

School of Computing

[KH5036CMD]

Digital Forensic Expert Opinion

Investigation Report

Case Against: Informant: IAMAN

Case No: 1

**Report compiled by Hala Ahmed | 2300277 | 14762750 |
Coventry EHACS Student**

Dr. Haitham Ghalwash | Dr. Kareem ElDebassy

Coventry University Forensics Lab

Date of investigation 26/ 11/2025

Date report compiled 3/12/2025

Endorsement

The contents of this report are the result of an investigation undertaken by myself, and I hereby confirm that:

1. The investigation was conducted in accordance with the **UK ACPO principles**.
2. The software and hardware used to support this investigation were prepared and used in a manner designed to assure the forensic integrity of both the process and its outcomes.
3. The **opinions** presented at the end of this report are mine and mine alone and are based solely on the evidence found.

Signed by Hala Ahmed

[Hala Ahmed]

Date

[3/12/2025]

Executive Summary

Digital forensics is the process of digitally investigating a specific case to reach an outcome: either for incident response processes or court processes (Badman & Forrest, 2025). Therefore, any suspicious activity leads to a case; where the investigator follows some standard procedures to transform found artifacts, traces, into well trusted evidence. This report documents the process of investigation on a suspicious case, highlighted through the user's unusual behaviour on the suspect's workstation.

The employee named Iaman is suspected of data leakage; therefore, a 20GB windows disk image was statically acquired, on 16/11/2025 02:29 AM by Dr. Haitham and Dr. Kareem, for a strict digital forensics analysis, started at 24/11/2025 by Hala Ahmed, where forensics tools and python scripts were used for analysis. The investigation focused on determining whether the user had access to unauthorized data or not and whether the user transferred or leaked any confidential information.

After the analyses, the traces on the suspect's pc indicated that the user is a malicious insider actor, leaking confidential data. Artifacts such as encrypted files, files with mismatched extensions, file sharing directories, suspicious running process and finally web components and email all indicated an extremely abnormal behaviour highlighting the unworking hours.

Moving forward, the actual evidence found was mostly through his web interaction, email, and files. Concluding, the evidence, artifacts, analyses, and logic flow all proved the informant's malicious intent and disgruntles to the entity, resulting in leaking its confidential data.

Analysis Result:

- **positive suspicion:** Iaman leaked data

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1. Credentials of the Investigator

This report is presented to you by the upcoming investigator Hala Ahmed Sayed. Hala Ahmed is a year 5 ethical hacking and cybersecurity student at Coventry university. Hala has a 2-year experience in the cyber security field with almost 5 months experience in digital forensics. Qualified in university courses, extracurricular courses, and internships, hala is equipped with the necessary knowledge and hands on experience to perform a structured and deep digital forensic investigation.

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2. Objectives and Scope of Work

This report aims to portray the technical digital forensics analysis of a 20GB Disk Image, highlighting any artifacts found and the tools used. In addition to, it finalizes the case, reports the whole incident, summarizes the incident's analysis flow, and identifies the malicious user.

3. Deliverables

As mentioned previously, this report aims to document the deep analysis results performed on the given disk image. Therefore, the deliverables of this part consist of a digital forensic expert opinion investigation report for the given case.

4. Introduction

This report is a technical based project presented as a business report, where a suspicious 20GB disk image is taken from a user and goes under a strict digital forensics analysis to investigate the suspicious behaviour done on the user's PC. As studied, digital forensics is the process of digitally investigating a specific case to reach an outcome: either for incident response processes or court processes (Badman & Forrest, 2025); therefore, any suspicious activity leads

to a case, where the investigator follows standard procedures to transform found artifacts into well trusted evidence. Consequently, this project tackles and documents the process of a suspicious case, highlighted through the user's suspicious behaviour on the PC, which revolves around leaking a company's sensitive data, disregarding the data's CIA, the company's policies, and global standards. By following the digital forensics procedures, using Python scripts and the help of forensic tools, this report investigates the 20GB disk image thoroughly, analysing multiple areas such as registries, user behaviour, file system and application usage, partitions, browsers, emails, and more, while providing technical, detailed documentation along with the tools, flow, evidence, and methodology used in a business report format.

5. Case Background

As per the digital forensics process, the case almost went through identification, preservation, and acquisition already. Based on the initial information given, the case seems to be about an identified internal employee in an entity where the employee or user, in this case, is suspected of leaking the entity's sensitive information. Therefore, a full image was taken from the user's disk which is a static acquisition method, making the focus of this project analysis and reporting. The original image size is 20GB; however, the zipped image file is 5GB. Using the hashes method, the image was checked for its integrity then analysis took place. For more clarification, the investigation process and methodology will be mentioned in the upcoming report section.

6. Target Systems and Devices

The target system is 20GB disk image taken from the suspected employee's pc which belongs to the entity's system. It is a windows 7 machine with NTFS file system. Therefore, the investigation is done on involatile data; consequently, this investigations boundary consists of any volatile data: network, memory, ram, etc.

7. Investigation Methodology

- **Identification**

Physical Identification Assumption:

According to the behaviour of the user, the entity identified the user as a potential suspicious user by various assumed indicators: unfamiliar interactions with competitors, exclusive access to sensitive data, escalation privileges indicators, physical access and handling of the entity's storage devices, or any behaviour that may have a negative impact on the data or reputation of the entity. These observations result in a triggered decision of an official digital forensic investigation.

Digital Forensics Identification:

The user's powered off pc was identified as an evidence source. A raw data image in a .dd extension was taken from the user's pc.

- **Preservation**

As an evidence source was found, Dr. Haitham and Dr. Kareem documented the evidence source, the time, and the location of it. The evidence source was the informant's pc, the location was the entity's workstation, and the date and time were on 16/11/2025 after midnight: in the range of 12 till 2:28 AM. Exact details are documented in the chain of custody, found in the upcoming sections.

- **Collection**

The evidence source which is the pc was found powered off; therefore, the disk was fully and statically acquisitioned by Dr. Haitham and Dr. Kareem on 16/11/2025 02:29 AM. The acquisition process followed all the standards, such as the ACPO, and ethical considerations, while still being documented in the chain of custody.

- **Examination and Analysis**

For accuracy, the disk image taken went through deep analysis where it was verified that the image is not corrupted. Then analysis on core areas such as the operating system, files, web activity, email and browser were performed. After the analyses was done, it is decided if the user is at fault or not.

- **Documentation**

In this step, Hala which is this case's investigator wrote a technical report where the documentation of the analyses, the processes followed, the specific accessed information, etc were all reported. This report then was submitted to Dr. Haitham and Dr. Kareem for a quick analysis before submitting an official opinionated report, ensuring accuracy.

- **Reporting**

This report is the official digital forensics report, where it presents the flow of the incident, the analysis, and the final findings of the case. As the report aims for transparency and compliance, it offers the entity a finalized picture what happened, how, where, when and who.

8. Chain of custody

**Coventry Police Department
EVIDENCE CHAIN OF CUSTODY TRACKING FORM**

| Field | | Details |
|---------------------|----------------------------|---------|
| Case Number | 1 | |
| Offense | Data Leakage | |
| Submitting Officer | Hala Ahmed (ID: 202300277) | |
| Victim | Entity | |
| Suspect | Employee / Informant | |
| Date Time Seized | 16/11/2025 at 02:29 AM | |
| Location of Seizure | The Knowledge Hub | |

| Description of Evidence | | |
|-------------------------|----------|--|
| Item # | Quantity | Description of Item (Model, Serial #, Condition, Marks, Scratches) |
| 1 | 1 | 20GB Raw Disk Image: static acquisition, excellent condition |

| Chain of Custody | | | | |
|----------------------------------|----------------------|---|-------------------------------|----------|
| Action | Date/Time | Done by (Signature & ID#) | Received by (Signature & ID#) | Status |
| Disk Image Static Acquisition | 16/11/2025 02:29 AM | Dr. Kareem EL Debassy Dr. Haitham Ghalwash | Hala Ahmed 2300277 | Normal |
| Downloaded the zipped file image | 24/11/2025 9:09 pm | Hala Ahmed 2300277 | - | Normal |
| Extracted the zipped file image | 24/11/2025 11:28pm | Hala Ahmed 2300277 | - | Normal |
| FTK Hash Verification | 25/11/2025 2:23am | Hala Ahmed 2300277 | - | Normal |
| Manual Hash Comparison | 25/11/2025 2:30am | Hala Ahmed 2300277 | - | Normal |
| Quick FTK Manual Analysis | 25/11/2025 2:42 am | Hala Ahmed 2300277 | - | Normal |
| PowerShell Hash Comparison | 25/11/2025 3:00 am | Hala Ahmed 2300277 | - | Normal |
| Autopsy Mounting | 25/11/2025 3:10-3:50 | Hala Ahmed 2300277 | - | Normal |
| Autopsy Case Creation | 25/11/2025 4:50 am | Hala Ahmed 2300277 | - | Normal |
| Autopsy Quick General Analysis | 25/11/2025 8:00am | Hala Ahmed 2300277 | - | Moderate |

