# Forum on DNS Abuse

*June 25, 2012*

*Moderator:*

*Ondrej Filip,  CEO CZ.NIC*

No. 44 • 24-29 JUNE 2012

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# Introduction

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# Martin Peterka
# Operations Manager
# CZ.NIC

No. 44 • 24-29 JUNE 2012

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# CZ.NIC & security

CZ.NIC z.s.p.o. / http://www.nic.cz

Martin Peterka / martin.peterka@nic.cz
Operations director

25. 6. 2012, ICANN 44 | Prague

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nic | CZ DOMAIN REGISTRY

# Agenda

- About CZ.NIC
- Our security teams
- Solved incidents
- Our proactive tools

# About CZ.NIC

- Special interest association of legal entities
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- Currently 103 members – growing (open membership)
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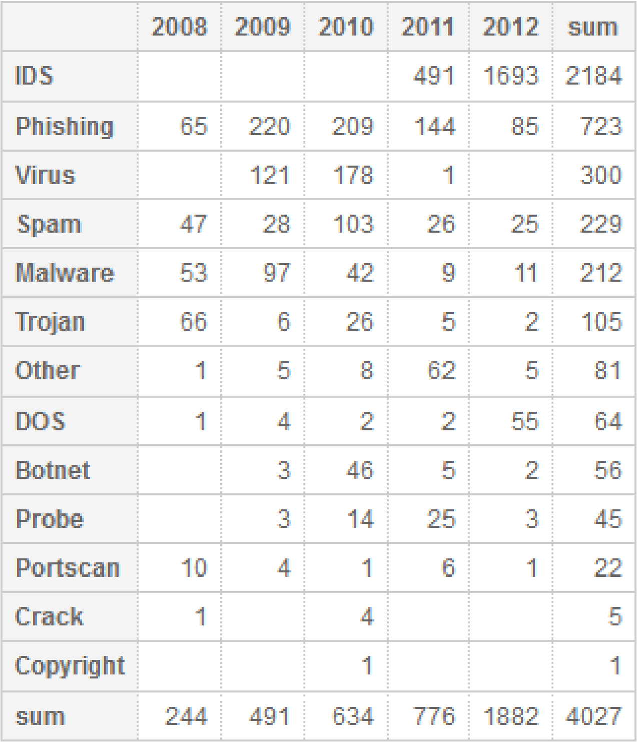

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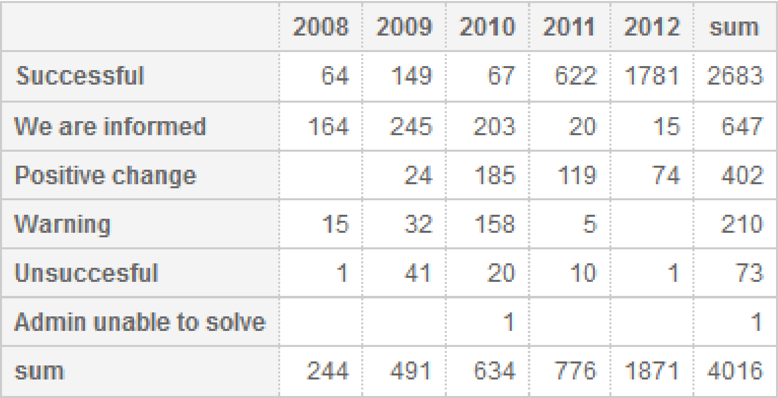

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# Lesson learned – we need to be proactive

