Cyber Jihad and the Globalization of Warfare

Computer Networks as a Battle Ground in the Middle East and Beyond

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Dr. Peter Feaver, Duke University

Asymmetric warfare

- Unconventional weapons
- Innovative strategy
- Leveraging inferior strength to tactical advantage
- Aimed at attacking the will of your target
- Leads to fighting chances for the weaker opponent
- Used by terrorists
- Used by the media
- Used by computer hackers

Asymmetry and hacking

- Anonymity
- Deniability
- Affordability
- Myriad avenues of attack
- Non-state actors can join the fight
- Subcultures can mobilize

The globalization of warfare

- Private and state interests sometimes indistinguishable
- Citizens of country X might fight for country Y
- Anyone, anywhere, can volunteer at any time
- Corporations are active participants both as targets and possibly as combatants

Let’s Go Fight!

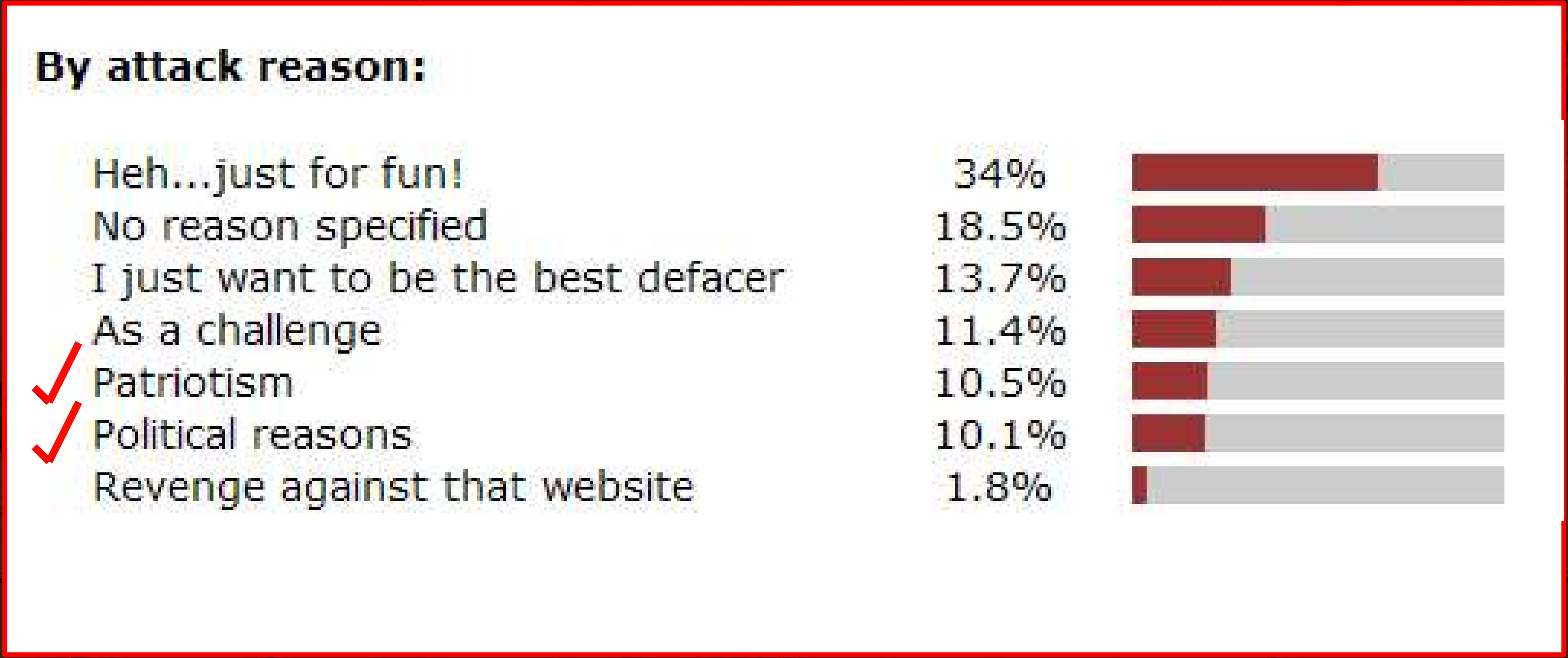
- No traditional chain of command
- Coalitions of the willing
- Opportunistic participants
  - Spanish civil war
  - Hacktivism gives *everyone* a chance to impact the course of history
- Outsourcing warfare

Cyber targets

- Two predominant attacks: DoS and defacements
- Business loses revenue, government face
- Is target significant or merely vulnerable to attack?
- Nation-state involvement

