



# Measuring Broadband Australia

## Monthly report (May to July 2020)

In 2017, the Australian Competition and Consumer Commission (ACCC) launched its project to measure internet performance. SamKnows was appointed to supply their Whiteboxes to internet users in Australia to measure the quality of experience for fixed-line internet.

The goal of Measuring Broadband Australia is to increase transparency and encourage greater performance-based competition and better internet performance throughout the country. SamKnows prepares these reports for publication by the ACCC each quarter. The metrics are also presented by the ACCC in a public dashboard at <https://www.accc.gov.au/consumers/internet-phone/broadband-performance-data>.

The program tests fixed-line services. It does not test fixed wireless and satellite services.

# Overview

May - June - July  
2020

This is the second monthly report issued as part of the Measuring Broadband Australia program. This report tracks the performance of NBN fixed-line services from May to July 2020.

In this report we present daily average download figures for the following NBN fixed-line speed tier plans:

- 100/40Mbps
- 50/20Mbps
- 25/5Mbps

The daily averages are calculated by aggregating raw test results by Whitebox, speed tier and day, with this then being averaged across all Whiteboxes for each speed tier.

Additionally, we have presented the percentage change in average daily download speeds for each plan against the monthly from a pre-COVID February 2020 average baseline.

For this monthly Measuring Broadband Australia key indicators report, calculations have been conducted for all hours and busy hours (7pm - 11pm) from Monday to Sunday, excluding underperforming<sup>1</sup> and impaired units<sup>2</sup>.

1. We classify a service as 'underperforming' if no more than 5 percent of speed tests that we conducted over the service achieved a speed that was above 75 percent of maximum plan speed. This test effectively identifies those services with maximum attainable speeds that fall closer to the maximum speed of a lower speed tier than to the maximum speed of the consumer's current plan.
2. Impaired services are those where NBN Co provides us with the information that maximum plan speed cannot be attained due to physical limitations.

## Note

- Monthly data presented should not be directly compared with corresponding data in the quarterly reports as the composition of sample sizes may vary between the quarterly and monthly report.
- 12/1 Mbps services are excluded from monthly reporting due to the limited sample size.

## Sign up

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# Overview

May - June - July  
2020

The unprecedented demand during COVID-19 has required additional checks of the MBA test data so we can remain confident that the metrics that we are reporting accurately show the speed and quality that is available to consumers when using their broadband service to access popular online content and applications. These checks led us to believe that on some days the speed tests that we conducted in WA and NSW could have likely been impacted by congestion that occurred on the data network that hosts those test servers, which a consumer would be unlikely to have encountered in their own use of their broadband service.

Consequently, we have shown daily results inclusive and exclusive of those tests for transparency. We will continue to apply these additional assurance checks throughout the COVID period.

All charts use a consistent set of Whiteboxes across the entire reporting period that are used in the charts. If a Whitebox changed speed tier during the period, it is excluded.

