Barometer of domestic Wi-Fi connections in Vietnam

2022 report

Contents

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1 Summary

1.1 KPIs and nPerf scores

nPerf barometer 2022
Domestic Wi-Fi connections in Vietnam

		FPT	VNPT	Viettel
▼ Download bitrate	(Mb/s)	41.10	33.63	51.59
▲ Upload bitrate	(Mb/s)	32.45	28.57	46.52
◀▶ Latency	(ms)	48.50	61.28	41.22
🌐 Web browsing	(%)	65.22	62.97	68.49
▶ YouTube streaming	(%)	86.59	84.66	89.10
🏅 Wi-Fi nPerf score	(nPoints)	78 553	70 766	88 746

Viettel

Best domestic Wi-Fi performances

No.1 WI-FI PERFORMANCE nPerf 2022

Ranking based on all tests, through Wi-Fi connection. Tests carried out on the nPerf application, from 01/01/2022 to 31/12/2022, over the main broadband Internet consumer networks of the country.

Viettel provided the best home Wi-Fi performances in Vietnam in 2022.

1.2 Our analysis

From January 1, 2022 to December 31, 2022, nPerf users have performed **420.641 tests with nPerf mobile app** on WiFi domestic networks.

The nPerf score goal reflects the customer experience. It is based on the five most important KPI's (download speed, upload speed, latency, streaming and browsing).

Viettel, the leader.

In 2022, **Viettel** has provided the fastest Wi-Fi Internet connections in Vietnam. With an average download speed close to 52 Mb/s, **Viettel** is quite ahead of its competitors, indeed, the second one is FPT with 41 Mb/s. Concerning the upload connections, **Viettel** is also in first position with more than 46 Mb/s. On top of the best browsing and streaming performances, the operator also offered the best latency and to its subscribers!

In conclusion, **Viettel** does not give its competitors a chance for the moment.

nPerf can't wait to see how this evolves in 2023.

2 Overall results (Wi-Fi)

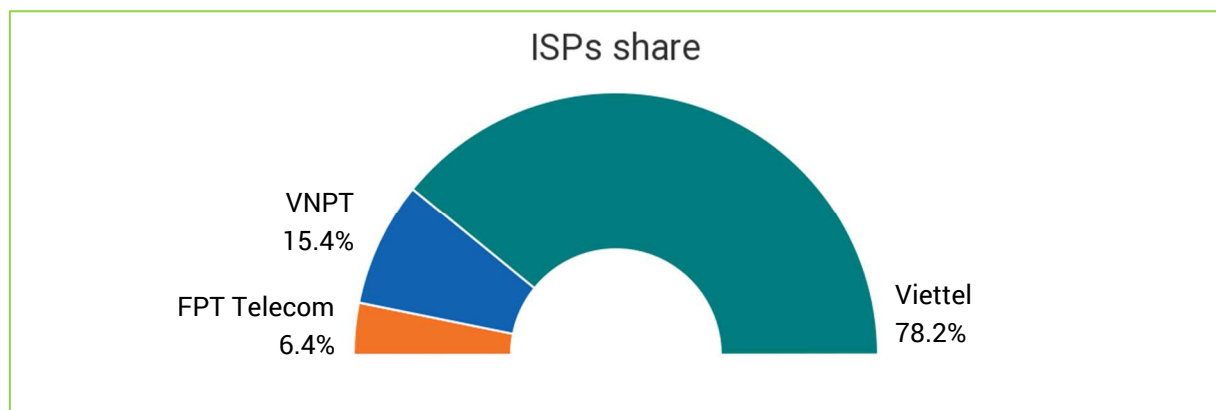Results from tests with Android and iOS devices on home Wi-Fi networks.