| | | | | |
|---|------------------------|----------------------|-------------------------|------------|
| Disk Editor Partition Analysis | 25/11/2025 10:00am | Hala Ahmed 2300277 | - | Normal |
| Registry Viewer: Hives Analysis | 25/11/2025 3:00pm | Hala Ahmed 2300277 | - | Moderate |
| Autopsy User List Analysis | 25/11/2025 3:30pm | Hala Ahmed 2300277 | - | Normal |
| Python Script Task 1 Done | 25/11/2025 5:00pm | Hala Ahmed 2300277 | - | Normal |
| Autopsy Web Browser Analysis | 25/11/2025 6:48pm | Hala Ahmed 2300277 | - | Suspicious |
| Autopsy Email Client Analysis | 25/11/2025 6:58pm | Hala Ahmed 2300277 | - | Normal |
| Software Hive Analysis | 25/11/2025 7:10pm | Hala Ahmed 2300277 | - | Suspicious |
| Linked Email Account Analysis | 25/11/2025 7:20pm | Hala Ahmed 2300277 | - | Suspicious |
| MRU Analysis | 25/11/2025 8:00pm | Hala Ahmed 2300277 | - | Suspicious |
| NTUSER.DAT Analysis | 25/11/2025 8:12pm | Hala Ahmed 2300277 | - | Suspicious |
| Security.evtx Analysis | 25/11/2025 11:35pm | Hala Ahmed 2300277 | - | Suspicious |
| Command Line Activity Analysis on Security.evtx, NTUSER and Autopsy | 26/11/2025 12:00 am | Hala Ahmed 2300277 | - | Suspicious |
| USB Analysis Done Autopsy | 26/11/2025 8:00am | Hala Ahmed 2300277 | - | Suspicious |
| Mail Analysis Done Autopsy | 26/11/2025 8:30am | Hala Ahmed 2300277 | - | Malicious |
| Cloud Analysis Done Autopsy | 26/11/2025 8:50am | Hala Ahmed 2300277 | - | Malicious |
| Web Analysis Done | 26/11/2025 9:15am | Hala Ahmed 2300277 | - | Suspicious |
| Python Script Task 2 | 26/11/2025 10:00am | Hala Ahmed 2300277 | - | Moderate |
| File Analysis Done Autopsy | 26/11/2025 2:00pm | Hala Ahmed 2300277 | - | Malicious |
| Browser History Analysis Done Autopsy | 26/11/2025 3:13pm | Hala Ahmed 2300277 | - | Malicious |
| Email Analysis Done Autopsy | 26/11/2025 8:00pm | Hala Ahmed 2300277 | - | Malicious |
| Shared Files Analysis Done Autopsy | 26/11/2025 8:43pm | Hala Ahmed 2300277 | - | Malicious |
| Shared Files Analysis Done Autopsy | 26/11/2025 11:00pm | Hala Ahmed 2300277 | - | Malicious |
| Technical Report | 26/11/2025 11:59pm | Hala Ahmed 2300277 | Dr. Kareem, Dr. Haitham | Normal |
| Business Report | 4/12/2025 11:59pm | Hala Ahmed 2300277 | Dr. Kareem, Dr. Haitham | Normal |

Illustrations 1,2: documents the case's digital forensics process

9. Evidence

As mentioned previously, the only tangible evidence was the disk image. Therefore, the disk image went through integrity verifications (using the hash values) and then deep forensics analysis where every component was analysed, documented, and related to the case.

Notes:

- The digital forensics image was verified, containing a hash of “a49d1254c873808c58e6f1bcd60b5bde” for the MD5 hash algorithm and “afe5c9ab487bd47a8a9856b1371c2384d44fd785” for the SHA1 hash algorithm.
- The table below shows the evidence details where it contains the evidence ID, evidence item, description, and quantity.

| Evidence ID | Evidence Item | Description |
|-------------|----------------------------------|---|
| 1 | Disk Image | Physical image of Informant's pc: 1 |
| 2 | Registry Hives | SAM, SYSTEM, SOFTWARE, NTUSER.DAT files |
| 2A | Registry Hives Traces | <ol style="list-style-type: none"> 1. Users on the system: 6 2. Installed web browsers: 2 3. Email clients: 2 4. Linked email accounts: 2 5. Most Recently Used: 46 documents and 95 running programs 6. anti-forensics apps and executable files: 3 7. Secret Folder: 1 8. Resignation letter model: 1 |
| 3 | User Behavior Retracement Traces | <ol style="list-style-type: none"> 1. Non-working hours log in 2. Privilege escalation access |
| 4 | Unauthorized Data Access | <ol style="list-style-type: none"> 1. USBS detection: 16 & 2 physical 2. Mail: 2 clients and 2 accounts 3. Cloud: 2 |
| 5 | Web Activity | <ol style="list-style-type: none"> 1. Chrome, IE history: many 2. Bookmarks referencing leakages: many |

| | | |
|----------|-------------------|--|
| | | <ul style="list-style-type: none"> 3. Suspicious Cache file behavior: many 4. Anti-forensics, theft, and malicious methods documents: many 5. Websites documents: many 6. Unethical URLs: many 7. Executable malicious files: 4 |
| 6 | Email Client Data | <ul style="list-style-type: none"> 1. Outlook Files 2. Outlook ongoing Emails: 14 3. Synchronization logs: 2 |
| 7 | File Activity | <ul style="list-style-type: none"> 1. Encrypted Files: 13 2. Extension mismatched files: 77 3. Anti-forensics documents and tools: many 4. Virtual machine set up: 1 |
| 8 | Recycle Bin Files | <ul style="list-style-type: none"> 1. Deleted items stored in the Recycle.Bin: 10 2. Executable files: 2 |
| 9 | Cloud Artifacts | <ul style="list-style-type: none"> 1. iCloud and Google Drive are both used, but can't access them because of outdated version. 2. Synchronization logs: 2 |

10. The Forensic Workstation and Examination Tools

The forensic workstation in this project is the secure and isolated investigator's, hala, computer environment where the given DD disk image is analysed on. The laptop is from Excalibur: a gaming laptop brand; it is considered a gaming laptop with an SSD disk, windows 10 operating system, NTFS file system, and 2 allocated partitions. It was configured to avoid any alteration of the original evidence and contained the original license and tools needed to perform the required forensic tasks like Autopsy to examine the disk's data, hashing tools to detect integrity violations, and registry tools to investigate the hives files. All the tools used are listed with their usage below.

| No. | Tool | Usage |
|----------|-----------------|---|
| 1 | FTK Imager | Automatic hash checking and quick manual analysis |
| 2 | PowerShell | Hash checking |
| 3 | Visual Studio | Writing and running Python scripts |
| 4 | Autopsy | Full analysis of all evidence |
| 5 | Registry Viewer | Registry hive analysis |

| | | |
|----------|------------------|-----------------------------|
| 6 | Event Viewer | Security.evt file analysis |
| 7 | Disk Editor | Disk and partition analysis |
| 8 | GitHub | Code version control |
| 9 | Microsoft Office | Report preparation |

Tables 1,2: showcases the evidence and tools used and analysed

11. Evidence Analysis

Introduction: pc's components

As the analyses of the disk is done, it was found that the user is guilty through various evidence. Starting with the operating system, it was found that the user's pc, named informant pc, is a windows 7 operating system with an eastern standard time, a NTFS file system, and a disk, divided into 4 MBR partitions: 2 unallocated and 2 allocated. The 2 allocated partitions were divided on the operating system files and the data itself.

Registry Files:

Moving forward, the registry files or systems files were analysed, extracting the number users which is 6, the installed web browsers and email clients which contained google chrome, internet explorer, outlook, and windows email. As email clients were found, the case went through linked email accounts which showed two emails: iaman.informant@nist.gov.ost and spy.conspirator@nist.gov; these emails indicated data leakage. After this suspicion, the running processes were checked to confirm if Iaman is sending or just receiving an intentional malware. On the case time interval which is from 22 of march till 25th 2015, there is 46 recent documents and 95 run programs. The suspicious behaviour revolved around the secret project folder and the resignation letter document. The secret project folder consists of pricing decisions, design concept, proposal, and final meeting ppt. All these documents seem to be work related documents that are saved in folder called "secret", indicting a suspicious behaviour from the user. Regarding the running programs on 25/3/2025, some programs were

unsuspicious such as chrome, Microsoft office components, system files. On the other hand, there were suspicious programs such as eraser, cleaner and "DEVICEDIPLAYOBJECTPROVIDER.E" which took place starting from 24/3/2015 at 23:02:47 till 25/3/2015 at 17:13:30.

Note:

Based on the previous analyses, it was highlighted that the user is not satisfied with his job which was highlighted through the resignation document; therefore, the possibility of him committing this leakage is higher. Consequently, the user behaviour is retracted and analysed.