- Developing of MDM - Malicious Domain Manager
  - In cooperation with CZ.NIC.LABS
- Takes data from public sources
  - Malwarepatrol, Phishtank, Zeus Tracker Abuse.ch, ...
  - Focused on malware, phishing, domains as C&C botnets, etc.
- Selects sites/sources within .cz domain
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  - 11 649 pages in
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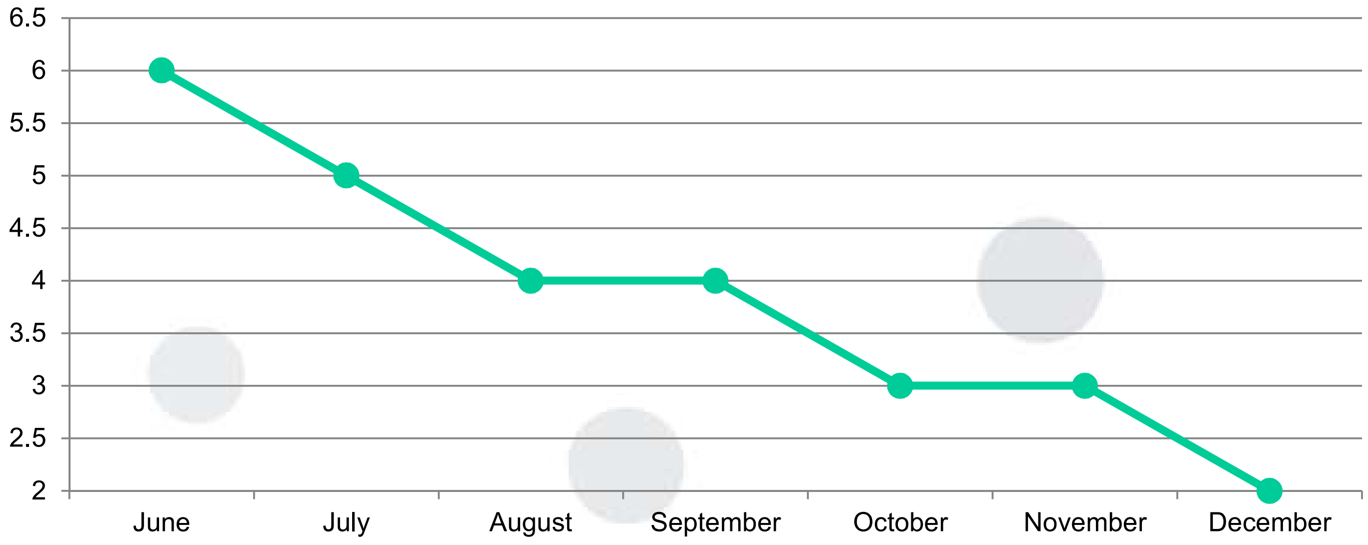

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# Christopher Landi and Christopher Malone Cyber Crimes Center U.S. Department of Homeland Security

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# Investigative Methodology: IP Address

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# Domain Name Seizures

The following measures are implemented to make every effort to ensure no legitimate activity is disrupted through the seizure of domain names:

- Identify the full Uniform Resource Locator (URL) hosting the illegal content
- Identify the specific area of the URL where the illegal content or contraband content is hosted; i.e. sub domain (third level domain), sub folder.  (It should be noted that the terms URL(s) and website(s) are used interchangeably)
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- Verify the content at URL ***website.com/illegalcontent***, as stated above

- Capture the contents of the website to preserve/evidentiary value

- Identify the listed registrant of ***website.com*** through open source tools available on the Internet (e.g: WhoIs, APNIC, Domain Tools, etc.)

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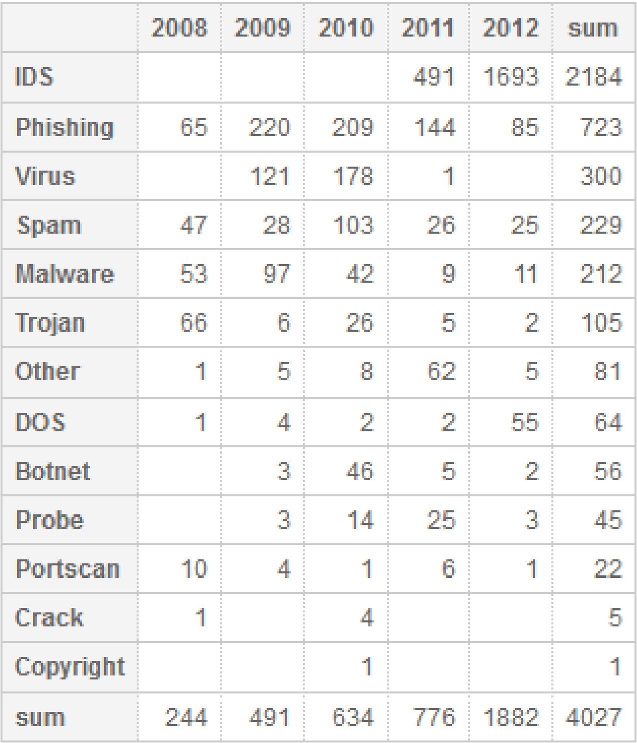

