Barometer of fixed internet connections in Thailand

2020 Report

Content

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1 Summary of results

1.1 Summary table and nPerf score

nPerf barometer summary table - Year 2020
Fixed Internet connections in Thailand

	True online	3BB	AIS	CAT Telecom	TOT
Download speed	281.40 Mb/s	247.42 Mb/s	189.09 Mb/s	116.29 Mb/s	146.21 Mb/s
Upload speed	175.96 Mb/s	151.79 Mb/s	138.36 Mb/s	100.34 Mb/s	119.97 Mb/s
Latency	11.61 ms	12.29 ms	10.76 ms	19.94 ms	14.10 ms
nPerf Score	★ 174 771 nPoints	170 417 nPoints	168 194 nPoints	145 359 nPoints	157 438 nPoints

Focus on the Fiber (FTTH)	True online	3BB	AIS	CAT Telecom	TOT
Download speed	504.66 Mb/s	459.31 Mb/s	344.22 Mb/s	271.36 Mb/s	322.07 Mb/s
Upload speed	317.88 Mb/s	301.71 Mb/s	257.24 Mb/s	249.44 Mb/s	268.24 Mb/s
Latency	6.89 ms	7.91 ms	7.46 ms	16.25 ms	9.46 ms
nPerf score (FTTH only)	★ 199 465 nPoints	194 691 nPoints	190 137 nPoints	170 018 nPoints	184 469 nPoints

1st in category

Best fixed Internet performance in 2020

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

true online

No.1 BROADBAND PERFORMANCE nperf AWARDS 2020

True Online, the best fixed Internet performances in 2020.

1.2 Our analysis

In 2020, nPerf users have performed **12,130,702** connection tests on Thailand's five largest ISPs.

Download average speed has increased by 125% and reached 227 Mb/s in 2020 and upload average speed has increased by 106% and reached 150 Mb/s!!

It is a spectacular increase of local fixed Internet speeds in only 1 year.

Thai ISPs have delivered better performances than ISPs of most of European countries, for example in France…

True Online, the best fixed Internet performance in 2020.

True Online dominates the market in terms of performances on fixed Internet connections thanks to its first place on download and upload speed results.

It is the ISP that has improved its performances the most since 2019.

AIS, the best latency.

With an excellent latency less than 11 ms, AIS will satisfy gamers!

3BB lost its leading position acquired in 2019.

This ISP is positioned with a good 2nd place with, in particular, very good speeds behind True Online.

Regarding the FTTH, Ture Online has offered the best internet performances in the country to its subscribers.

In 2020, among the **12,130,702** tests done, **5,177,367** have been performed on FTTH networks.

True Online dominates the market in terms of performances on fiber Internet connections thanks to its first place on latency, download and upload speeds.

3BB, a nice second place.

Thanks to its good download and upload speeds and a strong latency, 3BB reaches the second place in our FTTH ranking.
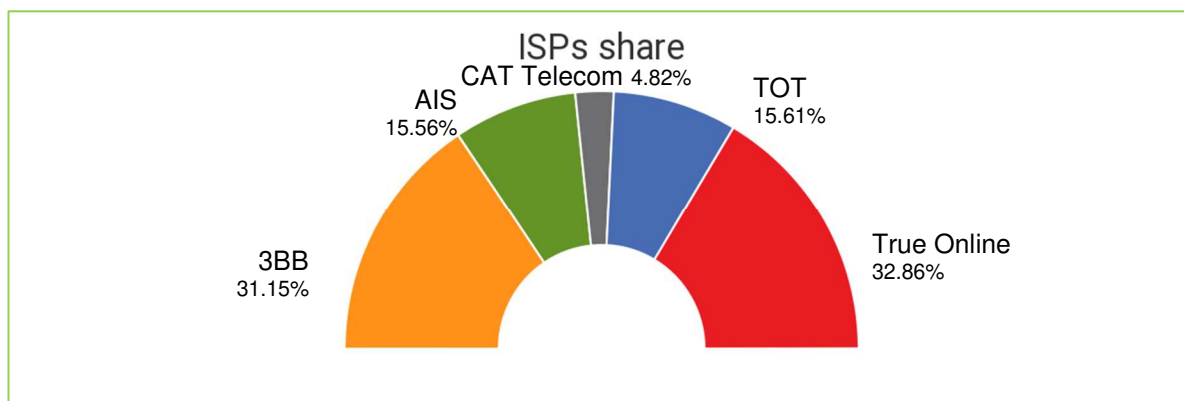
AIS, in third place.

