# It’s Just a Jump To The Left (of Boom)

## Prioritizing Detection Implementation With Intelligence and ATT&CK

# Introduction

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Senior Director, Operational Outcomes, Insikt Group
Recorded Future
@TheQueenofELF

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Sr Analyst - Intelligence, Emulation, & Purple Team
Major U.S. retailer
@IntelScott

# Disclaimer

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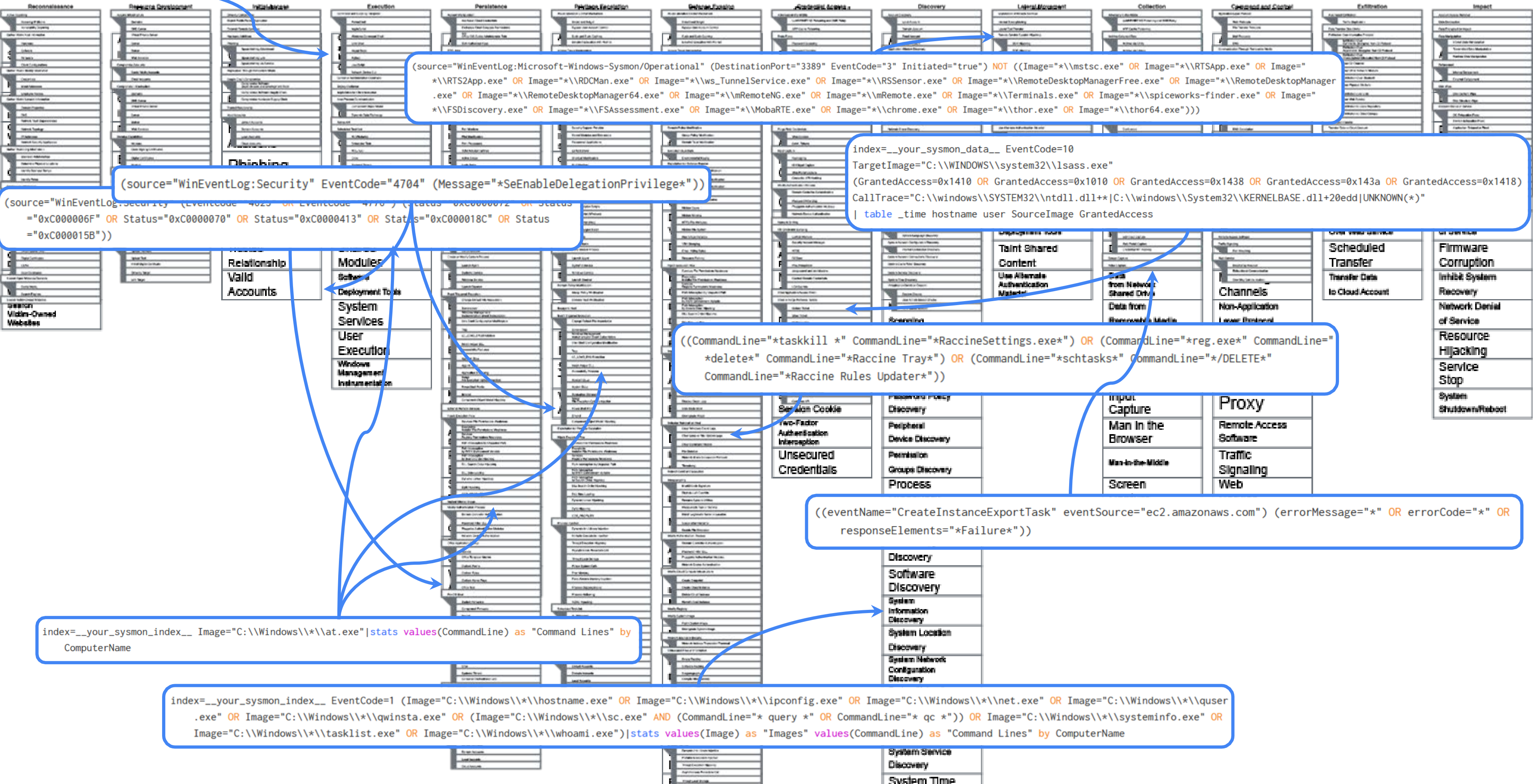
untless implementations 9,000+ detection rules, 2,100+ tests



```
index=__your_sysmon_index__ EventCode=1 Image="C:\\Windows\\*\\powershell.exe" ParentImage!="C
   :\\Windows\\explorer.exe"|stats values(CommandLine) as "Command Lines" values(ParentImage) as "Parent
   Images" by ComputerName
```

```
(source="WinEventLog:Microsoft-Windows-Sysmon/Operational" (DestinationPort="3389" EventCode="3" Initiated="true") NOT ((Image="*\\mstsc.exe" OR Image="*\\RTSApp.exe" OR Image="
   *\\RTS2App.exe" OR Image="*\\RDCMan.exe" OR Image="*\\ws_TunnelService.exe" OR Image="*\\RSSensor.exe" OR Image="*\\RemoteDesktopManagerFree.exe" OR Image="*\\RemoteDesktopManager
   .exe" OR Image="*\\RemoteDesktopManager64.exe" OR Image="*\\mRemoteNG.exe" OR Image="*\\mRemote.exe" OR Image="*\\Terminals.exe" OR Image="*\\spiceworks-finder.exe" OR Image="
   *\\FSDiscovery.exe" OR Image="*\\FSAssessment.exe" OR Image="*\\MobaRTE.exe" OR Image="*\\chrome.exe" OR Image="*\\thor.exe" OR Image="*\\thor64.exe")))
```

```
index=__your_sysmon_data__ EventCode=10
TargetImage="C:\\WINDOWS\\system32\\lsass.exe"
(GrantedAccess=0x1410 OR GrantedAccess=0x1010 OR GrantedAccess=0x1438 OR GrantedAccess=0x143a OR GrantedAccess=0x1418)
CallTrace="C:\\windows\\SYSTEM32\\ntdll.dll+*|C:\\windows\\System32\\KERNELBASE.dll+20edd|UNKNOWN(*)"
| table _time hostname user SourceImage GrantedAccess
```

```
(source="WinEventLog:Security" EventCode="4704" (Message="*SeEnableDelegationPrivilege*"))
```

```
(source="WinEventLog:Security" (EventCode="4625" OR EventCode="4776") (Status="0xC0000072" OR Status
   ="0xC000006F" OR Status="0xC0000070" OR Status="0xC0000413" OR Status="0xC000018C" OR Status
   ="0xC000015B"))
```

```
((CommandLine="*taskkill *" CommandLine="*RaccineSettings.exe*") OR (CommandLine="*reg.exe*" CommandLine="
   *delete*" CommandLine="*Raccine Tray*") OR (CommandLine="*schtasks*" CommandLine="*/DELETE*"
   CommandLine="*Raccine Rules Updater*"))
```

```
((eventName="CreateInstanceExportTask" eventSource="ec2.amazonaws.com") (errorMessage="*" OR errorCode="*" OR
   responseElements="*Failure*"))
```

```
index=__your_sysmon_index__ Image="C:\\Windows\\*\\at.exe"|stats values(CommandLine) as "Command Lines" by
   ComputerName
```

```
index=__your_sysmon_index__ EventCode=1 (Image="C:\\Windows\\*\\hostname.exe" OR Image="C:\\Windows\\*\\ipconfig.exe" OR Image="C:\\Windows\\*\\net.exe" OR Image="C:\\Windows\\*\\quser
   .exe" OR Image="C:\\Windows\\*\\qwinsta.exe" OR (Image="C:\\Windows\\*\\sc.exe" AND (CommandLine="* query *" OR CommandLine="* qc *")) OR Image="C:\\Windows\\*\\systeminfo.exe" OR
   Image="C:\\Windows\\*\\tasklist.exe" OR Image="C:\\Windows\\*\\whoami.exe")|stats values(Image) as "Images" values(CommandLine) as "Command Lines" by ComputerName
```

