The Market for Malware

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Digital Crime Markets

- The problem of malware and computer based theft is increasing and becoming more complex
  - IC3 reports that spam and phishing complaints have increased over the past two years
  - CSI/FBI reports that virus contamination cost businesses $15 million and bot damages were estimated at $923,700 in 2006
  - Law enforcement agencies have begun to crack down on malware users and data thieves
    - Operation Firewall, Operation Bot Roast

TJX faces new suits over data breach - Mozilla Firefox

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TJX faces new suits over data breach

By MARK JEWELL

BOSTON

TJX Cos. faces federal lawsuits in five additional states over a data theft that exposed at least 45 million credit and debit cards to potential fraud, according to a regulatory filing Thursday by the owner of stores including T.J. Maxx Marshalls.

A quarterly filing said TJX was named in nine new la filed since the company's March 28 update on a the believed to be the largest in the U.S. based on the r of customer records compromised.

Thursday's filing with the Securities and Exchange Commission says complaints seeking class-action designation on behalf of customers were filed in Apr May in the federal courts of five additional states: Illi Michigan, Missouri, Ohio and Texas.

Three new lawsuits were filed over the past two mor previously been brought earlier in the year. The Ma lawsuits in Alabama, California, Massachusetts, Pue Massachusetts cases against Framingham-based T

In addition to listing TJX as a defendant, some of th Third Bancorp, which processed some payment car

TJX said in Thursday's filing that it "intends to defen Third has said it believes there are "substantial defe

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FBI Finds Over 1 Million Botnet Victims

Agency says it may uncover additional incidents in which botnets have been used to facilitate criminal activity.

Michael Cooney, NetworkWorld

Wednesday, June 13, 2007 2:00 PM PDT

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The Department of Justice and FBI Wednesday said ongoing investigations have identified more than 1 million botnet crime victims.

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A man accused of defrauding people through tens of millions of spam e-mail messages sent around the world was denied bail Wednesday. U.S. Magistrate Judge James P. Donohue said one of his concerns was that online crimes such as those charged against Robert Soloway - dubbed the "Spam King" by federal investigators - can be committed anywhere at anytime.

With minimal ties to Washington state and family in Sweden, Donohue said Soloway, 27, of Seattle, could be a flight risk.

"These are allegations of cyber crimes that have no geographical borders," Donohue said. "It's just as easy to continue these actions in Sweden as it is in the United States."

Soloway will remain in jail without bail until his trial, which is scheduled for August 6.

Soloway was arrested May 30 on 35 charges including mail fraud, wire fraud, aggravated identity theft and money laundering. Mail fraud, wire fraud and money laundering are punishable by up to 20 years in prison.

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Digital Crime Markets

- There are a range of websites, forums, and IRC channels devoted to malicious computer activity
  - Malware, carding, and stolen data
- These sites can provide direct information on current and emerging threats and the individuals responsible for their creation
  - Provides a snapshot of computer crime

Data

- Data generated from public web forums and sties actively involved in
  - Carding
  - Malware
  - Hacking and security
- Posts were examined along with any available materials provided in each forum
  - Machine translations
  - Human translators

Forum Structure

- The forums are structured to act as advertising spaces for the sellers and writers
  - Individuals post their products or services
  - Moderators review and verify products
  - Buyers post feedback or questions
  - Sellers answer and address comments

Customer Reviews of Malware

- Oleg
  - Thank you for a FreeJoiner, is the best program in its class I have ever seen, the result of the use was not long in coming, weaknesses and suggestions on the work simply no!

- f0rd
  - It is like this Joiner. The best of me once or seen many useful Fitch, Joiner make this one of the most powerful products on the market.

- Zolden
  - Anticipate just super, which was bought at the height. Works well, connects all the files without exception, to find a new attacker.
    P.S. Huge RESPECT sponsors of the programme.

- *-=Humi™=-*
  - Purchased a freejoiner 2 and left very happy....for each user, it's different ... Super Easy, Words can not explain.
    P.S. Greater Respect author of a remarkable tool!