AIS is not far from 3BB!

2 Overall results, all technologies combined

2.1 Data amount and distribution

From **January 1, 2020** to **December 31, 2020,** we counted **12,130,702** tests, distributed after filtering as follows:
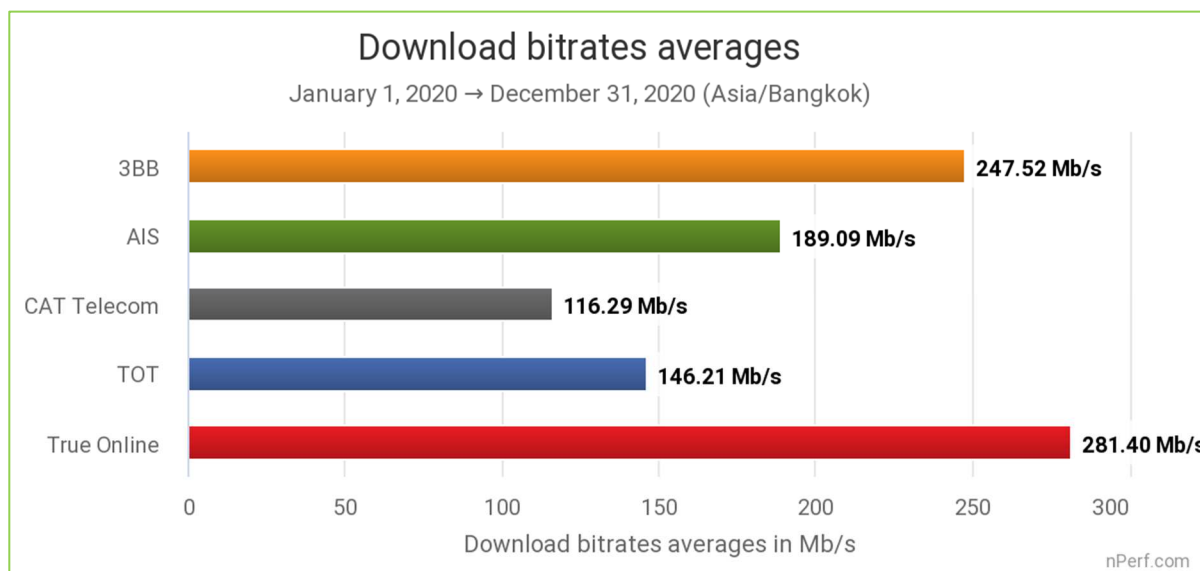
Country	Tests
Thailand	**9,121,519**

Breakdown of tests by provider

ISPs share

- CAT Telecom 4.82%
- AIS 15.56%
- TOT 15.61%
- True Online 32.86%
- 3BB 31.15%

2.2 Download speed

In 2020, the average download speed in Thailand was 227 Mb/s.

Download bitrates averages

January 1, 2020 → December 31, 2020 (Asia/Bangkok)

- 3BB: 247.52 Mb/s
- AIS: 189.09 Mb/s
- CAT Telecom: 116.29 Mb/s
- TOT: 146.21 Mb/s
- True Online: 281.40 Mb/s

Download bitrates averages in Mb/s

nPerf.com

The highest value is the best.

All technologies combined, **True Online** has offered the best download speed to its subscribers in 2020.

Download bitrates averages (month)
January 1, 2020 → December 31, 2020 (Asia/Bangkok)

