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# Cyberspace and the Changing Nature of Warfare

Kenneth Geers

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# Real World vs Cyberspace

- What's the difference?
- Now integral part of every pol/mil conflict
  - Propaganda, espionage, reconnaissance, even warfare
- The Internet's amplifying power
  - Victories in cyberspace can become victories on the ground

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# Cyber Warfare

- Nuclear, Chemical, Biological ... Digital?
- Revolution in Military Affairs (RMA)
  - IP-enabled personnel, munitions, sensors, logistics
- Before, during, after fighting
  - I&W, D&D, e-mail campaigns, blog poisoning
- Assassination of computer geeks?

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# Cyber Warfare Strategy

1. The Internet is vulnerable to attack
2. High return on investment
3. Inadequacy of cyber defenses
4. Plausible deniability
5. Participation of non-state actors

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# S1 The Internet is Vulnerable

- Imperfect design
  - Hackers can read, delete, modify information on or traveling between computers
- Common Vulnerabilities and Exposures (CVE) database grows daily
  - Difficult to guard all holes into your network



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## S2 High Return on Investment

- Common attack objectives
  - Research & Development data
  - Sensitive communications
  - Limited only by the imagination
- The elegance of computer hacking
  - Less expensive
  - Less risk



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## S3 Inadequacy of Cyber Defense

- Still an immature discipline
- Traditional skills inadequate
  - New skills highly marketable
- Investigations slowed by international nature of Internet
  - Cultural, linguistic, legal, political barriers
  - No help for state-sponsored operations

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**CYBERNETIC POLICE**  
Компьютерная преступность и борьба с ней

**Наберите номер телефона!**

**Understanding C. Crime** Понятие и классификация компьютерных преступлений

**Information Protection Laws** Законодательство в сфере информации, информатизации и защиты информации

**Information Security in Russia** Система защиты информации в России

**Anthology** Антология компьютерных преступлений в России

**Computer Criminals** Всё о компьютерных правонарушителях

**C. Crime Units** Подразделения по борьбе с компьютерными преступлениями в России

**SORM** Понятие и назначение "СОПМ"

**Library** Библиотека публикаций

**Forum** Форум

**Send an E-mail** Почтовая служба "Киберпола"

Новости борьбы с киберпреступностью

"Справочная служба"

(C) CyberCop. 2004

10338  
Sp 10G 20 1

<http://www.cyberpol.ru/>

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**Республики:**

Отдел "Р" МВД Республики Горный Алтай: Altay  
Отдел "К" МВД Республики Мордовия: Mordoviya  
МВД Республики Татарстан: Tatarstan  
Отдел "К" МВД Республики Чувашия: Chuvashiya  
Края:

Отдел "К" УСТМ ГУВД Алтайского края: Altay  
Отдел "К" ГУВД Красноярского края: Krasnoyarsk  
Отдел "К" УВД Приморского края: Primorskiy  
Отдел "К" УВД Ставропольского края: Stavropol'

**Области:**

Отдел "К" УВД Архангельской области: Arkhangel'sk  
Отдел "Р" УВД Владимирской области: Vladimir  
УФСБ России по Воронежской области: Voronezh

Отдел "Р" УВД Кировской области: Kirov

Отдел "К" УВД Костромской области: Kostroma

Отдел "К" УВД Липецкой области: Lipetsk

Отдел "К" ГУВД Нижегородской области: Nizhniy

Отдел "Р" УВД Новгородской области: Novgorod

Отдел "К" УВД Оренбургской области: Orenburg

Отдел "К" ГУВД Самарской области: Samara

Отдел "Р" УВД Тамбовской области: Tambov

Отдел "Р" УВД Тульской области: Tula

Отдел "Р" УВД Ульяновской области: Ul'yanovsk

Отдел "К" УВД Читинской области: Chita

**Автономные округа:**

Отдел "К" УВД Ханты-Мансийского АО: Khanty-Mansi

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# International Correspondence

Здравствуйтесь, уважаемый **Kenneth Geers!**

Можем дать следующие ответы на Ваши вопросы.

**Вопрос:** Получали ли вы в прошлом запросы об информации из-за рубежа?

**Ответ:** Да. Каждый день **89** подразделений Национального центрального бюро Интерпола России по E-mail получают и обрабатывают много поручений и запросов от правоохранительных организаций стран - членом Международной организации уголовной полиции **Interpol**.

**Вопрос:** Что мешает улучшению международного сотрудничества?

**Ответ:** Разные правовые нормы в действующих национальных законодательствах. Требуется их частичная унификация.

**Вопрос:** Вы думаете было-бы трудно найти общую почву чтобы поделиться информацией?

**Ответ:** По международным соглашениям мы без особых проблем обмениваемся разведывательной и иной информацией о преступлениях и правонарушениях со специальными службами зарубежных государств. В последнее время часто проходят совместные совещания, семинары и конференции наших сотрудников с сотрудниками **FBI (USA)**.

**Вопрос:** Вы думаете что боязнь утери национального суверенитета –непреодолимое препятствие?

**Ответ:** Обмен информацией на основе двухстороннего или многостороннего Договора (юридического акта) не опасен для национального суверенитета.

Спасибо за вопросы. Были рады Вам помочь.

С уважением, ...

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# Foreign Relations Law (U.S.)

- “It is universally recognized, as a corollary of state sovereignty, that officials in one state may not exercise their functions in the territory of another state without the latter's consent.”



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## S4 Plausible Deniability

- Maze-like architecture of Internet
  - Investigations often find only hacked box
- Smart hackers route attacks through ...
  - Poor diplomatic relations
  - No law enforcement cooperation
- The problem of the last hop, retaliation



## S5 Non-State Actors

- Nation-states like to control international conflict
- Transnational subcultures spontaneously coalesce online, influence political agendas
  - Report to no chain-of-command
- Globalization, Net aid in following, shaping events
- Challenge for national security leadership:
  - Could it spin delicate diplomacy out of control?



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WIRED



TECH BIZ : IT 

## 'UFO Hacker' Tells What He Found

Nigel Watson  06.21.06

The search for proof of the existence of UFOs landed Gary McKinnon in a world of trouble.

After allegedly hacking into NASA websites -- where he says he found images of what looked like extraterrestrial spaceships -- the 40-year-old Briton faces extradition to the United States from his North London home. If convicted, McKinnon could receive a 70-year prison term and up to \$2 million in fines.

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[www.youtube.com](http://www.youtube.com)



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**The New York Times**

# **Monks Are Silenced, and for Now, the Web Is, Too**

**October 4, 2007**

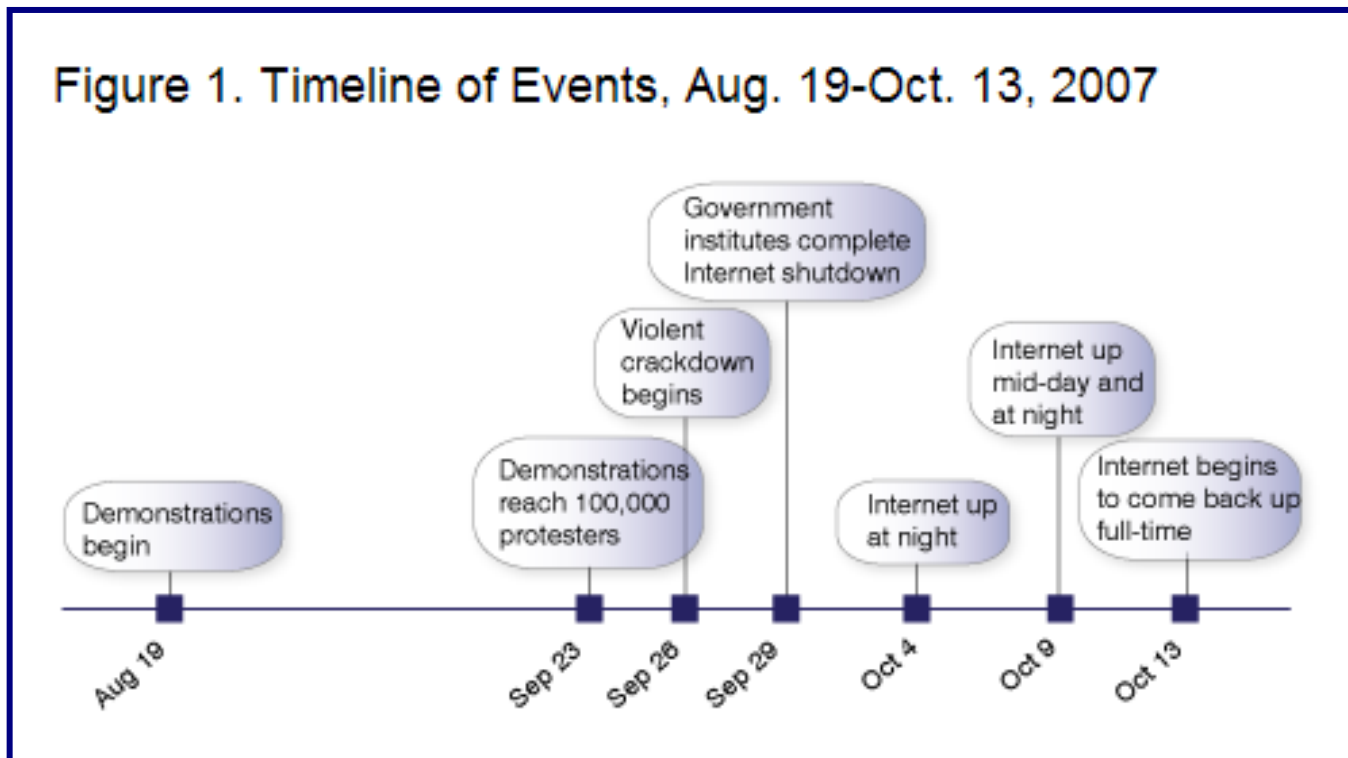
It was about as simple and uncomplicated as shooting demonstrators in the streets. Embarrassed by smuggled video and photographs that showed their people rising up against them, the generals who run Myanmar simply switched off the Internet.

