

# Barometer of fixed internet connections in Thailand

2021 Report



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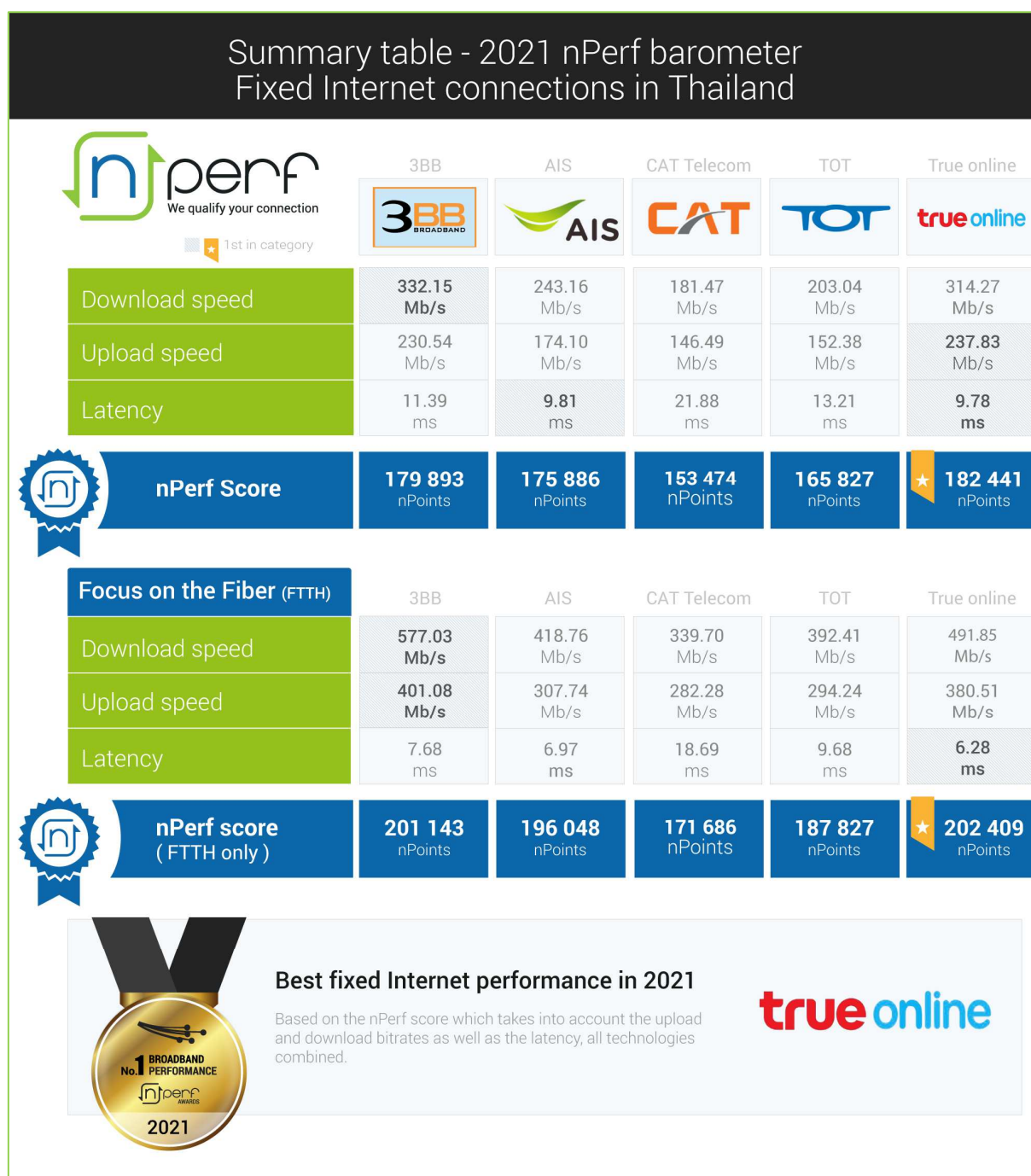


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# 1 Summary of results

## 1.1 Summary table and nPerf score, all technologies combined



**True Online offered the best fixed Internet performances in 2021.**



## 1.2 Our analysis

In 2021, nPerf users performed **12 964 709** connection tests on Thailand's largest ISPs.

The last year, the download speed in this country grew by 25% and reached 285 Mb/s. The upload speed increased in turn a little faster (+39%), and settled around 208 Mb/s. Those are important average figures, which is encouraging for the year to come!

If the previous year-to-year average improvement was spectacular, the last one has been very positive too, for the mainstream fixed Internet users in Thailand.

Thus, Thai ISPs played again in the big league in 2021, like some European ISPs, for example.

### **True Online wins the fixed Internet performances' race for the second year in a row.**

True Online globally dominates the market, in terms of performances on fixed Internet connections. After the brilliant 2020 results and progression on the download speed, 3BB doesn't allow this win to be repeated, while True shows the weakest enhancing in 2021. True Online remains the champion regarding the uplink speed, and the latency (together with AIS). Unlike the last year, True Online is the ISP that has improved its performances the less since 2020.