Legend: 3BB, AIS, CAT Telecom, TOT, True Online

nPerf.com
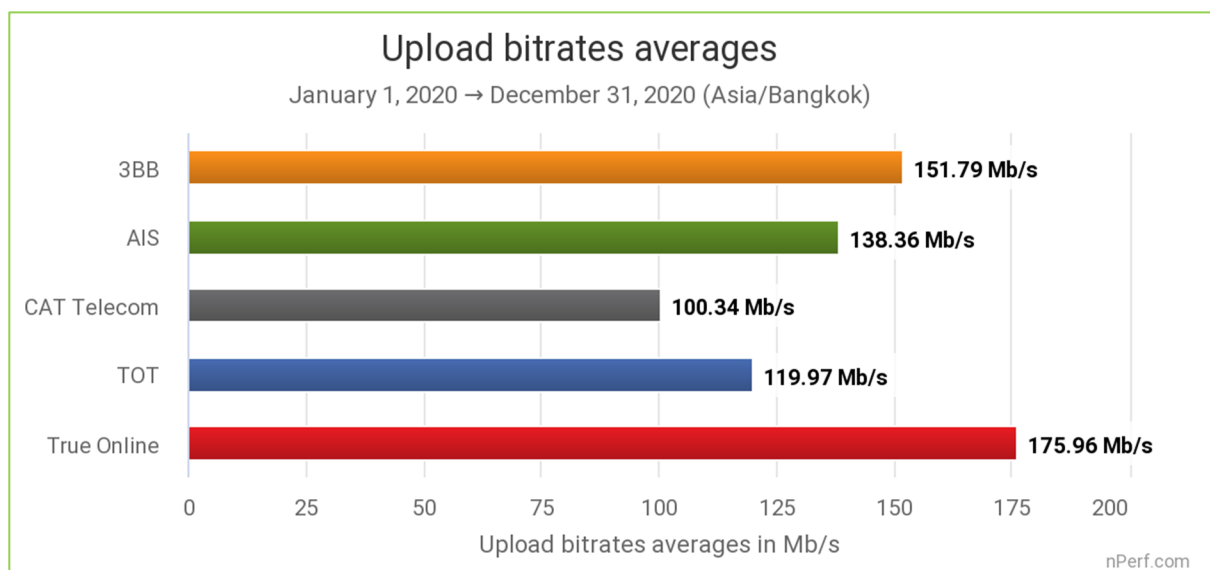
The highest value is the best.

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

On average, ISP's increased by 125% their download speed rate compared to 2019.

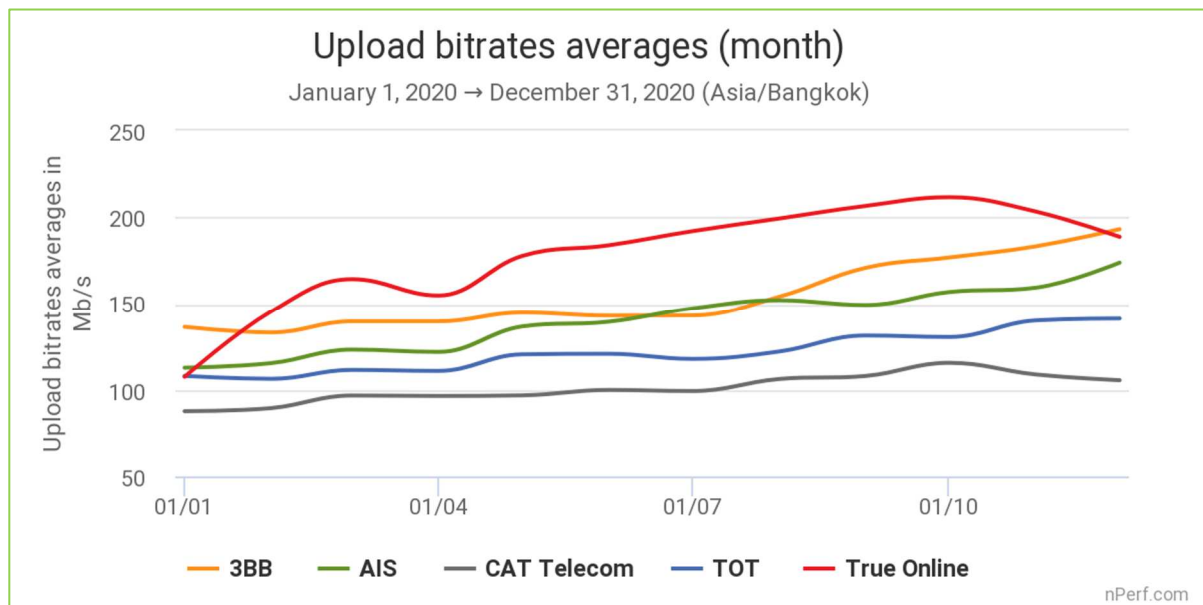**True Online** and **3BB** have made the most progress on this indicator, respectively +186 Mb/s and +136 Mb/s.

2.3 Upload speed

In 2020, the average upload speed in Thailand was 150 Mb/s.

Upload bitrates averages
January 1, 2020 → December 31, 2020 (Asia/Bangkok)

Provider	Upload bitrates averages in Mb/s
3BB	151.79 Mb/s
AIS	138.36 Mb/s
CAT Telecom	100.34 Mb/s
TOT	119.97 Mb/s
True Online	175.96 Mb/s

nPerf.com

The highest value is the best.