2.1 Data volume and distribution

The nPerf application allows the user to perform a full test (*), or each test separately. Between **January 1st, 2022** and **December 31st, 2022** we counted in Vietnam, after filtering (see § 5.1.4), **420.641 unit tests.**
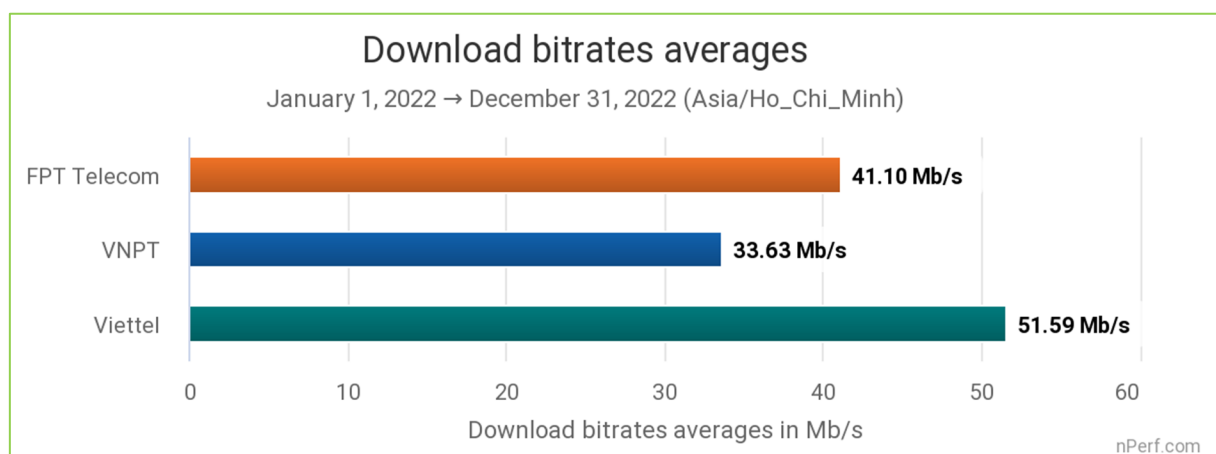
Technology	Speed	Browsing	Streaming	Total
Wi-Fi	265.660	89.723	65.258	**420.641**

(*) one full test (speed, web browsing, streaming) = 3 unit tests

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

ISPs share

VNPT 15.4%
FPT Telecom 6.4%
Viettel 78.2%

2.2 Download speed

Download bitrates averages
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

FPT Telecom 41.10 Mb/s
VNPT 33.63 Mb/s
Viettel 51.59 Mb/s

Download bitrates averages in Mb/s

nPerf.com

The highest speed is the best.

Viettel subscribers enjoyed the best average Wi-Fi download speed in 2022.

The incumbent national operator wins the race with a speed gap of more than 10 Mb/s over the second-placed FPT Telecom. Having more than 50 Mb/s is meant to be a sufficient speed for typical home use. The less performant has been VNPT, which almost reached 34 Mb/s, still not enough to challenge their opponents.

Download bitrates averages (month)

January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)
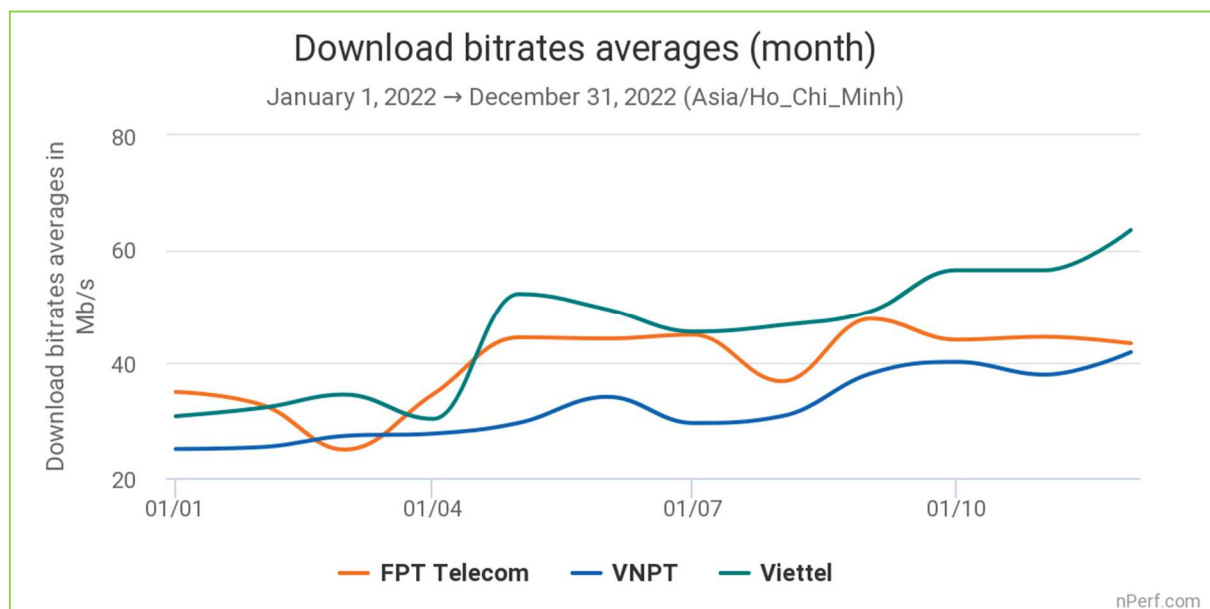
The graph above shows the *monthly* evolution of the average bitrate over the period.