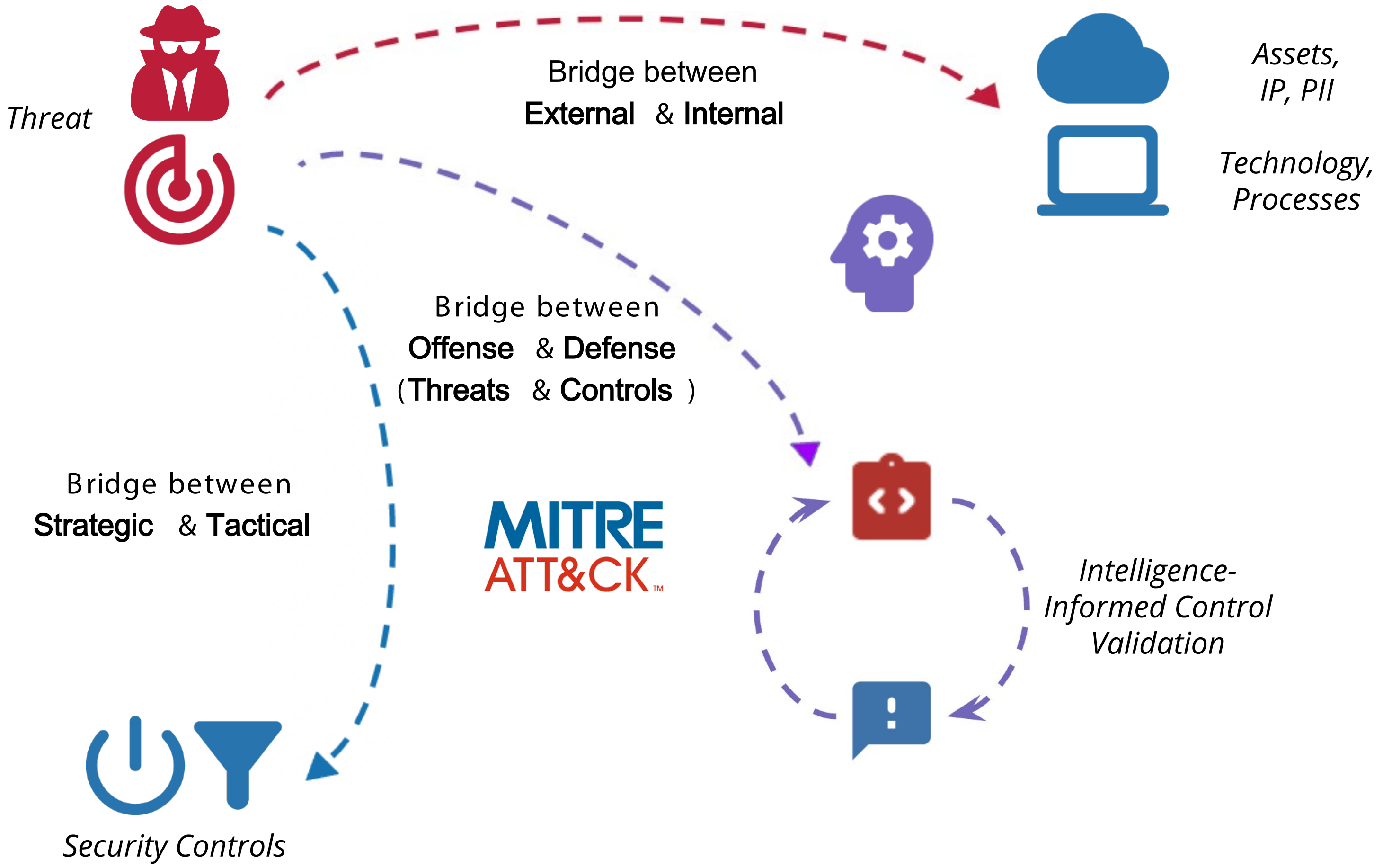
# Background

For defenders, deciding where to start when implementing behavioral detections can be daunting

Ideally, a “best practice” approach involves closing the gap between existing controls and relevant threats - but this is easier said than done

# Intelligence as a Bridge

# Intelligence as a Bridge



Threat

Bridge between
**External** & **Internal**

*Assets,*
*IP, PII*

*Technology,*
*Processes*

Bridge between
**Offense** & **Defense**
(**Threats** & **Controls**)

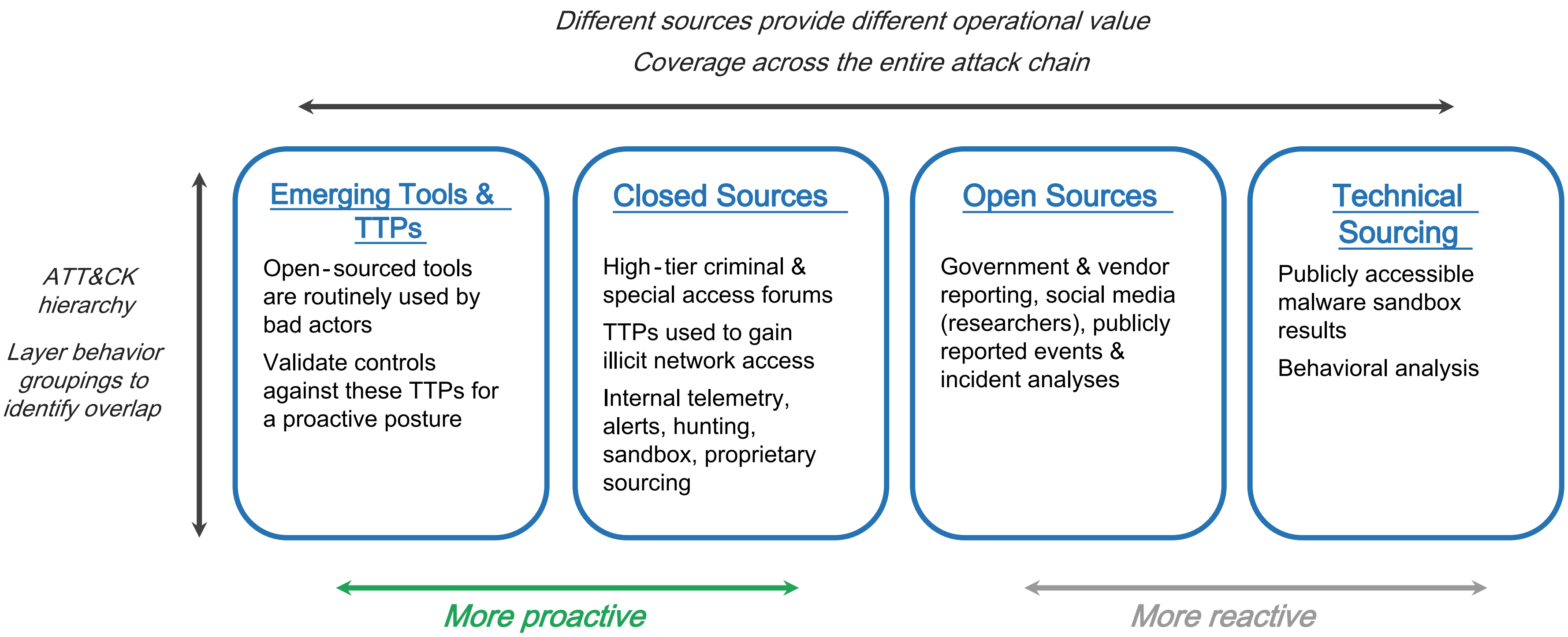
Bridge between
**Strategic** & **Tactical**

