



SANGFOR

Sangfor Correlated Policy Practice Guidance

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- Pre-sale
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Note Icons

English Icon	Description
	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation, which if not avoided, could result in minor or moderate injury.
	Indicates a hazardous situation, which if not avoided, could result in settings failing to take effect, equipment damage, or data loss. NOTICE addresses practices not related to personal injury.
	Calls attention to important information, best practices, and tips. NOTE addresses information not related to personal injury or equipment damage.

Change Log

Date	Change Description
2023-04-24	This is the first release of this document.

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1 Case

This document aims to carry out high-frequency correlated processing between different self-developed devices(ES/IAG/NGAF/CC) and integrate gateway, terminal, and platform products to achieve continuous threat detection and efficient security operations, bringing value to customers.

According to solutions based on marketing, we provide scenario-based playbook strategies for different customer environments.

No	Solution Type	Main Products Involved	Remark
1	XDDR	ES、NGAF、CC	playbook,security operations improvement.

1.1 Scene

1.1.1 Customer Pain Points

The customer has invested in a range of cybersecurity solutions, including IAG, CC, ES, and NGAF devices, yet continues to experience numerous daily security alerts related to botnets, Trojan horses, and worms. These alerts occasionally occur during nighttime hours, increasing the risk to information security. Although the information department has been promoting the installation of EDR, some terminals remain unprotected, exacerbating these risks.

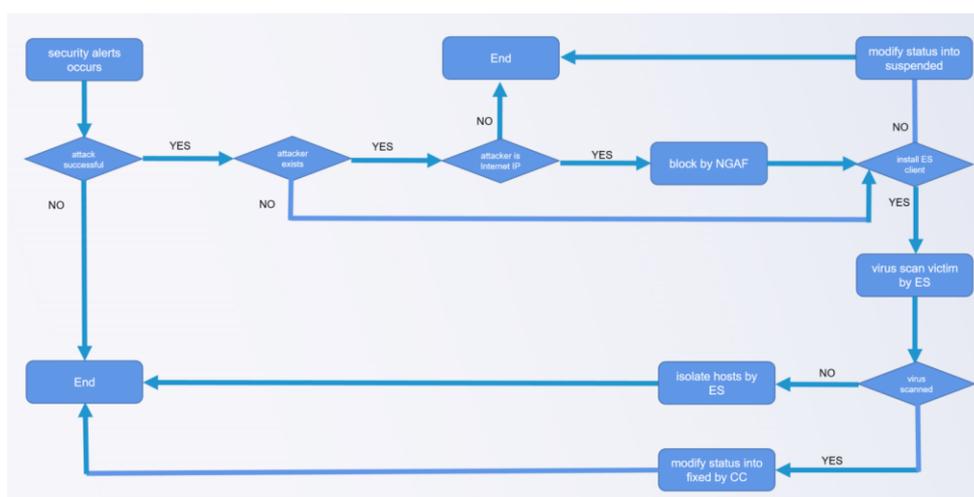
To address these concerns, the customer seeks an effective integration of these security products through the playbook of CC, enabling timely and automated detection and resolution of potential threats. By reducing the burden of manual security operations, the team can more efficiently manage threats and control their spread, even during overnight hours when security personnel may not be readily available.

1.1.2 Implementation Method Analysis

The IAG solution can control user access to the Internet, while the ES solution scans and eliminates malicious processes on terminals, enabling the identification of the root cause of these threats. The NGAF can block communication between malicious processes and known Internet malicious websites, preventing further infection. The CC solution can set playbook policies that integrate and streamline the use of these devices.

For clients, threats often occur when accessing the Internet, as they unknowingly come into contact with malicious servers and other harmful elements. However, by utilizing these automation playbook policies, the risk of such threats can be effectively mitigated and controlled, ensuring that the system remains secure and protected against potential cyber risks.

Based on the above ideas, we can draw the following flow chart:



- **Step 1:** Once alerts are triggered, they hit the predefined policy settings, initiating the first step in the process of assessing and addressing potential threats.
- **Step2:** If the attack results belong to attempted or failed, this suggests that there has been no adverse impact, and the alerts may be safely ignored. However, if the attack results belong to compromised or successful, immediate action must be taken to mitigate the risk.
- **Step 3:** If the attacker's IP does not exist, the system will proceed to make a subsequent judgment regarding whether it is an Internet address. If the IP does exist, the next step is to consider whether the ES client has been installed on the relevant asset.

Security Alerts

By Details Settings Refresh Refresh Interval: Disabled Last 24 hours

Click to select field

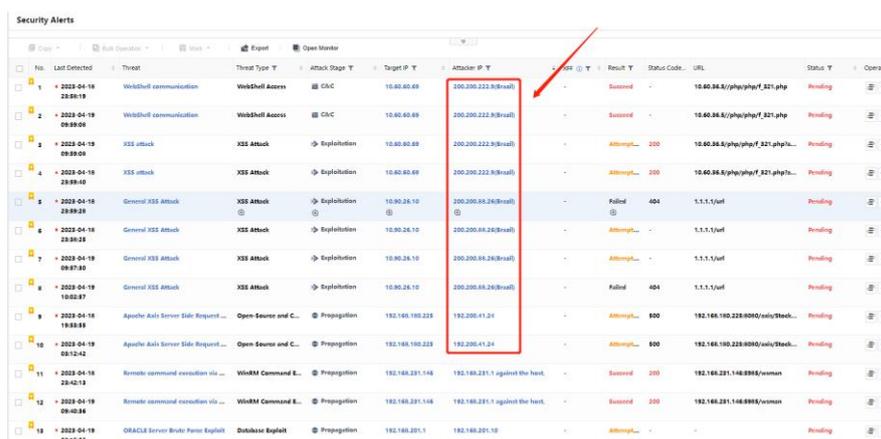
Target Endpoints: Threat Type: Result: Severity: Attack Stage: Status: Status Code: Direction: Groups: Detected By:

Critical Assets Display All Critical Assets Threat Rankings Display Critical Alerts Only

10.251.0.165 10.251.0.163 Open-Source and Commercial Applicatio... 42 IoT Device Exploit 28 Web System Exploit 35

No.	Last Detected	Threat	Threat Type	Attack Stage	Target IP	Attacker IP	XFF	Result	Stat.	URL	Status	Operation
1	2023-04-18 23:59:40	Access to malicious domain name...	Infectious Virus	CAC	192.168.149.154			Compromised		inlograinb.com_sp.saczuzayn.pl	Pending	
2	2023-04-18 23:59:36	Access to malicious domain name...	Rootkit Virus	CAC	10.8.8.8			Compromised		societependoud.ru_updateconn...	Pending	
3	2023-04-18 23:59:55	Access to malicious domain name...	Trojan	CAC	192.168.149.154			Compromised		v1.konwepb.ru_v1.jkikang.com...	Pending	
4	2023-04-18 23:59:55	Access to malicious domain name...	Trojan	CAC	192.168.149.154			Compromised		update-4.6@ihmm.ru_update@31.a...	Pending	
5	2023-04-18 23:59:55	Access to malicious domain name...	Other Hacking Tools	CAC	172.20.64.80			Compromised		www.dnslag.cn_@9a7.dnslag.cn	Pending	
6	2023-04-18 23:59:36	Communication via DNS tunnel	DNS Tunneling	CAC	10.1.1.1			Compromised			Pending	
7	2023-04-18 23:57:48	Access to malicious domain name...	Trojan	CAC	192.168.149.154			Compromised		v1.jezvrbh.com	Pending	

- **Step 4:** In general, the NGAF solution will block Internet malicious addresses rather than asset addresses. As a result, it is necessary to determine whether the attacker's IP belongs to the Internet, enabling the exclusion of lateral and outbound access attacks.

