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Boost user productivity by choosing Dropbox Business

Uploading, downloading, syncing, and previewing most files and directories took less time using Dropbox Business than major competitors

Cloud storage services allow users to access files across many platforms, but long wait times when uploading, downloading, syncing, and previewing files can frustrate users in addition to slowing their work pace.

Principled Technologies sent a team to Tokyo to test the speed of five popular cloud file storage services. Dropbox Business beat the competition in 98 out of 128 tests on laptops and mobile devices, finishing many common tasks more quickly than the others. For each cloud service, we uploaded and downloaded files and directories, edited files, and previewed files from mobile devices. When your cloud service consistently allows users to upload, download, sync, and preview faster (thus waiting less), you're enabling them to be as productive as possible.

This report details what we found in Tokyo and paints a picture of how your users can do more when your company chooses Dropbox Business.

Up to 5X faster
to upload a 25MB file on a laptop

Up to 19X faster
to sync a 100KB edit of a 25MB file on a laptop

Up to 9X faster
to sync a 100KB edit in a 25MB file from laptop to laptop

Creating a big picture from many combinations

We used Dropbox Business and four competing services (Google Drive,™ Microsoft® OneDrive® for Business, Box, and Amazon WorkDocs) to complete common file-sharing tasks on four device and operating system combinations:

- Dell™ XPS 13 laptop with Windows® 10 Pro
- 13" Apple® MacBook Pro® laptop with macOS® Sierra
- Samsung Galaxy S7® mobile device with Android™ 6.0.1
- Apple iPhone® 7 mobile device with iOS 10.3.1

We used the following plans of service when testing:

- Dropbox Business: Business Advanced
- Google Drive: G Suite Business
- Microsoft OneDrive for Business: Office 365® Enterprise E3
- Box: Business
- Amazon WorkDocs: WorkDocs

For more information on how we tested, see Appendix B.

Putting file size in perspective

We generated random text to fill the files we used in testing. These weren't random file sizes though. We chose sizes that may be relevant for organizations using cloud storage services. Here are some descriptions to put the sizes in context:

- 0 byte: No content
- 1 KB: "Half a page of unformatted text; a very short email; an icon or small button image"[1]
- 50 KB: 25,600 words or nearly 57 pages of single-spaced, 12-point text[2,3]
- 100 KB: "The maximum recommended total of all the elements on a single web page, including images and HTML"[4]
- 25 MB: The maximum attachment limit of an email in Gmail,™[5] the "approximate size of the 26-volume 1911 edition of *Encyclopaedia Britannica*"[6]
- 100 MB: The maximum size of a Google Slides presentation that you can store in Google Drive,[7] "the kind of mailbox size or .PST file size at which corruption becomes more likely"[8]
- 250 MB: The maximum file size limit for uploads to a free personal Box account,[9] a 15,750-page Microsoft Word document[10]
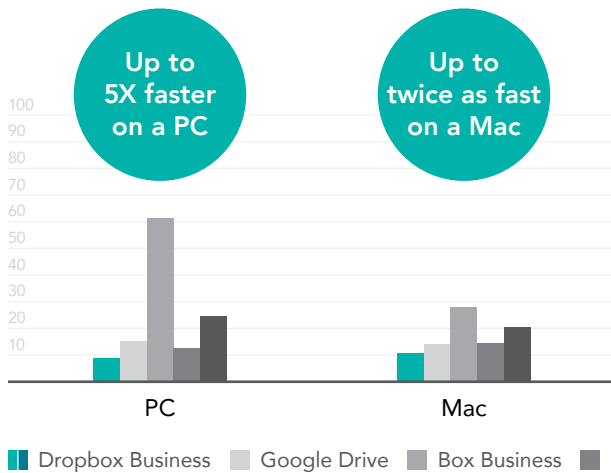
Spend less time uploading and downloading files and directories