User Behaviour Retracement

Under suspicion, the user's pc went under analyses for user behaviour retracement which contained logging in and logging out, command line activity, application and file usages, and signs of unauthorized data access. This step was done to confirm the leakage's time to help in the investigation process by narrowing it down. After filtering the user's access logs, there are 3 main logs related to the task: logon, logoff, special logon. Special logon is logon log but with higher privileges. There are 4 days in the logs: 22nd, 23rd, 24th and 25th of march, 2015; each day contained all the 3 types of logouts mentioned. The user was found accessing the system and expanding his privileges in non- working hours. The table below highlights the exact access type, time and logout time.

| Date | Logon (4648) Time Range | Logoff (4634/4647) Time Range | Special Logon (4672) Time Range |
|-----------|--------------------------|-------------------------------|---------------------------------|
| 3/22/2015 | 4:34:28 PM – 5:57:54 PM | 4:38:15 PM – 6:00:08 PM | 4:34:24 PM – 5:45:45 PM |
| 3/23/2015 | 7:24:41 PM – 11:23:27 PM | 11:02:53 PM | 7:24:24 PM – 10:01:02 PM |
| 3/24/2015 | 3:21:44 PM – 8:28:38 PM | 8:28:38 PM – 11:07:25 PM | 3:21:36 PM – 10:58:52 PM |
| 3/25/2015 | 3:06:08 PM – 4:45:59 PM | 4:45:59 PM – 5:30:57 PM | 12:15:37 PM – 5:18:54 PM |

Table 3: documents the user pcs' accessing process

Unauthorized data access:

After these traces especially the privilege escalation, the pc went under data transfer analysis where the USBS, mails and cloud were analysed. Using the same time intervals from 22nd till 25th, 16 USB devices were detected. The USBS detected are divided into 2: virtual and physical. The 2 physical USBS found belong to SanDisk and they were last accessed on 24/3/2015 at 21:38:09 EET and 15:38:00. The virtual devices are virtual USB Hub and virtual mouse; these are considered hardware in a virtual machine. Moving forward, there were 14 emails sent in the time range settled for the case: from 23/3/2015 at 19:29:29 EET till 25/3/2015 at 17:01:55pm. All the emails are between the 2 linked accounts already mentioned, Iaman and the spy, and the body of the emails confirms data leakage as emails are asking for data and different data transfer methods including USBS, cloud: google drive and iCloud, and email. The email scripts are provided in the exhibits section below.

File Activity:

Regarding file analysis, there are 10 deleted files stored in the recycle bin. Their extensions vary from .jpg to .ini and .exe. All the files seem suspicious as images are placed in an abnormal path which is not done except if the images or files are transferred. Additionally, there is a IE11-Windows6.1-x64-en-us.exe which is an executable file for Internet Explorer 11 installer. It should not be in this path, and it might carry malware or data as a disguise. Moving forward, a forensics information pdf from 2012 was found highlighting that the user's mindset is open to malicious acts and is aware of digital forensics including its precautions. Additionally, another file with a description of "Data Leakage -Threats and Mitigation" was found in the same case time interval: 23/3/2015 at 18:02:17 EET. In addition to, there were multiple files

with 77 mismatched extensions, 13 encrypted, and many unallocated all in the same case time interval: 22/3/2015 till 25/3/2015.

Web Activity:

Using forensics tools, the web elements including history, search and downloads are all analysed and documented in this section. The browser history consisted of suspicious URL which included deleted .exe file and data leakage cases, methods, techniques search. In addition to on 23/3/2015 at 20:02:17EET, the user also searched anti forensics techniques which shows his previous understanding in forensics as highlighted previously. Concepts including leaking methods, previous leakage cases, intellectual property theft, cloud storage (to know where the data should be transferred), anti-forensics techniques, deleting data techniques, encrypted folders, js and dll files were all searched on 22/3/2015 and implemented on his pc on different dates, but still in the case's time interval.

Moving to the web downloads, there are 9 files downloaded. 5 of them are downloaded from clouds and were also accessed during non-working hours: on 23/3/2015 with a time interval from 21:55:47 EET till 21:56:30 EET. Applications such as eraser and executable files were also downloaded which highlights the user's implementation of his search.

Email Analysis:

There are 14 emails sent and replied to from the informant and the spy. The first email documented was received from spy.conspirator@nist.gov on 23/3/2015 at 19:29:29 EET. Through the time interval of 21:15:00 till 22:41:22EET, emails are being sent from both clients. All the emails tackled data leakage files, methods (such as USBS, clouds and personal email), detection warnings, cloud links, and more information request. Additionally, the informant used a trick where he synchronizes the logs while sending data; therefore, the

sent data won't be detected which shows his malicious intent and his knowledge on digital forensics as highlighted through his downloads and search. A through script for the emails is written on notepad and is documented in the upcoming exhibits section.

Shared Files Analysis:

After concluding that the user is transferring data over the cloud, the shared files which include google drive and iCloud were analysed to view the sent documents as the synchronization trick and outdated version does not allow viewing the documents. The found documents were either allocated with no suspicious rate and unallocated with high suspicious rate. Regardless, it is proven through the email conversations that one of the data's leakage methods was through the user's drive.

12.A Graphical Timeline of the incident

Due to technical issues, the graphical timeline is converted into a table, but it still includes all the data needed with the dates.

Incident Timeline

| Timestamp | Details |
|---|--|
| 22 Mar 2015 - Initial Recognition | <ul style="list-style-type: none"> • Searches on data leakage, anti-forensics • Government website access • Encrypted folder browsing |
| 23 Mar 2015 - First Spy Contact | <ul style="list-style-type: none"> • "Hello, Iaman" email received • Informant replies "Successfully secured" • Google Drive exfiltration links sent • Anti-forensics research escalates |
| 23 Mar 2015 - System Activity | <ul style="list-style-type: none"> • Secret Project folder accessed • Resignation letter accessed • MRU list updated • IP theft research via browser (hiding traces method) |
| 24 Mar 2015 - USB & Cleaner Activity | <ul style="list-style-type: none"> • Two SanDisk USB devices connected • Deleted files in transfer path • Presence of CCleaner / Eraser • Spy requests additional data |
| 24 Mar 2015 - File Interaction | <ul style="list-style-type: none"> • VM-related files found • Encrypted files appear • Suspicious Temp folder mismatches |
| 25 Mar 2015 - Synchronization | <ul style="list-style-type: none"> • Mailbox synchronization • Multiple sync events/minute • Evidence of covert email exfiltration |
| 25 Mar 2015 - Cleanup & Hiding | <ul style="list-style-type: none"> • Deleted installers (IE11, RJEMT.exe) • Hidden browser cache references • Anti-forensic wiping techniques |
| 21 Apr 2015 - Disk Image Creation | <ul style="list-style-type: none"> • Disk image metadata acquisition |

INVESTIGATOR'S FLOW

16

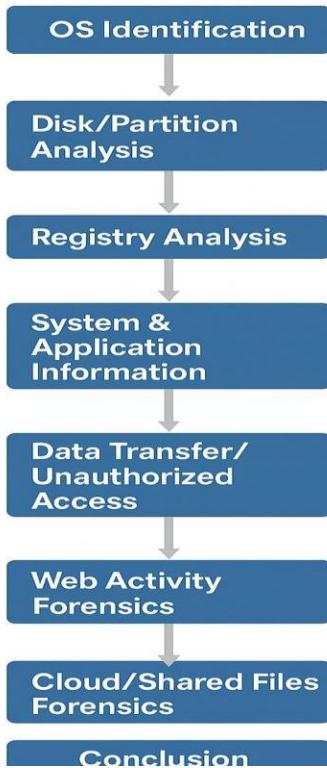


Illustration: showcases a graphical flow of the investigators process

13. Summary and Finding in Relation to the Case.

Based on the findings in the case, the investigator, hala, believes that Iaman which is the informant is working in an entity where he's not comfortable or happy could be due to personal reasons or financial reasons. Being disgruntled was highlighted through the resignation form he had saved on his pc. Therefore, the first point is that he's not happy and wants to leave. Moving forward to the leakage evidence found, it is also relational with his environment. It is not known if the user gets money from leaking the data or better work experience, but in any case, the user gets gifted for leaking the data. This satisfies the user's psychology and physical needs which makes him happy, but unethical and a traitor. Concluding, Iaman, the entity's informant, is intentionally leaking confidential data to a spy through various data transfer which includes USBS, emails, clouds and lastly directly from the server; to gain more money, the informant did not comply with the entity's policies, global standards and regulations and finally the ethical human mindset. Please be noted that the informant retrieved the resignation paper he did on 24/3/2015 at 8:00 pm which is after his conversation with the spy on their last request.

This incites guilt and fear; therefore, this report is presented to you without any escalation processes; however, upon your approval, any legal action towards Iaman could be taken.

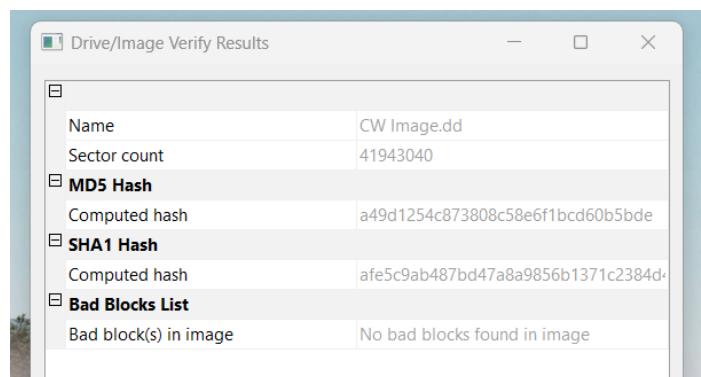
14. References

1. Badman, A., & Forrest, A. (2025, November 17). *What is digital forensics?* IBM. <https://www.ibm.com/think/topics/digital-forensics>
2. Editor, C. C. (n.d.-b). *Chain of custody - glossary:* CSRC. CSRC Content Editor. https://csrc.nist.gov/glossary/term/chain_of_custody
3. Special logon. What2Log. (n.d.). <https://what2log.com/windows/logs/win10speciallogon/>
4. nist.gov. (2015, June 5). Data leakage case. CFReDS. https://cfreds-archive.nist.gov/data_leakage_case/data-leakage-case.html

15. Exhibits

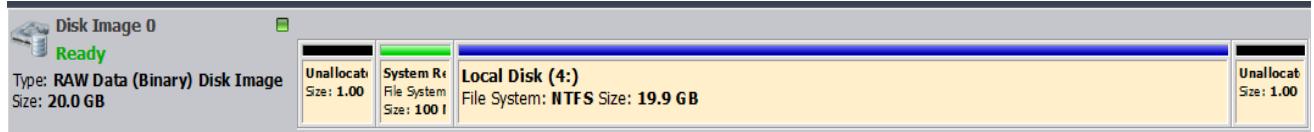
In this section, all the screenshots and visual evidence is presented for each section.