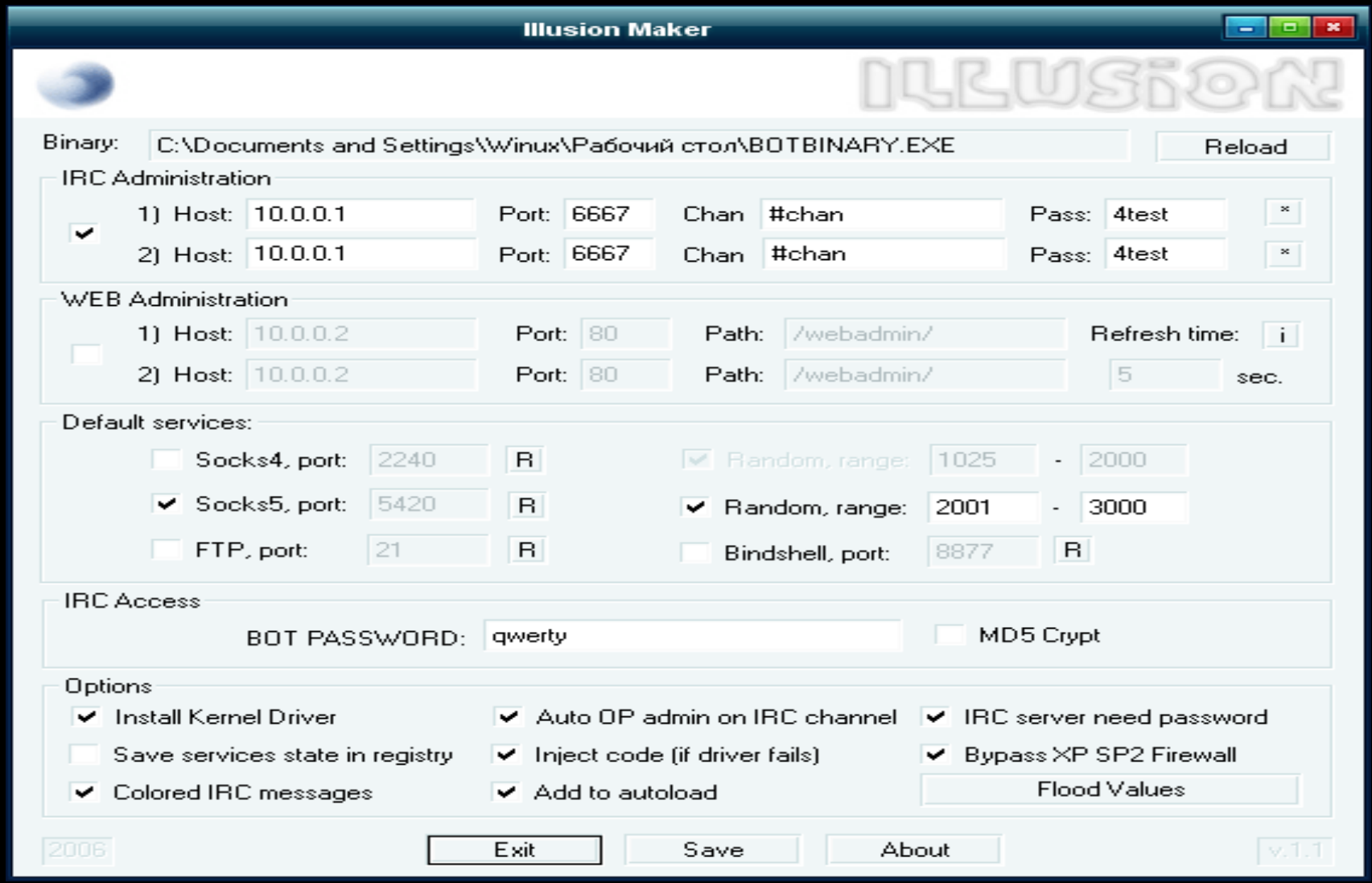
Bots: Suicide DDoS Bot

- **Suicide DDoS Bot by RKL a.k.a. Cr4sh**
  - Control through web access and IRC
  - Botmaster controls can be separated at root user level in explorer.exe
  - ICMP, SYN, HTTP Flood
  - Injects code into trusted processes
  - SOCKS4 Proxy
  - Bindshell
  - Disguises itself in system through API intercept
  - Frequency ping bot
  - The bot is not detected by AV and can use any sort of packer for compression

Bots: Illusion DDoS Bot

- **Illusion DDoS bot by Cyber Underground Project (CUP)**
  - Is sold for up to $400, but older versions are available for free to members of some forums
  - Can control zombie machines through web access and IRC
  - Can be used for SYN, ICMP echo, UDP and HTTP GET Flooding
  - Can spoof IPs and use any source IP for flood command
  - Frequency ping bot
  - Multiple commands can be sent in one line via IRC separated by “|” symbol
  - Injects code into trusted processes
  - Disguises itself in system through API intercept
  - Bot password is coded by MD5 encryption to prevent “evil enemy” from learning your password and controlling the botnet
  - Has easy to use command interface