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# Monthly report

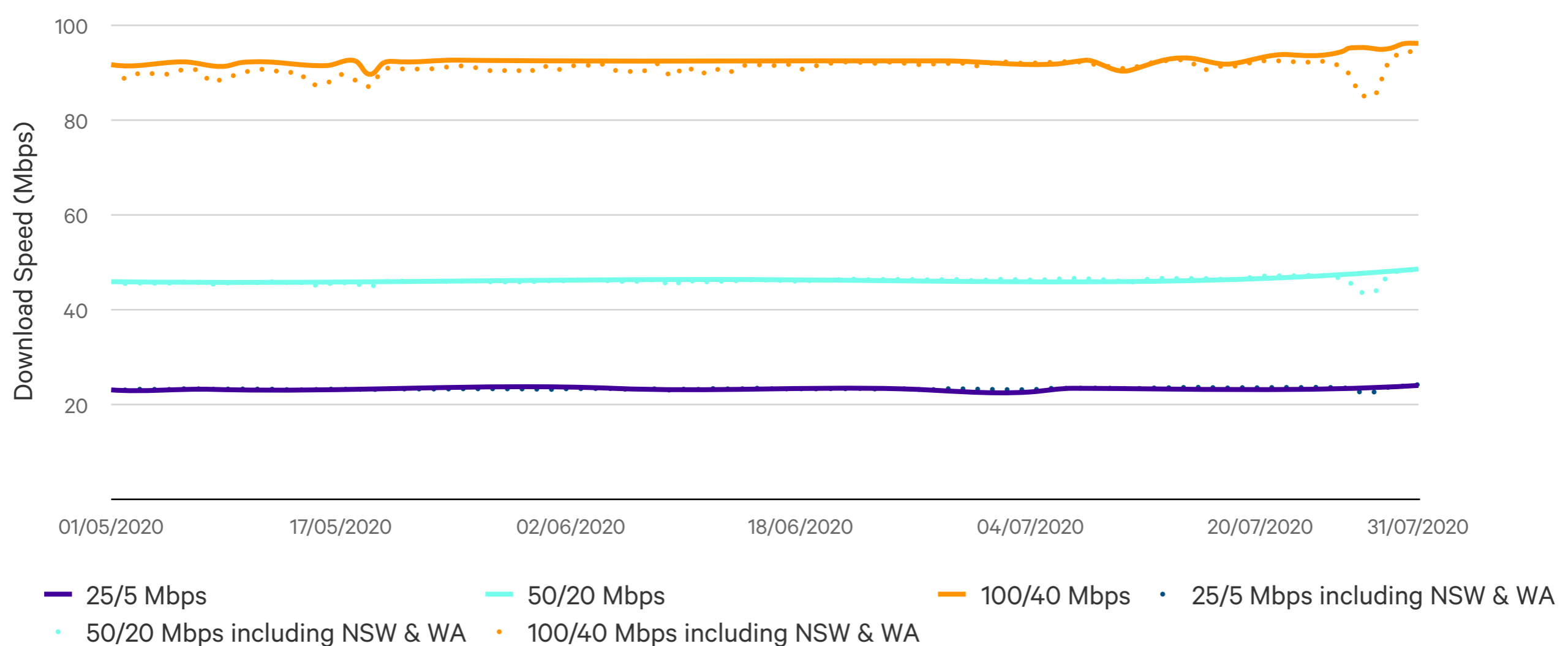
May - June - July  
2020

Figures 1 and 2 track the average daily download speeds by plan for the period of May to July 2020. Both charts exclude impaired and underperforming units. The charts indicate with a solid line the main results which exclude the testing infrastructure in NSW and WA that have experienced the unprecedented congestion levels; and with a dotted line present the results that include these affected testing infrastructure.

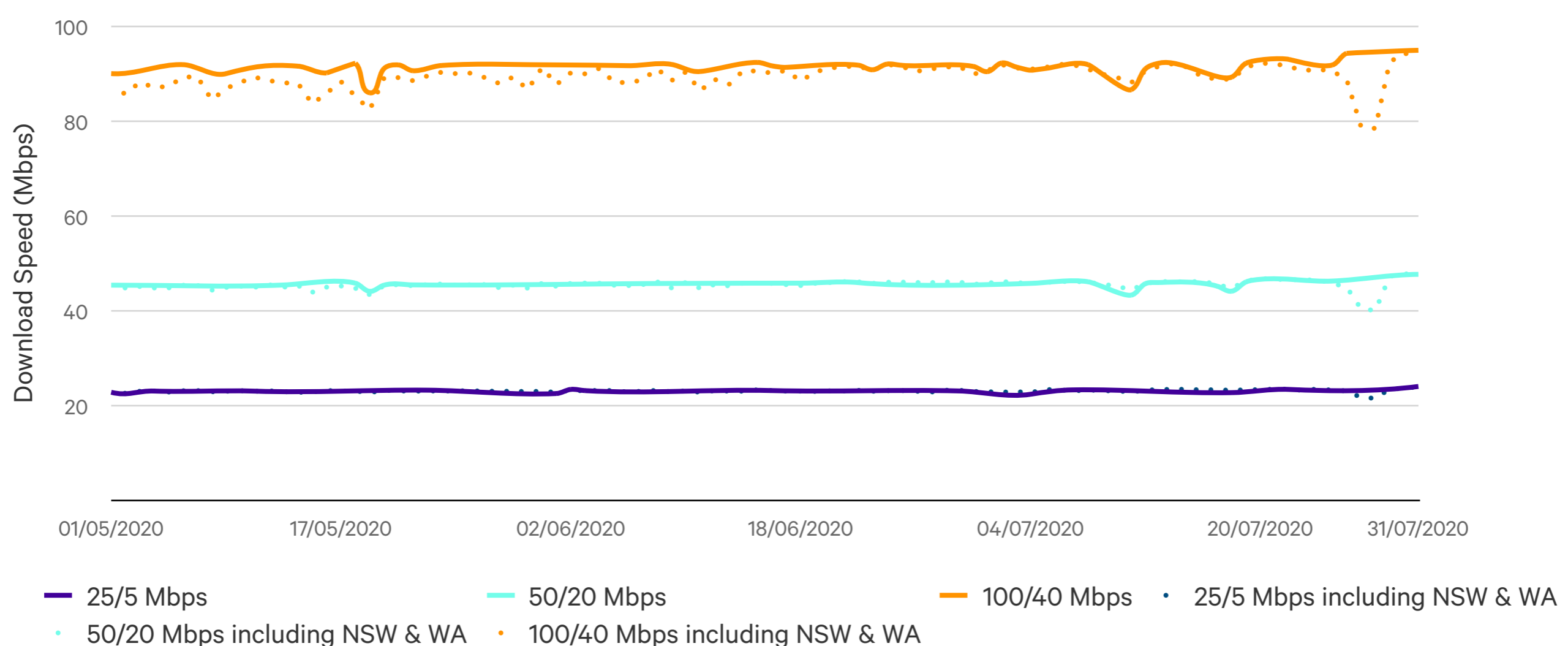
For the results that exclude the affected testing infrastructure, network performance is broadly stable for all speed tiers, during all hours. During busy hours there is more variability, however, in most cases this is driven by specific events, such as an upgrade to a popular gaming service.

Across all speed tiers, the charts show an increase in download speeds towards the end of July. This is consistent with NBN Co increasing the provisioning on the downlink on many of its access products from that time. The downlink on these access products are now provisioned with around 15 percent higher speeds than their nominal maximum speed, which will allow consumers to more reliably experience download speeds that meet the specifications of the retail plans that they select (subject to other factors in control of the relevant RSP, or the limitations of their individual NBN connection).

