THREAT HUNTER RESEARCH

2024 Annual Cybercrime Ecosystem Trends Report

An annual view of changing attack resources, identity and cloud abuse, and seven major fraud scenarios observed in 2024.

Original publication: 2025-01-16
Research team: Threat Hunter Research Team
Source report: 81 pages

Original report text

This text version is reconstructed based on the 81-page original PDF, retaining the report narrative, chapters and research scope; the cover, repeated table of contents and purely decorative pages are not repeated. Localized figures are placed in context throughout this web edition, with the original PDF retained for reference.

About Threat Hunter

Threat Hunter was founded in 2017 and helps organizations identify and respond to business fraud, external digital risk, and API security threats. Its work combines cybercrime intelligence, risk data, product platforms, and specialist services.

The company provides mature and diverse products and services focusing on risk scenarios such as business fraud, data leakage, phishing and counterfeiting, and API attacks that different industries face in the process of digital development. It has been selected as a representative vendor in Gartner's technology maturity curve report and IDC's threat intelligence field for many times.

Headquartered in Shenzhen, Threat Hunter also operates offices in Beijing, Shanghai, and Chongqing, with Digital Risk Response Centers in Shenzhen and Chongqing. The company supports customers in China, Europe, the United States, South America, and Southeast Asia.

Preface

In 2024, cybercriminal attacks on the Internet remained severe. No matter in terms of the size of cybercriminal groups, or the evolution of attack resources, attack technology applications, and attack scenarios, there have been major changes.

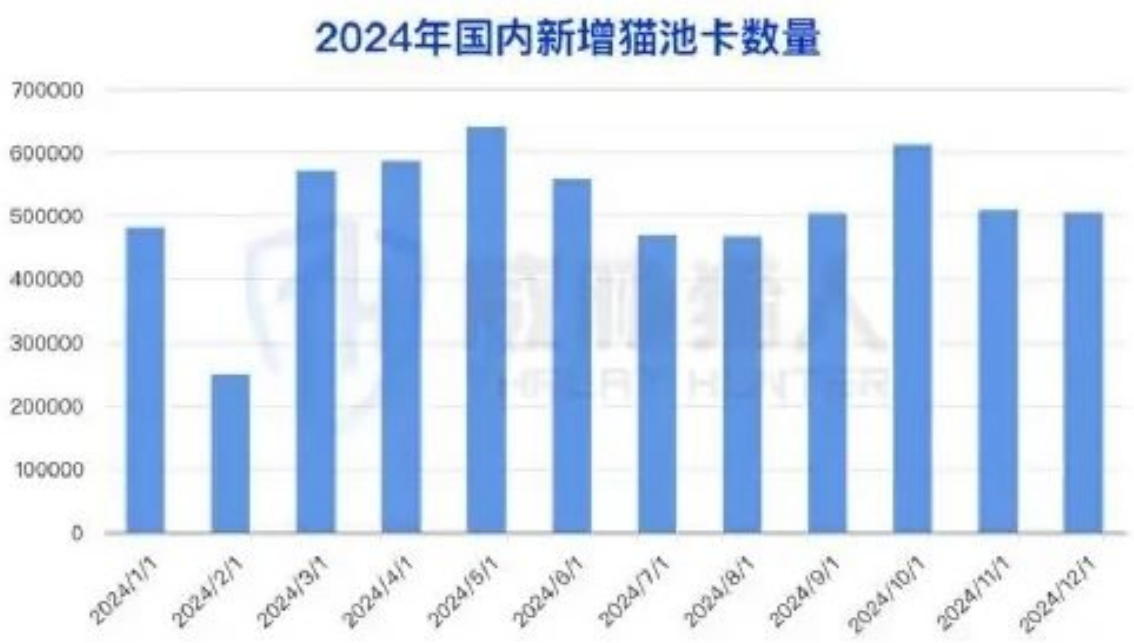
In terms of attack resources, Threat Hunter captured more than 16 million new malicious phone numbers around the world in 2024, and 11.7 million daily active malicious IPs, a significant increase from 2023. In order to avoid fraud-control monitoring, cybercrime ecosystem continues to upgrade its technology to find more covert attack resources, such as implanting Trojans in normal user equipment and using their IP as attack resources, and the rapid development of the "merchant money laundering" industry chain.

In terms of attack technology, threat-actor groups have also made new developments in the application of general technologies in 2024, such as abusing "sub-master machines" to bypass identity authentication, using "NFC remote transmission software" for overseas money laundering, customized cloud mobile phone systems to improve attack efficiency, etc.

In terms of attack scenarios, online business fraud, financial loan fraud, brand advertising fraud, API attacks, phishing and counterfeiting, data leakage, telecommunications network fraud and other scenarios continue to become more popular. Online business fraud has entered deep water, with indiscriminate attacks on all industries and all business links; the "King Star Incident" has further heightened public attention to telecommunications network fraud.

Threat Hunter released the "2024 Internet fraud network Research Report". Based on in-depth research on the Internet's fraud network in 2024, it analyzes attack resources used by cybercriminal groups, attack technologies, attack scenarios and other dimensions in 2024, and objectively presents the overall development trend of the Internet cybercrime ecosystem in 2024.

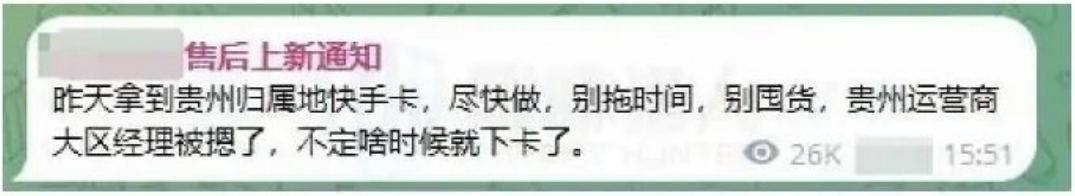
It aims to help enterprises from all walks of life improve their understanding of the cybercrime ecosystem from the intelligence dimension, thereby further improving fraud-control strategies.



2024 resource analysis of SIM pool cards (chart 1)

Source: Threat Hunter original report, page 7

2、6-9 月期间，由于监管机构加强打击，多个发卡平台被关停，部分卡商被捕，造成供应减少，导致新增猫池卡数量下降。



2024 resource analysis of SIM pool cards (figure 2)

Source: Threat Hunter original report, page 7

3. 6 Data Leakage Scenarios

3. 7 Telecom network fraud scenarios

Write at the end

Analysis of Internet attack resources used by cybercriminal groups in 2024

1. Analysis of attack resources used by cybercriminal groups on the Internet in 2024

1.1 Analysis of malicious mobile-number resources in 2024

2024 resource analysis of SIM pool cards (chart 1)

Source: Threat Hunter original report, page 8

2024 resource analysis of SIM pool cards (figure 2)

Source: Threat Hunter original report, page 8

1.1.1 The number of new domestic malicious phone numbers exceeded 8 million in 2024, an increase of 30% compared with 2023

According to Threat Hunter intelligence data, the number of domestic malicious phone numbers has continued to rise in recent years, with new additions exceeding 8 million in 2024, an increase of 30% from 2023.

Among the malicious mobile-number resources, "SIM pool cards" and "Interception Card" account for the highest proportion. The following sections 1.1.2 and 1.1.3 will focus on analyzing the changes in the resources of "SIM pool cards" and "Interception Card" in 2024.

F国内新增猫池卡归属地 TOP10 对比 2023 年变化情况如下：

省份	2024年猫池手机卡新增数量排名	对比2023年变化情况
上海	第一	↑3
北京	第二	↑7

2024 SIM pool card resource analysis

Source: Threat Hunter original report, page 9

1.1.2 Analysis of "SIM pool cards" Resources in 2024

(1) There were 6.15 million new SIM pool cards in China in 2024, an increase of 4.86% compared with 2023

According to Threat Hunter intelligence data, there were 6.15 million new SIM pool cards in China in 2024, an increase of 4.86% from 2023.

SIM pool cards: refers to an malicious activity mobile phone card that uses the "SIM pool" network communication hardware to realize simultaneous calls to multiple numbers, group text messages and other functions.

Judging from the changing trend of the number of domestic SIM pool cards in 2024, from February, June to September, the number of new domestic SIM pool mobile phone cards showed a downward trend.

According to analysis by Threat Hunter intelligence experts, the main reasons for this trend are:

1. In February, due to the slowdown in transactions of threat actors during the Spring Festival, the number of attackers decreased significantly, and the steady upward trend resumed after the holiday;

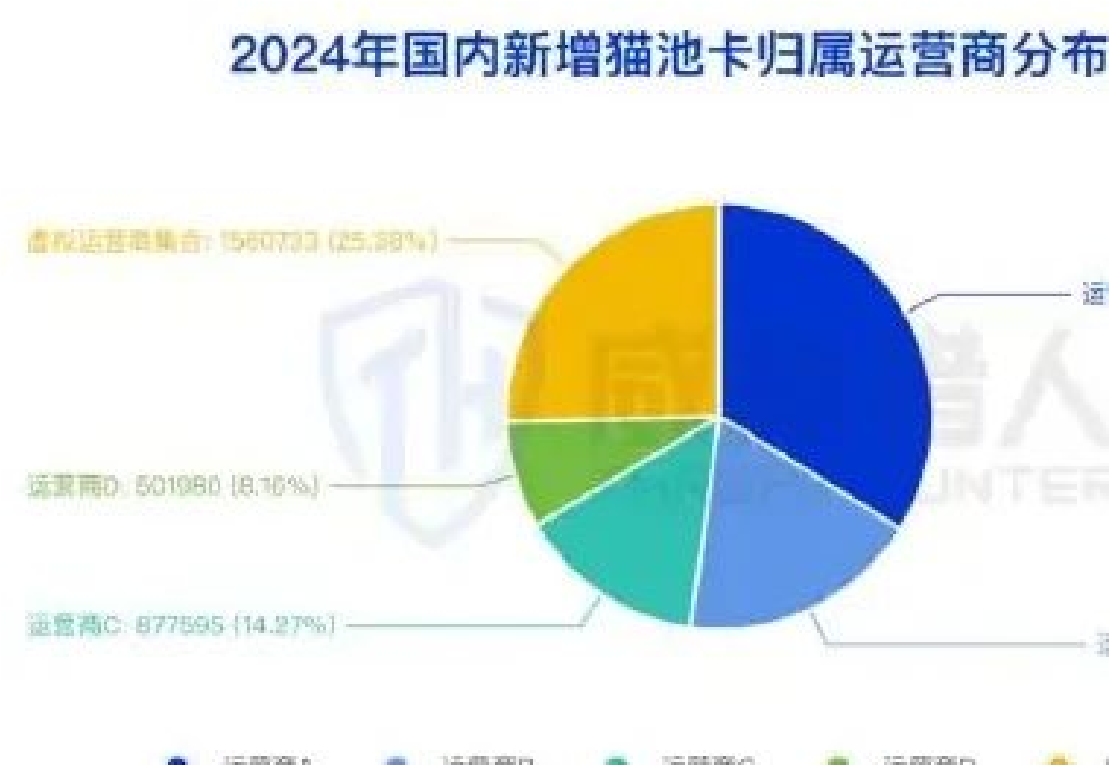
2. From June to September, due to the intensified crackdown by regulatory agencies, many card issuing platforms were shut down and some card dealers were arrested, resulting in a reduction in supply.

This resulted in a decrease in the number of new SIM pool cards.

(2) Top 3 provinces to which newly added SIM pool cards will belong in China in 2024: Shanghai, Beijing, Liaoning

Threat Hunter intelligence data statistics show that the provinces (including municipalities) where new SIM pool cards was added in China in 2024 will mainly be concentrated in Shanghai, Beijing, and Liaoning Province.

Among them, the number of SIM pool cards located in Shanghai increased by 87.86% year-on-year in 2023. Threat Hunter noticed that the number of SIM pool cards in Shanghai this year has remained relatively high in every month throughout the year, and leading card merchants active on the card issuance platform have also continued to provide Shanghai SIM pool cards this year.



2024 SIM pool card resource analysis

Source: Threat Hunter original report, page 11

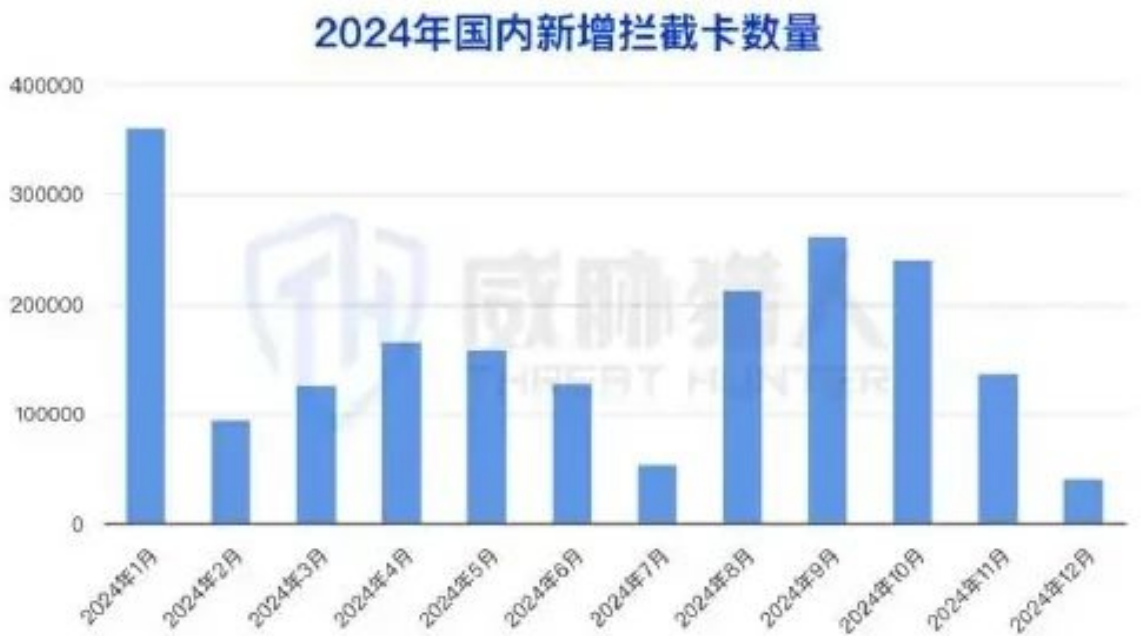
Through the analysis of the source channels of SIM pool cards newly added in Shanghai this year, it was found that the number of SIM pool cards from card issuing platforms accounted for more than half:

The changes in the top 10 locations of newly added SIM pool cards in China in 2024 compared to 2023 are as follows:

[Attention] Malicious phone numbers originating in Hong Kong, China, continued to grow in 2024, with 782,500 cases captured throughout the year. It is worth noting that Threat Hunter intelligence data shows that since March 2024, the number of risky mobile phone card transactions originating in Hong Kong, China has increased significantly, reaching a peak in September.

Due to the strong demand from downstream fraudsters, Hong Kong phone numbers are still in large demand by threat actors because they can be registered for domestic and foreign applications, are low-cost, and have long availability.

Compared with other domestic mobile phone cards, China Hong Kong mobile phone cards have the following characteristics:



2024 "Interception Card" resource analysis

Source: Threat Hunter original report, page 12

1. Wide range of registration: Hong Kong mobile phone cards have a wide range of registration, and can register Telegram, WhatsApp and other domestic and overseas applications;

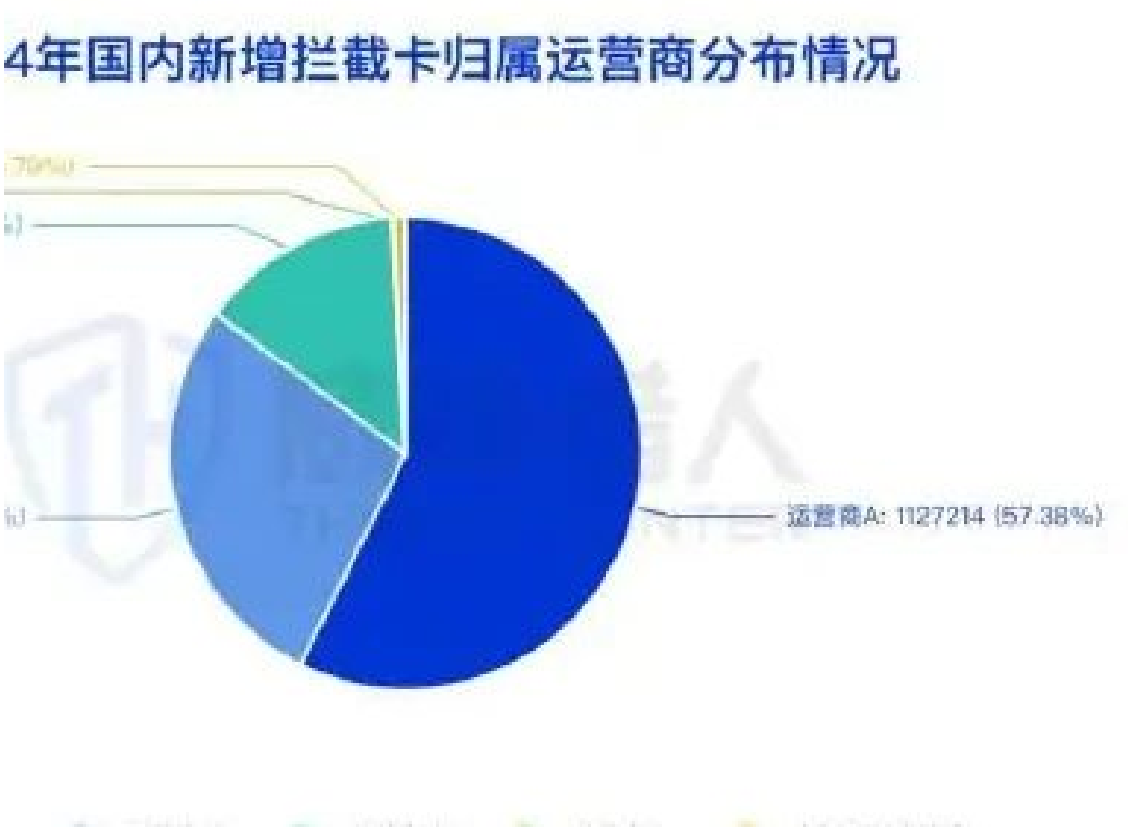
2. Long online usage time: The online usage time of Hong Kong mobile phone card verification-code reception service is longer than that of other domestic cards. Generally, one can be guaranteed

It can be used repeatedly every month, while other domestic mobile phone cards are generally valid for several days;

2024 "Interception Card" resource analysis

Source: Threat Hunter original report, page 13

3. Lower price: The price of Hong Kong mobile phone cards is lower than the price of other domestic cards;



2024 "Interception Card" resource analysis

Source: Threat Hunter original report, page 14

4. Supports multiple verification-code reception forms: Hong Kong cards support multiple verification-code reception forms. Currently, Threat Hunter is available on the SMS verification-code receiving service, card issuing website, and private domain.

Ma Jun discovered the criminal records of Hong Kong-related mobile phone cards.

(3) In 2024, 76.42% of new domestic SIM pool cards will be owned by the three major operators, an increase of 14.51% compared with last year. Threat Hunter intelligence data shows that the operators of newly added domestic SIM pool cards this year are mainly basic operators, accounting for 76.42%, an increase of 14.51% compared with last year.

Threat Hunter intelligence personnel found through research that the proportion of the three major operators has increased this year, mainly because many companies have further improved fraud controls on virtual operator mobile phone cards, resulting in an increase in threat actors' demand for mobile phone card resources from the three major domestic operators.

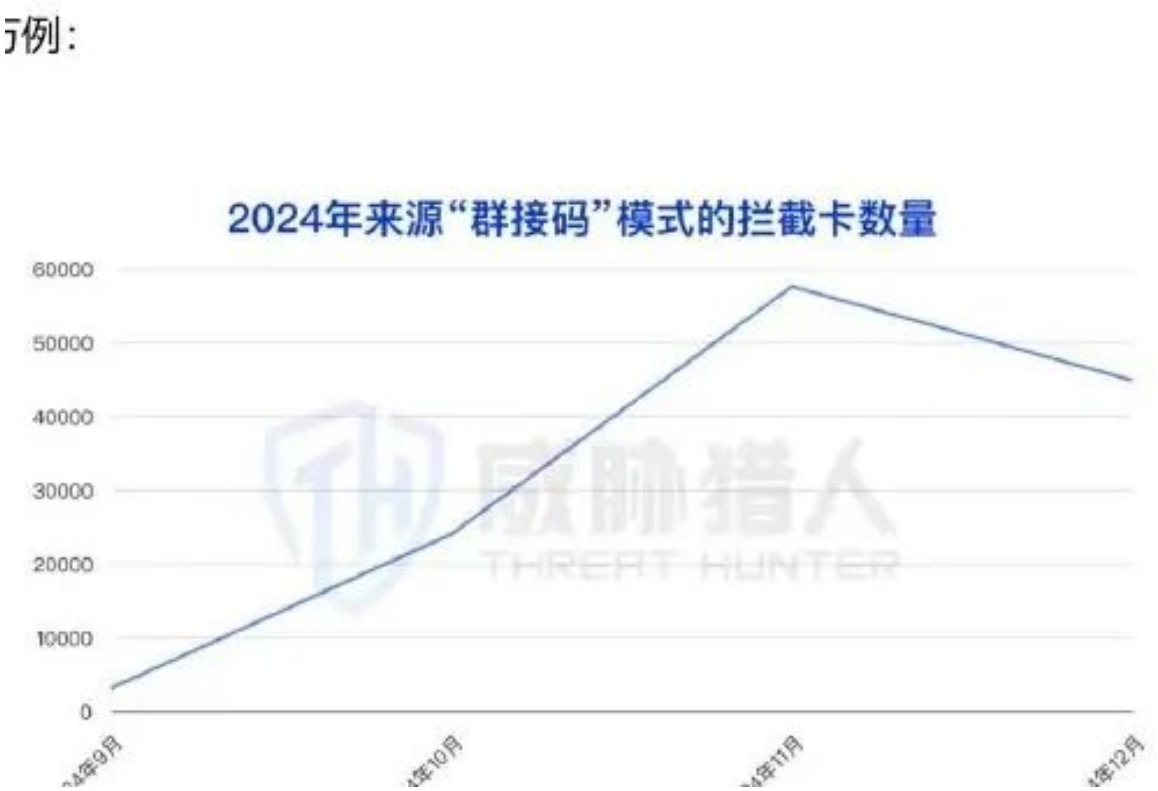
(4) [Attention] The number of SIM-pool card card issuance platforms increased by 39.37% in 2024, but the platform life cycle was shortened. Threat Hunter continued to monitor the changing trends of cybercrime ecosystem malicious resources source channels and found that the number of SIM-pool card card issuance platforms, the main contribution channel, increased significantly in 2024, but the life cycle was shortened:

There were 171 new SIM pool cards issuance platforms in 2024, with a simultaneous growth of 39.37% in 2023, but 24% of them have been operating for less than a week. Threat Hunter further investigated and found that card-issuing platforms have suffered strong regulatory pressure this

year. Many card-issuing platforms and active SIM pool cards dealers have ceased operations or been active due to regulatory crackdowns.