Zone-H statistics

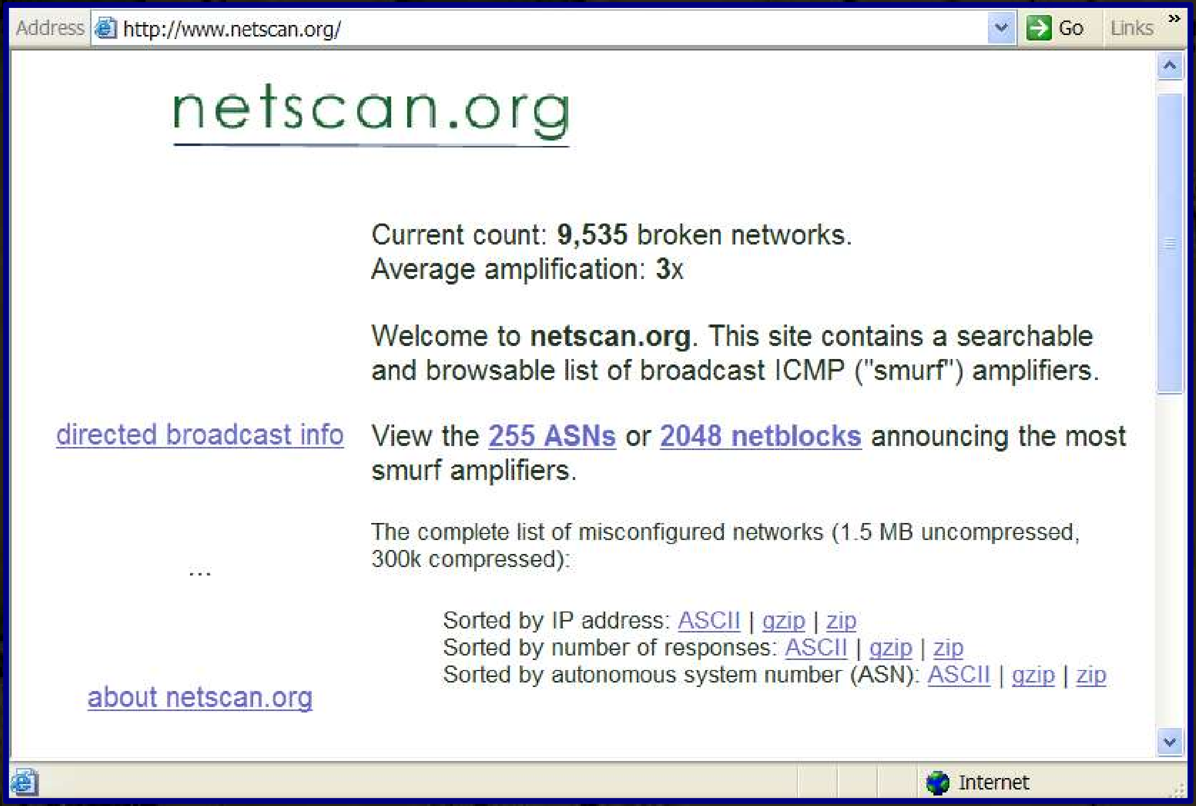
- Why did you deface this website?



By attack reason:

	Heh...just for fun!	34%
	No reason specified	18.5%
	I just want to be the best defacer	13.7%
	As a challenge	11.4%
✓	Patriotism	10.5%
✓	Political reasons	10.1%
	Revenge against that website	1.8%

Netscan.org



netscan.org

Current count: **9,535** broken networks.
Average amplification: 3x

Welcome to **netscan.org**. This site contains a searchable and browsable list of broadcast ICMP ("smurf") amplifiers.

directed broadcast info

View the **255 ASNs** or **2048 netblocks** announcing the most smurf amplifiers.

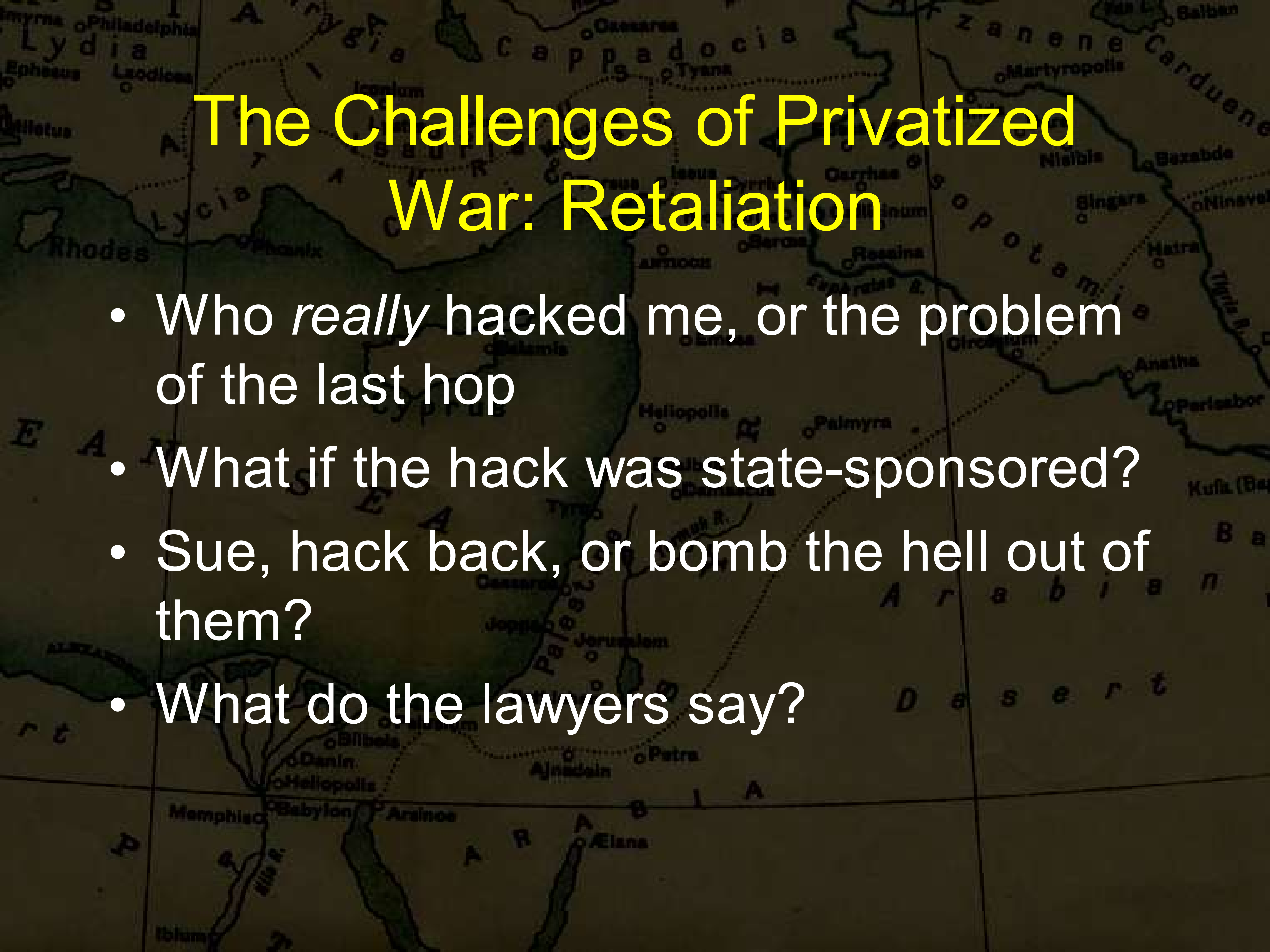
The complete list of misconfigured networks (1.5 MB uncompressed, 300k compressed):

...

