Detroit becomes Human

Sherlock Scenario
Alonzo Spire is fascinated by AI after noticing the recent uptick in usage of AI tools to help aid in daily tasks. He came across a sponsored post on social media about an AI tool by Google. The post had a massive reach, and the Page which posted had 200k + followers. Without any second thought, he downloaded the tool provided via the Post. But after installing it he could not find the tool on his system which raised hissuspicions. A DFIR analyst was notified of a possible incident on Forela's sysadmin machine. You are tasked to help the analyst in analysis to find the true source of this odd incident.

Task 1:
What is the full link of a social media post which is part of the malware campaign, and was unknowingly opened by Alonzo spire?

By checking the Edge browser history file using DB Browser, I found the Facebook URL:

17	21	https://www.facebook.com/AI.ultra.new/posts/pfbid0BqpxXypMtY5dWGy2GDfpRD4cQRppdNEC9SSa72FmPVKqik9iWNa2mRkpx9xziAS1l	Gemini.AI - Introducing AI GEMINI special version for... | Facebook	2	1	13355296200136503	0

Answer: https://www.facebook.com/AI.ultra.new/posts/pfbid0BqpxXypMtY5dWGy2GDfpRD4cQRppdNEC9SSa72FmPVKqik9iWNa2mRkpx9xziAS1l

Task 2:
Can you confirm the timestamp in UTC when alonzo visited this post?

I extracted the timestamp 13355296200136503 from the last_visit_time field. Upon researching online, I found it to be in WebKit timestamp format.
I used the following Python script for conversion:

```
from datetime import datetime, timedelta

def convert_webkit_timestamp(webkit_timestamp):
    # Convert microseconds to seconds
    seconds_since_1601 = webkit_timestamp / 1e6

    # Define the start date (January 1, 1601)
    epoch_start = datetime(1601, 1, 1)

    # Calculate the actual date and time
    visit_datetime = epoch_start + timedelta(seconds=seconds_since_1601)

    # Format the datetime in the desired format
    return visit_datetime.strftime('%Y-%m-%d %H:%M:%S')

# Example usage
webkit_timestamp = 13355296200136503
formatted_date = convert_webkit_timestamp(webkit_timestamp)
print(f"Formatted Date and Time: {formatted_date}")
```

```
C:\Users\Bubble\Desktop
λ python hara.py
Formatted Date and Time: 2024-03-19 04:30:00
```

Answer: 2024-03-19 04:30:00

Task 3:
Alonzo downloaded a file on the system thinking it was an AI Assistant tool. What is name of the archive file downloaded?

By checking the downloads table inside DB Browser, I found the file name.

Table: downloads

	id	guid	current_path	target_path	start_time	received_bytes	total_bytes	state	danger_type	interrupt_reason	hash	end_time
	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
1	1	29bd9070-82f3-4810-adb9-86622f918df2	C:\Users\alonzo.spire\Downloads\PSTools.zip	C:\Users\alonzo.spire\Downloads\PSTools.zip	13338556027056569	5282424	5282424	1	4	0		13338556030541184
2	2	9f6c9bc1-a9b7-4a4f-8c13-77007a60ff36	C:\Users\alonzo.spire\Downloads\Windows_Dev Package.zip	C:\Users\alonzo.spire\Downloads\Windows_Dev Package.zip	13354881209244463	1114	1114	1	4	0		13354881212365338
3	3	13514236-07fe-4f27-8701-a20502c70ddb	C:\Users\alonzo.spire\Downloads\theme.theme	C:\Users\alonzo.spire\Downloads\theme.theme	13354895056680767	2718	2718	1	4	0		13354895057371913
4	4	5808e2fd-5318-4155-b529-e649db9c12c2	C:\Users\alonzo.spire\Downloads\theme.theme	C:\Users\alonzo.spire\Downloads\theme.theme	13354895302486473	2718	2718	1	4	0		13354895303133838
5	5	2d16bd8c-ce11-4321-a3fe-23aab84083af	C:\Users\alonzo.spire\Downloads\AI.Gemini Ultra For PC V1.0.1.rar	C:\Users\alonzo.spire\Downloads\AI.Gemini Ultra For PC V1.0.1.rar	13355296222571356	404274	404274	1	4	0		13355296223478287

Answer: AI.Gemini Ultra For PC V1.0.1.rar

Task 4:
What was the full direct URL from where the file was downloaded?