All technologies combined, **True Online** has offered the best upload speed to its subscribers in 2020.

nperf

Upload bitrates averages (month)

January 1, 2020 → December 31, 2020 (Asia/Bangkok)

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 end-users).
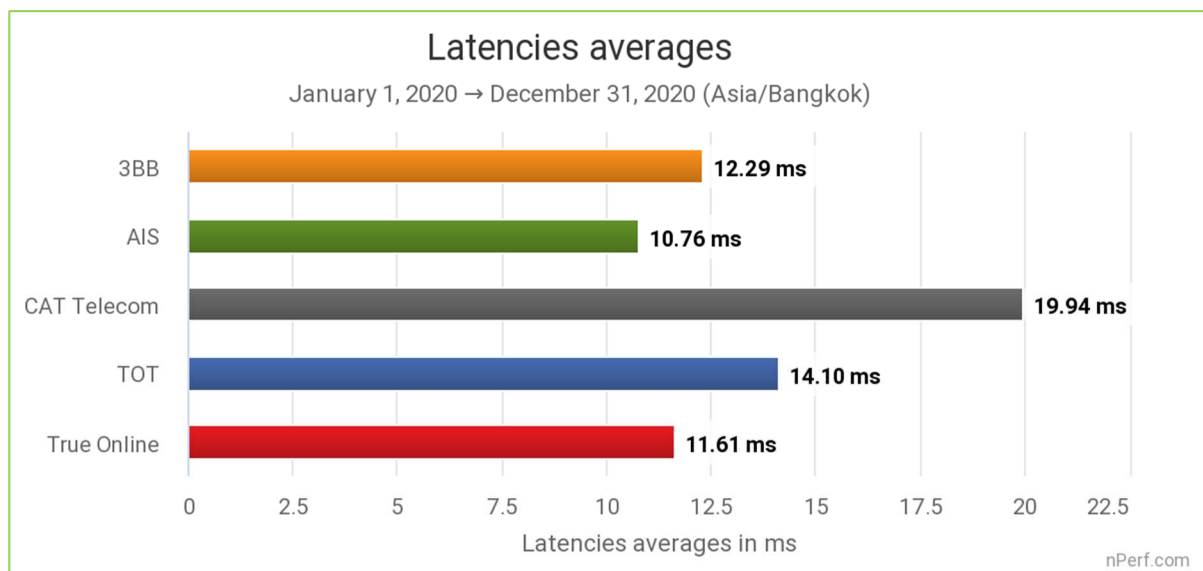
On average, ISP's increased by 106% their upload speed rate compared to 2019.

True Online and **AIS** have made the most progress on this indicator, respectively +129 Mb/s and +71 Mb/s.
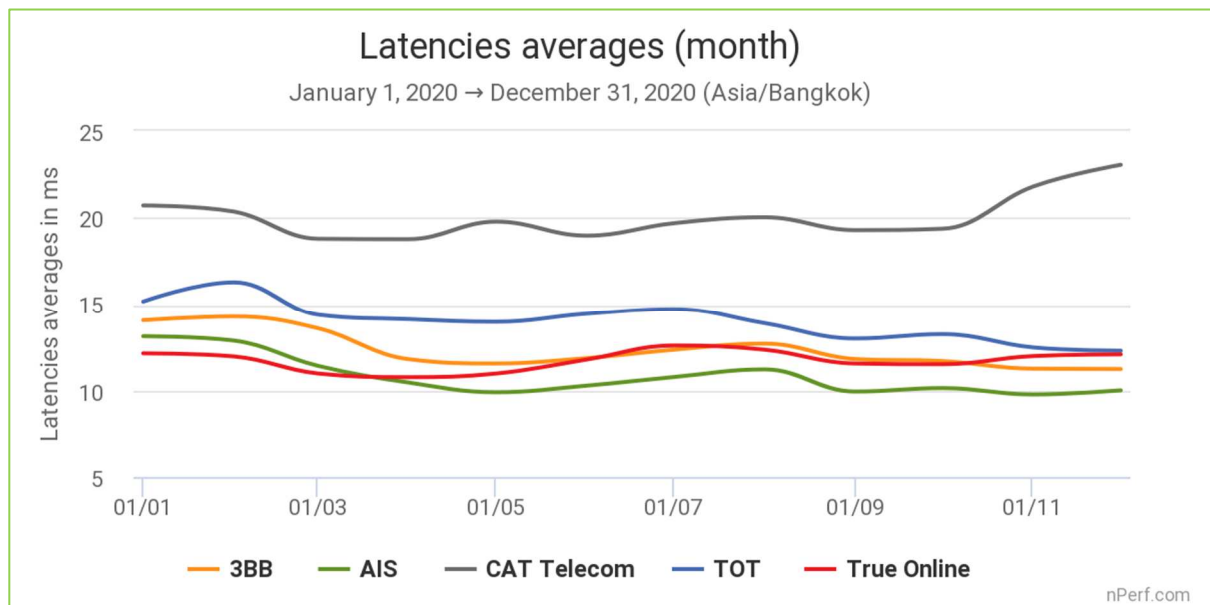
2.4 Latency