Sorted by IP address: ASCII | gzip | zip
Sorted by number of responses: ASCII | gzip | zip
Sorted by autonomous system number (ASN): ASCII | gzip | zip

about netscan.org

- Lists broadcast sites, average amplification 5x

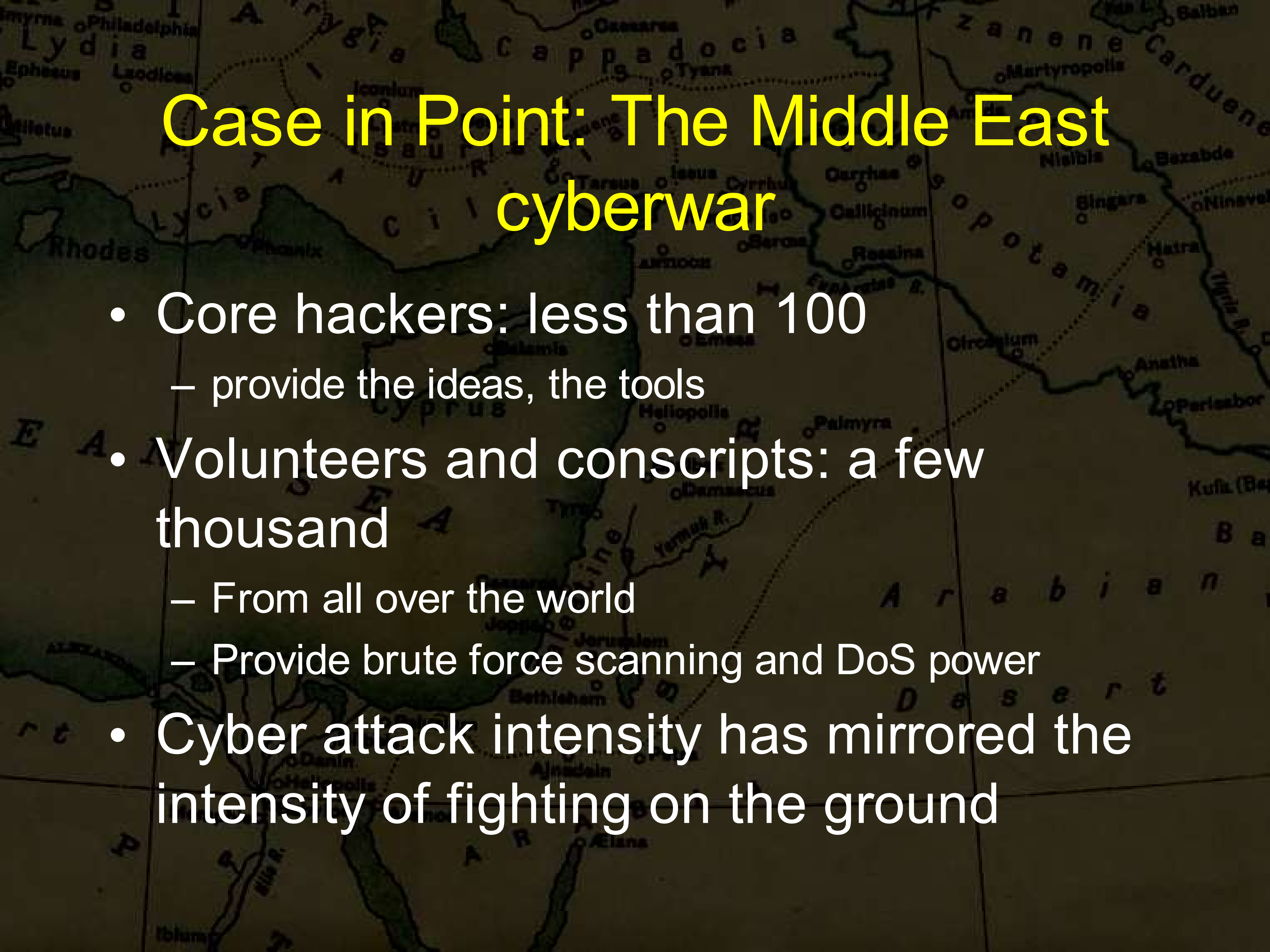


The Challenges of Privatized War: Retaliation

- Who *really* hacked me, or the problem of the last hop
- What if the hack was state-sponsored?
- Sue, hack back, or bomb the hell out of them?
- What do the lawyers say?

Challenges of Privatized War: Legal

- Hacking is illegal, but state-sponsored hacking occurs every day
- The question of “patriotic” hackers
- FBI sting operation in Russia
- The U.S. may have more legal liabilities than some of its adversaries



Case in Point: The Middle East cyberwar

- Core hackers: less than 100
  - provide the ideas, the tools
- Volunteers and conscripts: a few thousand
  - From all over the world
  - Provide brute force scanning and DoS power
- Cyber attack intensity has mirrored the intensity of fighting on the ground

Hacktivist volunteers

- Middle East conflict stirs emotions
  - Emotional
  - Ideological
  - Patriotic
  - Religious
- Everyone, everywhere, has a strong opinion about something!