Bots: Illusion DDoS Bot



Trojans: Nuclear Grabber

- **Nuclear Grabber created by Corpse (http://corpsespyware.net)**
  - Can be purchased from corpse, but cracked versions are available
  - Practically UNIVERSAL TAN (Transaction Authorization Number) grabber
    - Any bank you choose can be a target
  - “Technology makes it possible to effectively gather TANs and more”
  - “Entire process of collection is realized without pop-ups, false pages, false communications and crashed browser at the critical moment.”
  - Product CAN make transfers (with another tan) and does not require immediate use
  - Also acts as a consummate phishing tool

Trojans: Nuclear Grabber

Nuclear Grabber drags forms, captures check and scroll box menus, and defeats virtual keypads

All captured information is split into three data streams and sent instantly to both a selected server and redirected to the original domain.

Trojans: Nuclear Grabber

- There are limited instances of individuals selling data stolen using Nuclear Grabber

- D34th (posted 1.31.07)
  - At the given moment there is by 103 mb.
    Traffic - USA business. Nothing it touched from the lairs.

    I sell by the pieces:
    8 MB = 6.5 wmz
    13.0 MB = 10 wmz
    26.1 MB = 20 wmz
    26.8 MB = 21 wmz
    29.0 MB = 23 wmz

    I work only through the guarantee, or the patronage on 999 days.

Trojans: Pinch

- Pinch is a well known trojan that is frequently used for data theft
- The tool has gone through a variety of iterations
  - Originally sold by the creator, Coban2k, then the code was posted for free on-line
  - Latest version and custom builds can be purchased

Trojans: Pinch

- Pinch 2.99
  - Written in Assembler and is about 20K in size
  - No special knowledge is needed to use Pinch
  - Obtains passwords from over 33 different programs including RDP, Outlook, and The Bat!
  - Sends passwords to you encoded in a pass.bin file by HTTP, SMTP, FTP, or file on local machine.
  - Supports Socks5 and command shell via telnet.
  - Compile statistics about the machine.
  - Changes icons, binds itself to another executable, set starting page for internet browser.
  - Creates favorites in IE, kill processes or services

Trojans: Pinch

- Pinch 2.99
  - Adds listings information to the hosts file.
  - Cleans IE
  - Can turn into IRC-bot
    - Set server, port, channel and channel password
  - Starts as service, process, dll or other methods.
  - Hides itself from msconfig.
  - Start when online, specific time, or other.
  - Adds itself to Windows XP SP2 firewall allow list.
  - 4 Packers to choose from: MEW, UPX, UPACK, FSG

Trojans: Pinch

- Pinch can be customized for you and built for $30.
  - Guarantees that it will not be detected by antivirus when you buy it.
- Contact 123555 to buy a copy.
  - Revisions $5
  - Statistics server software bought separately ~$100.
  - Didn’t buy from 12355? Don’t contact for support

Trojans: Pinch

- New threads regularly appear with individuals selling stolen data obtained through Pinch
  - In a one week period in March of this year, five individuals sold stolen data obtained through pinch
  - V-and-h-e

    Sales of data from Pinch,

    100 pieces of data= 3wmz
  - Aerot1smo

    I sell the reports of pinch on the track to the price **of 100- 2**
    Traff:
    Us, Uk, Ru, De, It.

    Bonus:
    * to the permanent buyers of reduction!
    * with purchase 500 (or more) reports, you obtain 100 more!
    iccQ - 947490
  - Kot777

    I sell the reports of pinch from 100 pieces for 2 wmz... traffic of miks, during the day there is near 2k- 5k of reports...
    ICQ 328498627

Trojans: Pinch

- Trojan **Pinch.**I Exim.

- You see our tariff plans to **log (Records), the famous Trojan Pinch.**
- We sell two types of logs :
  1) Information "booty" the main parser : passwords, auto IE and others.
  2) the information intercepted from the IE window, and others (very often hosting accumulators, with $ accumulation, etc.)