1. Image Hash Verification:



```
PS C:\Users\HALA AHMED> Get-FileHash "C:\Users\HALA AHMED\Desktop\year 2\sem 1\Digital Forensics\CW Disk Image\CW Image.dd" -Algorithm MD5
Algorithm      Hash
-----        -----
MD5          A49D1254C873808C58E6F1BCD60B5BDE
Path          C:\Users\HALA AHMED\Desktop\year 2\sem 1\Digital Forensics\CW Dis...
```

2. Disk Analysis



| Partition | Bootable | Type (Hex) | Start Sector | Total Sectors | Start Offset (bytes) | Approx Size |
|-----------|----------|------------|--------------|---------------|----------------------|-------------|
| 1 | True | 0x07 | 2048 | 204800 | 1,048,576 | 0.10 GB |
| 2 | False | 0x07 | 206848 | 41,734,144 | 105,906,176 | 19.90 GB |
| 3 | False | 0x00 | 0 | 0 | 0 | 0.00 GB |
| 4 | False | 0x00 | 0 | 0 | 0 | 0.00 GB |

3. Web Browsers

File Tree

- Data Artifacts
 - Chromium Extensions (42)
 - Chromium Profiles (2)
 - Communication Accounts (1)
 - E-Mail Messages (14)
 - Installed Programs (114)
 - Metadata (181)
 - Operating System Information (1)
 - Recent Documents (46)
 - Recycle Bin (10)
 - Run Programs (95)
 - Shell Bags (118)
 - USB Device Attached (16)
 - Web Bookmarks (25)
 - Web Cache (208)
 - Web Cookies (371)
 - Web Downloads (9)
 - Web History (1611)

Analysis Results

| | | | | |
|----------|---|----------------------------------|--------------------------|-------------|
| Software | 0 | Apple Application Support v3.0.6 | 2015-03-23 20:00:45 EET | CW Image.dd |
| Software | 0 | Google Update Helper v1.3.26.9 | 2015-03-22 15:16:03 EET | CW Image.dd |
| Software | 0 | Google Chrome v41.0.2272.101 | 2015-03-22 15:11:51 EET | CW Image.dd |
| Software | 0 | AddressBook | 2009-07-14 04:53:25 EEST | CW Image.dd |
| Software | 0 | Connection Manager | 2009-07-14 04:53:25 EEST | CW Image.dd |
| Software | 0 | DirectDrawEx | 2009-07-14 04:53:25 EEST | CW Image.dd |

Installed Programs

| | | |
|------------------|--|-----------------|
| Type | Value | Source(s) |
| Program Name | Google Chrome v41.0.2272.101 | Recent Activity |
| Date/Time | 2015-03-22 15:11:51 EET | Recent Activity |
| Source File Path | /img_CW Image.dd/vol_vol3/Windows/System32/config/RegBack/SOFTWARE | |
| Artifact ID | -9223372036854775548 | |

File Tree

- Google
 - Internet Explorer
 - Microsoft Analysis Services
 - Microsoft Office
 - Microsoft SQL Server
 - Microsoft .NET
 - MSBuild

Analysis Results

| | | | | | | | |
|-----------------------------|--------------------------|-------------------------|--------------------------|--------------------------|-----|-----------|-----------|
| Google | 2015-03-23 22:02:43 EET | 2015-03-23 22:02:43 EET | 2015-03-23 22:02:43 EET | 2015-03-22 17:11:26 EET | 552 | Allocated | Allocated |
| Internet Explorer | 2015-03-22 17:18:59 EET | 2015-03-22 17:18:59 EET | 2015-03-22 17:18:59 EET | 2009-07-14 06:02:08 EEST | 56 | Allocated | Allocated |
| Microsoft Analysis Services | 2015-03-22 17:01:06 EET | 2015-03-22 17:01:06 EET | 2015-03-22 17:01:06 EET | 2015-03-22 17:01:06 EET | 256 | Allocated | Allocated |
| Microsoft Office | 2015-03-22 17:00:57 EET | 2015-03-22 17:00:57 EET | 2015-03-22 17:00:57 EET | 2015-03-22 17:00:57 EET | 152 | Allocated | Allocated |
| Microsoft SQL Server | 2015-03-22 17:03:02 EET | 2015-03-22 17:03:02 EET | 2015-03-22 17:03:02 EET | 2015-03-22 17:03:02 EET | 136 | Allocated | Allocated |
| Microsoft .NET | 2015-03-25 16:51:17 EET | 2015-03-25 16:51:17 EET | 2015-03-25 16:51:17 EET | 2015-03-22 17:02:46 EET | 56 | Allocated | Allocated |
| MSBuild | 2009-07-14 08:32:38 EEST | 2015-03-25 13:56 EET | 2009-07-14 08:32:38 EEST | 2009-07-14 08:32:38 EEST | 256 | Allocated | Allocated |

Metadata

| | | |
|-------|---|--|
| Name: | /img_CW Image.dd/vol_vol3/Program Files (x86)/Internet Explorer | |
|-------|---|--|

4. Email Clients

File Tree

- Data Artifacts
 - Chromium Extensions (42)
 - Chromium Profiles (2)
 - Communication Accounts (1)
 - E-Mail Messages (14)
 - Installed Programs (114)
 - Metadata (181)
 - Operating System Information (1)
 - Recent Documents (46)
 - Recycle Bin (10)
 - Run Programs (95)
 - Shell Bags (118)

Analysis Results

| | | |
|--|-------------------------|-------------|
| Microsoft Word MUI (English) 2013 v.15.0.4420.1017 | 2015-03-22 15:01:38 EET | CW Image.dd |
| Microsoft Outlook MUI (English) 2013 v.15.0.4420.1017 | 2015-03-22 15:01:37 EET | CW Image.dd |
| Microsoft Office OSM MUI (English) 2013 v.15.0.4420.10 | 2015-03-22 15:01:34 EET | CW Image.dd |
| Microsoft Office UX MUI (English) 2013 v.15.0.4420.10 | 2015-03-22 15:01:34 EET | CW Image.dd |
| Microsoft Office Proofing (English) 2013 v.15.0.4420.101 | 2015-03-22 15:01:32 EET | CW Image.dd |

Installed Programs

| | | |
|------------------|--|-----------------|
| Type | Value | Source(s) |
| Program Name | Microsoft Outlook MUI (English) 2013 v.15.0.4420.1017 | Recent Activity |
| Date/Time | 2015-03-22 15:01:37 EET | Recent Activity |
| Source File Path | /img_CW Image.dd/vol_vol3/Windows/System32/config/RegBack/SOFTWARE | |
| Artifact ID | -9223372036854775548 | |

File Tree

- Windows Mail
 - Uninstall Information
 - Windows Defender
 - Windows Mail
 - Windows Media Player
 - Windows NT

Analysis Results

| | | | | | | | |
|-----------------------|--------------------------|-------------------------|--------------------------|--------------------------|-----|-----------|-----------|
| Uninstall Information | 2009-07-14 07:57:06 EEST | 2015-03-25 13:13:56 EET | 2009-07-14 07:57:06 EEST | 2009-07-14 07:57:06 EEST | 48 | Allocated | Allocated |
| Windows Defender | 2010-11-21 09:06:51 EET | 2015-03-25 13:13:56 EET | 2010-11-21 09:06:51 EET | 2009-07-14 08:32:38 EEST | 584 | Allocated | Allocated |
| Windows Mail | 2010-11-21 09:06:51 EET | 2015-03-25 13:13:56 EET | 2010-11-21 09:06:51 EET | 2009-07-14 06:20:08 EEST | 56 | Allocated | Allocated |
| Windows Media Player | 2010-11-21 09:06:51 EET | 2015-03-25 13:13:56 EET | 2010-11-21 09:06:51 EET | 2009-07-14 08:32:38 EEST | 56 | Allocated | Allocated |
| Windows NT | 2009-07-14 08:32:38 EEST | 2015-03-25 13:13:56 EET | 2009-07-14 08:32:38 EEST | 2009-07-14 06:20:08 EEST | 480 | Allocated | Allocated |