I found the "referrer" column in the downloads table, accessed the link via a web browser, and then used www.browserling.com to track its redirections.

referrer
Filter
https://learn.microsoft.com/
https://www.dropbox.com/
https://l.facebook.com/l.php?...

```
1   https://l.facebook.com/l.php?u=https%3A%2F%2Fdrive.usercontent.google.com%2Fu%2F2%2Fuc%3Fid%3D1z-SGnYJCPE0HA_Faz6N7mD5qf0E-A76H%26export%3Ddownload&h=AT2dsRb4dQeh4oPNOqp3eHhaSewnHh17zElwZ18CVTFj5edI8V33q55zEWDtVjXyMp3LQ5aaUwqq_ZtWpkTcAkWi9q9hzpI2JUnZRl4io5nnOxgGHc8zB1e3IDXn6zJw9Agr73knOb4_acb9ZDFB&__tn__=-UzK-R&c[0]=AT2pAxNrMkue5u710VTAYLmU_EsFxntsYANT148AzvKn8e_dø-Inf430pHC75tcvvjB6fr7YWhA0N5FN3C0ojZ86fc5ure9rJt1OGqeRq4y5q-bLgDmnLi7vugPXdNuZ511hTSoxa8vJ8dR-ak14a_4m_WAudOrCiudtoRPLo9mLdo7krRbqXEtIKydoSuioHjI5NVuMWVA
```

Answer: https://drive.usercontent.google.com/download?id=1z-SGnYJCPE0HA_Faz6N7mD5qf0E-A76H&export=download

Task 5:
Alonzo then proceeded to install the newly download app, thinking that its a legit AI tool. What is the true product versionwhich was installed?

After thorough investigation, I found the answer in the SOFTWARE registry under CurrentVersion > TaskCache > Uninstall.

2024-03-19 04:31:20	{ABC2CE01-78A5-4554-A32A-4402A4E83BB3}	Install	3.32.3	Google	20240319	C:\Users\alonzo.spire\Downloads\AI.Gemini Ultra For PC V1.0.1\		MsiExec.exe /I{ABC2CE01-78A5-4554-A32A-4402A4E83BB3}

Answer: 3.32.3

Task 6:
When was the malicious product/package successfully installed on the system?

Using MFTECmd to parse the MFT file into a CSV file and analyzing it with Timeline Explorer, I found the MSI file with the timestamp.

Parent Path	File Name	Extension
=	=	=
.\Users\alonzo.spire\Downloads	AI.Gemini Ultra For PC V1.0.1	
.\Users\alonzo.spire\Downloads\AI.Gemini Ultra For PC V1.0.1	Google AI Gemini Ultra For PC V1.0.1.msi	.msi

I checked the "Last Access0x10" tab

Last Access0x10
=
2024-03-19 04:33:05
2024-03-19 04:31:33

Answer: 2024-03-19 04:31:33

Task 7:
The malware used a legitimate location to stage its file on the endpoint. Can you find out the Directory path of this location?

This task was one of the latest, took me sometime to understand the answer is not the full path.
The first time I found this path is at task 8.

Answer: C:\Program Files (x86)\Google

Task 8:
The malware executed a command from a file. What is name of this file?

While exploring the logs for another task, I noticed a powershell script inside the powershell logs

```
Provider "Variable" is Started.

Details:
        ProviderName=Variable
        NewProviderState=Started

        SequenceNumber=11

        HostName=ConsoleHost
        HostVersion=5.1.19041.3031
        HostId=13df80a7-4a3b-49f2-9f31-ec7ff38e6bc9
        HostApplication=powershell -ExecutionPolicy Bypass -File C:\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic/ru.ps1
        EngineVersion=
        RunspaceId=
        PipelineId=
        CommandName=
        CommandType=
        ScriptName=
        CommandPath=
        CommandLine=
```

So I search on the MFT for the path "Program Files (x86)\Google\Install" and then I found several files.