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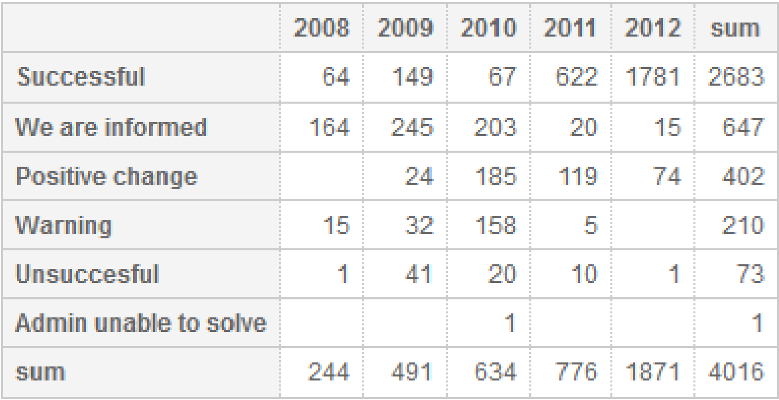

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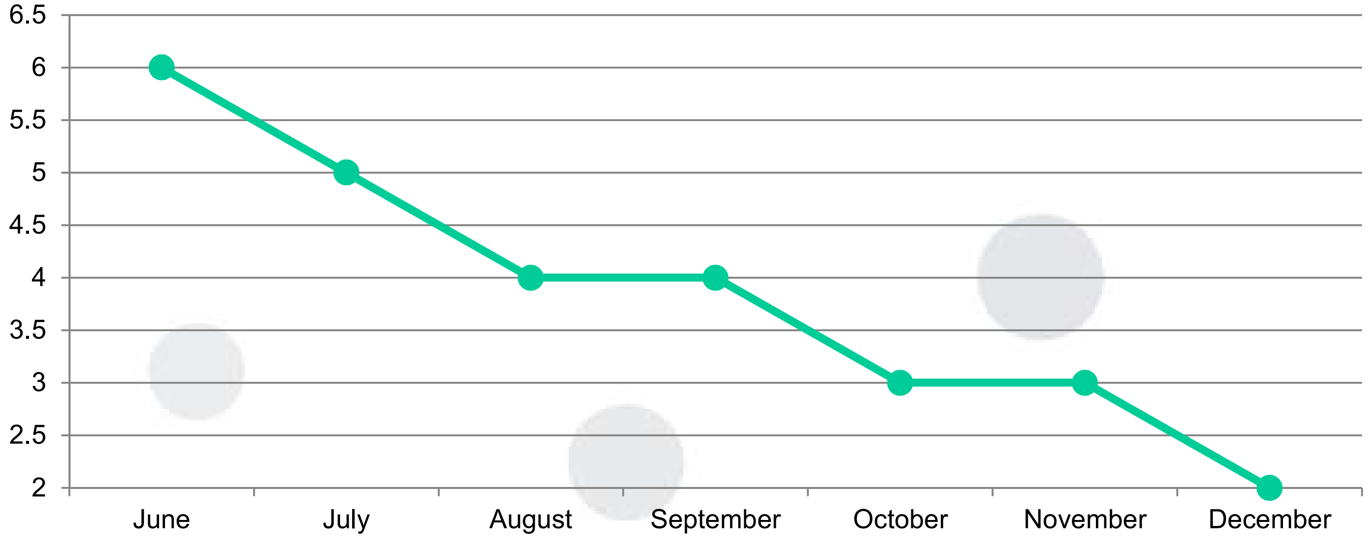

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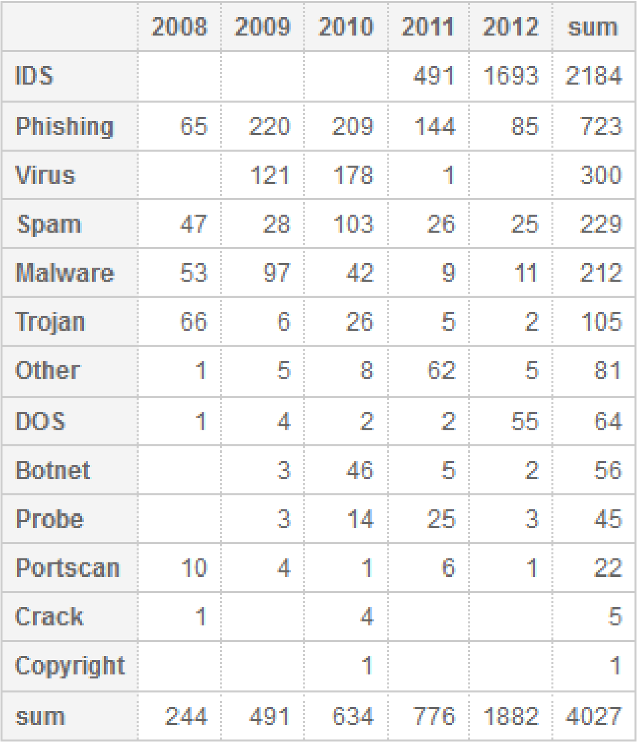

