



SECURITY ONION INCIDENT RESPONSE: REMCOS RAT

Group 1

Names : Abdur Rashid Firdaus
Kheyral Sutan Dumas

Class : 4CS1

Faculty : Ivan Firdaus, S.T

CEP CCIT

FAKULTAS TEKNIK UNIVERSITAS INDONESIA

2025

SECURITY ONION INCIDENT RESPONSE:

REMCOS RAT

Batch Code : 4CS1

Start Date : 15th March, 2025

End Date : 24th , 2025

Name of Faculty : Ivan Firdaus, ST

Names of Developer :

1. Abdur Rashid Firdaus
2. Kheyral Sutan Dumas

Date of Submission: 24th March, 2025

ACKNOWLEDGEMENT

Authors would like to praise to Allah, Most Merciful bless and so authors can finish this Project 1 titled “Security Onion Incident Response: Remcos RAT”. Author would like to thank Mr. Ivan Firdaus, ST as Lecturer who has given useful suggestion which helps author in writing this paper.

The contents of this paper provide a detailed overview of a simple incident handling. The paper serves as a way of understanding cyber attack analysis as a subject for this final semester.

SYSTEM ANALYSIS

System Summary:

Incident Response (IR) is the structured approach used by organizations to detect, respond to, and recover from cybersecurity incidents. The goal is to minimize damage, reduce recovery time and costs, and prevent future incidents.

The purpose of this project is to identify any detail about the attack namely Remote Access Trojan attack. By utilizing tools such as sgul and kibana the goal is to find the details of the attack from the alerts provided.

Remcos or Remote Control and Surveillance, marketed as a legitimate software by a Germany-based firm Breaking Security for remotely managing Windows systems is now widely used in multiple malicious campaigns by threat actors. Remcos is a sophisticated remote access Trojan (RAT) that can be used to fully control and monitor any Windows computer from XP and onwards.

INDICATOR OF COMPROMISE

Indicators of Compromise (IoCs):

Remcos RAT Activity:

- **Source IP:** 10.0.90.215
- **C2 Communication:** 103.1.184.108
- **Alert Type:** ET TROJAN Remcos RAT Checkin 23

Dridex Trojan Activity:

- **Source IP:** 31.22.4.176, 203.45.1.75, 115.112.43.81
- **Destination IP:** 10.0.90.215
- **Alert Type:** ET TROJAN ABUSE.CH SSL Blacklist Malicious SSL certificate detected (Dridex)

Unauthorized Access to Domain Controller (10.0.90.9):

- **Host Identified:** LittleTigers-DC.littletigers.info
- **SMB Activity:**
 - **Source IP:** 10.0.90.215
 - **Destination IP:** 10.0.90.9
 - **Accessed Files:**
 - \LittleTigers-DC.littletigers.info\sysvol\Policies\{31B2F340-016D-11D2-945F-00C04FB984F9}\gpt.ini
 - \LittleTigers-DC\Shared\<share_root>
- **Possible Impact:** Modification of Group Policy Objects (GPOs) for persistence

Suspicious HTTP Requests:

- **Source IP:** 10.0.90.215
- **Destination IPs:** 217.23.14.81, 209.141.34.8
- **Files Requested:** test1.exe, f4.exe
- **Possible Purpose:** Additional malware payloads, secondary infections

ATTACK FLOW

Attack Flow:

Initial Infection via External Download (March 19, 01:45:03 UTC)

- **Source IP:** 10.0.90.215 (infected host)
- **Activity:** Download of executable files: test1.exe and f4.exe from external IPs:
 - test1.exe from 209.141.34.8 → Identified as a **TrojanSpy**.

Remcos RAT Check-in (March 19, 01:47:04 UTC)

- **Source:** 10.0.90.215 → **Destination:** 103.1.184.108
- **Activity:** Outbound connection indicating active **command-and-control (C2) communication**.

Dridex Execution and Second Malicious Download (March 19, 01:49:46 UTC)

- **Source:** 10.0.90.215 → **Destination:** 217.23.14.81
- **Activity:** Download request for f4.exe, reinforcing the presence of Dridex.