### **AIS takes comfort by sharing the victory on the global latency.**

It's the first time that Thai carriers have delivered such an outstanding average latency, with a couple of them below the symbolic threshold of 10 ms... AIS, like the years before, would be a suitable network for satisfying the gamers! Nonetheless, True Online records an impressive progression (16%) in this field, slightly overtakes AIS and reaches the first place like its competitor.

### **3BB consolidates its second place and gets closer to the leader.**

Indeed, this carriers has shown the strongest results enhancement of all, so the distance to the leader has been shortened by around 1 800 nPoints. 3BB made serious efforts, especially on the throughputs. The gap is narrow now, True Online should be careful about that from now on.

### **Concerning the FTTH, True Online offered the best internet performances of the country to its subscribers.**

In 2021, among the **12 964 709** fixed tests done, **6 378 525** were on FTTH networks.

**True Online** doesn't comfortably dominate the situation anymore, like in 2020 : despite its challenging win on the nPerf score against 3BB, thanks to its very nice latency, it has been unquestionably overtaken by **3BB** in the race for the download and upload speeds.

The 2021 figures are simply great in general, and all the carriers reasonably improved their results. For example, **AIS** takes benefit of the slowdown of True Online, and stays at the third place, but much closer to the leaders than before. TOT and CAT stay far behind as usual.

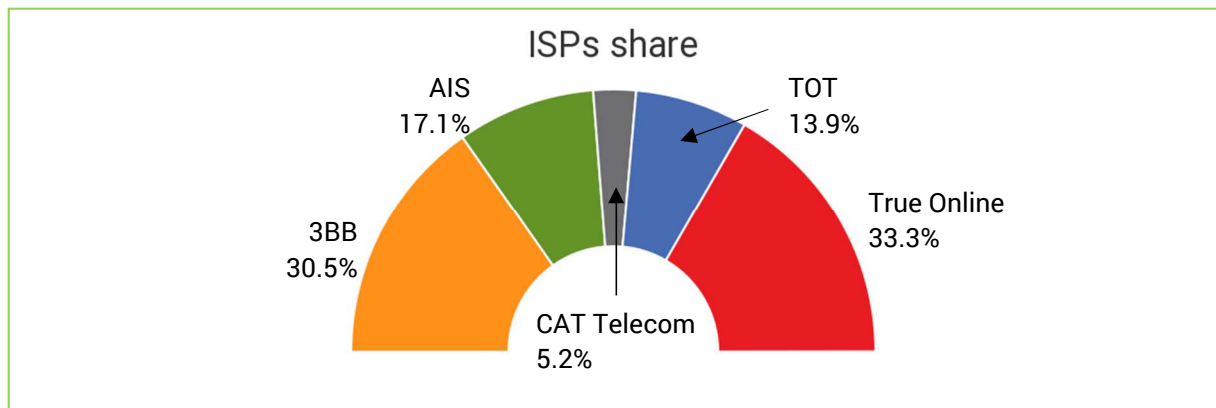
## 2 Overall results, all technologies combined

### 2.1 Data volume and distribution

Between **January 1<sup>st</sup>, 2021** and **December 31<sup>st</sup>, 2021** we counted **12 964 709** tests, distributed as follows, after filtering (see § 6.4.):