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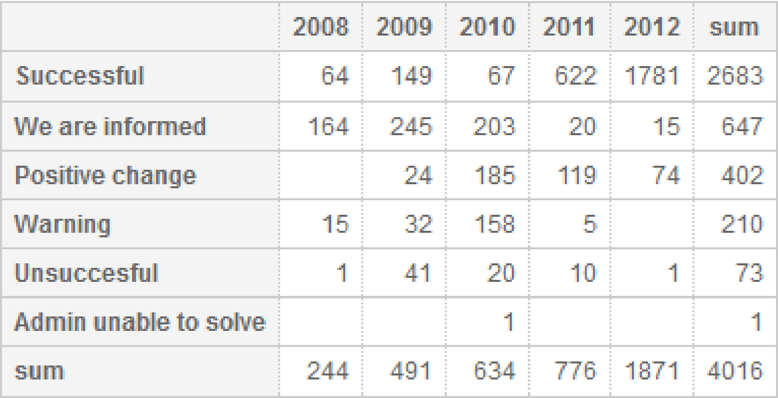

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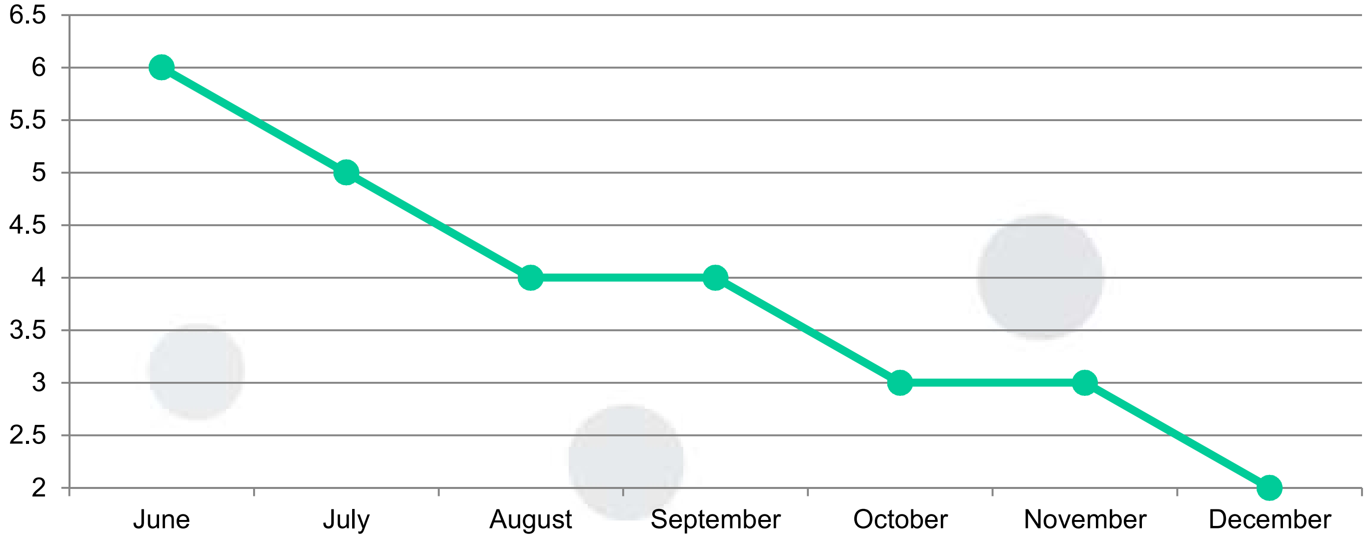