MITRE
ATT&CK™

*Intelligence-*
*Informed Control*
*Validation*

*Security Controls*

# Sourcing TTP - Focused Intelligence



*Different sources provide different operational value*

*Coverage across the entire attack chain*

*ATT&CK hierarchy*

*Layer behavior groupings to identify overlap*

## Emerging Tools & TTPs

Open-sourced tools are routinely used by bad actors

Validate controls against these TTPs for a proactive posture

## Closed Sources

High-tier criminal & special access forums

TTPs used to gain illicit network access

Internal telemetry, alerts, hunting, sandbox, proprietary sourcing

## Open Sources

Government & vendor reporting, social media (researchers), publicly reported events & incident analyses

## Technical Sourcing

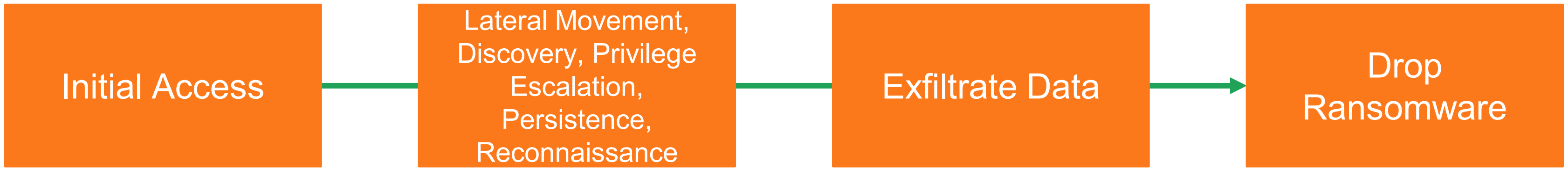
Publicly accessible malware sandbox results

Behavioral analysis

*More proactive*

*More reactive*

# Case Study: Anatomy of a Ransomware Attack



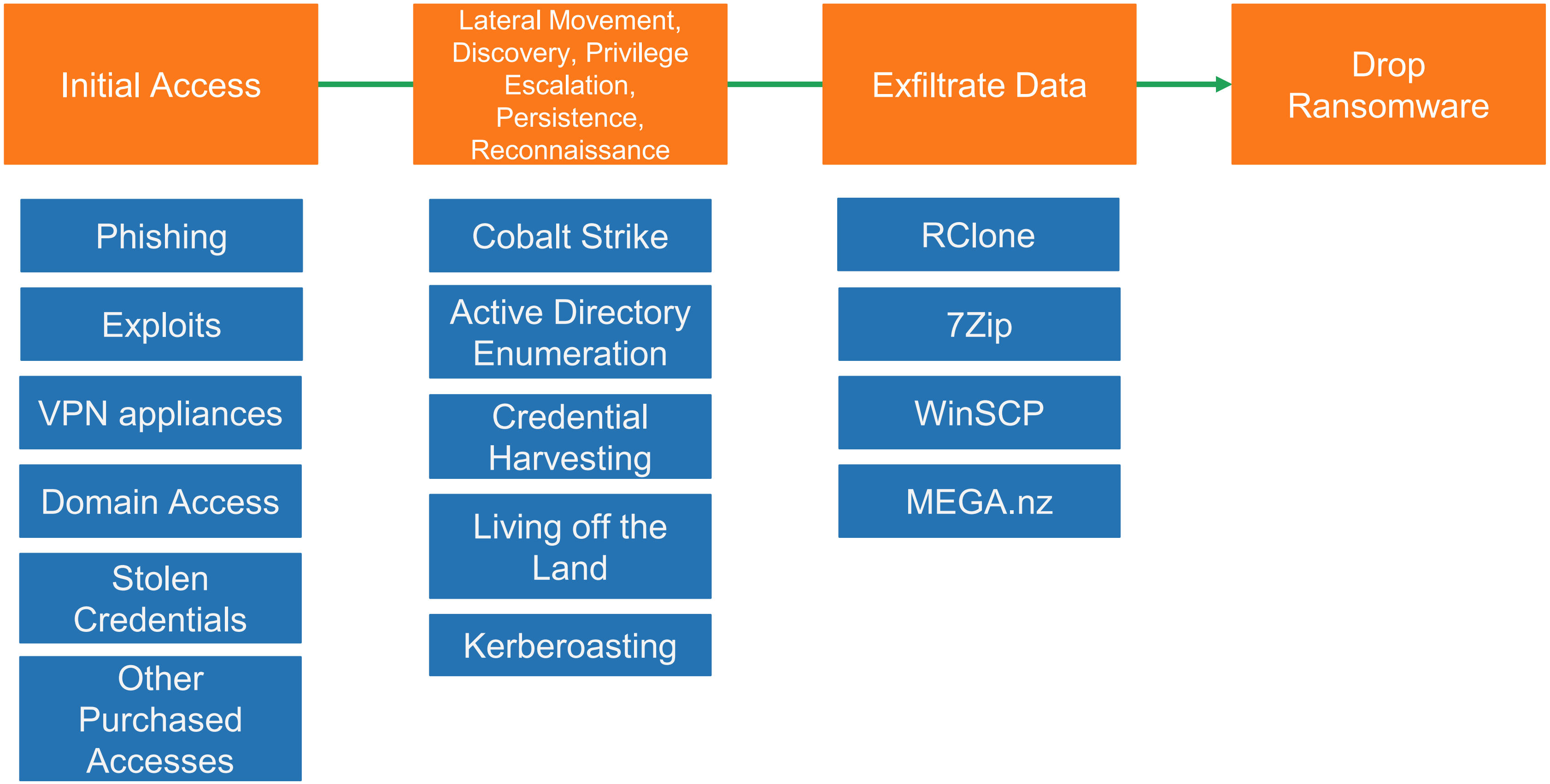
Initial Access

Lateral Movement, Discovery, Privilege Escalation, Persistence, Reconnaissance

Exfiltrate Data

Drop Ransomware

# Case Study: Anatomy of a Ransomware Attack



Initial Access

- Phishing
- Exploits
- VPN appliances
- Domain Access
- Stolen Credentials
- Other Purchased Accesses

Lateral Movement, Discovery, Privilege Escalation, Persistence, Reconnaissance

- Cobalt Strike
- Active Directory Enumeration
- Credential Harvesting
- Living off the Land
- Kerberoasting