25MB file upload

When we uploaded the 25MB file on the Windows 10 and macOS laptops, the biggest savings for Dropbox were in comparison to Box. Compared to Box, Dropbox uploaded the file 5 times faster and twice as fast respectively.
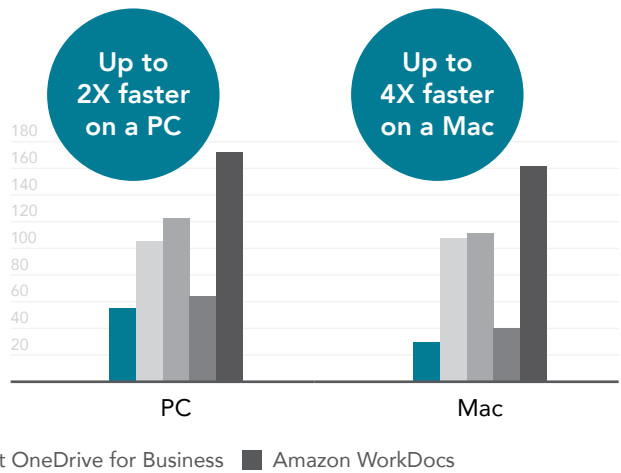
100MB directory download

The biggest advantage for Dropbox when downloading the 100MB directory came against WorkDocs. On the Windows 10 and macOS laptops, uploading the directory to Dropbox was 2 times and 4 times faster respectively.

25MB single file upload
Seconds (lower is better)

Up to 5X faster on a PC

Up to twice as fast on a Mac

- Dropbox Business
- Google Drive
- Box Business
- Microsoft OneDrive for Business
- Amazon WorkDocs

100MB directory download
Seconds (lower is better)

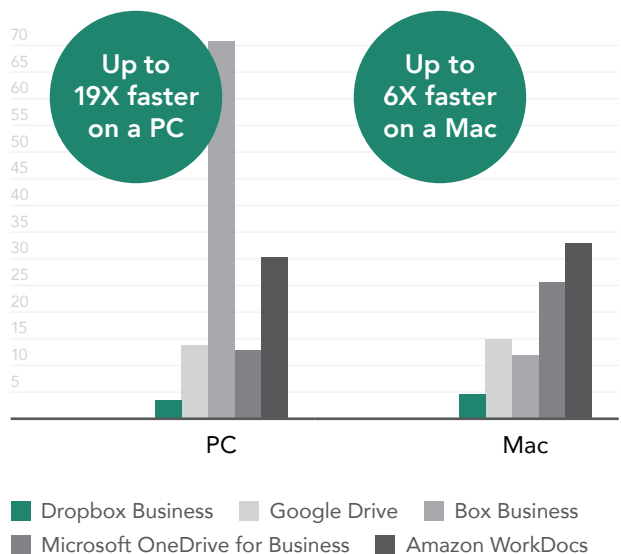Up to 2X faster on a PC

Up to 4X faster on a Mac

Spend less time waiting for edits to sync

We inserted text edits into a file on each cloud solution and timed how long it took for each solution to show the file as synced. On the Windows 10 laptop, Dropbox was 19 times faster than Box. The biggest Dropbox win for this task on the macOS laptop was against WorkDocs. Using Dropbox to complete the task was 6 times faster than with Box.

100KB edit to 25MB file
Seconds (lower is better)

Up to 19X faster on a PC

Up to 6X faster on a Mac

- Dropbox Business
- Google Drive
- Box Business
- Microsoft OneDrive for Business
- Amazon WorkDocs

Spend less time waiting for files to sync between devices

These tests measured how long it took each service to sync a recently uploaded file or edited file to a second laptop (end-to-end).

50KB file sync

Dropbox was 3 times faster than Google Drive when completing this task on the Windows 10 laptop.
On the macOS laptop, Dropbox 4 times faster than WorkDocs when showing the file as completely synced.