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# OpenNet



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# Internal Security First

- The East German dilemma
- Computers to the Rescue
  - Processing power, databases, automated analysis, decryption, speech recognition, transcription, Artificial Intelligence, neural networks



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**REPORTERS  
WITHOUT BORDERS**  
 FOR PRESS FREEDOM

## World Press Freedom Index 2006 - The rankings

1	Finland			0,50
-	Iceland			0,50
-	Ireland			0,50
-	Netherlands			0,50
5	Czech Rep	159	Nepal	73,50
6	Estonia	160	Ethiopia	75,00
-	Norway	161	Saudi Arabia	76,00
8	Slovakia	162	Iran	90,88
-	Switzerlan	163	China	94,00
10	Hungary	164	Burma	94,75
		165	Cuba	95,00
		166	Eritrea	97,50
		167	Turkmenistan	98,50
		168	North Korea	109,00



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# Cyber Warfare Tactics

1. Espionage
2. Propaganda
3. Denial-of-Service (DoS)
4. Data modification
5. Infrastructure manipulation





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# T1 Espionage

- Second oldest profession, v 2.0
  - Elegance of remote intelligence collection
- Old vulnerability, new advantage?
  - Convergence, speed, practical crypto, steg, OSINT
- Danger not in data theft, but giving to “handler”
  - Old methods: Brush passes, car tosses, dead drops
  - New methods *virtually* the same
- Targeted collection: how would you fare?



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RadioLiberty

News & Analysis | RFE/RL  
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News by Country

Internet: Swedish Hacker Accesses Embassy E-Mail Accounts

**1 - De Chine, les « hackers rouges »  
ciblent les sites Internet de pays rivaux**

ALJAZEERA.NET

WATCH NOW  
FRONT PAGE

AFRICA  
AMERICAS

**NEWS ASIA-PACIFIC**

**NZ government computers 'hacked'**

**Hacking into the  
French state**

SUNDAY, SEPTEMBER 9, 2007

A top French official has said  
latest country to fall victim to Chinese  
Internet piracy.

**Industrious Iranian Industrial  
Espionage in Germany**

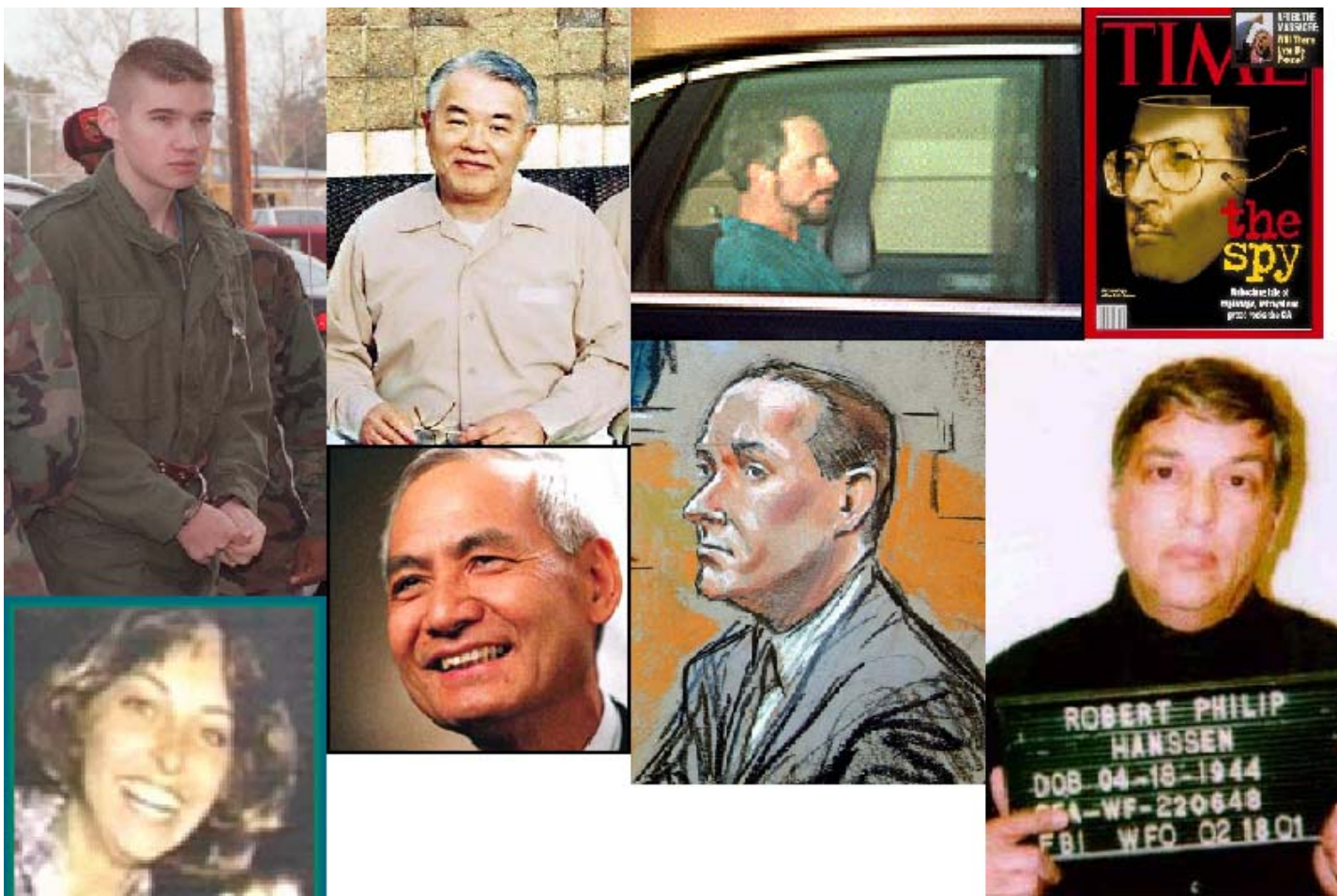
**TIMESONLINE**

China accused of hacking into heart of  
Merkel administration

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# The New Espionage

- Universal media and intelligence gathering
  - Binoculars, satellites, mass media, **NMAP**?
  - Territorial sovereignty not violated
  - Metadata and reading between the lines
  - Picture taking, not physical invasion ... right?
  - If indefensible, normally not espionage!