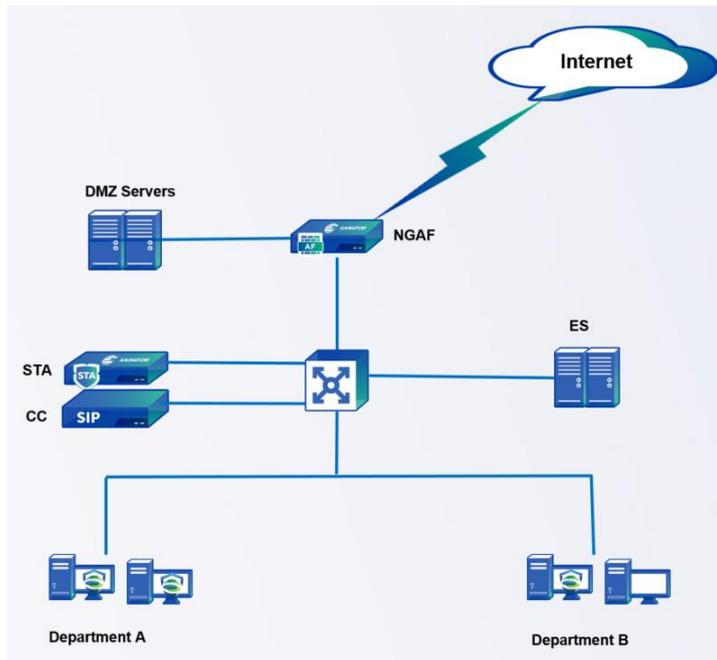


No.	Last Detected	Threat	Threat Type	Attack Stage	Target IP	Attacker IP	Result	Status Code	URL	Status	Operat
1	2023-04-18 22:05:19	WebShell communication	WebShell Access	CnC	10.80.80.89	200.200.222.93(Real)	Success	-	10.80.86.8/(php/phpf_321.php	Pending	
2	2023-04-19 09:39:04	WebShell communication	WebShell Access	CnC	10.80.80.89	200.200.222.93(Real)	Success	-	10.80.86.8/(php/phpf_321.php	Pending	
3	2023-04-18 09:09:01	XSS attack	XSS Attack	Exploitation	10.80.80.89	200.200.222.93(Real)	Attempt...	200	10.80.86.8/(php/phpf_321.php)	Pending	
4	2023-04-18 23:09:40	XSS attack	XSS Attack	Exploitation	10.80.80.89	200.200.222.93(Real)	Attempt...	200	10.80.86.8/(php/phpf_321.php)	Pending	
5	2023-04-18 23:09:28	General XSS Attack	XSS Attack	Exploitation	10.80.26.10	200.200.88.20(Real)	Failed	404	1.1.1.1/url	Pending	
6	2023-04-18 23:09:28	General XSS Attack	XSS Attack	Exploitation	10.80.26.10	200.200.88.20(Real)	Attempt...	-	1.1.1.1/url	Pending	
7	2023-04-19 09:07:36	General XSS Attack	XSS Attack	Exploitation	10.80.26.10	200.200.88.20(Real)	Attempt...	-	1.1.1.1/url	Pending	
8	2023-04-19 10:02:37	General XSS Attack	XSS Attack	Exploitation	10.80.26.10	200.200.88.20(Real)	Failed	404	1.1.1.1/url	Pending	
9	2023-04-18 19:03:03	Apache Acls Server Side Request ...	Open Source and C...	Propagition	192.168.192.228	192.200.41.24	Attempt...	800	192.168.192.228/0902/velo/Steak...	Pending	
10	2023-04-18 09:12:42	Apache Acls Server Side Request ...	Open Source and C...	Propagition	192.168.192.228	192.200.41.24	Attempt...	800	192.168.192.228/0902/velo/Steak...	Pending	
11	2023-04-18 23:02:18	Remote command execution via ...	WinRM Command E...	Propagition	192.168.231.148	192.168.231.1	Success	200	192.168.231.148/0902/woman	Pending	
12	2023-04-19 09:00:04	Remote command execution via ...	WinRM Command E...	Propagition	192.168.231.148	192.168.231.1	Success	200	192.168.231.148/0902/woman	Pending	
13	2023-04-19 03:15:23	ORACLE Server Broker Permss Exploit	Database Exploit	Propagition	192.168.201.1	192.168.201.10	Attempt...	-	-	Pending	

- **Step 5:** Thus, you can ascertain that the attackers's IP address is associated with malicious internet activity and subsequently initiate a blocking action, which is then executed by the NGAF.
- **Step 6:** It is essential to determine if the target assets have the ES client installed. If not, you can change the status to "suspended" as a reminder for the administrator to install the ES client and perform additional checks. If the ES client is already installed, you can directly initiate a virus scan task.
- **Step 7:** It is unrealistic to expect every virus scan task to identify the primary virus program. In some situations, if a virus scan does not detect any malicious software, isolating the host may still be necessary to prevent potential spreading. However, if a virus is detected and addressed promptly, you can update the status to 'fixed,' signifying the successful mitigation of the threat.

1.2 Network Toplogy

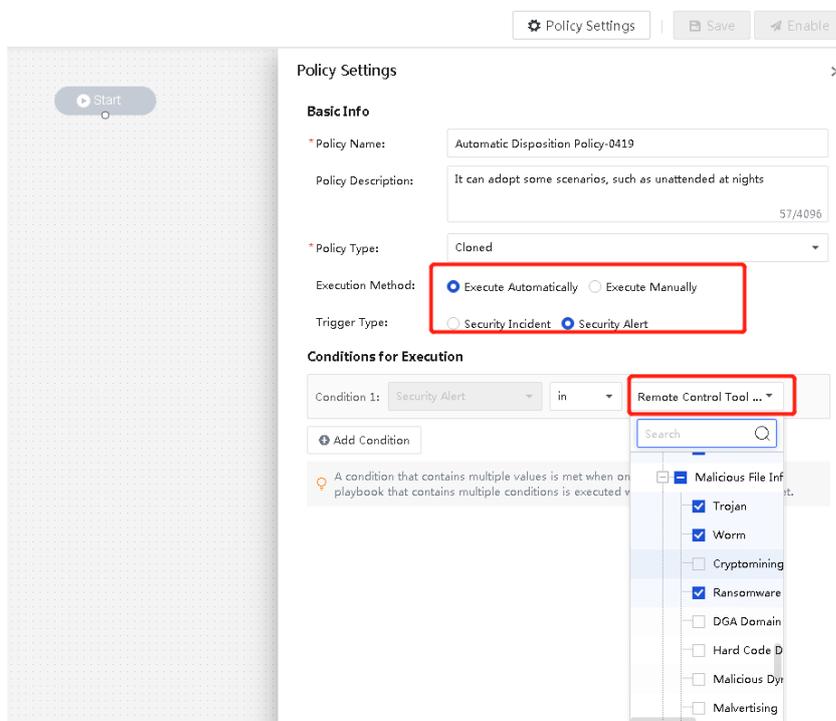
Based on the topology provided, the customer has implemented the Security Threat Analytics (STA), Cyber Command (CC), Endpoint Security (ES), and Next-Generation Application Firewall (NGAF) solutions. However, it is evident that some hosts have not yet installed the ES client, which may leave them vulnerable to potential threats.



1.3 Configuration Process

1.3.1 Policy Settings

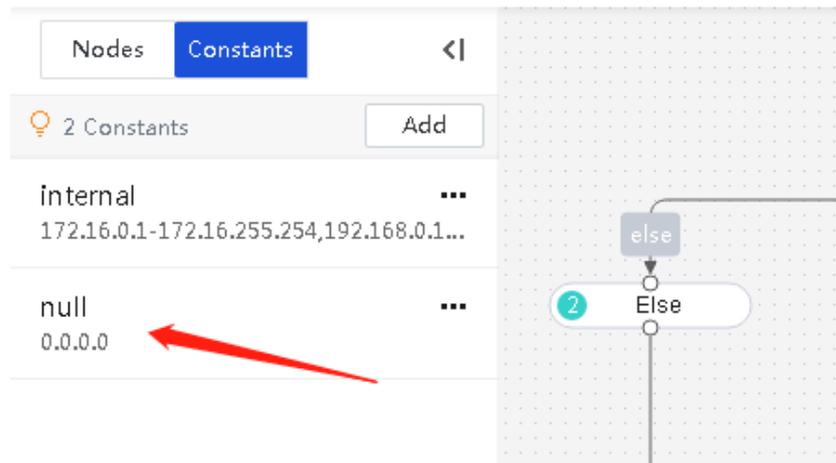
Select security alert types, primarily encompassing worms, trojans and virus