Exfiltrate Data

- RClone
- 7Zip
- WinSCP
- MEGA.nz

Drop Ransomware

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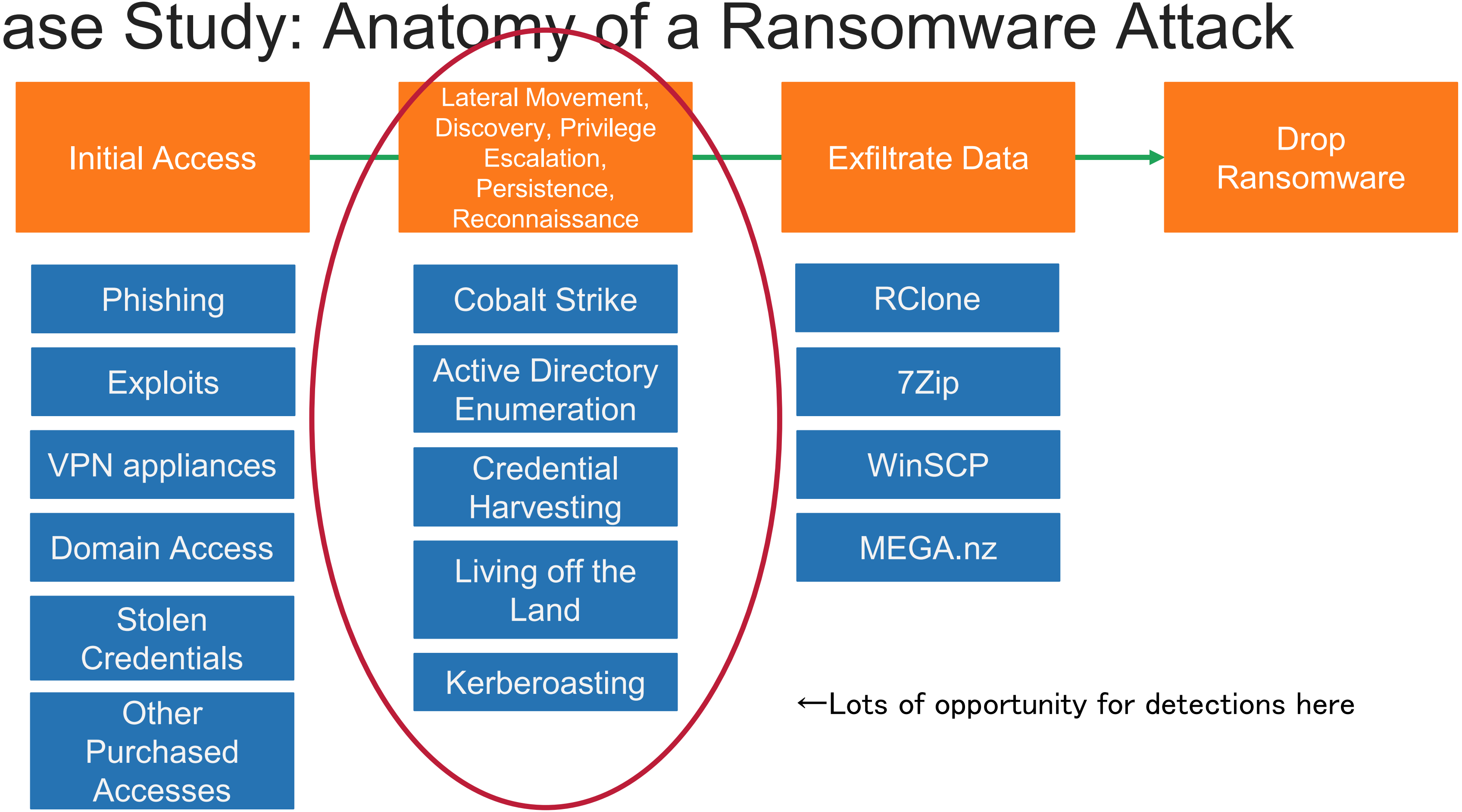

**Initial Access**

- Phishing
- Exploits
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- Domain Access
- Stolen Credentials
- Other Purchased Accesses

**Lateral Movement, Discovery, Privilege Escalation, Persistence, Reconnaissance**

- Cobalt Strike
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**Exfiltrate Data**

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- 7Zip
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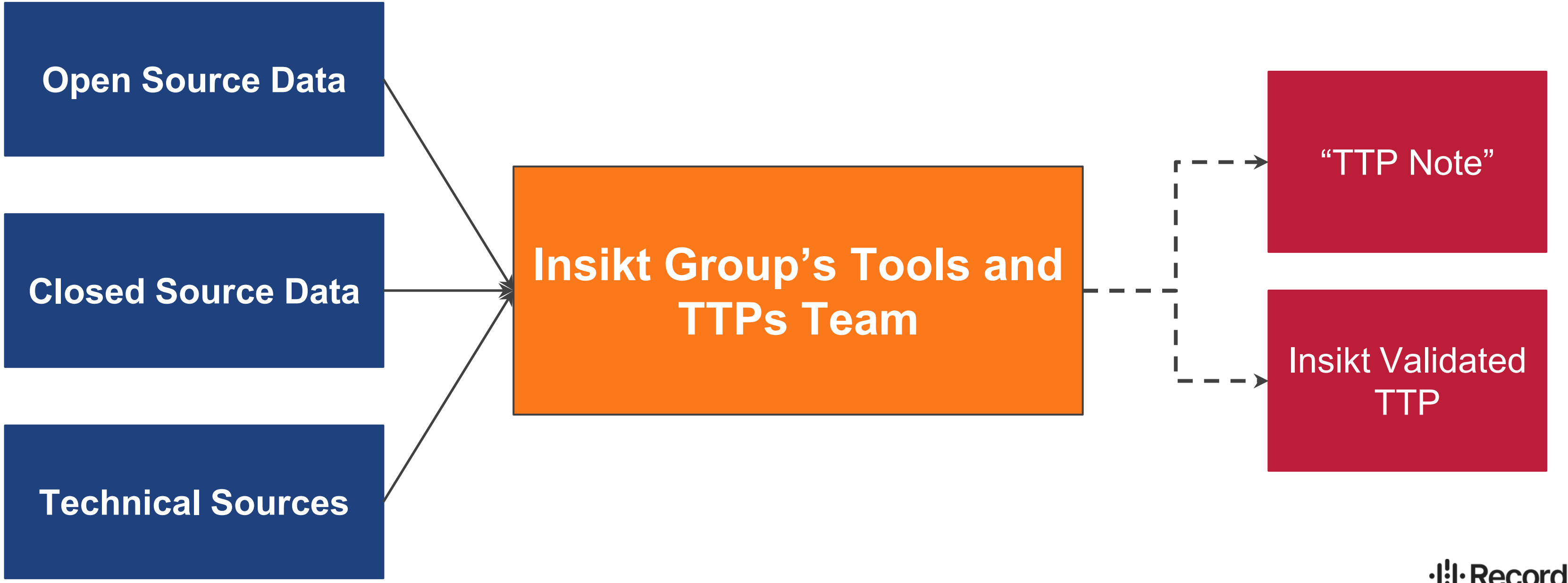
**Drop Ransomware**

←Lots of opportunity for detections here

Recorded Future

# Intel driving rule development (Insikt's process)

ATT&CK serves as a common language between highly technical concepts or reports and defenders'/operators' needs



