Cyber Attacks Against Georgia

GEORGIAN

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For GITI 2011



MINISTRY OF JUSTICE OF GEORGIA

DATA EXCHANGE AGENCY





About Agency

Agency established in January 2010

Main Directions:

- E-Government Development
- Information Security Improvement and Development





Data Exchange Agency



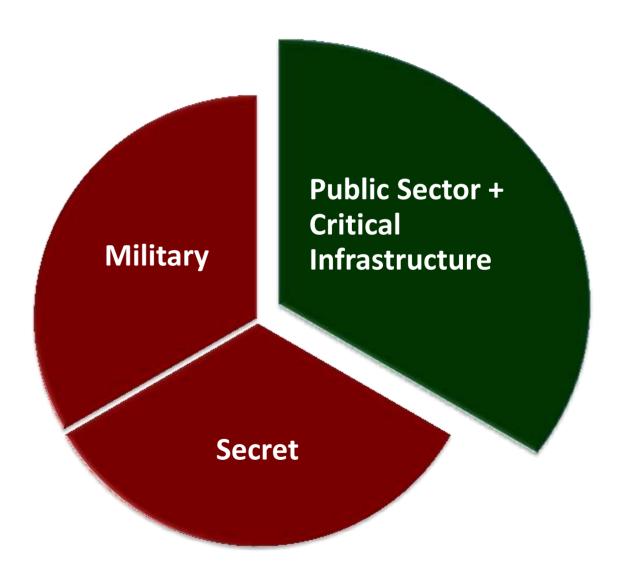
Our Responsibility Segment

Information security policy development, implementation, monitoring, development.

CERT.GOV.GE (Computer Emergency Response Team) Creation

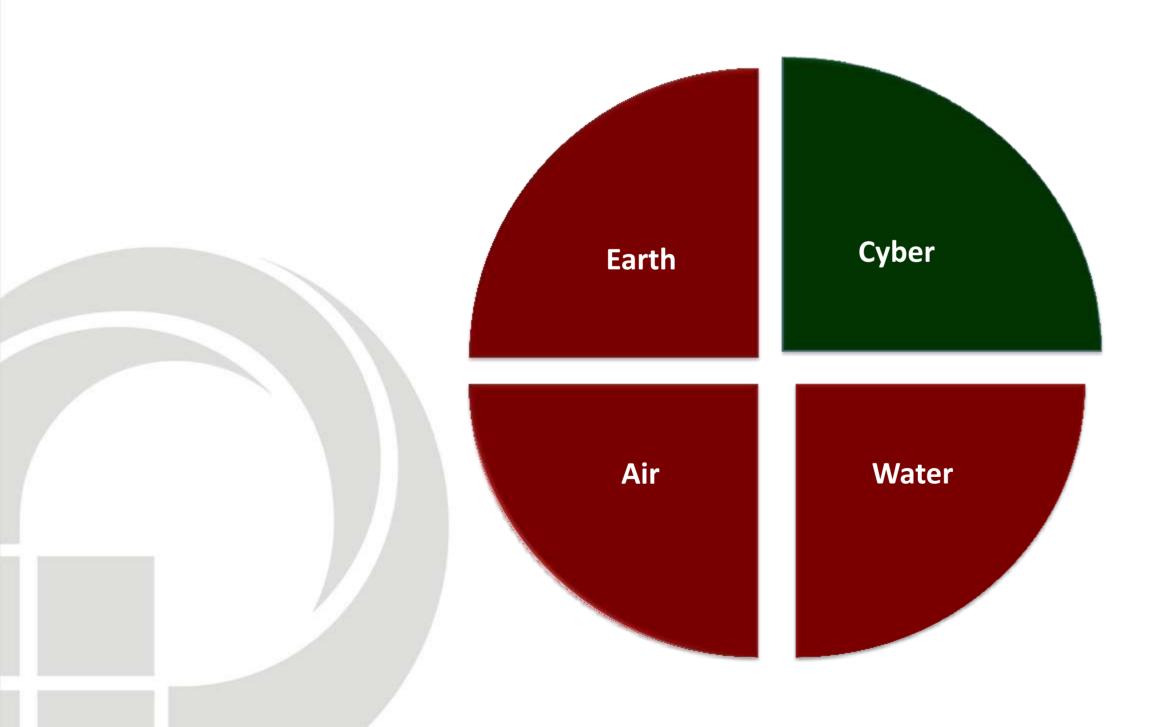
Georgian Governmental Network GGN Monitoring

CA (Certificate Authority) –Monitoring





Cyber Space is a war space





Cyber attacks in 2008



Russian Cyber and armed Attack in 2008

In August 2008 Russia used Cyber and Armed attack simultaneously against Georgia.