**Figure 1: Average Daily NBN download speeds during all hours by plan**



**Figure 2: Average Daily NBN download speeds during busy hours by plan**



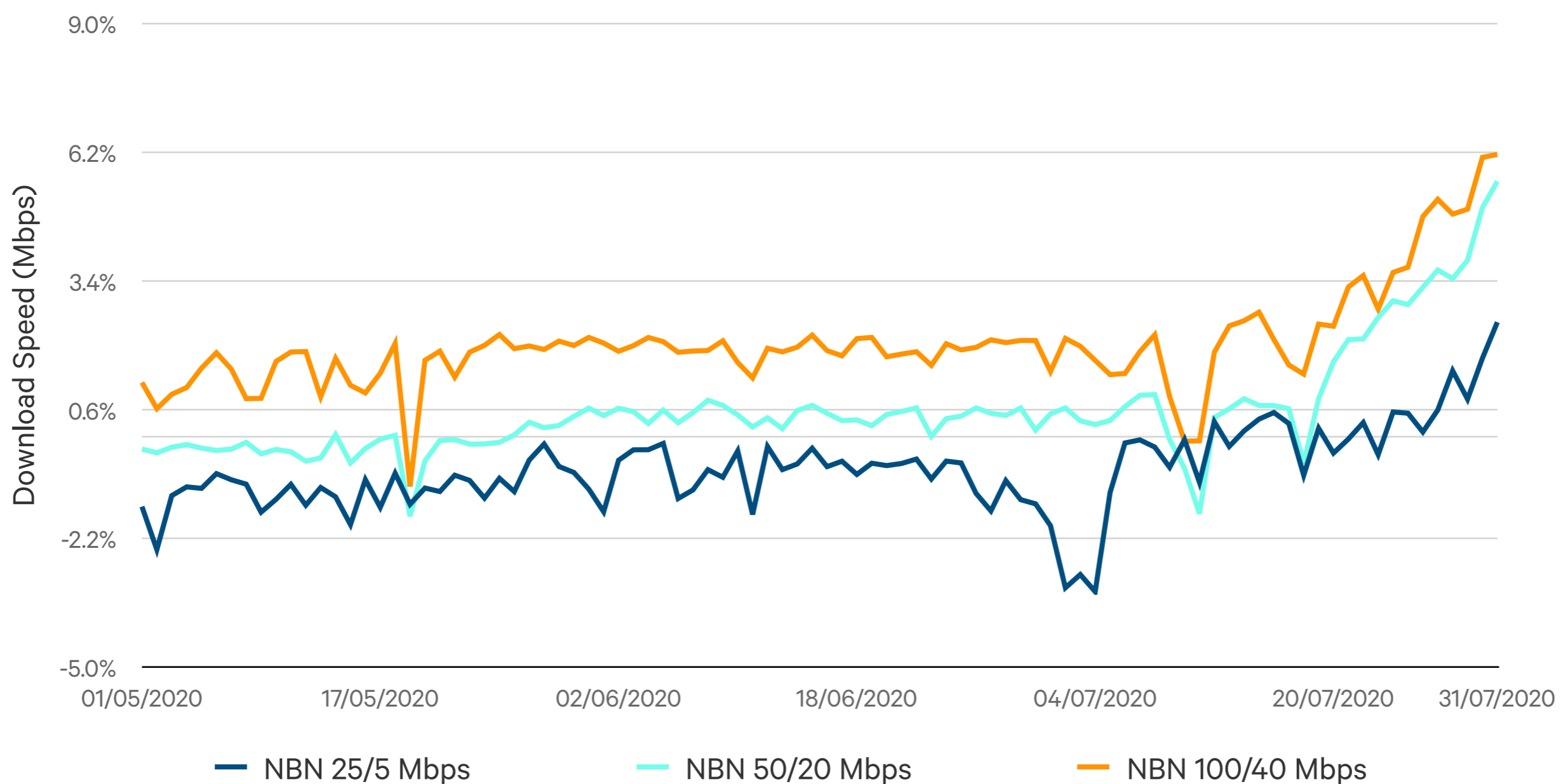
Figures 3 and 4 track the percentage change in download speed recorded each day over the period by plan speed and compared against a pre-COVID baseline of February 2020. Both charts exclude impaired and underperforming units, and exclude results from the testing infrastructure that was heavily impacted by congestion during the period.

During all hours (figure 3), download speeds for the period maintained a consistent profile when compared to the February 2020 pre-COVID baseline. Towards the end of July, however, a gradual increase in NBN download speeds are observed. This is consistent with the NBN Co increasing the provisioning on the downlink on many of its access products from that time.