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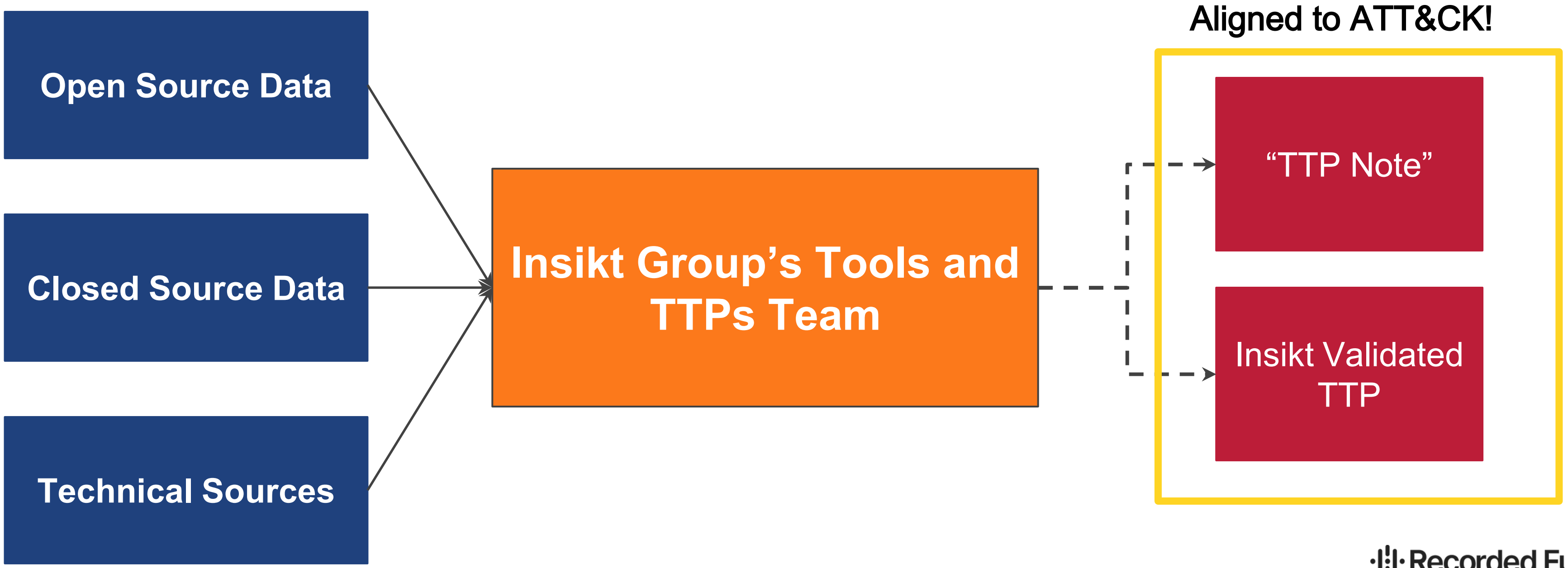
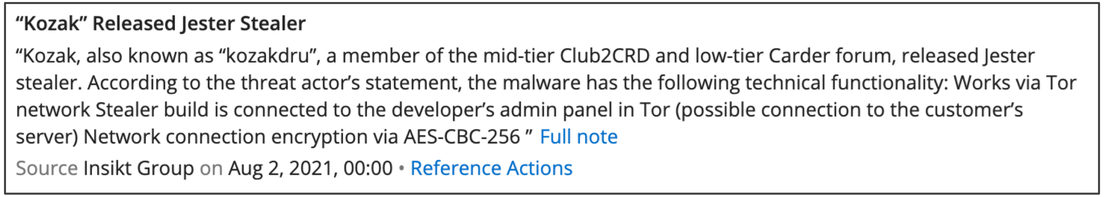


Recorded Future®

# Case Study: Intelligence Driving Rule Development



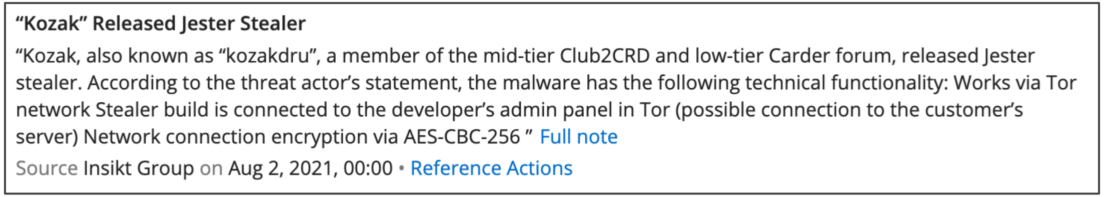
**“Kozak” Released Jester Stealer**

“Kozak, also known as “kozakdru”, a member of the mid-tier Club2CRD and low-tier Carder forum, released Jester stealer. According to the threat actor’s statement, the malware has the following technical functionality: Works via Tor network Stealer build is connected to the developer’s admin panel in Tor (possible connection to the customer’s server) Network connection encryption via AES-CBC-256 ” Full note

Source Insikt Group on Aug 2, 2021, 00:00 • Reference Actions

We saw a threat actor “release” Jester Stealer on the dark web in August 2021 - produced a “note”

# Case Study: Intelligence Driving Rule Development



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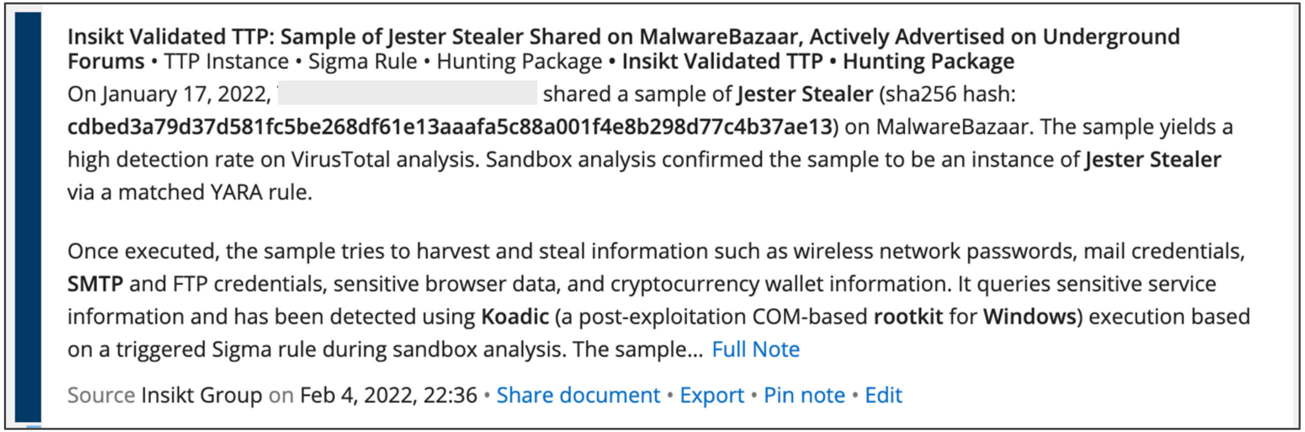


**Insikt Validated TTP: Sample of Jester Stealer Shared on MalwareBazaar, Actively Advertised on Underground Forums** • TTP Instance • Sigma Rule • Hunting Package • **Insikt Validated TTP • Hunting Package**

On January 17, 2022, [redacted] shared a sample of **Jester Stealer** (sha256 hash: **cdbed3a79d37d581fc5be268df61e13aaafa5c88a001f4e8b298d77c4b37ae13**) on MalwareBazaar. The sample yields a high detection rate on VirusTotal analysis. Sandbox analysis confirmed the sample to be an instance of **Jester Stealer** via a matched YARA rule.

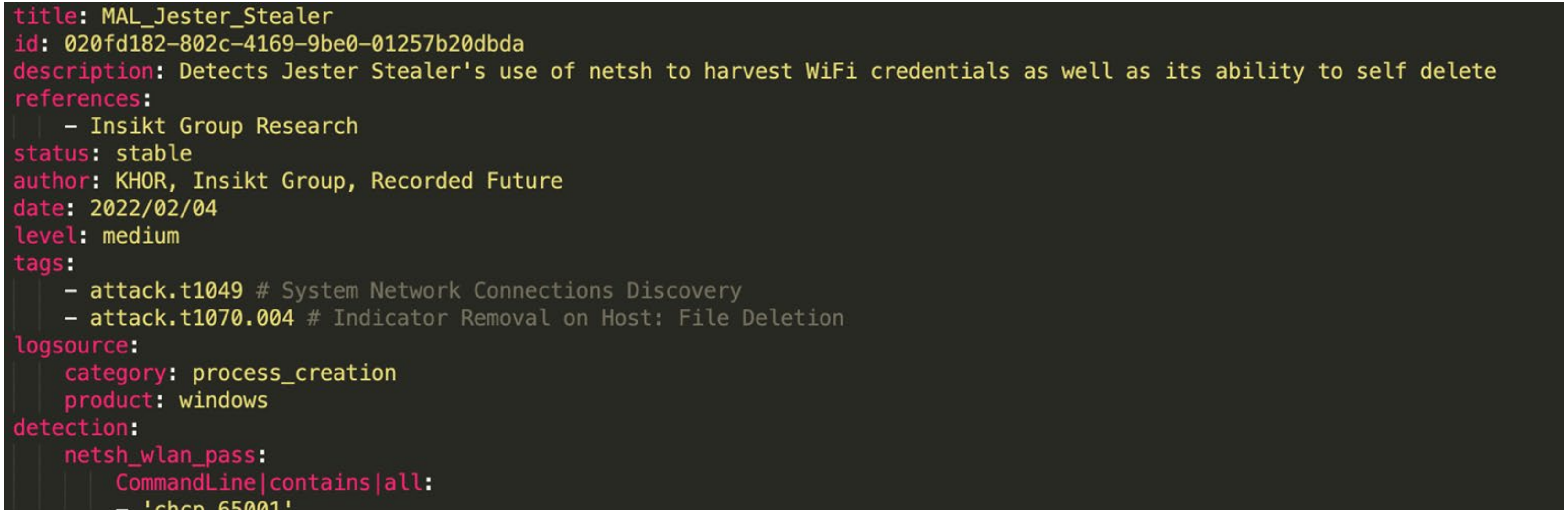
Once executed, the sample tries to harvest and steal information such as wireless network passwords, mail credentials, **SMTP** and FTP credentials, sensitive browser data, and cryptocurrency wallet information. It queries sensitive service information and has been detected using **Koadic** (a post-exploitation COM-based **rootkit** for **Windows**) execution based on a triggered Sigma rule during sandbox analysis. The sample... Full Note