Lateral Movement via SMB (March 19, 01:50 UTC and onward)

- **Infected host 10.0.90.215** accessed multiple SMB shares on **LittleTigers-DC**:
 - \LittleTigers-DC.littletigers.info\IPC\$ (17 times)
 - \LittleTigers-DC.littletigers.info\sysvol (12 times)
 - \LittleTigers-DC\IPC\$ (4 times)
 - \LittleTigers-DC\Shared (3 times)
- **Purpose of attack:** Possible **credential theft, reconnaissance, or malware propagation** via:
 - **Pass-the-Hash / Pass-the-Ticket attacks**
 - **Modifying Group Policy Objects (GPOs) in SYSVOL**
 - **Exfiltration of sensitive data from shared directories**

DOCUMENTATION

Initial Infection via External Download (March 19, 01:45:03 UTC)

RT 1 seconion-... 5.439 2019-03-19 01:45:03 10.0.90.215 52609 10.0.90.9 53 17 ET POLICY DNS Update Fro...

IP Resolution Agent Status Snort Statistics System Msg

Reverse DNS ☒ Enable External DNS

rc IP:
rc Name:
st IP:
st Name:
hois Query: ☒ None ☐ Src IP ☐ Dst IP

☒ Show Packet Data ☒ Show Rule

alert udp \$EXTERNAL_NET any -> \$HOME_NET 53 (msg:"ET POLICY DNS Update From External net"; byte_test:1,&128,2; byte_test:1,&64,2; byte_test:1,&32,2; byte_test:1,&16,2;

IP	Source IP	Dest IP	Ver	HL	TOS	len	ID	Flags	Offset	TTL	chkSum
	10.0.90.215	10.0.90.9	4	5	0	147	237	0	0	128	2881

UDP	Source Port	Dest Port	Length	ChkSum
	52609	53	127	7452

DATA	
A6 43 28 00 00 01 00 01 00 03 00 00 0C 6C 69 74	.C(.....lit
74 6C 65 74 69 67 65 72 73 04 69 6E 66 6F 00 00	tletigers.info..
06 00 01 0E 42 6F 62 62 79 2D 54 69 67 65 72 2DBobby-Tiger-
50 43 0C 6C 69 74 74 6C 65 74 69 67 65 72 73 04	PC.littletigers.
69 6E 66 6F 00 00 05 00 FE 00 00 00 00 00 C0	info.....
73 00 1C 00 EC 00 00 00 00 00 00 00 00 00 00	#

Search Packet Payload ☐ Hex ☒ Text ☐ NoCase

Remcos RAT Check-in (March 19, 01:47:04 UTC)

2019-03-19 01:47:04 10.0.90.215 49204 209.141.34.8 80 6 ET INFO Executable Downlo...

2019-03-19 01:47:04 10.0.90.215 49204 209.141.34.8 80 6 ET CURRENT EVENTS Pos...

Statistics System Msg

☒ Show Packet Data ☒ Show Rule

alert tcp \$HOME_NET any -> \$EXTERNAL_NET \$HTTP_PORTS (msg:"ET INFO Executable Download from dotted-quad Host"; flow:established,to_server; content:".exe"; http_uri; nocase;

IP	Source IP	Dest IP	Ver	HL	TOS	len	ID	Flags	Offset	TTL	chkSum
	10.0.90.215	209.141.34.8	4	5	0	348	421	2	0	128	4084

TCP	Source Port	Dest Port	Seq #	Ack #	Offset	Res Window	Urp	ChkSum	
	49204	80	2938185605	1203208075	5	0	64240	0	30703

DATA	
47 45 54 20 2F 74 65 73 74 31 2E 65 78 65 20 48	GET /test1.exe H
54 54 50 2F 31 2E 31 0D 0A 41 63 63 65 70 74 3A	TTP/1.1..Accept:
20 2A 2F 2A 0D 0A 41 63 63 65 70 74 2D 45 6E 63	/*..Accept-Enc
6F 64 69 6E 67 3A 20 67 7A 69 70 2C 20 64 65 66	oding: gzip, def
6C 61 74 65 0D 0A 55 73 65 72 2D 41 67 65 6F 74	late User-Agent

```
SRC: GET /test1.exe HTTP/1.1
SRC: Accept: */*
SRC: Accept-Encoding: gzip, deflate
SRC: User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.1; WOW64; Trident/7.0; SLCC2;
.NET CLR 2.0.50727; .NET CLR 3.5.30729; .NET CLR 3.0.30729; Media Center PC 6.0; .NET4.0C;
.NET4.0E)
SRC: Host: 209.141.34.8
SRC: Connection: Keep-Alive
```