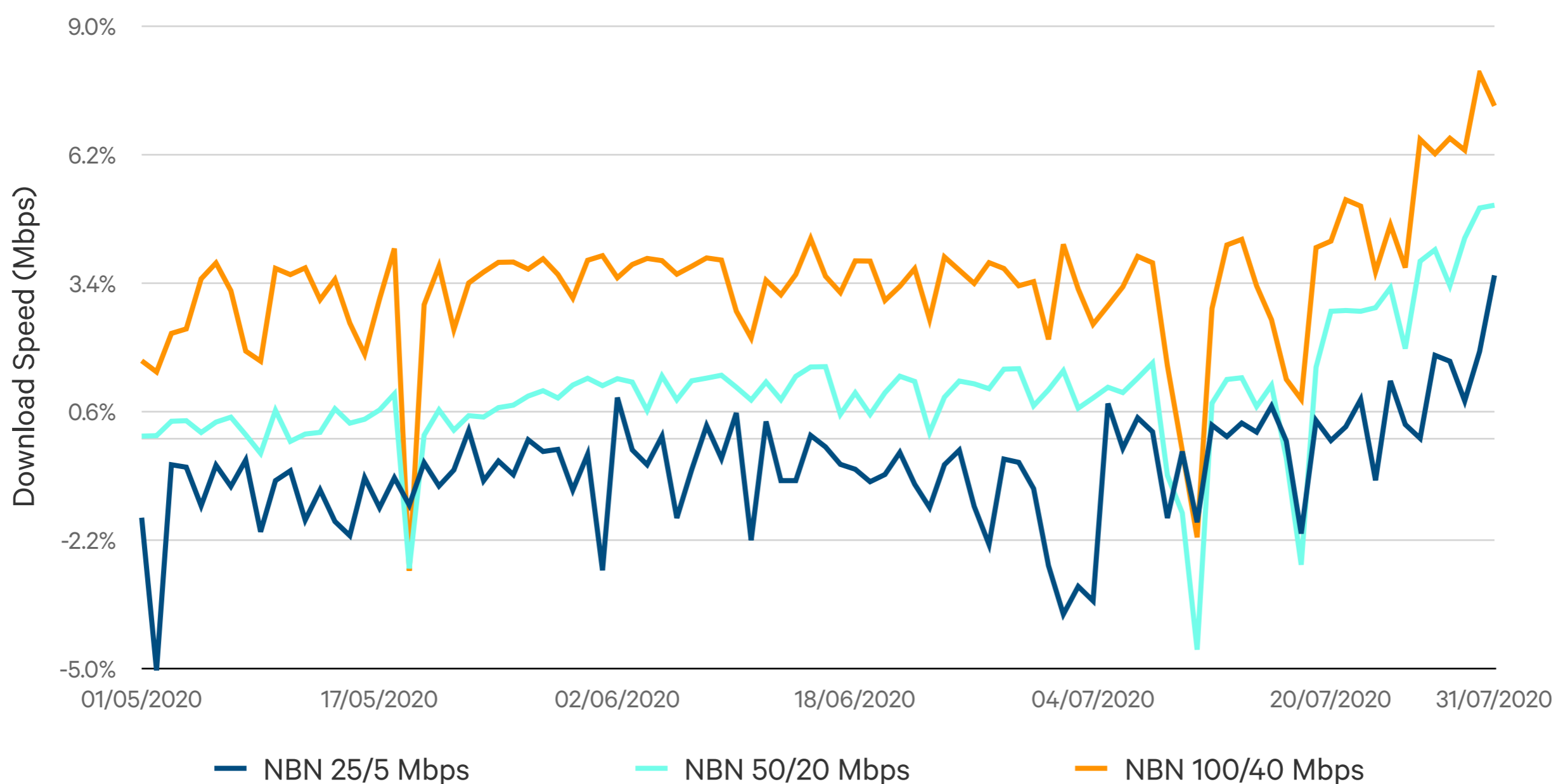
The 100/40 speed tier is above its February baseline results for the majority of the period, while the 50/20 speed tier has shown less deviation and tracks close to its baseline February levels. The 25/5 speed tier performs below its pre-COVID February baseline results. Please note: The February baseline figure includes results from all testing infrastructure and this likely impacts comparability.

Network performance during busy hours follows a similar pattern to that of all hours except for the additional volatility and the more pronounced drops in performance, during peak demand periods.