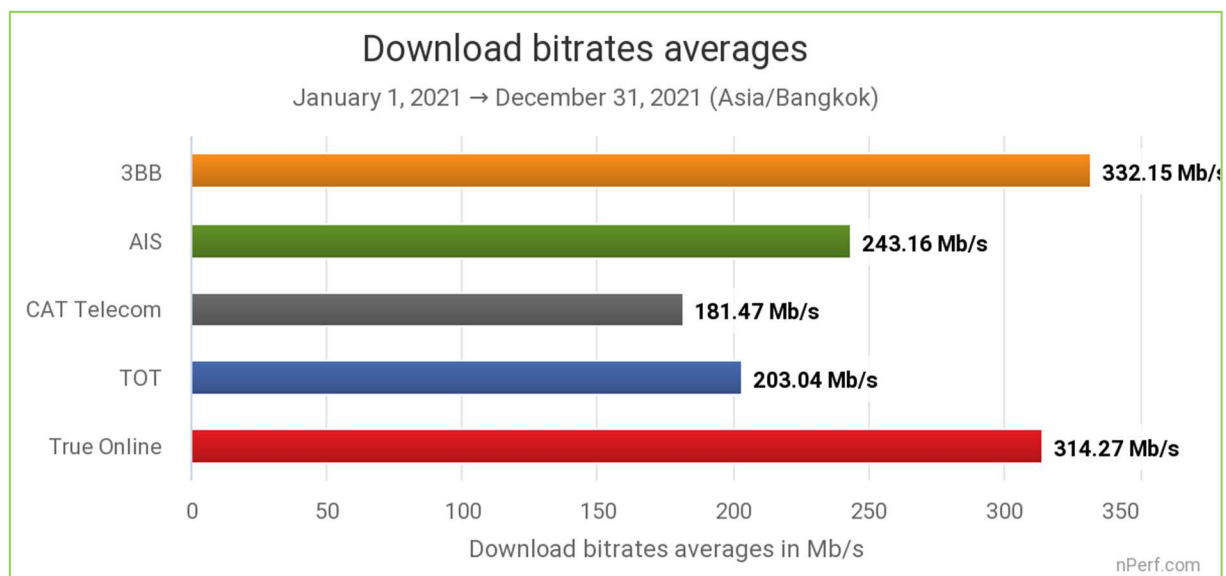
Country	Tests
Thailand	9 232 817

The overall distribution of the tests per provider is as follows:



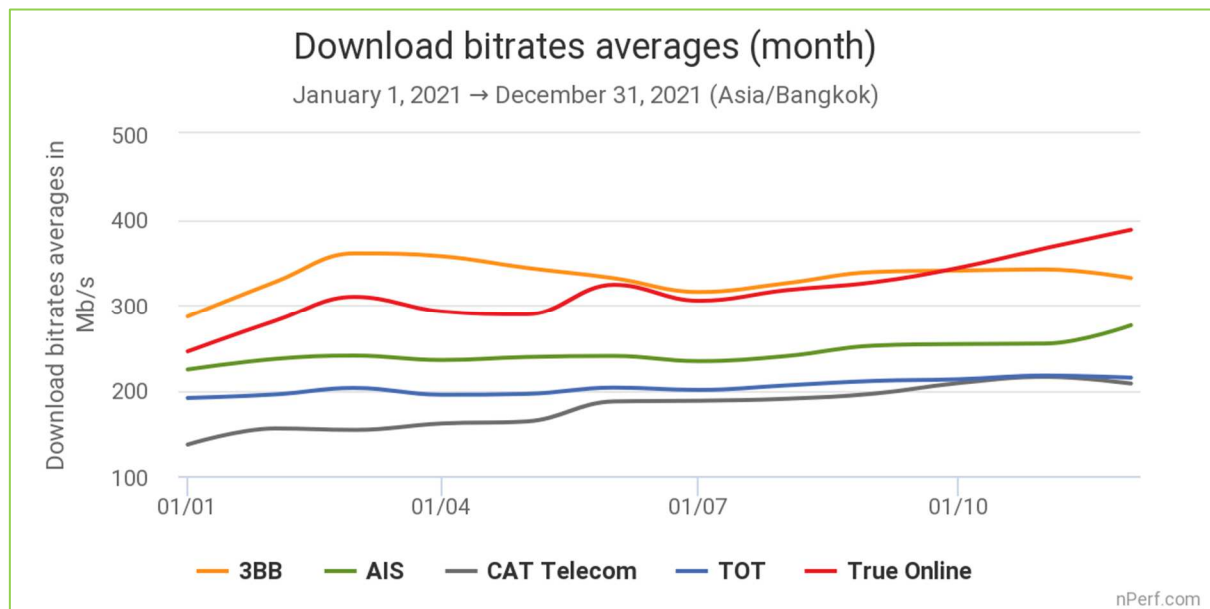
### 2.2 Download speed

**In 2021, the average download speed in Thailand was 285 Mb/s.**



*The highest value is the best.*