25MB file sync

The differences for Dropbox with this file were similar to those for syncing the 50KB file. On the Windows 10 laptop, Dropbox was 2 times faster than Google Drive when showing the file as completely synced. On the macOS laptop, Dropbox was 3 times faster than WorkDocs when completing this task.
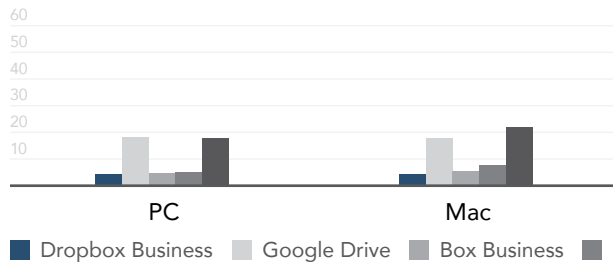
50KB end-to-end sync
Seconds (lower is better)
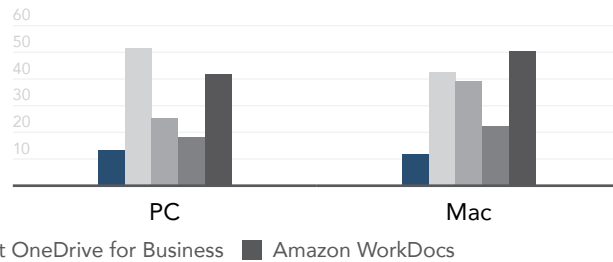
Up to 3X faster on a PC

Up to 4X faster on a Mac

PC   Mac

■ Dropbox Business   ■ Google Drive   ■ Box Business   ■ Microsoft OneDrive for Business   ■ Amazon WorkDocs

25MB end-to-end sync
Seconds (lower is better)

Up to 2X faster on a PC

Up to 3X faster on a Mac

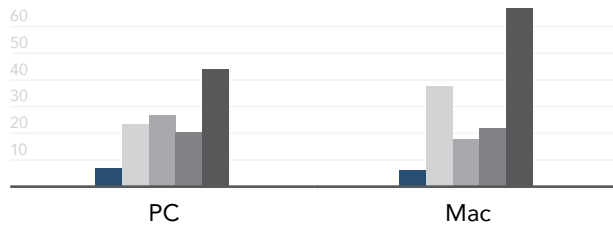PC   Mac

25MB end-to-end sync of 100KB edit
Seconds (lower is better)

Up to 5X faster on a PC

Up to 9X faster on a Mac

PC   Mac

25MB file sync of 100KB edit

Dropbox had the biggest advantage against WorkDocs on both laptops. Dropbox was 5 and 9 times faster on the Windows 10 and macOS laptops, respectively.

Conclusion

Choosing a consistently fast cloud storage service allows your users to upload, download, sync, and preview files to keep pace with business. The Principled Technologies team in Tokyo found Dropbox Business beat four of its rivals in 98 of 128 match-ups, and our results highlight the advantages of using Dropbox (see Appendix C for all our test results from Tokyo). The time savings show Dropbox is faster at most common tasks on popular laptops and mobile devices running Windows 10, macOS, iOS, and Android operating systems. This flexibility and speed can help your users be more productive, helping your organization in turn.

1   "Understanding files sizes," August 30, 2017, https://www.greennet.org.uk/support/understanding-file-sizes

2   "Kilobytes to Words Conversion Calculator," August 30, 2017, http://extraconversion.com/data-storage/kilobytes/kilo-bytes-to-words.html

3   "25600 Words to Pages," August 30, 2017, http://www.netbookasus.com/wordstopages/25600-words-pages.html

4   "Understanding files sizes," August 30, 2017, https://www.greennet.org.uk/support/understanding-file-sizes

5   "Send attachments with your Gmail message," August 30, 2017, https://support.google.com/mail/answer/6584?co=GE-NIE.Platform%3DDesktop&hl=en

6   "Understanding files sizes," August 30, 2017, https://www.greennet.org.uk/support/understanding-file-sizes

7   "Files you can store in Google Drive," August 30, 2017, https://support.google.com/drive/answer/37603?hl=en

8   "Understanding files sizes," August 30, 2017, https://www.greennet.org.uk/support/understanding-file-sizes

9   "Maximum File Size Limit for Uploads to Box," August 30, 2017, https://community.box.com/t5/How-to-Guides-for-Man-aging/Maximum-File-Size-Limit-for-Uploads-to-Box/ta-p/307

10 "How Many Pages per Gigabyte and Megabyte?," August 30, 2017, http://www.setecinvestigations.com/resources/tech-hints/Pages_per_Gigabyte.pdf

On July 24, 2017, we finalized the hardware and software configurations we tested. Updates for current and recently released hardware and software appear often, so unavoidably these configurations may not represent the latest versions available when this report appears. For older systems, we chose configurations representative of typical purchases of those systems. We concluded hands-on testing on August 4, 2017.