**Figure 3: Average Daily NBN download speeds during all hours by plan**

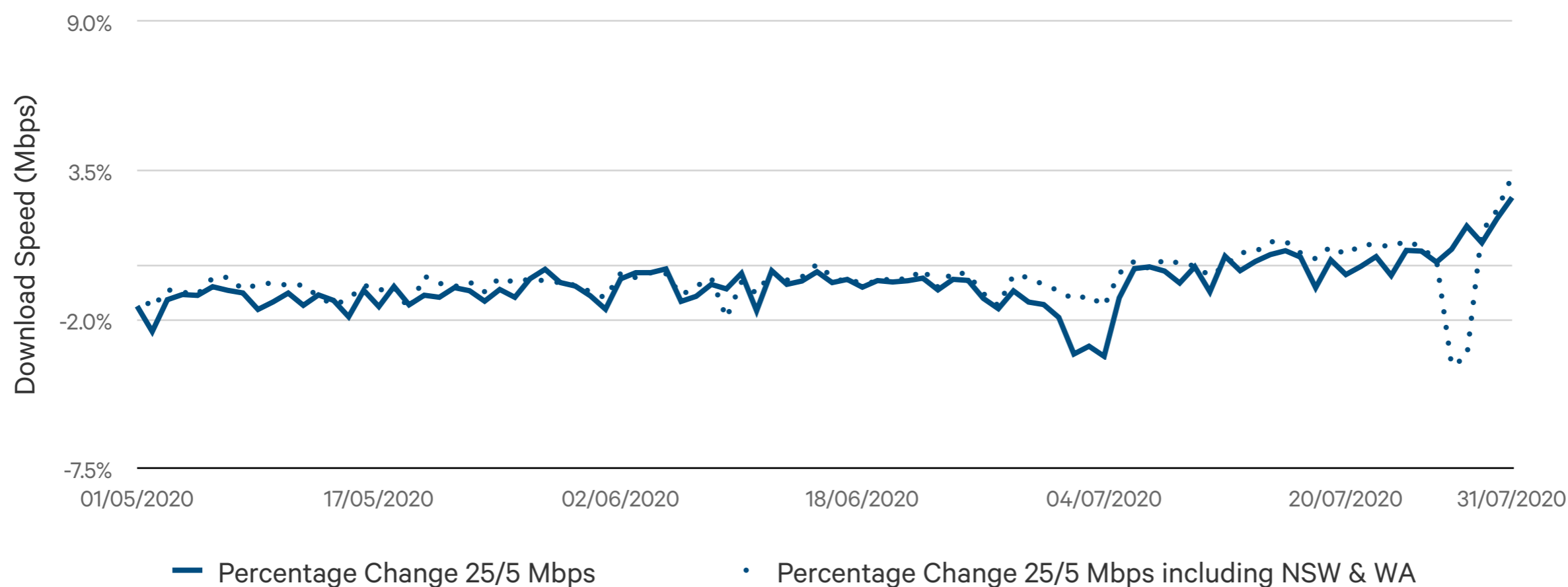


**Figure 4: Average Daily NBN download speeds during busy hours by plan**

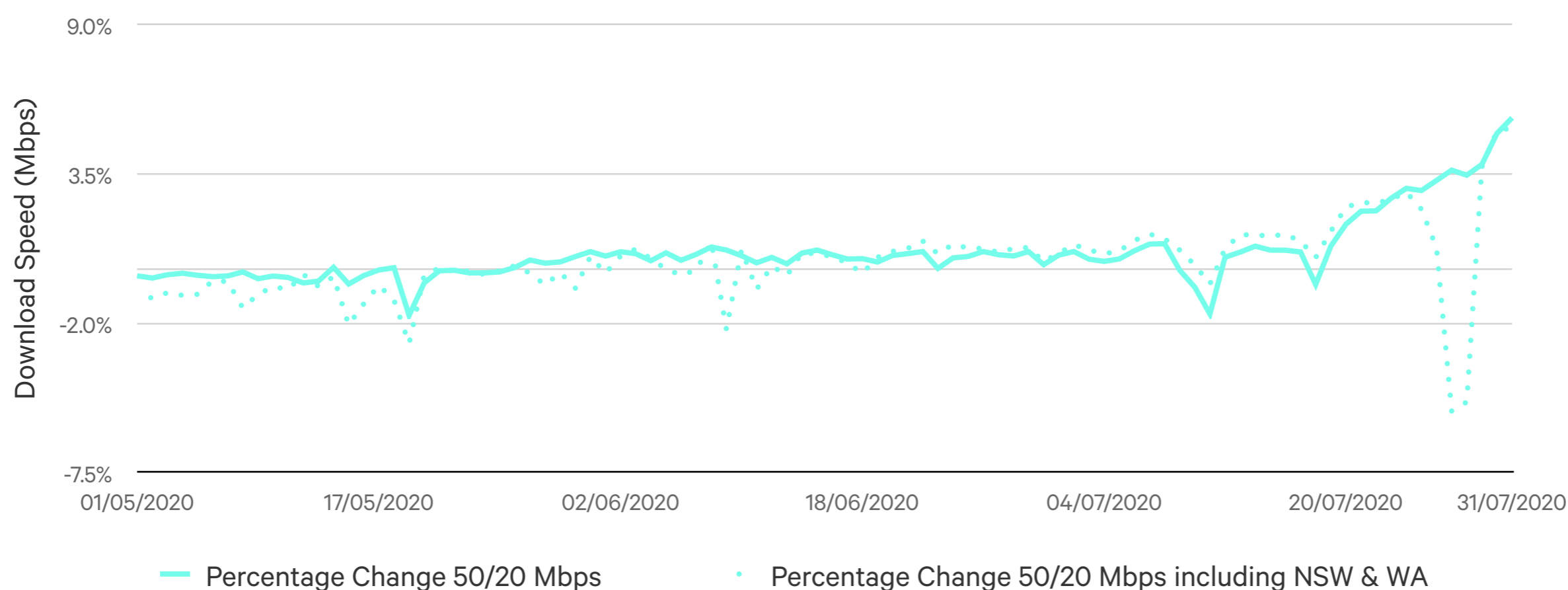


Figures 5, 6 and 7 track the percentage change in the average download speed recorded each day over the period by speed tier compared against the pre-COVID baseline of February 2020. Each chart represents a different NBN speed tier and excludes the results from impaired and underperforming units. The final results are represented as a solid trend line and excludes the testing infrastructure data from NSW and WA which were heavily impacted by congestion. The dotted line in the charts presents the results of all testing infrastructure including that of NSW and WA.

