on average.



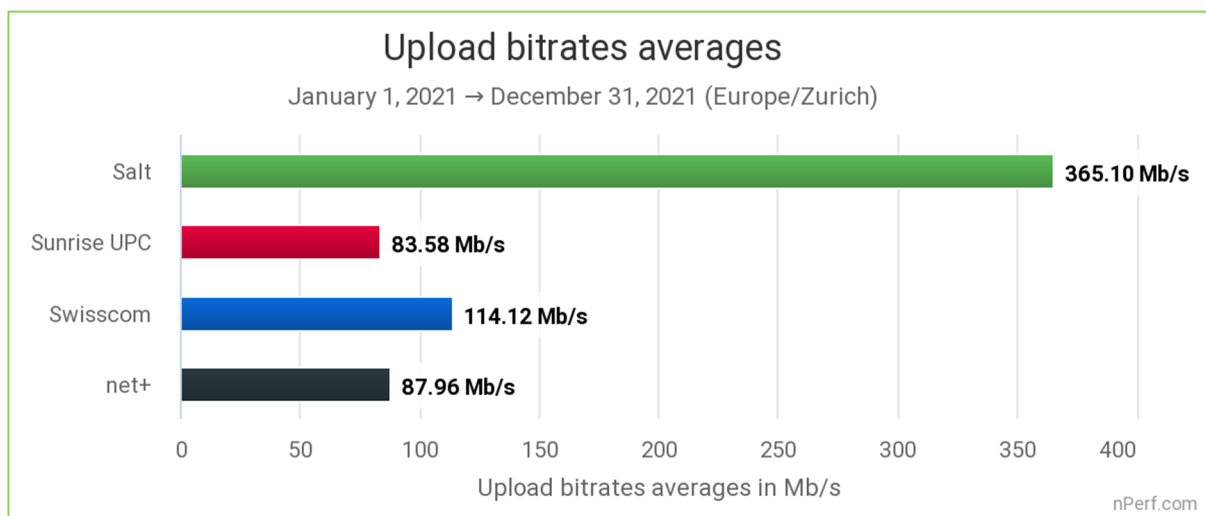
The highest value is the best.

This graph illustrates the ability of providers to ensure a constant download speed during the day, regardless of network load (number of connected end-users).

We note that there is no decline of the throughput during the busy hours; this is a good performance from the ISPs.