Cyber tools used by both sides

- Ping-flood
- Ping of Death
- EvilPing
- Winsmurf
- QuickFire
- Defend

- HTTP Bomber 1.001b
- FakeMail
- MailBomber
- Attack 2.5.1
- PutDown

The Defend attack tool

- FloodNet-type
- New attack method
  - Requests non-existent webpages
  - Specifies the current date / time
  - Defeats Web-caching security mechanisms
- Many versions developed during war
- Mirrored on many partisan websites
- Dozens of targets successfully attacked
- Effectiveness relies on number of attackers

The victims

- Pro-Israeli attacks
  - Official/organizational in nature
  - Terrorist/extremist websites first
  - ME government sites second
- Pro-Palestinian attacks
  - Israeli official government
  - Commercial/corporate: technology, telecommunications, media, financial

Types of targets

- Web sites
- E-commerce servers
- E-mail servers
- Internet relay chat (IRC) channels
- WWW chat rooms
- Domain name servers (DNS)
- Internet service providers (ISPs)
- File transfer protocol (FTP) sites

Government websites attacked

- Israel
- Palestine
- Iran
- Lebanon
- Malaysia
- Qatar
- United Arab Emirates
- United States

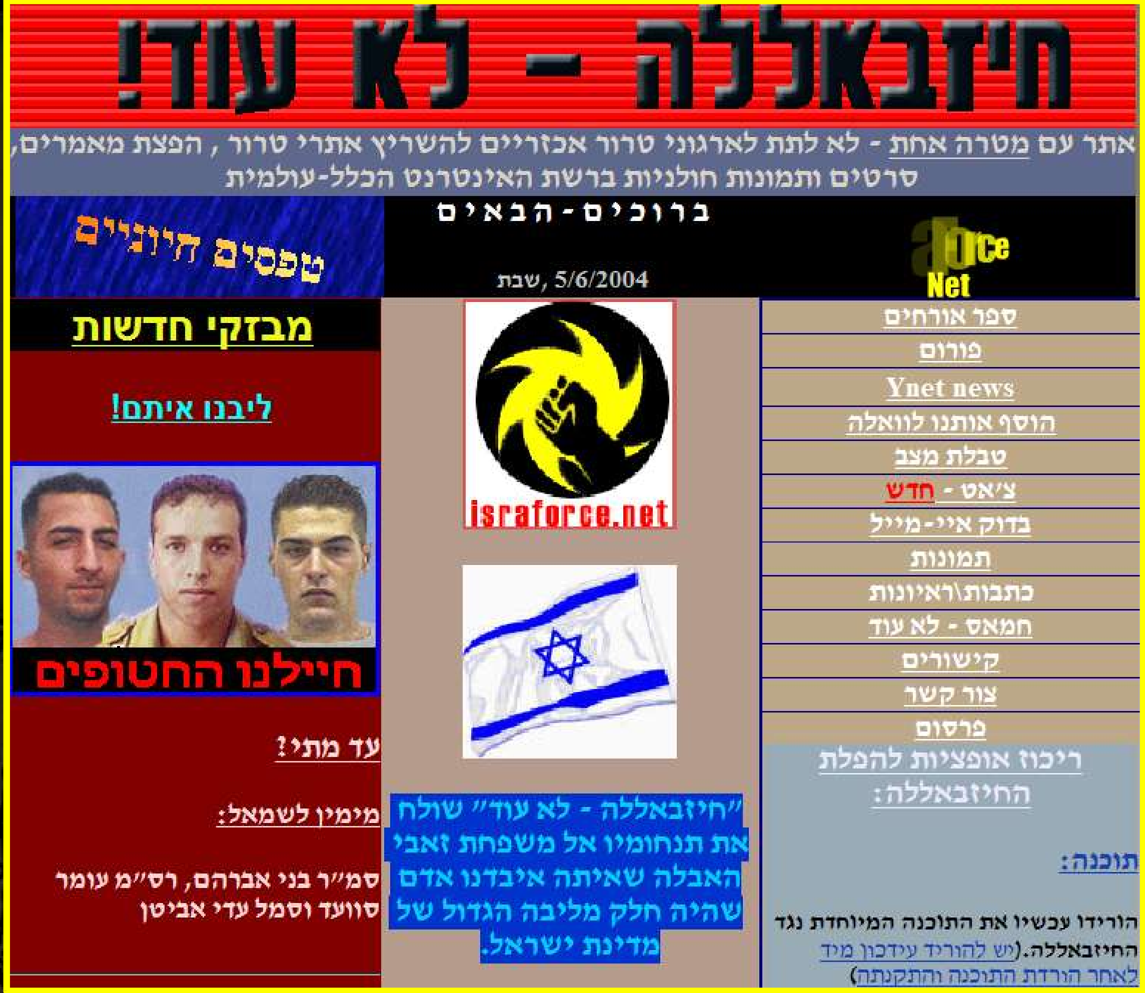
Israeli hackers

- Deri Schriebman
- Mossad
- Nir M
- Polo0
- Wizel
- Israel Hackers Unite
- Mike Buzaglo

- Israeli Internet Underground
- a.israforce.com
- SmallMistake
- Hizballa – No More
- Lion&type_o ha k'eil
- ViRii
- The Analyzer

www.a.israforce.net

Nov. 9, 2000



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

שבת, 5/6/2004

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.

מבזקי חדשות

ליבנו איתם!