Viettel made a sudden leap in speed last May, following which it has never left the top position in the monthly rankings, and has continued to grow.
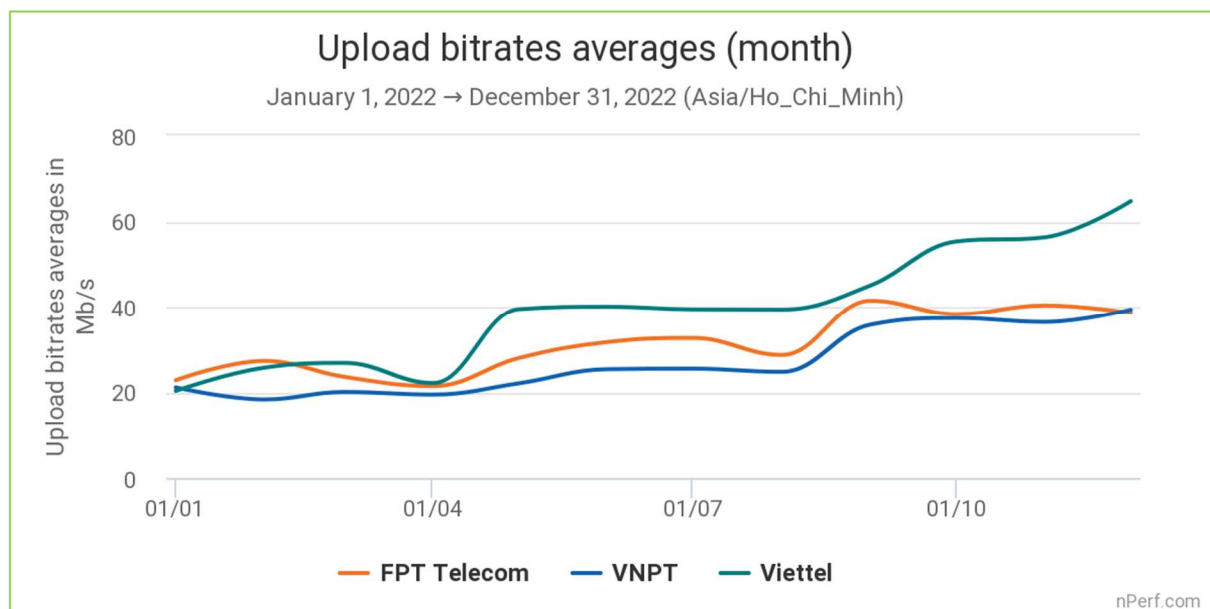
2.3 Upload speed