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If the illegal content is hosted on a sub domain (third level domain - e.g., ***illegalcontent.website.com***), the following steps will be taken:

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# Questions

No. 44 • 24-29 JUNE 2012

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# Thank You

# Forum on DNS Abuse

*June 25, 2012*

*Moderator:*

*Ondrej Filip, CEO CZ.NIC*

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# Introduction

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## Martin Peterka
## Operations Manager
## CZ.NIC

# CZ.NIC & security

CZ.NIC z.s.p.o. / http://www.nic.cz

Martin Peterka / martin.peterka@nic.cz
Operations director

25. 6. 2012, ICANN 44 | Prague

cz.
nic | CZ DOMAIN REGISTRY

# Agenda

- About CZ.NIC
- Our security teams
- Solved incidents
- Our proactive tools

# About CZ.NIC

- Special interest association of legal entities
- Founded in 1998 by leading ISPs
- Currently 103 members – growing (open membership)
- 50+ employees
- Core business – domain registry .cz
- MoU with Czech government and NSA
- Part of State's critical infrastructure
- Non profit, Neutrality
- Variety of other activities

# CZ.NIC-CSIRT

- incident handling within AS25192 and incident relating to nameservers for .cz and 0.2.4.e164.arpa
  - no incidents, just our own network
- We are entitled to deactivate a domain if is used in a fashion that endangers the national or international computer security
  - harmful content (especially viruses, malware) are distributed
  - the content of a different service is masqueraded (eg phishing),
  - domain becomes a control centre of interlinked hardware network distributing the harmful content (especially botnet)
- Deactivation for 1 month, even repeatedly

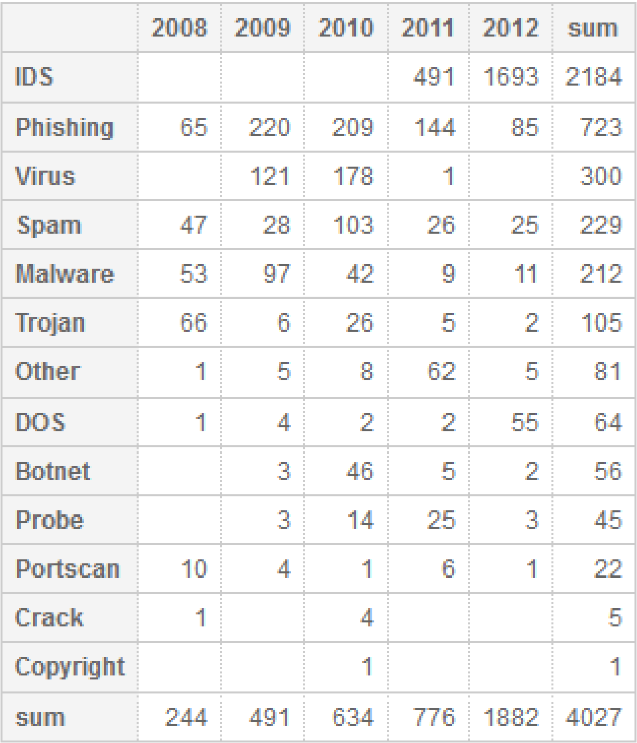
# CSIRT.CZ

CSIRT.CZ
powered by CZ.NIC

- National, last resort CSIRT – no executive power
- Operation since 1 Jan 2011
  - Day-by-day operation and transfer of agenda from CESNET
- Full operation since Jun 2011
- Mainly incident handling/reporting – very successful
- But also a pro-active steps – detection of open unsecured DNS resolvers – cooperation with Security Information Service (BIS)
- Community meetings
- Cooperation – Terena, FIRST, ENISA, team CYMRU
- „accredited“ by TERENA TI (10/2011)