In addition, Threat Hunter tested the currently surviving SIM pool cards-related card issuance platforms and found that some cybercrime operators will take some higher security measures in order to prevent regulatory crackdowns, including but not limited to periodic order deletion, use of cryptocurrency payments, frequent changes to verification-code reception addresses, and restrictions on abnormal access and payments.

1.1.3 Analysis of “Interception Card” Resources in 2024



2024 "Interception Card" resource analysis

Source: Threat Hunter original report, page 15

(1) There were 1.96 million new interception cards in the country in 2024, an increase of 405.50% over 2023. According to Threat Hunter intelligence data, there were a significant increase in new interception cards in the country in 2024, with a total of 1.9664 million cases, an increase of 405.50% over 2023.

Threat Hunter research found that the significant increase in the number of interception cards in January was due to a new interception card channel that emerged at the end of last year and invested a large amount of interception card resources. In 2024, this channel contributed nearly one million interception cards, accounting for 48.82% of the overall number this year. However, the channel was inactive from June to July 2024, and finally ceased operations in December 2024.

(2) Top 3 provinces to which new interception cards was added in the country in 2024: Guangdong, Shandong, and Sichuan Threat Hunter intelligence data statistics show that the provinces (including municipalities) to which the new interception cards was added in the country in 2024 will mainly be concentrated in Guangdong, Shandong, and Sichuan.

Comparison of the top 10 new domestic interception cards in 2024 with changes in 2023:

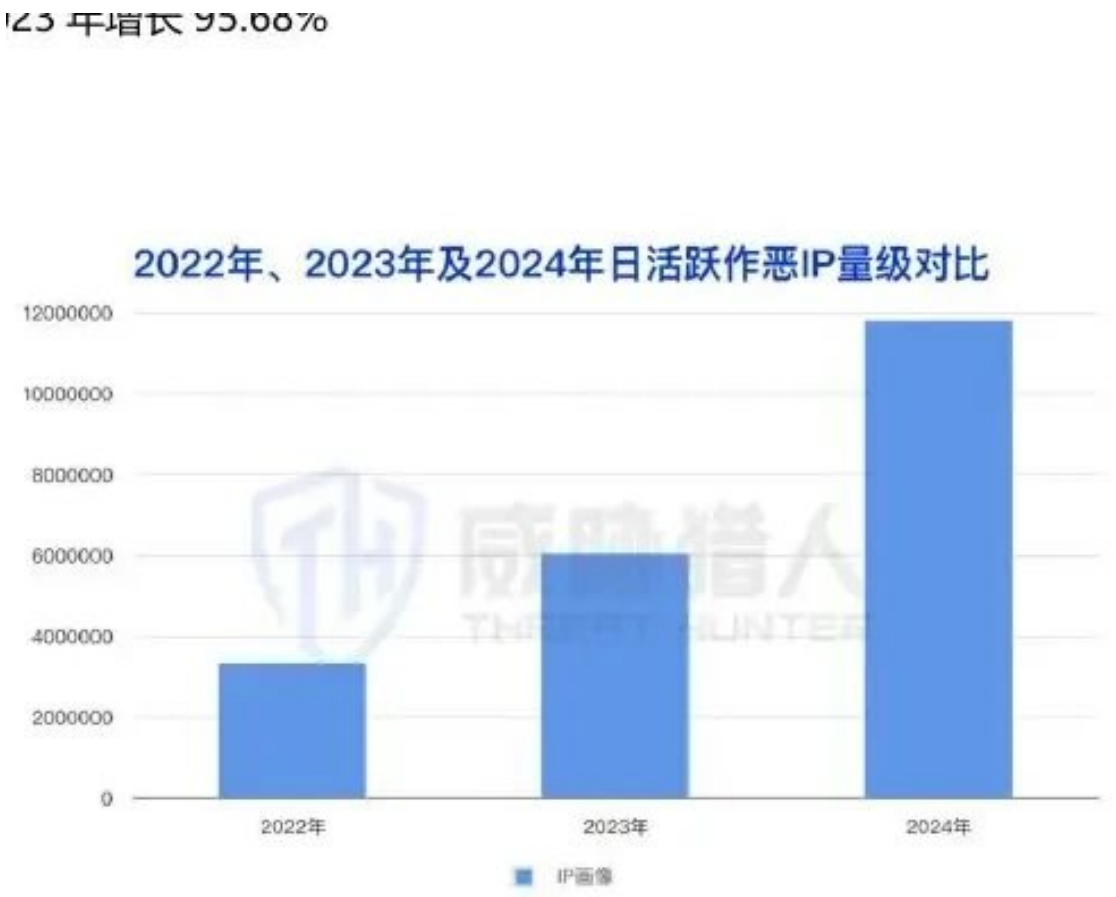
(3) In 2024, 98.99% of new domestic interception cards will belong to the three major operators. Threat Hunter intelligence data shows that 98.99% of new domestic interception cards this year will belong to basic operators, and 1.01% will belong to other operators.

(4) [Attention] The "Group Code Receiver" mode simplifies the process for threat actors to use interception cards, and makes the interceptor card's real platform more hidden. Threat Hunter

research found that the interception card code reception method has gradually changed from the traditional interception card platform code reception mode to the "Group Code Receiver" mode.

In this mode, the interception card dealer hides the real number and only displays the coded number. Only black card buyers can obtain the complete number to complete the code reception and conduct malicious activity.

Example of traditional interception card platform receiving code:

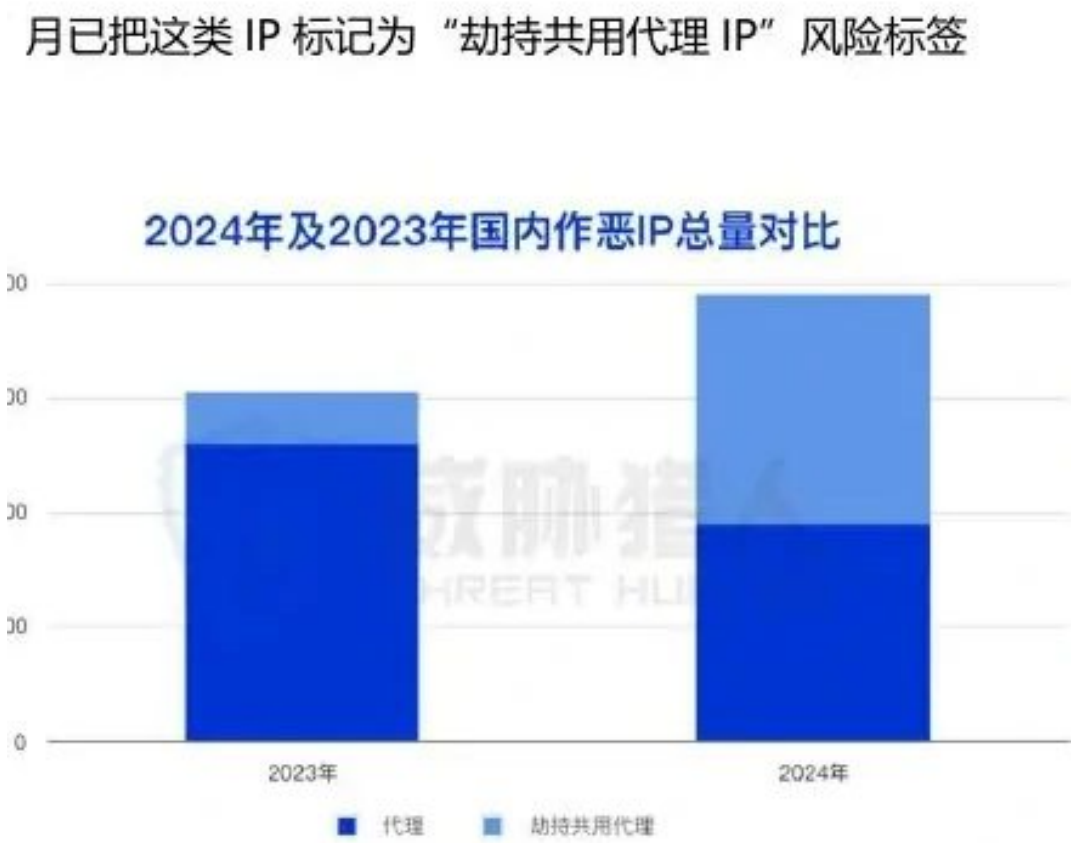


Analysis of domestic corruption in 2024 IP resources

Source: Threat Hunter original report, page 16

Example of code reception in group code reception mode of "Interception Card"

Compared with traditional interception card platforms that use exclusive verification-code reception tools to receive codes, the advantages of this model are:



Analysis of domestic corruption IP resources in 2024 (Chart 1)

Source: Threat Hunter original report, page 17

IIP resource analysis for domestic abuse in 2024 (figure 2)

Source: Threat Hunter original report, page 17

1. It is more convenient to use. Card merchants only need to provide numbers and code access links, and there is no need to open accounts or configure rights for downstream agents or black card users.

limited;

2. Higher concealment. Card merchants can hide the real platform information through the "group access code" mode and avoid exposing the platform's sensitive information to users.

user.

Currently, an average of 1,269 malicious SMS records are captured through the "Group Access Code" channel every day. The peak of malicious SMS records was in November, when nearly 60,000 malicious SMS records were captured:

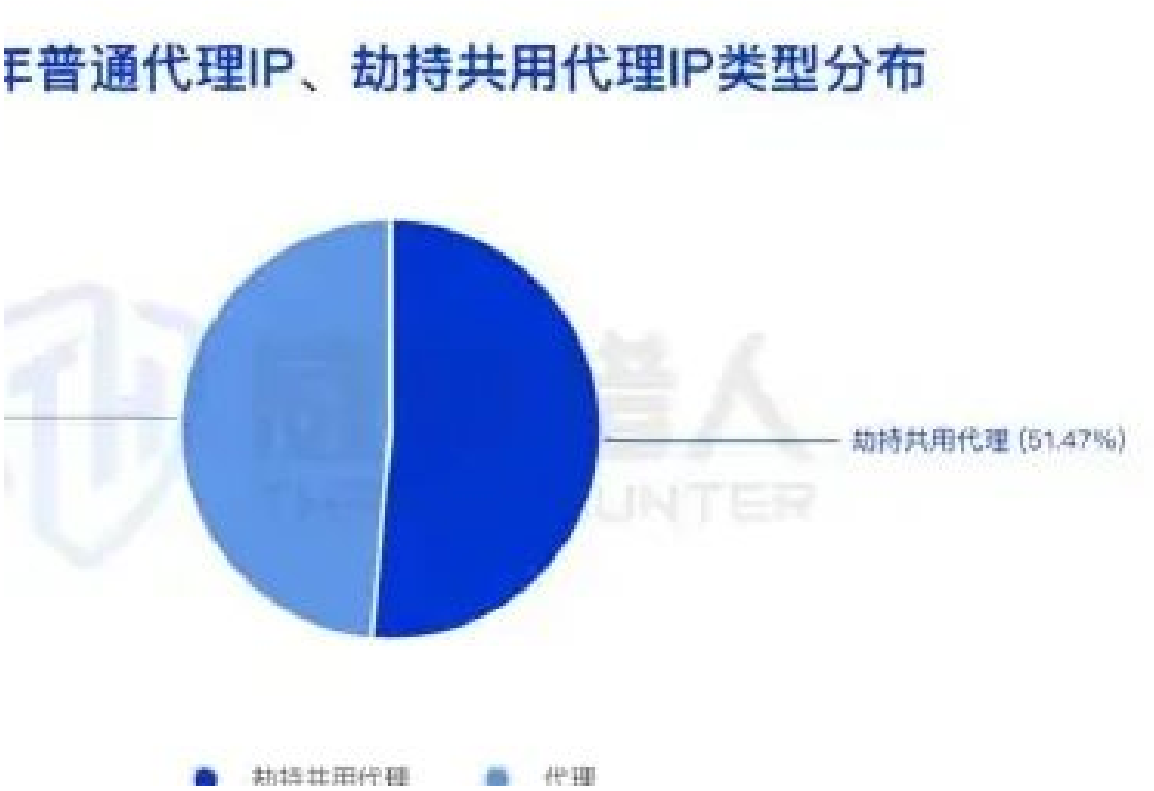
Analysis of domestic corruption in 2024 IP resources

Source: Threat Hunter original report, page 18

1.2 Analysis of malicious IPs resources in 2024

1.2.1 There are 11.78 million daily active malicious IPs in 2024, an increase of 95.68% compared with 2023

According to Threat Hunter intelligence data, the number of daily active malicious IPs has continued to rise in recent years. In 2024, the number of daily active malicious IPs reached 11.78 million, an increase of 95.68% from 2023.



Analysis of domestic corruption in 2024 IP resources

Source: Threat Hunter original report, page 19

1.2.2 Analysis of domestic malicious IPs resources in 2024

(1) In 2024, there were 77.94 million domestic malicious IPs, a year-on-year increase of 31.96%. In 2024, Threat Hunter captured a total of 77.94 million domestic malicious IPs, a year-on-year increase of 31.96%.

Threat Hunter research found that the substantial increase in domestic malicious IPs in 2024 is mainly caused by the rapid increase in the number of hijacked shared proxy IPs.

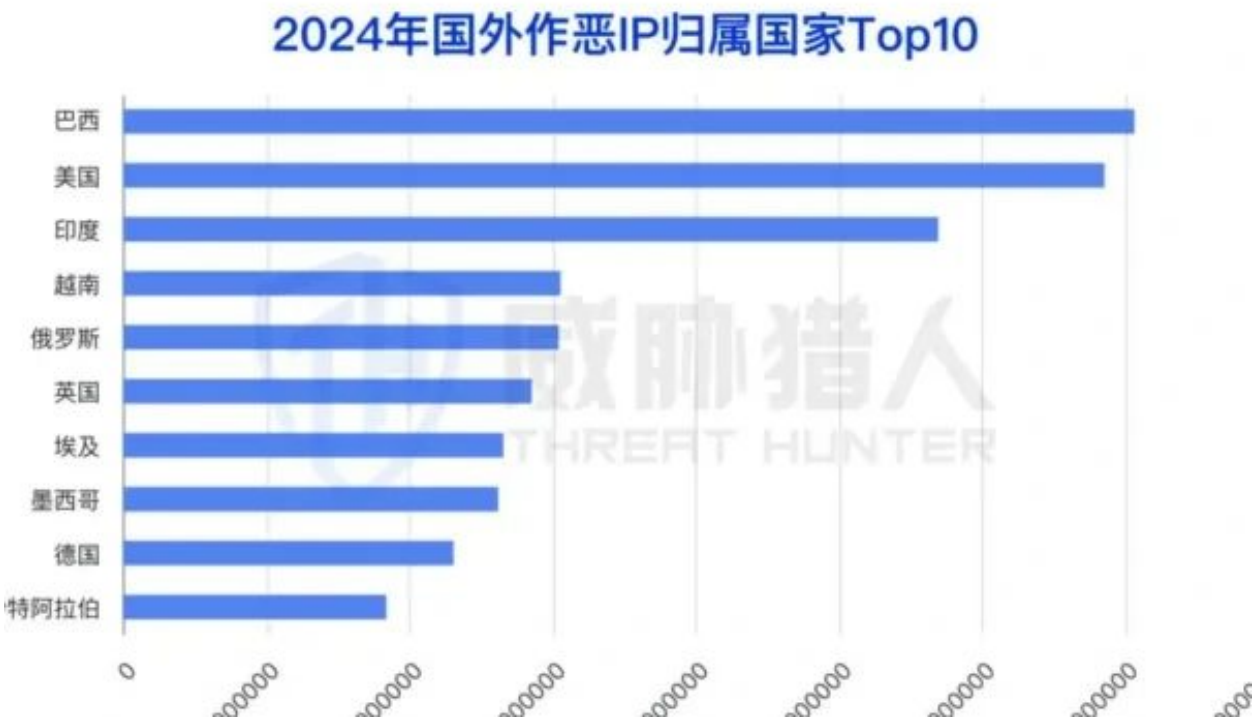
In 2024, the domestic hijacking shared proxy platform developed rapidly. Threat Hunter captured more than 40 million hijacked shared proxy IPs, accounting for 51.47% this year from 14.91% last year, and exceeded the proportion of ordinary proxy IPs.

Hijacked shared proxy IP: refers to normal user IP resources maliciously hijacked by threat actors. threat actors implant Trojans into normal user equipment, and use Trojans to establish proxy channels on normal user networks. Each use time is very short, so it is difficult for ordinary users to perceive that their IP has been stolen.

ISP resource analysis for foreign abuses in 2024

Source: Threat Hunter original report, page 20

In January 2024, Threat Hunter has marked this type of IP as a "hijacking shared proxy IP" risk label (2) Top 3 provinces where domestic malicious IPs belong in 2024: Jiangsu, Guangdong, and Henan. Threat Hunter intelligence data statistics show that in 2024, the active domestic malicious IPs provinces (including municipalities) are mainly concentrated in Jiangsu Province, Guangdong Province, and Henan Province. Among them, Henan Province has the largest increase in weight, increasing by 54.45%, and its ranking has also moved from sixth to third in 2023.



Type and regional distribution of domestic and foreign abuses

Source: Threat Hunter original report, page 21

(3) [Attention] threat actors' IP resource acquisition technology upgrades, using normal users' IP resources to avoid fraud-control detection. With the enhancement of network security supervision and corporate fraud-control strategies, in order to avoid fraud-control detection and tracking, threat actors are also upgrading their technology to try to mine more covert IP attack resources.

In recent years, Threat Hunter has successively discovered the types of malicious IPs used by normal users and criminals, conducted in-depth research on them, and launched risk labels such as "hijacking shared proxy IP", "cloud service IP", and "cloud mobile phone IP" in 2024.

1. Hijacking shared proxy IPs accounted for more than half in 2024, becoming the main attack resource used by attackers

Hijacking shared proxy IP refers to normal user IP resources maliciously hijacked by threat actors. Threat Hunter found that threat actors implanted Trojans into normal user devices and used the Trojans to establish proxy channels on normal user networks. Each use time is very short, so it is difficult for ordinary users to perceive that their IP has been stolen.

Hijacking shared IPs is a normal behavior for normal users most of the time. Only a few times are hijacked by threat actors for short-term malicious behaviors. Therefore, platform fraud controls will directly treat them as normal users and ignore their short-term malicious activity behaviors. This makes the success rate of threat actors using hijacked shared IPs often higher than that of ordinary proxy IPs, leading to more and more platforms turning to hijacking shared proxy IP resources.

This type of hijacked shared proxy IPs appeared at the end of 2023, and developed rapidly in 2024, with a sharp increase in number. In 2024, Threat Hunter captured more than 40 million hijacked

shared proxy IPs, a year-on-year increase of 341.81%, and exceeded the number of ordinary proxy IPs.

2. threat actors abuse cloud technology: Cloud functions and cloud mobile phone group control technology have become new ways for threat actors IP to conduct malicious activity.

While cloud service technology brings convenience to various industries, it is also being abused by threat actors. Some threat actors have turned the achievements of cloud technology into malicious tools, such as using cloud services to build proxy IP resource pools and using the group control settings of cloud phones to launch attacks on enterprises.

Threat Hunter found that in order to conceal the true source IP, some attackers would use the cloud function IP of the cloud computing platform to build a proxy IP pool to perform attacks, or use the group control configuration of cloud phones to perform batch attacks. Threat Hunter defined the IPs generated by these two methods as "cloud service IP" and "cloud phone IP."

Whether it is cloud service IP or cloud mobile phone IP, they all serve many normal users. Therefore, platform fraud controls will generally treat them as normal users and ignore their malicious activity behaviors.

1.2.3 Analysis of foreign malicious IPs resources in 2024

2024 Analysis of Bank Card Resources Related to Money Laundering

Source: Threat Hunter original report, page 23

(1) In 2024, 44.79 million foreign malicious IPs were captured, an increase of 102.14% compared with 2023. In 2024, Threat Hunter strengthened the monitoring of overseas malicious IPs, and a total of 44.79 million overseas malicious IPs were captured in 2024, an increase of 102.14% compared with 2023.