  Price :
  For **one** type of reporting : 100 pieces $ 1.5
  the minimum order of 200 cards (ie, for $ 3)
  The **two** types of reports : 1 mb. , $ 0.3
  Minimum order 20 mb. (ie $ 6)

  The traffic reports :
  Mostly Russian origin, in the direction of Europe about 39%, USA 15%.

  Working through code protection or guardian.
  Reports are delivered in one hand.

Trojans: PG Universal Grabber

- **Power Grabber v1.8 Posted by Admin on 3.27.07**
  - Works with IE and browsers with IE based engine.
  - Works as loader, establishes necessary files, records in registry and deletes itself.
  - Invisible in processes, detours firewalls, invisible to AV.
  - Sends logs immediately after POST.
  - Loads files (Loads on UID bot. Can provide loading on other certain bot)
  - Updates old bots by new build (without restarting).

- The full build costs $700 with antivirus protection for another $30
  - Standard updates, bug fixes and optimization are free of charge.
  - Essential updates are charged (50 % from the added cost).

Trojans: PG Universal Grabber

Grabbing:

- http/https inquiries (paypal, ebay, banks, trade, etc...).
- FTP connections (Paths are saved in a separate file).
- Virtual FLASH/J.S. keyboards (By transfer POST's inquiry, not ciphered).
- Keys Bank of America, and also keys of those banks which use system c *****keys (Deletes keys, answers to confidential questions are retrieved).
- Protected Storage (IE/Outlook, Autocomplete Passwords, Fields)

Work with E-Gold:

- Auto loading in e-gold
- Sends info (UID, IP, DateTime, Payee_account, Payer_account, amount) in a log and in admin right after loading.
- Knocks on icq after loading.
- Account number is retrieved from admin.
- After loading site is inaccessible.

*Trojan waits when holder accesses his account, then transfers 98 % on the account specified by you.

Trojans: PG Universal Grabber

Work with TAN:

- Uses remote access and adjustment from the administrator's panel.
- TAN's on DE are registered by default.
- Technology works everywhere with the similar work approach(Poland, Lithuania, Netherlands, etc). It is necessary to register name_site + name_TAN.

Work with Redirect:

- Uses remote control from the admin panel.
- Works with redirect using UID bot (After loading establish redirect on a page with a mistake).
- Page substitution (http: // Original/login.html => [you are a guest, you cannot view the page. Registration / Login].
- URL Substitution in an address line, the status of bar and page properties.

* By default the trojan is completed by fake Wellsfargo, BOA, cajamadrid, lloystb, barclays.

Binding Tools: Free Joiner

- **Free Joiner Polymorphic by GlOFF**
  - First polymorphic joiner “without equal and worthy competitors in the network”

- The overall functionality :
  [+] Glued unlimited number of files of any format and content.
  [+] Glued to the minimum files (with the default values is 1K).
  [+] Glued file individual keys (transfer hidden files).
  [+] Dynamic of stabilizing the body (boot) in the process of compilation.
  [+] Location stabilizing the body, glued files and information on their location in one section of the file (complexity detects virus).
  [+] Very high speed unpack files at startup, regardless of their size.
  [+] The conservation options and settings last glue.
  [+] You can edit the resulting file to reflect information from other files (.exe, .dll)
  General optional settings :
  [+] Select interface language (or Rus Eng).
  [+] The change icons (. ico. exe. dll).
  [+] Integrated package goes file (UPX, FGS, MEW, Petite, Upack).

- The full build costs 30 wmz, though a free download is available with less functionality.