Source Insikt Group on Feb 4, 2022, 22:36 • Share document • Export • Pin note • Edit

Then, in January 2022, we saw a user on social media shared a sample of Jester Stealer on MalwareBazaar….

# Case Study: Intelligence Driving Rule Development

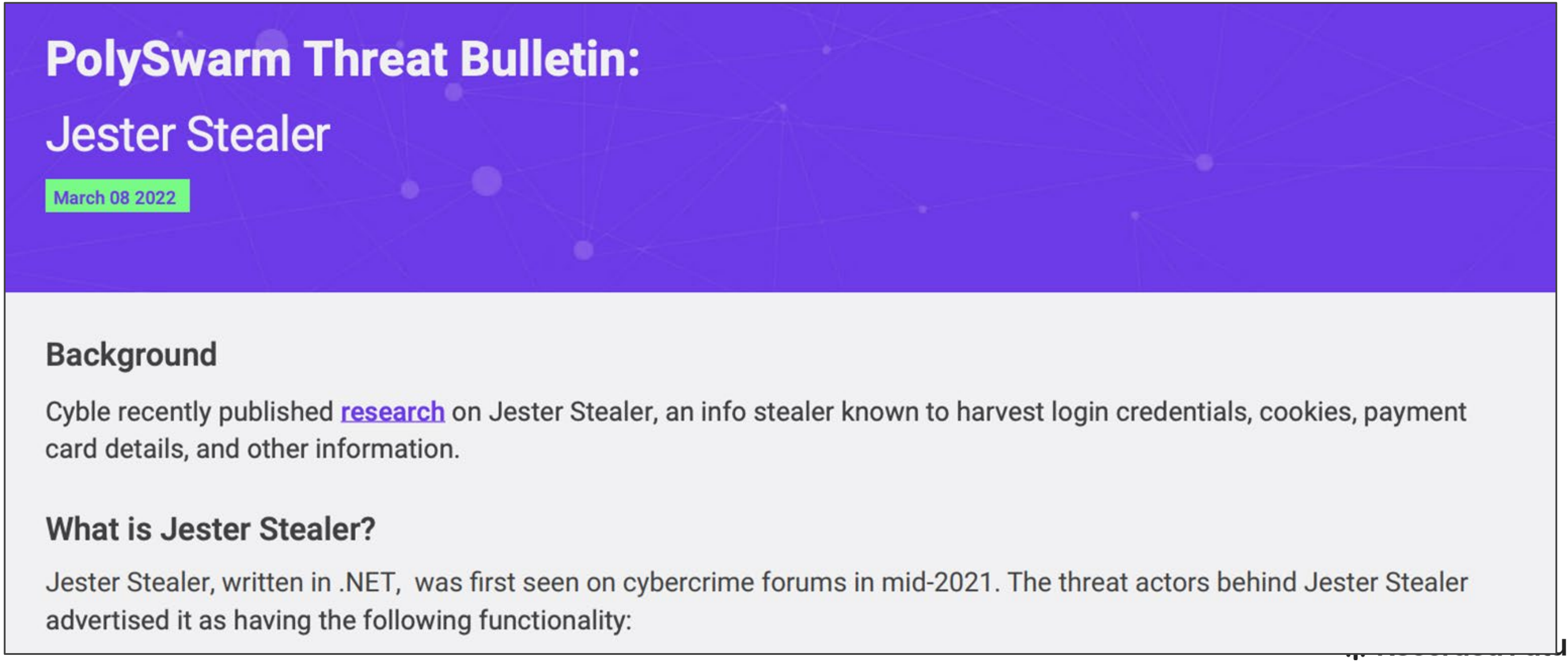
Now that Jester Stealer was openly in use, an Insikt Validated TTP was created to provide a Sigma rule to our clients, to help detect the malware



```
title: MAL_Jester_Stealer
id: 020fd182-802c-4169-9be0-01257b20dbda
description: Detects Jester Stealer's use of netsh to harvest WiFi credentials as well as its ability to self delete
references:
    - Insikt Group Research
status: stable
author: KHOR, Insikt Group, Recorded Future
date: 2022/02/04
level: medium
tags:
    - attack.t1049 # System Network Connections Discovery
    - attack.t1070.004 # Indicator Removal on Host: File Deletion
logsource:
    category: process_creation
    product: windows
detection:
    netsh_wlan_pass:
        CommandLine|contains|all:
            - 'chcp 65001'
```