Appendix A: System configuration information

Laptops

System	13" Apple MacBook Pro (late 2016)	Dell XPS 13
Processor		
Vendor	Intel®	Intel
Model number	Core™ i5-6267U	Core i5-7200U
Core frequency (GHz)	2.9	2.5
Number of cores	2	2
Cache	4MB L3	3MB L3
Memory		
Amount (GB)	8	8
Type	LPDDR3	LPDDR3
Speed (MHz)	2,133	1,866
Integrated graphics		
Vendor	Intel	Intel
Model number	Iris Graphics 550	HD Graphics 620
Storage		
Amount (GB)	256	256
Type	PCIe®-based flash	PCIe-based flash
Connectivity/expansion		
Wired internet	N/A	N/A
Wireless internet	802.11ac	802.11ac
Bluetooth	4.2	4.1
USB	4 x 3.1 Type-C	2 x 3.0, 2 x 3.1 Type-C
Battery		
Type	Lithium-polymer	Lithium-polymer
Size	Integrated	Integrated
Rated capacity (Wh)	49.2	60

System	13" Apple MacBook Pro (late 2016)	Dell XPS 13
Display		
Size (in.)	13.3	13.3
Type	LED-backlit with IPS technology	FHD AG InfinityEdge display
Resolution	2,560 x 1,600	1,920 x 1,080
Touchscreen	No	No
Operating system		
Vendor	Apple	Microsoft
Name	macOS Sierra	Windows 10 Pro
Build number or version	10.12.6	1703 (10.0.15063 Build 15063)
BIOS		
BIOS name and version	N/A	Dell™ Inc. 1.2.3
Dimensions		
Height (in.)	0.59	0.33 – 0.6
Width (in.)	11.97	11.98
Depth (in.)	8.36	7.88
Weight (lbs.)	3.02	2.7

Smartphones

System	Apple iPhone 7	Samsung Galaxy S7
Processor		
Vendor	Apple	Qualcomm®
Model number	A10 + M10 coprocessor	Snapdragon™ 820
Core frequency (GHz)	2.34	2.15
Number of cores	4	4
Memory		
Amount (GB)	2 (built-in onboard)	4 (built-in onboard)
Storage		
Amount (GB)	32	32
Type	NAND Flash	UFS 2.0
Connectivity		
Wireless internet	802.11ac (802.11a/b/g/n compatible)	802.11ac (802.11a/b/g/n compatible)
Bluetooth	4.2	4.2

System	Apple iPhone 7	Samsung Galaxy S7
Battery		
Type	Lithium-polymer	Lithium-polymer
Size	Integrated	Integrated
Rated capacity	7.45Wh	3000mAh
Display		
Size (in.)	4.7	5.1
Type	LED-backlit widescreen Multi-Touch	Dual edge SuperAMOLED
Resolution	1,334 x 750	2,560 x 1,440
Operating system		
Vendor	Apple	Google
Name	iOS	Android
Build number or version	10.3.3	7.0
Dimensions		
Height (in.)	5.44	5.61
Width (in.)	2.64	2.74
Depth (in.)	0.28	0.31
Weight (oz.)	4.87	5.36

Appendix B: How we tested

We used two of each device: one to test Dropbox Business and the other to test each of the competing services. We recorded the time it took to complete each task with each service. We sequentially performed each task with each service on all applicable devices and at approximately the same time of day. We used 100Mbit+/s downstream connections. Only the device and service being tested was active and connected to the network, with all other devices and services fully closed. We performed each task three times and report the median.

Overview of tasks

We divided the test corpus into common cloud-storage use cases for laptops and mobile devices.