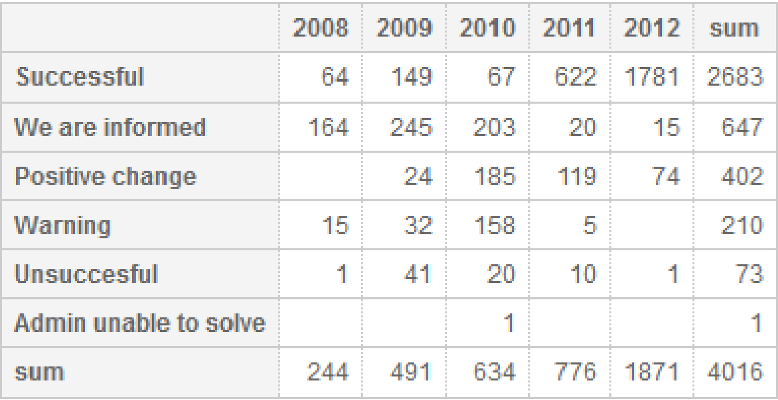
# CSIRT.CZ - statistics

Number of incidents by type (open and closed cases)



| | 2008 | 2009 | 2010 | 2011 | 2012 | sum |
|---|---|---|---|---|---|---|
| IDS | | | | 491 | 1693 | 2184 |
| Phishing | 65 | 220 | 209 | 144 | 85 | 723 |
| Virus | | 121 | 178 | 1 | | 300 |
| Spam | 47 | 28 | 103 | 26 | 25 | 229 |
| Malware | 53 | 97 | 42 | 9 | 11 | 212 |
| Trojan | 66 | 6 | 26 | 5 | 2 | 105 |
| Other | 1 | 5 | 8 | 62 | 5 | 81 |
| DOS | 1 | 4 | 2 | 2 | 55 | 64 |
| Botnet | | 3 | 46 | 5 | 2 | 56 |
| Probe | | 3 | 14 | 25 | 3 | 45 |
| Portscan | 10 | 4 | 1 | 6 | 1 | 22 |
| Crack | 1 | | 4 | | | 5 |
| Copyright | | | 1 | | | 1 |
| sum | 244 | 491 | 634 | 776 | 1882 | 4027 |

Incident resolution states (only closed cases)



| | 2008 | 2009 | 2010 | 2011 | 2012 | sum |
|---|---|---|---|---|---|---|
| Successful | 64 | 149 | 67 | 622 | 1781 | 2683 |
| We are informed | 164 | 245 | 203 | 20 | 15 | 647 |
| Positive change | | 24 | 185 | 119 | 74 | 402 |
| Warning | 15 | 32 | 158 | 5 | | 210 |
| Unsuccesful | 1 | 41 | 20 | 10 | 1 | 73 |
| Admin unable to solve | | | 1 | | | 1 |
| sum | 244 | 491 | 634 | 776 | 1871 | 4016 |

CSIRT.CZ
powered by CZ.NIC

# Incidents

- Examples of 2 incidents
- DNS amplification DDOS (June 2012)
  - Solved by CSIRT.CZ
- Phishing sites (2010)
  - Solved by CZ.NIC-CSIRT

# DNS amplification DDOS

- 2012, solved by CSIRT.CZ
- Attack to the Latvian bank
- Thousands open relay DNS server from all over the world
  - Most of them from USA, 172 from Czech Republic
- Our team solved it at the request of CERT NIC.LV
- Procedure
  - Sort IP’s
  - Find information (companies, admins)
  - Ask for correction
- Cca 50% DNS fixed
- Still in progress

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# Phishing attack

- 2010, solved by CZ.NIC-CSIRT
- Target – IRS
- Trojan horse at pages
- During 5 days registered 150 domains
  - Different registrars
  - Different nameservers
  - Fast flux
  - Paid by stolen credit cards
- All domains were deactivated for 1 month
- Immediate response, cooperation with registrars