1) Attack on governmental web resources

Damage of reputation

2) Shut down media, forums, blogs Georgia

People could not get real Information, misinformation of real facts by Russian Media

3) Block and cut off Georgian Internet resources

Communication was impossible within the country as well as outside.

Russian Cyber and armed Attack in 2008



Russian Cyber and armed Attack in 2008

	The Chief	рвоочередные цели для атак
ajir	Доступ с РФ (ость/нит)	Доступ с Литны (есть нег)
rww.parliament.ge Порломент.	Haritania and American	
rww.assislancegeorgia.org.ge	*	*
rww.cec.gov.ge набирком;		**
rww.mdf.org.ge Nywupnanswir фона		
rww.mfa.gov.ge МИД;	(4)	2
rww.corruption.ge Anti-Corruption	*	
rww.constcourt.gov.ge	*	+
rww.constcourt.gov.ge	*	*
rww.insurance.caucasus.net	*	
WW.mc.gov.ge Минкультуры;	-	
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ttp://georgianmessenger.blogspot.com/		
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rww.presidpress.gov.ge +форматентотво	5	
ww.sakinform.ge	8	
ww.sakartvelo.ru	2	- 4
rww.internews.ge		4
ww.intomews.org.go	8	321
ttp://www.interpressnews.ge/	3	(4)

These were very organized and planned attacks. 90% of all gov.ge domain addresses and significant fraction of .ge domain addresses were affected by DDoS attacks.



Georgian Governmental Web Sites attacked



И кончит он также...