Laptop app tasks

- Uploading (device-to-cloud sync) and downloading (cloud-to-device sync) a 100MB directory of 400 random files distributed across 40 subfolders
- Uploading (device-to-cloud sync) and downloading (cloud-to-device sync) a directory of 400 zero-byte files distributed across 40 subfolders
- Uploading (device-to-cloud sync) and downloading (cloud-to-device sync) a random 25MB file
- Uploading (device-to-cloud sync) and downloading (cloud-to-device sync) a random 250MB file
- Editing a random 50KB local file and uploading changes (device-to-cloud sync)
- Editing a random 25MB local file and uploading changes (device-to-cloud sync)
- End-to-end synchronization (device-to-cloud-to-second-device sync) of a random 50KB file
- End-to-end synchronization (device-to-cloud-to-second-device sync) of a random 25MB file
- End-to-end synchronization (device-to-cloud-to-second-device sync) of edited changes to a random 25MB file

Mobile device app tasks:

- Loading subdirectory content
- Previewing a 500KB Word document
- Previewing a 25MB PDF

We considered each task complete when the file-sharing service indicated that the files are synced between the device and cloud. For each file-sharing service, we used the following indicators to determine when a sync was complete:

- **Dropbox Business:** On Windows, the Dropbox icon in the system tray displays a blue circle when a sync is in progress and a green check when files are synced. On macOS, the Dropbox icon changes to a sync symbol when a sync is in progress, and reverts to the Dropbox icon when files are synced. Clicking the icon of either laptop application version displays more information about sync progress. In the Dropbox folder in either Windows Explorer or macOS Finder, icons for individual files indicate sync status (either a green checkbox or blue sync-in-progress icon).
- **Google Drive:** The Google Drive icon in the system tray (Windows) or menu bar (macOS) animates while a sync is in progress and stops when files are synced. Clicking the icon displays more information about sync progress.
- **Microsoft OneDrive for Business:** The OneDrive cloud icon in the system tray (Windows) or menu bar (macOS) changes to show a sync indicator when a sync is in progress and reverts to its normal icon when files are synced. Clicking the icon displays more information about sync progress.
- **Box:** On Windows, the Box icon in the system tray displays a small yellow box in the bottom right of the icon when a sync is in progress. On macOS, the icon in the menu bar changes to a spinning sync icon when a sync is in progress. For both app versions, the Box icon reverts to its normal display when files are synced. Additionally, right-clicking the icon in the system tray (Windows) or left-clicking the icon in the menu bar (macOS) displays more information about sync progress, as does the Box sync app window when open.
- **Amazon WorkDocs:** The WorkDocs icon in the system tray (Windows) or menu bar (macOS) displays a circular sync when a sync is in progress. For both app version, the WorkDocs icon displays a checkmark when files are synced. Additionally, left-clicking the Amazon WorkDocs icon in the system tray (Windows) or menu bar (macOS) displays more information about sync progress.

App testing on Dell XPS 13 and Apple MacBook Pro laptops

Preparing to test

1. Using the make_rnd_file.sh script, generate as many 50KB, 25MB, and 250MB random test files as needed.
2. Using the make_mess_of_files.sh script, generate as many 100MB random test directories made up of 400 files split across 40 folders as needed.
3. To perform the edit file tests, install Python 2.7.8 from https://www.python.org/download/ on each laptop, and use the update_files.py script to modify 1KB of random data in the target file.
4. Install the Google Chrome web browser on each laptop.
5. At https://www.dropbox.com, create a Dropbox Business account (Business Advanced plan).
6. At https://gsuite.google.com/, create a G Suite account to use Google Drive.
7. At https://products.office.com/en-us/business/compare-more-office-365-for-business-plans, create an Office 365 Enterprise E3 account to use OneDrive for Business.
8. At https://www.box.com/, create a Box account (Business plan).
9. At http://aws.amazon.com/workdocs/, create a WorkDocs account.
10. Ensure that no upload or download rate limits have been set in the network settings for each sync client, and that LAN sync is disabled for Dropbox, with the exception of the three "end-to-end synchronization" tests.
11. Place the entire set of test files in the Documents folder on each laptop.
12. Connect the Dell XPS 13 laptop to a network through a wired connection with a downlink of at least 100Mb/s.
13. Connect the Apple MacBook Pro laptop to a network through a wired connection with a downlink of at least 100Mb/s.
14. For all tests, ensure that only the target application under test is running in memory on the test laptop and all other applications are fully closed.

