Faluck hafiz

25th November 2024

Assignment- Speed Test

**My Excel File of Results: Download Speed for 25th November 2024**

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Time | Download Speed (Mb/s) | Upload Speed (Mb/s) |
| 25/11/2024 | 13:47 | 33.4 | 30.34 |
| 25/11/2024 | 13:47 | 32.16 | 20.94 |
| 25/11/2024 | 13:48 | 32.38 | 28.25 |
| 25/11/2024 | 13:48 | 40.06 | 32.55 |
| 25/11/2024 | 13:48 | 38.68 | 28.85 |
| 25/11/2024 | 13:49 | 39.74 | 34.11 |
| 25/11/2024 | 13:49 | 38 | 29.71 |
| 25/11/2024 | 13:49 | 39.39 | 32.76 |
| 25/11/2024 | 13:50 | 43.71 | 34.19 |
| 25/11/2024 | 13:50 | 41.89 | 28.44 |
| 25/11/2024 | 13:50 | 40.64 | 32.06 |
| 25/11/2024 | 13:51 | 44.2 | 32.98 |
| 25/11/2024 | 13:51 | 45.29 | 24.05 |
| 25/11/2024 | 13:51 | 43.11 | 31.14 |
| 25/11/2024 | 13:52 | 42.82 | 27.55 |
| 25/11/2024 | 13:52 | 43.02 | 24.03 |
| 25/11/2024 | 13:52 | 41.66 | 33.8 |
| 25/11/2024 | 13:53 | 44.17 | 31.86 |
| 25/11/2024 | 13:53 | 46.67 | 27.6 |
| 25/11/2024 | 13:53 | 42.58 | 33.99 |
| 25/11/2024 | 13:54 | 41.58 | 33.87 |
| 25/11/2024 | 13:54 | 44.53 | 31.25 |
| 25/11/2024 | 13:54 | 43.63 | 24.62 |
| 25/11/2024 | 13:55 | 42.98 | 23.35 |
| 25/11/2024 | 13:55 | 40.55 | 20.51 |
| 25/11/2024 | 13:56 | 45.07 | 19.35 |
| 25/11/2024 | 13:56 | 33.9 | 28.92 |
| 25/11/2024 | 13:56 | 41.7 | 31.46 |
| 25/11/2024 | 13:57 | 42.48 | 22.67 |
| 25/11/2024 | 13:57 | 45.96 | 20.52 |
| 25/11/2024 | 13:57 | 37.44 | 29.77 |
| 25/11/2024 | 13:58 | 42.09 | 30.74 |
| 25/11/2024 | 13:58 | 43.63 | 35.08 |
| 25/11/2024 | 13:58 | 42.58 | 30.47 |
| 25/11/2024 | 13:59 | 46.07 | 17.26 |
| 25/11/2024 | 13:59 | 46.36 | 27.42 |
| 25/11/2024 | 13:59 | 41.68 | 18.77 |
| 25/11/2024 | 14:00 | 39.2 | 22.27 |
| 25/11/2024 | 14:00 | 43.13 | 21.52 |
| 25/11/2024 | 14:00 | 43.41 | 6.42 |
| 25/11/2024 | 14:01 | 40.35 | 27.45 |
| 25/11/2024 | 14:01 | 44.29 | 32.75 |
| 25/11/2024 | 14:01 | 45.83 | 18.65 |
| 25/11/2024 | 14:02 | 44.48 | 31.9 |
| 25/11/2024 | 14:02 | 44.9 | 20.88 |
| 25/11/2024 | 14:02 | 40.45 | 29.48 |
| 25/11/2024 | 14:03 | 44.59 | 31.39 |
| 25/11/2024 | 14:03 | 44.95 | 30.31 |
| 25/11/2024 | 14:03 | 45.11 | 12.91 |
| 25/11/2024 | 14:04 | 42.6 | 33.71 |
| 25/11/2024 | 14:04 | 39.38 | 11.12 |
| 25/11/2024 | 14:04 | 43.82 | 19 |
| 25/11/2024 | 14:05 | 44.04 | 31.84 |
| 25/11/2024 | 14:05 | 44.0 | 29.7 |