(2) The countries where foreign malicious IPs belong to in 2024 are top 3: Brazil, the United States, and India (3) There are differences in the proportions of domestic and foreign malicious IPs types, and the proportion of foreign mobile networks far exceeds that of domestic Threat Hunter intelligence personnel analyzed the domestic and foreign malicious IPs types and found that there are differences between the two:

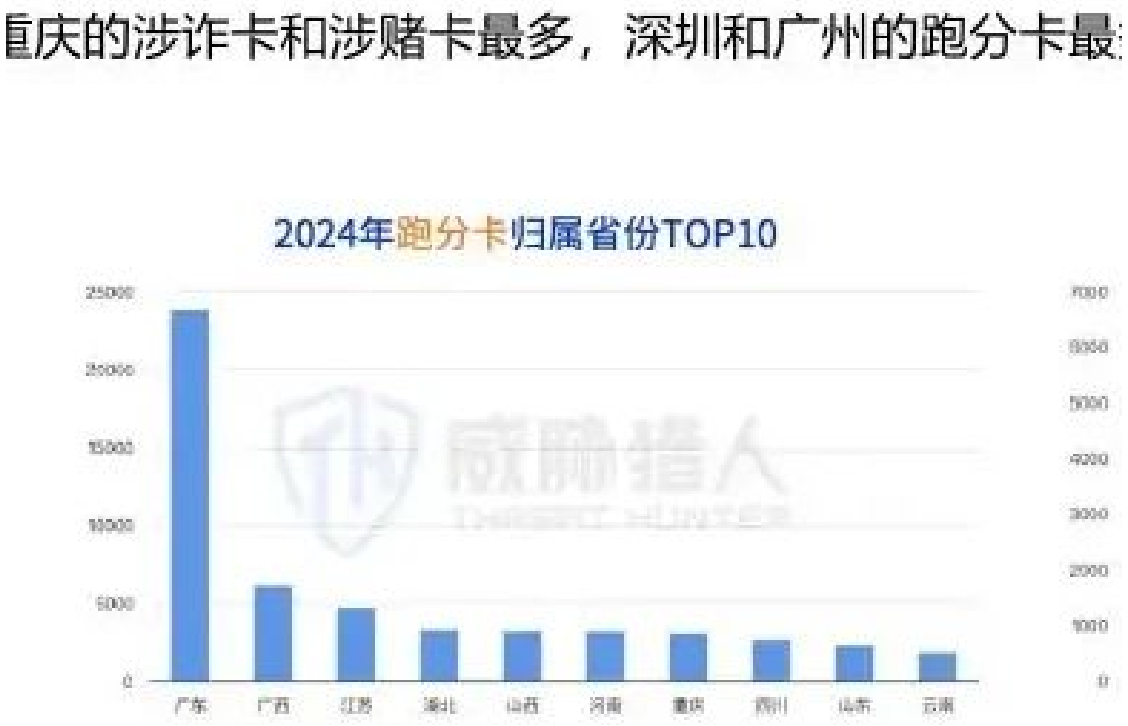
Domestic malicious IPs are mainly home broadband IPs, accounting for nearly 90%. Domestic malicious activity proxy IPs, speed dial IPs and hijacking shared proxy IPs are all closely related to home broadband;

Although foreign malicious IPs account for the largest share of household broadband, mobile networks also account for a relatively high proportion, exceeding 40%. Further analysis found that these IPs mainly come from traffic cards, and IP changes are achieved by frequently switching to airplane mode.

1.3 Analysis of Internet Money Laundering Resources in 2024

1.3.1 Analysis of bank card resources involved in money laundering in 2024

(1) Among the bank cards involved in money laundering in 2024, fraud-related cards accounted for the largest proportion, accounting for 42.03%. Threat Hunter analyzed the 336,000 bank cards captured for money laundering, which were mainly divided into three types: gambling-related cards, scorecards and fraud-related cards. Among them, fraud-related cards accounted for the largest proportion, reaching 42.03%.



Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 1)

Source: Threat Hunter original report, page 24

Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 2)

Source: Threat Hunter original report, page 24

Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 3)

Source: Threat Hunter original report, page 24

Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 4)

Source: Threat Hunter original report, page 24

Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 5)

Source: Threat Hunter original report, page 24

Analysis of Bank Card Resources Related to Money Laundering, 2024 (Chart 6)

Source: Threat Hunter original report, page 24

Gambling-related cards: Bank cards that are active in gambling platforms and are used to collect payments on gambling platforms. They are often used for recharging and collecting payments on gambling platforms. The associated assets involve gambling money laundering. Threat Hunter uses a combination of manual and automated methods to collect bank card account information used for payment behavior from various gambling platforms.

Benchmark card: A bank card that is active on the benchmark platform and used by scorers. It is often used for circulation transactions of funds from various illegal sources.

Threat Hunter obtains the bank card account information in the benchmark order from the benchmark platform app through an automated method.

Fraud-related cards: In various anonymous social threat actors group chats, bank cards purchased by fraud gangs for money laundering are often used for fraudulent fund transfers. Threat Hunter uses automated methods to extract bank card account information used by fraud gangs from records sent in group chats of anonymous social threat actors.

(2) Distribution of bank cards belonging to banks involved in money laundering in 2024: The six major state-owned banks account for the highest proportion. Through monitoring data on three types of money laundering cards, Threat Hunter found that money laundering cards belonging to the six major state-owned banks account for the largest proportion. This is mainly because of its wide coverage and large customer base, making it easier for threat actors to use it as a money laundering tool. . This is mainly because of its wide coverage and large customer base, making it easier for threat actors to use it as a money laundering tool.

- Other banks include: private banks, development financial institutions and other financial institutions (3) Regional distribution of bank cards involved in money laundering in 2024: Guangdong Province has the largest number. Threat Hunter research found that there are similarities and differences in the regional distribution of the three types of money laundering bank cards:

Similarities:

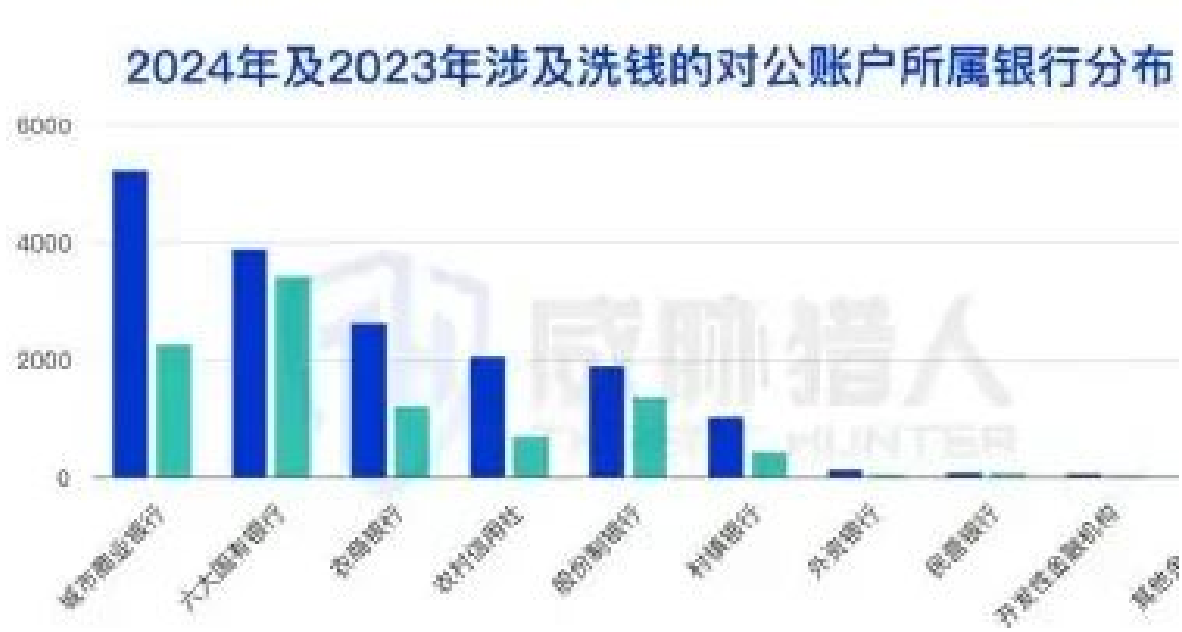
先钱场景下更明显。

2024 Analysis of changes in resources in public money-laundering accounts

Source: Threat Hunter original report, page 25

The top 10 provinces (ranked in order) for the three types of money laundering bank cards are all Guangdong, Guangxi, Jiangsu, Hubei, Shanxi, Henan, Chongqing, Sichuan, Shandong and Yunnan, and the top 1 are all Guangdong Province;

The top 10 cities (ranked in order) for the three types of money laundering bank cards are all Shenzhen, Guangzhou, Chongqing, Dongguan, Shanghai, Wuhan, Jincheng, Zhengzhou, and Chengdu; and the top 3 (ranked in order) are all Shenzhen, Guangzhou, and Chongqing.



2024 Analysis of changes in resources in public money-laundering accounts

Source: Threat Hunter original report, page 26

Differences:

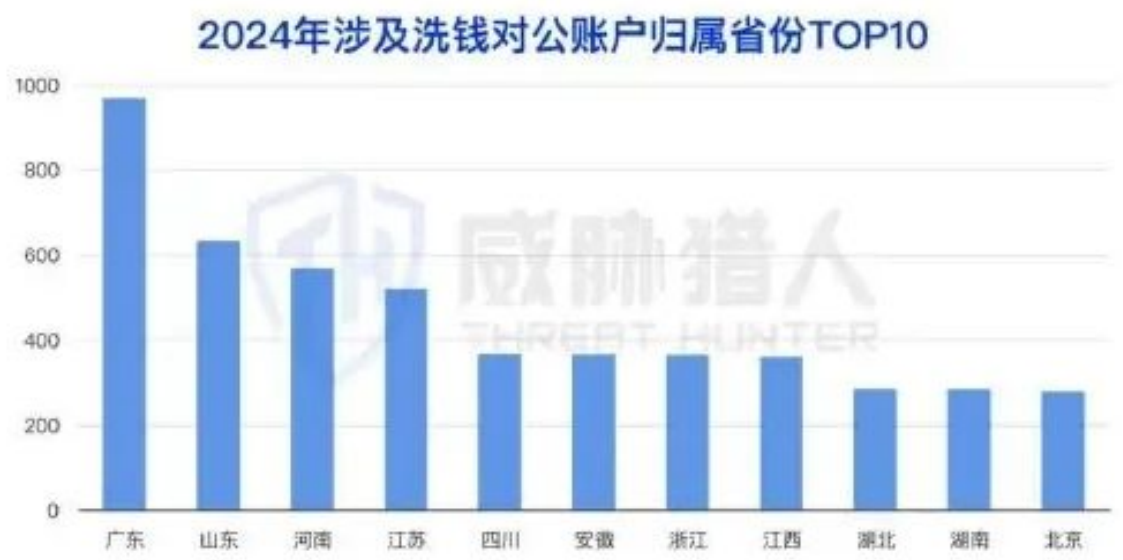
The number of fraud-related cards in Henan, Shanxi, Sichuan, Yunnan and Shandong is higher than that of running score cards and gambling-related cards;

Chongqing has the most fraud-related and gambling-related cards, while Shenzhen and Guangzhou have the most running score cards.

(4) More than 50% of bank cards involved in money laundering have an active period of less than 1 day

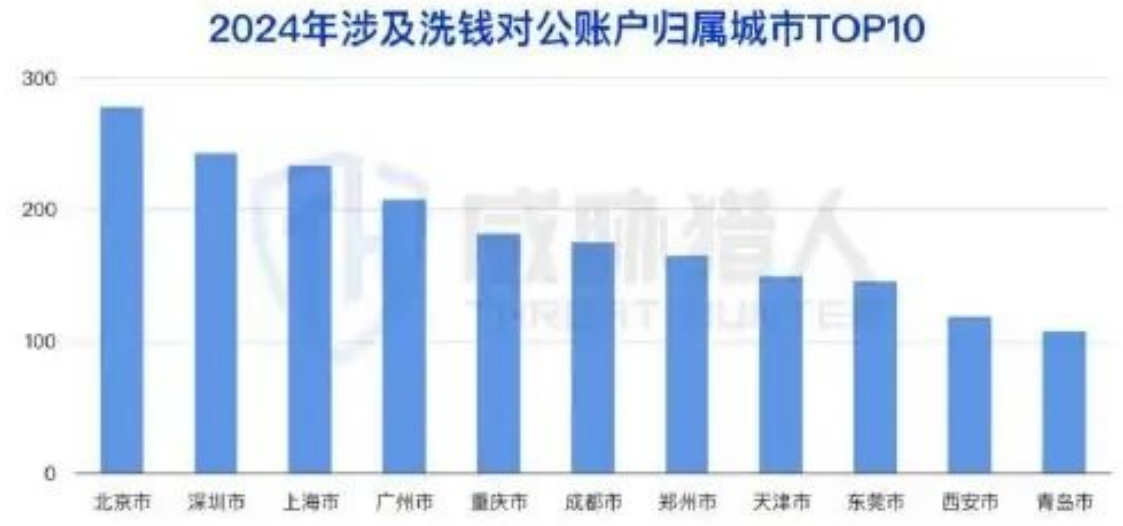
Threat Hunter research found that more than 50% of bank cards involved in money laundering in 2024 were only active within one day. Among them, the proportion of fraud-related cards active within one day reached 84.03%, which was higher than 66.33% of benchmark cards and 52.58% of gambling-related cards.

This also shows that in money laundering scenarios, threat actors are more inclined to complete transactions quickly and have obvious short-term and high-frequency operation characteristics, especially in fraud and money laundering scenarios.



Analysis of changes in business resources involved in money-laundering, 2024 (Chart 1)

Source: Threat Hunter original report, page 27



Analysis of changes in business resources involved in money-laundering, 2024 (Chart 2)

Source: Threat Hunter original report, page 27

1.3.2 Analysis of changes in corporate money laundering account resources in 2024

Money laundering corporate accounts: Corporate accounts refer to accounts opened in banks in the name of a company. Money laundering corporate accounts refer to bank corporate accounts used by threat actors to launder illegal funds. Because corporate accounts have the characteristics of large collection amounts and high number of transfers, "corporate accounts" often serve as concentration and divergence points for black money transfers.

(1) In 2024, there were 8,059 new public accounts involved in money laundering, an increase of 58.05% from 2023. In 2024, Threat Hunter continued to monitor the bank account resources used by threat actors in the money laundering process. According to Threat Hunter intelligence monitoring of money laundering public account data, the number of new public accounts for money laundering increased significantly in 2024, an increase of 58.05% compared with 2023.

Analysis of changes in business resources involved in money-laundering, 2024

Source: Threat Hunter original report, page 28

(2) Among the banks with corporate accounts involved in money laundering in 2024, city commercial banks ranked first. Threat Hunter intelligence data shows that among the types of banks owned by corporate accounts involved in money laundering, city commercial banks ranked first, accounting for 30.63%.

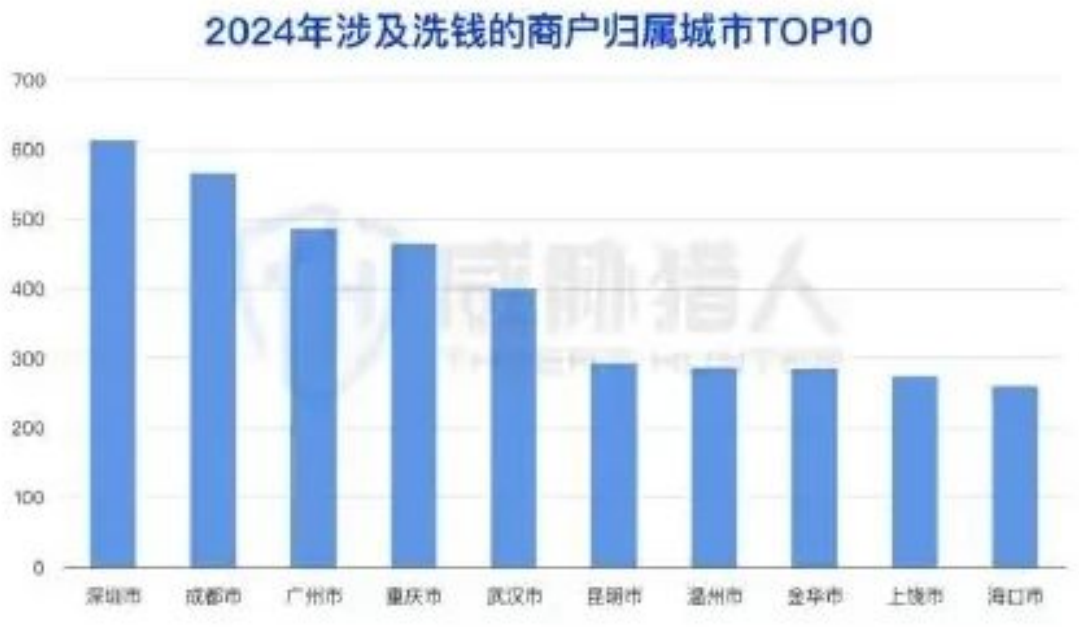
Further analysis found that the number of corporate accounts of city commercial banks this year increased by 8.13% compared with 2023, and the number of corporate accounts of rural credit cooperatives and rural commercial banks increased by 5.48% and 3.48% respectively compared with 2023, while the proportion of the six major state-owned enterprises decreased by 11.21%.

Distribution of business owners of money-laundering

Source: Threat Hunter original report, page 30

Analysis of changes in business resources involved in money-laundering, 2024 (Chart 1)

Source: Threat Hunter original report, page 29



Analysis of changes in business resources involved in money-laundering, 2024 (Chart 2)

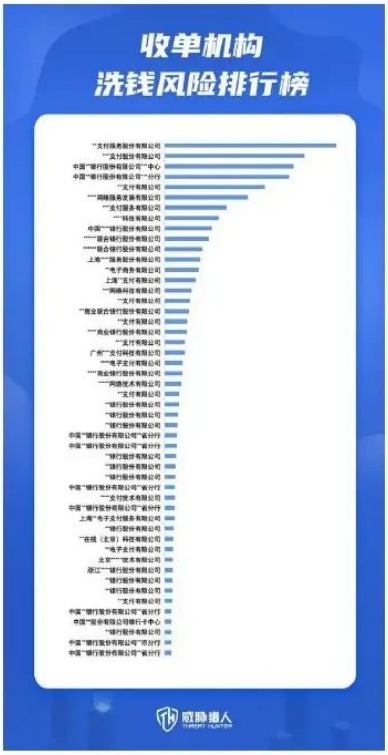
Source: Threat Hunter original report, page 29

Following this trend, threat actors may begin to turn to local banks in the process of laundering money using public accounts, and Threat Hunter will continue to pay attention.

(3) The provinces to which corporate accounts involving money laundering belong in 2024: Guangdong Province, Shandong Province, and Henan Province

(4) In 2024, the three cities with the largest number of public accounts involved in money laundering were monitored: Beijing, Shenzhen, and Shanghai

交易次数排名，将 2024 年涉及洗钱的收单机构整理输出 TO



Analysis of changes in business resources involved in money-laundering, 2024

Source: Threat Hunter original report, page 31

1.3.3 Analysis of changes in merchant resources involved in money laundering in 2024

Threat Hunter research found that in addition to using personal bank cards and public accounts to launder money, money laundering gangs also use "merchant account numbers" to launder money.

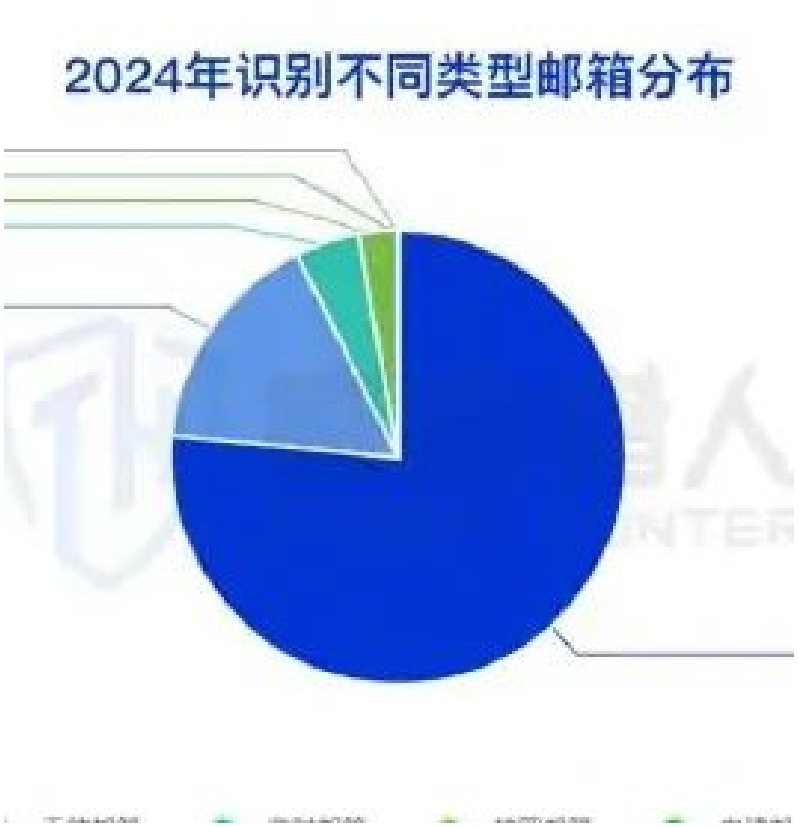
"Merchant" usually refers to merchants and merchant accounts with legal business qualifications. In recent years, fraud or money laundering gangs have begun to use merchant accounts to collect "black money" to launder money. Collection accounts opened with merchant qualifications basically have no collection limit and can support multiple payment methods such as Huabei and credit cards. Compared with traditional money laundering methods, they are more covert and efficient.

Threat Hunter conducted focused research on the "merchant money laundering" industry chain in 2024 and found that there have been various merchant money laundering methods such as "merchant collection" (merchant code), "street scanning code", "merchant anti-scanning", and "merchant payment" (write-off code).

(1) "Merchant money laundering" has become an upward trend. The number of merchants and threat actors participating in money laundering will continue to increase in 2024. Threat Hunter intelligence data shows that the number of merchants participating in money laundering will continue to increase in 2024, with an increase in the second half compared to the first half.