hacked by South Ossetia Hack Crew

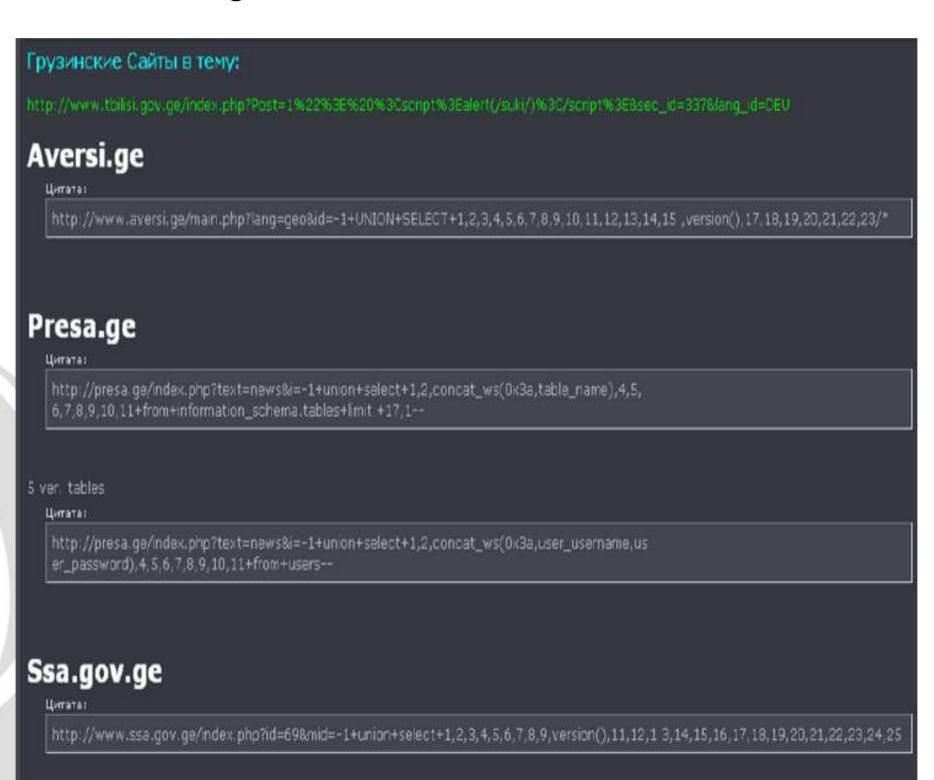
Russian Cyber and armed Attack in 2008



Source	Destination	Protocol -	Info
213.122.175.66	212.58.98.207	HTTP	GET //39dec76f HTTP/1.1
213.122.175.66	212.58.98.207	HTTP	[TCP Retransmission] GET /statements.php HTTP/1.1
189.13.56.83	212.58.98.207	HTTP	GET /docs/reglamenti.pdf?SOSAT_ETO_VASHE_PRIZVANIE=^d&4713
81.201.203.50	212.58.98.207	HTTP	GET /statements.php&7ea3=8qq3w&jN=40640&903f=0bsUuw&DA_VI_
189.13.56.83	212.58.98.207	HTTP	GET /statements.php&958f=0i&DA_VI_LOHI_PODOBOSRETES_KAK_V_
213.254.143.12	212.58.98.207	HTTP	GET /?6de72fe9&kd1=21808&DA_VI_LOHI_PODOBOSRETES_KAK_V_90x
91.190.87.98	212.58.98.207	HTTP	GET /?10a892a6 HTTP/1.1
91.190.87.98	212.58.98.207	HTTP	GET /statements.php&3070=0siqp&DA_VI_LOHI_PODOBOSRETES_KAK
189.153.46.223	212.58.98.207	HTTP	[TCP Retransmission] GET /statements.php&2acf=pe2&jGkQEmUH
213.122.175.66	212.58.98.207	HTTP	GET /statements.php HTTP/1.1
91.190.87.98	212.58.98.207	HTTP	[TCP Retransmission] GET /?10a768ec&2gtv=13782&GIAWjNaTM=2
201.170.66.71	212.58.98.207	HTTP	GET /docs/reglamenti.pdf?SOSAT_ETO_VASHE_PRIZVANIE=^d HTTP
86.69.194.189	212.58.98.207	HTTP	GET /docs/reglamenti.pdf?sosAT_ETO_VASHE_PRIZVANIE=^d HTTP
74.195.179.83	212.58.98.207	HTTP	GET /statements.php HTTP/1.1
80.222.137.212	212.58.98.207	HTTP	GET /statements.php HTTP/1.1
89.175.186.54	212.58.98.207	HTTP	[TCP Retransmission] GET /statements.php HTTP/1.1
85.105.109.188	212.58.98.207	НТТР	GET /?44c7acc2 HTTP/1.1 Continuation or non-HTTP traffic
66.210.131.226	212.58.98.207	НТТР	GET /docs/reglamenti.pdf?sosAT_ETO_VASHE_PRIZVANIE=^d HTTP
201.88.80.48	213.157.198.33	TCP	rdrmshc > http [SYN] Seq=0 Win=65535 Len=0 MSS=1452
208.0.30.17	213.157.198.33	TCP	28841 > http [SYN] Seq=0 Win=65520 Len=0 MSS=1260
189.105.202.124		TCP	62931 > http [SYN] Seq=0 Win=65535 Len=0 MSS=1452
210.211.128.160		TCP	63801 > http [SYN] Seq=0 Win=65535 Len=0 MSS=1452
65.95.127.155	213.157.198.33	TCP	59609 > http [SYN] Seq=0 Win=65535 Len=0 MSS=1452
62.141.66.174	213.157.198.33	TCP	isns > http [RST] Seq=1 Win=0 Len=0
217.69.214.243	213.157.198.33	TCP	60001 > http [SYN] Seq=0 Win=16384 Len=0 MSS=1460
78.96.72.99	213.157.198.33	TCP	fjappmgrbulk > http [SYN] Seq=0 Win=65535 Len=0 MSS=1460 W
189.81.53.53	213.157.198.33	TCP	63113 > http [SYN] Seq=0 Win=65535 Len=0 MSS=1440
90.154.179.138		TCP	vrts-at-port > http [SYN] Seq=0 Win=65535 Len=0 MSS=1452
92.113.0.29	213.157.198.33	ICMP	Echo (ping) request You are loosers and will fail again just
92.113.0.29	213.157.198.33	ICMP	Echo (ping) request like in 90ies
92.113.0.29	213.157.198.33	ICMP	Echo (ping) request
92.113.0.29	213.157.198.33	ICMP	Echo (ping) request
86.98.45.238	213.157.198.33		GET /?16b37575&DA_VI_LOHI_PODOBOSRETES_KAK_V_90x=gg HTTP/1
86.98.45.238	213.157.198.33	HTTP	GET /?16b29c3c&8t4wu=9721&20fd=xpNFyeL HTTP/1.1 Continuati
216.39.90.211	213.157.198.33	DNS	Standard query A media ge
83.174.226.124	213.157.198.33	DNS	Standard query A media.ge