In 2020, the average latency in Thailand was 13 ms.

Latencies averages

January 1, 2020 → December 31, 2020 (Asia/Bangkok)

Provider	Latency
3BB	12.29 ms
AIS	10.76 ms
CAT Telecom	19.94 ms
TOT	14.10 ms
True Online	11.61 ms

The lowest value is the best.

All technologies combined, **AIS** has offered the best average latency to its subscribers in 2020.

Latencies averages (month)
January 1, 2020 → December 31, 2020 (Asia/Bangkok)
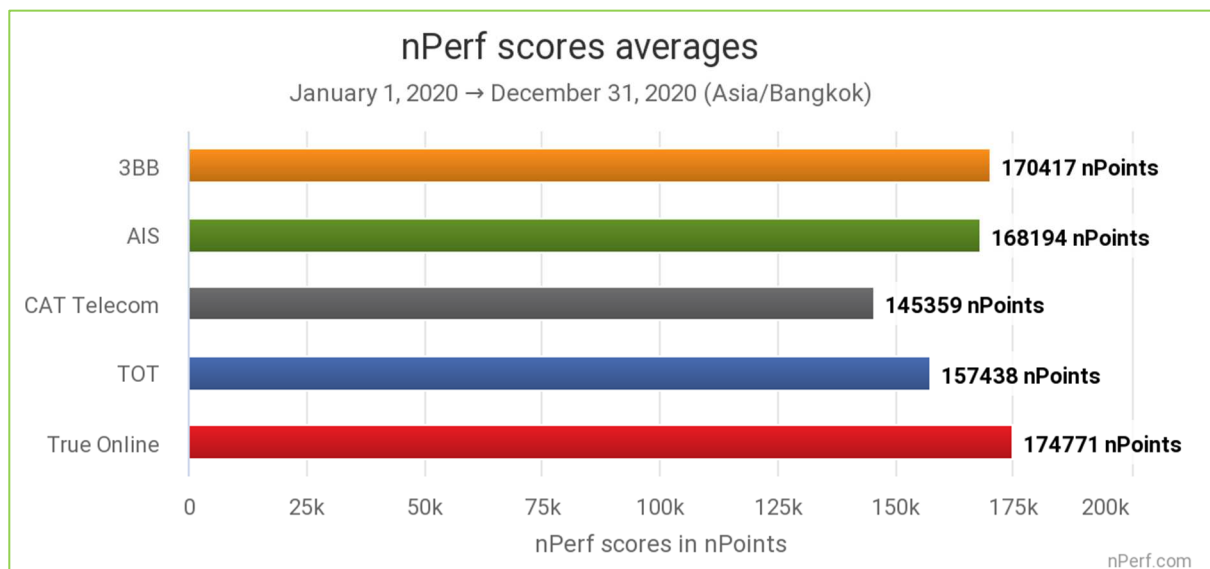
The lowest value is the best.

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

On average, ISP's increased by 25% their latency compared to 2019.

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
January 1, 2020 → December 31, 2020 (Asia/Bangkok)

	nPoints
3BB	170417 nPoints
AIS	168194 nPoints
CAT Telecom	145359 nPoints
TOT	157438 nPoints
True Online	174771 nPoints

The highest value is the best.