Performing the tasks

Uploading and downloading a 100MB directory of random files

1. Open the desktop sync folder for the file-sharing service under test, and prepare the stopwatch.
2. Navigate to the Documents folder on the laptop.
3. Select the 100MB random test directory.
4. Simultaneously start the stopwatch and drag the 100MB random test directory onto the desktop sync folder for the file-sharing service under test.
5. When the directory has completely uploaded, stop the stopwatch.
6. Record this result as the 100MB random test directory upload.
7. Close the desktop sync client of the file-sharing service under test.
8. Open a browser, and navigate to the web interface of the file-sharing service under test.
9. Left-click a different 100MB test directory, drag it over the web interface storage folder, and drop it.
10. When the directory has completely uploaded, prepare the stopwatch.
11. Simultaneously start the stopwatch and re-launch the desktop sync client of the file-sharing service under test.
12. When the directory has finished syncing to the laptop under test, stop the stopwatch.
13. Record this result as the 100MB random test directory download.

Uploading and downloading a directory of 400 zero-byte files

1. Open the desktop sync folder for the file-sharing service under test, and prepare the stopwatch.
2. Navigate to the Documents folder on the laptop.
3. Select the directory of 400 zero-byte files.
4. Simultaneously start the stopwatch and drag the directory onto the desktop sync folder for the file-sharing service under test.
5. When the directory has completely uploaded, stop the stopwatch.
6. Record this result as the directory of 400 zero-byte files upload.
7. Close the desktop sync client of the file-sharing service under test.
8. Open a browser, and navigate to the web interface of the file-sharing service under test.
9. Left-click a different directory of 400 zero-byte files, drag it over the web interface storage folder, and drop it.
10. When the directory has completely uploaded, prepare the stopwatch.
11. Simultaneously start the stopwatch and re-launch the desktop sync client of the file-sharing service under test.
12. When the directory has finished syncing to the laptop under test, stop the stopwatch.
13. Record this result as the directory of 400 zero-byte files download.

Uploading and downloading a random 25MB file

1. Navigate to the Documents folder, and prepare the stopwatch.
2. Right-click the large random test file, and click Copy.
3. Navigate to the desktop sync folder for the file-sharing service under test.
4. Right-click the desktop sync folder for the file-sharing service under test, and simultaneously click Paste and start the stopwatch.
5. When the file has completely uploaded, stop the stopwatch.
6. Record the result as the large random test file upload.
7. Open a browser, and navigate to the web interface of the file-sharing service under test.
8. Prepare the stopwatch.
9. Left-click a different large random test file, drag it over the web interface storage folder, and drop file.
10. When the file has completely uploaded, start the stopwatch.
11. Navigate to the desktop sync folder for the file-sharing service under test.
12. Stop the stopwatch when the file has finished syncing to the laptop under test.
13. Record this result as the large random test file download.

Uploading and downloading a random 250MB file

1. Navigate to the Documents folder, and prepare the stopwatch.
2. Right-click the 250MB random test file, and click Copy.
3. Navigate to the desktop sync folder for the file-sharing service under test.
4. Right-click the desktop sync folder for the file-sharing service under test, and simultaneously click Paste and start the stopwatch.
5. When the file has completely uploaded, stop the stopwatch.
6. Record the result as the large random test file upload with 30-second interruption.
7. Open a browser, and navigate to the web interface of the file-sharing service under test.
8. Prepare the stopwatch.
9. Left-click a different 250MB random test file, drag it over the web interface storage folder, and drop the it.
10. When the file has completely uploaded, start the stopwatch.
11. Navigate to the desktop sync folder for the file-sharing service under test.
12. When the file has finished syncing to the laptop under test, stop the stopwatch.
13. Record this result as the 250MB random test file download.