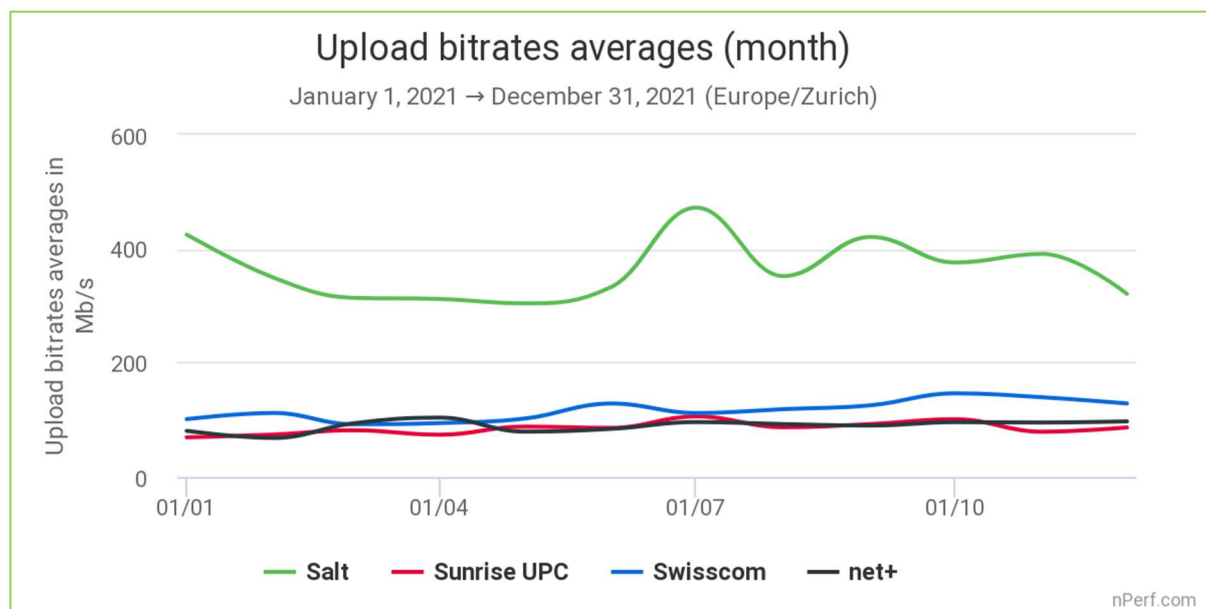
2.3 Upload speed

In 2021, the average upload speed in Switzerland was 120 Mb/s.



The highest value is the best.

All technologies combined, **Salt** has offered the best upload speeds to its subscribers in 2021.



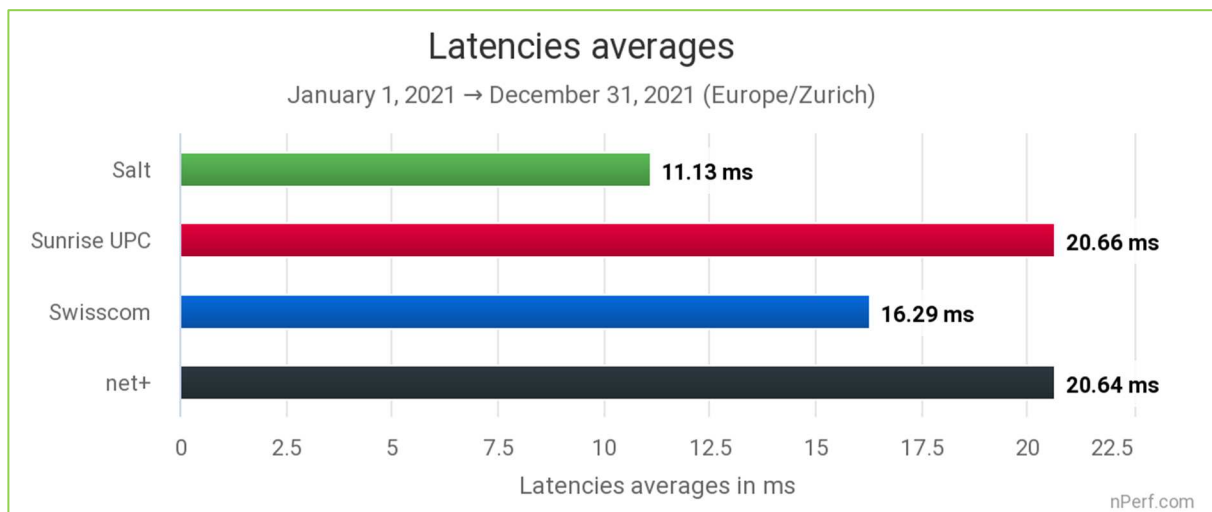
The highest value is the best.

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

Salt is far ahead but the other three ISPs have also made progress in 1 year, by around + 30 Mb/s in average for Swisscom et Net+.