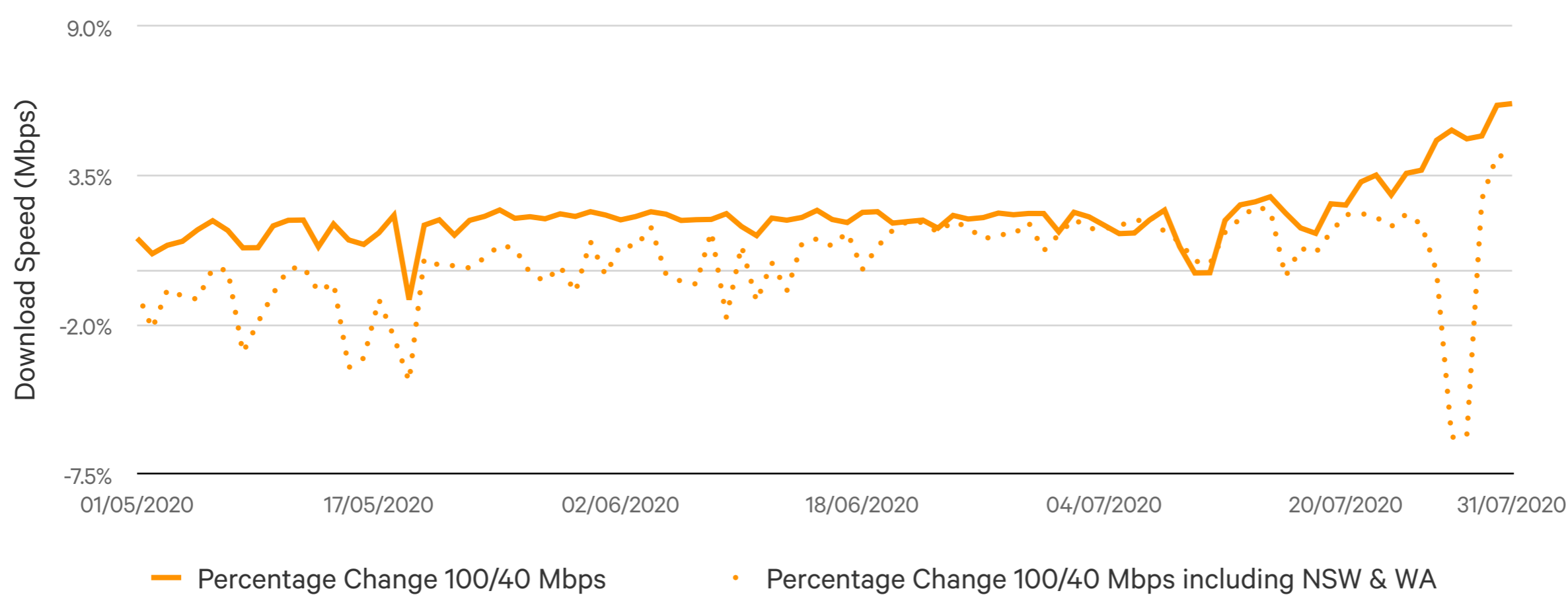
**Figure 5: Average Daily NBN download speeds during all hours for 25/5 Mbps Services**