Editing a random 50KB local file and uploading changes

1. Navigate to the desktop sync folder for the file-sharing service under test, and prepare the stopwatch. Ensure the file-sharing service under test contains the 50KB file and has synced it to the target device.
2. From the file-sharing service sync window, open the 50KB file.
3. Run the Python script that will place 1 KB of data in the middle of the file with random data.
4. Simultaneously press Enter and start the stopwatch.
5. When the file has completely synced, stop the stopwatch.
6. Record the result as the small random test file edit.

Editing a random 25MB local file and uploading changes

1. Navigate to the desktop sync folder for the file-sharing service under test, and prepare the stopwatch. Ensure the file-sharing service under test contains the 25MB file and has synced it to the target device.
2. From the file-sharing service sync window, open the 25MB file.
3. Run the Python script that will place 100KB of data in the middle of the file with random data.
4. Simultaneously press Enter and start the stopwatch.
5. When the file has completely synced, stop the stopwatch.
6. Record the results as the large random test file edit.

Performing end-to-end synchronization for a random 50KB file

For both laptops used in this test, ensure that LAN sync is enabled in the Dropbox client.

1. Prepare another laptop on the same local network by opening the desktop app of the file-sharing service under test. If the laptop under test is running Windows, the laptop on the other end should be the macOS laptop with the same app installed and vice versa.
2. On the system under test, navigate to the Documents folder, and prepare the stopwatch.
3. Right-click the small random test file, and click Copy.
4. Navigate to the desktop sync folder for the file-sharing service under test.
5. Right-click the desktop sync folder for the file-sharing service under test, and simultaneously click Paste and start the stopwatch.
6. Switch to the laptop app you set up in step 1.
7. When the small random test file shows up as synced on the remote desktop in the sync folder, stop the stopwatch.

8. Record the result as the small random test file end-to-end synchronization.

Performing end-to-end synchronization for a random 25MB file

For both laptops used in this test, ensure that LAN sync is enabled in the Dropbox client.

1. Prepare another laptop on the same local network by opening the desktop app of the file-sharing service under test. If the laptop under test is running Windows, the laptop on the other end should be the macOS laptop with the same app installed and vice versa.
2. On the system under test, navigate to the Documents folder, and prepare the stopwatch.
3. Right-click the large random test file, and click Copy.
4. Navigate to the desktop sync folder for the file-sharing service under test.
5. Right-click the desktop sync folder for the file-sharing service under test, and simultaneously click Paste and start the stopwatch.
6. Switch to the laptop app you set up in step 1.
7. When the large random test file shows up as synced on the remote desktop in the sync folder, stop the stopwatch.
8. Record the result as the large random test file end-to-end synchronization.

Performing end-to-end synchronization of edits to a random 25MB file

For both laptops used in this test, ensure that LAN sync is enabled in the Dropbox client.

1. Prepare another laptop on the same local network by opening the desktop app of the file-sharing service under test. If the laptop under test is running Windows, the laptop on the other end should be the macOS laptop with the same app installed and vice versa.
2. Ensure a 25MB random file has been uploaded to the file-sharing service under test and is synced to both devices.
3. Prepare the Python script that will place 100KB of random data in the middle of the 25MB random file, and simultaneously start the stopwatch and run the script on the file on the first laptop.
4. Switch to the second laptop.
5. When the edited file has finished syncing on the second laptop, stop the stopwatch.
6. Record the result as the end-to-end synchronization of edits to a random 25MB file.

Repeating the tests

After completing all of the tasks, reboot the system, and repeat the tasks twice with a new set of files. If the variability between the three test runs is particularly high, repeat the tests as many times as is practical to lower the variability.

Mobile testing on Galaxy S7 and iPhone 7 devices

Preparing to test

1. On each file-sharing service, create and place a 25MB PDF file.
2. On each file-sharing service, create and place a 500KB Word document.
3. On each file-sharing service, place the 100MB random file directory (400 files across 40 subfolders).
4. On each device, install the appropriate file-sharing service app.
5. Ensure no applications other than the app under test are running or loaded in memory on the device.

Performing the tasks

Loading subdirectory content

1. Open the app for the file-sharing service under test, and prepare the stopwatch.
2. Simultaneously tap the 100MB random file directory and start the stopwatch.
3. When the files and filenames in the subdirectory are visible and any syncing icons or indicators have finished, stop the stopwatch.
4. Record this result as the time to load subdirectory content.