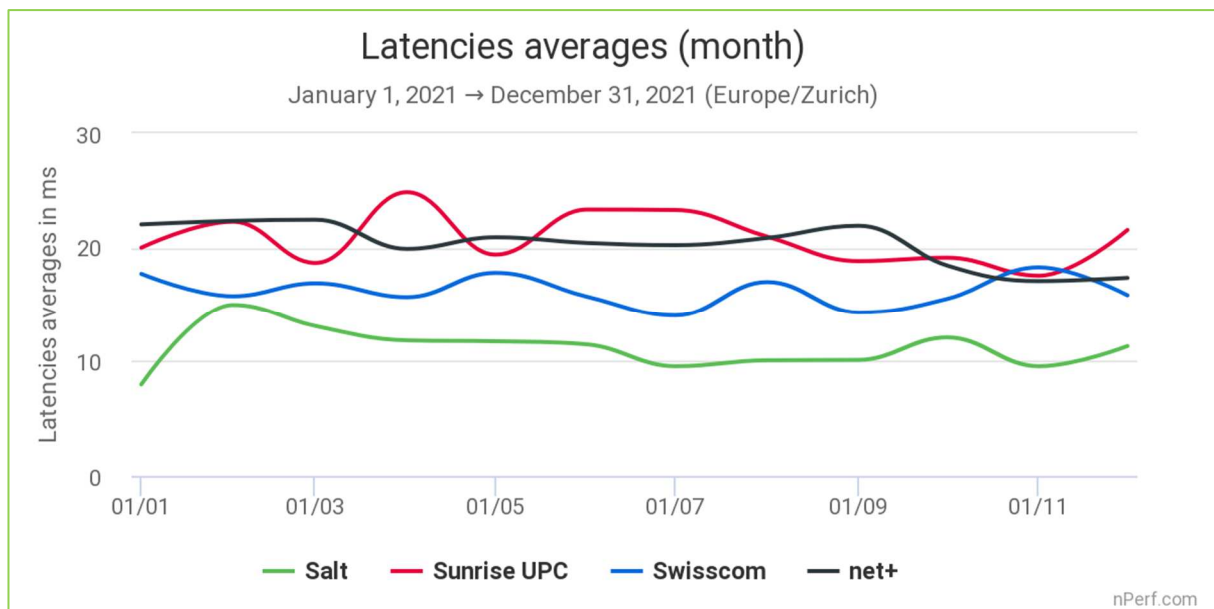
2.4 Latency

In 2021, the average latency in Switzerland was 18 ms.



The lowest value is the best.

All technologies combined, **Salt** has offered the best average latency to its subscribers in 2021.



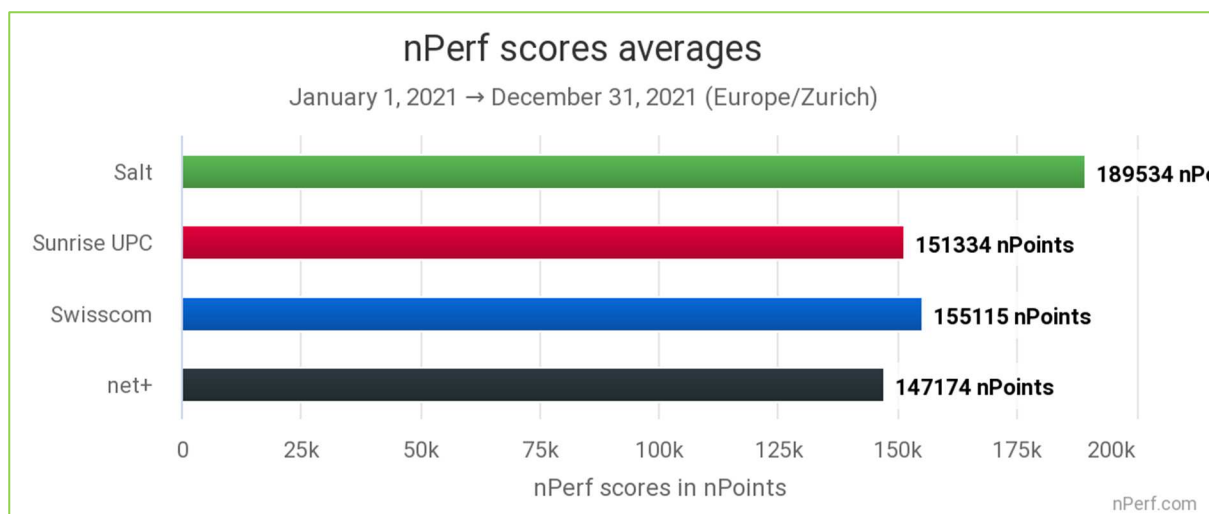
7

Salt is far ahead of the other three ISPs as in 2020.

2.5 nPerf score

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.