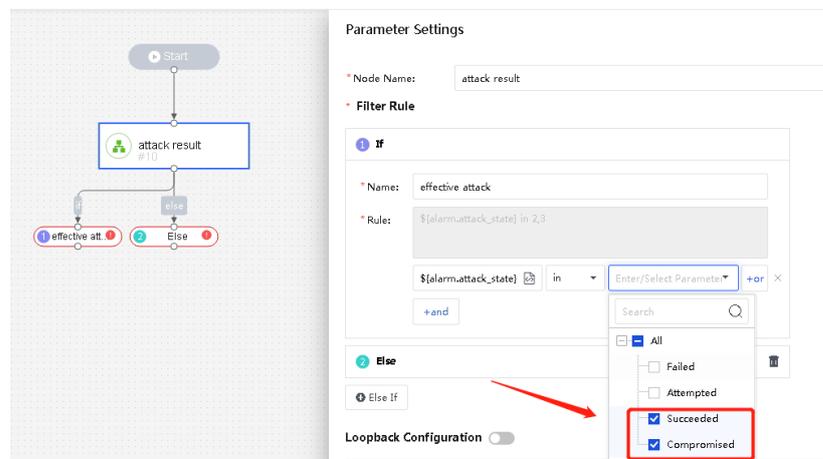
1.3.2 Creating playbook policy

(1)、 Firstly, you need to add internal assets' address range , along with as well as 0.0.0.0, into a constant, as you will need it for decision later.

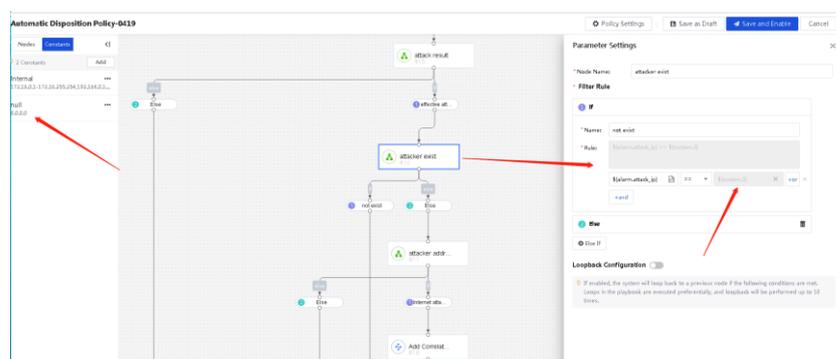
Automatic Disposition Policy-0419



(2)、 You can define if an effective attack by seeing the attack result marked as "succeeded" and "compromised" .



(3)、 Determine whether an attacker exist by quoting null constant



(4)、 Judge if the attacker' address belongs to the internet or internal assets.

The screenshot displays a policy configuration interface. On the left is a flowchart with nodes: 'attack result', 'effective att...', 'attacker exist', 'not exist', 'attacker addr...', 'Internet atta...', and 'End'. A red arrow points from the 'attacker addr...' node to the 'Parameter Settings' dialog box on the right. The dialog box has the following content:

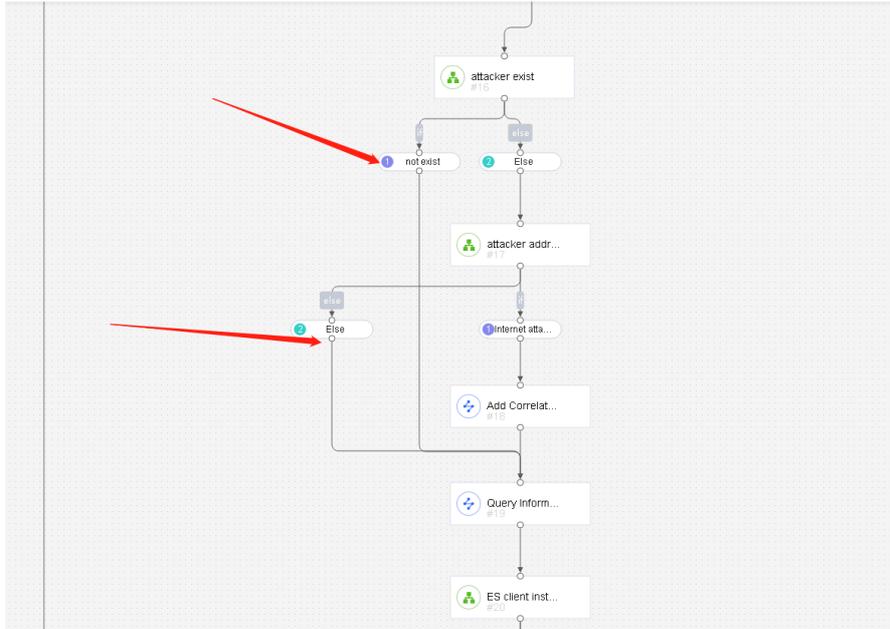
- Node Names: attacker address types
- Filter Rule:
 - Name: Internet attacker
 - Rule: `$(alarmattack_ip) not in $(custom2)` (highlighted with a red box)
- Else: (empty)
- Else If: (empty)
- Loopback Configuration: (disabled)