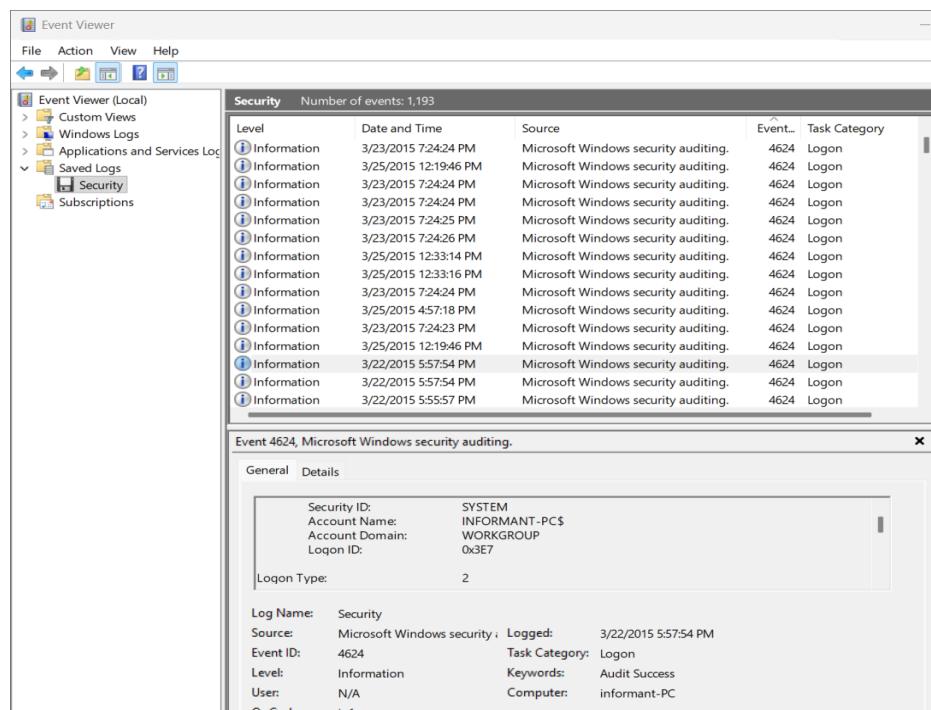
5. Linked Email Accounts:

 iaman.informant@nist.gov.ost | spy <spy.conspirator@nist.gov>

6. Running Process and MRU

| Source Name | S | C | O | Program Name | Path | Date/Time |
|--|---|---|---|------------------------------|--|-------------------------|
| ASPNET_REGIIS.EXE-75651A3C.pf | | | | ASPNET_REGIIS.EXE | /WINDOWS/MICROSOFT.NET/FRA | 2015-03-25 16:54:21 EET |
| ASPNET_REGIIS.EXE-86915B5A.pf | | | | ASPNET_REGIIS.EXE | | 2015-03-25 16:54:28 EET |
| AUDIODG.EXE-BDFD3029.pf | | | | AUDIODG.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:14:45 EET |
| AU_EXF-506726E7.pf | | | | AU_EXE | /USERS/INFORMANT/APPD | 2015-03-25 17:18:29 EET |
| BFSVC.EXE-9C7A4DEE.pf | | | | BFSVC.EXE | /WINDOWS | 2015-03-25 12:18:12 EET |
| CCLEANER64.EXE-779BD542.pf | | | | CCLEANER64.EXE | /PROGRAM FILES/CCLEANER | 2015-03-25 17:15:50 EET |
| CCSETUP504.EXE-6BA2F6A1.pf | | | | CCSETUP504.EXE | /USERS/INFORMANT/DESKTO | 2015-03-25 16:57:56 EET |
| CHROME.EXE-D999B1BA.pf | | | | CHROME.EXE | /PROGRAM FILES (X86)/GOOGL | 2015-03-24 23:05:38 EET |
| CLRG.C.EXE-5D5B90F5.pf | | | | CLRG.C.EXE | /WINDOWS/WINSXS/AMD64_NETFX-CLRG_C_B03F5F7F... | 2015-03-25 12:18:15 EET |
| CONHOST.EXE-1F3E9D7E.pf | | | | CONHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:36 EET |
| CONSENT.EXE-531BD9EA.pf | | | | CONSENT.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| CONTROLEXE-817F8F1D.pf | | | | CONTROLEXE | /WINDOWS/SYSTEM32 | 2015-03-25 15:29:34 EET |
| DEVICEDIPLAYOBJECTPROVIDER.E-17410B90.pf | | | | DEVICEDIPLAYOBJECTPROVIDER.E | | 2015-03-24 23:02:47 EET |
| DLLHOST.EXE-4F28A26F.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-24 23:01:10 EET |
| DLLHOST.EXE-5E46FA0D.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:28:34 EET |
| DLLHOST.EXE-766398D2.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| DLLHOST.EXE-7FA2E24C.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| DLLHOST.EXE-A8DE6D5B.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:24:53 EET |
| DLLHOST.EXE-C373C89E.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 15:29:36 EET |
| DLLHOST.EXE-E129DEF0.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-24 22:24:03 EET |
| DLLHOST.EXE-ECB71776.pf | | | | DLLHOST.EXE | /WINDOWS/SYSWOW64 | 2015-03-25 17:18:02 EET |
| DOTNETFX40_FULL_SETUP.EXE-5EFD2BF.pf | | | | DOTNETFX40_FULL_SETUP.EXE | /USERS/INFORMANT/APPD | 2015-03-25 16:50:15 EET |
| DRVINST.EXE-4CB4314A.pf | | | | DRVINST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 12:18:10 EET |
| ERASER 6.2.0.2962.EXE-BE552234.pf | | | | ERASER 6.2.0.2962.EXE | /USERS/INFORMANT/DESKTO | 2015-03-25 16:50:14 EET |
| ERASER.EXE-CE61944A.pf | | | | ERASER.EXE | /PROGRAM FILES/ERASER | 2015-03-25 17:13:30 EET |

7. User Behaviour Retracement



The screenshot shows the Windows Event Viewer interface. The left pane displays a tree view of logs: Event Viewer (Local), Custom Views, Windows Logs, Applications and Services Logs, Saved Logs, Security, and Subscriptions. The Security log is selected, showing 1,193 events. The right pane displays a table of security events with columns: Level, Date and Time, Source, Event ID, and Task Category. Most events are of level Information, source Microsoft Windows security auditing, and task category Logon, occurring between March 23 and 25, 2015, at various times. A specific event, event 4624, is selected for detailed viewing in the bottom pane. The details pane shows the event ID (4624), source (Microsoft Windows security auditing), level (Information), and task category (Logon). It also provides specific information such as Security ID (SYSTEM), Account Name (INFORMANT-PC\$), Account Domain (WORKGROUP), Logon ID (0x3E7), and Logon Type (2). The event was logged by Microsoft Windows security auditing on 3/22/2015 at 5:57:54 PM.

| Security Number of events: 1,193 | | | | |
|----------------------------------|-----------------------|--------------------------------------|----------|---------------|
| Level | Date and Time | Source | Event ID | Task Category |
| (i) Information | 3/23/2015 7:24:24 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/25/2015 12:19:46 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:24 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:24 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:25 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:26 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/25/2015 12:33:14 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/25/2015 12:33:16 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:24 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/25/2015 4:57:18 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/23/2015 7:24:23 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/25/2015 12:19:46 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/22/2015 5:57:54 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/22/2015 5:57:54 PM | Microsoft Windows security auditing. | 4624 | Logon |
| (i) Information | 3/22/2015 5:55:57 PM | Microsoft Windows security auditing. | 4624 | Logon |

Event 4624, Microsoft Windows security auditing.

| General | | Details | |
|------------|-------------|----------------|-------------------------------------|
| Log Name: | Security | Source: | Microsoft Windows security auditing |
| Event ID: | 4624 | Logged: | 3/22/2015 5:57:54 PM |
| Level: | Information | Task Category: | Logon |
| User: | N/A | Keywords: | Audit Success |
| OnControl: | Info | Computer: | informant-PC |