Risk Mailbox resource analysis for 2024 (Chart 1)

Source: Threat Hunter original report, page 32



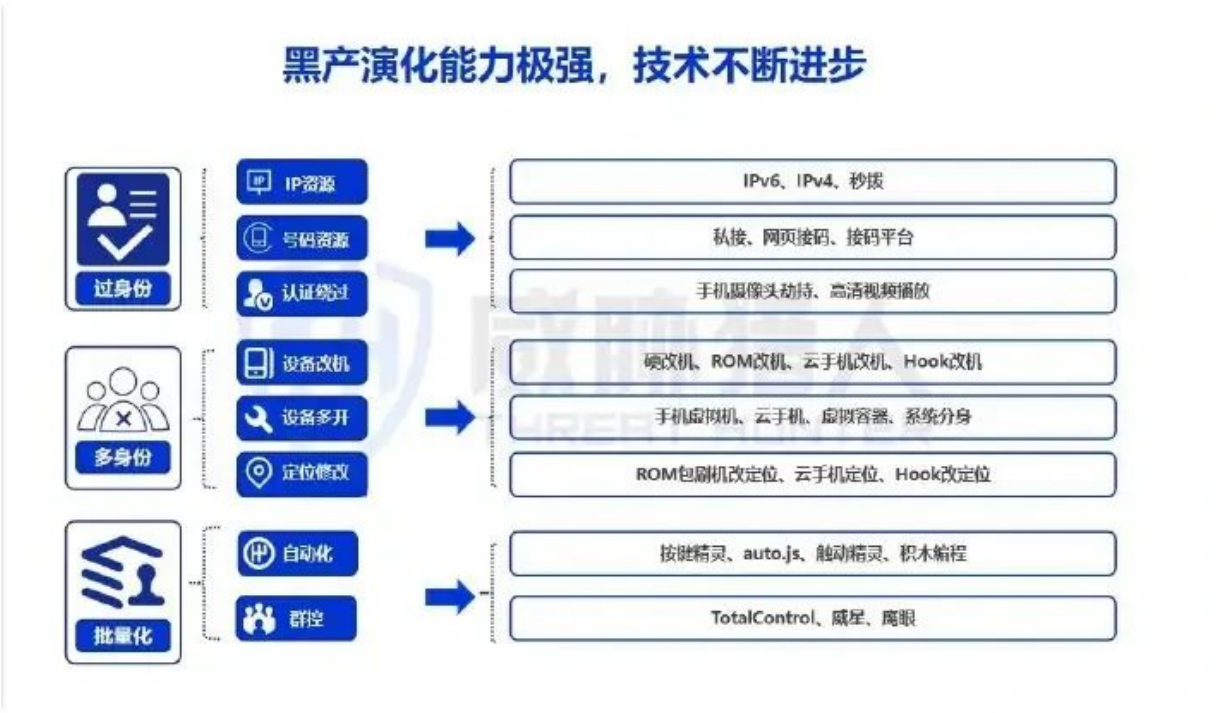
Risk mailbox resource analysis for 2024 (Chart 2)

Source: Threat Hunter original report, page 32

141.42%.

In the second half of 2024, the number of active money laundering threat actor groups increased significantly, with a year-on-year increase of 81.91% in the first half of the year.

(2) The top three provinces where merchants involved in money laundering are located in 2024: Guangdong Province, Zhejiang Province, Sichuan Province (3) The top three cities where merchants are involved in money laundering are located in 2024: Shenzhen City, Chengdu City, Guangzhou City



II. Analysis of Internet cybercriminal activity Generic Attack Technology 2024

Source: Threat Hunter original report, page 34

(4) Industry distribution of merchants involved in money laundering in 2024 top 3: retail, wholesale, and catering industries Threat Hunter intelligence personnel further analyzed the merchants involved in money laundering and found that these merchants involve more than 80 industries, of which retail merchants account for the largest proportion, exceeding 40%, followed by the wholesale industry and catering industry. This type of industry has the characteristics of high frequency of capital flow, many transaction objects, and fast fund settlement. These characteristics are in line with the requirements of threat actors for money laundering. It is less likely for threat actors to use such merchants to launder money and trigger fraud controls.

(5) [Attention] 2024 Financial Industry Acquirer Money Laundering Risk Ranking Threat Hunter research found that in the "merchant money laundering" industry chain, there is a core role - the acquirer. Acquirers include both corporate third-party acquirers and banks themselves as acquirers.

Among the more than 300 acquirers monitored by Threat Hunter that are involved in merchants' money laundering risks, banks themselves account for the largest proportion of acquirers, reaching 84.17%.

Threat Hunter ranks the top 50 acquirers involved in money laundering in 2024 based on the number of money laundering transactions:

1.4 Risk Email Resource Analysis in 2024

Identity circumvents technological evolution: cybercrime uses a "child machine" to bypass authentication, and unqualified people can also take orders from platforms

Source: Threat Hunter original report, page 35

In 2024, the number of high-risk email (temporary email) domain names captured was 9,334, accounting for 4.57% of the total.

Judging from the number of different types of mailboxes in 2024, 204,100 mailboxes were captured in 2024, of which low-risk enterprise mailboxes accounted for the total

76.58%, high-risk mailboxes (temporary mailboxes) account for 4.57%, and the new mailboxes this year are mainly corporate mailboxes.

Analysis of common cybercriminal groups attack technologies on the Internet in 2024

2. Analysis of common cybercriminal groups attack technologies on the Internet in 2024

Threat Hunter research found that since each enterprise has different business environments and fraud-control measures, the malicious tools and attack services used by threat actors against these enterprises are also diverse. However, through in-depth analysis of the underlying technical characteristics of these tools, we can divide the attack services into three major modules: "over-identity", "multi-identity" and "batch". Each of these modules involves a variety of underlying attack technologies, and these technologies are the key to realizing various specific attack behaviors.

2.1 Evolution of identity bypass technology: threat actors use "sub-master machines" to bypass authentication, and unqualified personnel can also take orders on the platform

Threat Hunter research found that in 2024, cybercriminal groups will use "sub-machine" technology to enable two mobile phones to log in to the same platform account at the same time. Using this technology, threat actors can enable two people to share a platform account at the same time to complete platform-related operations.

The application logic of "child-mother machine" is: threat actors first use the parent mobile phone to log in to the account to complete the identity authentication, then obtain the account's cookies, device environment and other information through code hijacking, then copy this information to the child device, replace its original file, and let the child device read the new information.

At present, the sale of such tools has appeared in industries such as travel and food delivery, which may lead to untrained or unqualified drivers/delivery workers working in violation of regulations, which not only affects the service quality of the platform, but may also endanger the personal safety of platform users, causing greater losses and reputational damage to the platform.

Off-shore money-laundering using “NFC” remote transmission software for the purpose of transferring illicit funds

Source: Threat Hunter original report, page 36

[Example of travel platform “sub-machine”] Take an app in the travel industry as an example:

陷 不受时间及国界限制，无论何时何地都能完成交易 、 可实体，可虚

：

Off-shore money-laundering using “NFC” remote transmission software for the purpose of transferring illicit funds

Source: Threat Hunter original report, page 37

1 First, log in and authenticate Master A’s platform account on mobile phone A;

2 Then, copy the cookies and device environment information on mobile phone A to mobile phone B through hijacking and other methods;

3. B’s mobile phone is currently controlled by Master B, but the information on B’s mobile phone is Master A’s account information;

4 Each time face authentication is performed, you only need to authenticate on mobile phone A, and it will be effective on both mobile phones. Masters A and B can continue to use their accounts for business operations.

The specific process is as follows:

2.2 threat actors use "NFC" remote transmission software to launder overseas money to achieve the purpose of transferring illegal funds

Threat Hunter research found that in 2024, cybercriminal groups used "NFC technology" to implement remote money laundering activities.

NFC (Near Field Communication) is a short-range wireless communication technology. The effective distance is usually within 10cm. It is widely used in mobile payment (such as Apple Pay, Google Pay), access control cards, data exchange and other fields.

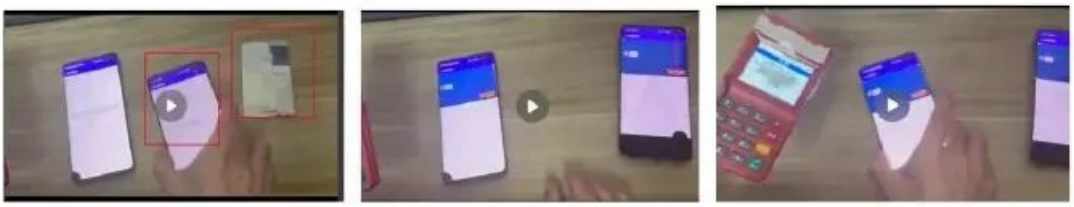
The so-called NFC remote transmission refers to reading device information through NFC technology and then transmitting the information remotely through the network. For example, after device A reads the IC card information, it sends the information to the server or device B through a specific application, and device B can simulate the use of the IC card.

cybercriminal groups use this technology to realize remote reading and recovery of IC card information. Even if mobile phone device B is physically separated from the IC card, operations such as POS machine payment can be performed.

The most typical attack case is money laundering: threat actors remotely transmit domestic credit card information to foreign devices, and use this information to make purchases at POS machines, purchase luxury goods, jewelry, etc., thereby bypassing geographical restrictions on credit card transactions and completing money laundering.

Take a certain transmission app discovered by Threat Hunter as an example:

1 The software introduction “is not restricted by time or national boundaries, and can complete transactions anytime and anywhere”, “can be physical or virtual, and supports all wallets”:



Customize the cloud cell phone system to further increase the efficiency of black-product attacks
Source: Threat Hunter original report, page 38

2 Download this software on both domestic (card transmitter) and foreign (receiver) mobile phones;

3. Use a domestic mobile phone to touch the physical bank card. At this time, the bank card information will be transmitted to the domestic mobile phone;

4. After the domestic mobile phone receives the bank card information, it will transmit the bank card information to the foreign mobile phone through the software installed on the mobile phone;

5. After the foreign mobile phone receives the bank card information through the software, it can swipe the card normally.

Customization of cloud cell phone systems to further improve black-out efficiency (Chart 1)
Source: Threat Hunter original report, page 39

Customization of cloud cell phone systems to further increase the efficiency of black-product attacks (Chart 2)

Source: Threat Hunter original report, page 39

Figure A: Domestic mobile phone (card transfer party) touches the bank card. Figure B: Domestic/foreign mobile phones receive bank card information. Figure C: Foreign mobile phone makes payment. The specific process is as follows:

2.3 Customized cloud mobile phone system to further improve the attack efficiency of threat actors

Threat Hunter pointed out in the "Internet cybercrime ecosystem research annual report" released in 2023 that the supporting services of the cloud mobile platform are increasingly abundant, and the threat actors technology shows the characteristics of integration and service. In 2024, we will continue to follow and observe and find that the cloud mobile phone platform is not only becoming more integrated and service-oriented, but the trend of customization is also becoming more mature.

Servitization mainly provides complete basic attack tools, allowing users to carry out attacks based on these tools. Customization means that the cloud phone platform bypasses fraud controls for specific apps, develops corresponding malicious scripts, and integrates them into the cloud phone system for direct use by users.

Take a social app as an example:

The cloud mobile phone system customized and developed by threat actors covers the automation of complete attack processes such as registration, account maintenance, and traffic monetization. This not only lowers the entry threshold for attackers, allowing novices to perform fool-like operations, but also eliminates the need for attackers to pay attention to confrontation at the fraud controls level, thus greatly improving attack efficiency.

Analysis of cybercriminal groups attack scenarios on the Internet in 2024

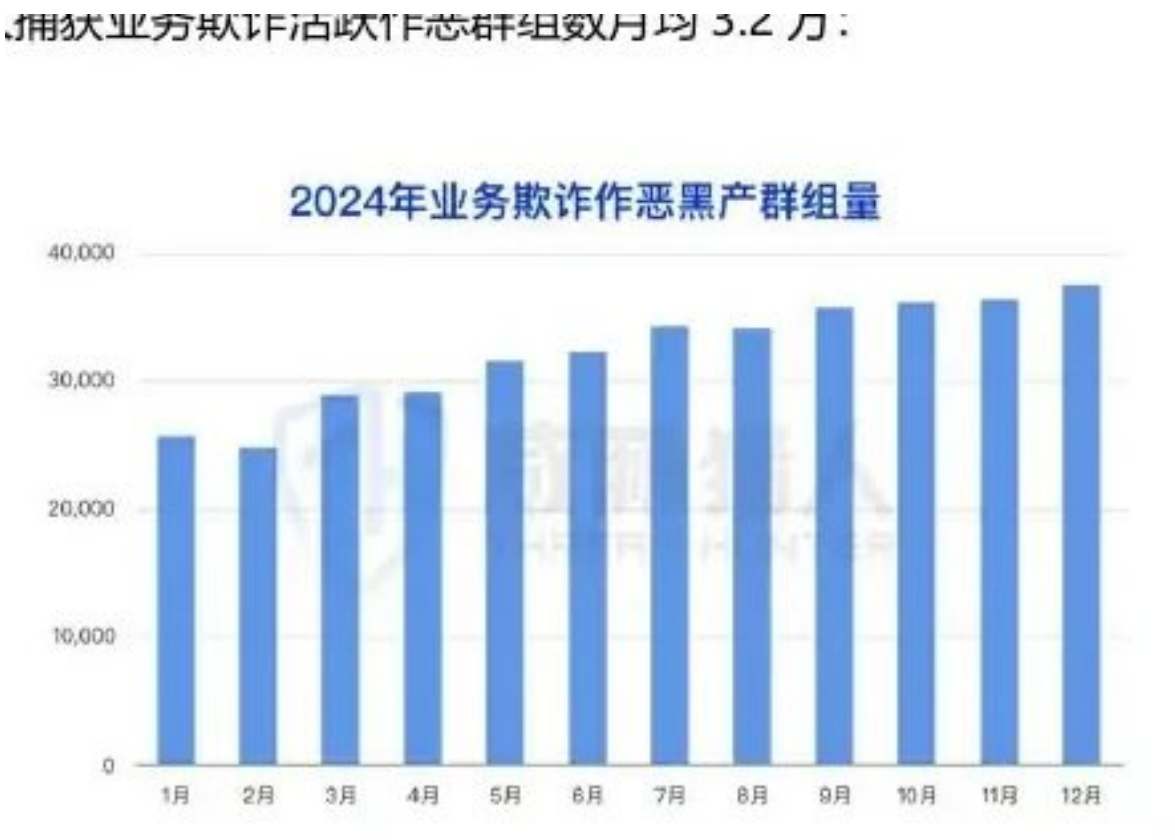
3. Analysis of cybercriminal groups attack scenarios on the Internet in 2024

2024 On-line operational fraud risk is constant, with a related attack intelligence volume of nearly 300 million

Source: Threat Hunter original report, page 41

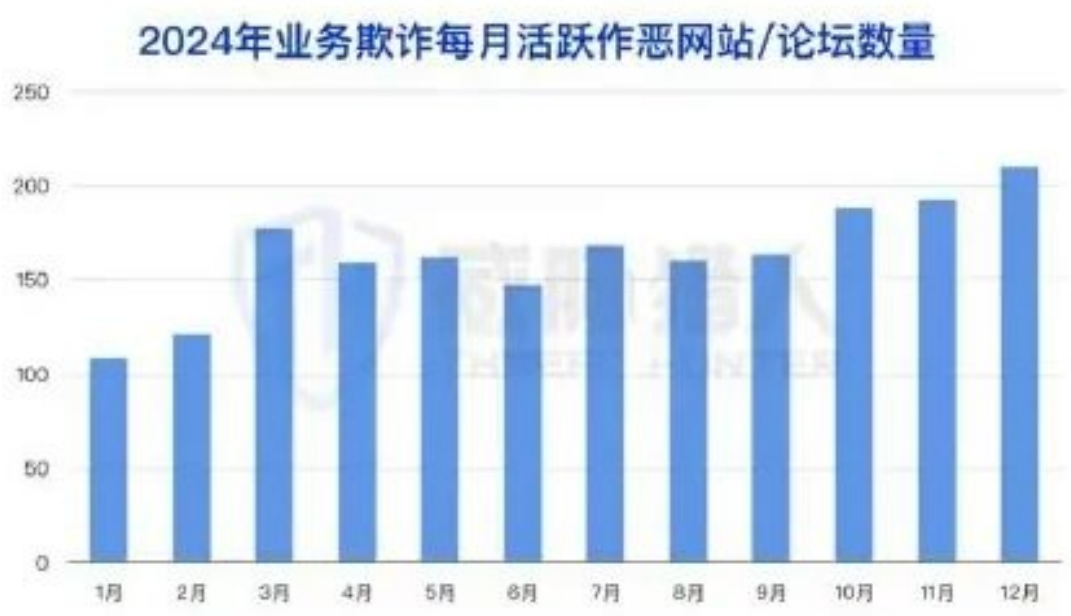
3.1 Online business fraud scenarios

The online business fraud scenarios in this report are not limited to traditional marketing activity fraud attacks. All malicious behaviors that interfere with normal business operations and make profits from normal business development are called "business fraud attacks," such as marketing fraud, malicious traffic diversion, manipulate fraud, authentication bypass, etc.



2024 The year-on-line operational fraud risk level remains constant, with a related attack intelligence volume of nearly 300 million (figure 1)

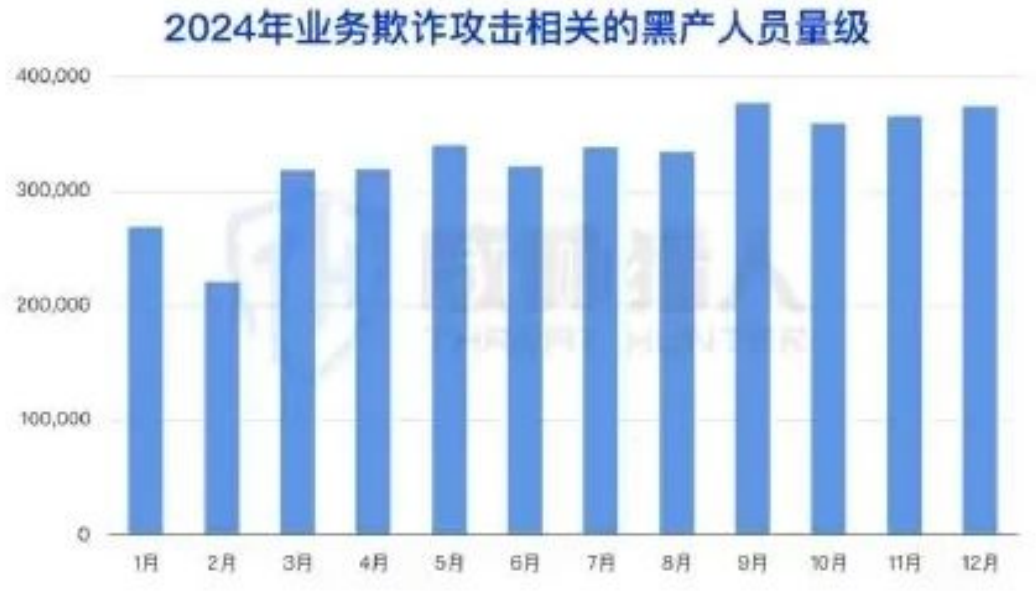
Source: Threat Hunter original report, page 42



2024 The year-on-line operational fraud risk is constant, with a related attack intelligence volume of nearly 300 million (figure 2)

Source: Threat Hunter original report, page 42

捕获业务欺诈活跃作恶账号数月均 32 万：



2024 The year-on-line operational fraud risk is constant, with the associated attack intelligence volume approaching 300 million (Chart 3)

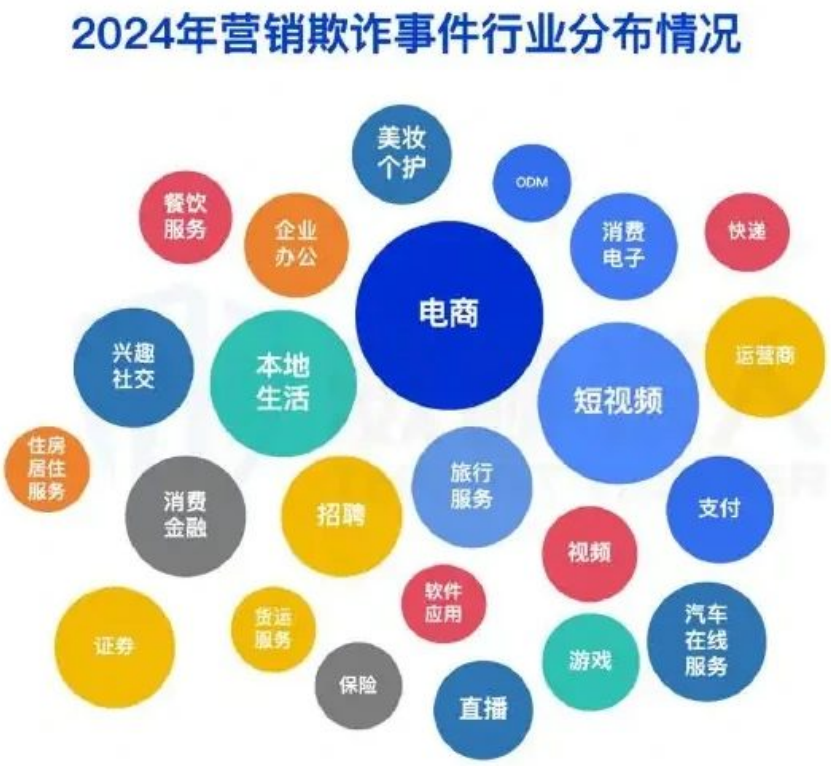
Source: Threat Hunter original report, page 42

3.1.1 The risk of online business fraud will continue to grow in 2024, with nearly 300 million related attack intelligence

In 2024, Threat Hunter captured a total of 272 million pieces of information related to business fraud attacks, monitored 120,000 business fraud groups, and involved 2.23 million malicious accounts.

In December 2024, business fraud-related intelligence increased dramatically. Threat Hunter intelligence personnel further analyzed and found that more than half of the increase in December came from intelligence information on anonymous group chats. This phenomenon was mainly caused by the frequent online gambling activities of some large gambling threat-actor groups, and the money laundering gangs using multiple accounts to conduct advertising "recruitment" and violent diversion.

In 2024, Threat Hunter captured a monthly average of 32,000 active business fraud groups:



The number of early warning operations fraud cases in 2024 amounted to 4158, which involved industry-wide, business-wide fraud.