**All technologies combined, 3BB delivered the best average download speed to its subscribers in 2021.**



*The highest value is the best.*

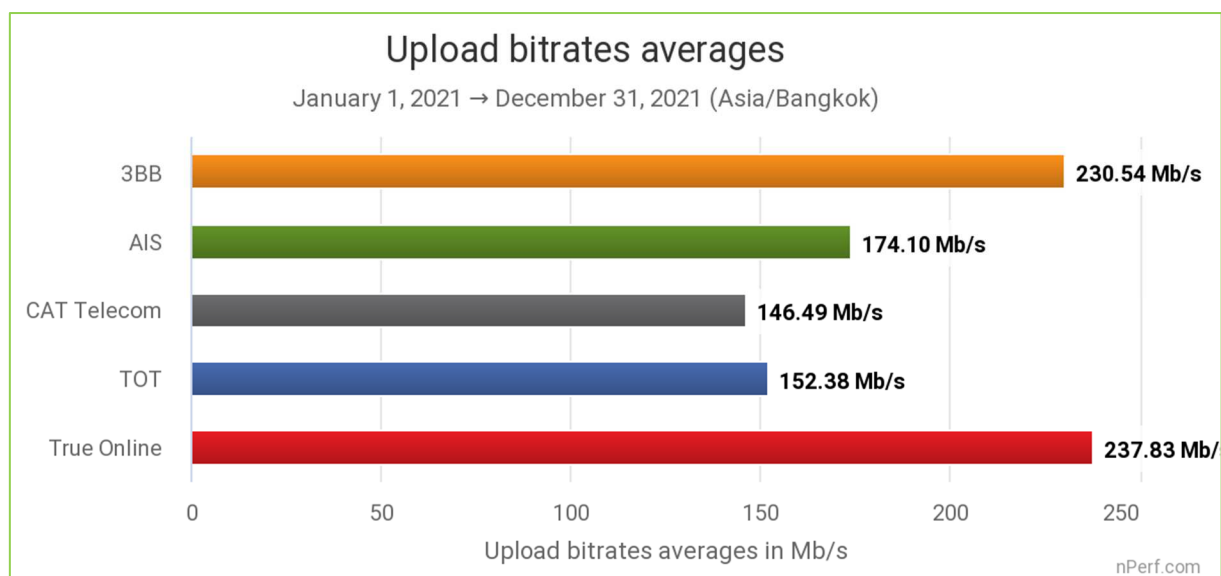
The above graph illustrates the ability of the providers to maintain a constant download speed over the period regardless of the network load (number of end-users).