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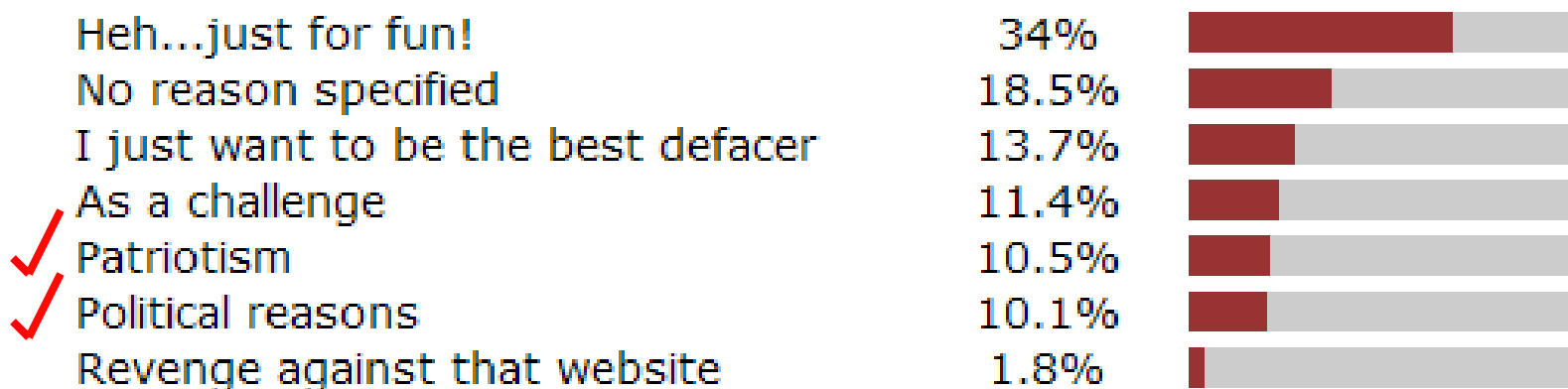
## T2 Propaganda

- Easy, cheap, quick, safe, powerful
  - Audience is the world
  - Drop behind enemy lines
- Does not need to be true
- Recruitment, fund raising, hacktivism
  - Censored information replaced in seconds
- Tech expanding rapidly (multimedia, Skype, etc)
- Appearance of technical prowess

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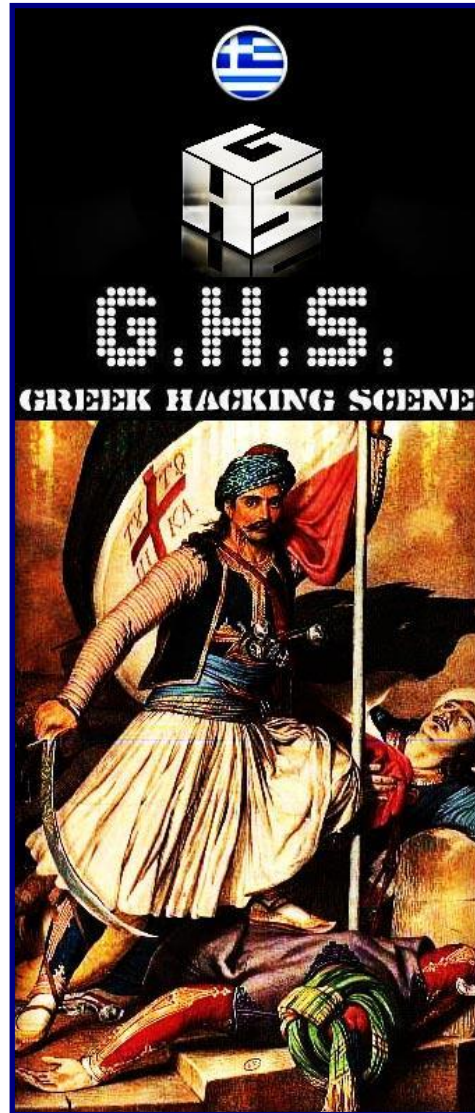
# Zone-H Stats

## By attack reason:





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**Ministry of  
Health**



**ZIMBABWE**



**and Child  
Welfare**

---

**Command Tribulation Ownz your b0x**

**Jesus loves you**

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## T3 Denial-of-Service (DoS)

- Simple strategy
  - Deny computer resource to legitimate users
  - Most common: flood target with bogus data so it cannot respond to real requests for services/info
- Other DoS attacks
  - Physical destruction of hardware
  - Electromagnetic interference designed to destroy unshielded electronics via current or voltage surges

# T4 Data Modification

- Extremely dangerous
  - Legitimate users (human or machine) may make important decisions based on maliciously altered information
- Website defacement
  - “Electronic graffiti” can carry propaganda or disinformation
- Holy Grail
  - Weapons, Command and Control (C2) systems



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# T5 Infrastructure Manipulation

- Critical infrastructures connecting to Net
- SCADA security may not be robust
- Electricity especially important
- Infrastructure in private hands
- Seized hard drives: Microstran, Autocad, etc
- White House briefed on certain 0-days



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# Case Study #1

## Russia and Chechnya: 1994

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ЧЕЧЕНСКАЯ РЕСПУБЛИКА ИЧКЕРИЯ  
**ЧЕЧЕНСКИЙ ПРЕСС**  
Государственное информационное агентство

**RUSSIAN**      **TURKISH**      **ENGLISH**



[Professor U.Ezhiev's sons kidnapped](#)

On the night of 9 March 2003, in Staropromislov district of the Chechen capital Grozny, the Russian servicemen kidnapped two brothers Ezhaevs - Ruslan and Arby Umalatovich. Certain details of the incident have become known today.

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# Push and Pull

- World Wide Web
  - Real-time, unedited news from the war front
  - Net aids in following and *shaping* current events
- Average Net user
  - More information than heads of state ten years ago
  - Increasingly important role in international conflicts

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# Examples

- Most effective info not pro-Chechen but anti-Russian
  - Digital images of bloody corpses, POWs
  - Real photos and fake photos used
  - Kremlin occasionally caught off-guard
- War funds bank account in Sacramento, CA
- As tech progressed, streaming videos
  - Ambushes on Russian military convoys



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# Government Reaction

- 1999: PM Vladimir Putin:
  - “we surrendered this terrain some time ago ... but now we are entering the game again.”
  - Introduction of “centralized military censorship regarding the war in the North Caucasus”
  - Sought Western help to shut down [kavkaz.org](http://kavkaz.org)



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## Case Study #2

# NATO and Kosovo: 1999

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- 1999: first major NATO military engagement
- First Cyber war!  
– ;)



Kosovo

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# Black Hand 1.0



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# Black Hand 2.0



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# Hacker Achievements

- NATO war website down, email down
  - “Line saturation” caused by “hackers in Belgrade”
- White House website defaced
  - Secret Service investigation
- Virus-infected email
  - 25 strains detected
- “Owned” U.S. Navy computer

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# Case Study #3

## Middle East Cyber War: 2000

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**חיזבאללה - לא עוד!**

אתר עם מטרה אחת - לא לתת לארגוני טרור אכזריים להשריץ אתרי טרור, הפצת מאמרים, סרטים ותמונות חולניות ברשת האינטרנט הכלל-עולמית

**ברוכים הבאים**

טפסים היוניים

מבזקי חדשות

ליבנו איתם!



**חיילנו החטופים**

עד מתי?

מימין לשמאל:

סמ"ר בני אברהם, רס"מ עומר סוועד וסמל עדי אביטן

5/6/2004, שבת

  
Israforce.net



ספר אורחים  
פורום  
Ynet news  
הוסף אותנו לוואלה  
טבלת מצב  
צ'אט - חדש  
בדוק איי-מייל  
תמונות  
כתבות/ראיונות  
חמאס - לא עוד  
קישורים  
צור קשר  
פרסום

ריכוז אופציות להפלת החיזבאללה:

תוכנה:

הורידו עכשיו את התוכנה המיוחדת נגד החיזבאללה. (יש להוריד עידכון מיד לאחר הורדת התוכנה והתקנתה)

"חיזבאללה - לא עוד" שולח את תנחומיו אל משפחת זאבי האבלה שאיתה איבדנו אדם שהיה חלק מליבה הגדול של מדינת ישראל.