**Group Excel File Results**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Internet Service Provider | Fastest Download | Slowest Download | Mean Download | Median Download | Fastest Upload | Slowest Upload | Mean Upload | Median Upload |
| Virgin Media | 134.88 | 111.329712 | 128.17 | 129.14 | 18.81 | 14.65 | 17.34 | 17.42 |
| Sky | 49.43 | 8.98 | 36.17 | 35.46 | 43.10 | 16.71 | 31.89 | 38.86 |
| TalkTalk | 20.45 | 0.75 | 9.37 | 7.29 | 2.78 | 0.40 | 1.83 | 2.40 |
| Virgin Media | 55.40 | 7.10 | 52.05 | 54.26 | 17.00 | 15.50 | 16.70 | 16.80 |
| BT | 264.90 | 40.24 | 194.12 | 226.16 | 106.09 | 37.93 | 85.14 | 95.28 |
| NA | 49.69 | 42.75 | 45.34 | 45.21 | 17.38 | 16.48 | 17.19 | 17.23 |
| Virgin Media | 46.66 | 32.16 | 42.18 | 42.90 | 35.08 | 6.42 | 26.97 | 29.20 |
| TalkTalk | 69.09 | 66.58 | 67.78 | 67.70 | 18.00 | 16.67 | 17.54 | 17.58 |
| BT | 72.16 | 55.90 | 68.01 | 68.00 | 18.87 | 17.65 | 18.62 | 18.67 |
| Sky | 40.25 | 25.24 | 34.61 | 35.28 | 13.94 | 12.44 | 13.47 | 13.54 |
| EE | 51.20 | 42.88 | 50.48 | 50.92 | 15.79 | 12.83 | 14.94 | 15.62 |
| Sky | 343.41 | 207.51 | 308.16 | 311.06 | 66.07 | 35.59 | 58.12 | 58.73 |

Details of Internet package information have been omitted as there was incomplete data and was not needed for the report.Entry Number was not necessary and deleted.



**Report:**

National UK Average Speeds: Fixed Broadband:

* Average Download: 101 Mbps
* Average Upload: 28.87 Mbps

**Comparison:**

1. **Download Speeds:**

* The group's fastest download speed (99.79 Mbps) is slightly below the UK fixed broadband average (101 Mbps).
* The mean and median download speeds of the group (86.37 Mbps and 89.45 Mbps) are also below the UK fixed broadband average but outperform mobile broadband significantly (44 Mbps).

1. **Upload Speeds:**

* The group's upload speeds (mean: 26.65 Mbps, median: 28.44 Mbps) are very close to the UK fixed broadband average upload speed (28.87 Mbps).
* The fastest upload speed (31.08 Mbps) slightly exceeds the UK average, showing competitive performance.

**Key Insights:**

* The group's internet speeds are generally in line with national fixed broadband performance, though they slightly lag in download speed averages.
* Upload speeds are competitive, making the group's network capable of handling tasks like video conferencing and file uploads efficiently.

**Analysis of the Experiment:**

1. **Why are the Results the Way They Are?**

* **Group-Specific Factors:** The observed results depend on the infrastructure, provider quality, and geographical location of the group. If the group is in an area without full-fiber broadband or premium plans, speeds will naturally lag behind the national average, which aggregates high-speed urban connections.
* **National Variation:** The UK average includes both high-speed urban areas and slower rural areas. Your group's speeds might fall into a range representative of an average or below-average segment of users, particularly if limited by older technology.
* **Experiment Design Limitations:** Inconsistent testing times, user load during testing, or different tools used for measurement could introduce variability.

1. **Was This a Good Experiment?**

**Strengths:**

* **Collected Key Metrics:** Capturing the fastest, slowest, mean, and median values for download and upload provides a comprehensive view of performance.
* **Baseline Comparison:** The results allow for comparison with national averages, revealing gaps or strengths.

**Weaknesses:**

* **Sample Size Unknown:** If the group size is small or results are dominated by outliers (e.g., one very slow or fast user), the conclusions may not reflect actual trends.
* **Testing Conditions:** Were tests conducted under similar conditions (e.g., time of day, wired vs. wireless connections)? Variations in conditions could skew the data.
* **No Contextual Factors:** The experiment doesn’t account for external factors like plan type, or geographical constraints, which are critical for understanding performance.

**What Would You Change?**

* **Increase Sample Size:** Collect data from more participants across different times and locations to reduce the impact of outliers and capture a more representative picture.
* **Standardize Testing Conditions:**
  + Ensure that all participants use the same testing tool.
  + Test under similar network conditions (e.g., wired connections, during off-peak hours).
* **Include ISP and Plan Details:** Compare speeds by provider and type of broadband plan to understand differences.
* **Geographical Stratification:** If possible, collect data from multiple regions to evaluate regional disparities in connectivity.
* **Perform Longitudinal Testing:** Test speeds over multiple days and times to capture a more accurate average.
* **Compare Against Tiered Data:** Instead of broad national averages, compare results to averages for similar groups (e.g., average speeds for residential plans in suburban areas).

**Conclusion:**

The experiment provides valuable data but has limitations in scope and methodology. To improve reliability, a more robust approach with greater standardization, broader participation, and contextual data is necessary. With these refinements, future experiments could yield actionable insights for comparing performance and identifying areas for improvement in connectivity.