חיילנו החטופים

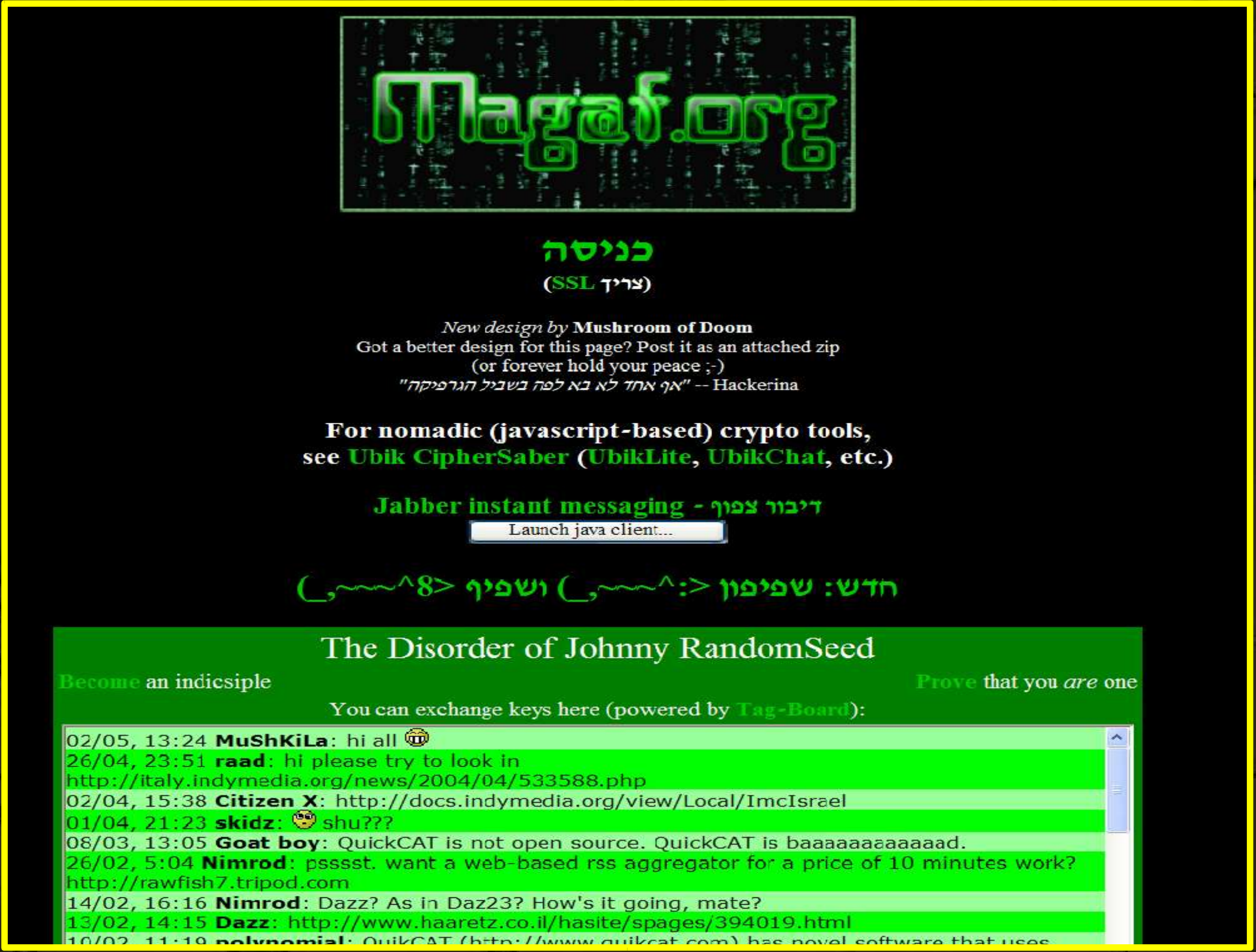
עד מתי?!

מימין לשמאל:

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

www.magaf.org

June, 2004



כניסה

(צריך SSL)

New design by **Mushroom of Doom**
Got a better design for this page? Post it as an attached zip
(or forever hold your peace ;-)
"אף אחד לא בא לפה בשביל הגרפיקה" -- Hackerina

For nomadic (javascript-based) crypto tools,
see Ubik CipherSaber (UbikLite, UbikChat, etc.)

Jabber instant messaging - דיבור צפון

Launch java client...

חדש: שפיפון (_,~~~^:> ושפיף (_,~~~^8>

The Disorder of Johnny RandomSeed

Become an indicsiple

Prove that you *are* one

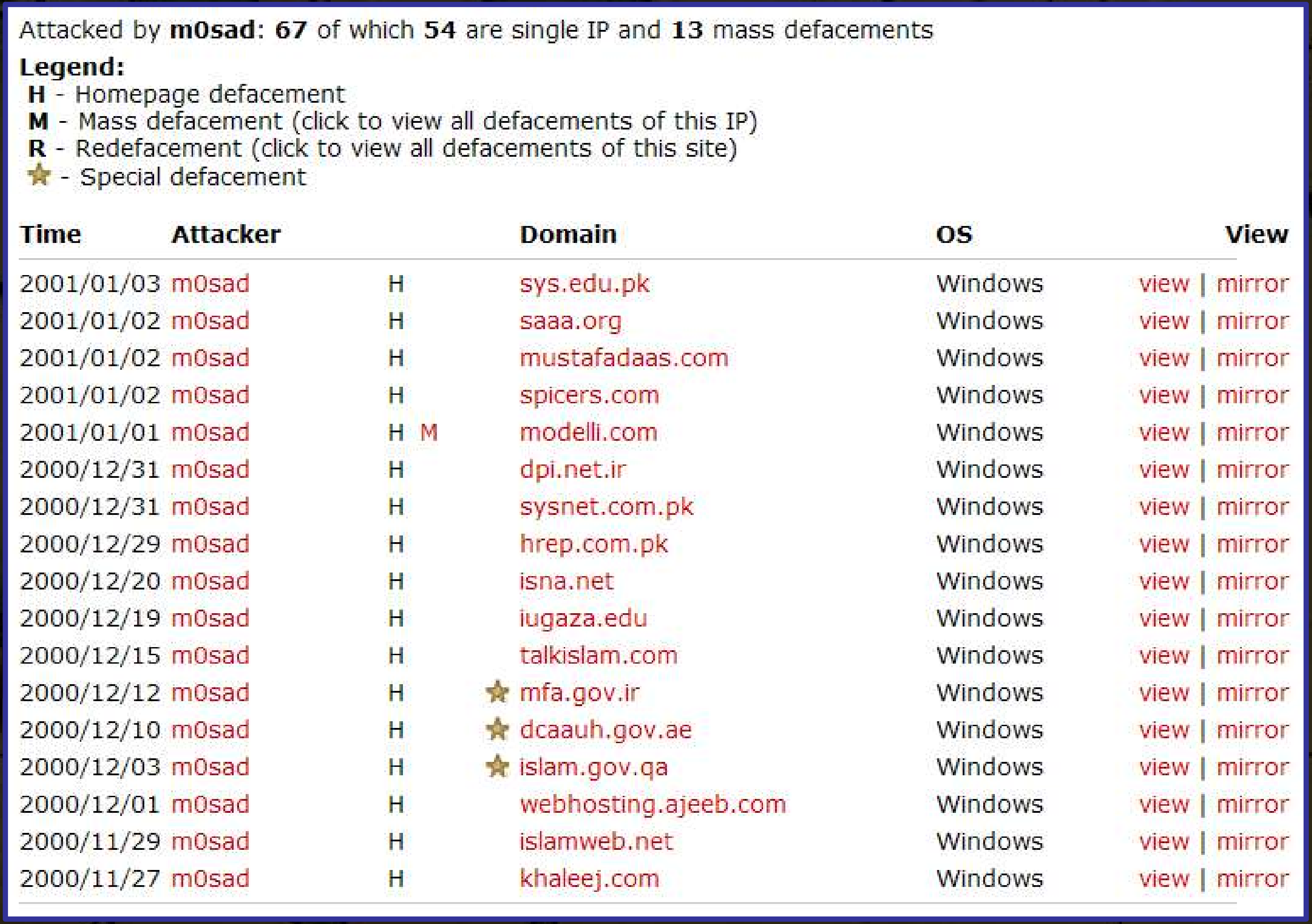
You can exchange keys here (powered by Tag-Board):