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[www.hizbulla.org](http://www.hizbulla.org): October 25, 2000

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Attacked by **m0sad**: **67** of which **54** are single IP and **13** mass defacements

**Legend:**

- H** - Homepage defacement
- M** - Mass defacement (click to view all defacements of this IP)
- R** - Redefacement (click to view all defacements of this site)
- ★ - Special defacement

Time	Attacker		Domain	OS	View
2001/01/03	m0sad	H	<a href="#">sys.edu.pk</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2001/01/02	m0sad	H	<a href="#">saaa.org</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2001/01/02	m0sad	H	<a href="#">mustafadaas.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2001/01/02	m0sad	H	<a href="#">spicers.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2001/01/01	m0sad	H M	<a href="#">modelli.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/31	m0sad	H	<a href="#">dpi.net.ir</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/31	m0sad	H	<a href="#">sysnet.com.pk</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/29	m0sad	H	<a href="#">hrep.com.pk</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/20	m0sad	H	<a href="#">isna.net</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/19	m0sad	H	<a href="#">iugaza.edu</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/15	m0sad	H	<a href="#">talkislam.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/12	m0sad	H	★ <a href="#">mfa.gov.ir</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/10	m0sad	H	★ <a href="#">dcaauh.gov.ae</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/03	m0sad	H	★ <a href="#">islam.gov.qa</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/12/01	m0sad	H	<a href="#">webhosting.ajeab.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/11/29	m0sad	H	<a href="#">islamweb.net</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>
2000/11/27	m0sad	H	<a href="#">khaleej.com</a>	Windows	<a href="#">view</a>   <a href="#">mirror</a>

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<p>עם ישראל!!! עזרו לכולם להפיל את האתר של החיזבלה  לפנכים המדריך במשביל לדעת איך להפיל את האתר  נכנסים לתפריט, התחל, שבצדל מטה של המסך, אחר  כך נכנסים להפעלה, ואז כותבים את הפקודה הבאה  ping 192.116.19.4 -t -w 2600  ולוחצים אישור  ואז ייפתח חלון שחור כזה פשוט לעשות לחלון מזער והוא יירד  למטה ולהשאיר אותו פתוח, אם יעשו ככה הרבה אנשים  האתר ייפול חזק, תודה לכולם על שיתוף הפעולה  זה כתובת האתר  <a href="http://www.pna.net">http://www.pna.net</a>  בבקשה העבירו לכולם</p>	<p>לכל מי שיש ניוקים ופצצות לאימייל  !שיפוצ את האימייל של החיזבלה  !זה האימייל  <a href="mailto:webmaster@hezbollah.org">webmaster@hezbollah.org</a>  <b>אם אין לכם תוכנה אז תורידו כאן</b></p>
<p>כנסים להמשיך  אתר של החיזבלה</p> <hr/> <p>נכנסים לתפריט, התחל, שבצד ימין למטה של המסך, אחר  כך נכנסים להפעלה, ואז כותבים את הפקודה הבאה  ping 198.81.240.41 -t -w 2600  ולוחצים אישור  ואז ייפתח חלון שחור כזה פשוט לעשות לחלון מזער והוא  יירד למטה ולהשאיר אותו פתוח, אם יעשו ככה הרבה  אנשים האתר ייפול חזק, תודה לכולם על שיתוף הפעולה</p>	<p><a href="mailto:webmaster@hezbollah.org">webmaster@hezbollah.org</a></p> <p><a href="http://www.wizel.com">www.wizel.com</a></p> <p><a href="#">הורידו את התוכנה שמפילה את אתרי החיזבלה</a></p>

**www.pna.net**

**www.wizel.com**

**downloads**

אם התוכנה לא פועלת לכם אז תוריד גם את הקבצים האלו
<a href="#">Msvbvm50.dll</a>
<a href="#">Mswinsck.ocx</a>
<a href="#">Comdlg32.ocx</a>



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# Pro-Palestinian Counterattack

- Immediate, much more diverse
- Key difference: economic targets
  - Bank of Israel, e-commerce, Tel Aviv Stock Exchange
  - At least 19 countries: AIPAC, AT&T
- During 2006 Gaza fighting
  - 700 Israeli Internet domains shut down

**GROUP(I):**

[Click HERE and Help the Resistance\(I\).](#)

“You will attack...”



You will attack :

<http://web.archive.org/web/20010226185153/http://www.israel.org/>

IP: 212.143.256.4

<http://web.archive.org/web/20010226185153/http://www.idf.il/>

IP: 212.143.256.4

<http://web.archive.org/web/20010226185153/http://resistance-defend.freesevers.com/<p>http://www.israel.com>

...these IPs:



IP:63.194.226.226

<http://web.archive.org/web/20010226185153/http://www.wizel.com/>

IP: 194.90.202.20

and...

Bank of Israel

Tel Aviv Stock Exchange

Prime Minister's Office

[www.wizel.com](http://www.wizel.com)

**GROUP(II):**

[Click HERE and Help the Resistance\(II\).](#)

You Will Attack:



[www.bankisrael.gov.il](http://www.bankisrael.gov.il)

IP:161.58.232.244



Tel Aviv Stock Exchange([www.tase.co.il](http://www.tase.co.il))

IP:192.116.46.129



[www.pmo.gov.il](http://www.pmo.gov.il)(Prime Ministry Office)

IP:147.237.72.93



[www.wizel.com](http://www.wizel.com)



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وقل أعملوا نسيب من أشي عملكم  
وقل أعملوا نسيب من أشي عملكم

العنوان الجديد [www.fightisrael.com](http://www.fightisrael.com)



إخواني المسلمون إلى متى ونحن ماثنين في بيوتنا نشاهد الدمار والقتل الوحشي في فلسطين ونرى أخي وأخيك يقتل وبطرق مختلفة وكأن اليهود يتقنون طرق جديدة لقتلهم؟؟ أليسوا هؤلاء بإخواننا؟؟ أليسوا بمسلمين؟؟ ومع ذلك أكثر شيء عملناه هو التبرع، أين نحن عن تاريخنا؟ أين نحن عن الصحابة رضوان الله عليهم؟؟ أين نحن عن صغار الصحابة وهم لم يتجاوزوا السادسة والسابعة عشر ويجاهدون في سبيل الله؟؟

لماذا لا نجاهد في سبيل الله نصره لإخواننا في فلسطين وإعلاء لكلمة الله تعالى فإما النصر أو الشهادة وضمان الجنة والموت بكرامة أما ما يحدث الآن فهو قمة الذل للعرب والمسلمين في شتى بقاع العالم،، إخي إن كنت لا تستطيع القتال في فلسطين فيمكنك القتال وقت بيتك وذلك عن طريق تدمير المواقع الإسرائيلية

وهذا أقل شيء نعمله لفلسطين الحبيبة إخواني دعونا نتحد ولو مرة للمشاركة في مجموعة الجهاد الإلكتروني

عند المشاركة في المجموعة سجل بريدك وسوف نخبرك بموعد الضربة للمواقع

شارك في منتدى ساحة القدس وأيدي رايك وأيضا إن كنت ترى أنه يوجد برنامج تدمير ممتاز غير ما ذكر أو برنامج ترى أنه هام لنا شارك في منتدى ساحة القدس وأيدي رايك

رحيل الحب

مقدمة  
منتدى ساحة القدس  
صفحة التدمير  
برنامج تدمير  
عناوين بريد للتدمير  
برنامج تدمير للبريد  
كيفية التدمير  
رسالة رسالة تهديد من مصدر مجهول  
المشاركة في قائمة بريد رحيل الحب الخاصة  
رشيحي لأسيكار المواقع  
المساهمات 100  
Top 100  
www.alsamcr.com  
lovenectar@fightisrael  
رحيل الحب

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the Muslim Directory online

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ummah.com

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

## We have been forced to remove this site

The bandwidth providers to our ISP, after receiving many complaints from Zionists and their supporters in the UK, have threatened to cut off our internet connection if this site was not removed. We have therefore removed this site in order to keep the rest of ummah.com online.

Most sincere apologies,

The ummah.com team



the Muslim Directory online

[privacy](#) | [about](#) | [e-mail us](#)

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[www.ummah.com/unity](http://www.ummah.com/unity)



- Due to complaints, moved and renamed:
  - <http://defend.unity-news.com>
  - <http://members.tripod.com/irsa2003>
  - <http://members.tripod.com/irsa2004>

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# Case Study #4

## Sino-American

### “Patriotic Hacker War”: 2001

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## April 26, 2001: FBI Advisory

- “Citing recent events between the United States and the People's Republic of China (PRC), **malicious hackers** have escalated web page defacements over the Internet. This communication is to advise network administrators of the potential for **increased hacker activity** directed at U.S. systems ... Chinese hackers have publicly discussed increasing their activity during this period, which **coincides with dates of historic significance** in the PRC...”