DOCUMENTATION

Security alert was triggered indicating a Remcos RAT infection on host 10.0.90.215

Alert ▾	Source IP Address ▾	Destination IP Address ▾	Count ▾
ET TROJAN Remcos RAT CheckIn 23	10.0.90.215	103.1.184.108	404
ET TROJAN ABUSE.CH SSL Blacklist Malicious SSL certificate detected (Dridex)	31.22.4.176	10.0.90.215	16
ET TROJAN ABUSE.CH SSL Blacklist Malicious SSL certificate detected (Dridex)	203.45.1.75	10.0.90.215	13
ET TROJAN ABUSE.CH SSL Blacklist Malicious SSL certificate detected (Dridex)	115.112.43.81	10.0.90.215	3

Additional alerts suggest possible Dridex activity due to SSL certificate detections from known malicious sources

DOCUMENTATION

Dridex Execution and Second Malicious Download (March 19, 01:49:46 UTC)

2019-03-19 01:49:46 217.23.14.81 80 10.0.90.215 49206 6 ET INFO Packed Executable...

StatisticsSystem Msg

☒ Show Packet Data☒ Show Rule

alert tcp \$EXTERNAL_NET \$HTTP_PORTS -> \$HOME_NET any (msg:"ET INFO Packed Executable Download"; flow:established,to_client; file_data; content:"MZ"; within:2;

IP	Source IP	Dest IP	Ver	HL	TOS	len	ID	Flags	Offset	TTL	ChkSum
	217.23.14.81	10.0.90.215	4	5	0	1500	55135	0	0	128	4477

TCP	U A P R S F										
	Source Port	Dest Port	R	R	R	C	S	S	Y	I	
	Port	Port	1	0	G	K	H	T	N	N	
	80	49206	.	.	X	
							Seq #	Ack #	Offset	Res Window	Urp ChkSum
							436425177	2719392796	5	0	64240 0 46951

DATA	74 61 63 68 6D 65 6E 74 3B 20 66 69 6C 65 6E 61	tachment; filename
	6D 65 3D 22 46 34 2E 65 78 65 22 3B 0D 0A 0D 0A	me="F4.exe";....
	4D 5A 90 00 03 00 00 00 04 00 00 00 FF FF 00 00	MZ.....
	B8 00 00 00 00 00 00 00 40 00 00 00 00 00 00@.....
	00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	

Search Packet Payload

☐ Hex☒ Text☐ NoCase

Sensor Name: seconion-import-1

Timestamp: 2019-03-19 01:49:46

Connection ID: .seconion-import-1_482

Src IP: 10.0.90.215

Dst IP: 217.23.14.81

Src Port: 49206

Dst Port: 80

OS Fingerprint: 10.0.90.215:49206 - Windows XP/2000 (RFC1323+, w+, tstamp-) [GENERIC]

OS Fingerprint: Signature: [8192:128:1:52:M1460,N,W8,N,N,S::Windows:?]

OS Fingerprint: -> 217.23.14.81:80 (distance 0, link: ethernet/modem)

SRC: GET /f4.exe HTTP/1.1

SRC: Accept: */*

SRC: Accept-Encoding: gzip, deflate

SRC: User-Agent: Mozilla/4.0 (compatible; MSIE 7.0; Windows NT 6.1; WOW64; Trident/7.0; SLCC2; .NET CLR 2.0.50727; .NET CLR 3.5.30729; .NET CLR 3.0.30729; Media Center PC 6.0; .NET4.0C; .NET4.0E)

SRC: Host: 217.23.14.81

SRC: Connection: Keep-Alive

SRC:


SRC:

DOCUMENTATION

The test1.exe revealed to be a spyware trojan

talosintelligence.com/sha_searches

FILE REPUTATION


Malicious

TALOS WEIGHTED FILE REPUTATION SCORE ⓘ
Score not available.