On average, ISP's increased by 25% their download speed rate compared to 2020.

**3BB** and **CAT Telecom** have made the most (absolute) progress on this indicator, respectively +85 Mb/s and +65 Mb/s.

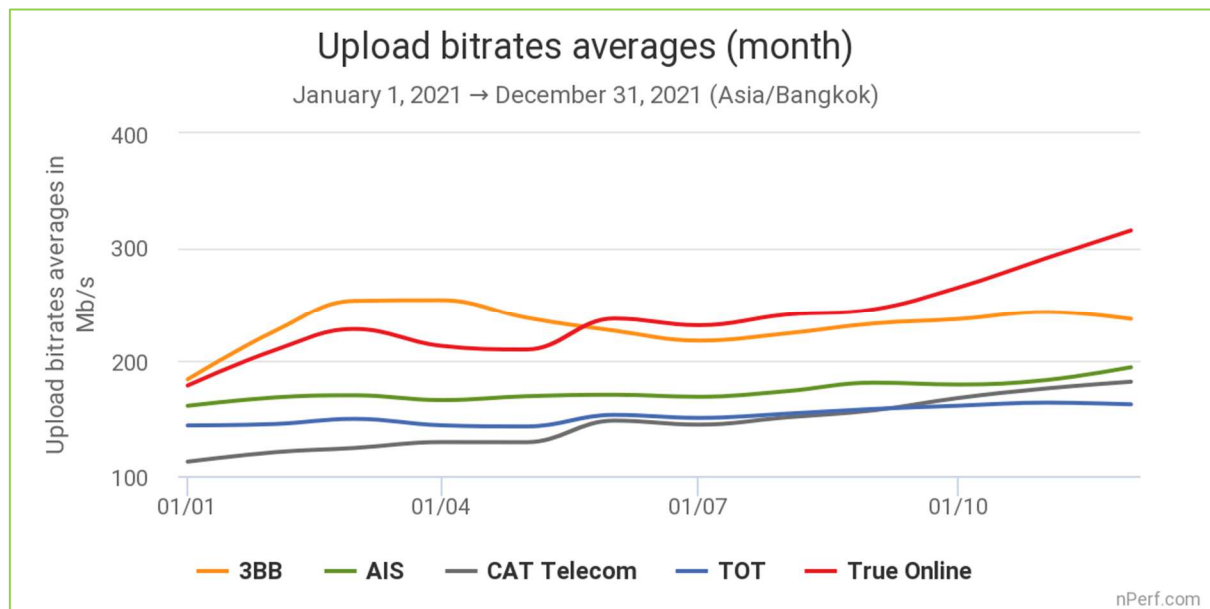
## 2.3 Upload speed

**In 2021, the average upload speed in Thailand was 208 Mb/s.**



*The highest value is the best.*

**All technologies combined, True Online delivered the best average upload speed to its subscribers in 2021.**



*The highest value is the best.*

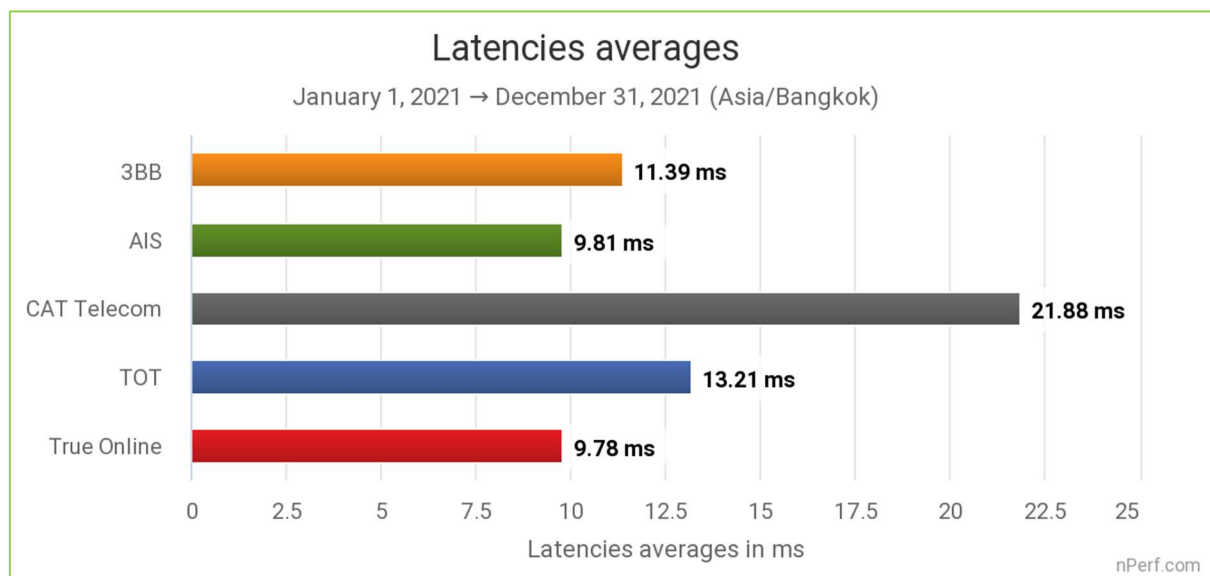
This graph illustrates the ability of the providers to maintain a constant upload speed over the period regardless of the network load (number of end-users).

On average, ISP's increased by 39% their upload speed rate compared to 2020.

**3BB** and **True Online** have made the most (absolute) progress on this indicator, respectively +79 Mb/s and +62 Mb/s.