Upload bitrates averages

January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)
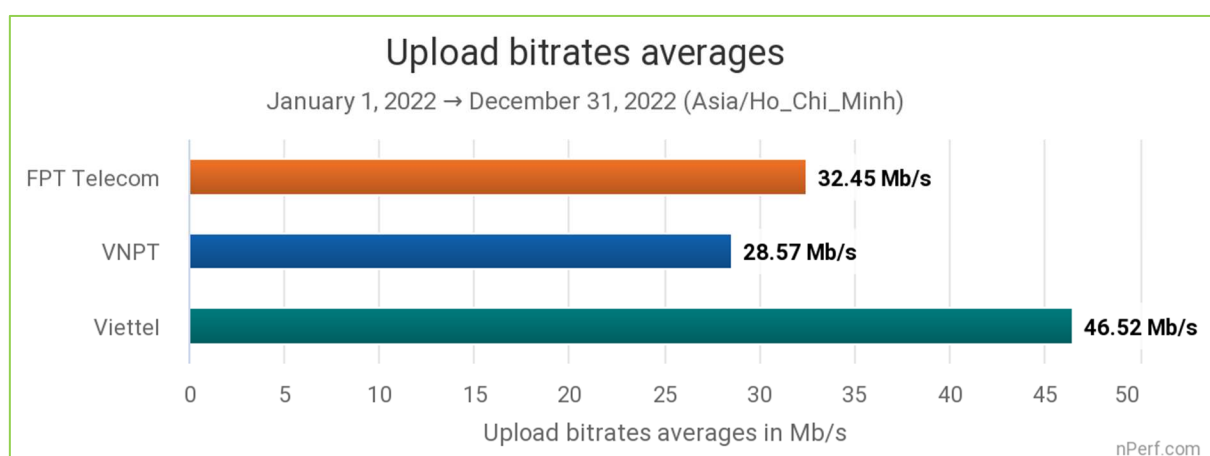
The highest speed is the best.

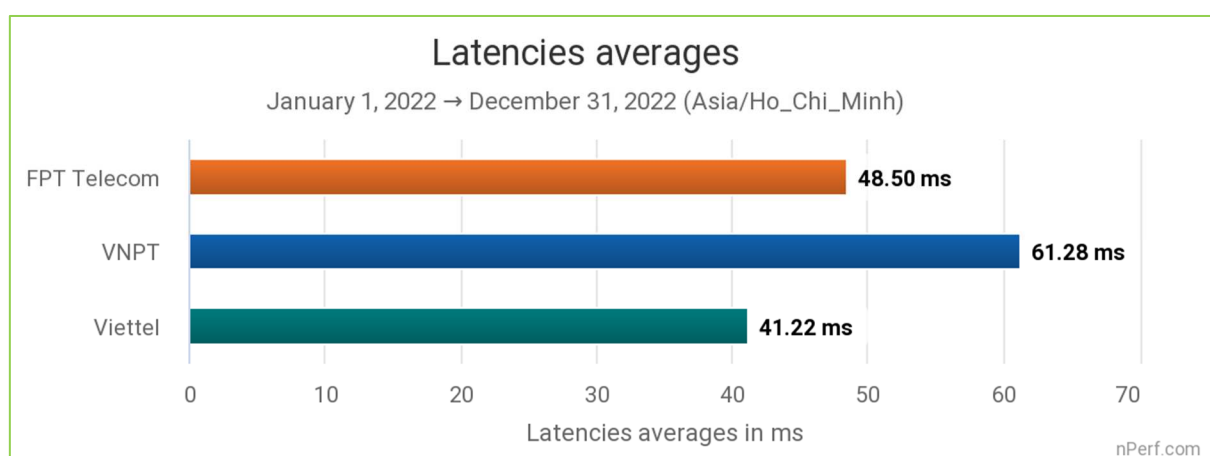**Viettel subscribers enjoyed the best average Wi-Fi upload speed in 2022.**

In this respect, Viettel's superiority in terms of throughput is even more pronounced, as it scores 43% higher than its closest competitor, FPT. However, FPT and the last ranked competitor, VNPT, are closer to each other: their distance is less than 4 Mb/s. It is worth noting that although slightly lower in upload speeds, the speeds are relatively symmetrical with these major ISPs.

Upload bitrates averages (month)

January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

— FPT Telecom — VNPT — Viettel

nPerf.com

The graph above shows the *monthly* evolution of the average bitrate over the period.