(5)、Initiate correlated block to NGAF

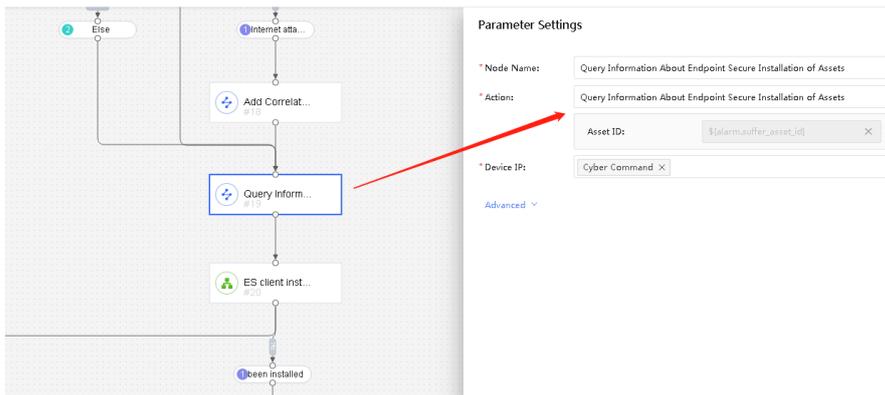
The screenshot displays a policy configuration interface. On the left is a flowchart with nodes: 'effective att...', 'attacker exist', 'not exist', 'attacker addr...', 'Internet atta...', 'Add Correlat...', and 'Query Inform...'. A red arrow points from the 'Add Correlat...' node to the 'Parameter Settings' dialog box on the right. The dialog box has the following content:

- Node Names: Add Correlated Block
- Actions: Add Correlated Block
- Block Directions: Source and Destination
- Object Type to Blocks: IP
- Object to Blocks: `$(alarmlinkage_recommend_at_block_attack_item)`
- Block Duration: -1
- Block Duration Unit: Day
- Device IP: 192.168.20.1 (highlighted with a red arrow)

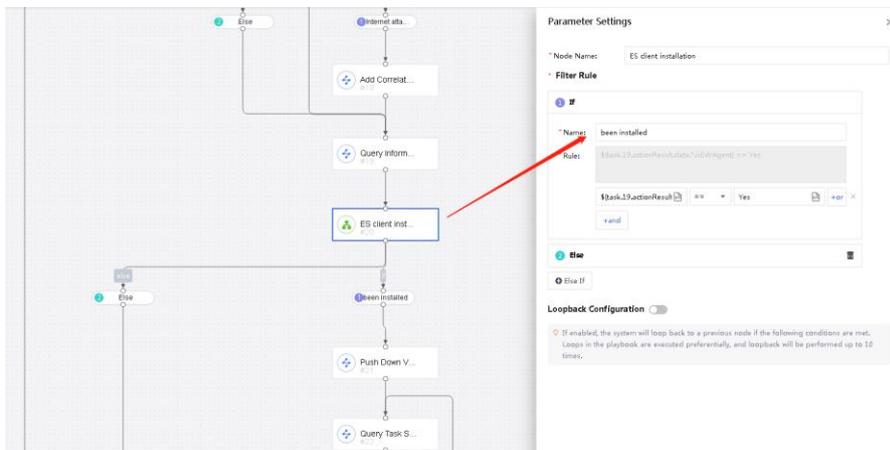
(6)、Prior to proceeding with subsequent steps, it is crucial to evaluate scenarios in which the attacker is identified as an internal asset, as well as situations where the attack's originating address is nonexistent.



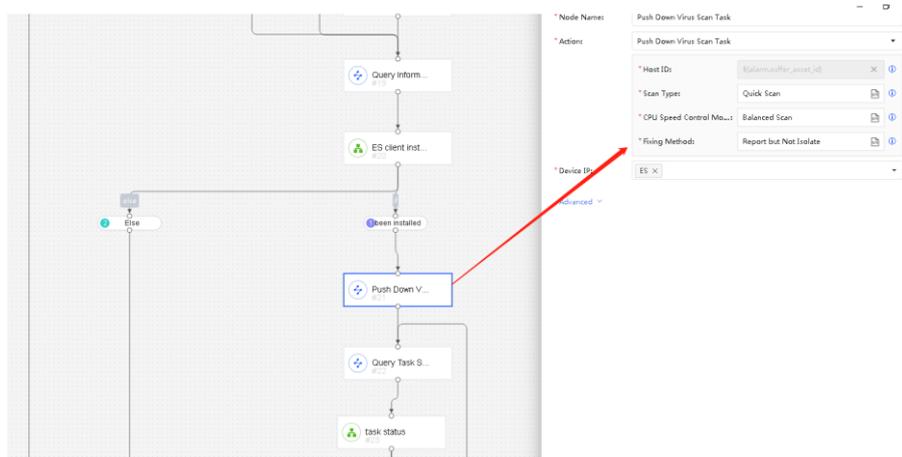
(7)、Query whether target assets have been installed ES clients.