**Figure 6: Average Daily NBN download speeds during all hours for 50/20 Mbps Services**

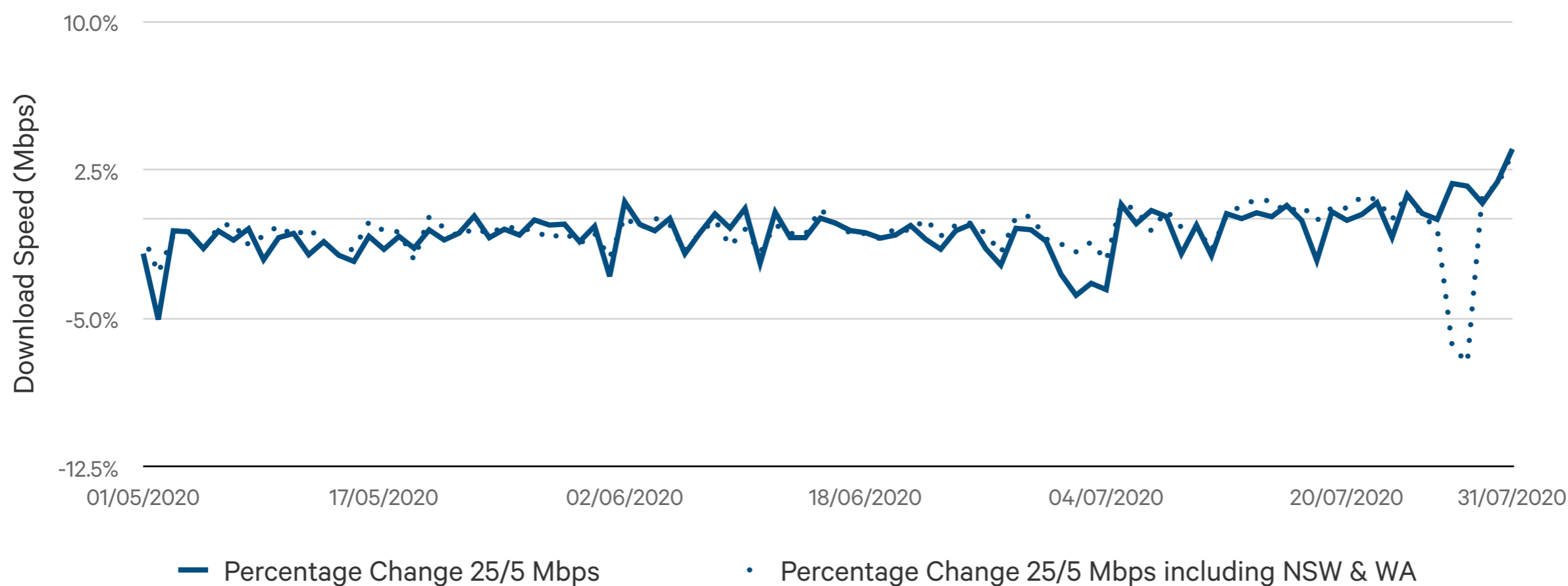


**Figure 7: Average Daily NBN download speeds during all hours for 100/40 Mbps Services**

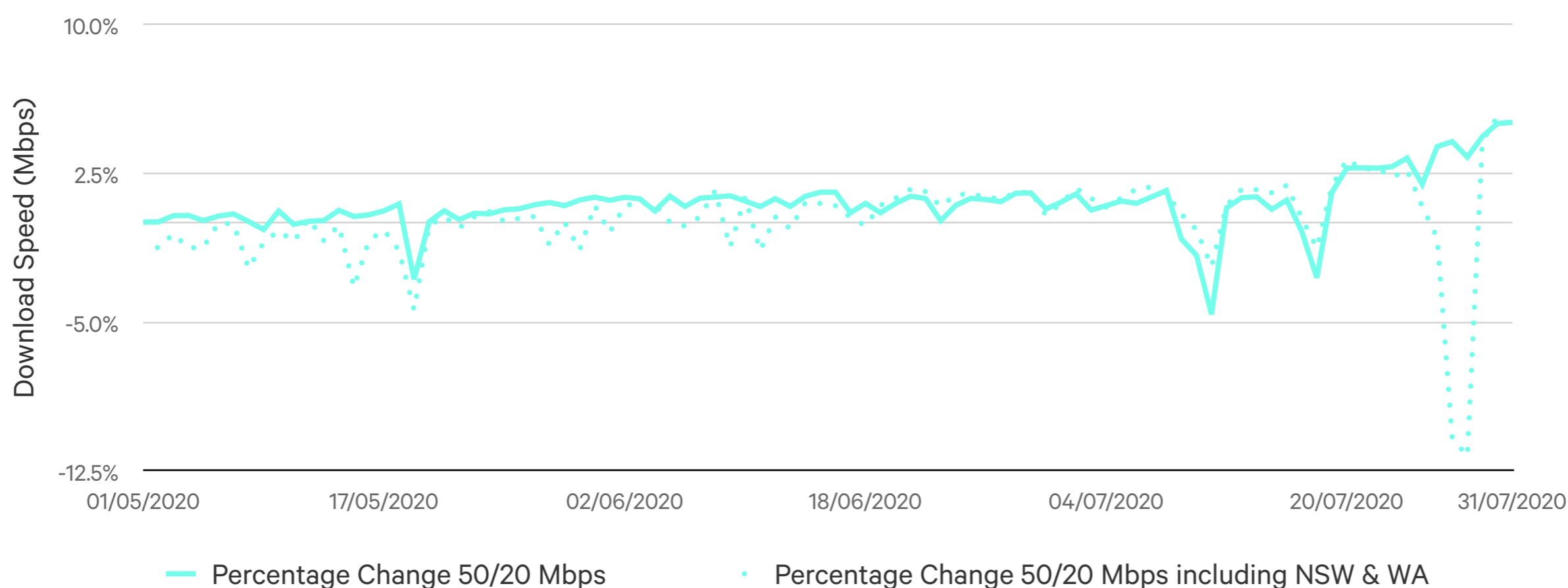


Figures 8, 9 and 10 track the percentage change in the average download speed recorded each day over the period by speed tier compared against the pre-COVID baseline of February 2020. Each chart represents a different NBN speed tier and excludes the results from impaired and underperforming units. As in figures 5-7, the final results are presented as a solid trend line and exclude data from the testing infrastructure in NSW and WA that have been heavily impacted by congestion. The dotted line in the charts presents the results of all testing infrastructure including NSW and WA.

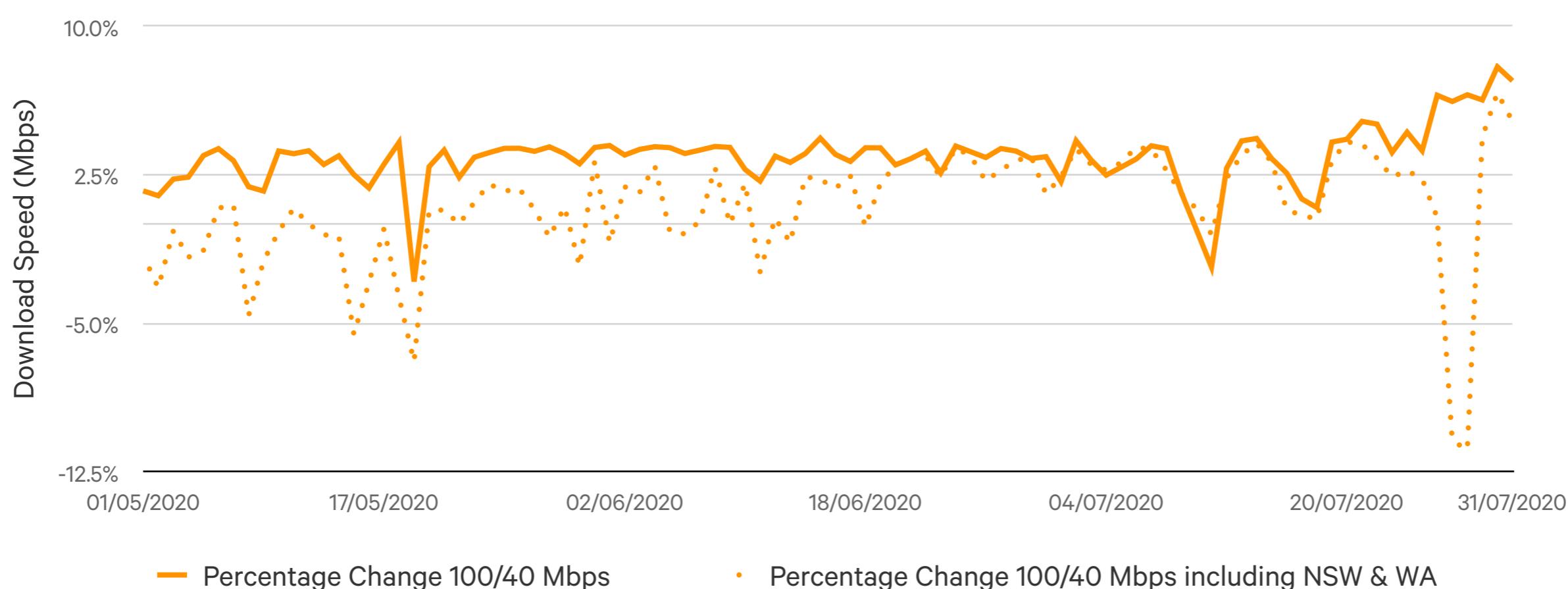
**Figure 8: Average Daily NBN download speeds during busy hours for 25/5 Mbps Services**