8. Prefetch Files

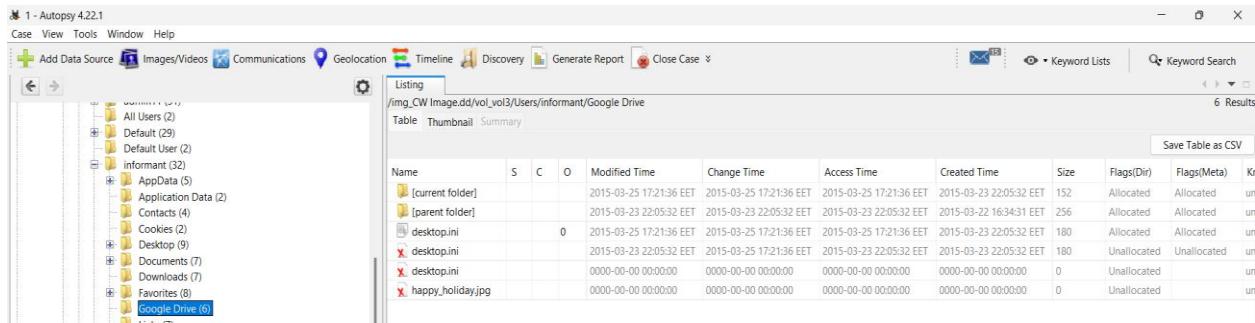
| Listing /img_CW Image.dd/vol_vol3/Windows/Prefetch | | | | |
|--|---|---|---|-------------------------|
| Name | S | C | O | Modified Time |
| LODCTR.EXE-3CCE0534.pf | 0 | | | 2015-03-25 16:54:49 EET |
| LODCTR.EXE-72CD50D0.pf | 0 | | | 2015-03-25 16:54:49 EET |
| LOGONUI.EXE-09140401.pf | 0 | | | 2015-03-25 16:45:10 EET |
| MCBUILDER.EXE-7F26B913.pf | 0 | | | 2015-03-25 12:33:30 EET |
| MOBSYNC.EXE-C5E2284F.pf | 0 | | | 2015-03-25 16:20:03 EET |
| MOFCOMP.EXE-8FE3D558.pf | 0 | | | 2015-03-25 16:54:23 EET |
| MOFCOMP.EXE-FDE76EFC.pf | 0 | | | 2015-03-25 16:54:29 EET |
| MSCORSVW.EXE-245ED79E.pf | 0 | | | 2015-03-25 12:18:26 EET |
| MSCORSVW.EXE-57D17DAF.pf | 0 | | | 2015-03-25 16:54:39 EET |
| MSCORSVW.EXE-90526FAC.pf | 0 | | | 2015-03-25 12:18:29 EET |
| MSCORSVW.EXE-C3C515BD.pf | 0 | | | 2015-03-25 16:53:15 EET |
| MSIEXEC.EXE-A2D55CB6.pf | 0 | | | 2015-03-25 17:19:04 EET |
| MSIEXEC.EXE-E09A077A.pf | 0 | | | 2015-03-25 17:19:13 EET |
| MSOSYNC.EXE-6051F98A.pf | 0 | | | 2015-03-25 15:07:20 EET |
| NETSH.EXE-F1B6DA12.pf | 0 | | | 2015-03-25 12:18:13 EET |
| NGEN.EXE-AE594A6B.pf | 0 | | | 2015-03-25 16:54:39 EET |
| NGEN.EXE-EC3F9239.pf | 0 | | | 2015-03-25 16:54:48 EET |
| NTOSBOOT-B00DFAAD.pf | 0 | | | 2015-03-22 16:53:06 EET |
| OSPPSVC.EXE-E53D3CC0.pf | 0 | | | 2015-03-25 17:25:00 EET |
| OUTLOOK.EXE-1DF422BF.pf | 0 | | | 2015-03-25 16:41:13 EET |
| PfSvPerStats.bin | 0 | | | 2015-03-25 17:31:00 EET |
| PING.EXE-371F41E2.pf | 0 | | | 2015-03-25 16:58:34 EET |
| REGLIBV12.EXE-B7C4F383.pf | 0 | | | 2015-03-25 16:51:41 EET |
| REGLIBV12.EXE-D3A27E55.pf | 0 | | | 2015-03-25 16:51:41 EET |
| RUNDLL32.EXE-411A328D.pf | 0 | | | 2015-03-25 15:24:00 EET |

| Listing /img_CW Image.dd/vol_vol3/Windows/Prefetch | | | | |
|--|---|---|---|---------------------|
| Name | S | C | O | Modified Time |
| DISMHOST.EXE-83B57FD4.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-871597DA.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-8BF088E8.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-8E437069.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-93762EA2.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-A7CB8A6D.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-E28F1D74.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-28F1D74.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-F777056A.pf | | | | 0000-00-00 00:00:00 |
| DISMHOST.EXE-F777056A.pf | | | | 0000-00-00 00:00:00 |
| IPCONFIG.EXE-912F3D5B.pf | | | | 0000-00-00 00:00:00 |
| LODCTR.EXE-3CCE0534.pf | | | | 0000-00-00 00:00:00 |
| MCTADMIN.EXE-C9CFA3B9.pf | | | | 0000-00-00 00:00:00 |
| MCTADMIN.EXE-C9CFA3B9.pf | | | | 0000-00-00 00:00:00 |
| PDMSETUP.EXE-35ADEA24.pf | | | | 0000-00-00 00:00:00 |
| PDMSETUP.EXE-51017E0.pf | | | | 0000-00-00 00:00:00 |
| PDMSETUP.EXE-812E3835.pf | | | | 0000-00-00 00:00:00 |
| PDMSETUP.EXE-C42DE5D4.pf | | | | 0000-00-00 00:00:00 |
| POQEXEC.EXE-69592829.pf | | | | 0000-00-00 00:00:00 |
| REGISTERIEPKEYS.EXE-5CBD3F7B.pf | | | | 0000-00-00 00:00:00 |
| REGISTERIEPKEYS.EXE-AF8C0616.pf | | | | 0000-00-00 00:00:00 |
| REGSVR32.EXE-8461DBEE.pf | | | | 0000-00-00 00:00:00 |
| WINMAIL.EXE-1092D371.pf | | | | 0000-00-00 00:00:00 |
| WINMAIL.EXE-F551299C.pf | | | | 0000-00-00 00:00:00 |
| WMPNETWK.EXE-D9F2A96F.pf | | | | 0000-00-00 00:00:00 |

9. USB devices

| USB Device Attached | | | | | | | | |
|---------------------|---|---|---|-------------------------|---------------|-----------------|----------------------|-------------|
| Source Name | S | C | O | Date/Time | Device Make | Device Model | Device ID | Data Source |
| SYSTEM | | | 1 | 2015-03-25 15:05:35 EET | | ROOT_HUB | 5&3bb57b&0 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:35 EET | | ROOT_HUB20 | 5&299e1c9f&0 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-24 15:38:00 EET | SanDisk Corp. | Cruzer Fit | 4C530012450531101593 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-24 21:38:09 EET | SanDisk Corp. | Cruzer Fit | 4C530012550531106501 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual USB Hub | 6&b77da92&0&2 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 6&b77da92&0&1 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 7&2a7d3009&0&0000 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 7&2a7d3009&0&0001 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:35 EET | | ROOT_HUB | 5&3bb57b&0 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:35 EET | | ROOT_HUB20 | 5&299e1c9f&0 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-24 15:38:00 EET | SanDisk Corp. | Cruzer Fit | 4C530012450531101593 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-24 21:38:09 EET | SanDisk Corp. | Cruzer Fit | 4C530012550531106501 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual USB Hub | 6&b77da92&0&2 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 6&b77da92&0&1 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 7&2a7d3009&0&0000 | CW Image.dd |
| SYSTEM | | | 1 | 2015-03-25 15:05:36 EET | VMware, Inc. | Virtual Mouse | 7&2a7d3009&0&0001 | CW Image.dd |

10. Shared Files



11. Web Activity

12. Deleted files

| Source Name | S | C | O | Path | Time Deleted | Username | Data Source |
|---------------|---|---|---|--|-------------------------|----------|-------------|
| SRKXD1U3.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Chrysanthemum.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SR13FM2A.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Desert.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SRIQGWTI.ini | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\desktop.ini | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SR508CBB.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Hydrangeas.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| \$RIEMT64.exe | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\FE11-Windows6.1-x64-en-us.exe | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SR8YP3XK.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Jellyfish.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SRU3FKWL.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Koala.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| SRX538VH.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Lighthouse.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| RFVCH5V.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Penguins.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |
| RDO13HE.jpg | | | | C:\Users\informant\AppData\Local\Microsoft\Windows\Burn\Burn\Tulips.jpg | 2015-03-24 22:11:42 EET | | CW Image.dd |

13. File System Analysis

| Table: Thumbnail_Summary | | | | | | | |
|--------------------------|---|---|---|-------------------------|-------------------------|-------------------------|-------------------------|
| Name | S | C | O | Modified Time | Change Time | Access Time | Created Time |
| StructuredQuery.log | 0 | | | 2015-03-23 18:28:17 EET | 2015-03-23 19:28:17 EET | 2015-03-22 17:09:35 EET | 2015-03-22 17:28:35 EET |
| Temporary.bmp | 1 | | | 2015-03-22 17:53:17 EET | 2015-03-22 17:53:17 EET | 2015-03-22 17:53:02 EET | 2015-03-22 17:53:02 EET |
| wmsetup.log | 0 | | | 2015-03-25 16:42:50 EET | 2015-03-25 16:42:50 EET | 2015-03-23 16:34:54 EET | 2015-03-22 16:34:54 EET |
| -DF1DCAFC8028FB5F0.TMP | | | | 2015-03-25 17:22:59 EET | 2015-03-25 17:22:59 EET | 2015-03-25 17:22:09 EET | 16384 |
| -DH65CFEEF0MF5FC14.TMP | | | | 2015-03-25 16:42:50 EET | 2015-03-25 16:42:50 EET | 2015-03-25 16:54:50 EET | 512 |
| -DH6996AD7657087E31.TMP | | | | 2015-03-22 17:48:37 EET | 2015-03-22 17:48:37 EET | 2015-03-22 17:48:37 EET | 16384 |
| -DFB0A5E64C1B49E78.TMP | | | | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 16384 |
| -DFAE9B0E173FAS56C09.TMP | | | | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 16384 |
| -DHC63A36FEE260F768.TMP | | | | 2015-03-25 16:46:06 EET | 2015-03-25 16:46:06 EET | 2015-03-25 16:46:06 EET | 16384 |
| ndr9008.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| nrn80CA.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| TCD73C.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| TCD92F.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |