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# Downed EP-3 on Hainan Island



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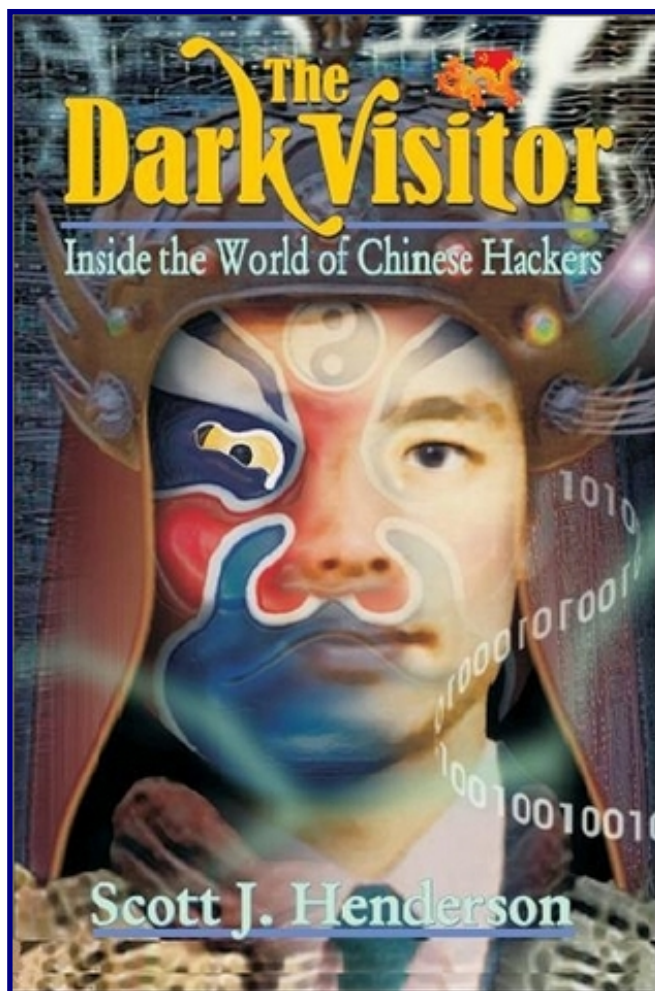
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# Critical Infrastructure Attack

- FBI investigated a Honker Union of China (HUC), 17-day hack of a California electric power grid test network
  - Widely dismissed as media hype
- 2007: CIA informed industry leaders that a tangible hacker threat to critical infrastructure is no longer theoretical



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# Case Study #5

## Estonia: 2007

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# The North Atlantic Treaty

Washington DC, 4 April 1949

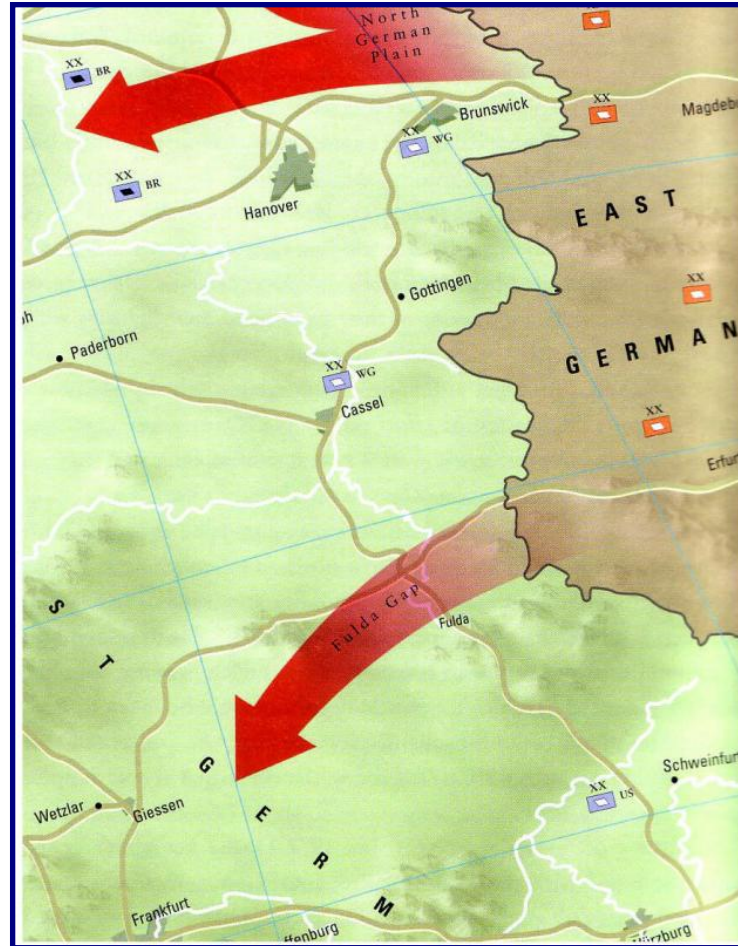
- **Article 5:** The Parties agree that an armed attack against one or more of them in Europe or North America shall be considered an attack against them all ... each of them ... will assist the Party or Parties so attacked by taking forthwith ... such action as it deems necessary, including the use of armed force, to restore and maintain the security of the North Atlantic area.

# Red Square, 1945

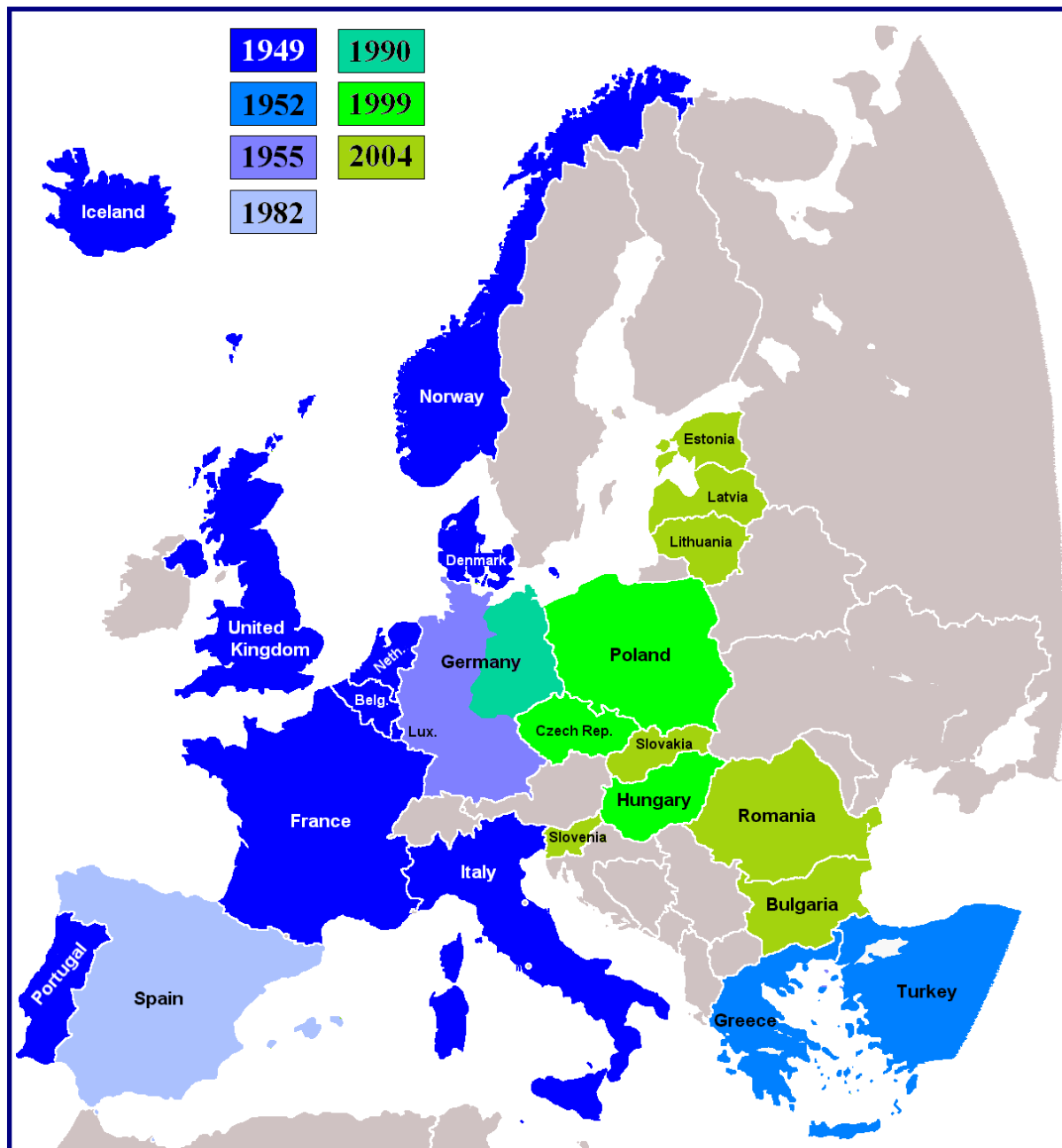




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# Tallinn, Estonia





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# Ethnic Composition of Estonia

Ethnicity	Population	% of total
Estonian	921,062	68.6
Russian	344,280	25.6
Ukrainian	28,158	2.1
Belarusian	16,134	1.2
Finn	11,035	0.8

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# The Russian Border





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Relocation: April 26, 2007



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*The Coca-Cola Company*

На **9-е МАЯ** планируется повтор данной акции!  
Не дай унижить своих соотечественников, отомсти за издевательства !!!