**Figure 9: Average Daily NBN download speeds during busy hours for 50/20 Mbps Services**



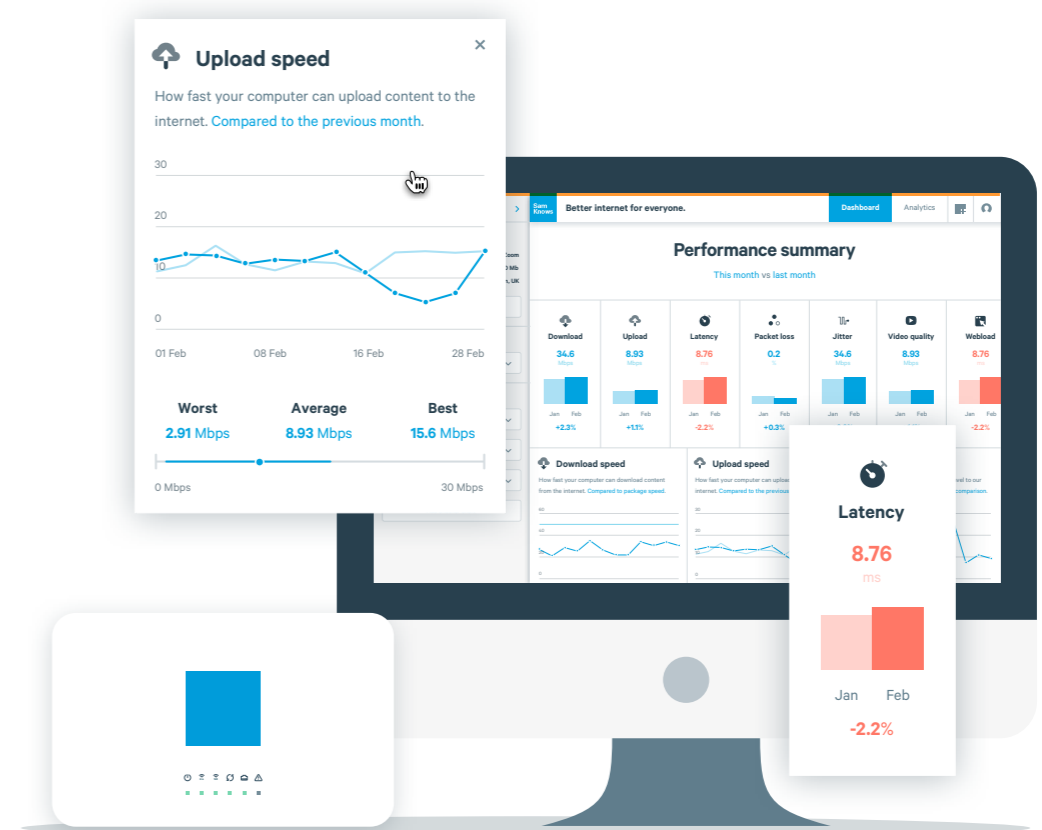
**Figure 10: Average Daily NBN download speeds during busy hours for 100/40 Mbps Services**



# How we test

## SamKnows One analytics

- View all your data in one place.
- Create customised charts and save the results that mean the most to you.
- Track changes in your connection over time.













## Measuring homes across Australia

- The SamKnows Whitebox is a purpose-built testing agent that connects to your router.
- Measures every aspect of your internet service delivered to your home.
- Runs at regular intervals when you're not using the internet.

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## Tests

Metric	Definition
 <b>Download</b>	The speed data travels from our test server to your device, measured in bits per second.
 <b>Upload</b>	The speed data travels from your device to our test server, measured in bits per second.
 <b>Latency</b>	How long it takes a data packet to go from your device to our test server and back to your device.
 <b>Jitter</b>	Measures the amount of difference between packet delays, or the stability of your latency.
 <b>Packet Loss</b>	When a packet of data becomes lost (does not arrive for two seconds) measured as a percentage of packets lost out of packets sent.
 <b>YouTube</b>	Measures the highest bitrate you can reliably stream for the most popular video in your country.
 <b>Netflix</b>	An application-specific test, supporting the streaming of binary data from Netflix's servers using the same CDN selection logic as their real client uses. The test has been developed in direct cooperation with Netflix.
 <b>Web browsing</b>	Measures how long it takes to fetch the HTML and referenced resources of a popular website.
 <b>CDN measurements</b>	Measures download performance for the same (or very similar) object from a variety of popular Content Delivery Networks over HTTP.
 <b>Voice over IP</b>	Measures the suitability of a broadband connection for VoIP calls.