In a narrower range, the situation is similar to that of download speed: jump in May at Viettel, VNPT very close below FPT throughout the year, and gradual increase for all providers.
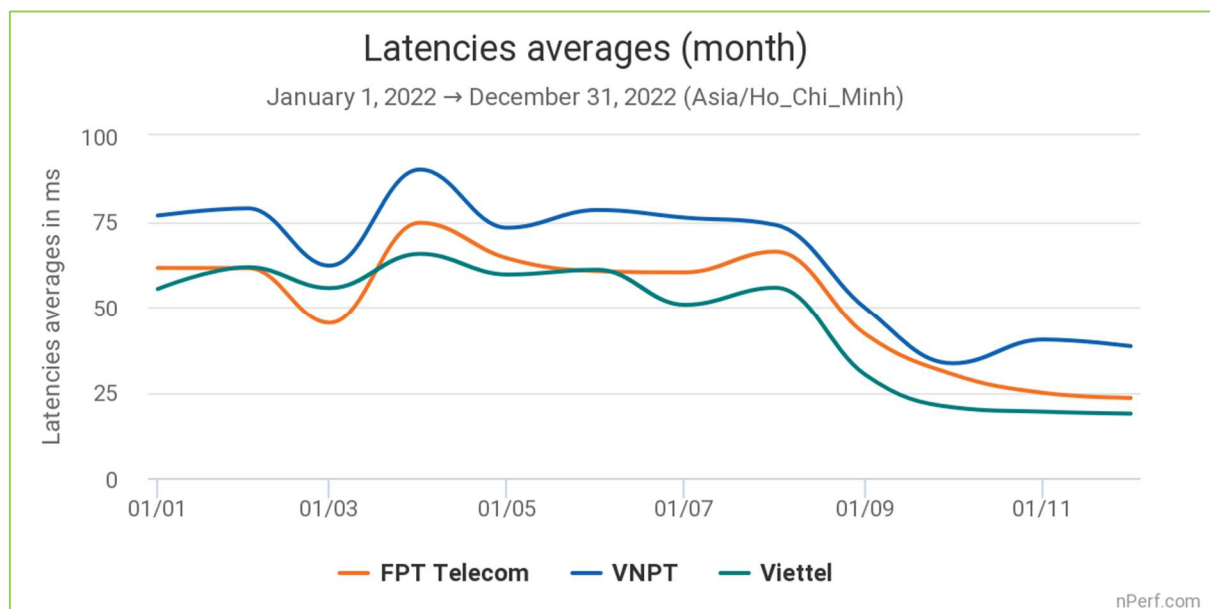
2.4 Latency

Latencies averages

January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

FPT Telecom   **48.50 ms**
VNPT   **61.28 ms**
Viettel   **41.22 ms**

Latencies averages in ms

nPerf.com

The shortest time is the best.

Viettel subscribers enjoyed the best average Wi-Fi latency in 2022.

With an average of about 41 ms, Viettel overtakes its competitors in the field of response time. FPT Telecom, which is 7 ms longer, gets the second position, and VNPT is once again the less performant, above 61 ms. Thus, the different providers record scaled performances.

nperf

Latencies averages (month)
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

FPT Telecom — VNPT — Viettel

nPerf.com

The graph above shows the *monthly* evolution of the average bitrate over the period.
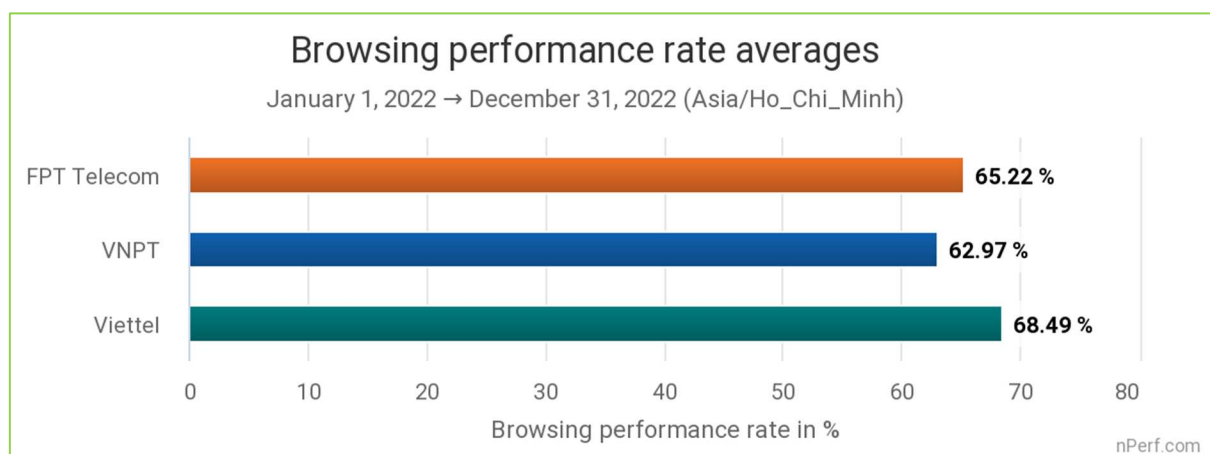
The most significant improvement takes place from September onwards, and is common to all three ISPs. Only from august to September, this average response time has been shortened of around 25 ms, and seems to keep on enhancing since.