| Table: Thumbnail_Summary | | | | | | | |
|------------------------------|---|---|---|-------------------------|-------------------------|-------------------------|-------------------------|
| This is a DataResult window. | | | | | | | |
| 137 Results | | | | | | | |
| Name | S | C | O | Modified Time | Change Time | Access Time | Created Time |
| temporary.bmp | 1 | | | 2015-03-22 17:33:17 EET | 2015-03-22 17:33:17 EET | 2015-03-22 17:53:02 EET | 2015-03-22 17:53:02 EET |
| wmsetup.log | 0 | | | 2015-03-25 18:42:50 EET | 2015-03-25 16:42:50 EET | 2015-03-22 16:34:54 EET | 2015-03-22 16:34:54 EET |
| -DF1DCAFC8028FB5F0.TMP | 0 | | | 2015-03-25 17:22:09 EET | 2015-03-25 17:22:09 EET | 2015-03-25 17:22:09 EET | 16384 |
| -DFB0A5E64C1B49E78.TMP | | | | 2015-03-25 16:54:50 EET | 2015-03-25 16:54:50 EET | 2015-03-25 16:54:50 EET | 512 |
| -DFAE9B0E173FAS56C09.TMP | | | | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 2015-03-25 17:22:07 EET | 16384 |
| -DHC63A36FEE260F768.TMP | | | | 2015-03-25 16:46:06 EET | 2015-03-25 16:46:06 EET | 2015-03-25 16:46:06 EET | 16384 |
| ndr9008.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| nrn80CA.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| TCD73C.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| TCD92F.bmp | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |
| -OFF1767328761A36.TMP | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 |

| Hex Text Applications File Metadata OS Account Data Attributes Analysis Results Content Annotations Other Occurrences | | | | | | | |
|---|--|--|--|--|--|--|--|
| Item: -DF6996AD7657087E31.TMP | | | | | | | |
| Aggregate Score: Likely Notable | | | | | | | |
| Analysis Result | | | | | | | |
| Score: Likely Notable | | | | | | | |
| Type: Extension Mismatch Detected | | | | | | | |
| Configuration: | | | | | | | |
| Conclusion: | | | | | | | |
| Justification: File has MIME type of application/x-mstfile | | | | | | | |

| Source Name | S | C | O | Source Type | Score | Conclusion | Configuration | Justification | Comment |
|---|---|---|---|-------------|----------------|------------|---------------|--|-------------------|
| 659158[1].dat | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.07696). | Suspected encrypt |
| win7_scenar-demoshort_raw.wtv | 1 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.638412). | Suspected encrypt |
| XboxMCX-VXEX | 1 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.999667). | Suspected encrypt |
| AgCxS1_S-1-5-21-2425377081-3129163575-29854 | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.849933). | Suspected encrypt |
| AgCxSC3_04B1D710D681061D.db | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.739371). | Suspected encrypt |
| AgCxSC4.db | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.848708). | Suspected encrypt |
| AgGifFaultHistory.db | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.923138). | Suspected encrypt |
| AgGifAppHistory.db | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.072529). | Suspected encrypt |
| AgGlobalHistory.db | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.921879). | Suspected encrypt |
| AgGUAD_S-1-5-21-2425377081-3129163575-2985 | 0 | | | File | Likely Notable | | | Suspected encryption due to high entropy (7.909996). | Suspected encrypt |

14: Browser History

| Web History | | | | | | | 1611 / 18 | |
|--------------|---|---|---|---|-------------------------|---|---------------|---------------|
| Source Name | S | C | O | URL | Date Accessed | Referrer URL | Title | Program Name |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Data+Leakage+Methods | 2015-03-23 20:02:09 EDT | https://www.google.com/search..data-leakage-methods | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/search?hl=en&tbo=q&q=source+webdata+leakage | 2015-03-23 20:02:17 EDT | https://www.google.com/search.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | http://www.sans.org/reading-room/whitepapers/sansresearch/data-leakage-threats | 2015-03-23 20:02:18 EDT | http://www.sans.org/reading-rr.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Confidential+Information | 2015-03-23 20:02:44 EDT | https://www.google.com/webhp..leaking-confidential-information | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Confidential+Information&rlz | 2015-03-23 20:03:17 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Confidential+Information&rlz | 2015-03-23 20:03:19 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Information+Leakage+Cases | 2015-03-23 20:03:40 EDT | https://www.google.com/webhp..information-leakage-cases | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:04:33 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Leaking+Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:04:34 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.enrich247.com/business/webscouts/5-best-new-marketing-person | 2015-03-23 20:04:54 EDT | https://www.enrich247.com/..Top 5 sources leaking personal data | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:19 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:19 EDT | https://www.google.com/webhp..information-leakage-cases | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:19 EDT | https://www.google.com/webhp..information-leakage-cases | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:22 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Intellectual+Property+Theft | 2015-03-23 20:05:27 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | http://www.medsploit.com/publications/article/205047/google-to-settle-data-leakage-case | 2015-03-23 20:05:28 EDT | http://www.medsploit.com/pc..Google To Settle Data Leakage Case | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:48 EDT | https://www.google.com/webhp..How to leak a secret | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:05:54 EDT | https://www.google.com/webhp.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.fbi.gov/sites/default/files/white_papers/fbi.. | 2015-03-23 20:05:55 EDT | https://www.fbi.gov/sites/default/files/white_papers/fbi..FBI – Intellectual Property Theft | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/htab?hl=EN&ct=t&q=leak+source+webdata+leakage | 2015-03-23 20:06:01 EDT | https://www.google.com/htab.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://en.wikipedia.org/wiki/Intellectual_property | 2015-03-23 20:06:01 EDT | https://en.wikipedia.org/wiki/Int..Intellectual Property - Wikipedia, the P | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/webhp?hl=en&sa=Information+Leakage+Cases+Details+And+Ex | 2015-03-23 20:06:17 EDT | https://www.google.com/webhp..cloud storage | Google Search | Google Chrome |
| Bill History | 1 | | | https://www.google.com/htab?hl=EN&ct=t&q=leak+source+webdata+leakage | 2015-03-23 20:06:51 EDT | https://www.google.com/htab.. | Google Chrome | Google Chrome |
| Bill History | 1 | | | https://www.google.com/htab?hl=EN&ct=t&q=leak+source+webdata+leakage | 2015-03-23 20:06:53 EDT | https://www.google.com/htab..Intellectual Property Crime | Google Chrome | Google Chrome |

15: Downloaded Files

| Source Name | S | C | O | Path | URL | Date Accessed | Domain | Username |
|---|---|---|---|---|--|-------------------------|------------|----------|
| History | | | 1 | C:\Users\informant\Downloads\icloudsetup.exe | https://support.apple.com/downloads/DL1455_en_US/iclo | 2015-03-23 21:55:47 EET | apple.com | Default |
| History | | | 1 | C:\Users\informant\Downloads\cloudsetup.exe | http://download.info.apple.com/Mac_OSS/X/03-13122.20 | 2015-03-23 21:55:47 EET | apple.com | Default |
| History | | | 1 | C:\Users\informant\Downloads\icloudsetup.exe | http://supportdownload.apple.com/download.info.apple.c | 2015-03-23 21:55:47 EET | apple.com | Default |
| History | | | 1 | C:\Users\informant\Downloads\googledriveSync.exe | http://dl.google.com/tag/s/appguid%3D%7B3C122445-A.. | 2015-03-23 21:56:30 EET | google.com | Default |
| History | | | 1 | C:\Users\informant\Downloads\googledriveSync.exe | https://dl.google.com/tag/s/appguid%3D%7B3C122445- | 2015-03-23 21:56:30 EET | google.com | Default |
| IE11-Windows6.1-x64-en-us.exe:Zone.Identifier | | | | /Users/informant/Desktop/Download/IE11-Windows6.1 | | | | |
| Eraser 6.2.0.2962.exe:Zone.Identifier | | | | /Users/informant/Desktop/Download/Eraser 6.2.0.2962.. | | | | |
| ccsetup504.exe:Zone.Identifier | | | | /Users/informant/Desktop/Download/ccsetup504.exe | | | | |
| \$RJEMT64.exe:Zone.Identifier | | | | /\$Recycle.Bin/S-1-5-21-2425377081-3129163575-29856 | | | | |

16: Email Analysis

23/3/2015**spy:** Hello Iaman, How are you doing?**IAMAN:** successfully secured**spy:** Good, job. I need a more detailed data about this business.**IAMAN:** Okay, I got it. I'll be in touch.**spy:** I confirmed it. But, I need a more data. Do your best.**IAMAN:** Umm I need time to think.**NOTE IAMAN TO IAMAN synchronization log: downloaded data from server and sent it as offline folder****IAMAN:** I got it. Its me. Use links below,<https://drive.google.com/file/d/0BzOye6gXtiZtI8yVU5mWHlGbWc/view?usp=sharing><https://drive.google.com/file/d/0BzOye6gXtiZaakx6d3R3c0lmM1U/view?usp=sharing>

| Source Name | S | C | O | E-Mail From | E-Mail To | Subject | c. Date Received |
|-----------------------------|---|---|---|--|-----------|-----------------------|-------------------------|
| leman.informant@nist.gov.us | | | | spy <spy.conspirator@nist.gov> | | Hello, Iaman | 2015-03-23 19:29:29 EET |
| leman.informant@nid.gov.us | | | | Iaman <i0-Exchange@abu.nu>+Exchange Administrative quota | | RE: Hello, Iaman | 2015-03-23 20:44:08 EET |
| leman.informant@nist.gov.us | | | | spy <spy.conspirator@nist.gov> | | Good job, buddy | 2015-03-23 21:15:06 EET |
| leman.informant@nist.gov.us | | | | spy <spy.conspirator@nist.gov> | | RE: Good job, buddy | 2015-03-23 21:20:41 EET |
| leman.informant@nist.gov.us | | | | spy <spy.conspirator@nist.gov> | | Important request | 2015-03-23 21:26:23 EET |
| leman.informant@nist.gov.us | | | | Iaman <i0-Exchange@abu.nu>+Exchange Administrative quota | | RE: Important request | 2015-03-23 21:27:08 EET |
| leman.informant@nist.gov.us | | | | Iaman | Iaman | Synchronization log | 2015-03-23 21:57:38 EET |
| leman.informant@nist.gov.us | | | | spy <spy.conspirator@nist.gov> | | RE: Its me | 2015-03-23 22:43:22 EET |

24/3/2015**spy:** This is the last request. I want to get the remaining data.**IAMAN:** Stop it! It is very hard to transfer all data over the internet!**spy:** No problem. U can directly deliver storage devices that stored it.**IAMAN:** This is the last time..**Spy:** Watch out! USB device may be easily detected.