02/05, 13:24 **MuShKiLa**: hi all 😁
26/04, 23:51 **raad**: hi please try to look in http://italy.indymedia.org/news/2004/04/533588.php
02/04, 15:38 **Citizen X**: http://docs.indymedia.org/view/Local/ImcIsrael
01/04, 21:23 **skidz**: 😎 shu???
08/03, 13:05 **Goat boy**: QuickCAT is not open source. QuickCAT is baaaaaaaaaaaad.
26/02, 5:04 **Nimrod**: psssst. want a web-based rss aggregator for a price of 10 minutes work? http://rawfish7.tripod.com
14/02, 16:16 **Nimrod**: Dazz? As in Daz23? How's it going, mate?
13/02, 14:15 **Dazz**: http://www.haaretz.co.il/hasite/spages/394019.html
10/02, 11:19 **polynomial**: QuikCAT (http://www.quikcat.com) has novel software that uses

Targets of Israeli hackers

- Palestinian National Authority
- HAMAS
- Hizballah
- U.S. Pentagon
- VISA
- Iranian government
- Israeli sites, including Knesset

m0sad defacements



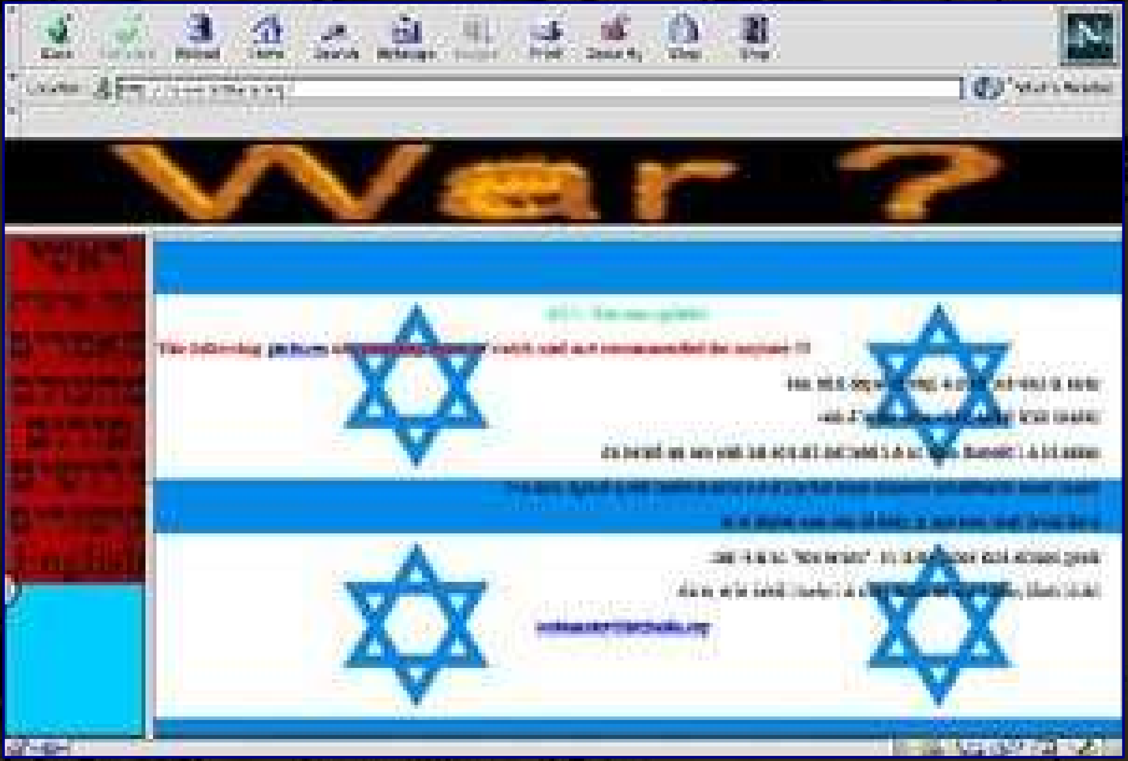
Attacked by **m0sad**: **67** of which **54** are single IP and **13** mass defacements