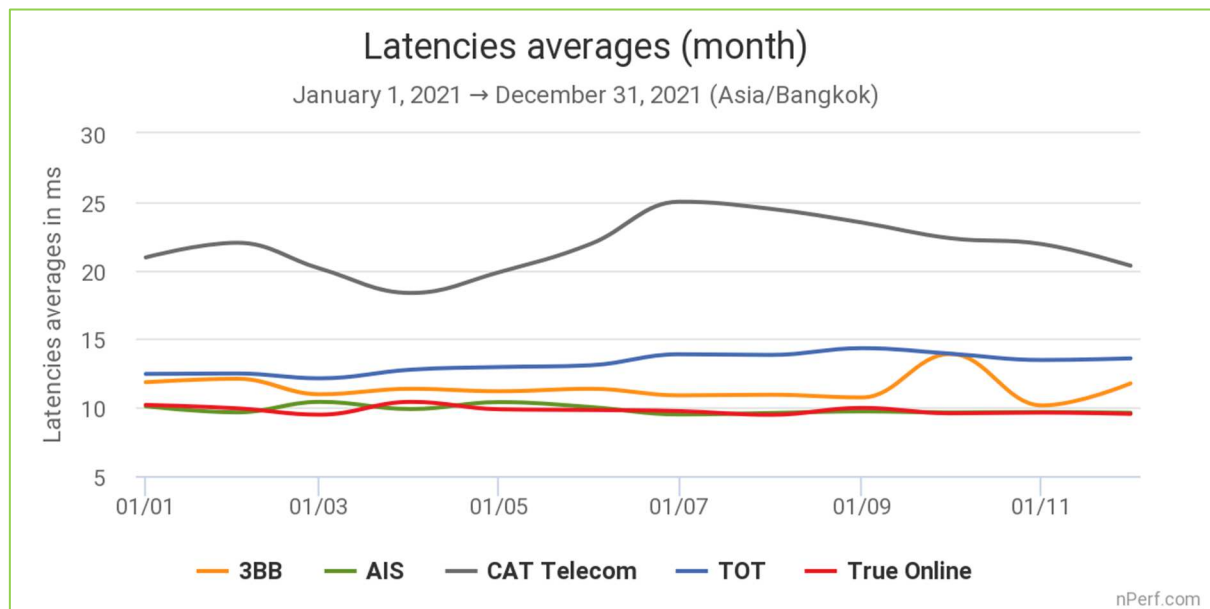
## 2.4 Latency

**In 2021, the average latency in Thailand was 11 ms.**



*The lowest value is the best.*

**All technologies combined, True Online and AIS delivered the best average latency to its subscribers in 2021.**



*The lowest value is the best.*

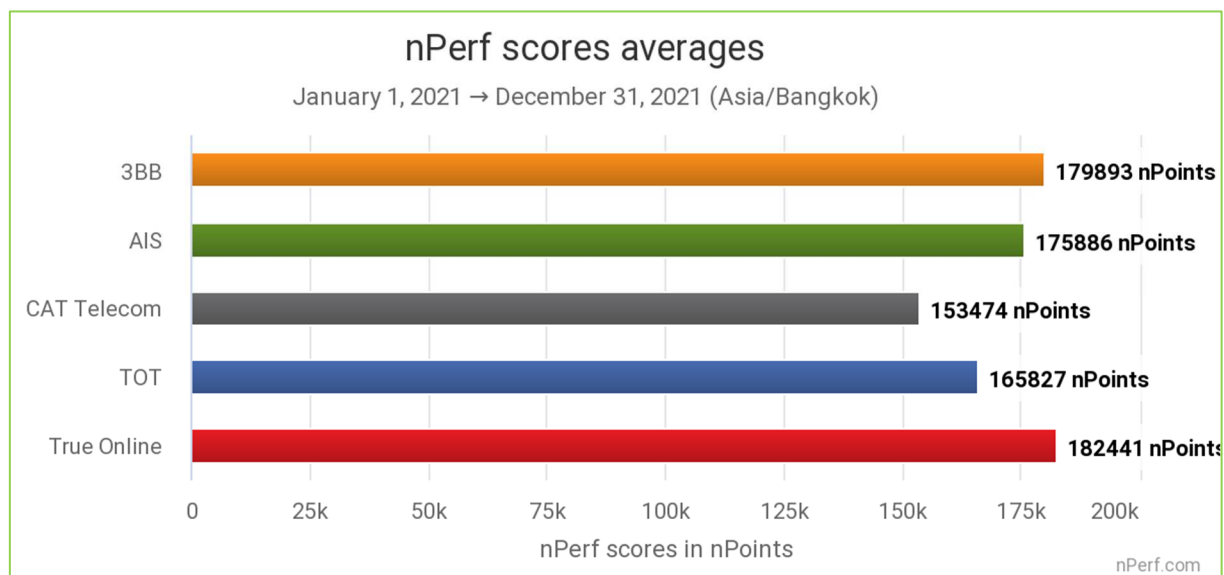
This graph illustrates the ability of the providers to maintain a constant latency during the period, regardless of the network load (number of end-users).

On average, ISP's increased by 9% their latency compared to 2020.

## 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.**



*The highest value is the best.*

**True Online offered the best fixed Internet performances in 2021.**



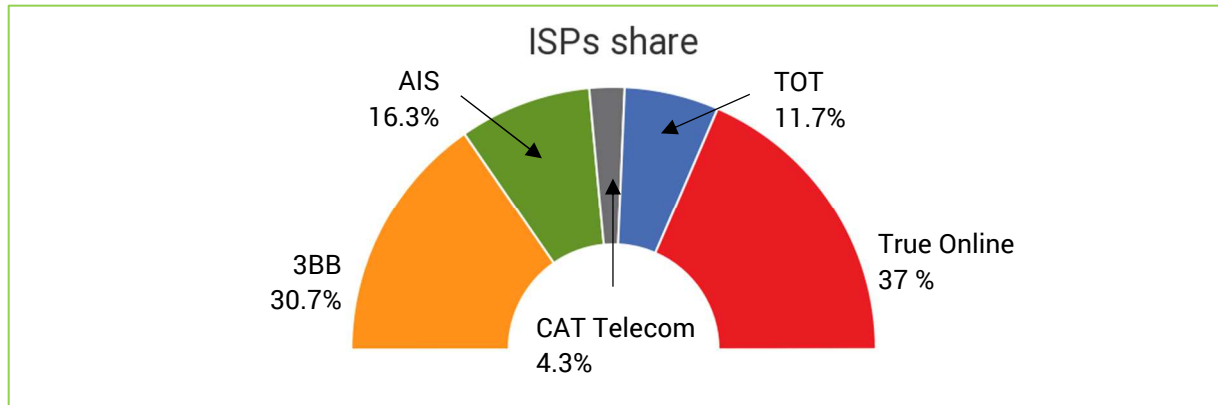
## 3 Optical fiber (FTTH) results

### 3.1 Data volume and distribution

Between **January 1<sup>st</sup>, 2021** and **December 31<sup>st</sup>, 2021** we counted **6 378 525** tests on optical fiber networks, distributed as follows, after filtering (see § 6.4.):