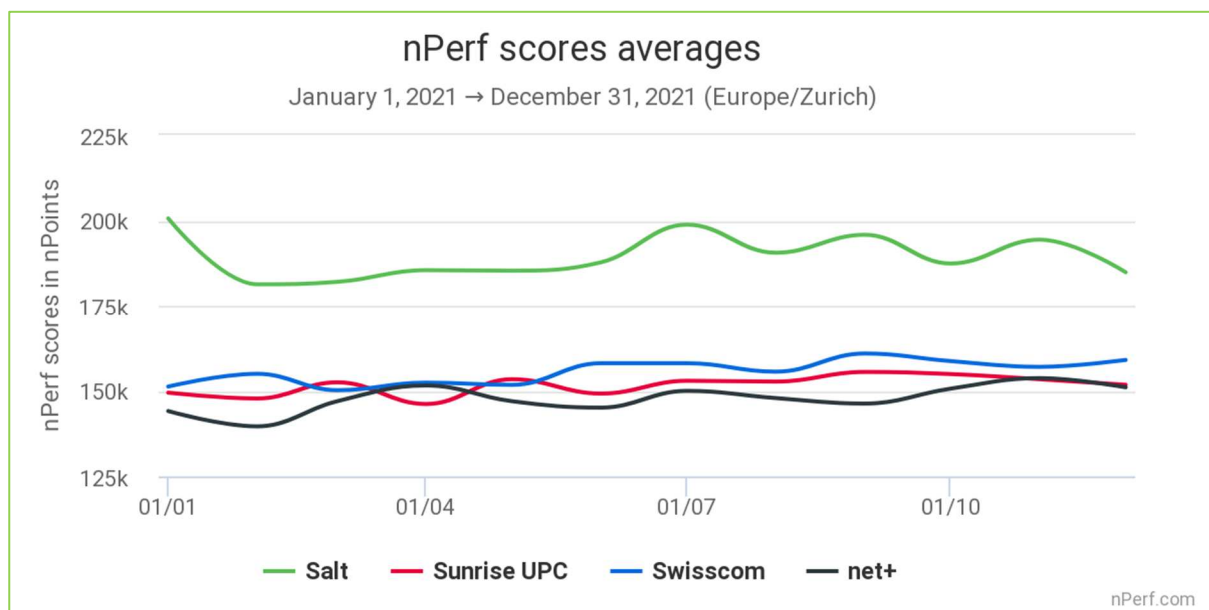
Thus, this score reflects the overall quality of the connection for mainstream consumer use.



The highest value is the best.

Salt, the best fixed Internet performances in 2021.

8



Swisscom has made the best progress in the score in one year.

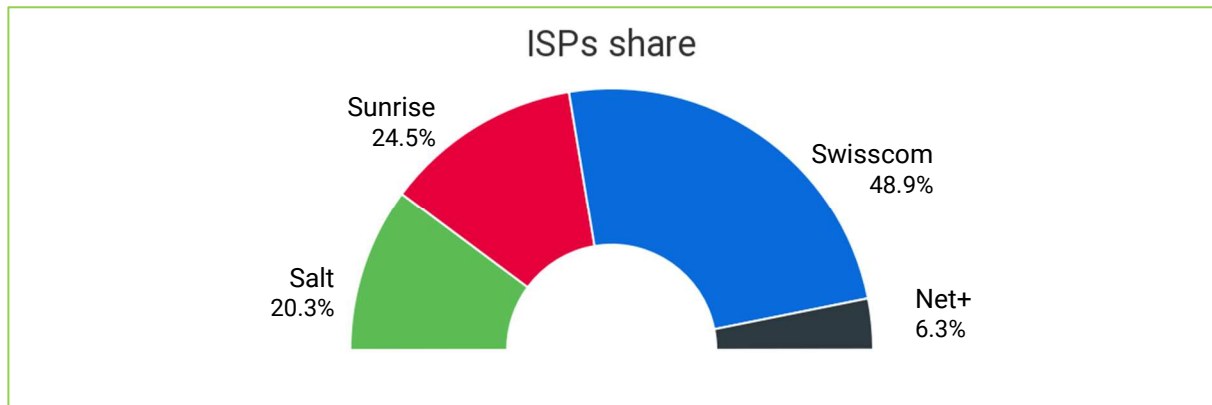
3 Optical Fiber Results

3.1 Data amount and distribution

From **January 1, 2021** to **December 31, 2021** we counted **20 783** tests, distributed after filtering as follows:

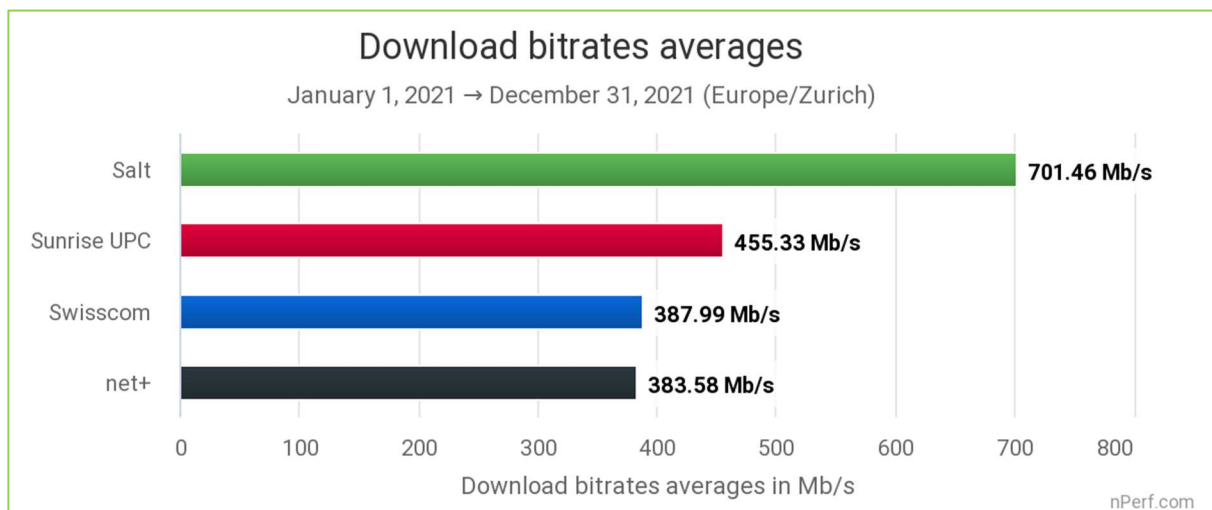
| Country | Tests |
|-------------|---------------|
| Switzerland | 16 961 |

Breakdown of tests by provider



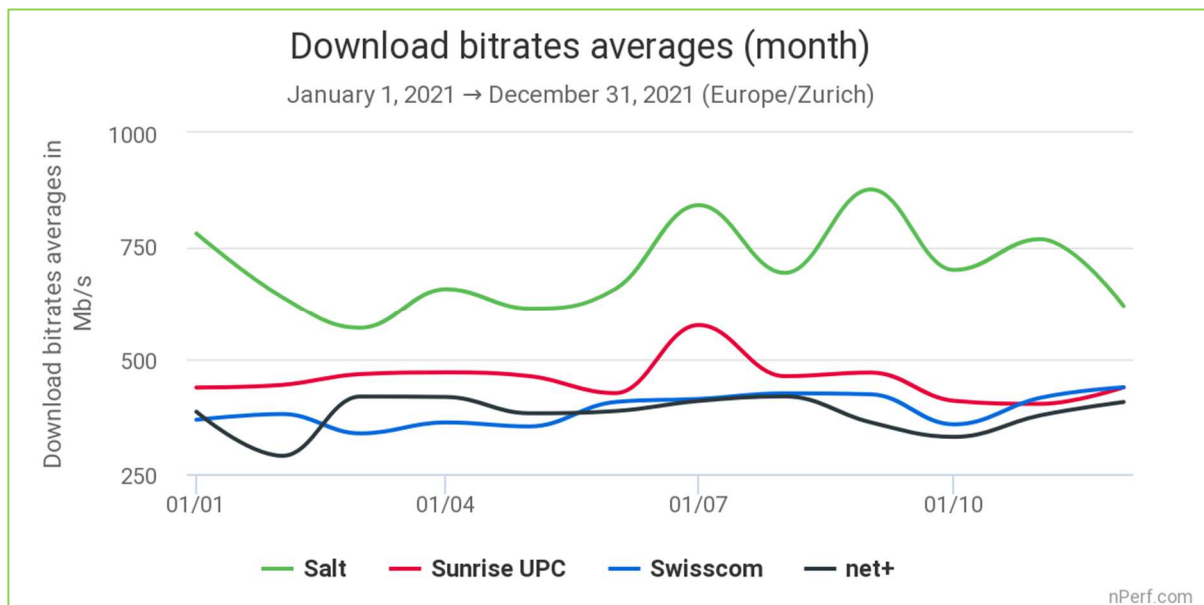
The indicators that follow in this section relate only to the FTTH technology (Fiber to the home) proposed by the 4 carriers. In order to isolate the FTTH tests for the comparison, we have chosen to filter on an upload bitrate greater than or equal to 100 Mb/s. Thus, only the FTTH results stand out, the technologies like FTTLA / FTTB, G-Fast or VDSL are discarded. However, this filter also eliminates "bad" FTTH tests, at least those that have a bitrate below 100 Mb/s. This filtering is identical for all operators, it does not put into question the comparison.