@ адреса eSStонских депутатов

Программа для рассылки писем

(пароль на RAR: nnt)

Нажми (**пуск -> выполнить -> cmd**)

введи **ping -n 5000 -l 10000 эSStонский\_сайт -t** и жми **ENTER** ВСЕ !!! Твои пламенные приветы полетели...

пример: **ping -n 5000 -l 1000 [www.riik.ee](http://www.riik.ee) -t**

Это 3 элементарных действия, после которых многие эстонские сайты просто перестанут работать!!!

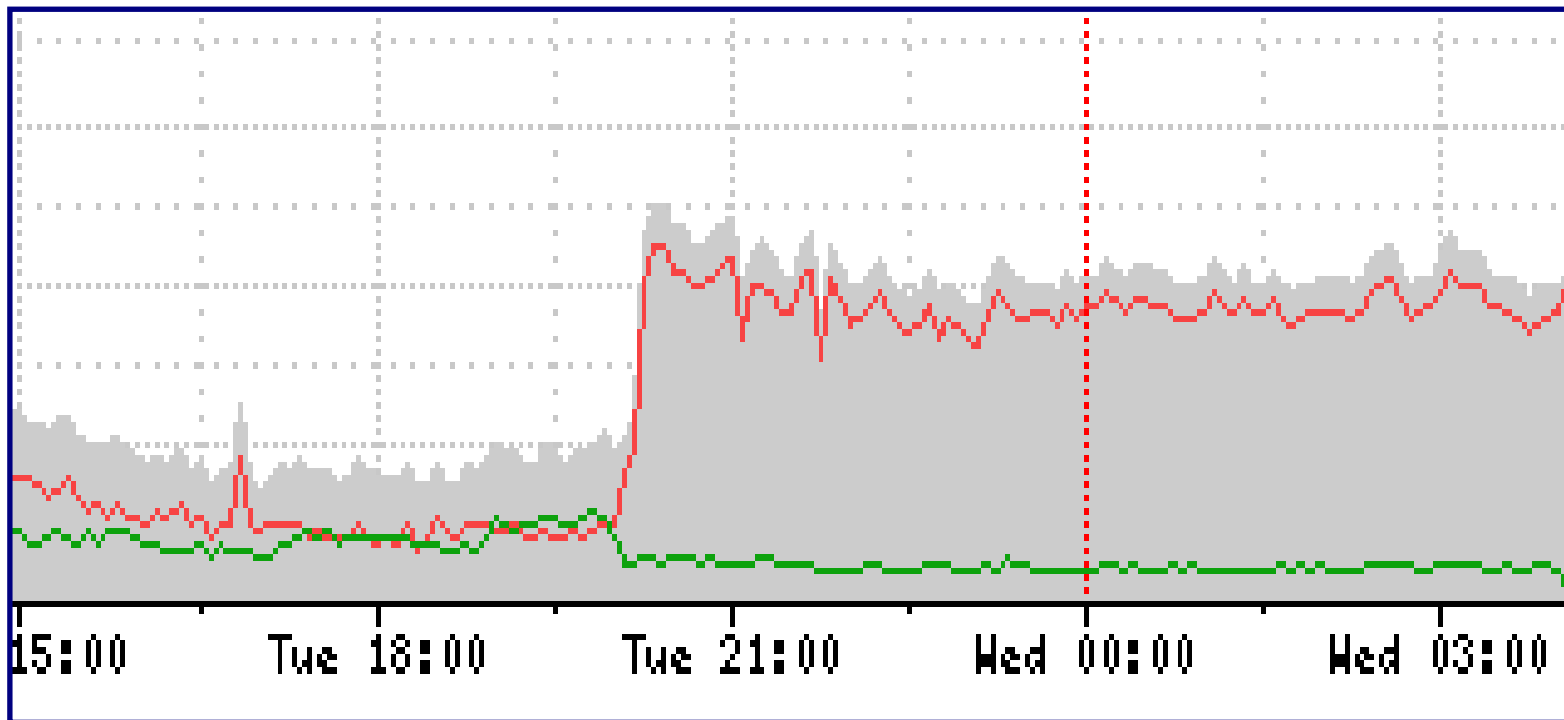
Или вот .BAT файл, который в автоматическом режиме последовательно пингует эстонские DNS и MAIL сервера. Цикл бесконечен :)

Скопировать (красным) нижеприведённый текст, вставить в блокнот и сохранить как **priveteSStonia.BAT** (название можно любое) файл  
(ты можешь сам добавлять адреса )