Source: Threat Hunter original report, page 43

In 2024, Threat Hunter captured an average of 163 active business fraud websites/forums (excluding dark web) per month, and the total number of malicious posts throughout the year was 9.26 million:

In 2024, Threat Hunter captured an average of 320,000 active business fraud accounts for several months:

3.1.2 There were 4,158 fraud incidents in the early warning business in 2024, involving the entire industry and business

The Threat Hunter risk intelligence platform provides customers with risk intelligence mining and event warning services, supporting in-depth analysis and structuring of cybercrime ecosystem original clues into effective attack events. In 2024, the platform has alerted cooperative customers to 4,158 clear attack events, an average of approximately 346 per month.

Through further analysis of these attack incidents, we found that business fraud attacks have penetrated into multiple industries and multiple businesses. In other words, online business fraud presents "indiscriminate attacks" against different industries and different business links. Any profitable place is the target of cybercriminal attacks.

Business frauds have entered deep waters, human participants are becoming more customised and role boundaries blurred

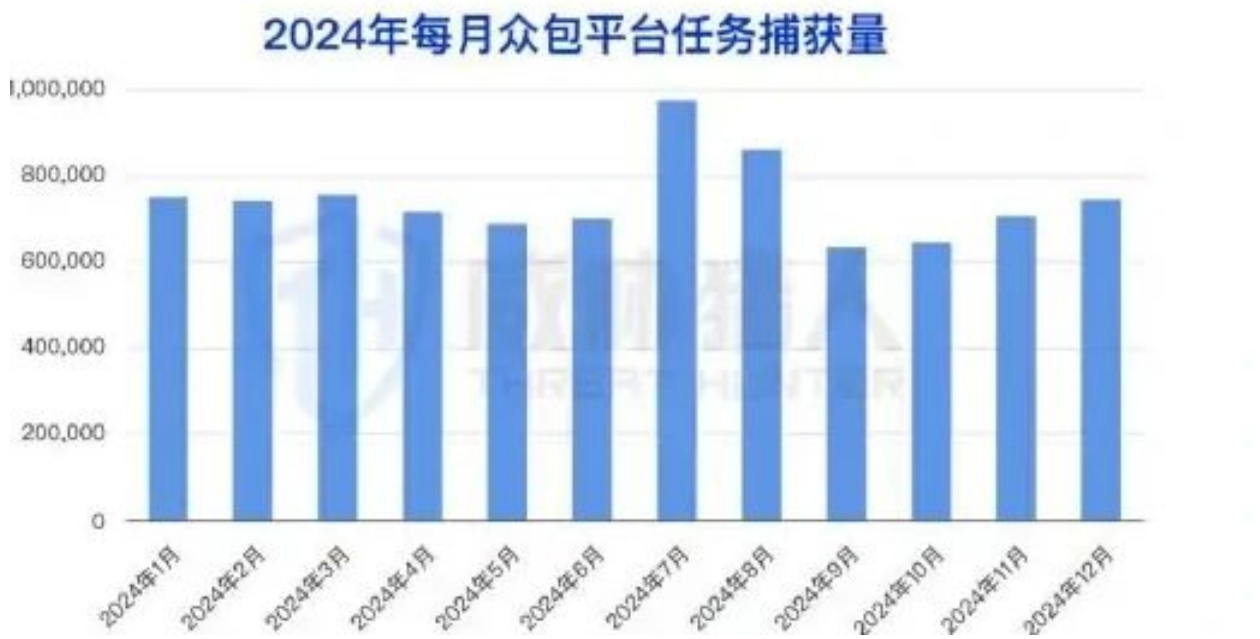
Source: Threat Hunter original report, page 44

By extracting hot words from attack events, we found that current business fraud attacks are not limited to businesses such as registration and login, coupon collection and order grabbing in the past. Content publishing, product management, order transactions, payment transactions, after-sales payments, enterprise data transmission and other aspects may be attacked and profited by threat actors.

3.1.3 Business fraud has entered deep waters, human-operated fraud has become increasingly customized, and role boundaries have become more blurred.

With the continuous improvement of business fraud-control capabilities, most typical automated fraud behaviors have been effectively identified. Although some high-end threat actors still use customized technology to fight, more and more the cybercrime ecosystem actors are turning to human-in-the-loop crowdsourcing fraud methods to conduct attacks.

Judging from the intelligence information captured by Threat Hunter, in 2024, human-operated fraud became more customized, with diverse roles and blurred boundaries. Mainly reflected in the following aspects:



Business frauds have entered deep waters, human participants are becoming more customised and role boundaries blurred

Source: Threat Hunter original report, page 45

(1) The traditional task-based crowdsourcing platform, that is, the model based on "publishing tasks" and "receiving tasks", continues to grow in both the number of platforms and the number of tasks.

Since 2024, Threat Hunter has captured a total of 8.89 million crowdsourcing tasks, with an average of more than 630,000 per month, and even reaching 1 million during peak periods.

(2) cybercriminal groups adopt a more covert form of crowdsourcing organization, such as recruiting human participants to perform specific tasks through crowdsourcing private domain group chats and developing special apps. This model is similar to the real crowd of fake orders and is difficult to be identified by the fraud-control system. These special tasks may include disguised swiping of orders, browsing hotel pages to increase pageviews, or using accounts operated by real users to hang up and crawl platform product data, etc.

Case 1: Taking the "Hotel Screenshots" crowdsourcing project as an example, threat actors developed an app called "Zhitip xx", through which part-time workers were organized to complete the task of hotel screenshots.

Business frauds have entered deep waters, with more customizing and blurring roles (Chart 1)

Source: Threat Hunter original report, page 46

	商品链接	最大购买件数	价
18	https://item	0703.ht 2	
76	https://item	9272.ht 1	
38	https://item	1043.ht 2	
44	https://item	17.html 3	
02	https://item	4008.ht 1	
72	https://item	7866.ht 2	
50	https://item	0260.ht 1	
01	https://item	0917.ht 2	
96	https://item	1158.ht 1	
83	https://item	89.html 1	
00	https://item	9279.ht 2	
61	https://item	97.html 2	

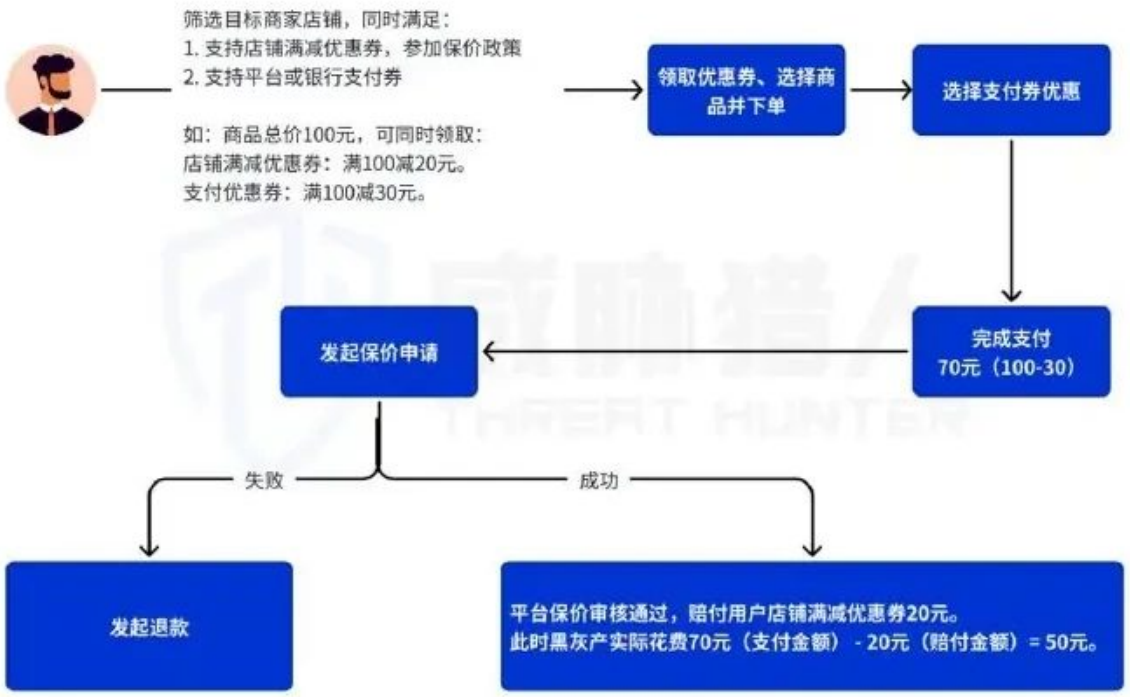
Business frauds have entered deep waters, with more customizing and blurring roles (figure 2)
Source: Threat Hunter original report, page 46

Participants follow the tutorial provided by the app, intercept the price information from the hotel page and upload it for the designated check-in platform, date, region and hotel name. The app will automatically identify and extract price information through OCR technology, and participants can then receive the corresponding commission.

Case 2: cybercrime ecosystem creates a group in the name of part-time job, organizes and recruits human participants to use their accounts to access product links on designated e-commerce platforms, and obtains the corresponding number of products and the price of the corresponding activity conditions to upload the form as required. This is a kind of "human crawler" behavior.

(3) The boundaries of fraudulent roles are gradually blurring, and more and more real users are making malicious profits by studying and using the "legitimate" rules of platform business.

In recent years, multiple platforms have emerged one after another with multiple compensation, refund-only tutorials, and price guarantee refund strategies, which more reflect the trend of fraud led by real users of the platform under the "guidance" of the cybercrime ecosystem.



The attackers folded the shop coupons and the vouchers and used the premium rules to obtain additional refunds.

Source: Threat Hunter original report, page 46

Case: Threat Hunter captured a promotion-abuse actor who used the platform's price guarantee policy combined with payment coupon identification loopholes to purchase platform products "for zero" or at a low price. This type of attack caused large losses and refunds to the platform and merchants who had opened the price guarantee in a short period of time.

The promotion-abuse actors found that a certain type of product on a certain platform can receive full discount coupons and payment coupons (cooperative bank or platform category), but they can only choose to use one of the two; the promotion-abuse actors purchased the product through a payment coupon, and then used the merchant's price guarantee policy rules to apply for a store to fully discount the guaranteed price of the coupon (the merchant cannot see that the user used the payment coupon because it is a different platform), and finally reached 0% or purchased at a low price.

Threat Hunter intelligence personnel analyzed this type of vulnerability attack and found that promotion-abuse groups mainly exploited vulnerabilities in two aspects: first, they took advantage of the compensation mechanism for store coupons in the price guarantee policy, which was originally intended to compensate users in a short period of time;

Secondly, they took advantage of the loophole in the price guarantee policy's inability to identify the coupon discounts that have been used. This allows threat actors to "enjoy" the benefits of both coupons at the same time. This behavior caused large losses and refunds to the platform and merchants who had opened the price guarantee in a short period of time.

3.1.4 The threat actors trading market is more active, with an average of 1.01 million goods sold per month, involving membership rights, tutorial tools, and underground services.

The black market has become more active, with an average monthly sale of 101 million goods involving membership interests, teaching tools, sub-services.

Source: Threat Hunter original report, page 48

The continuous and efficient operation of the cybercrime ecosystem chain is inseparable from upstream resource transactions and downstream arbitrage realization. Upstream threat actors purchase attack resources such as accounts, tools, and phone numbers through specific channels. Downstream threat actors use various channels (card issuing websites and second-hand idle trading platforms, etc.) to monetize the upstream attack resources they hold as well as coupons, cash coupons, membership rights, physical goods, etc. obtained from attacks.

Since the cybercrime ecosystem trading market was officially launched in July 2024, a total of 6.1 million cybercrime ecosystem trading products have been captured, with an average of 1.01 million per month. The large number of actively traded products and rich categories indicate that cybercriminal attack activity are still on the rise and continue to operate. The flow of the commodity trading market actually destroys the equal rights and interests of platform users and players, and reduces and damages the expected profits of the business side.

Based on cybercrime ecosystem transaction product data captured since July, the most popular product categories are: membership rights, tutorial tools, and agent ordering service types, accounting for 22.16%, 17.63%, and 13.94% of the total transaction volume respectively.

There are multiple subdivisions and rich products under each major product category. For example, the membership rights category includes member resale, level and joint rights of cooperative platforms. VIP rights and interests; the coupon category includes platform red envelopes, coupons, and resale of discount coupons; the tutorial tool category includes all-in-one machines, bypassing face verification, changing positioning, snapping up, order grabbing and other automation, batch fraud tools, brick-moving project tutorials, etc.; the ordering service type includes collecting usage fees, using the business party's discount account, membership rights, and subsidy quotas to place and grab orders on behalf of others; the agency service type is related to agency registration and qualification bypass, and a large number of products have violated regulations.

Tutorial tool products: online car hailing machines, targeted at fraud drivers whose qualifications have not passed the review and who want to take orders with multiple accounts to increase their income.

Agent service products: illegal bypass services, such as using information gaps and internal channels to directly operate on the platform for merchants, stores, drivers, etc. who apply for non-compliant qualifications.

Agent ordering service products: various low-priced card coupons and self-service ordering products. Through the agent service and the self-service docking and ordering system built upstream, threat actors sell the recovered coupons for arbitrage, and the promotion-abuse actors obtains the goods at a lower price than the original price.

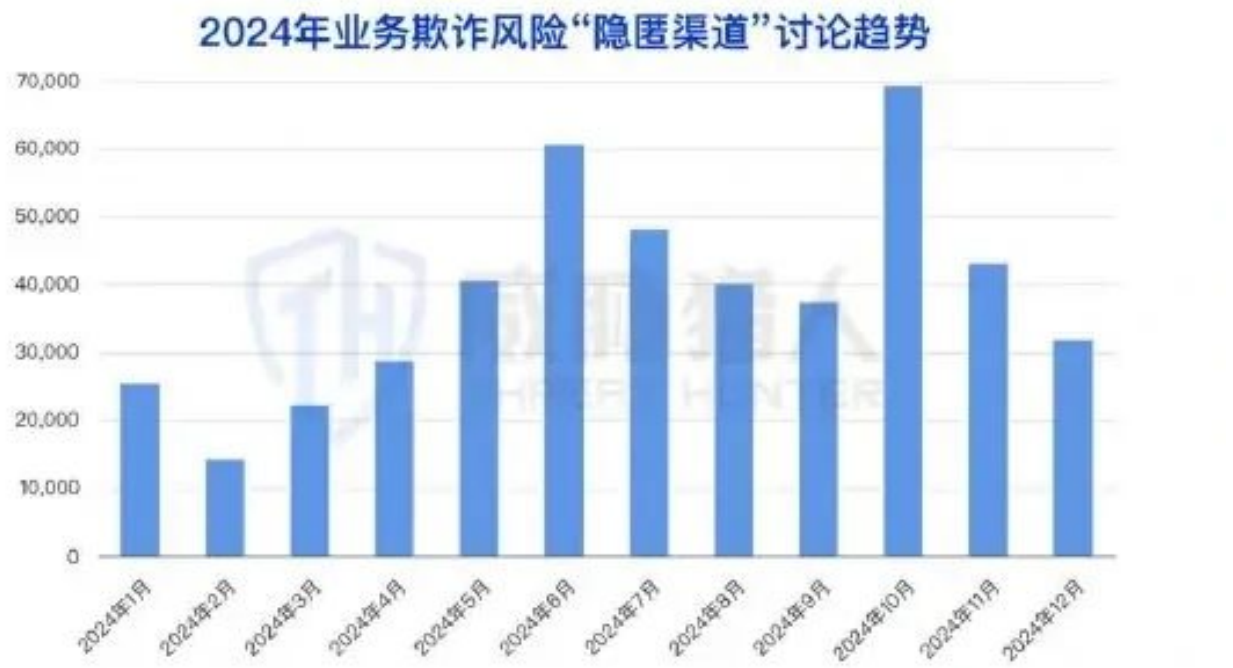
3.1.5 Business fraud attacks by threat actors gradually move to more secretive channels, making monitoring more difficult.

Threat Hunter noticed that compared with the past when they mainly posted on ordinary social platforms, more business fraud threat actors are now gradually turning to more secretive channels, such as establishing a large number of business fraud-related discussion channels on anonymous group chat channels such as Telegram.

In 2024, Threat Hunter monitored that the number of discussions surrounding business fraud risks reached 460,000 on anonymous channels, and is showing a growing trend every month.

Business fraud attacks increasingly shift to more clandestine channels, making surveillance more difficult (Chart 1)

Source: Threat Hunter original report, page 50



Business fraud attacks increasingly shift to more clandestine channels, making surveillance more difficult (Chart 2)

Source: Threat Hunter original report, page 50

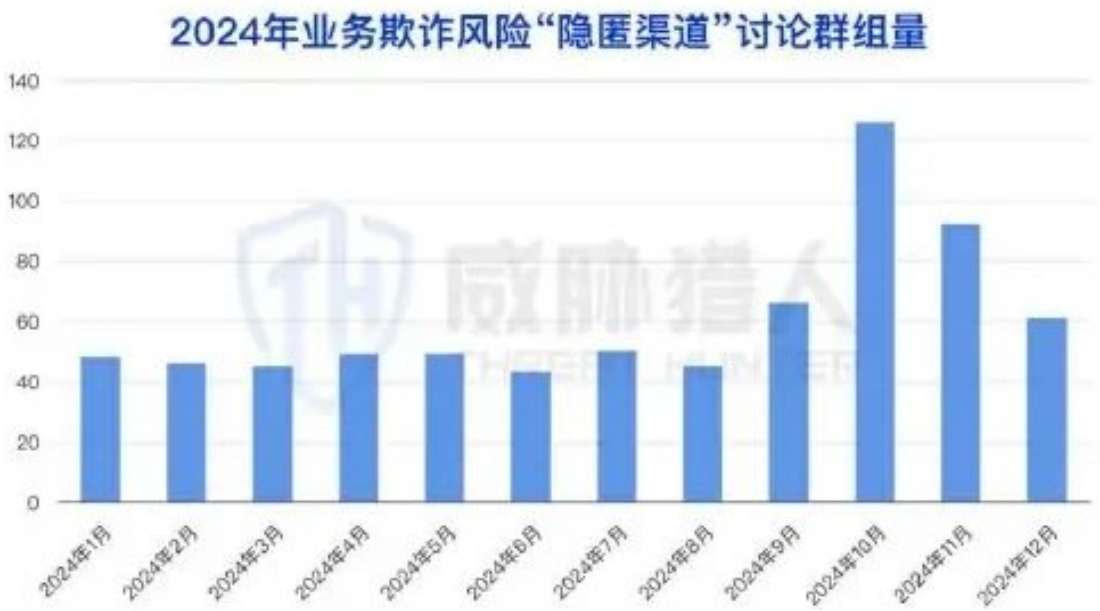
Learn more about the information released by active channels in anonymous channels. The information involves activity scripts that attack business activities, promotion-abuse discussions, malicious compensation tutorials, order grabbing tools, etc. The second half of the year increased by 91.43% compared with the first half of the year.

The cases involved include but are not limited to anti-counterfeiting projects, automatic collection of events, and travel industry order grabbing tools. Trading channel:

3.2 Financial loan fraud scenario

Threat Hunter research found that financial loan fraud has formed a mature industry chain with clear division of labor and divided interests. Taking "professional debt" as an example, its upstream operators, intermediate threat actors, downstream intermediaries, debtors and other roles each perform their own duties and organize fraudulent loan activities through a strict collaboration mechanism. The existence of such threat actors not only disrupts the normal operation of financial markets and causes huge losses to financial institutions, but also poses a serious threat to social stability and healthy economic development.

3.2.1 The risk of loan fraud remained severe in 2024, and the popularity of fraud continues to rise



Financial loan fraud scenario (Chart 1)

Source: Threat Hunter original report, page 51

Financial loan fraud scenario (Chart 2)

Source: Threat Hunter original report, page 51

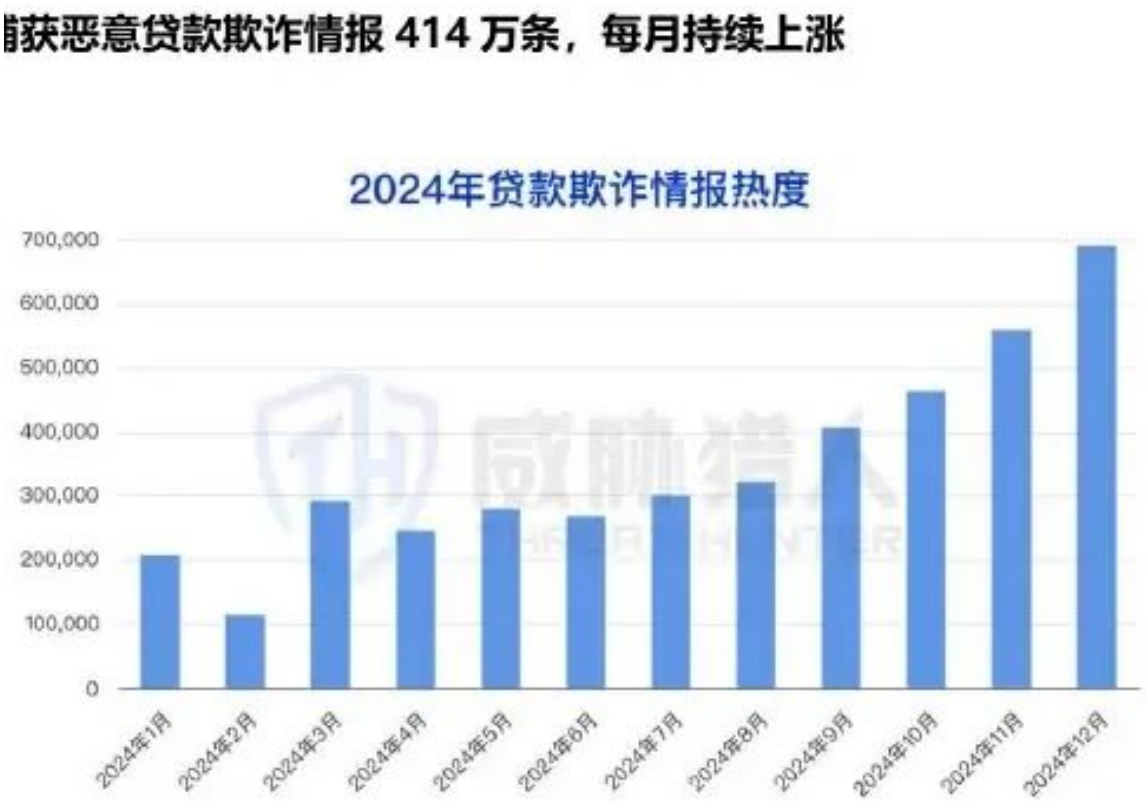
Financial loan fraud scenario (Chart 3)

Source: Threat Hunter original report, page 51

In 2024, Threat Hunter captured a total of 4.14 million pieces of loan fraud attack intelligence, monitored 34,697 active malicious activity social groups, and 115,000 malicious activity threat actors; whether it is the popularity of fraud intelligence, the number of malicious activity groups, or the number of malicious activity threat actors (including malicious loan intermediaries), there is a gradual upward trend.