3.2 FTTH download speed



The highest value is the best.

On FTTH technologies, **Salt** has offered the best download speed to its subscribers in 2021.



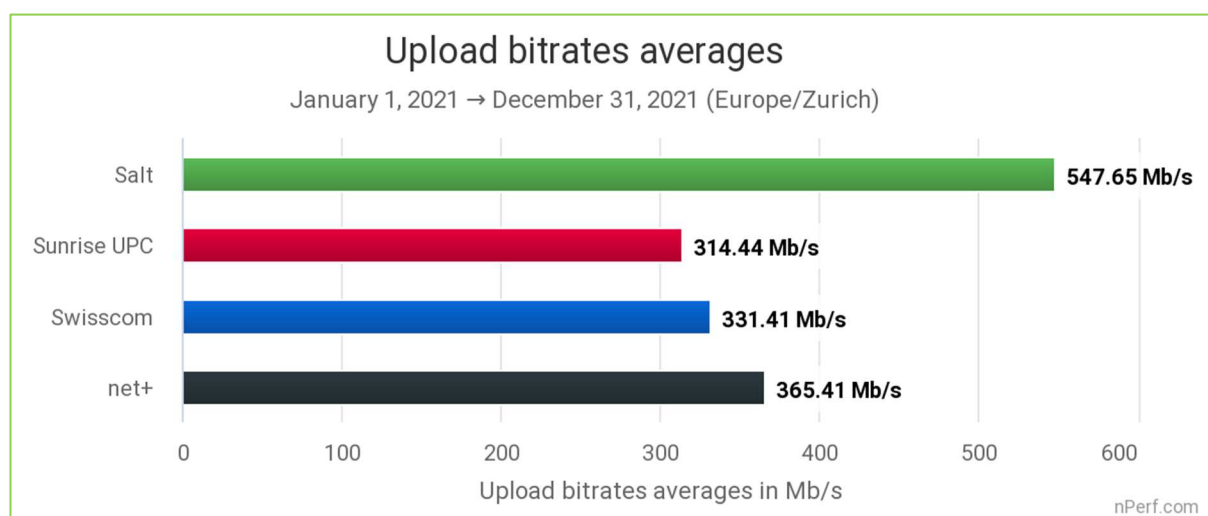
The highest value is the best.

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

Salt has significantly improved its download throughput in 2021 by more than +100 Mbps.