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			sys.edu.pk	Windows	view | mirror
2001/01/02	m0sad	H			saaa.org	Windows	view | mirror
2001/01/02	m0sad	H			mustafadaas.com	Windows	view | mirror
2001/01/02	m0sad	H			spicers.com	Windows	view | mirror
2001/01/01	m0sad	H	M		modelli.com	Windows	view | mirror
2000/12/31	m0sad	H			dpi.net.ir	Windows	view | mirror
2000/12/31	m0sad	H			sysnet.com.pk	Windows	view | mirror
2000/12/29	m0sad	H			hrep.com.pk	Windows	view | mirror
2000/12/20	m0sad	H			isna.net	Windows	view | mirror
2000/12/19	m0sad	H			iugaza.edu	Windows	view | mirror
2000/12/15	m0sad	H			talkislam.com	Windows	view | mirror
2000/12/12	m0sad	H		★	mfa.gov.ir	Windows	view | mirror
2000/12/10	m0sad	H		★	dcaauh.gov.ae	Windows	view | mirror
2000/12/03	m0sad	H		★	islam.gov.qa	Windows	view | mirror
2000/12/01	m0sad	H			webhosting.ajeeb.com	Windows	view | mirror
2000/11/29	m0sad	H			islamweb.net	Windows	view | mirror
2000/11/27	m0sad	H			khaleej.com	Windows	view | mirror

Shot across the bow



www.hizbulla.org website

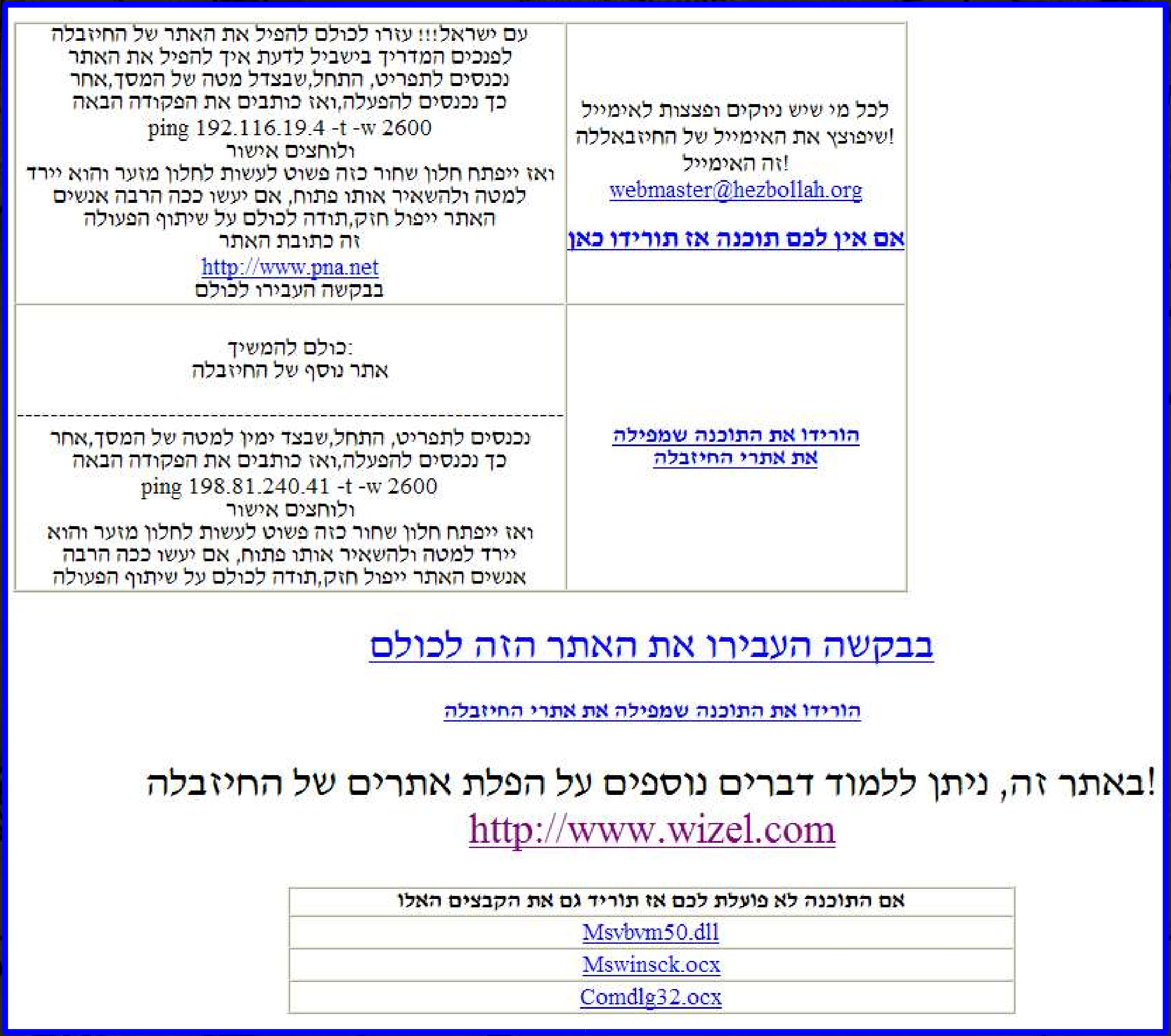
October 25, 2000

Poisoned pen tactics

- Disinformation campaign
- Israeli tactic
- Used against Hizballah websites
- Israelis registered and configured websites using misspellings of “Hizballah”
- Hizballa.org, hizballa.com, etc
- Great opportunity for free propaganda!

www.wizel.com

- FloodNet-style DoS attack tools
- Tools targeted six different Hizballah sites
- Activates a file to target the site every second
- Oct 6, 2000, Ali Ayoub, Hezbollah site webmaster: “The Web site will automatically do the attacking for them"