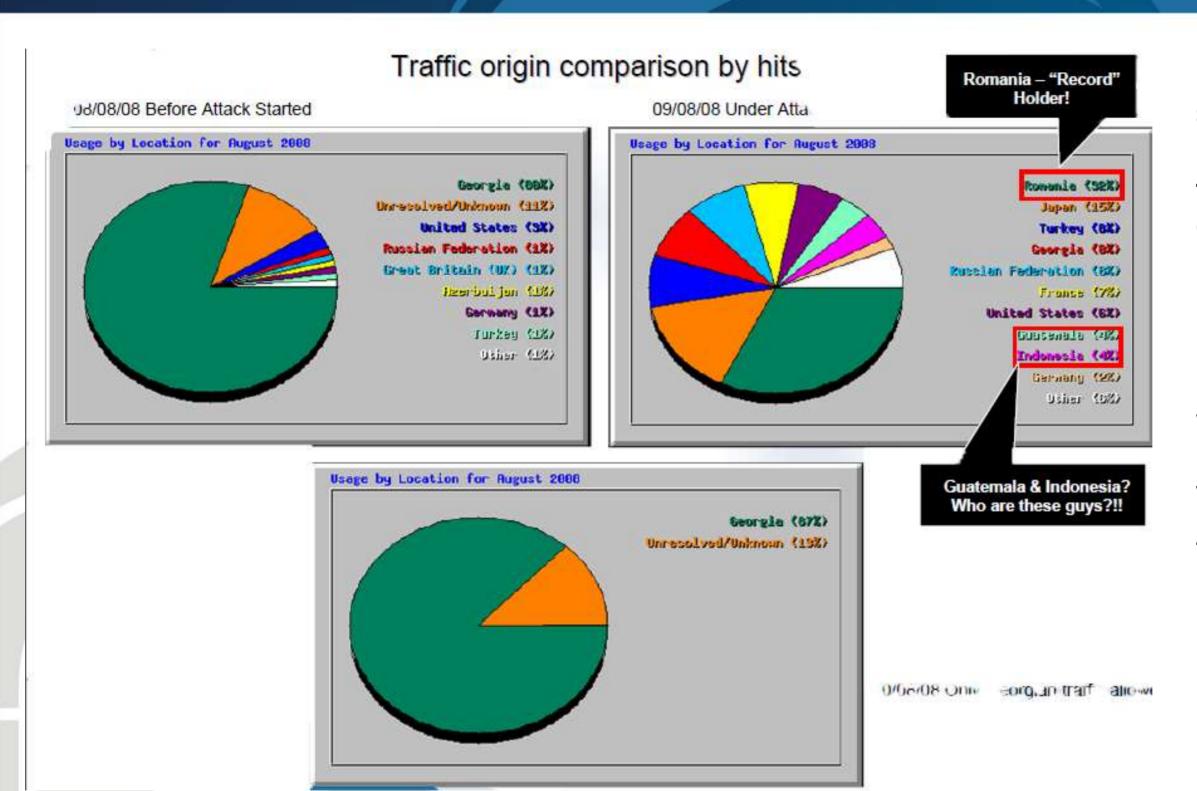


Russians Published how to attack Georgian internet resources



Russian Cyber and armed Attack in 2008





Russians open special web sites "Attack Georgia" and Promote downloading special tools for attacking Georgian Cyber space for population.

Mostly used tools were just PING utilities. Also previously deployed BOTs were used.

Via Using these tools Russian Attackers jammed Georgian Internet.