True Online, the best fixed Internet performances in 2020.
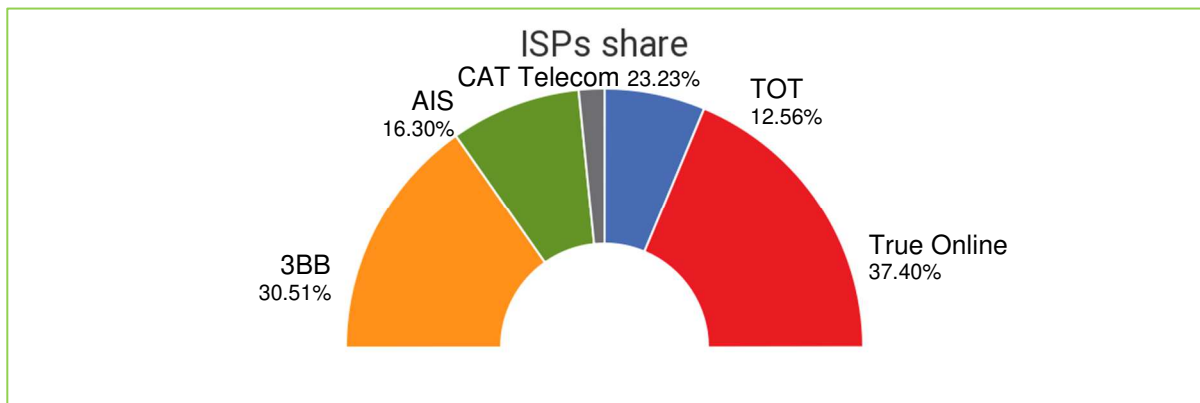
3 Optical Fiber Results

3.1 Data amount and distribution

From **January 1, 2020** to **December 31, 2020** we counted **5,177,367** tests, distributed after filtering as follows:
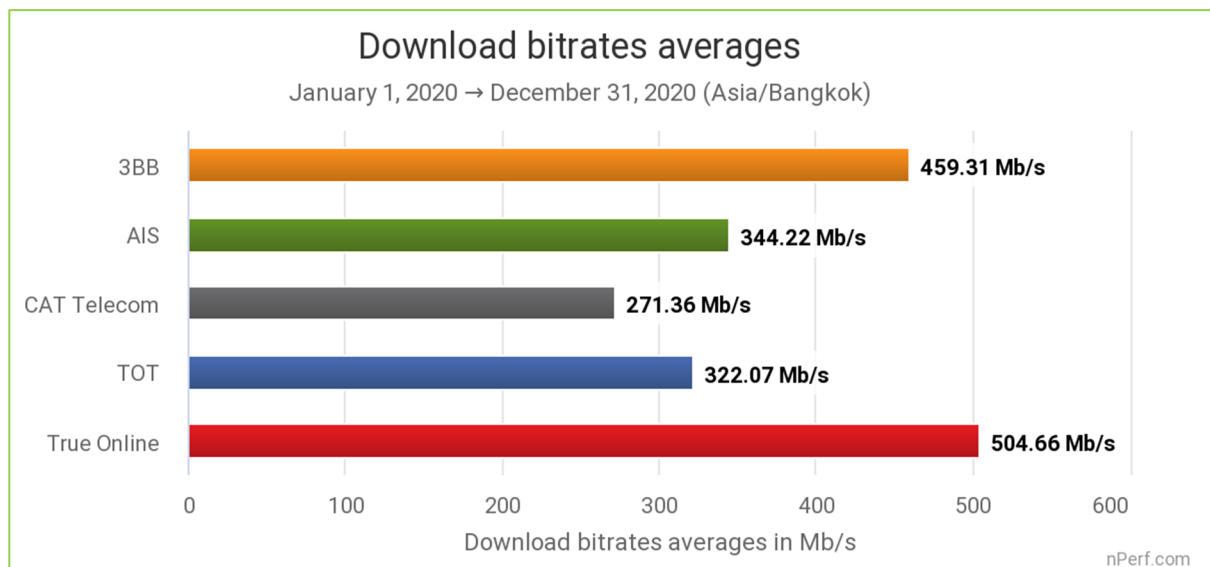
Country	Tests
Thailand	**3,858,962**