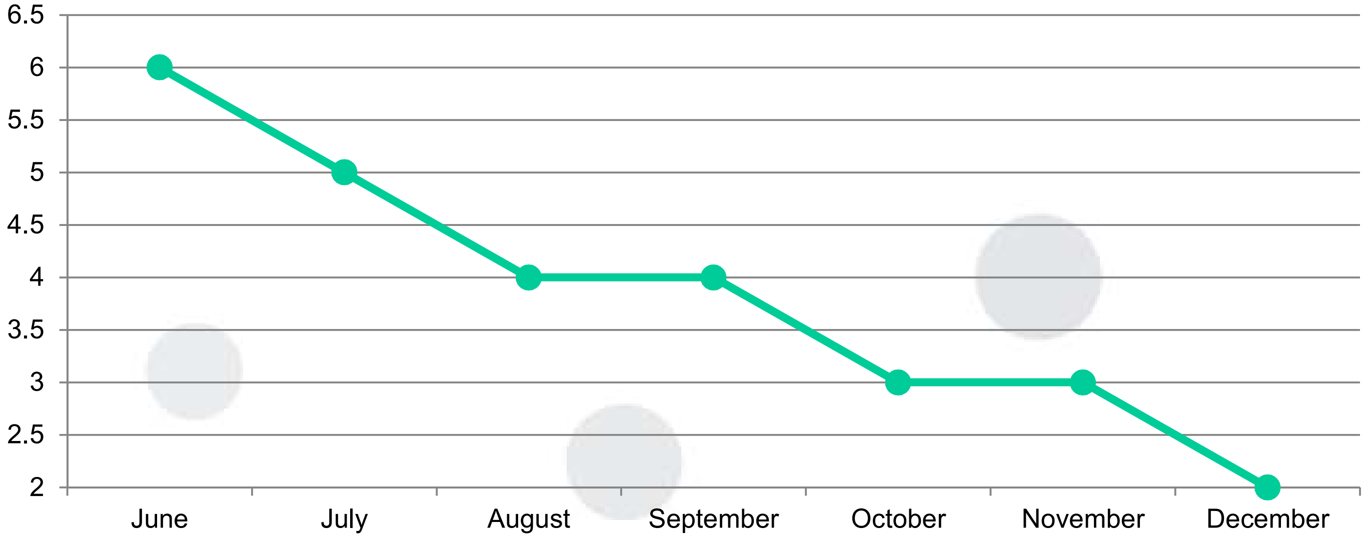
# Lesson learned – we need to be proactive

- Developing of MDM - Malicious Domain Manager
  - In cooperation with CZ.NIC.LABS
- Takes data from public sources
  - Malwarepatrol, Phishtank, Zeus Tracker Abuse.ch, ...
  - Focused on malware, phishing, domains as C&C botnets, etc.
- Selects sites/sources within .cz domain
- Searches for contact information
- Is connected to the ticket system
  - allows controlled communication with the administrators of the sites
- Started in June 2011

# MDM - results

- Since June 2011 cleaned
  - 11 649 pages in
  - 2 299 domains

**% of phishing pages within .cz June-Dec 2011**
**Source : http://www.phishtank.com/**



**https://git.nic.cz/redmine/projects/mdm**

?

## Questions ?

## Thank you!

Martin Peterka / *martin.peterka@nic.cz*
http://www.nic.cz

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# Branko Stamenković
# Head of the Special Public Prosecutor’s Office for High-Tech Crime of Serbia

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# Christopher Landi and Christopher Malone
# Cyber Crimes Center
# U.S. Department of Homeland Security

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# Investigative Methodology: IP Address

- Agent obtains suspect IP address
- Agent conducts IP address check using WhoIs, APNIC, ARIN, Domain Tools, etc.
- Agent obtains ISP information; generates subpoena for subscriber information – may take 14 – 30 days for response from provider
- If ISP/record holder information is incorrect, additional research; generate new subpoena
- Agent obtains subscriber information, which may or may not be the same as target information

# Investigative Methodology: IP Address

- Agent conducts investigative activities to determine target, including:
  - Surveillance
  - Checks of additional records
  - U/C activities
  - Addl’ traditional investigative techniques
- Delays in obtaining accurate IP information can delay following steps in investigation/enforcement actions

# Domain Name Seizures

The following measures are implemented to make every effort to ensure no legitimate activity is disrupted through the seizure of domain names:

- Identify the full Uniform Resource Locator (URL) hosting the illegal content
- Identify the specific area of the URL where the illegal content or contraband content is hosted; i.e. sub domain (third level domain), sub folder. (It should be noted that the terms URL(s) and website(s) are used interchangeably)
- If the illegal content is hosted on a sub folder( e.g., ***website.com/illegalcontent***) where the illegal content is hosted in the ***illegalcontent*** sub folder off of the URL ***website.com***, the following steps will be taken

# Domain Name Seizures

- Verify the content at URL ***website.com/illegalcontent***, as stated above

- Capture the contents of the website to preserve/evidentiary value

- Identify the listed registrant of ***website.com*** through open source tools available on the Internet (e.g: WhoIs, APNIC, Domain Tools, etc.)

- Identify and verify the content hosted at the URL ***website.com***

- Identify any potential legitimate activity associated with ***website.com***

- If no legitimate activity or other associations can be identified, the domain ***website.com*** may be marked for seizure

# Domain Name Seizures

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# Questions

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