# Case Study: Intelligence Driving Rule Development

One month later, other vendors identified Jester Stealer as a priority threat



## PolySwarm Threat Bulletin:

Jester Stealer

March 08 2022

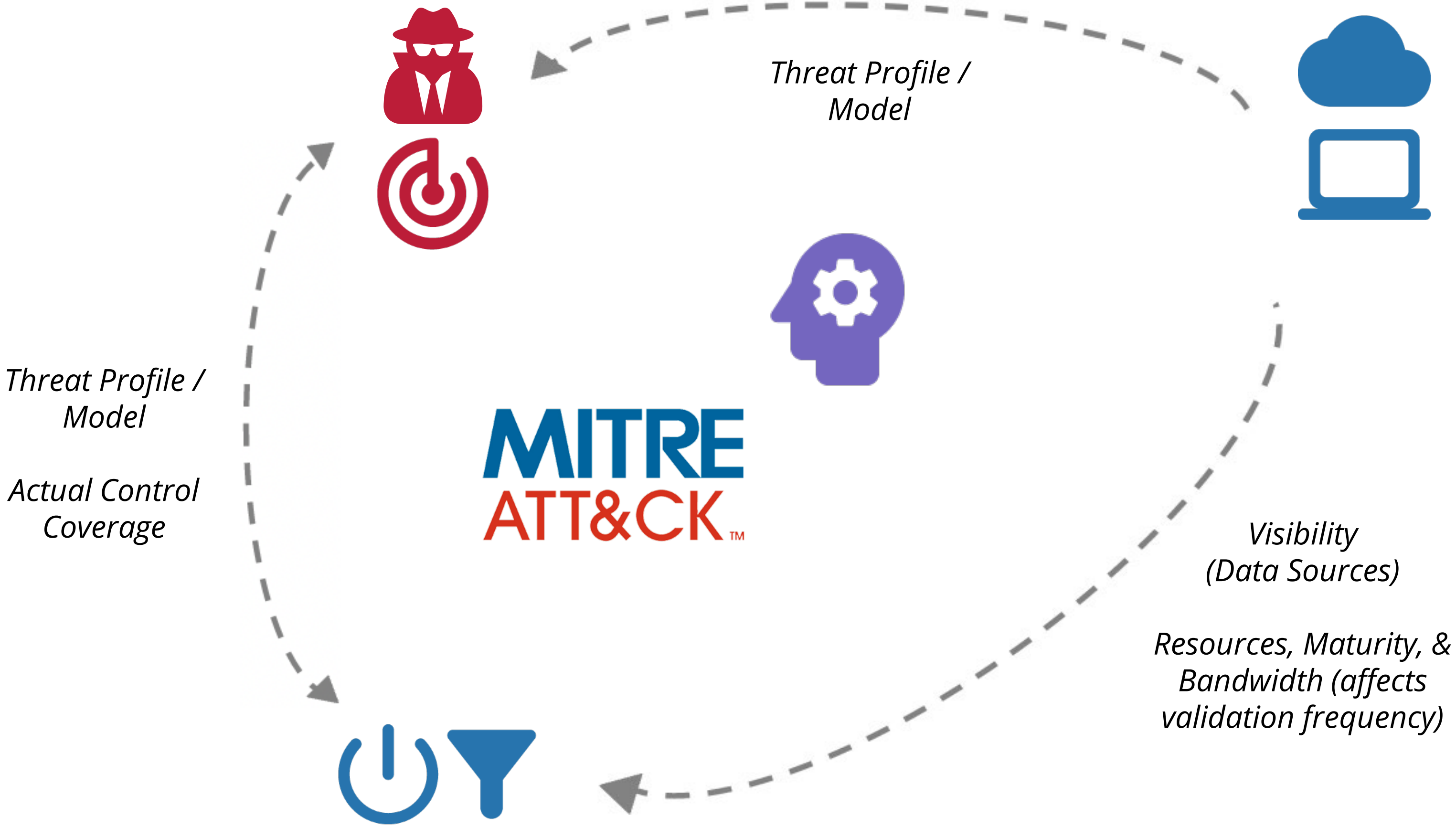
### Background

Cyble recently published research on Jester Stealer, an info stealer known to harvest login credentials, cookies, payment card details, and other information.

### What is Jester Stealer?

Jester Stealer, written in .NET,  was first seen on cybercrime forums in mid-2021. The threat actors behind Jester Stealer advertised it as having the following functionality:

# Prioritizing Detections: Risk Profiling



*Threat Profile / Model*

*Threat Profile / Model*

*Actual Control Coverage*

*Visibility (Data Sources)*

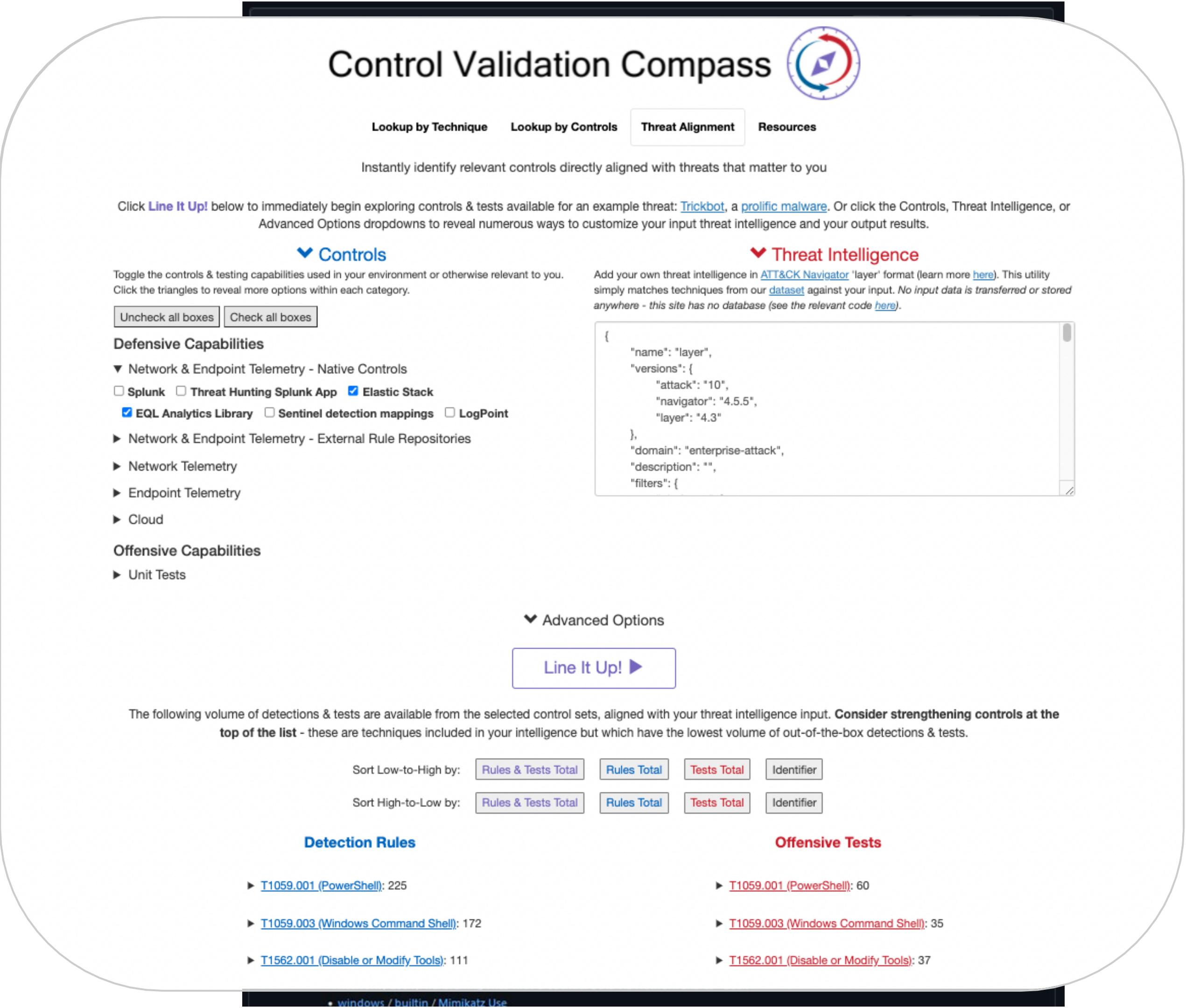
*Resources, Maturity, & Bandwidth (affects validation frequency)*

# Prioritizing Detections: A Compass to Guide You

## Control Validation Compass

[controlcompass.github.io](controlcompass.github.io)

Open source tool pointing cybersecurity teams to **9,000+** publicly-accessible technical and policy controls and **2,100+** offensive security tests, aligned with over **500** ATT&CK (sub)techniques



# Control Validation Compass

Instantly identify relevant controls directly aligned with threats that matter to you

Click **Line It Up!** below to immediately begin exploring controls & tests available for an example threat: Trickbot, a prolific malware. Or click the Controls, Threat Intelligence, or Advanced Options dropdowns to reveal numerous ways to customize your input threat intelligence and your output results.

## Controls

Toggle the controls & testing capabilities used in your environment or otherwise relevant to you. Click the triangles to reveal more options within each category.

### Defensive Capabilities

▼ Network & Endpoint Telemetry - Native Controls

□ **Splunk** □ **Threat Hunting Splunk App** ☑ **Elastic Stack**
☑ **EQL Analytics Library** □ **Sentinel detection mappings** □ **LogPoint**

▶ Network & Endpoint Telemetry - External Rule Repositories

▶ Network Telemetry

▶ Endpoint Telemetry

▶ Cloud

### Offensive Capabilities

▶ Unit Tests

## Threat Intelligence

Add your own threat intelligence in ATT&CK Navigator 'layer' format (learn more here). This utility simply matches techniques from our dataset against your input. *No input data is transferred or stored anywhere - this site has no database (see the relevant code here).*

```
{
    "name": "layer",
    "versions": {
        "attack": "10",
        "navigator": "4.5.5",
        "layer": "4.3"
    },
    "domain": "enterprise-attack",
    "description": "",
    "filters": {
```

The following volume of detections & tests are available from the selected control sets, aligned with your threat intelligence input. **Consider strengthening controls at the top of the list** - these are techniques included in your intelligence but which have the lowest volume of out-of-the-box detections & tests.