2.5 Quality of Experience (QoE)

The indicators used in this section are the nPerf performance rates (PR). More details in the appendices (§ 5.1.2).

2.5.1   Web browsing

Average performance for the loading of the 5 most frequented websites by Internet users in the country (excluding YouTube).
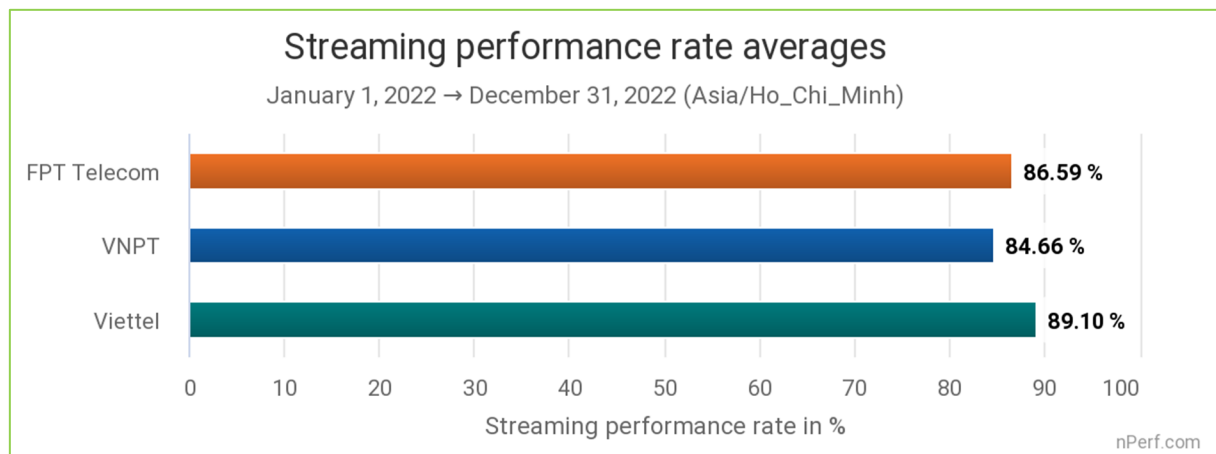

Browsing performance rate averages
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

FPT Telecom 65.22 %
VNPT 62.97 %
Viettel 68.49 %

Browsing performance rate in %

nPerf.com

The highest rate is the best.

Viettel provided the best Wi-Fi performance rate in Wi-Fi web browsing in 2022.

The three suppliers are between 60% and 70%. VNPT has the lowest level, FPT Telecom is in second place, and Viettel is once again in the lead, with a rate of over 68%.

2.5.2 Video streaming

Measuring the visualization quality of a video on the YouTube streaming platform.

Streaming performance rate averages
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

Operator	Rate
FPT Telecom	86.59 %
VNPT	84.66 %
Viettel	89.10 %

Streaming performance rate in %

nPerf.com

The highest rate is the best.

Viettel provided the best Wi-Fi performance rate in Wi-Fi video streaming in 2022.
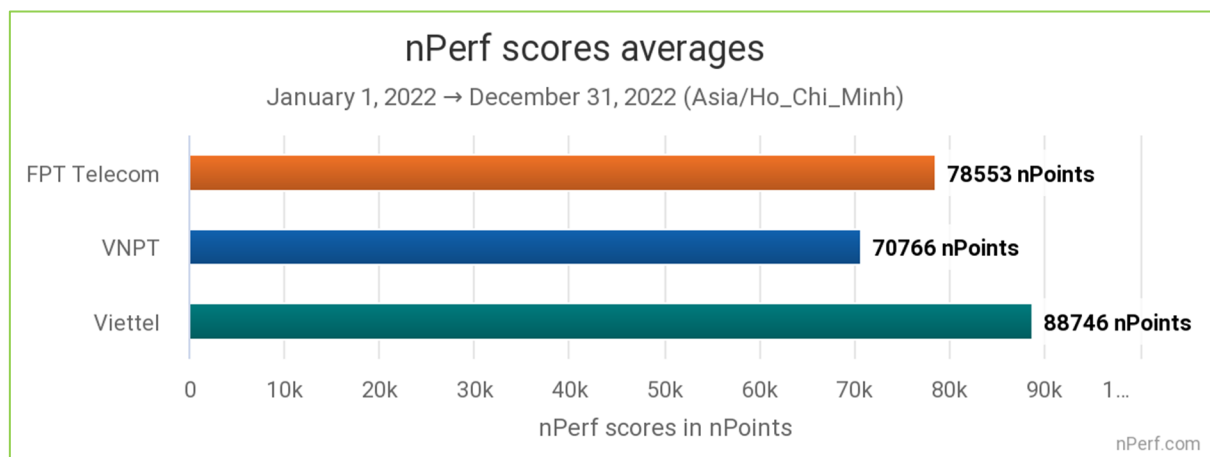
At a higher level of performance, the video streaming is more consistently enabled by Vietnamese fixed operators. The different rates fall within a range of less than 5 points, between 84.7% and 89.1%. Unsurprisingly, the best result is for Viettel.