So, try another method.

IAMAN: I'm trying**IAMAN:** its done, see you tomorrow

17: Email Analysis

| | | | |
|------------------------------|--|------------------|-------------------------|
| iaman.informant@nist.gov.ost | iaman </o=ExchangeLab/ou=Exchange Administrative spy | RE: Last request | 2015-03-24 15:35:00 EET |
| iaman.informant@nist.gov.ost | iaman </o=ExchangeLab/ou=Exchange Administrative spy | RE: Watch out | 2015-03-24 21:34:00 EET |
| iaman.informant@nist.gov.ost | iaman </o=ExchangeLab/ou=Exchange Administrative spy | Done | 2015-03-24 23:05:00 EET |

25/3/2015: time synchronization logs, actions on server are taken

| | | | | |
|------------------------------|-------|-------|---------------------|-------------------------|
| iaman.informant@nist.gov.ost | iaman | iaman | Synchronization Log | 2015-03-25 17:01:49 EET |
| iaman.informant@nist.gov.ost | iaman | iaman | Synchronization Log | 2015-03-25 17:01:55 EET |

The entry in the synchronization log shows that there was a threat of data transfers that have been malicious done over the email client of the victim. The OST mailbox (iaman.informant@nist.gov) occurs in multiple occurrences of synchronization in the same minute, indicating that there was communication between files or data between the local machine and an external mail server and the spy. Considering the case, time-regulated sync operations is a sign of stealing data with email. This action is one of the tricks of attackers who use email sync to transfer sensitive data silently without creating any file copy traces on the computer.

```

11:01:52 Synchronizer Version 15.0.4420
11:01:52 Synchronizing Mailbox 'iaman'
11:01:52 Synchronizing local changes in folder 'Sent Items'
11:01:52 Uploading to server '1b788828-c8a2-4681-bf6f-b1df9935415b@nist.gov'
11:01:53 Synchronization of some deletions failed.
11:01:53 [0-130]
11:01:53 1 item(s) deleted in online folder
11:01:53 Downloading from server '1b788828-c8a2-4681-bf6f-b1df9935415b@nist.gov'
11:01:55 Done

```

```

11:01:47 Synchronizer Version 15.0.4420
11:01:47 Synchronizing Mailbox 'iaman'
11:01:47 Synchronizing local changes in folder 'Deleted Items'
11:01:47 Uploading to server '1b788828-c8a2-4681-bf6f-b1df9935415b@nist.gov'
11:01:47 Synchronization of some deletions failed.
11:01:47 [0-130]
11:01:49 2 item(s) added to online folder
11:01:49 1 item(s) deleted in online folder
11:01:49 Done

```

18: Unallocated files on shared folders:

| Listing /img_CW Image.dd/vol_vol3/Users/informant/Google Drive | | | | | | | | | | |
|--|---|---|---|-------------------------|-------------------------|-------------------------|-------------------------|------|-------------|--|
| Table Thumbnail Summary | | | | | | | | | | |
| Name | S | C | O | Modified Time | Change Time | Access Time | Created Time | Size | Flags(Dir) | |
| [current folder] | | | | 2015-03-25 17:21:36 EET | 2015-03-25 17:21:36 EET | 2015-03-25 17:21:36 EET | 2015-03-23 22:05:32 EET | 152 | Allocated | |
| [parent folder] | | | | 2015-03-23 22:05:32 EET | 2015-03-23 22:05:32 EET | 2015-03-23 22:05:32 EET | 2015-03-22 16:34:31 EET | 256 | Allocated | |
| desktop.ini | | | 0 | 2015-03-25 17:21:36 EET | 2015-03-25 17:21:36 EET | 2015-03-25 17:21:36 EET | 2015-03-23 22:05:32 EET | 180 | Allocated | |
| desktop.ini | | | | 2015-03-23 22:05:32 EET | 2015-03-25 17:21:36 EET | 2015-03-23 22:05:32 EET | 2015-03-23 22:05:32 EET | 180 | Unallocated | |
| desktop.ini | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 | Unallocated | |
| happy_holiday.jpg | | | | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0000-00-00 00:00:00 | 0 | Unallocated | |

19: Persistence Mechanisms

| Source Name | S | C | O | Program Name | Path | Date/Time |
|---|---|---|---|-----------------------------|---|-------------------------|
| ASP.NET_REGIIS.EXE-75651A3C.pf | | | | ASPNET_REGIIS.EXE | /WINDOWS/MICROSOFT.NET/FRAMEWORK64/V4.0.303.2015-03-25 16:54:21 EET | |
| ASP.NET_REGIIS.EXE-86915B5A.pf | | | | ASPNET_REGIIS.EXE | | 2015-03-25 16:54:28 EET |
| AUDIODG.EXE-BDFD3029.pf | | | | AUDIODG.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:14:45 EET |
| AU_EXE-50672667.pf | | | | AU_EXE | /USERS/INFORMANT/APPDATA/LOCAL/TEMP/~NSU... | 2015-03-25 17:18:29 EET |
| BFSVC.EXE-9C7A4DEE.pf | | | | BFSVC.EXE | /WINDOWS | 2015-03-25 12:18:12 EET |
| CCLEANER64.EXE-779BD542.pf | | | | CCLEANER64.EXE | /PROGRAM FILES/CCLEANER | 2015-03-25 17:15:50 EET |
| CCSETUP504.EXE-68A2F6A1.pf | | | | CCSETUP504.EXE | /USERS/INFORMANT/DESKTOP/DOWNLOAD | 2015-03-25 16:57:56 EET |
| CHROME.EXE-D999B1BA.pf | | | | CHROME.EXE | /PROGRAM FILES (X86)/GOOGLE/CHROME/APPLICAT... | 2015-03-24 23:05:38 EET |
| CLRG.C.EXE-5D5890F5.pf | | | | CLRG.C.EXE | /WINDOWS/WINSXS/AMD64_NETFX-CLRG_C_03F5F7... | 2015-03-25 12:18:15 EET |
| CONHOST.EXE-1F3E9D7E.pf | | | | CONHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:36 EET |
| CONSENT.EXE-531BD9EA.pf | | | | CONSENT.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| CONTROLEXE-817FB61D.pf | | | | CONTROLEXE | /WINDOWS/SYSTEM32 | 2015-03-25 15:29:34 EET |
| DEVICEDIPLAYOBJECTPROVIDERE-17410B90.pf | | | | DEVICEDIPLAYOBJECTPROVIDERE | | 2015-03-24 23:02:47 EET |
| DLLHOST.EXE-4F28A26F.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-24 23:01:10 EET |
| DLLHOST.EXE-5E46FA0D.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:28:34 EET |
| DLLHOST.EXE-766398D2.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| DLLHOST.EXE-7FAA2E4C.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:18:29 EET |
| DLLHOST.EXE-A8DE6D5B.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 17:24:53 EET |
| DLLHOST.EXE-C373C89E.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 15:29:36 EET |
| DLLHOST.EXE-E129DEF0.pf | | | | DLLHOST.EXE | /WINDOWS/SYSTEM32 | 2015-03-24 22:24:03 EET |
| DLLHOST.EXE-ECB71776.pf | | | | DLLHOST.EXE | /WINDOWS/SYLOW64 | 2015-03-25 17:18:02 EET |
| DOTNETFX40_FULL_SETUP.EXE-5EFD2BFF.pf | | | | DOTNETFX40_FULL_SETUP.EXE | /USERS/INFORMANT/APPDATA/LOCAL/TEMP/ERASERU... | 2015-03-25 16:50:15 EET |
| DRVINST.EXE-4CB4314A.pf | | | | DRVINST.EXE | /WINDOWS/SYSTEM32 | 2015-03-25 12:18:10 EET |
| ERASER 6.2.0.2962.EXE-BE552234.pf | | | | ERASER 6.2.0.2962.EXE | /USERS/INFORMANT/DESKTOP/DOWNLOAD | 2015-03-25 16:50:14 EET |
| ERASER.EXE-CE61944A.pf | | | | ERASER.EXE | /PROGRAM FILES/ERASER | 2015-03-25 17:13:30 EET |

16.Appendix

In the following the sections, all the digital forensics processes are provided. The google drive folder consists of the previous milestones, all the python scripts, all the extracted registry hives files, all the evidence screenshots, chain of custody full template, an additional evidence table with more details and finally an autopsy generated report.

Github link: <https://github.com/hala-ahmedd/DIGITAL-FORENSICS-PYTHON->

Drive link: https://drive.google.com/drive/folders/136-SDflgc62GuVnBfzbmbmyVuUEw2rcW?usp=drive_link