Russian Cyber and armed Attack in 2008



Types of Cyber Attacks

Geographically distributed BOTNETS

• 300-400 sessions per IP per server

SQL INJECTION of more than 100 sites

*Examples:

http://www.president.gov.ge/index.php?l=G&m=0&sm=3&id=2693+union+select+1,2,3,4,5,6,7,8,9,0,1,2,3,4,5 http://www.results.cec.gov.ge/ubnebi.php?district=22+and+1=@@version http://junior.eurovision-georgia.ge/index.php?lang=eng&topid=3&id=-1+union+select+1,2,3,4,5

Attempts of BGP hijacking

Websites hacking

*According servers securities levels it can be said that hackers knew passwords

Spamming of Email addresses





Today

Current Projects



Threats and Attacks Today

Today as the whole world we are getting more and more depending on Information Technologies. Cyber Threats are more sensitive issue for country.

What we are doing to mitigate risks?

- In 2008 Creating CERT.GE (Based on GRENA)
- In 2011 Creating CERT.GOV.GE (Based on DEA)
- Governmental Organizations starting care about Cyber threats
- Big Commercial Organizations are Collaborating with Government in Cyber Security Filed.



We are members of:

The Cyber security Executing Arm Of The UNITED NATIONS

SPECIALISED AGENCY of The International Telecommunication Union (ITU)



The Trusted Introducer - a.k.a. TI - is the trusted backbone of the Security and Incident Response Team community in Europe



Certifications:



All Our Team members is Certified by SANS GIAC





CERT.GOV.GE (Computer Emergency Response Team)

CERT Web Portal: Computer Incident Reporting Portal for farther analyzing and responding, Support ticket system for registered users.

www.dea.gov.ge

Incident Handling. Identify Security Incidents and helping to solve it.

Penetration Test Service for Public Sector. Analyzing their cyber resources for the vulnerabilities and reporting them.



Cert Activities

We started CERT.gov.ge Activities in April 2011

Results:

- 1) Identified Local DDoS attacks.

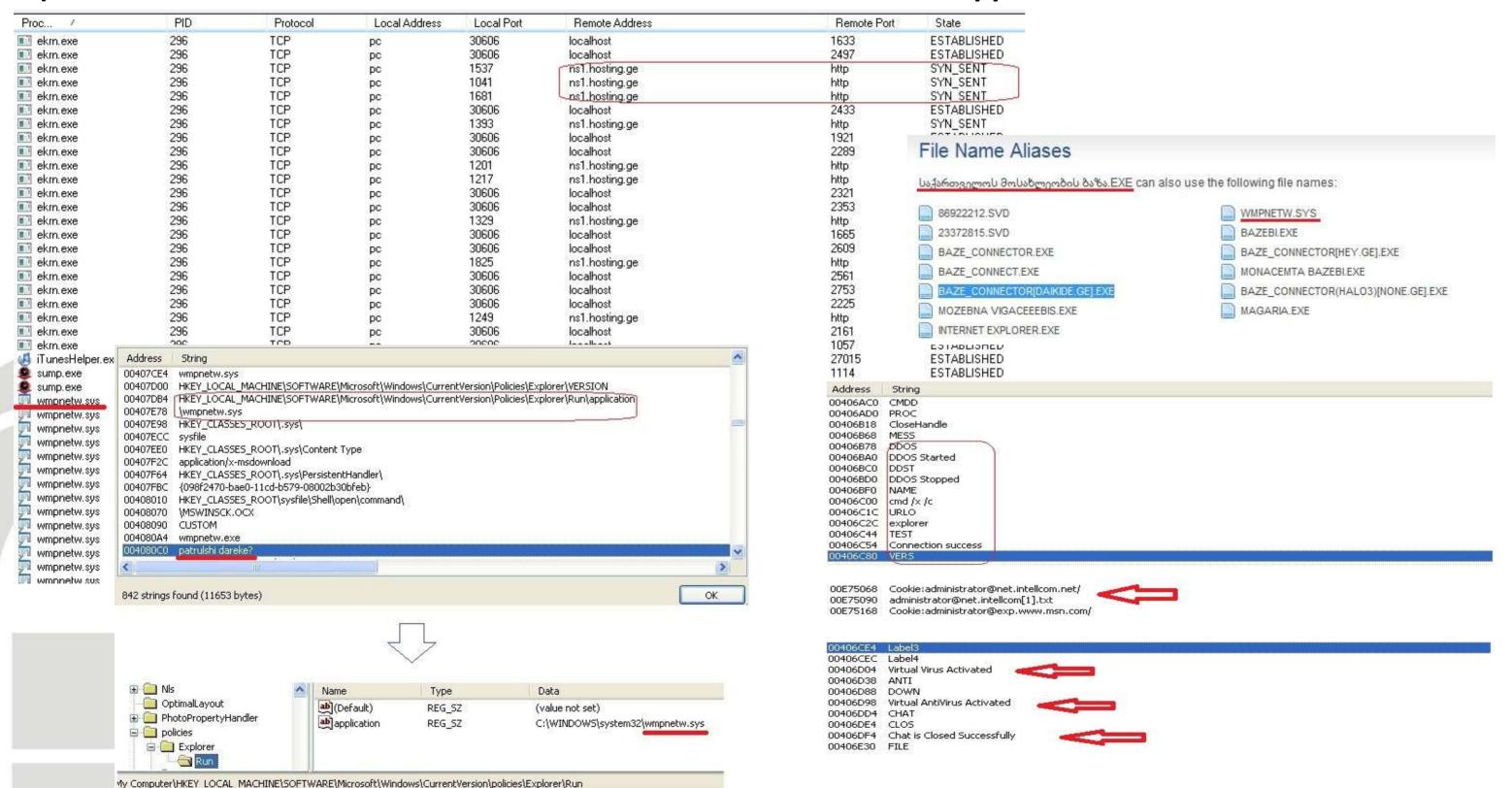
 CERT.gov.ge Analyzed attack and gave recommendations to ISP to block some IP addresses
- 2) Bot Attack on Governmental computer gathering military data.