Think this reputation is incorrect?
[Submit a File Reputation Ticket](#)

SHA256
2A9B0ED40F1F0BC0C13FF35D304689E9CADD633781CBCAD1C2D2B92CED3F1C85

Clicking the above SHA256 will redirect you to Cisco ThreatGrid. This service requires a ThreatGrid subscription.

FILE SIZE 811520 bytes

SAMPLE TYPE PE32 executable (GUI) Intel 80386, for MS Windows

CISCO SECURE ENDPOINT DETECTION NAME Remcos::gravity::Win.Dropper.Vbkryjetor::in03.talos

*Limited to SHA256 lookup

ASSOCIATED DOMAINS FOR THIS HASH
Domains not available.

DETECTION ALIASES

[TROJAN] Trojan/Win32.Generic.C3113109

detected

Win32:Evo-gen [Trj]

Trojan.GenericKD.42036511


win/malicious_confidence_100

malware.confidence_100

Trojan.Siggen8.18466

The f4.exe revealed to be a dridex

FILE REPUTATION


Malicious

TALOS WEIGHTED FILE REPUTATION SCORE ⓘ
Score not available.

Think this reputation is incorrect?
[Submit a File Reputation Ticket](#)

SHA256
5865E801E6324166D6D05B39A14F2A8A798C6EB652831F78C2634F2B7A400EAF

Clicking the above SHA256 will redirect you to Cisco ThreatGrid. This service requires a ThreatGrid subscription.

FILE SIZE 176128 bytes

SAMPLE TYPE PE32 executable (console) Intel 80386, for MS Windows

CISCO SECURE ENDPOINT DETECTION NAME Win.Dropper.Cridex::1201

*Limited to SHA256 lookup

ASSOCIATED DOMAINS FOR THIS HASH
Domains not available.

DETECTION ALIASES

[TROJAN] Trojan/Win.Generic.R457226

detected

Win32:Trojan-gen

Trojan.Downloader.JUPC

win/malicious_confidence_100

malware.confidence_100

Trojan.Siggen8.19138

malicious (high confidence)

Detected

DOCUMENTATION

10.0.90.215 accessed 10.0.90.9 via SMB, interacting with critical SYSVOL files.

SMB - Source IP Address		SMB - Destination IP Address	
IP Address ↕	Count ↕	IP Address ↕	Count ↕
10.0.90.215	36	10.0.90.9	36

SMB - File/Path Summary					
File Path	File Name	Action	Source IP Address	Destination	Count
				IP Address	
\\LittleTigers-DC.littletigers.info\\sysvol	littletigers.info\\Policies\\{31B2F340-016D-11D2-945F-00C04FB984F9}\\gpt.ini	SMB::FILE_OPEN	10.0.90.215	10.0.90.9	6
\\LittleTigers-DC\\Shared	<share_root>	SMB::FILE_OPEN	10.0.90.215	10.0.90.9	1

[illegible]

SUMMARY

This attack leveraged multiple infection techniques, including malware downloads, RAT-based persistence, and lateral movement through SMB exploitation. The ultimate goal appears to be credential theft and data exfiltration. Immediate action is required to contain and remediate the breach while enhancing security controls to prevent future incidents.

This attack is targeting a Windows-based corporate network with an Active Directory infrastructure. The attackers are likely aiming to:

- Steal credentials (possibly domain admin access).
- Exfiltrate sensitive data (especially financial info).
- Spread further in the network via Dridex and SMB.

Mitigation Recommendations

- Isolate 10.0.90.215 from the network immediately.
- Reset all potentially compromised credentials, especially domain admin accounts.
- Deploy endpoint detection scans on 10.0.90.9 and other high-risk machines.

CONFIGURATION

Hardware: ASUS Laptop

Operating System: Windows 11, Security Onion VM

Software: Microsoft Word, Google Chrome

PROJECT FILE DETAILS

No	File Name	Remarks
1	Project 2 Group 1.pdf	Abdur Rashid Firdaus
2	Project 2 Group 1.ppt (Powerpoint)	Kheyral Sutan Dumas