2.6 nPerf scores

The nPerf score, expressed in nPoints, gives an overall picture of the quality of a connection. It takes into account the measured bitrates (2/3 on download + 1/3 on upload), the latency and is affected by QoE tests equally (browsing / streaming). The value of the points for the rates and the latency is calculated on a logarithmic scale, to better represent the perception of the user.

Thus, this score reflects the overall quality of the connection **felt by the user**.

The results below consider all the previous indicators and therefore all the tests carried out. As technologies are grouped together, the proportion of tests in different technologies strongly impacts this global trend.
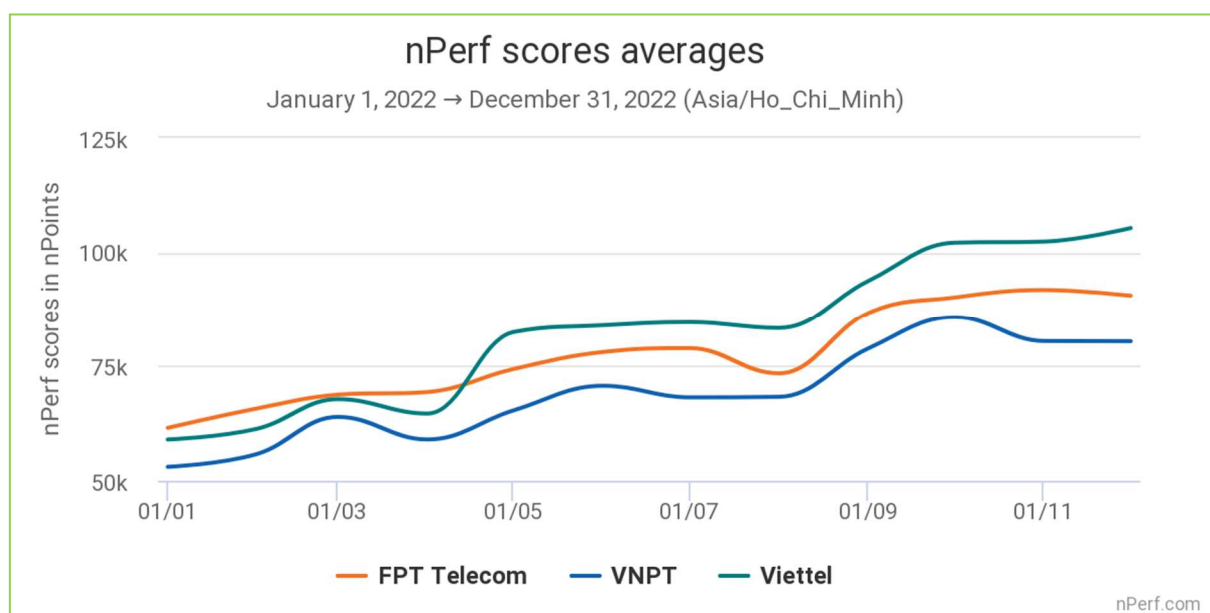
nPerf scores averages
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

Provider	nPoints
FPT Telecom	78553 nPoints
VNPT	70766 nPoints
Viettel	88746 nPoints

nPerf scores in nPoints

nPerf.com

The highest value is the best.