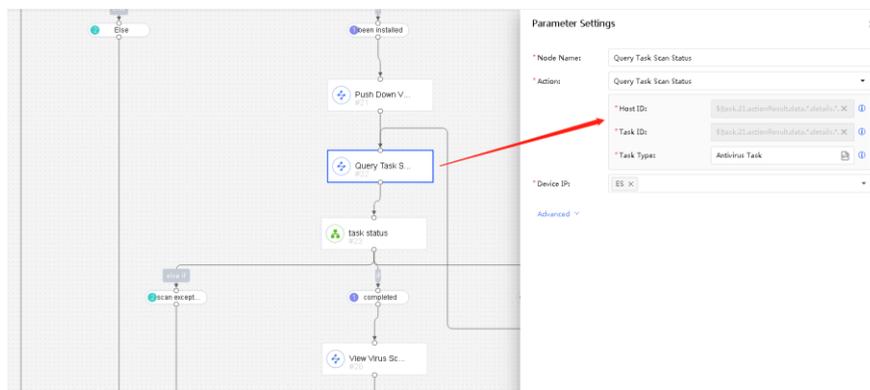
(7)、 If the necessary components are installed, you can proceed with further operations. However, if they are not, the status of these alerts will be modified to 'suspended,'



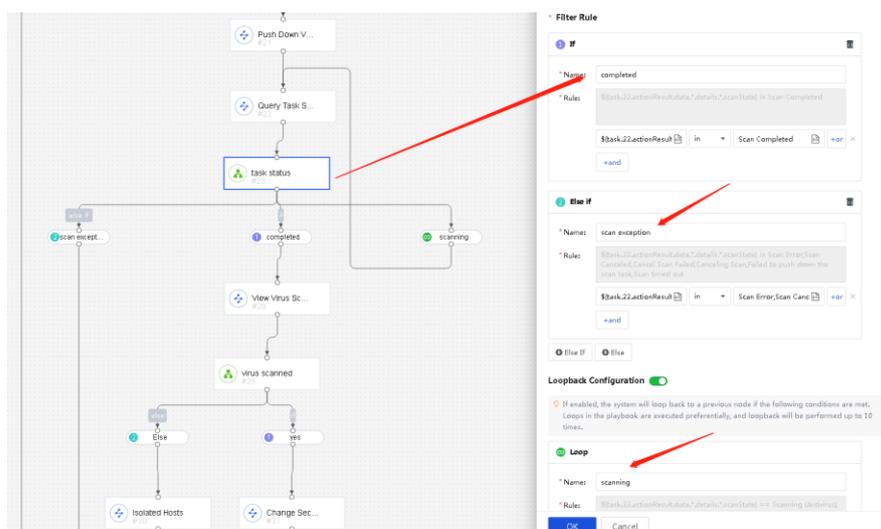
(8)、 Initiate virus scan tasks for those hosts that have ES client installed



(9)、 Given that virus scan tasks may take several minutes to complete, it is important to verify the completion of these tasks before proceeding.

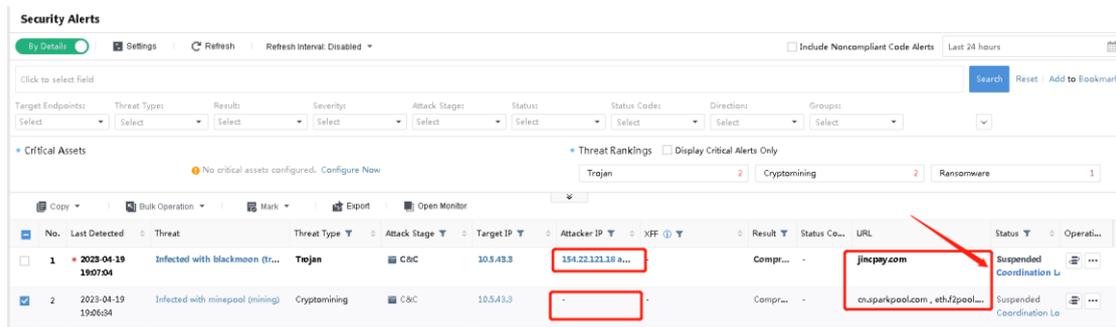


(10)、 When making a decision, there will be three possible outcomes: scan exception, scanning, and completed. Each of these results requires a distinct approach. Notably, if the task is not yet finished and remains in the scanning stage, the process will loop back to the previous action



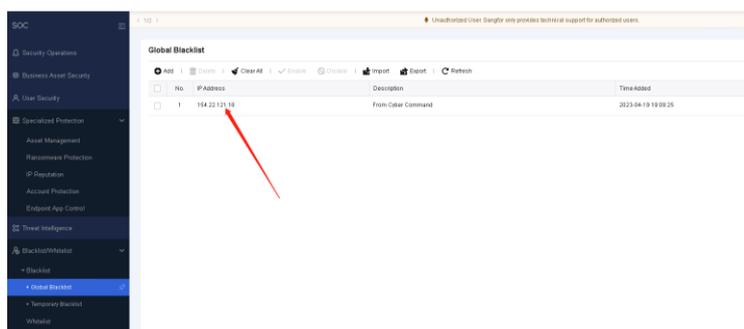
(11)、 You have different methods regarding to the results of virus scan task.

Within seconds, you will observe the anticipated alerts, and simultaneously, these alerts will trigger the predefined automatic policy.