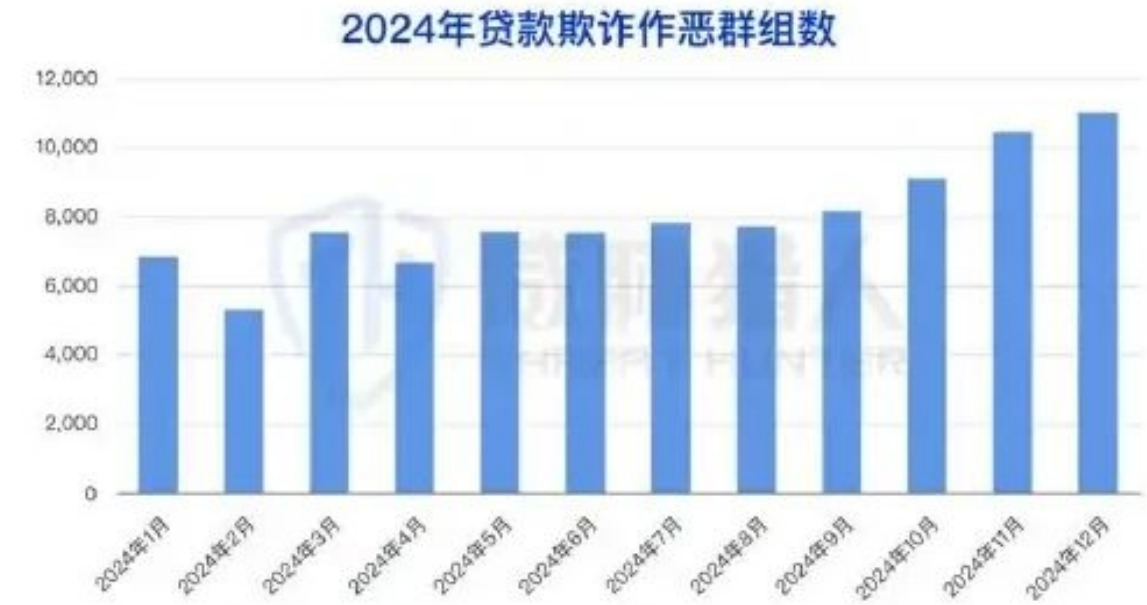
(1) In 2024, 4.14 million pieces of malicious loan fraud intelligence were captured, which continued to increase every month. (2) In 2024, 34,697 active malicious social groups were monitored, an increase of 30% in the second half of the year compared with the first half.

(3) In 2024, 115,000 threat actors committing loan fraud were captured, and the number of threat actors conducting malicious activity in the second half of the year increased by 51% compared with the first half of the year.



The risk of loan fraud remained high in 2024, with increasing fraud heat (figure 1)

Source: Threat Hunter original report, page 52



The risk of loan fraud remained high in 2024, with a steady increase in fraud heat (figure 2)

Source: Threat Hunter original report, page 52

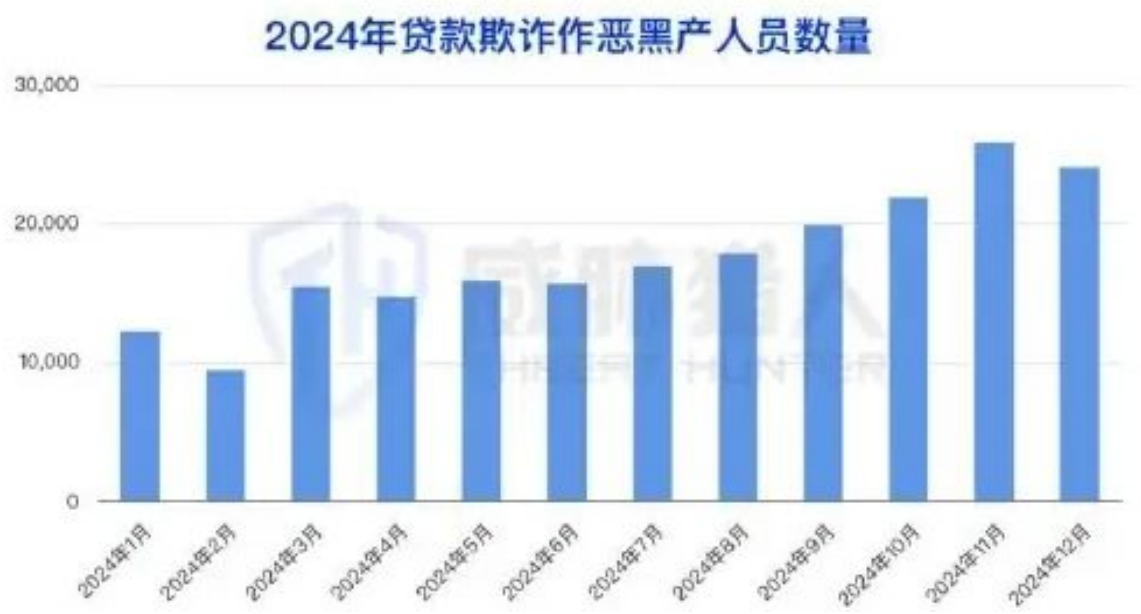
(4) There were 43,000 malicious loan fraud intermediaries in 2024, and the number of malicious loan intermediaries in the second half of the year increased by 50% compared with the first half of the year.

3.2.2 Popularity of loan fraud product types in 2024 top 3: corporate loans, credit loans, housing mortgage loans

From the perspective of loan product types, the top five loan product types with the most popular credit fraud in 2024 are: corporate loans, credit loans, housing mortgage loans, car mortgage loans, and provident fund loans.

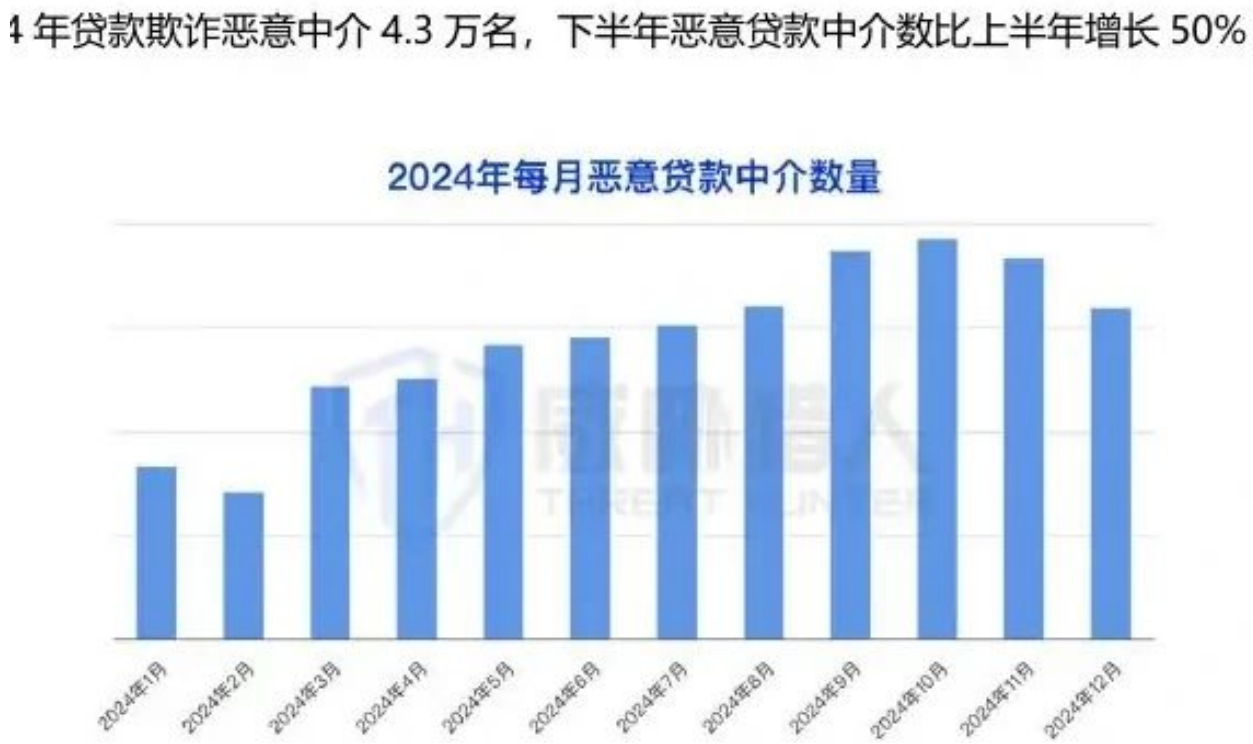
3.2.3 top 3 regional popularity of loan fraud in 2024: Guangdong, Chongqing, Shandong

From the perspective of geographical distribution, the top five regions with the hottest credit fraud areas in 2024 are: Guangdong, Chongqing, Shandong, Zhejiang, and Sichuan.



2024 Type of loan fraud product heat: top 3: Enterprise loans, credit loans, mortgages (figure 1)

Source: Threat Hunter original report, page 53



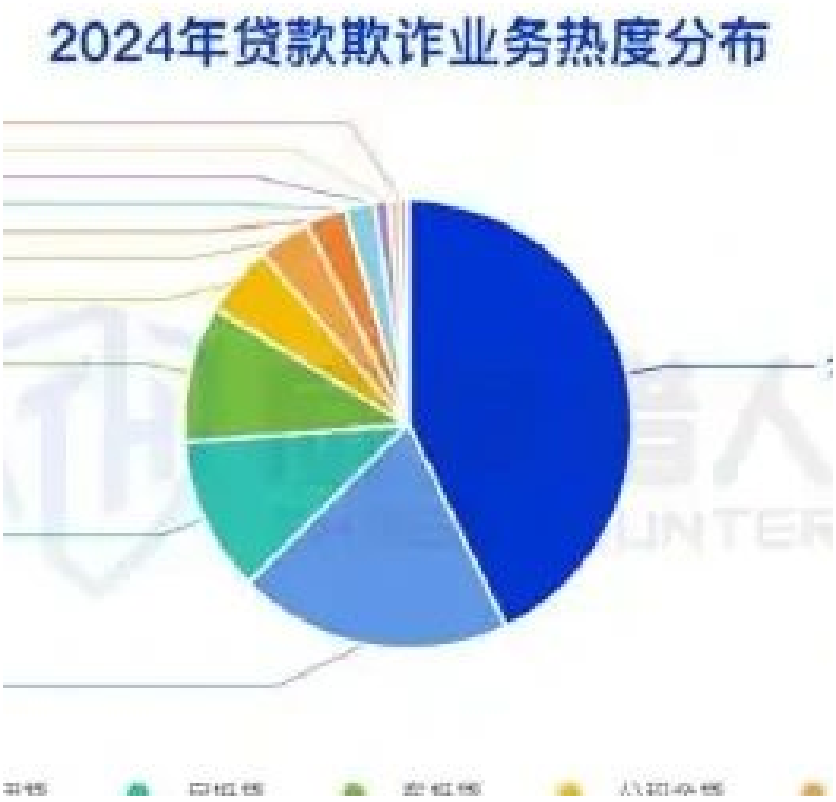
2024 Loan fraud product type heat: top 3: Enterprise loans, credit loans, mortgages (figure 2)

Source: Threat Hunter original report, page 53

3.2.4 Professional debt: The phenomenon of “selling credit reports for money” has intensified, and threat actors are targeting high-credit and high-qualified customers.

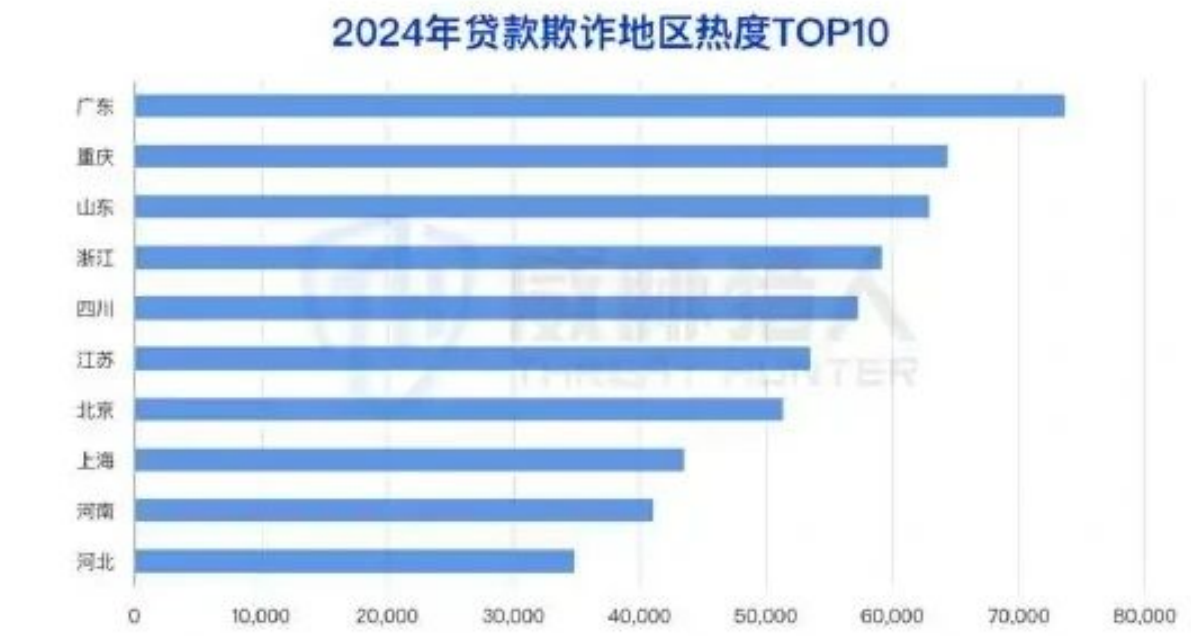
With the continuous changes in the social and economic environment and the transformation of financial consumption culture, more and more consumers have begun to advocate "selling credit reports for money", and the popularity of "debt" continues to rise.

(1) The popularity of "debt-taking" continues to rise in 2024, and the amount of relevant intelligence in the second half of the year increased by 56% compared with the first half of the year. In 2024, Threat Hunter's capture of "debt-taking"-related attack intelligence showed an upward trend, and the popularity of "debt-taking" increased, reaching a peak in September, and the number of related intelligence in the second half of the year increased by 56% compared with the first half of the year.



Top3: Guangdong, Chongqing, Shandong (Chart 1)

Source: Threat Hunter original report, page 54



Top3: Guangdong, Chongqing, Shandong (Chart 2)

Source: Threat Hunter original report, page 54

(2) Top 3 most popular provinces for debt-incurring areas in 2024: Guangdong, Sichuan, and Chongqing. Threat Hunter intelligence data shows that in 2024, loan fraud related to "debt-incurring" will be active in the top 3 provinces (including municipalities directly under the Central Government).

They are Guangdong, Sichuan and Chongqing.

(3) Top 3 cities with the hottest debt-incurring areas in 2024: Chongqing, Shenzhen, Changsha. Threat Hunter intelligence data shows that in 2024, loan fraud related to "debt-taking" will be active in the top 3 cities (including municipalities directly under the Central Government).

They are Chongqing, Shenzhen and Changsha.

Professional debt: “Sold for money” has increased, with cybercrime targeting highly creditworthy and highly qualified clients (Chart 1)

Source: Threat Hunter original report, page 55

II、重庆。

Professional debt: “Sale of letters for money” has increased, with cybercrime targeting highly creditworthy and highly qualified clients (Chart 2)

Source: Threat Hunter original report, page 55

(4) threat actors are more likely to choose clients with good credit conditions, good qualifications, and good appearance. Threat Hunter research found that when threat actors choose candidates for debt, they are gradually more inclined to choose customers with good credit conditions, good qualifications, and good appearance. It is difficult for the existing anti-fraud models and scorecards of many financial institutions to identify such high-quality and high-risk customers, and the proportion of debtors who have passed automated approval is also increasing.

The selective changes in the attributes of debtors by threat actors in 2024 are mainly reflected in the following situations:

The following is some advertising information recruited by debt-ridden threat actors:

圳、长沙。

Professional debt: “Sold for money” has increased, with cybercrime targeting highly creditworthy and highly qualified clients

Source: Threat Hunter original report, page 56

3.2.5 Car financing fraud: The popularity of car loan fraud continues to rise, and "cash-out of car purchases" is becoming increasingly rampant

In recent years, the auto finance market has continued to expand, and auto loan fraud has become increasingly rampant. Threat Hunter's investigation found that illegal threat actors, under the banner of "financing a car," "purchasing a car with 0 down payment," and "cash out a car," recruit some people who are unable to obtain financing through normal loans but have financial needs, such as households with white credit, poor households, black households, etc., and carry out contract fraud and loan fraud by "fake car purchases, real cash out" through identity packaging.

(1) In 2024, car-financing-related attack intelligence showed an upward trend, and public opinion on car-financing risks in the second half of the year increased by 62% compared with the first half of the year.

(2) Top 3 cities for car financing fraud intelligence in 2024: Shenzhen, Chongqing, Baoding (3) Car financing fraud techniques and manifestations Threat Hunter research found that threat actors gather some people who have no loan qualifications but have financial needs. With the organization, advance, packaging and customer cooperation of the threat actors chain, one person can apply for multiple car loans, and one car can also apply for loans from multiple financial institutions.

For more details on car loan fraud, please see: [threat actors big data] Deconstruction of the car loan fraud industry chain

Melting vehicle fraud: the heat of car fraud continues to rise, and “buy-a-car” is growing. Crazy.
Source: Threat Hunter original report, page 57

3.2.6 Non-standard loans: Material packaging loan fraud is prevalent

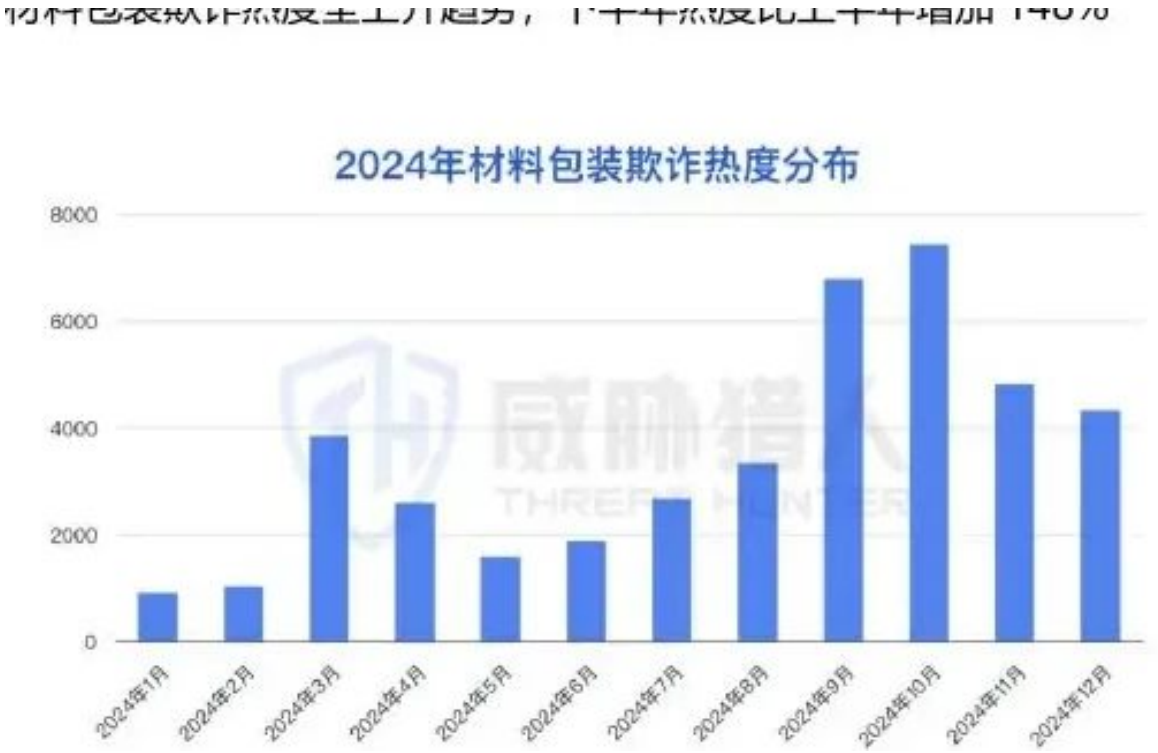
Threat Hunter research found that some people are unable to apply for loans normally due to problems such as incompatible qualifications and lack of conditions, and will use "fake data" such as false job information and false turnover to achieve the purpose of borrowing.

Melting vehicle fraud: the heat of car fraud continues to rise, and “buy-a-car” is growing. Crazy.
Source: Threat Hunter original report, page 58

(1) The popularity of material packaging fraud will be on the rise in 2024, with the popularity in the second half of the year increasing by 148% compared with the first half of the year (2) Types and methods of material packaging fraud

3.3 Brand advertising fraud scenario

3.3.1 Among the brand advertisers that suffered from fraud, the food and beverage category has become the largest advertiser that suffered from advertising fraud.