Parent Path	File Name	Extension
=	=	=
.\Program Files (x86)\Google\Install	nmmhkkegccagdldgiimedpic	
.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	background.js	.js
.\Program Files (x86)\Google\Install	New Folder #%d2	
.\Program Files (x86)\Google\Install\New Folder #%d2	account_manager (22).xls	.xls
.\Program Files (x86)\Google\Install	System.Deployment.dll	.dll
.\Program Files (x86)\Google\Install	Microsoft.VisualC.Dll	.Dll
.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	favicon.png	.png
.\Program Files (x86)\Google\Install	System.Web.DynamicData.Design.dll	.dll
.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	manifest.json	.json
.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	ru.ps1	.ps1
.\Program Files (x86)\Google\Install\New Folder #%d2	account_manager (21).xls	.xls
.\Program Files (x86)\Google\Install	install.cmd	.cmd
.\Program Files (x86)\Google\Install\New Folder #%d2	list_page (3).xlsx	.xlsx
.\Program Files (x86)\Google\Install\New Folder #%d2	account_manager (20).xls	.xls
.\Program Files (x86)\Google\Install	logo.ico	.ico
.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	content.js	.js

So I assumed that if the malware executed command from a file it will be from the cmd file.

Answer: install.cmd

Task 9:
What are the contents of the file from question 8? Remove whitespace to avoid format issues.

Same picture from task 8, I took the Entry number 51471 and used --de 514741 on MFTECmd.exe

54502	☐	51471	4	51349	4	☑	.\Program Files (x86)\Google\Install	install.cmd

```
   ASCII:   @echo off
powershell -ExecutionPolicy Bypass -File "%~dp0nmmhkkegccagdldgiimedpic/ru.ps1"
```

Then I went to CyberChef and used the Remove whiespace recipe

Input

```
@echo off
powershell -ExecutionPolicy Bypass -File "%~dp0nmmhkkegccagdldgiimedpic/ru.ps1"
```

Output

```
@echooffpowershell-ExecutionPolicyBypass-File"%~dp0nmmhkkegccagdldgiimedpic/ru.ps1"
```

Answer: @echooffpowershell-ExecutionPolicyBypass-File"%~dp0nmmhkkegccagdldgiimedpic/ru.ps1"

Task 10:
What was the command executed from this file according to the logs?

Same as task 8, I found the command from the powershell logs.

```
Provider "Variable" is Started.

Details:
        ProviderName=Variable
        NewProviderState=Started

        SequenceNumber=11

        HostName=ConsoleHost
        HostVersion=5.1.19041.3031
        HostId=13df80a7-4a3b-49f2-9f31-ec7ff38e6bc9
        HostApplication=powershell -ExecutionPolicy Bypass -File C:\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic/ru.ps1
        EngineVersion=
        RunspaceId=
        PipelineId=
        CommandName=
        CommandType=
        ScriptName=
        CommandPath=
        CommandLine=
```

Answer: powershell -ExecutionPolicy Bypass -File C:\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic/ru.ps1

Task 11:
Under malware staging Directory, a js file resides which is very small in size.What is the hex offset for this file on the flesystem?

I took the entry number and used the MFTECmd on it

67387	☐	64067	4	51351	4	☑	.\Program Files (x86)\Google\Install\nmmhkkegccagdldgiimedpic	content.js

Select C:\Windows\System32\cmd.exe

```
Author: Eric Zimmerman (saericzimmerman@gmail.com)
https://github.com/EricZimmerman/MFTECmd

Command line: -f C:\Users\Bubble\Desktop\Triage\C\$MFT --de 64067

Warning: Administrator privileges not found!

File type: Mft

Processed C:\Users\Bubble\Desktop\Triage\C\$MFT in 15.3531 seconds

C:\Users\Bubble\Desktop\Triage\C\$MFT: FILE records found: 489,505 (Free records: 1,169) File size: 479.2MB


Dumping details for file record with key 0000FA43-00000004

Entry-seq #: 0xFA43-0x4, Offset: 0x3E90C00, Flags: InUse, Log seq #: 0x1522B4F45, Base Record entry-seq: 0x0-0x0
```

Answer: 3E90C00

Task 12:
Recover the contents of this js file so we can forward this to our RE/MA team for further analysis and understanding of thisinfection chain. To sanitize the payload, remove whitespaces.

Same output in MFTECmd from task 11

```
   ASCII:   var isContentScriptExecuted = localStorage.getItem('contentScriptExecuted');
if (!isContentScriptExecuted) {
chrome.runtime.sendMessage({ action: 'executeFunction' }, function (response) {
  localStorage.setItem('contentScriptExecuted', true);
});
}
```

I did the same thing In CyberChef like in Task 9

Input

```
var isContentScriptExecuted = localStorage.getItem('contentScriptExecuted');
if (!isContentScriptExecuted) {
chrome.runtime.sendMessage({ action: 'executeFunction' }, function (response) {
  localStorage.setItem('contentScriptExecuted', true);
});
}
```

254 6

Output

```
varisContentScriptExecuted=localStorage.getItem('contentScriptExecuted');if(!isContentScriptExecuted)
{chrome.runtime.sendMessage({action:'executeFunction'},function(response){localStorage.setItem('contentScriptExecuted',true);});}
```

Answer: varisContentScriptExecuted=localStorage.getItem('contentScriptExecuted');if(!isContentScriptExecuted){chrome.runtimesendMessage({action:'executeFunction'},function(response){localStorage.setItem('contentscriptExecuted',true);});}

Task 13:
Upon seeing no AI Assistant app being run, alonzo tried searching it from file explorer. What keywords did he use to search?