Viettel subscribers enjoyed the best home Wi-Fi performances in Vietnam in 2022.

Indeed, the operator does not concede a single KPI to its competitors, thanks to a relentless winning streak. FPT Telecom is the main rival, but with 10,000 points less in the nPerf score. In general, the evolution of the scores is very encouraging for the three main national providers, but their level remains a little modest: all of them remain below 89k points, on average.

nPerf scores averages
January 1, 2022 → December 31, 2022 (Asia/Ho_Chi_Minh)

nPerf scores in nPoints

— FPT Telecom — VNPT — Viettel

nPerf.com

The graph above illustrates the *monthly* evolution of the score over the period.

Thanks to the nPerf application, find this global indicator directly on your smartphone or tablet, via the « Compare » function at the end of the full test. It is updated in real time over 14 rolling days.

3 You too, participate in the nPerf panel!

To participate in the panel, simply use the nPerf application, available for free on the Apple AppStore for iPhone and iPad, and on Google Play for Android devices.

Download the nPerf App	
Android	http://android.nperf.com/
iOS	http://ios.nperf.com/

Also participate in the Fixed Connections Barometer panel by testing your DSL, cable or optical fiber connection at www.nPerf.com.

4 Custom analysis & contact

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

You can contact nPerf via 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

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Stay in touch with us, follow us!

5 Appendices

5.1 Methodology

5.1.1 The panel

nPerf offers a free application for testing the quality of the Internet connection, downloadable for free on Android and iOS (Apple) mobile devices.

Everyone is free to use this app to measure the quality of their mobile connection. The panel of this study is formed by the users of the nPerf mobile application in **Vietnam**, when connected through a domestic Wi-Fi network.

Thus, the nPerf study is based on the **hundreds of thousands of tests** carried out yearly, exclusively by the operators' end customers, which makes it the "crowdsourced" study based on **one of the largest panels of the country.**

These tests reflect the **actual experience of the general public** on the various Internet networks.

5.1.2 Definitions and goals

5.1.2.1 Success rate

The success rate is calculated by dividing the number of successful attempts by the total number of attempts made.

5.1.2.2 Speed and latency tests

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

To achieve this, nPerf simultaneously establishes multiple connections to saturate the bandwidth to accurately measure it.

The 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 because it is measured only on nPerf servers.

The user experience is then measured by the Quality of Experience (QoE) tests.

5.1.2.3 The browsing test

The browsing test allows the user to accurately measure the loading time of the 5 websites most frequented by local Internet users (YouTube is excluded from this test as it is subject to the following test).

This indicator reflects the quality of navigation perceived by the user. It can however be negatively impacted by the performance of the terminal used, especially if it is old.

It is calculated considering the loading time of the page. A page loaded in 10 seconds or more gets a 0% performance rate and a page loaded instantly gets a performance rate of 100%. For example, a page loaded in 2 seconds will get a performance rate of 80%.

5.1.2.4   The YouTube streaming test

The goal of the streaming test is to measure the quality of video viewing on the most popular streaming platform around the world: YouTube.

It operates under conditions similar to the direct use of YouTube and therefore takes into account the quality of the network between the user and the YouTube servers.

It is calculated considering all the time required to load the video (before or during playback). If the ratio between the duration of the video and the overall reading time (reading + loading) tends to 1 then the performance index will tend towards 100%. And conversely, the more the ratio moves away from 1, the more the index will tend towards 0%.

5.1.3   nPerf servers

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

These servers are hosted in the country and abroad. nPerf has also installed dedicated servers directly at some operators, to maximize measurement reliability. **Local carriers are welcome to install nPerf servers, that's free!**

The total bandwidth available for **Vietnam** is **21 Gb/s**, and reaches more than **12 Tb/s** worldwide**, **with more than **2.560** active nPerf servers!

5.1.4   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 ...). The exclusive nPerf algorithm retains only the relevant tests, thus eliminating biases related to the overrepresentation of certain terminals, users or test locations.

The results are classified by provider.

nPerf points out that there are potential biases in the results shown in this study, notably introduced by the technological mix used for Internet access, and the more or less efficient terminals in Wi-Fi.

5.1.5   Statistical accuracy

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

Category	Absolute values	Percentages
Wi-Fi	2%	1 point

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