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Adobe DC and Device Transparency
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Introduction

At the April 2016 meeting, I gave a brief presentation on Adobe Document Cloud and an extremely brief overview of "device transparency." I was not well-prepared to give a complete overview of these related topics, so I felt I should follow up with an article to fill in what I did not cover.

Adobe Document Cloud

In Adobe's words, Adobe Document Cloud is "a set of integrated services that use a consistent online profile and personal document hub." The goal behind Document Cloud (DC for short) is to provide a means for users to create, review, sign, and track Adobe PDF documents. Documents may be stored on a desktop or mobile device, or uploaded to a cloud service provided by Adobe. The cloud service enables the user to access PDF documents from any device with an Internet connection and the Adobe Acrobat DC software. The cloud service is available for a 30-day trial, after which the user must pay for a subscription or a one-time fee.

The Adobe Acrobat DC program functions as Acrobat Reader in terms of opening and printing PDF documents and is free to use without the DC service, but it also includes support for DC services. Documents may be uploaded to the cloud for easy access from any other device with the Acrobat DC.

An eSign service is provided with every subscription to Adobe DC. Users may electronically send and sign documents from any device. A feature called Fill & Sign makes signing anything fast and easy and includes autofill across devices. The autofill feature allows you to pre-enter commonly entered information such as your name, address, and phone number, so you can quickly enter the information into a form without typing. You may also synchronize your electronic signature across the web.

The Mobile Link feature allows the user to move between desktop and mobile device, picking up where something was left off. A mobile app allows for creating, editing, commenting, and signing documents directly from a mobile device. It can also scan documents captured with camera and convert them to digital, editable forms that may be signed.

Lastly, a document management and control service allows the user to manage, track, and control documents. Visibility is provided as to where critical documents are along their process, including who has opened them and when. Lastly, sensitive information may be protected inside and outside the firewall for business or personal use.

Device Transparency

As computer users increasingly have multiple devices—laptops, desktop computers, tablets, smartphones—on which they keep important data, being able to seamlessly access a file from any location or device becomes a challenge. Say if you are on a business trip with your laptop and smartphone, but realize you forgot to copy a report from your desktop computer to one of your mobile devices, you may find it a challenge to get what you need. Remote control software such as LogMeIn can allow you to remotely connect to the computer to download the file you need. Dropbox provides a means of sharing files with yourself and others through a cloud-based storage. VPNs and collaboration services such as Microsoft SharePoint are other possibilities for getting access to a file you need while away from home or the office.

"Device transparency" (DT) is a concept which could provide a seamless means of managing your files from any of your devices. Whether you need to transfer a photo from a smartphone to your laptop, play a music file residing on a Mac PowerBook on your Android device, or access a Word document from home on your tablet computer, device transparency would make this all possible.

In a published [paper](), researchers with MIT and the Max Planck Institute for Software Systems describe how such an ideal service would function. (At the time of the paper's writing, there was no service they were aware of that provided all of these features they propose.) To summarize, the service would provide a means by which "metadata"—information about your files—would be shared between your devices. Such information would include the file types, names, and on which devices the files are stored. Without you needing to be consciously aware of where a particular file is located, you would be able to download the file from the device on which it is stored and open it on any other device you are using (provided it has sufficient storage space). The only requirement is that the device that has the file you need is "linked" into the file sharing service, is powered on, and has an active Internet connection.

Adobe DC to some extent has such features, although it is geared toward working with PDF documents. Services such as Dropbox are available for multiple devices and operating systems, so they can to some extent meet such needs, provided you carefully configure the software on each device to share the files you need. One downside to sharing your files through Dropbox is that they must be uploaded to the "cloud"—which is simply a server that the vendor provides for storing your files. This may be a privacy concern, depending on the contents of the files, and could be costly in terms of the amount of storage space required (especially if you have a large music or photo collection). DT would mitigate this issue, as the files would not be stored in the cloud. It would also alleviate the need of every one of your devices synchronizing copies of all your files. Instead, the sharing of metadata would enable every device to be "aware" of your complete collection of files, so you can download what you need when you need it. Although the metadata may require many megabytes of storage, it would not be nearly so great as the storage space for the files themselves—especially high-fidelity photos, movies, and music files—which could require hundreds or thousands of megabytes of storage.

Device transparency is an interesting concept which could revolutionize how we work without our multiple computing devices. I am interested in seeing if such a service is developed

sometime in the future. Depending how well-designed (easy-to-use) it is, and what measures are taken to protect users' privacy, I might consider using such a service for my laptop, desktop PC, and tablet computer.