



Upload and sync files and folders faster with Dropbox

In our hands-on testing, Dropbox* took less time to sync and upload files and folders than three other popular options



Our world grows more and more interconnected every day, with many organizations' employees and clients scattered across the globe. In one 2023 survey of remote workers, 74 percent of respondents said their company operated across multiple time zones.¹ When teams can't work in the same place, they need fast, responsive tools to help enable collaboration and productivity.

To take a closer look at one set of collaboration tools, we traveled to Tokyo, Japan, and tested the speed of four popular cloud storage service offerings from Dropbox, Box, Google, and Microsoft.

We installed local versions of each application on two sets of laptops, one pair running Windows 11 Pro and one pair running Apple® macOS® 13.5.1 (Ventura).

We then timed how long it took each cloud service to transfer files and folders to and from the cloud and synchronize files between devices. Dropbox was faster than the competition in 69 out of the 84 total comparisons, including in areas such as uploading a large file and syncing edits to a 25MB file. With faster uploads and syncs, your team has fewer barriers to productivity.



Upload a zero-byte folder in 85% less time

vs. Microsoft solution we tested**



Sync a 100KB edit to a 25MB file across devices in 98% less time

vs. Box solution we tested***



Upload a 100MB folder in 67% less time

vs. Google solution we tested**



Upload a folder of 10K files in 92% less time

vs. Microsoft solution we tested**

IN TOKYO, JAPAN

*PT tested using the Dropbox Advanced plan, Microsoft OneDrive for business (Plan 1), Box Business, and Google Workspace™ Business Plus. Further details of the offerings we tested appear on page 2.

**On a Dell™ XPS 13 9315 laptop running Windows 11 Pro

***Between two 13-inch Apple MacBook Pro® 2022 laptops running macOS 13.5.1

How we tested

A team of PT engineers traveled to Tokyo, Japan, to complete our look at the performance of the four cloud storage services across the globe. In Tokyo, we conducted comparisons of the four service plans on matching sets of two device and operating system combinations:

- **PC:** Two Dell XPS 13 9315 laptops running Windows 11 Pro
- **Mac:** Two 13-inch Apple MacBook Pro 2022 laptops running macOS 13.5.1 (Ventura) using File Provider

We used the following plans of service when testing:

- **Dropbox Advanced**
- **Google Workspace Business Plus**
- **Box Business**
- **Microsoft OneDrive for business (Plan 1)**

For easier reading, we also refer to these plans of service as Dropbox, Google Drive, Box, and Microsoft OneDrive throughout the report.

84 individual comparisons of Dropbox vs. competitors



Device-to-cloud and cloud-to-device tests*

Upload and download a 100MB folder of 400 miscellaneous files distributed across 40 sub-folders

Upload and download a folder of 400 zero-byte files distributed across 40 sub-folders

Upload and download a 25MB file

Upload and download a 250MB file

*8 PC + 8 Mac tests = 16 tests x 3 competitors = 48 total comparisons



Device-to-cloud only tests**

Edit a 50KB local file and upload changes

Edit a 25MB local file and upload changes

Upload a local folder containing 10,000 1KB files

**3 PC + 3 Mac tests = 6 tests x 3 competitors = 18 total comparisons



Device-to-cloud-to-second-device tests***

Synchronize a 50KB file

Synchronize a 25MB file

Synchronize an edited 25MB file

***3 PC + 3 Mac tests = 6 tests x 3 competitors = 18 total comparisons

We ran these tests on both a Mac and a PC (or laptop set for syncing tests) and found that Dropbox offered the best overall performance, completing 69 out of the 84 individual comparisons more quickly than its three competitors. In this report, we review the results of each competitor in several key tests: uploading a 250MB file, a zero-byte folder, and a 100MB folder; uploading a folder with 10,000 files, syncing a 50KB file; and syncing an edit to a 25MB file. View the [science behind the report](#) to see results of all individual comparisons.

Note: The graphs in this report use different y-axis scales to keep a consistent size. Please be mindful of each graph's data range as you compare.