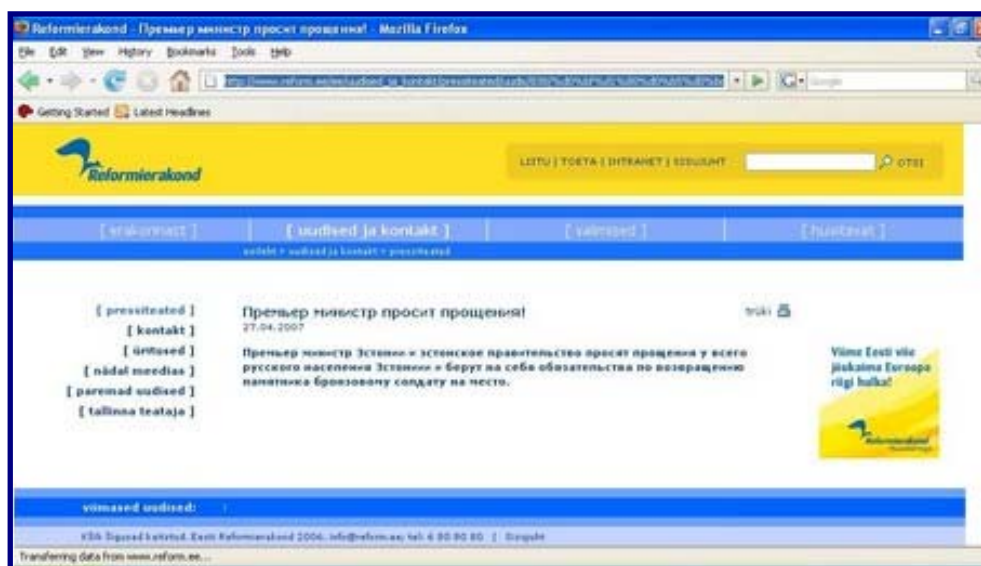


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## May 9: Victory Day



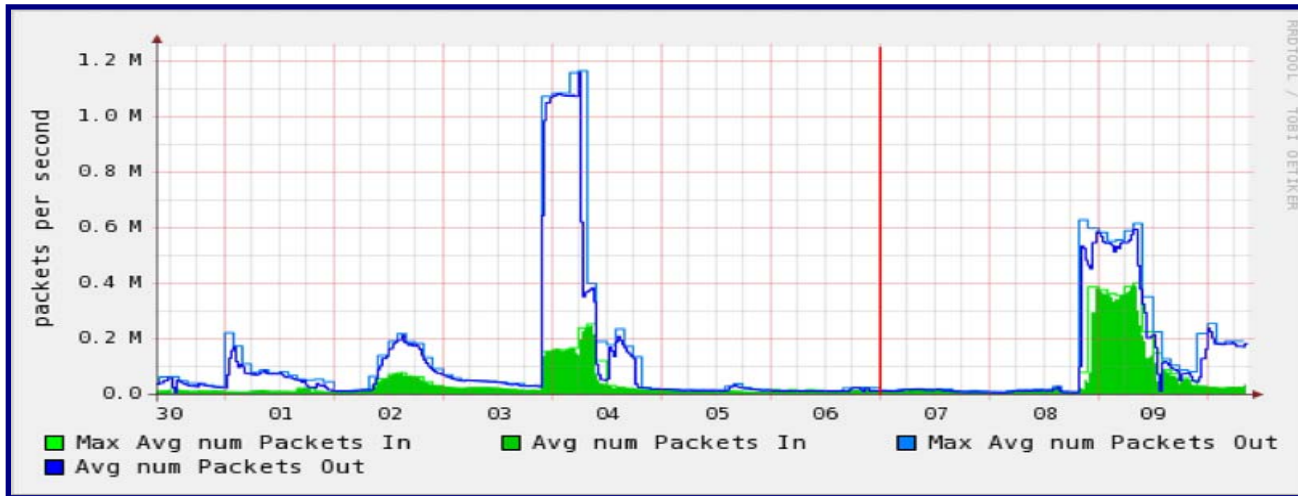
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- «Премьер-министр просит прощения! Премьер-министр Эстонии и эстонское правительство просят прощения у всего русского населения Эстонии и берут на себя обязательства по возвращению памятника бронзовому солдату на место.»



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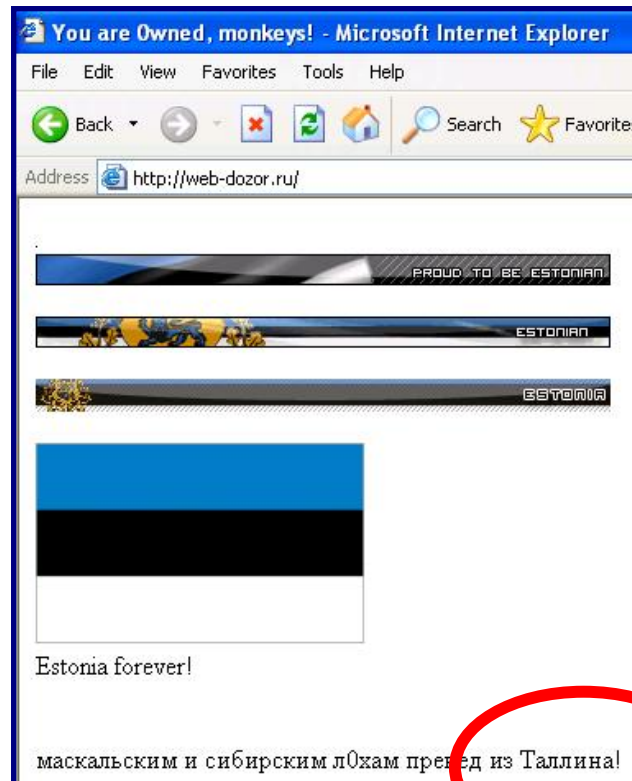
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# Estonian Retaliation?



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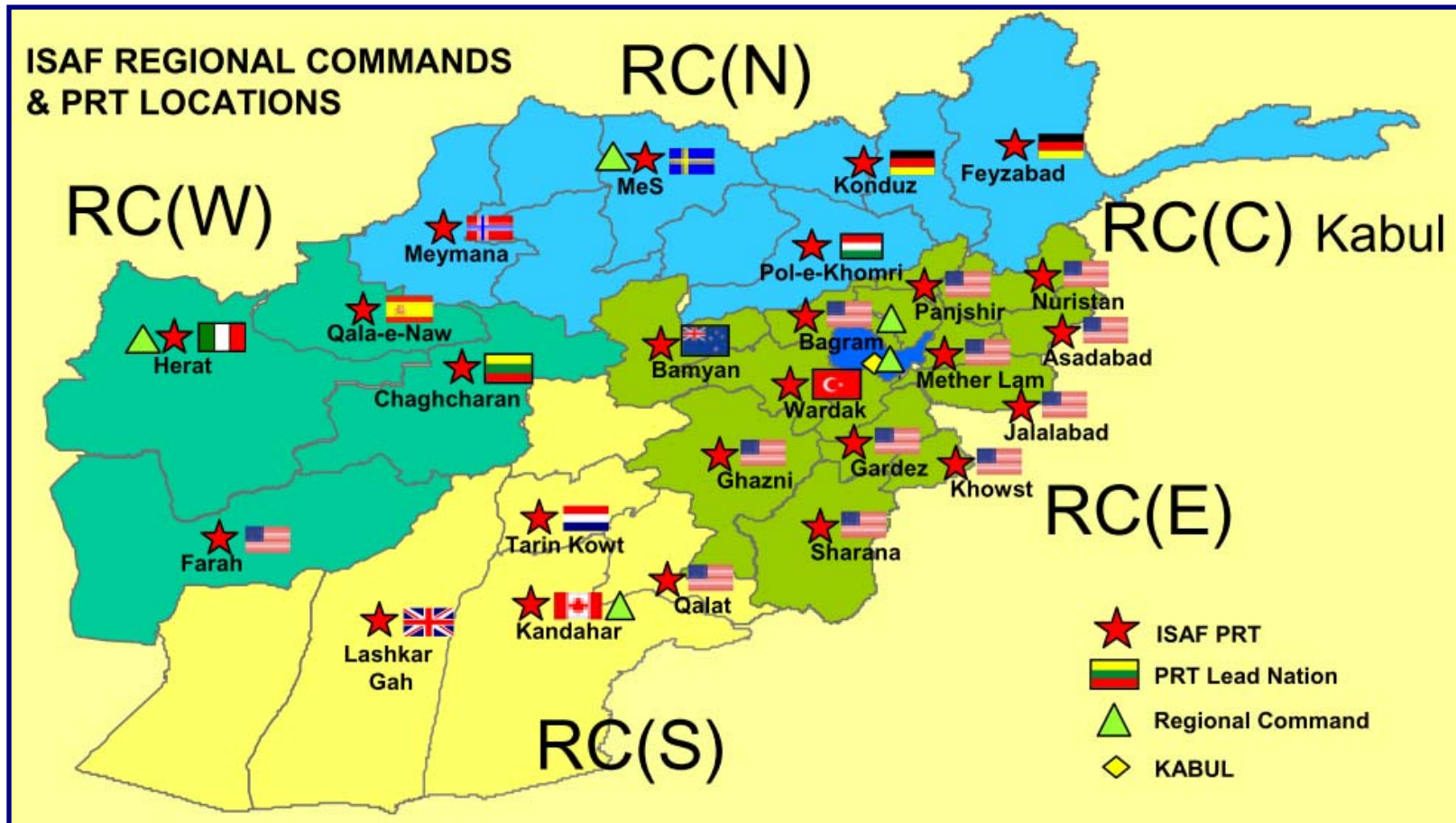
## NATO: Dawn of Cyber

- 1999 Washington Summit (new “Strategic Concept”)
  - No mention of cyber
- 2002 Prague Summit:
  - “strengthen ... to defend against cyber attacks”
- 2004 Istanbul Summit:
  - No mention of cyber
- 2006 Riga Summit:
  - “protect information systems ... against cyber attacks”
  - “develop a NATO Network Enabled Capability”