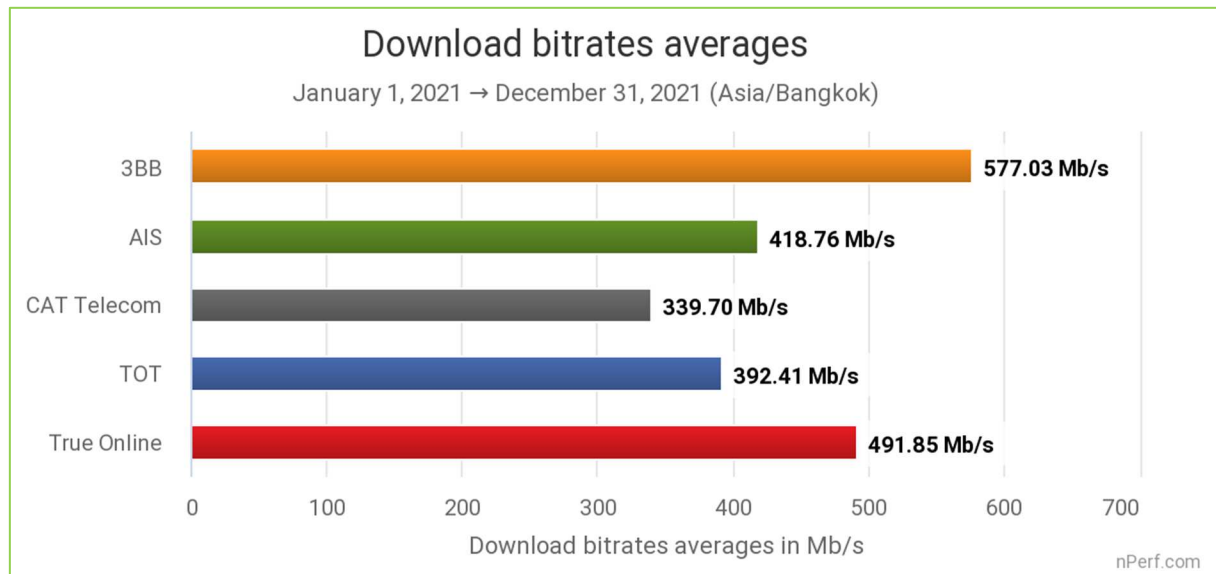
Country	Tests
Thailand	4 791 528

The overall distribution of the tests per provider is as follows:



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

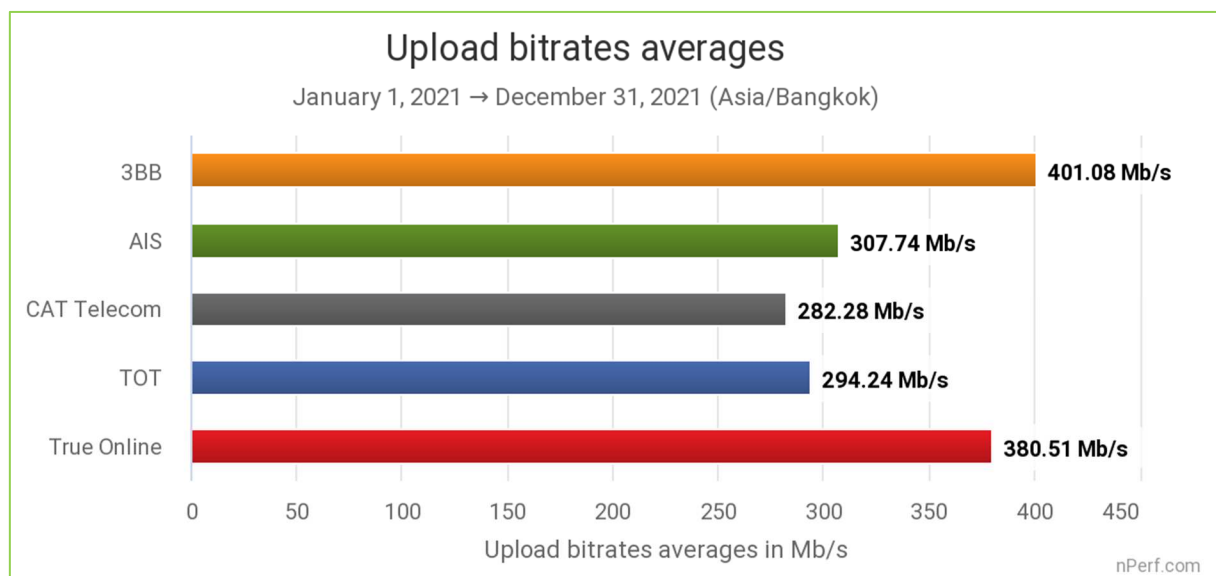
### 3.2 FTTH download speed



*The highest value is the best.*

On FTTH technologies, 3BB delivered the best average download speed to its subscribers in 2021.