Move between tasks more easily with faster upload speeds

Unless you're in the same room with your teammates—increasingly rare in the days of distributed and hybrid workforces—you need to upload a file in order to share it. The faster the file uploads, the faster you can move on to other work, and the sooner your team or clients can get their eyes on what you've done. In Tokyo, Japan, we found that uploading a large file and three sizes of folders was faster with Dropbox than it was with Google Drive, Box, or Microsoft OneDrive.

Upload a 250MB file in less time

Teams doing work in audiovisual production and data analysis, among others, deal with large files every day. As just one example, a three-minute 4K video with a 10 Megabits per second (Mbps) bitrate is approximately 250 MB.² To collaborate with their teammates seamlessly or deliver files to clients with minimal waiting, they must be able to upload those files quickly.

We timed how long it took to upload a 250MB file to each service. Dropbox was the fastest on both operating systems, completing the upload in 23 percent less time than Microsoft OneDrive on the macOS system and 28 percent less time than Box on the Windows system. Even in the comparison with the smallest differential—comparing to Google Drive on Windows 11—Dropbox saved almost 10 seconds on this task.

Time to upload a 250MB file

Seconds | Lower is better

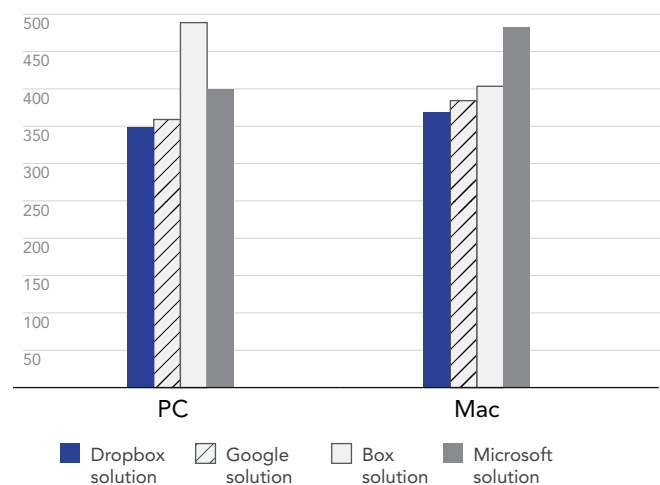


Figure 1: Median 250MB file upload times in Tokyo, Japan. Lower is better. Source: Principled Technologies.



Upload a zero-byte folder faster

Everyone knows the anguish of opening a folder to find a mess of hundreds of unorganized files. A sensible folder structure is practically a requirement for any organization dealing with very large numbers of files. Occasionally, you might need to upload an empty folder as a part of preparing for a new project or reorganizing an old one.

When we measured how long it took to upload a zero-byte folder to the four services, Dropbox was consistently the fastest. Compared to Box, it took 87 percent less time—which, on the macOS device, translated to over two-and-a-half minutes of time savings for Dropbox. Dropbox also saved over a minute compared to Box and Microsoft OneDrive on the Windows 11 device.

Upload a 100MB folder in less time

When users work on multiple documents or compile content from outside sources, they may need to share a folder containing many files, such as images, PDFs, PowerPoint presentations, and so on. To test this use case, we uploaded a 100MB folder.

Here, we saw the largest advantage for Dropbox when we compared against Google Drive on the Windows 11 system. This comparison yielded a time savings for Dropbox of over four and a half minutes. In a busy world where every minute matters, four and a half minutes is a substantial time to wait.

Time to upload a zero-byte folder

Seconds | Lower is better

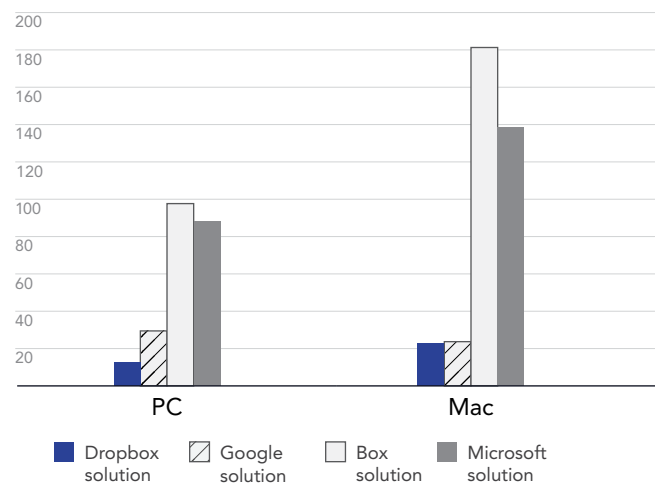


Figure 2: Median zero-byte folder upload times in Tokyo, Japan. Lower is better. Source: Principled Technologies.