 Risk was mitigated
- 3) Bot Activity of Big Georgian Hosting company Risk was mitigated
- 4) Attack on one of the Georgian Ministry Risk was mitigated



1) Identified Local DDoS attacks.

Distributed as an Application but contained bot

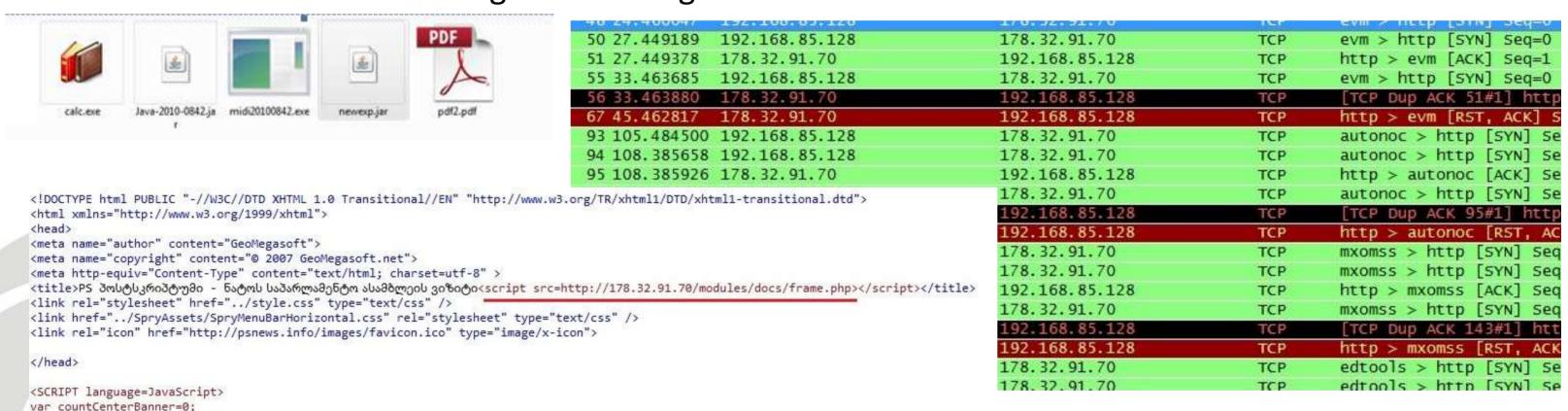


function changeCenterTable()



2) Bot Attack on Governmental computer gathering military data.

ovh.net web-hosting - 178.32.91.70 hosted Bot "Zeus" modification, with BOT Panel. Distributed Virus And Collecting and Sending data