Breakdown of tests by provider

ISPs share

- CAT Telecom 23.23%
- AIS 16.30%
- TOT 12.56%
- 3BB 30.51%
- True Online 37.40%

The indicators that follow in this section relate only to the FTTH technology (Fiber to the home) proposed by the 5 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.
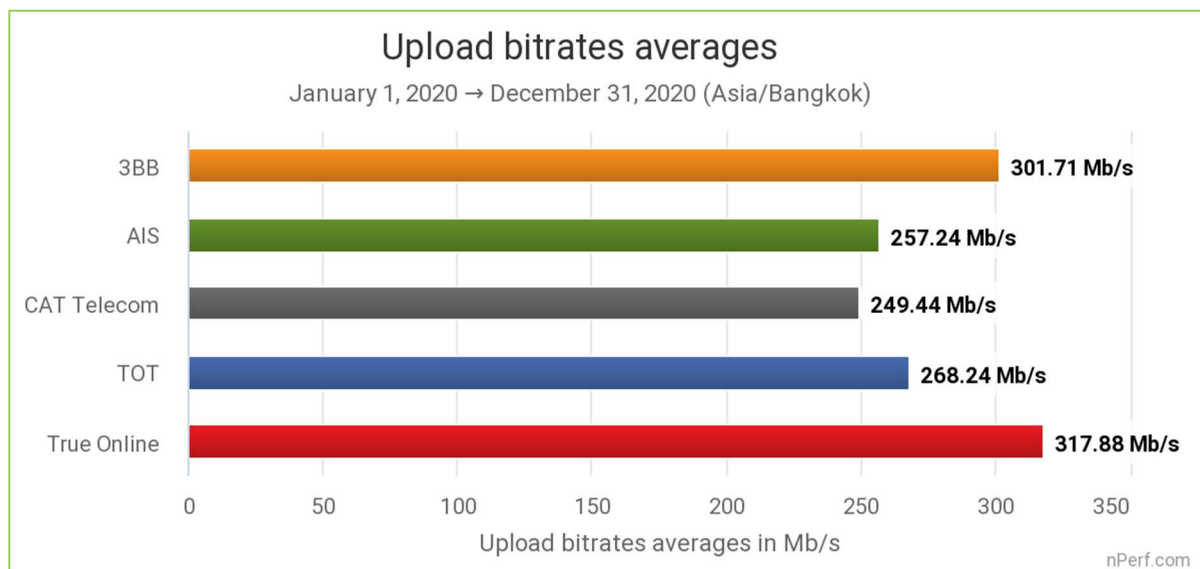
3.2 FTTH download speed

Download bitrates averages
January 1, 2020 → December 31, 2020 (Asia/Bangkok)

- 3BB: 459.31 Mb/s
- AIS: 344.22 Mb/s
- CAT Telecom: 271.36 Mb/s
- TOT: 322.07 Mb/s
- True Online: 504.66 Mb/s

Download bitrates averages in Mb/s

nPerf.com

The highest value is the best.

On FTTH technologies, **True Online** has offered the best download speed to its subscribers in 2020.

3.3 FTTH upload speed

Upload bitrates averages

January 1, 2020 → December 31, 2020 (Asia/Bangkok)

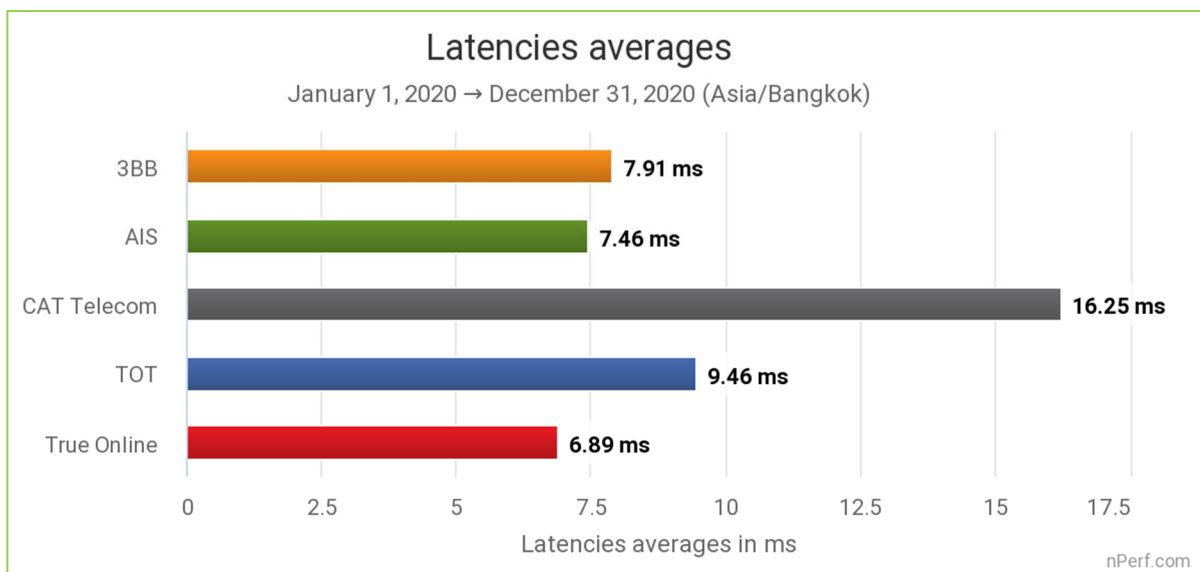| Provider	Upload bitrates averages in Mb/s
3BB	301.71 Mb/s
AIS	257.24 Mb/s
CAT Telecom	249.44 Mb/s
TOT	268.24 Mb/s
True Online	317.88 Mb/s