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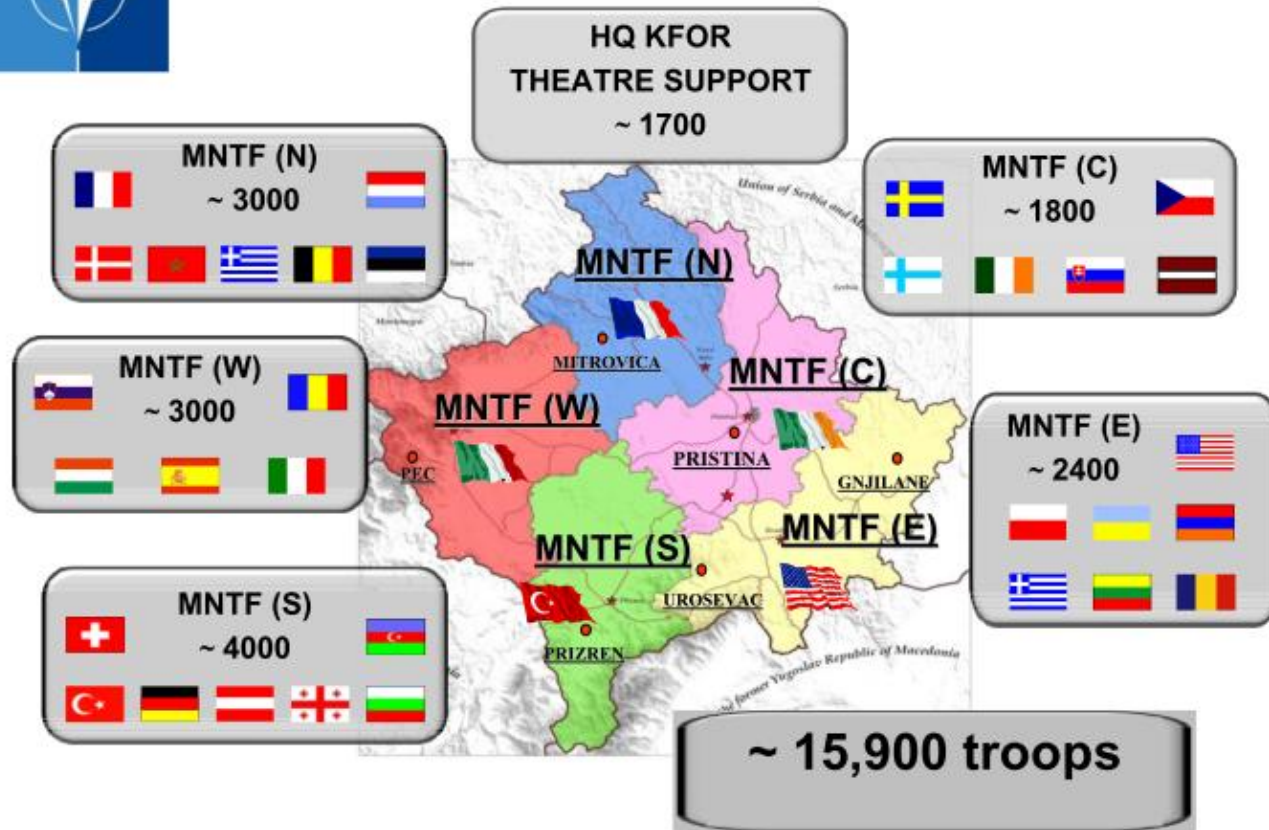
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# KFOR



24 NATO NATIONS					
BEL 193		HUN 564		PRT 296	
BGR 42		ITA 2567		ROU 147	
CZE 435		LVA 19		SVK 135	
DNK 305		LTU 32		EST 29	
SVN 160		LUX 23		ESP 637	
FRA 2269		NLD 6		TUR 752	
DEU 2374		NOR 22		GBR 135	
GRC 605		POL 320		USA 1456	

10 NON-NATO NATIONS			
ARM 34		IRL 279	
AUT 561		MAR 213	
AZE 34		SWE 331	
FIN 391		CHE 209	
GEO 182		UKR 184	



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# Strategic Thoughts

- Nation-states lose some control over conflict
- Geopolitical analysis required
  - Cyber conflict mirrors fighting on ground
- Attribution and the false flag
  - Concept: People's War
- Is national security at risk?
  - As with WMD, defense strategies unclear
  - As with terrorism, success in media hype

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# Tactical Thoughts

- Assume Breach!
- Collection/transmission of evidence
- Asymmetric advantage works both ways
- Set realistic goals
- Focus on core problems
- Blend art and science
- w/o competent ctrmeasures, much worse...

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# The New York Times

July 1, 2008

## Hackers Tag Lithuanian Web Sites With Soviet Symbols

By SARA RHODIN

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MOSCOW — Hackers attacked about 300 Web sites in [Lithuania](#) over the weekend, with Soviet symbols and anti-Lithuanian slogans, officials said Monday.



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INTERNATIONAL  
**Herald Tribune** Europe  
THE GLOBAL EDITION OF THE NEW YORK TIMES

## Cyberwar and real war collide in Georgia

By **John Markoff**

Published: August 13, 2008

Weeks before bombs started falling on Georgia, a security researcher in suburban Massachusetts was watching an attack against the country in cyberspace.

Jose Nazario of Arbor Networks in Lexington noticed a stream of data directed at Georgian government sites with the message: "win+love+in+Rusia."

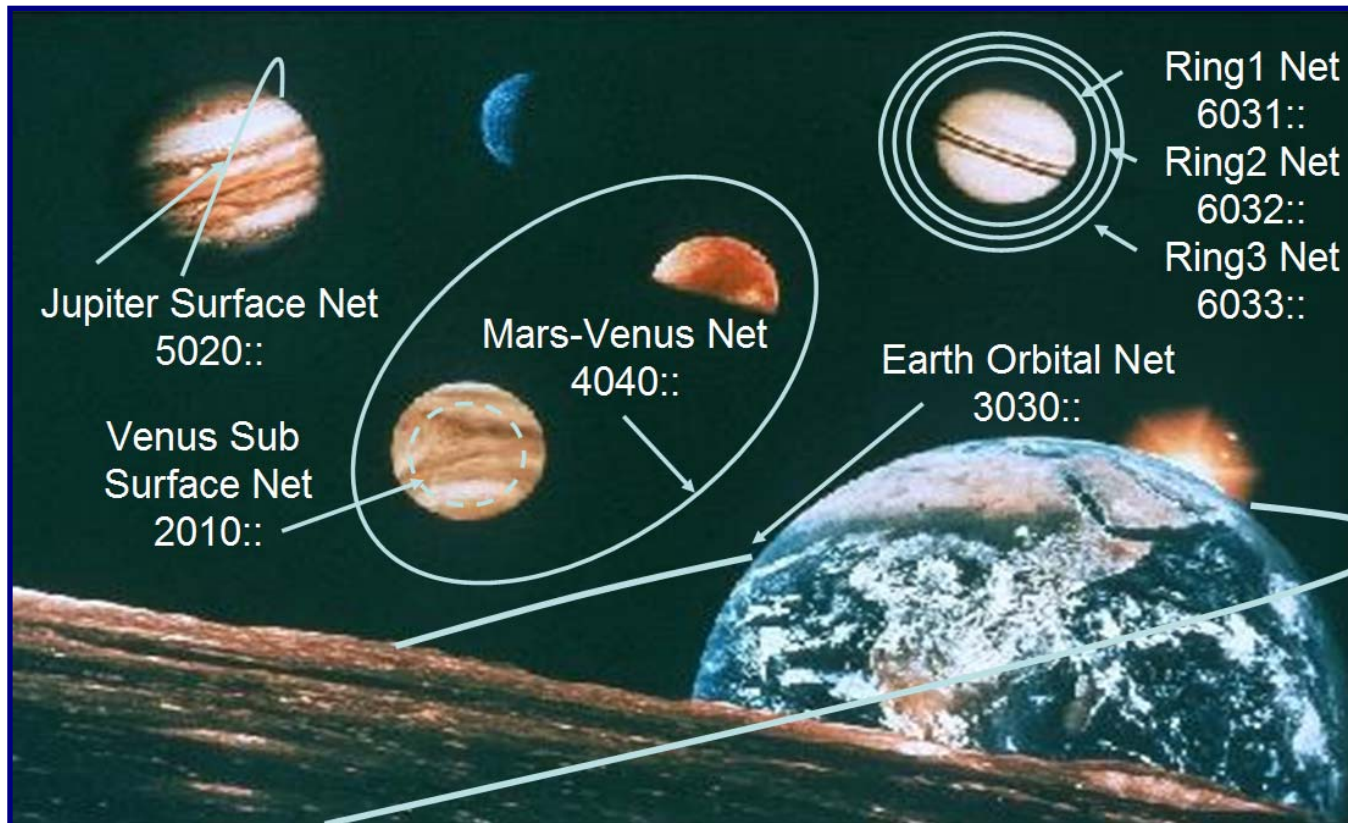
-  E-Mail Article
-  Listen to Article
-  Printer-Friendly
-  3-Column Format
-  Translate
-  Share Article

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# The Future is Unknown



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# But It Begins Today



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# Cyberspace and the Changing Nature of Warfare

Kenneth Geers

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