3.3 FTTH upload speed

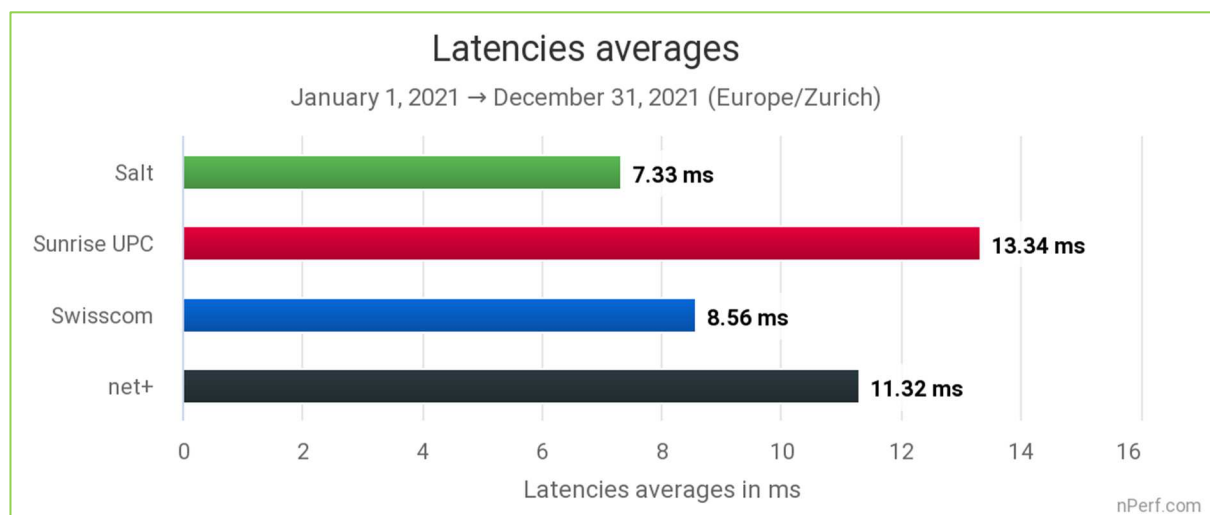
10



The highest value is the best.

On FTTH technologies, **Salt** has offered the best upload speed to its subscribers in 2021.

3.4 FTTH latency



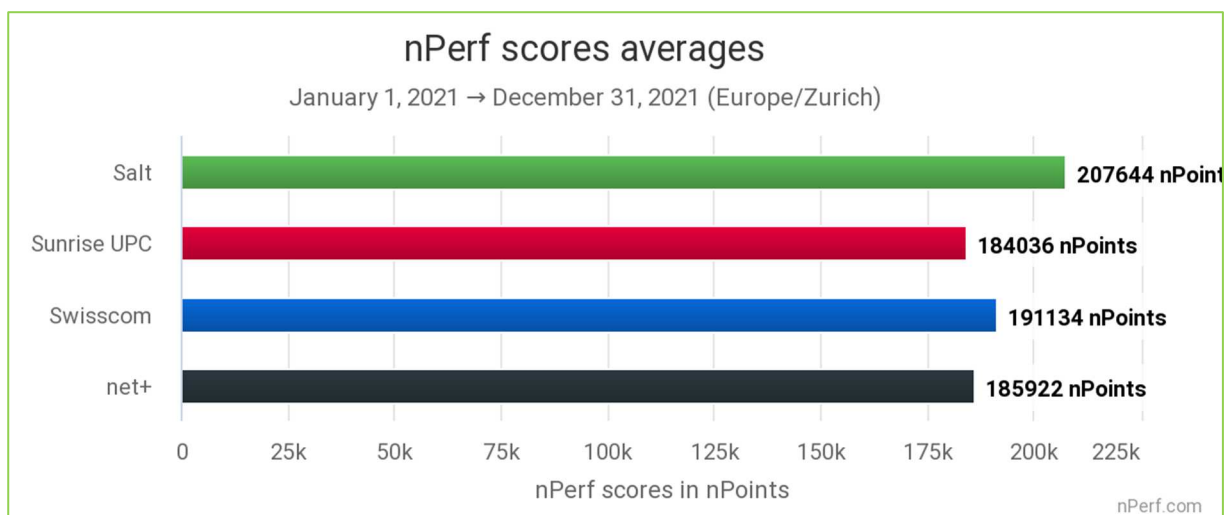
The lowest value is the best.

On FTTH technologies, **Salt** has offered the best average latency to its subscribers in 2021.

3.5 nPerf score, zoom on the FTTH

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.



The highest value is the best.

Salt, the best 2021 internet performance on fiber networks.

4 Methodology

4.1 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.

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

4.2 Speed and latency tests

4.2.1 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.

4.2.2 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 Switzerland and abroad. Switzerland providers are welcome to install nPerf servers, that's free!

The total bandwidth available in Switzerland is greater than **324 Gb/s** Gb/s and exceeds **9 Tb/s** worldwide, with nearly 2,000 active servers.

4.3 Statistical accuracy

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

- ✓ 3% for absolute values
- ✓ 1 point for percentages

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.

4.4 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, 5G) are also excluded from this barometer.

5 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 and on Google Play for Android devices.

6 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

Address: nPerf SAS, 87 rue de Sèze, 69006 LYON, France

Stay in touch with us, follow us!