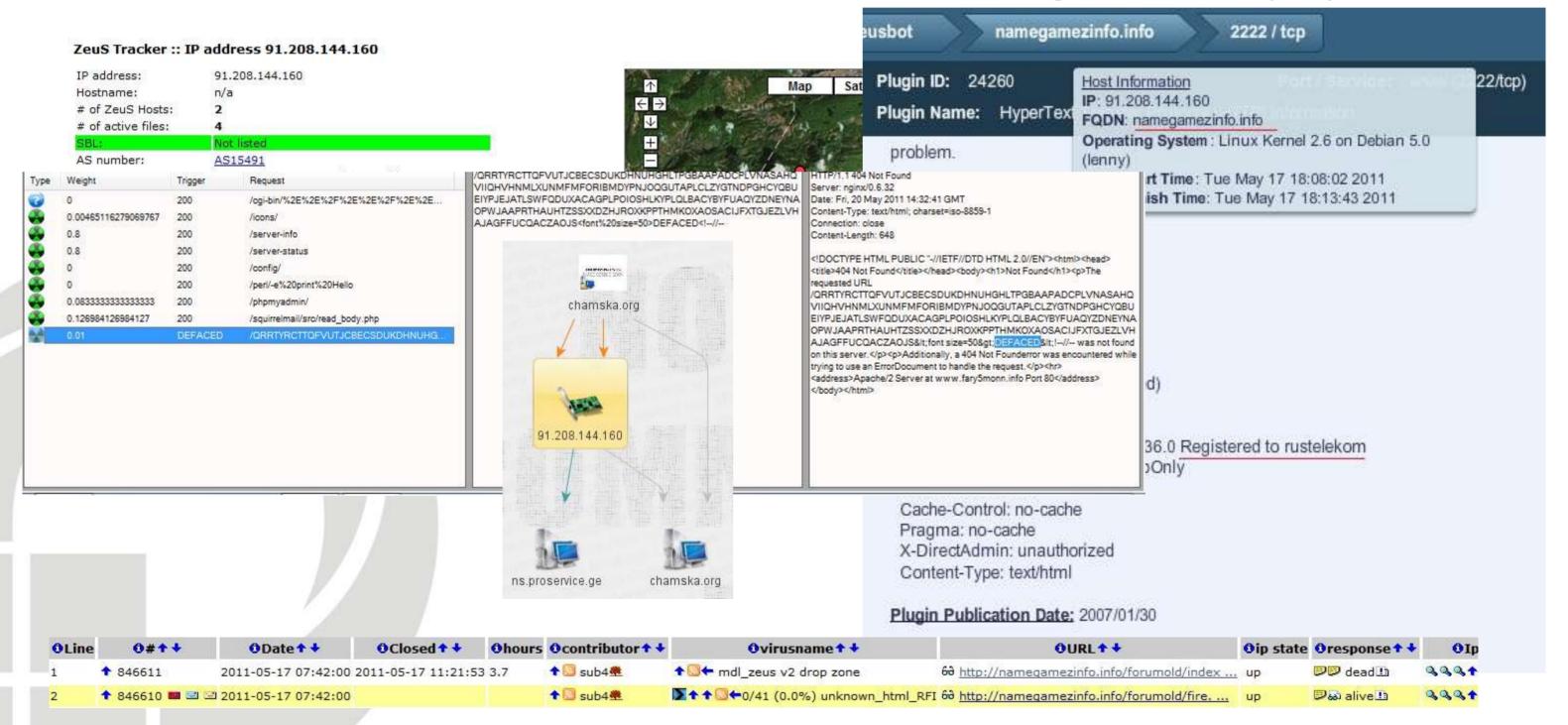


BOT was modified and auto updated time by time



3) Bot Activity of Big Georgian Hosting company

We found hosted Bot "Zeus" modification, with BOT Panel on Georgian Host Company.