nPerf.com

The highest value is the best.

On FTTH technologies, **True Online** has offered the best upload speed to its subscribers in 2020.
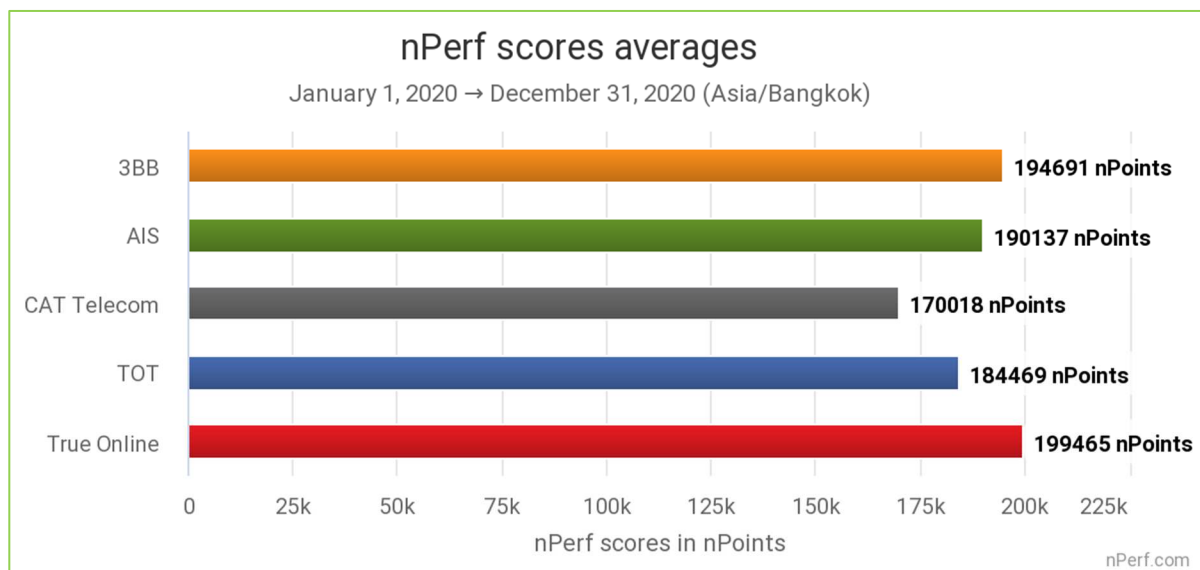
3.4 FTTH latency

Latencies averages

January 1, 2020 → December 31, 2020 (Asia/Bangkok)

Provider	Latencies averages in ms
3BB	7.91 ms
AIS	7.46 ms
CAT Telecom	16.25 ms
TOT	9.46 ms
True Online	6.89 ms

nPerf.com

The lowest value is the best.

On FTTH technologies, **True Online** has offered the best average latency to its subscribers in 2020.

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.

nPerf scores averages
January 1, 2020 → December 31, 2020 (Asia/Bangkok)

Provider	nPoints
3BB	194691 nPoints
AIS	190137 nPoints
CAT Telecom	170018 nPoints
TOT	184469 nPoints
True Online	199465 nPoints

nPerf scores in nPoints

nPerf.com

The highest value is the best.

True Online, the best 2020 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 the study with the largest panel in Thailand.

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 Thailand and abroad. nPerf has also installed dedicated servers directly at Thai providers 3BB, AIS, TOT and True Internet to maximize measurement reliability.

The total bandwidth available for Thailand is greater than 750 Gb/s!

4.3 Statistical accuracy

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

- ✓ 0.5% for absolute values
- ✓ 0.25 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, on Google Play for Android devices and on the Windows Store for Windows Phone and Windows Mobile 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!