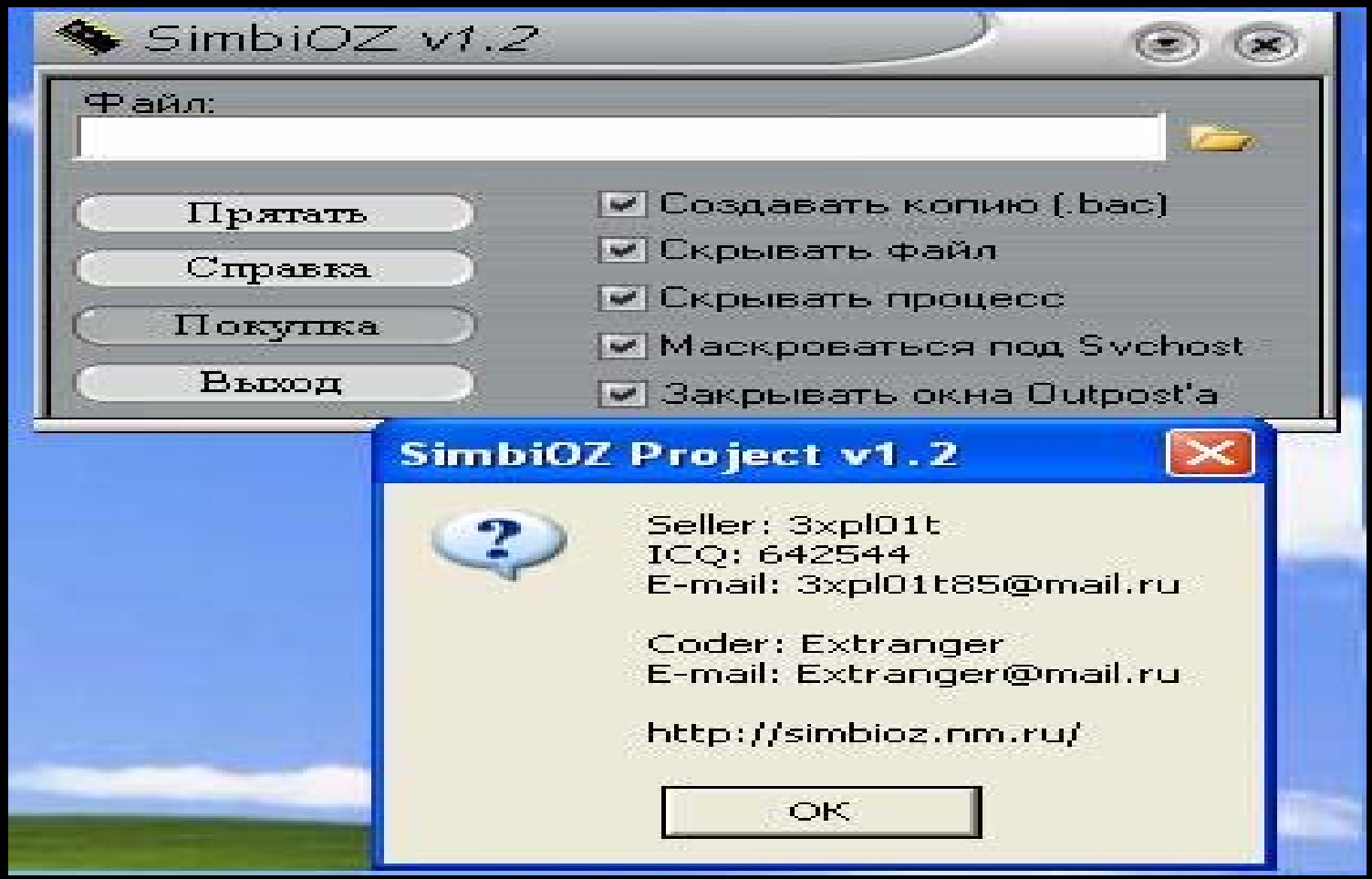
Binding Tools: Free Joiner

Encryption Tools: SimbiOZ Cryptor

- **SimbiOZ Cryptor 1.x by 3xpl01t**
- Good day.
  I suggest you cryptor privacy. It is unique in the features
  Key features :
    - Encryption-executable files
    - Hiding file by intercepting API
    - Hiding process by intercepting API
    - Firewall not hang a change in the memory usage of injected code.
    - Source methodology for the selection of code injection can hide file and the process even under the unprivileged user, and not just under admin.
    - Hiding interception API some anti-rootkit programs (such RootkitRevealer)
    - Bypassing personal firewalls by masking agent under the annex (Svchost.exe)
    - Perhaps compress already encrypted file type Packers FSG.
    - The kit will include private Joiner.
    -

  Price : 10 WMZ, 2 updates for free.

Encryption Tools: SimbiOZ Cryptor



DDoS Services

- **DDoS Service from hack-shop.org.ru**

  Competitors have started to press?
  Someone stirs (prevents) to your business?
  It is necessary to put out of action a site of "opponent"?

  We are ready to solve yours
  We offer service on elimination of not desired sites for you.

  BOT-NET constantly increases!
  Our bots are in different time zones that allows to hold constantly in online
  Numerical army of bots, and in difference from other services - it is impossible to close our attack on the country (for example to China :)).

  1 hour - 20 $
  24 hours from 100 $
  Large projects - from 200 $ depending on complexity of the order.