Took me some time but after investigating all the artifacts from Registry I found the answer at the "WordWheelQuery"

WordWheelQuery Find

Key name	# values	# subkeys	Last write timestamp
⇱	=	=	=
C:\Users\Bubble\Desktop\Triage\C\Users\alonzo.spire\NTUSER.DAT			1601-01-01 00:00:00
CurrentVersion	0	59	2024-03-19 04:34:36
Explorer	12	43	2024-03-19 04:40:11
WordWheelQuery	2	0	2024-03-19 04:32:11
WordWheelQuery	2	0	2024-03-19 04:32:11

Search Term	Mru Position	Key Name	Last Write Timestamp
⇱	=	⇱	=
Google Ai Gemini tool	0	WordWheelQuery	2024-03-19 04:32:11

Answer: Google Ai Gemini tool

Task 14:
When did alonzo searched it?

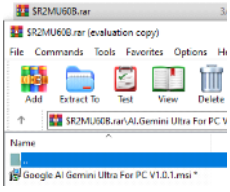
Same place from task 13

Last Write Timestamp
=
2024-03-19 04:32:11

Answer: 2024-03-19 04:32:11

Task 15:
After alonzo could not find any AI tool on the system, he became suspicious, contacted the security team and deleted the downloaded file. When was the file deleted by alonzo?

Inside the $Recycle.Bin folder there is an archive file "$R2MU60B.rar" which includes the MSI file



I checked the USN Journal and filtered for the name "$R2MU60B.rar" and found the timestamp

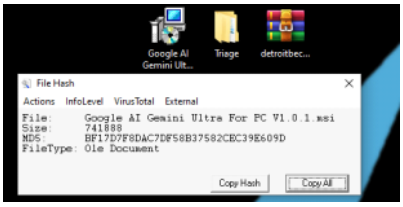
Update Timestamp
=
2024-03-19 04:34:16
2024-03-19 04:34:16
2024-03-19 04:34:16

Answer: 2024-03-19 04:34:16

Task 16:
Looking back at the starting point of this infection, please find the md5 hash of the malicious installer.

Inside the $Recycle.Bin there is a file "$R2MU60B.rar" containes the "Google AI Gemini Ultra For PC V1.0.1.msi" but the archive is protected with a password.
After searching online, I found the file on Malware Bazaar with the password '022024" and obtained the hash.

SHA256 hash:	3f79fff587d4eaee9ac530408280987e1317bacc7ada5acb163cffd618b9d932
SHA3-384 hash:	4c027fcf43b50aafca54f51c9bcc14d043381d4c4ca3a602bf272a58b52ac31c7c9f0d4930f1b214fb6a86ffff4d5e81
SHA1 hash:	9123d4abce7af105faa7c32c3a2ea5ad4d219d2c
MD5 hash:	a0af1cc1265b96de8699a4daeab236a7
humanhash:	bulldog-snake-fifteen-floor
File name:	AI.Gemini Ultra For PC V1.0.1.rar
Download:	download sample
File size:	404'274 bytes
First seen:	2024-03-16 11:01:47 UTC
Last seen:	*Never*
File type:	rar
MIME type:	application/x-rar
Note:	This file is a password protected archive. The password is: **022024**
ssdeep	12288:1fDgARzJdLN4iKWGBc2FW2JH8IhnscBhl:1rtRln4HW12FW2l8+7l
TLSH	T150842393BC6C5A1F0ADCAC40EB69F17DCEB774562F66C6174DC8168B005BAC98802B37
TrID	61.5% (.RAR) RAR compressed archive (v5.0) (8000/1) 38.4% (.RAR) RAR compressed archive (gen) (5000/1)
Reporter	e24111111154168
Tags:	FacebookStealer FakeGeminiAI pw-022024 rar



Answer: BF17D7F8DAC7DF58B37582CEC39E609D