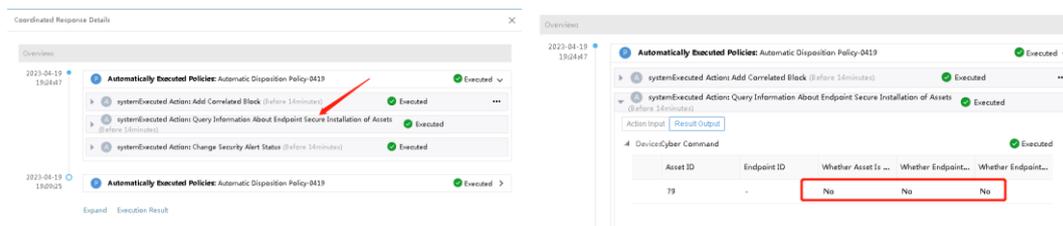


Next, you can view the execution process of the automatic policy by clicking on “Coordination Response Details”.

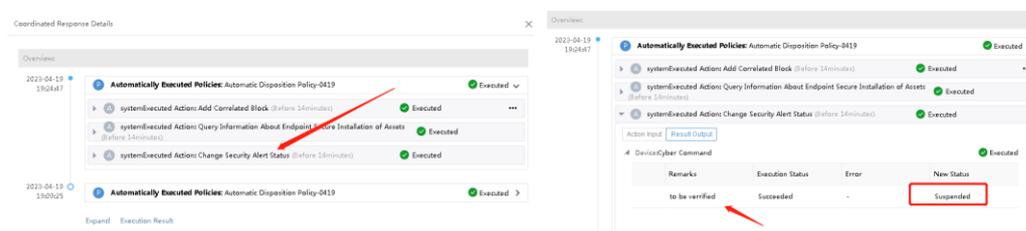
Check the NGAF blacklist



As observed, the test terminal does not have the ES client installed.



Given this situation, the appropriate course of action is to update the alert status to 'suspended'.



1.4.2 Test Terminal-B (with ES client)

The test terminal simulates an attack by pinging malicious domain names (jincpay.com, eth.f2pool.com). When the STA analyzes this malicious traffic, it will generate security alerts.

```

C:\Users\john.qiao>
C:\Users\john.qiao>ping jh.01lm.com -t
Ping request could not find host jh.01lm.com. Please check the name and try again.
C:\Users\john.qiao>ping jincpay.com -t
Ping request could not find host jincpay.com. Please check the name and try again.
C:\Users\john.qiao>ping cn.sparkpool.com -t
Ping request could not find host cn.sparkpool.com. Please check the name and try again.
C:\Users\john.qiao>ping jincpay.com -t
Ping request could not find host jincpay.com. Please check the name and try again.
C:\Users\john.qiao>ping jincpay.com -t
Ping request could not find host jincpay.com. Please check the name and try again.
C:\Users\john.qiao>ping cn.sparkpool.com -t
Ping request could not find host cn.sparkpool.com. Please check the name and try again.
C:\Users\john.qiao>ping jincpay.com -t
Ping request could not find host jincpay.com. Please check the name and try again.
C:\Users\john.qiao>
    
```

Within seconds, you will observe the anticipated alerts, and simultaneously, these alerts will trigger the predefined automatic policy.

No.	Last Detected	Threat	Threat Type	Attack Stage	Target IP	Attacker IP	XFF	Result	Status Code	URL	Status	Operation
1	2023-04-19 20:38:32	Infected with minepool (mining)	Cryptomining	C&C	192.168.10.23	-	-	Compro...	-	cn.sparkpool.com	Pending	Coordinated Response Log
2	2023-04-19 20:37:58	Infected with blackmoon (trojan)	Trojan	C&C	192.168.10.23	-	-	Compro...	-	jincpay.com	Total policies executed: 13 failed: 1	Coordinated Response Log
3	2023-04-19 20:30:00	Infected with avay (trojan)	Trojan	C&C	192.168.10.23	-	-	Compro...	-	jh.01lm.com	Total policies executed: 6 failed: 6	Coordinated Response Log
4	2023-04-19 19:35:38	Infected with minepool (mining)	Cryptomining	C&C	10.5.43.3	-	-	Compro...	-	eth.f2pool.com, cn.sparkpool.com	Suspended	Coordinated Response Log

Next, you can view the execution process of the automatic policy by clicking on "Coordinated Response Details".

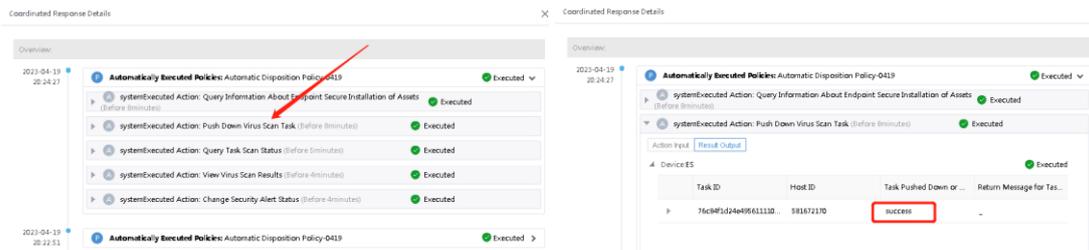
Coordinated Response Details

Overview:

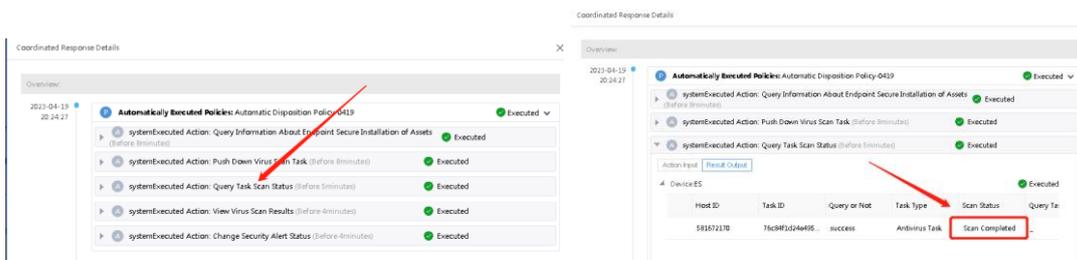
- 2023-04-19 20:24:27
 - Automatically Executed Policies: Automatic Disposition Policy-0419** [Executed]
 - systemExecuted Action: Query Information About Endpoint Secure Installation of Assets (Before 6minutes) [Executed]
 - systemExecuted Action: Push Down Virus Scan Task (Before 6minutes) [Executed]
 - systemExecuted Action: Query Task Scan Status (Before 3minutes) [Executed]
 - systemExecuted Action: View Virus Scan Results (Before 2minutes) [Executed]
 - systemExecuted Action: Change Security Alert Status (Before 2minutes) [Executed]
- 2023-04-19 20:22:51
 - Automatically Executed Policies: Automatic Disposition Policy-0419** [Executed]

As there is no identifiable attack IP, the system will execute the "Query Information About Endpoint Secure Installation of Assets".

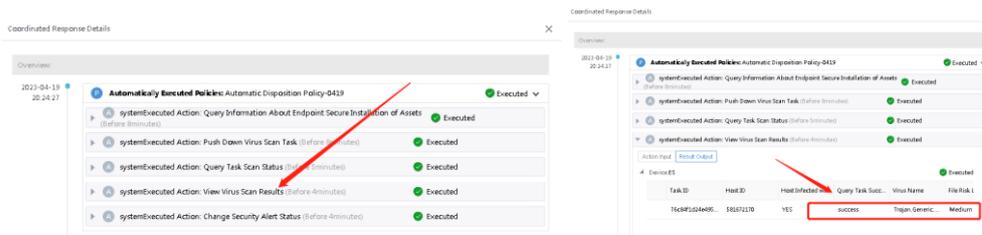
Following that, initiate a virus scan task targeted at the Endpoint Security (ES) client.



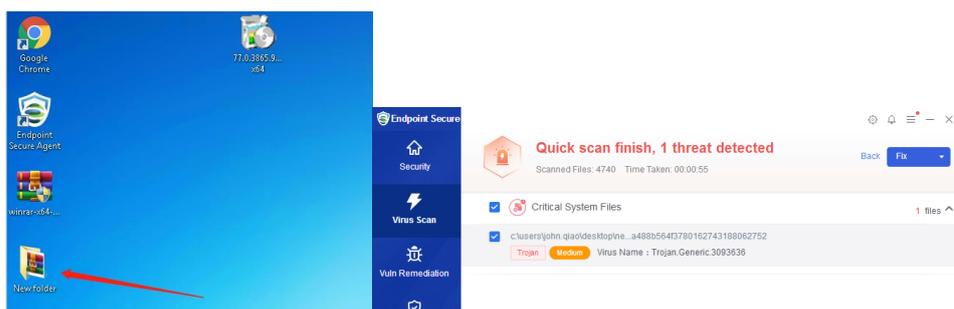
A few minutes later, it becomes evident that the task has been completed.



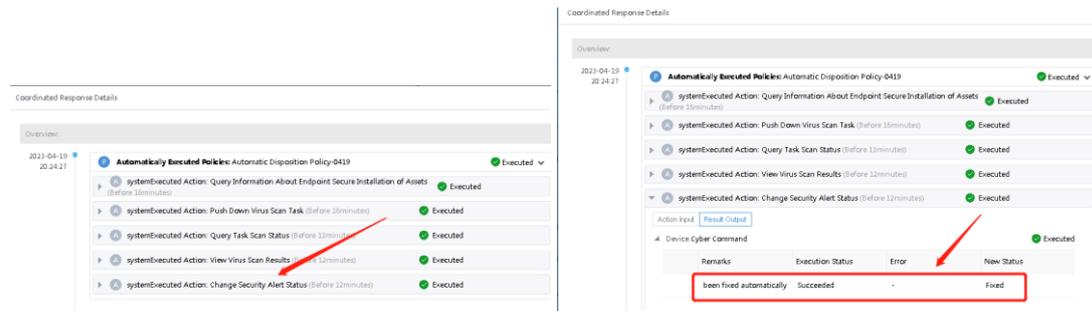
Upon examining the results of the virus scan task, we can observe that it has detected some malicious virus files on the desktop, as they were placed there beforehand for testing purposes.



You can also view the scan results in the Endpoint Security (ES) client or the Endpoint Security Manager (ES Mgr).



The final step in the process is to update the disposal status.



1.5 Conclusion

From the above example, it is evident that playbook policies can significantly reduce manual intervention for specific types of threats. On the other hand, these policies can also be relied upon in certain scenarios to control the spread of an attack, such as during nighttime hours when security engineers may not typically be on duty. This demonstrates the value of automated policies in maintaining a secure environment and efficiently addressing potential threats, even in the absence of manual oversight.