Time to upload a 100MB folder

Seconds | Lower is better

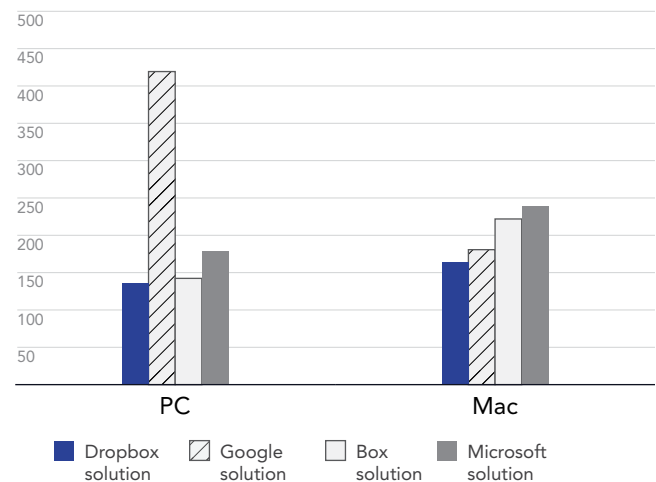


Figure 3: Median 100MB folder upload times in Tokyo, Japan. Lower is better. Source: Principled Technologies.



Upload a folder with 10,000 files in less time

Some teams, such as faculty groups at universities or sales teams, might frequently handle large folders containing many thousands of small files. The 1KB file size used in this test might be a very short email, half a page of unformatted text, an icon, or a small image button.³ We tested how long it took to upload a folder of 10,000 1KB files to each service and show the file as synced.

Dropbox was substantially faster than the three other services in this comparison. On both the macOS and Windows 11 systems, Dropbox completed the upload in under eleven minutes. The second-fastest time (Microsoft OneDrive on macOS) was a whopping 27 minutes, and the slowest of the group (Microsoft OneDrive on Windows) took over an hour and a half to complete the upload. Differences in seconds, as we saw in some of the other tests, can make a small real difference in your everyday work life—but having to wait over an hour and a half for an upload could cause a catastrophic breakdown in collaboration.

Time to upload a folder with 10,000 1KB files

Minutes | Lower is better

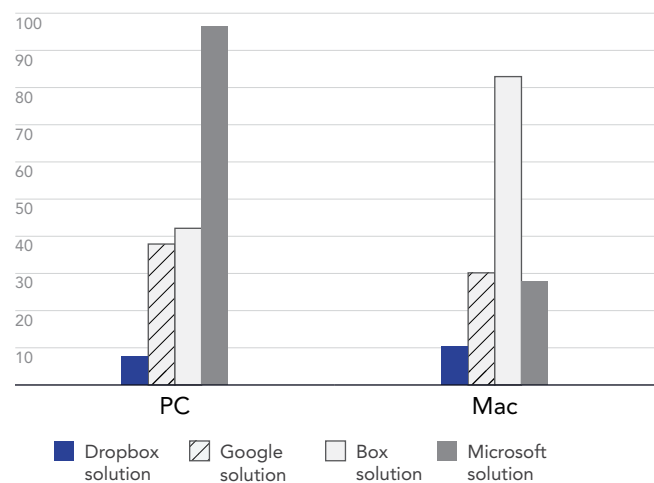


Figure 4: Median time to upload a local folder containing 10,000 1KB files in Tokyo, Japan. Lower is better. Source: Principled Technologies.

Sync files and edits more quickly for easier collaboration

In addition to our upload tests, we timed how long each cloud service needed to sync files from one device to another. To do this, we uploaded a 50KB file from one laptop and stopped the timer as soon as we could see that file on the second laptop. We also ran a test to represent a workflow with multiple people working on document edits. In this test, we inserted text edits into the 25MB file and timed how long it took for the edit to show up on the other laptop.