  Complexity of the order is defined/determined by width of the channel, filters, a configuration of a server.
  Forward the full sum undertakes...

Spam Services

- **Spam services from iNFEccTED-TeAM**
  - Respected ladies and gentlemen!
    we propose to your attention
    the straight post distribution of the letters of the advertising
    or information nature.

    Our address base: legal persons, organization, enterprise, the producers of goods and services,

    the specialized address base of data (personal selection, and also the start in it of your contacts).
    Distribution is produced on exclusive software, developed by our command

    iNFEccTED-TeAM

    It is professional, it is operational, it is qualitative.

    our valuations:

    USA

    1) US the partner
    Quantity --1 200 000
    Exclusive base.

    2) the physical persons
    Quantity --3 000 000
    Exclusive base.

ICQ Numbers

Individuals also regularly buy and sell ICQ numbers and tools

- **.ka$ta [ICQ] - 5d, 6d, 7d, 8d.**

- *5d:*
  4444x [clean] - **$1500**

  6d:
  4x**444**x [clean] - **$150**
  666xx**6** [clean] - **$300**
  11x**111** [pm] - **$450**
  x**22222** [clean] - **$750**
  x**00000** [pm] - **$2500**

  7d-8d::
  11111xx [clean] - **$65**
  1x**111**x**1** [inv] - **$55**
  4444xx**4** [inv] - **$50**
  xx**8888**x [inv] - **$50**
  5x**5555**x [inv] - **$50**
  x**6**x**6666** [inv] - **$50**

  11Oct.**1111** [clean] - **$170**
  2222X**22** [pm] - **$160**
  55X**5555** [i] - **$170**

- **Tags from MakZer ' a**

- **XYZ**
  922242 - 20 wmz
  778717 - 17 wmz

  Stairs
  543-002 - 9 wmz
  313-789 - 8 wmz
  6-654-25 - 6 wmz
  475-234 - 5 wmz
  15-321-7 - 5 wmz
  6-345-06 – 4.5 wmz

  XYZA
  504242 – 6.5 wmz

  508804 - 6 wmz
  692009 - 6 wmz
  313108 - 6 wmz

  785572 - 5 wmz
  409477 - 5 wmz
  383404 - 5 wmz

Free Tools

- Many sites also provided access to free downloads
  - Older bots and malware
  - Password scanners
  - FTP checkers
  - ICQ tools
  - Proxy checkers
  - Articles
  - Exploits
  - Warez

Purchasing

- Individuals interested in purchasing products from a seller must contact them privately
  - ICQ
  - E-mail
  - Private messages in forum
- Buyers place orders and pay for services
  - E-gold
  - Web money (WM)
  - Western Union
  - Escrow payments

Organization of Market Actors

- There is an organizational continuum of sellers in malware markets based on seller reputation

Rippers Unverified Sellers Verified Sellers

|----------|----------|

- Some forums maintain white and black lists to indicate who is trustworthy
  - Rippers Database is also an important resource

Market Forces in Malware Forums

- Four market forces shape relationships and actions in malware markets
  - Quick turnaround
  - Low prices
  - Reliable products
  - Customer service

Neutralizing Behavior

- Some sellers and writers made comments to negate their involvement in illegal activity
  - “the bot is a means of testing its network to the object of vulnerabilities, but not the tool for the attacks and other incorrect actions. For its use for any illegal purposes the author **does not bear** responsibility.”
  - “The programme was created for informational purposes and to check your own protection (security). The author is not liable.”

Discussion

- All manner of malware and information are being sold or made freely available
- Prices are generally low and the services available allow anyone to engage in computer crime and identity theft
- These markets operate much like legitimate businesses
- Malware writers and carders justify their actions much like other criminals

Complex Issues

- Law enforcement interdiction appears to have a small impact on the black market for malware
- May be difficult to attribute the creation of tools to any one individual or group
- The language barriers involved can obfuscate the content of forums
- A good deal of time, and skilled personnel are needed to monitor and analyze posts
- Transitory nature of forums and communications generally

Key Terms For Russian Forums

Russian	English
Форум	forum
сқачать	download
Закупка	purchase
Покупка/Продажа	purchase/sale
карт/кардинг	card/carding
счетов	account
Свалка	dump
Спам	spam
трояны	trojan
Личинка	bot
Червь	worm
Халява	warez
программа	program
хақер	hacker
wmz	web money (US)

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