Previewing a 500KB Word document

1. Open the app for the file-sharing service under test, and prepare the stopwatch.
2. Simultaneously tap the Word document and start the stopwatch.
3. When the document has completely opened and any syncing icons or indicators have finished, stop the stopwatch.
4. Record this result as the time to preview a 500KB Word document.
5. Verify that the document displayed correctly. Note any broken formatting or display problems.

Previewing a 25MB PDF

1. Open the app for the file-sharing service under test, and prepare the stopwatch.
2. Simultaneously tap the PDF file and start the stopwatch.
3. When the PDF has completely opened and any syncing icons or indicators have finished, stop the stopwatch.
4. Record this result as the time to preview a 25MB PDF.
5. Verify that the document displayed correctly. Note any broken formatting or display problems.

Repeating the tests

After completing all of the tasks, reboot the device, and repeat the tasks twice with a new set of files. If the variability between the three test runs is particularly high, repeat the tests as many times as is practical to lower the variability.

Appendix C: Detailed test results

macOS test results

macOS tests	macOS results (median time, seconds)				
	Dropbox	Google Drive	Box	OneDrive	WorkDocs
25MB single file upload	10.53	14.09	28.00	14.50	20.47
25MB single file download	10.97	10.19	21.81	12.62	12.82
100MB directory upload	36.41	68.50	92.50	84.47	310.38
100MB directory download	29.50	107.28	111.50	39.84	161.69
0-byte directory upload	13.41	68.78	95.91	106.94	246.72
0-byte directory download	14.22	99.00	87.03	28.34	130.16
1KB edit to 50KB file	2.12	9.93	1.78	2.94	15.91
100KB edit to 25MB file	4.54	15.00	11.84	25.60	32.91
50KB end-to-end sync	4.38	17.87	5.38	7.66	21.90
25MB end-to-end sync	11.69	42.50	39.22	22.34	50.46
25MB end-to-end sync of 100KB edit	6.19	37.75	17.94	22.03	66.82
250MB single file upload	52.22	49.34	45.82	80.68	64.22
250MB single file download	43.31	56.38	72.47	81.88	33.31

Windows 10 test results

Windows 10 tests	Windows 10 results (median time, seconds)				
	Dropbox	Google Drive	Box	OneDrive	WorkDocs
25MB file upload	8.88	15.09	61.50	12.71	24.59
25MB file download	15.72	12.72	20.35	33.07	14.00
100MB directory upload	41.69	98.50	113.91	82.35	372.75
100MB directory download	54.81	105.09	122.97	63.97	172.06
0-byte directory upload	18.78	73.31	96.16	110.78	250.07
0-byte directory download	27.38	91.94	114.19	36.06	145.90
1KB edit to 50KB file	2.31	8.94	2.56	2.53	29.47
100KB edit to 25MB file	3.47	13.84	70.69	12.82	30.31
50KB end-to-end sync	4.46	18.34	4.72	5.00	17.65
25MB end-to-end sync	13.22	51.75	25.19	18.21	41.84
25MB end-to-end sync of 100KB edit	6.87	23.56	26.72	20.50	44.12
250MB single file upload	57.97	64.28	104.56	58.15	58.58
250MB single file download	53.50	55.97	51.34	62.53	34.47

iOS test results

iOS tests	iOS results (median time, seconds)				
	Dropbox	Google Drive	Box	OneDrive	WorkDocs
Preview a subdirectory listing	1.18	1.50	2.34	2.16	0.96
Preview a 500KB Word document	2.28	1.79	2.41	2.72	2.12
Preview a 25MB PDF	6.19	13.44	11.81	6.47	5.81

Android test results

Android tests	Android results (median time, seconds)				
	Dropbox	Google Drive	Box	OneDrive	WorkDocs
Preview a subdirectory listing	0.66	2.09	1.93	1.69	0.91
Preview a 500KB Word document	2.97	7.68	4.03	7.91	2.38
Preview a 25MB PDF	7.06	10.72	13.5	7.03	10.94

This project was commissioned by Dropbox.

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