Preparation of Papers on ANALYSIS OF DROPBOX APPLICATION ON WINDOWS 10

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*Index Terms*—forensics, dropbox, cloud.

# INTRODUCTION

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# TOOLS USED

* Blacklight 2018 3.1
* Access Data FTK Imager
* Oracle VM Virtual Box
* EnCase 8

# ENVIRONMENT SETUP

The researcher created a test Dropbox and Google account to upload dummy files (hereinafter, “Test Files”). The files uploaded were a JPEG, TXT, PDF, and ZIP file, which are ones typically used on the Dropbox cloud storage service.

The researcher created a new instance of a virtual machine on Oracle VM Virtual Box (hereinafter, “Virtual Box”). On this instance, the researcher installed Windows 10 Home from an ISO obtained from Microsoft. The researcher then powered on the virtual machine, allowed the setup and installation to complete, then powered it off. The state of the virtual machine at this moment will be referenced as “Clean VM”. The researcher imaged the Clean VM’s vmdk file using Access Data FTK Imager to create an E01 for examination.

The researcher then powered the virtual machine back on using a snapshot of the Clean VM to download and install dropbox. The investigator allowed for one minute to elapse before powering off the machine. The state of the virtual machine at this moment will be referenced as “Install VM”. The researcher imaged the Install VM’s vmdk file using FTK Imager to create an E01 for examination of the results of installing Dropbox.

The researcher then went onto the secondary device, logged into the Dropbox account in-browser, and deleted the Test Files, and closed the browser. The researcher then again powered on the virtual machine using a snapshot of the Install VM and allowed for one minute to elapse before powering off the machine for imaging. The state of the virtual machine at this moment will be referend as “Remote Deletion VM”. The researcher imaged the Remote Deletion VM’s vmdk file using FTK Imager to create an E01 for examination of the results of remote deletion of files from the Dropbox account.

# METHODOLOGY AND GOALS

The researcher took the following methodology

The goals of this research were to:

1. Determine what significant evidentiary files are created when dropbox is first installed onto a Windows 10 device.
2. Determine the effects of the initial Dropbox data sync when the account is first logged into.
3. Determine the effects of deleting Dropbox files from the research device, specifically to determine if the files are immediately deleted and, if so, what evidence is left.
4. How deleting the Dropbox files from a secondary device affects the Dropbox files on the research device; specifically looking at whether the files are deleted and if so, the time it takes for the deletion to sync.

# ANALYSIS OF DISK IMAGES

# ANALYSIS OF RAM

# ANALYSIS OF NETWORK ACTIVITY

# EXPECTED RESULTS VS ACTUAL RESULTS

# SUMMARY

# CONCLUSION

A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract in the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

Appendix

Appendixes, if needed, appear before the acknowledgment.

Acknowledgment

The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Use the singular heading even if you have many acknowledgments. Avoid expressions such as “One of us (S.B.A.) would like to thank ... .” Instead, write “S.B.A. thanks ... .” This work was supported in part by the U.S. Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here).

# References

**There are no sources in the current document.**

**Anthony Martinez** is native of Pasadena, CA. He is a student at the University of Southern California (USC) in progress of an undergraduate degree in computer science with an expected graduation date of May 2020.

He is currently an Undergraduate Teaching Assistant at USC for the Department of Computer Science and the Information Technology Program, specifically for an undergraduate software development principles course, a windows digital forensics course, and an advanced windows digital forensics course.

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