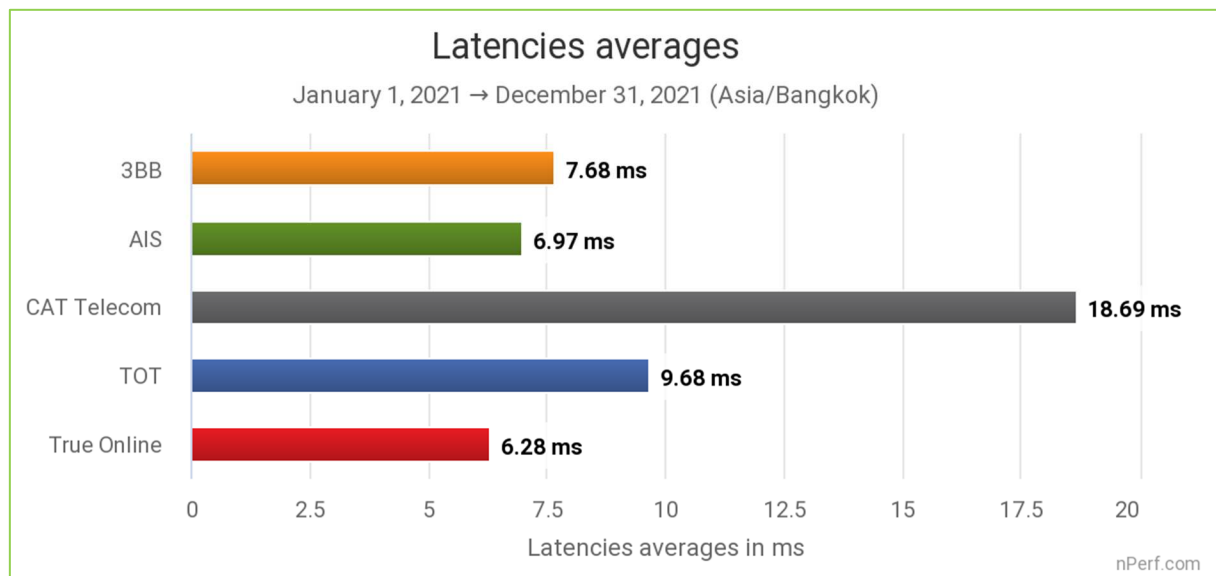
### 3.3 FTTH upload speed



*The highest value is the best.*

On FTTH technologies, 3BB delivered the best average upload speed to its subscribers in 2021.

### 3.4 FTTH latency



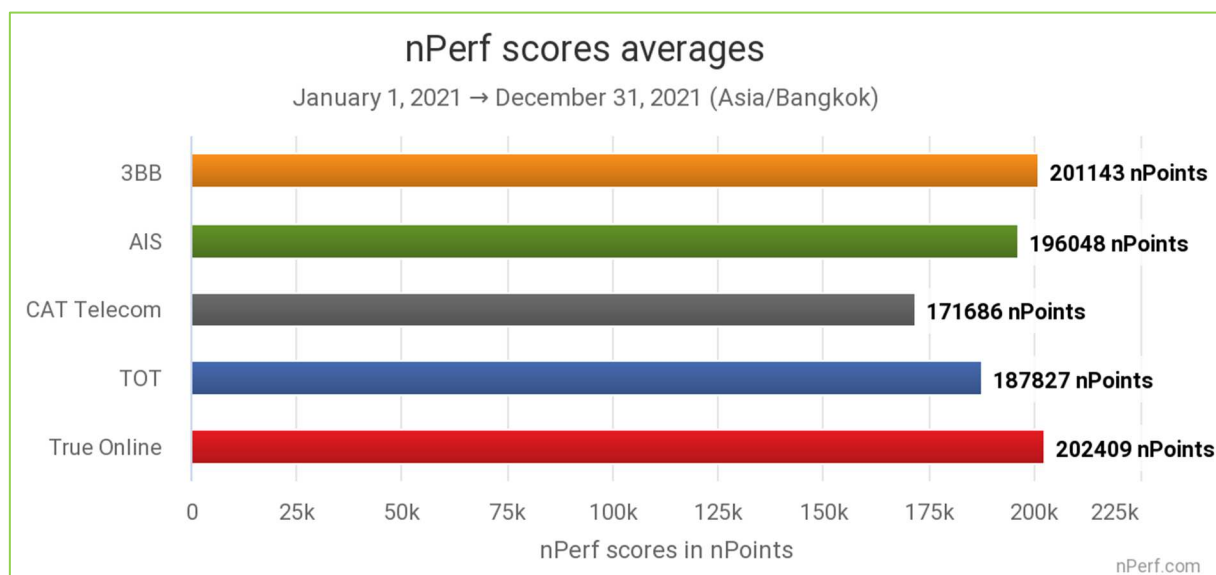
*The lowest value is the best.*

On FTTH technologies, True Online delivered the best average latency to its subscribers in 2021.

### 3.5 FTTH 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.*

**True Online offered the best 2021 internet performances on optical fiber networks.**

## 4 You too, participate in the nPerf panel!

To participate in the panel, simply test your connection (DSL, cable or optical fiber) at [www.nPerf.com](http://www.nPerf.com) or at <http://speedtest.adslthailand.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.

## 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](http://www.nPerf.com) through the "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!





## 6 Methodology

### 6.1 The panel

nPerf offers an Internet speed test application, which can be used for free at [www.nPerf.com](http://www.nPerf.com), or yet <http://speedtest.adslthailand.com/>

The panel of this study is formed by the users of the nPerf application in Thailand. 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 the **millions of tests** carried out exclusively by the operators' end customers, making it the "crowdsourced" study with the largest panel in Thailand.

### 6.2 Speed and latency tests

The purpose of the nPerf Speed Test is to measure the maximum capacity of the 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 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 Wi-Fi 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.

### 6.3 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 operators AIS, dtac and True Move, but also at CAT and TOT, to maximize measurement reliability. **Local carriers are welcome to install nPerf servers, that's free!**

The total bandwidth available for Thailand is around **1 020 Gb/s**, and that for the world is greater than **8 Tb/s**, with almost **2000** active nPerf servers!

## 6.4 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.

## 6.5 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.