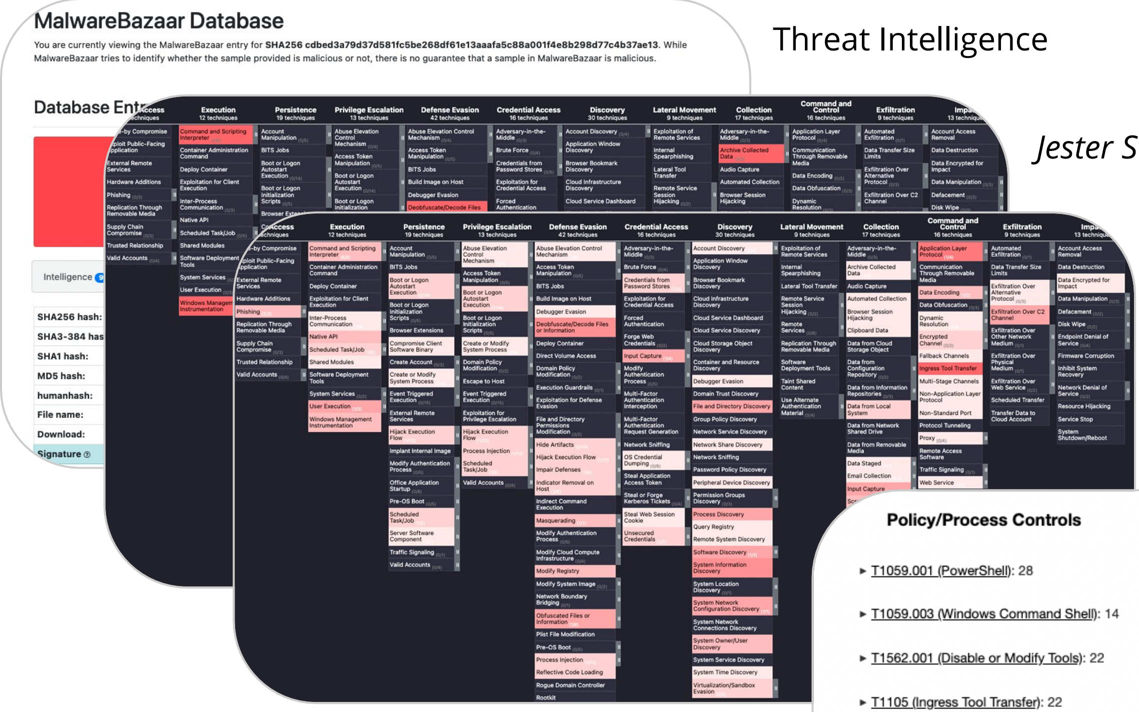
Sort Low-to-High by: Rules & Tests Total | Rules Total | Tests Total | Identifier
Sort High-to-Low by: Rules & Tests Total | Rules Total | Tests Total | Identifier

| Detection Rules | Offensive Tests |
|---|---|
| ▶ T1059.001 (PowerShell): 225 | ▶ T1059.001 (PowerShell): 60 |
| ▶ T1059.003 (Windows Command Shell): 172 | ▶ T1059.003 (Windows Command Shell): 35 |
| ▶ T1562.001 (Disable or Modify Tools): 111 | ▶ T1562.001 (Disable or Modify Tools): 37 |

- windows / builtin / Mimikatz Use

controlcompass.github.io

# Threat Intelligence



## MalwareBazaar Database

You are currently viewing the MalwareBazaar entry for **SHA256 cdbed3a79d37d581fc5be268df61e13aaafa5c88a001f4e8b298d77c4b37ae13**. While MalwareBazaar tries to identify whether the sample provided is malicious or not, there is no guarantee that a sample in MalwareBazaar is malicious.

Database Ent

Intelligence

**SHA256 hash:**
**SHA3-384 has**
**SHA1 hash:**
**MD5 hash:**
**humanhash:**
**File name:**
**Download:**
**Signature**

Initial Access
Execution 12 techniques
Persistence 19 techniques
Privilege Escalation 13 techniques
Defense Evasion 42 techniques
Credential Access 16 techniques
Discovery 30 techniques
Lateral Movement 9 techniques
Collection 17 techniques
Command and Control 16 techniques
Exfiltration 9 techniques
Impact 13 techniques

*Jester Stealer*

*8 Stealer Malware (Combined)*

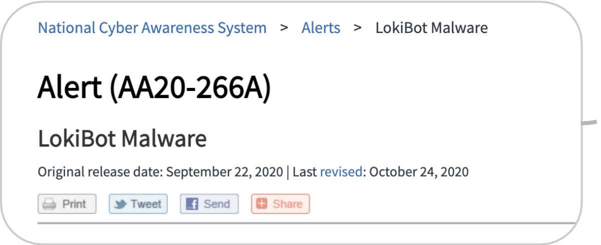
February 4, 2022 • 19 min read

## ACTINIUM targets Ukrainian organizations

Microsoft Threat Intelligence Center (MSTIC)

Microsoft Digital Security Unit (DSU)

[github.com/tropChaud/Cyber-Adversary-Heatmaps](https://github.com/tropChaud/Cyber-Adversary-Heatmaps)



National Cyber Awareness System > Alerts > LokiBot Malware

## Alert (AA20-266A)

### LokiBot Malware

Original release date: September 22, 2020 | Last revised: October 24, 2020

| **Policy/Process Controls** | **Detection Rules** | **Offensive Tests** |
|---|---|---|
| ▸ T1059.001 (PowerShell): 28 | ▸ T1059.001 (PowerShell): 284 | ▸ T1059.001 (PowerShell): 60 |
| ▸ T1059.003 (Windows Command Shell): 14 | ▸ T1059.003 (Windows Command Shell): 185 | ▸ T1059.003 (Windows Command Shell): 37 |
| ▸ T1562.001 (Disable or Modify Tools): 22 | ▸ T1562.001 (Disable or Modify Tools): 162 | ▸ T1562.001 (Disable or Modify Tools): 40 |
| ▸ T1105 (Ingress Tool Transfer): 22 | ▸ T1105 (Ingress Tool Transfer): 109 | ▸ T1105 (Ingress Tool Transfer): 66 |
| ▸ T1112 (Modify Registry): 7 | ▸ T1112 (Modify Registry): 138 | ▸ T1112 (Modify Registry): 48 |
| ▸ T1047 (Windows Management Instrumentation): 35 | ▸ T1047 (Windows Management Instrumentation): 93 | ▸ T1047 (Windows Management Instrumentation): 25 |
| ▸ T1548.002 (Bypass User Account Control): 26 | ▸ T1548.002 (Bypass User Account Control): 82 | ▸ T1548.002 (Bypass User Account Control): 40 |
| ▸ T1053.005 (Scheduled Task): 22 | ▸ T1053.005 (Scheduled Task): 69 | ▸ T1053.005 (Scheduled Task): 56 |
| ▸ T1082 (System Information Discovery): 6 | ▸ T1082 (System Information Discovery): 31 | ▸ T1082 (System Information Discovery): 85 |
| ▸ T1204.002 (Malicious File): 21 | ▸ T1204.002 (Malicious File): 69 | ▸ T1204.002 (Malicious File): 12 |

Operational takeaways (Controls)

# Thank You!