4) Attack on one of the Georgian Ministry

System changes

The following system changes may indicate the presence of this malware:

The presence of the following files:
 c:\documents and settings\all users\application data\srtserv\<malware file>.exe
 c:\documents and settings\all users\application data\srtserv\sdata.dll
 c:\documents and settings\all users\application data\srtserv\set.dat



Name -	Size	Туре	Date Modified	Attributes
Economy.exe	828 KB	Application	5/24/2011 6:14 PM	Н
set.dat	0 KB	DAT File	6/16/2011 6:19 PM	Α
task,dat	0 KB	DAT File	6/16/2011 6:19 PM	Α

The presence of the following registry modifications:
 Adds value: "srtserv"

With data: "c:\documents and settings\all users\application data\srtserv\<malware file>.exe"
To subkey: HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run



srtserv REG_SZ C:\Documents and Settings\All Users\Application Data\srtserv\Economy.exe

My Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Run

Summary

Worm:Win32/Verst.B is a worm that spreads via network drives and downloads arbitrary files. This worm may also attempt to steal sensitive information such as passwords.



Some Bots in Georgia

scanners | 92.241.76.130 | 15491 | 2011-06-29 05:55:40 | 4899/tcp | SILKNET Internet Service Provider. scanners | 46.49.97.14 | 28751 | 2011-06-29 13:58:28 | 4899/tcp | CAUCASUS-NET-AS Caucasus Online LLC scanners | 95.137.163.96 | 34797 | 2011-06-29 10:30:32 | 22/tcp | EGRISI-AS Egrisi JSC. scanners | 80.92.184.37 | 41877 | 2011-06-29 05:30:43 | 445/tcp | GRT-AS Railway Telecom AS number scanners | 94.43.254.134 | 35805 | 2011-06-29 03:05:11 | 445/tcp | SILKNET-AS JSC Silknet bots | 217.147.224.66 | 20545 | 2011-06-30 04:57:33 | srcport 3561 mwtype irc-botnet | GRENA-AS GRENA Autonomous System bots | 92.241.78.210 | 15491 | 2011-06-30 06:38:23 | srcport 60783 mwtype irc-botnet | SILKNET Internet Service Provider. bots | 94.100.238.109 | 25249 | 2011-06-30 15:01:48 | srcport 53997 mwtype irc-botnet | GE-MAGTICOM MAGTICOM bots | 95.104.115.178 | 28751 | 2011-06-30 16:09:34 | srcport 6492 mwtype irc-botnet | CAUCASUS-NET-AS Caucasus Online LLC bots | 95.137.185.110 | 34797 | 2011-06-30 09:21:31 | srcport 1122 mwtype irc-botnet | EGRISI-AS Egrisi JSC. openresolvers | 213.131.34.14 | 15491 | 2011-06-29 13:06:09 | | SILKNET Internet Service Provider. openresolvers | 217.147.238.135 | 20545 | 2011-06-29 06:16:22 | | GRENA-AS GRENA Autonomous System openresolvers | 46.49.106.9 | 28751 | 2011-06-29 08:18:53 | CAUCASUS-NET-AS Caucasus Online LLC openresolvers | 178.236.61.39 | 49129 | 2011-06-29 13:49:42 | CGC-AS LTD CGC Co. openresolvers | 188.169.155.49 | 35805 | 2011-06-29 02:58:20 | | SILKNET-AS JSC | Silknet spam | 109.238.225.138 | 15491 | 2011-06-30 10:07:30 | cbl | SILKNET Internet Service Provider. spam | 217.147.224.34 | 20545 | 2011-06-30 08:07:03 | cbl | GRENA-AS GRENA Autonomous System spam | 217.11.166.171 | 24997 | 2011-06-30 16:48:12 | cbl | GE-CDN-AS AS for CDN spam | 81.95.167.11 | 25249 | 2011-06-29 20:36:31 | cbl | GE-MAGTICOM MAGTICOM spam | 46.49.34.143 | 28751 | 2011-06-30 22:25:03 | cbl | CAUCASUS-NET-AS Caucasus Online LLC

Bots in Georgia



Trusted Sources

http://www.shadowserver.org/

http://www.team-cymru.org/

http://www.arakis.pl/en/index.html









CERT.GOV.GE (Computer Emergency Response Team)

CERT Web Portal: Add Additional Functionality on CERT web Portal

Intrusion Detection System (IDS) and Network Sensors Placing in different organizations.

Source and Binary Code Analyzing. Analyzing Source code and Binary Code for weakness.

Creating local volunteer groups for better Defense of cyber space of Georgia.

Continue development better cooperation with related international organizations.



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Thank you for your attention