Dropbox was faster at syncing the 50KB file and the edit to the 25MB file than any of the three competitors. We saw the starkest contrast when we compared against Box. On macOS, Dropbox took less than seven seconds to sync the edit to the 25MB file, while Box required nearly six minutes. And on Windows, it took over a minute for Box to complete the 50KB sync, whereas Dropbox handled the task in less than five seconds.

Time to sync a 50KB file

Seconds | Lower is better

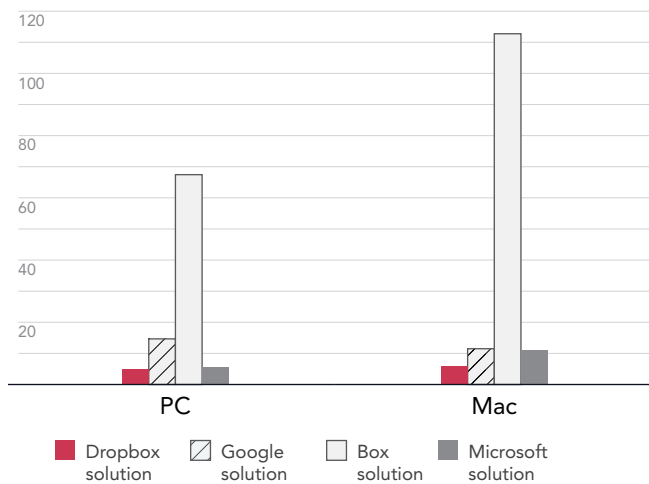


Figure 5: Median time to sync a 50KB file in Tokyo, Japan. Lower is better. Source: Principled Technologies.

Time to sync a 100KB edit to a 25MB file

Seconds | Lower is better

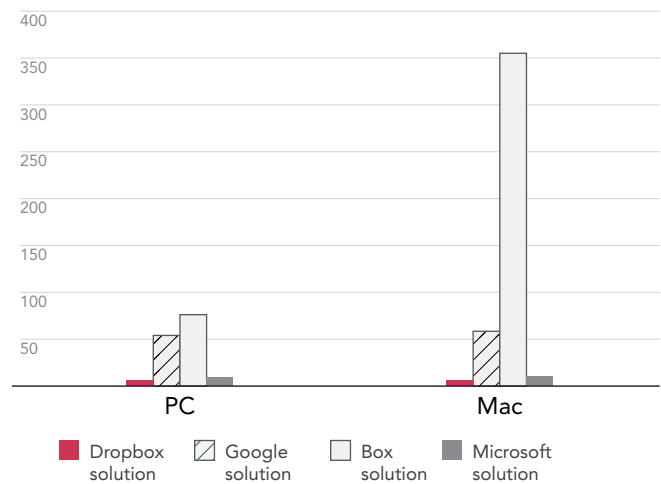


Figure 6: Median time to sync a 100KB edit to a 25MB file in Tokyo, Japan. Lower is better. Source: Principled Technologies.





Conclusion

Providing your users with speedy access to valuable content helps maximize efficiency and minimize time waste—especially when time matters. Plus, partnering with a capable and reliable cloud service provider has the added benefits of not having to purchase company-issued devices with extensive storage or invest in in-house servers and hardware to store all that data.

The Principled Technologies team in Tokyo, Japan found Dropbox beat Google Drive, Box, and Microsoft OneDrive in 69 out of 84 one-on-one match-ups. Our results highlight the advantages of using Dropbox on laptops running Windows 11 Pro and macOS 13.5.1 (Ventura) operating systems. This flexibility and speed can help boost employee productivity and improve your bottom line.

1. Buffer, “State of Remote Work 2023,” accessed October 10, 2023, <https://buffer.com/state-of-remote-work/2023>.
2. Circle HD, “How to Accurately Calculate Video File Size (Plus: Bonus Glossary),” accessed September 5, 2023, <https://www.circlehd.com/blog/how-to-calculate-video-file-size>.
3. GreenNet, “Understanding files sizes,” accessed August 29, 2023, <https://www.greennet.org.uk/support/understanding-file-sizes>.

Read the science behind this report at <https://facts.pt/CjKr6X2> ▶



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This project was commissioned by Dropbox.