Non-standard loans: the prevalence of material packaging lending fraud

Source: Threat Hunter original report, page 59

Threat Hunter has captured a large amount of advertising fraud data based on advertising traffic monitoring, involving multiple industries, including food and beverages, consumer electronics, etc. The food and beverage industry is still the largest advertiser suffering from fraud.

The ranking of advertiser brands that have suffered advertising fraud is as follows:

3.3.2 From the perspective of fraudulent advertising forms, the proportion of fraudulent advertising that has been played 100% reached 70.02%

Judging from the forms of fraudulent advertisements in the captured data, 15-second video advertisements are the dominant form of fraudulent advertisements, accounting for more than 99% of the total amount of captured fraudulent advertisements.

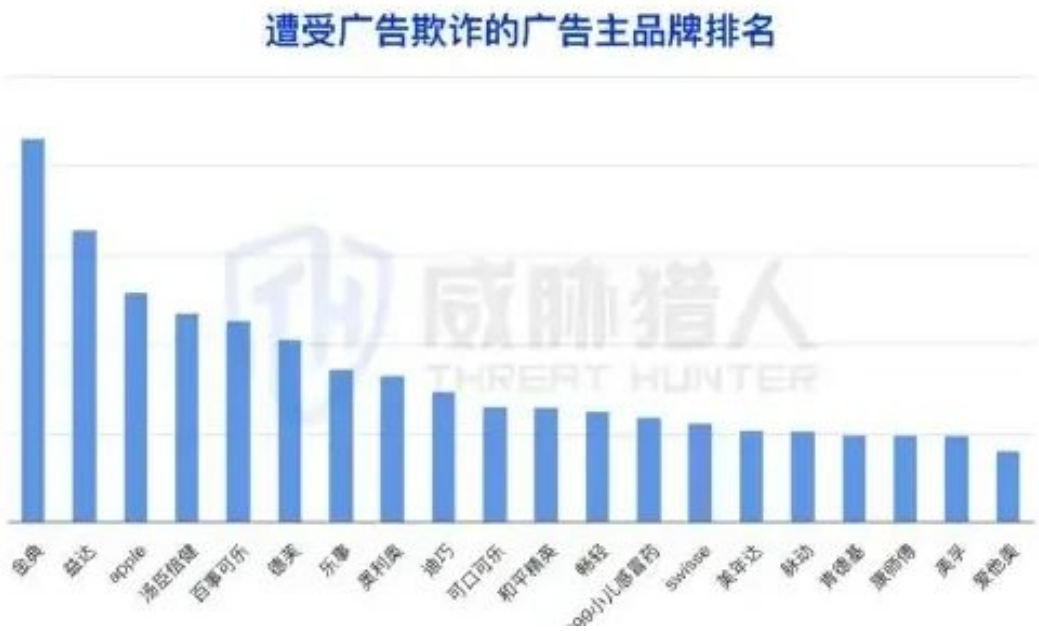
Judging from the playing situation of fraudulent advertisements, most of the advertisements that were forged and reported by devices were completely played, and the proportion of 100% played reached 70.02%. This data is obviously not in line with the behavior of normal users. In reality, not many users have the patience to finish watching the advertisements.

等多个行业，食品饮料行业依旧是遭受欺诈占比最大的广告主。

Food beverages are the most exposed to fraud among brand advertisers (Chart 1)

Source: Threat Hunter original report, page 60

欺诈的广告主品牌排名如下：



Food beverages are among the most exposed brand advertisers (figure 2)

Source: Threat Hunter original report, page 60

Video advertisements include stages such as starting to play, playing during playback, and completing playback. Ads are tracked at different stages and the traffic is reported to the ad

monitoring platform. In fact, these ads are not played, but false ad playback status is faked through device swiping, and the false tracking status is reported.

3.3.3 The terminals for brand advertising counterfeiting are mainly mobile terminals

In the fraud link of advertising fraud, the reported fraudulent advertising traffic often contains dynamically changing fake device parameter information, simulating real device information and the data of displaying advertisements to deceive advertisers.

Threat Hunter analyzed the forged advertising playback data and found that the forged and reported false advertising data covered three major types of terminals: mobile terminals, OTT terminals, and PC terminals.

Further analysis found that the forged mobile terminals included mobile phones and tablets, with mobile phones being the main ones covering multiple mobile phone brands.

The counterfeit OTT terminals in the advertisement include smart TVs, TV boxes, smart screens, smart speakers (with screens), singing machines, projectors, etc., covering multiple OTT terminal brands.

3.4 API attack scenarios

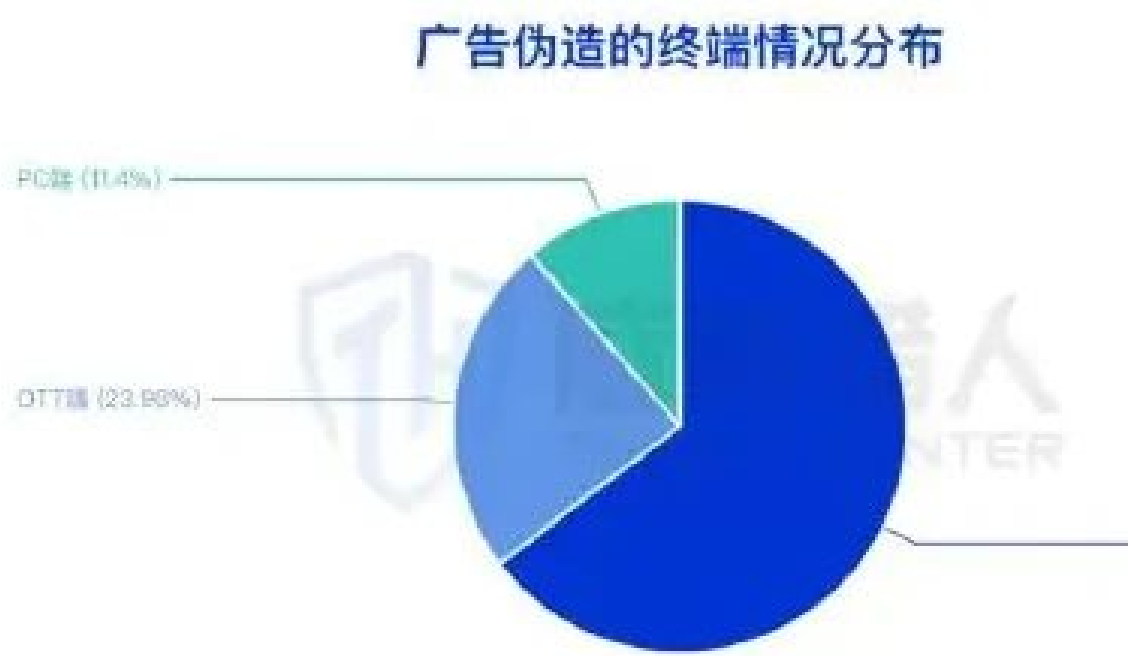
Under the trend of digitalization and onlineization, API interfaces, as an important channel for application connection and data transmission, have experienced massive growth in recent years. The imbalance between the growth rate of API applications and their security development has made them the preferred target for malicious attacks, and the battle between attack and defense surrounding API security has intensified.

Threat Hunter intelligence data shows that the number of APIs under attack in 2024 exceeded 2.5 million, involving audio and video, software applications, automobiles, e-commerce, government affairs and other industries.

3.4.1 The average number of APIs attacked every month in 2024 exceeded 210,000

Threat Hunter intelligence data shows that the average number of APIs attacked per month throughout 2024 exceeded 210,000.

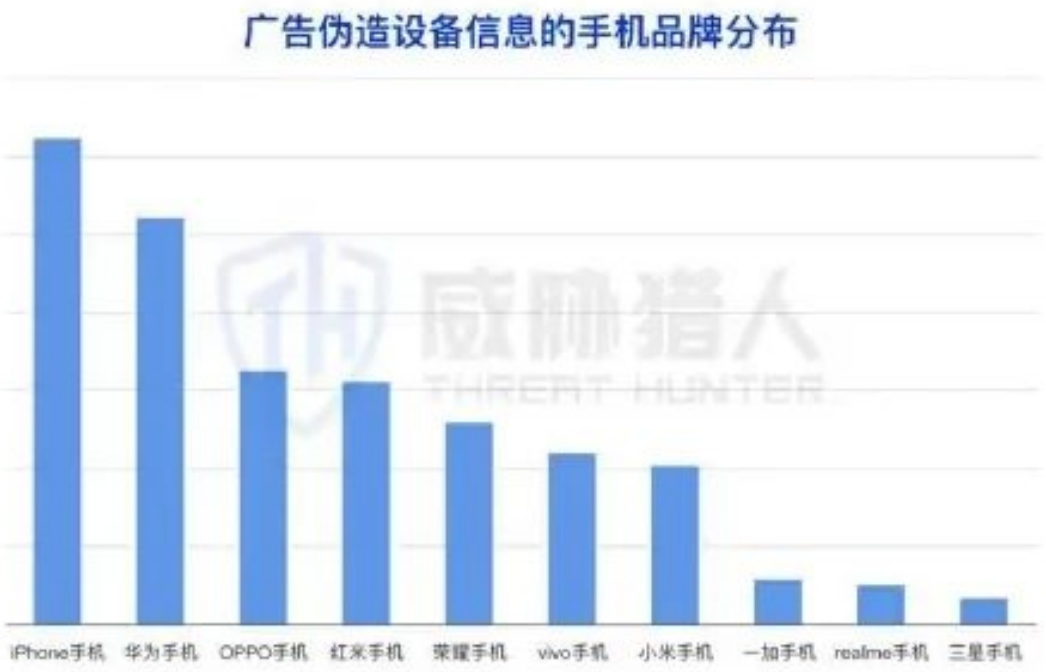
3.4.2 The industry distribution of API attacks in 2024 is mainly distributed in audio and video, government agencies, and Internet software applications



The end of a branded advertisement is predominantly mobile (Chart 1)

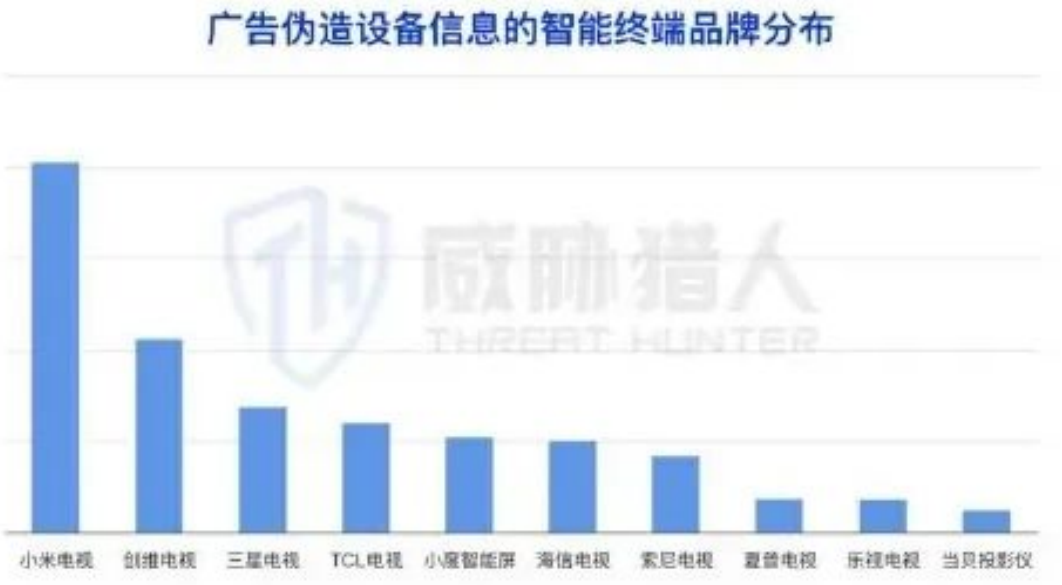
Source: Threat Hunter original report, page 62

现，广告伪造的移动端中包含了手机及平板，其中以手机为主，覆盖多



The end of a brand advertisement is predominantly mobile (Chart 2)

Source: Threat Hunter original report, page 62



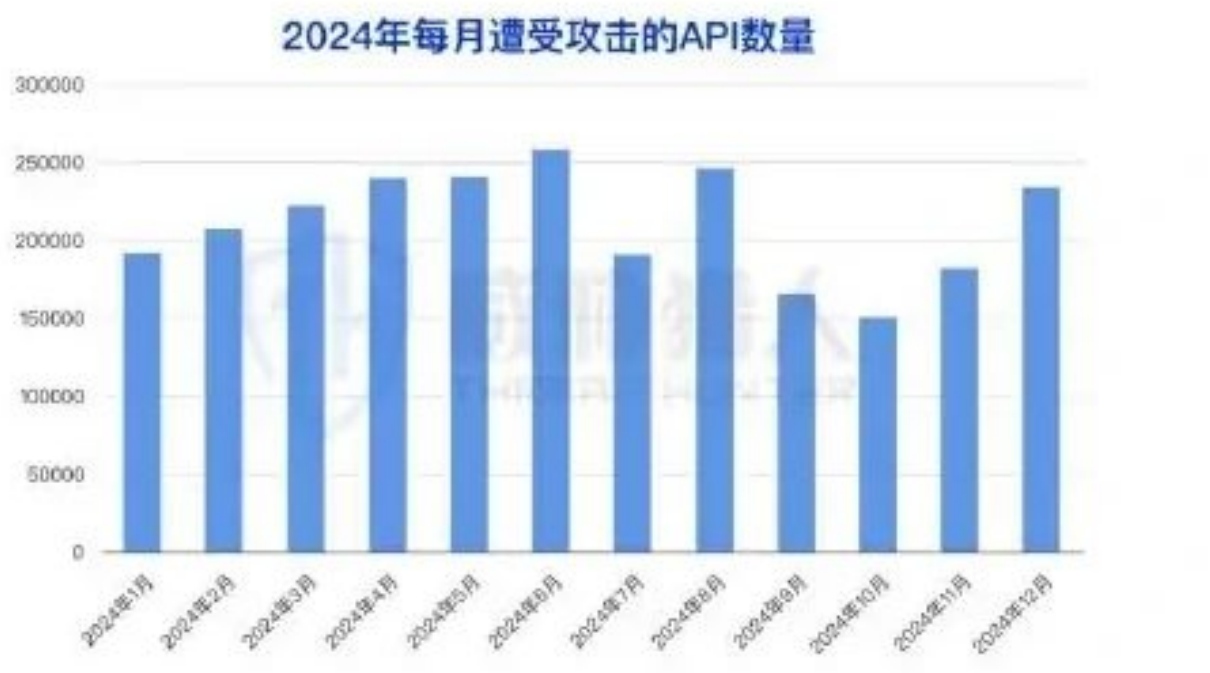
The end of a brand advertisement is predominantly mobile (Chart 3)

Source: Threat Hunter original report, page 62

Judging from the industry distribution data of API attacks in 2024, the audio and video industry is the most attacked. threat actors use APIs with security flaws on audio and video platforms to illegally crawl content, user information and other data, and obtain high profits by selling audio and video content or user information, such as illegal distribution, resale, copyright infringement, and using user information to conduct phishing attacks, fraud, etc.

3.4.3 Typical API attack events worthy of attention in 2024

示，2024 年全年平均每月遭受攻击的 API 数量超过 21 万。



API attack scenario

Source: Threat Hunter original report, page 63

(1) Marketing fraud: There are security risks in the login API of an Internet platform, and corporate marketing products have been harvested. In September 2024, the Threat Hunter risk intelligence platform detected that attackers launched batch login attacks on a domestic Internet platform, using a historical version of the login API interface to obtain user credentials, and then accessing the "current version application" to use points to redeem goods for free, causing losses to the enterprise.

From the attack traffic captured by the Threat Hunter honeypot, it was found that from September to November 2024, the attacker used the proxy IP to launch more than 130,000 attacks on the historical version of the login API, and more than 100,000 accounts used points to redeem goods.

As shown in the figure below, the account and password parameters in the login API interface are not encrypted and are transmitted in clear text. The lack of simple human-machine verification methods makes it the main target of batch login attacks launched by threat actors.

(2) Data crawling: A bank’s online business suffered a cybercrime ecosystem account scanning attack, and a large amount of user information was leaked

In June 2024, the Threat Hunter risk intelligence platform detected that an attacker launched an account scanning attack on a domestic bank. After traffic analysis and recurrence, it was found that the bank's asset interface had an "unreasonable error message vulnerability". threat actors could verify whether the phone number information was a registered user of the platform, resulting in the exposure of valid accounts, leakage of user privacy, and threats to system security.

Attack traffic captured from the Threat Hunter honeypot found that in June 2024, attackers launched more than 240,000 attacks on the bank's asset interface within a week, resulting in the exposure of a large number of valid accounts.

As shown in the figure below, threat actors construct the request body and use different phone numbers, while other authentication parameter information characteristics remain unchanged, such as verification code id, operation record variables, etc. If the phone number is an invalid account, the echo "The account does not exist, please register and log in". If the phone number is a valid account, the platform echoes "The corresponding SMS verification code information was not found." threat actors can use the echo to determine whether the phone number is a valid account.

(3) Scalpers grab accounts: The hospital's online registration business was grabbed by scalpers, and medical resources were seized. In October 2024, the Threat Hunter risk intelligence platform detected that attackers registered in batches for a large hospital. After registration, they accessed doctor registration information and grabbed accounts, seizing medical resources.

By analyzing the traffic captured by the Threat Hunter honeypot, it was found that the attacker used a large number of black cards to register in batches, pretended to be normal patients, and then used the registered account to log in. After logging in, he began to continuously access doctor registration information and make appointments to grab appointments.

As shown in the figure below, since the registration interface does not limit the access frequency, the attacker can continuously obtain the doctor's registration information and grab the doctor's registration immediately.

3.5 Phishing and Counterfeiting Scenario

The typical API attack in 2024.
Source: Threat Hunter original report, page 64

3.5.1 The number of phishing and counterfeiting risk events monitored throughout 2024 exceeded 40,000, affecting hundreds of companies

In 2024, Threat Hunter monitored a total of 44,640 cases of phishing counterfeiting risk events, involving 671 companies, an increase of 150% compared with the total number of monitoring in 2023, and the overall trend of continued growth.

Compared with last year, Threat Hunter has further strengthened its monitoring of counterfeit social media this year, adding a number of new mainstream platforms to comprehensively improve its monitoring capabilities from the perspective of channel diversity, monitoring depth and coverage, and provide enterprises with broader risk protection support.

3.5.2 E-commerce platforms have become the hardest hit area for phishing and counterfeiting, accounting for 46.41% of the incidents

手机号是否为有效账号。

The typical API attack in 2024.

Source: Threat Hunter original report, page 65

Judging from the industry distribution data of phishing and counterfeiting incidents in 2024, the top three industries in which phishing and counterfeiting are accounted for are e-commerce, securities industry and consumer finance industry. Among them, the e-commerce industry has become the most serious industry for phishing and counterfeiting, with risk cases related to counterfeiting in the e-commerce industry accounting for 46.41% of the total.

3.5.3 "Overseas mall disk" fraud occurs frequently, and "counterfeit e-commerce platforms" are the main promoters

With the boom in cross-border trade, overseas e-commerce platforms have introduced low-threshold policies to attract novice sellers, resulting in the influx of a large number of inexperienced sellers and becoming the target of scammers.

间进行抢号。

The typical API attack in 2024.

Source: Threat Hunter original report, page 66

"Overseas mall listing" is one of the scams under the guise of "opening an online store to start a business". Scammers pretend to be well-known overseas e-commerce platforms and use "zero-cost store opening" and "high-yield distribution" to attract victims to register for counterfeit e-commerce platforms for fraud. This behavior not only brings direct economic losses to merchants, but also seriously damages the brand assets of e-commerce platforms; it destroys the platform's merchant access mechanism and affects brand credibility.

The main process and role division of "overseas mall listing" are as follows:

The customer acquisition stage: Scammers contact the target group through dating software and other channels to build trust with the victims.

Counterfeit platform diversion stage: Scammers share online store entrepreneurship experience and use "zero-cost store opening" and "high-yield distribution" as bait to get victims to register for counterfeit e-commerce platforms.

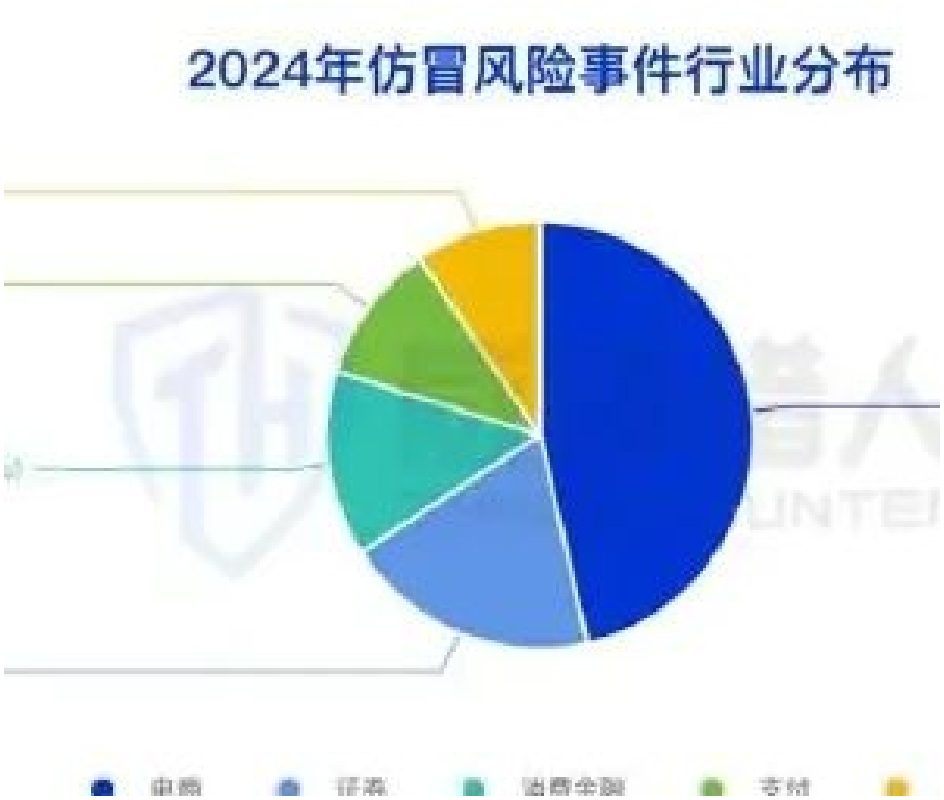
Induced store opening operation stage: After the victim registers, the scammer guides the store to open and creates the illusion of a prosperous business through virtual orders and forged profit screenshots, inducing the victim to continuously recharge and advance delivery, and gradually increase capital investment.

Fish-killing fraud stage: When the victim invests a large amount of money, the scammer uses the excuse of delaying logistics, freezing accounts, etc. to further demand payment of liquidated damages or deposits until the victim's funds are completely drained. The entire scam is disguised as a legitimate business venture, taking advantage of the victim's desire to make quick money to gradually complete the fraud loop.

3.6 Data leakage scenario

e-commerce platforms have been reduced to areas severely affected by fishing, with 46.41 per cent of incidents (figure 1)

Source: Threat Hunter original report, page 67



e-commerce platforms have been reduced to areas severely affected by fishing, with 46.41 per cent of incidents (figure 2)

Source: Threat Hunter original report, page 67

3.6.1 In 2024, 37,575 data leakage incidents were monitored, involving 2,598 companies in finance, e-commerce, express delivery and other industries.

Data from the Threat Hunter data leakage risk monitoring platform shows that from January to December 2024, the entire network monitored 303 million pieces of intelligence about data leaks. Based on the Threat Hunter authenticity verification engine and DRRC professional manual analysis, a total of 37,575 effective data leakage incidents were verified, involving 2,598 companies in finance, e-commerce, express delivery and other industries.

3.6.2 The risk of data leakage in the banking industry ranks first for two consecutive years, and local life enters the top ten for the first time

From the perspective of industry distribution, 88 industries were involved in data breaches from January to December 2024. The top five industries are banking, e-commerce, consumer finance, insurance and express delivery. Among them, the number of data breaches in the banking industry was as high as 6,333, making it the industry with the largest number of data breaches for two consecutive years.

In addition, the industry ranking of data breach incidents in the local life industry this year has increased compared with 2023, rising from the previous Top14 to the Top10. Data shows that more than 700 data breaches were discovered in the local life industry in 2024, a sharp increase from 2023

7. 22 times.

Further analysis found that the reason for the sharp increase in local life data leakage is the new type of leakage "forced login".

Forced login: refers to the use of technical means to force login to a user's account and obtain the private information in the user's account.

Local life: mainly refers to service platforms that provide takeout, catering, movie tickets, grocery shopping and other services closely related to life.

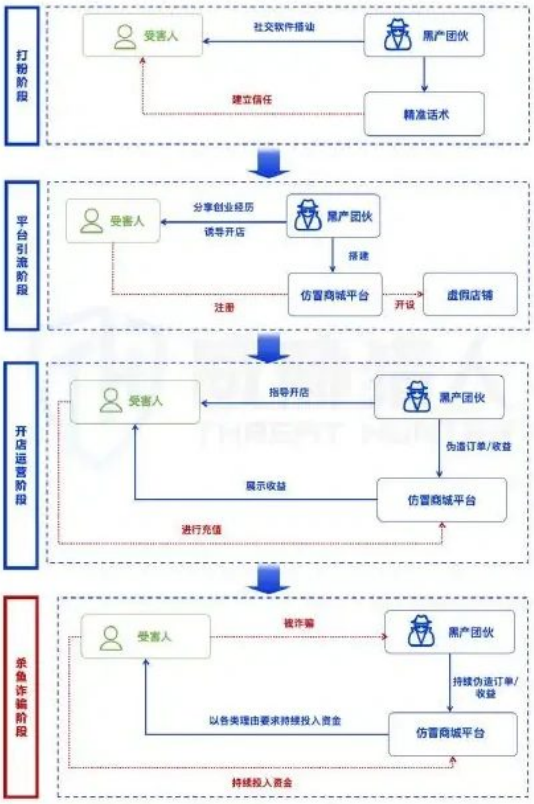
3.6.3 The emergence of a new type of data leakage, "Forced Login", involving leading platforms in e-commerce, takeout, express delivery and other industries

Threat Hunter discovered a new type of file check in 2024 - "forced entry". The leaked information mainly involves users' online shopping orders, takeout delivery orders, travel taxi orders, express delivery order information, etc., covering leading platforms in multiple industries such as e-commerce, express delivery, local life services (mainly the takeout industry) and travel services.

Since June 2024, methods of obtaining data through "forced login" have begun to appear, and by the end of December, there had been more than 6,600 cases. Initially, it was mainly concentrated on the leading e-commerce platform, and then gradually spread to multiple platforms such as takeout and express delivery.

Forced login: refers to the cybercrime ecosystem using a variety of complex techniques to forcefully log into the user's platform account, obtain sensitive information such as specific orders placed under the account, and then provide this information to downstream data buyers. When midstream data is sold, the sales advertisement will be marked with [forced login].

So, where did the “forced login” data come from?

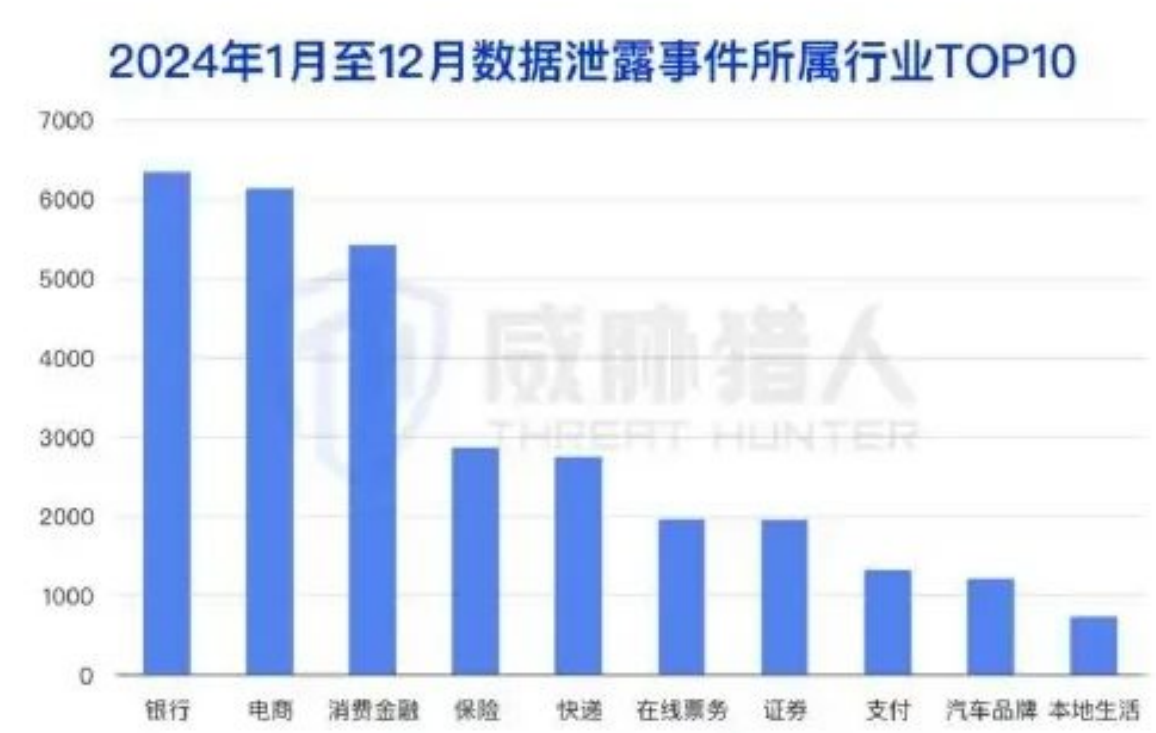


Monitoring of data leaks in 2024: 37575 involving the financial, electrical, express delivery, etc. 2598 enterprises

Source: Threat Hunter original report, page 69

Threat Hunter intelligence personnel further dug and analyzed "Qiang Deng" and found that the main modus operandi of the upstream gang against "Qiang Deng" was as follows:

Information acquisition: First, the attacker obtains the user's ID number, ID photo and other information through other channels (such as file checking or social engineering database) through the phone number.



Banking data disclosure risks are ranked first for the second year in a row, with local life entering the top 10 for the first time.

Source: Threat Hunter original report, page 70

Bypass verification: Next, use the obtained ID photo to generate an AI video or simulated face to bypass the platform's video verification link.

Forced login: Finally, through the platform's forgotten password or password retrieval interface, bypass the platform's verification mechanism, forcefully log in to the user's account, thereby obtaining sensitive information such as the order content in the account.

After the upstream gangs obtain order information from e-commerce, takeout, express delivery, travel services and other industries through "forced posting", the midstream gangs then publish sales advertisements in various anonymous group chats, social media, etc. to attract more downstream demand groups.

3.6.4 The rise of “decryption” services in the logistics industry, and related data leakage incidents have gradually increased in the past year

In recent years, "privacy mask" technology has been continuously developed to protect the security of personal information by hiding users' real phone numbers. In the past year, with the strengthening of supervision in the logistics industry and the joint efforts of enterprises, the promotion of privacy forms has effectively reduced the leakage of express delivery forms, and the overall governance effect has been obvious (see the figure below). But criminal tactics continue to evolve. In 2024, threat actors launched a new file checking service - "decryption" to crack the privacy form. In the past year, "decryption" related data leakage incidents have gradually increased.

Order decryption is mainly done through "express delivery number + virtual number (or phone number coded in the first three and last four)" to obtain the complete phone number.

3.6.5 A total of 496 risk events related to the "iOS" field were discovered in the second half of the year, a decrease from the first half of the year

Reported share: 59.90%

Threat Hunter research found that from the second half of 2023 to the first quarter of 2024, the "iOS" field increased in the leaked data fields. Judging from the chat records between the data trafficking threat actors group and downstream data buyers, the downstream data buyers’ repurchase of data

The requirements repeatedly mention the screening requirements for "iOS" device data.

However, starting from April, the risk events related to the "iOS" field have shown a downward trend, and the number in the second half of 2024 decreased compared with the first half of the year.

Reported share: 59.90%

Threat Hunter intelligence personnel further analyzed the reasons for the decline in the second half of the year. The decline in "iOS" related data in the second half of the year was mainly due to Apple's official introduction of relevant crackdown measures against Facetime fraud.

In March 2024, Apple officially upgraded the iOS system to iOS 17.4.1, launching the feature of rejecting incoming Facetime calls from unfamiliar numbers, and pushed iOS 17.5 in May, which enhanced the Facetime call function. After testing, Threat Hunter intelligence personnel confirmed that this feature has enabled the rejection of unknown calls.

(threat actors posted Apple’s official notice on Facetime rejecting calls from unknown numbers in an anonymous group chat)

3.7 Telecom network fraud scenario

3.7.1 The fraud situation remained severe in 2024, with more than 10,000 active malicious activity groups

In 2024, the Threat Hunter risk intelligence platform monitored a total of 770,000 pieces of information related to telecom network fraud, and 10,032 active malicious activity social groups.

3.7.2 Electronic fraud gangs work closely together and rely on sophisticated scripts to lay out various fraud traps (1) The efficient operation of electronic fraud gangs is inseparable from the close division of labor and cooperation within the gangs

The emergence of “declassification” services in the logistics industry has led to an increase in the number of data leaks in the last year (Chart 1)

Source: Threat Hunter original report, page 73

The emergence of “declassification” services in the logistics industry has resulted in a gradual increase in the number of data leaks in the last year (Chart 2)

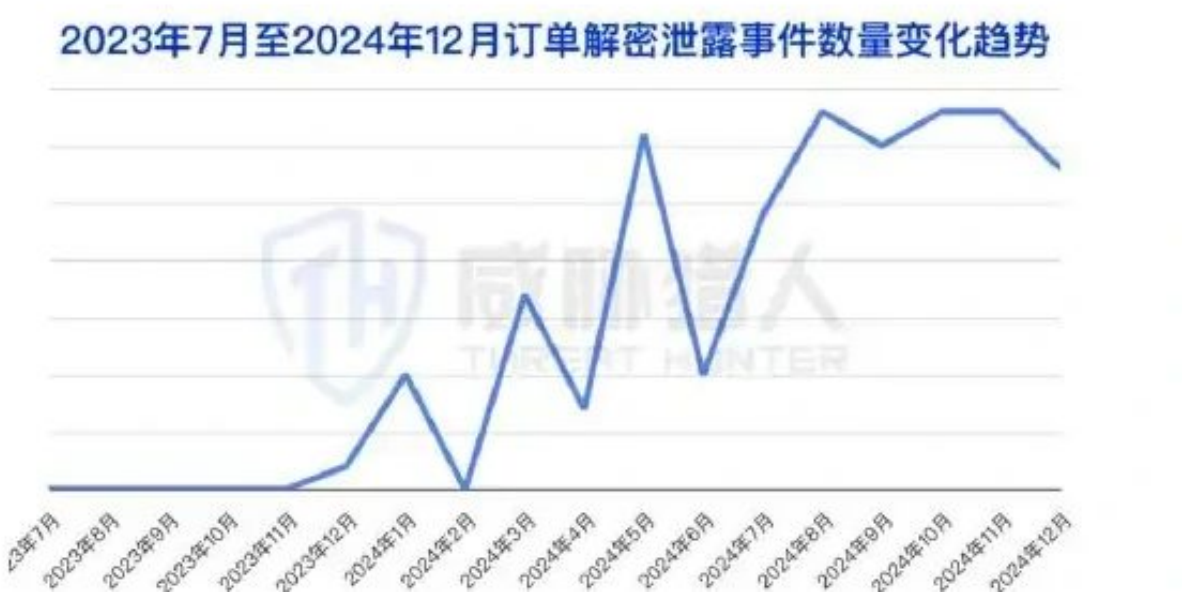
Source: Threat Hunter original report, page 73

Telecom network fraud has formed a mature industrial chain. There are different roles and divisions of labor within the telecom fraud gang. Members work closely together to carry out fraud activities:

Information acquisition: Fraud gangs obtain various personal information through various illegal channels. The more detailed the information, the higher the success rate of fraud.

Technical setup: The fraud team forges counterfeit websites, develops counterfeit software, and forges transaction records for subsequent fraud.

Target screening: Screen the target customer groups that are easily deceived, such as the elderly, investors, job seekers, etc., and formulate corresponding fraud strategies (scripts).



A total of 496 risk events were detected in the second half of the iOS field, down from the first half of the year

Source: Threat Hunter original report, page 74

Push hands and traffic: "Push hands" refer to those people or groups that provide help or support for fraud activities. Although they do not directly participate in fraud, they contact victims and guide victims to social channels such as WeChat and QQ for other fraudsters to commit fraud, that is, "push hands and traffic".

High-paying inducement: posting high-paying positions, promising generous remuneration or saying that you can earn huge amounts of money, to induce the victim to become interested in the position.

Human kidnapping: Lure the victim to the destination, tie him to an electronic fraud park, and force the victim to engage in fraud.

(2) All kinds of scams are inseparable from the underground "Scripts" designed by actors. In the early stage of the "Uranus Incident" that caused a lot of controversy recently, the fraud gang posted an audition notice for the casting director Yan Shiliu in the WeChat group. They used the name of a famous Thai entertainment company to issue audition invitations to Wang Xing, and carefully designed a scam script that was "tailor-made" for Wang Xing (it can be seen that the fraud gang in the early stage had a very detailed grasp of Wang Xing's information, especially his career and work experience), and used Thai filming job opportunities as bait to lure Wang Xing to Thailand.

In addition to the "King Star Incident", Threat Hunter also monitored various types of scripts, which used the specific psychological activities of different groups of people to carefully create fraud scripts that matched the characteristics and psychology of the characters. The specific cases are as follows:

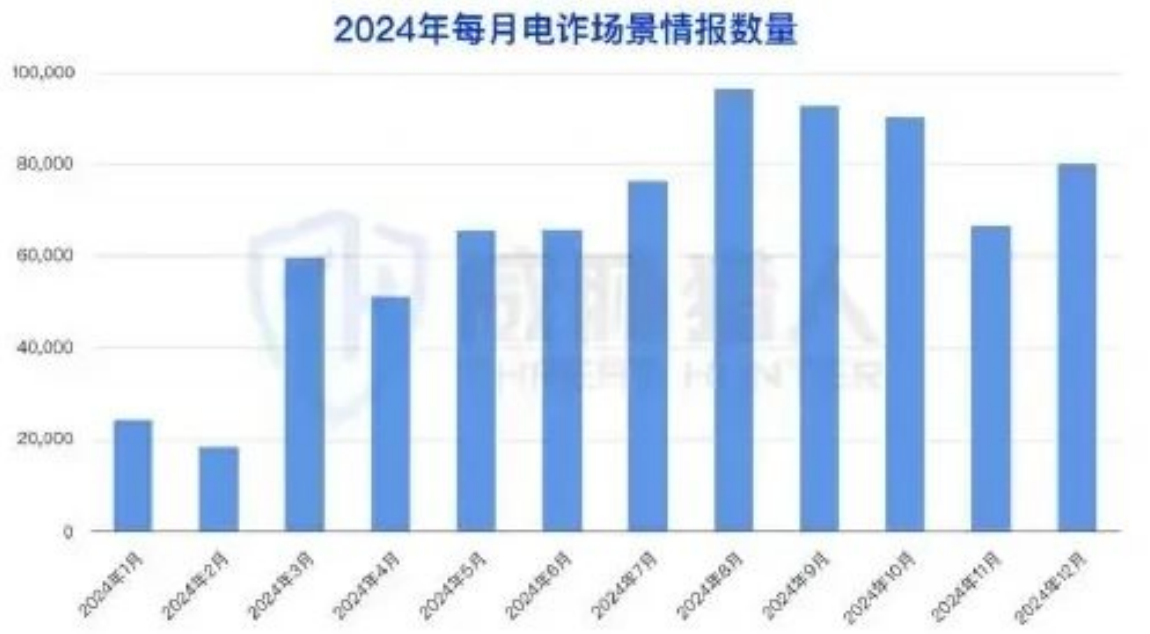
Written at the end In recent years, the Internet cybercriminal groups have ensured the success rate of attacks by continuously improving attack technology and mining more concealed attack resources. This has caused enterprises to face greater pressure and lag in perception and defense.

For enterprises, they should realize that the confrontation with external threat actors is dynamic and continuous. They should rely on cybercrime ecosystem intelligence data based on multi-channel monitoring of the entire network in a timely manner to start tracing the source from the preparation stage of threat actors' attacks. They should know what resources or tools the attacker is preparing to use, what characteristics these resources or tools have, and what methods the attacker will use to attack the enterprise...reach the defense frontier of the attacked party before the attacker, so that the offensive and defensive confrontation can reach a situation where "the enemy has not attacked but I control it first". This is the value of intelligence, and this is the value of Threat Hunter.

(黑产在匿名群聊中发布苹果官方关于 Facetime 陌生号码拒绝来电的通知)

The fraud situation remained critical in 2024, with more than 100,000 groups active (figure 1)

Source: Threat Hunter original report, page 76



The fraud situation remained critical in 2024, with over 100,000 groups active (figure 2)

Source: Threat Hunter original report, page 76

Note: The data information provided in this report is estimated and analyzed by Threat Hunter based on large sample data sampling and collection, small sample survey, external intelligence data collection, data model prediction and other research methods. Due to the limitations of any data sources and technical methods in the field of statistical analysis, the data information estimated and analyzed based on the above methods are for reference only.

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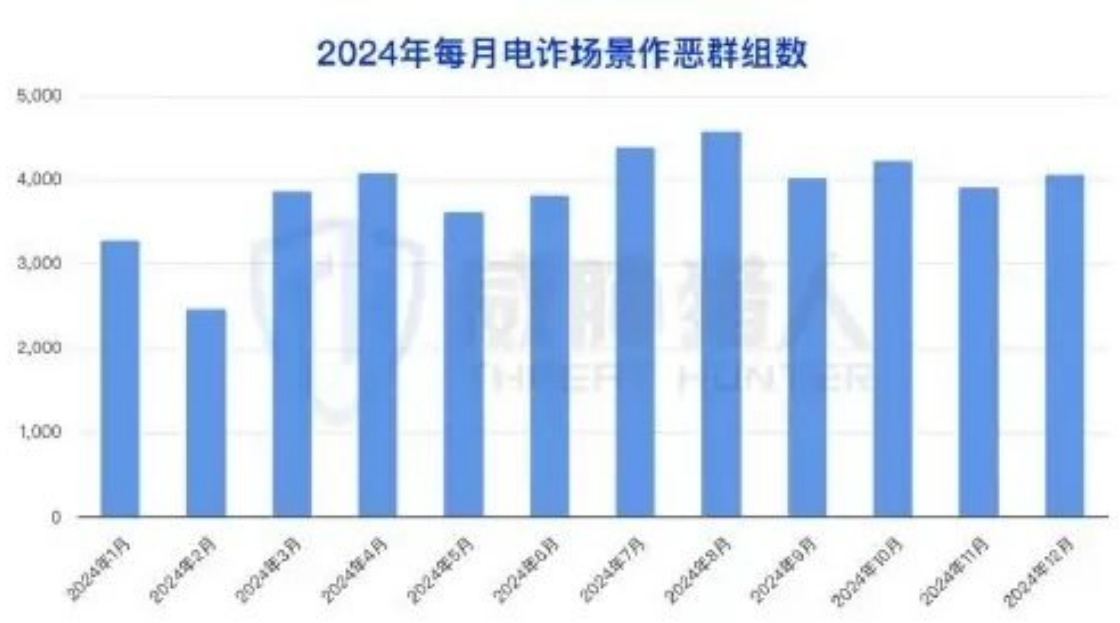

Electro-behavioural groups work closely together and work closely together within groups, based on sophisticated scripts and multiple fraud traps (1) the efficient operation of the Electro-behavior groups

Source: Threat Hunter original report, page 77