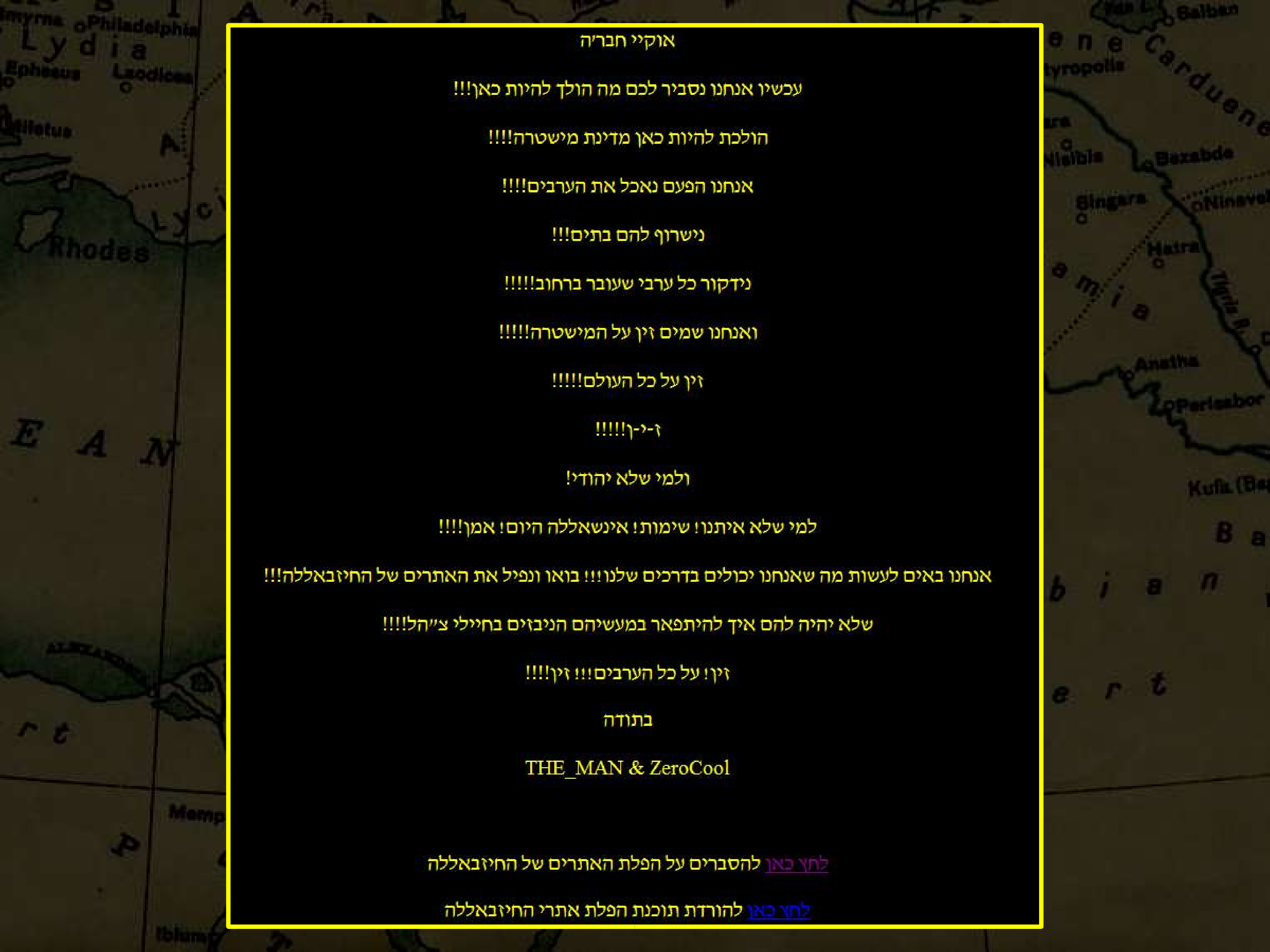
לכל מי שיש ניוקים ופצצות לאימייל שיפוצץ את האימייל של החיזבאללה! זה האימייל! webmaster@hezbollah.org **אם אין לכם תוכנה אז תורידו כאן**	עם ישראל!!! עזרו לכולם להפיל את האתר של החיזבלה לפנכים המדריך בישביל לדעת איך להפיל את האתר נכנסים לתפריט, התחל,שבצדל מטה של המסך,אחר כך נכנסים להפעלה,ואז כותבים את 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 http://www.pna.net בבקשה העבירו לכולם
הורידו את התוכנה שמפילה את אתרי החיזבלה	כולם להמשיך: אתר נוסף של החיזבלה --- 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

בבקשה העבירו את האתר הזה לכולם

הורידו את התוכנה שמפילה את אתרי החיזבלה

באתר זה, ניתן ללמוד דברים נוספים על הפלת אתרים של החיזבלה!
http://www.wizel.com

אם התוכנה לא פועלת לכם אז תוריד גם את הקבצים האלו
Msvbvm50.dll
Mswinsck.ocx
Comdlg32.ocx



אוקיי חבריה

עכשיו אנחנו נסביר לכם מה הולך להיות כאן!!!

הולכת להיות כאן מדינת מישטרה!!!!

אנחנו הפעם נאכל את הערבים!!!!

נישרוף להם בתים!!!

נידקור כל ערבי שעובר ברחוב!!!!

ואנחנו שמים זין על המישטרה!!!!!

זין על כל העולם!!!!

ז-י-ן!!!!

ולמי שלא יהודי!

למי שלא איתנו! שימות! אינשאללה היום! אמן!!!!

אנחנו באים לעשות מה שאנחנו יכולים בדרכים שלנו!!! בואו ונפיל את האתרים של החיזבאללה!!!

שלא יהיה להם איך להיתפאר במעשיהם הניבזים בחיילי צ"הל!!!!

זין! על כל הערבים!!! זין!!!!

בתודה

THE_MAN & ZeroCool

לחץ כאן להסברים על הפלת האתרים של החיזבאללה

לחץ כאן להורדת תוכנת הפלת אתרי החיזבאללה

The search for more targets

- There were not enough Palestinian sites to attack
- Israelis began attacking sites indirectly involved in conflict
- Iranian Min Foreign Affairs, Agriculture
- Lebanese television
- www.almanar.org attack

Interfada: Counterattack

- Pro-Palestinian hackers began to work methodically through .il sites
- At height of ME Cywar, defaced 5x number of websites as pro-Israeli side
- Paralyzed half of Israel’s e-mail system for several days
- Took aim at Israeli e-commerce sites

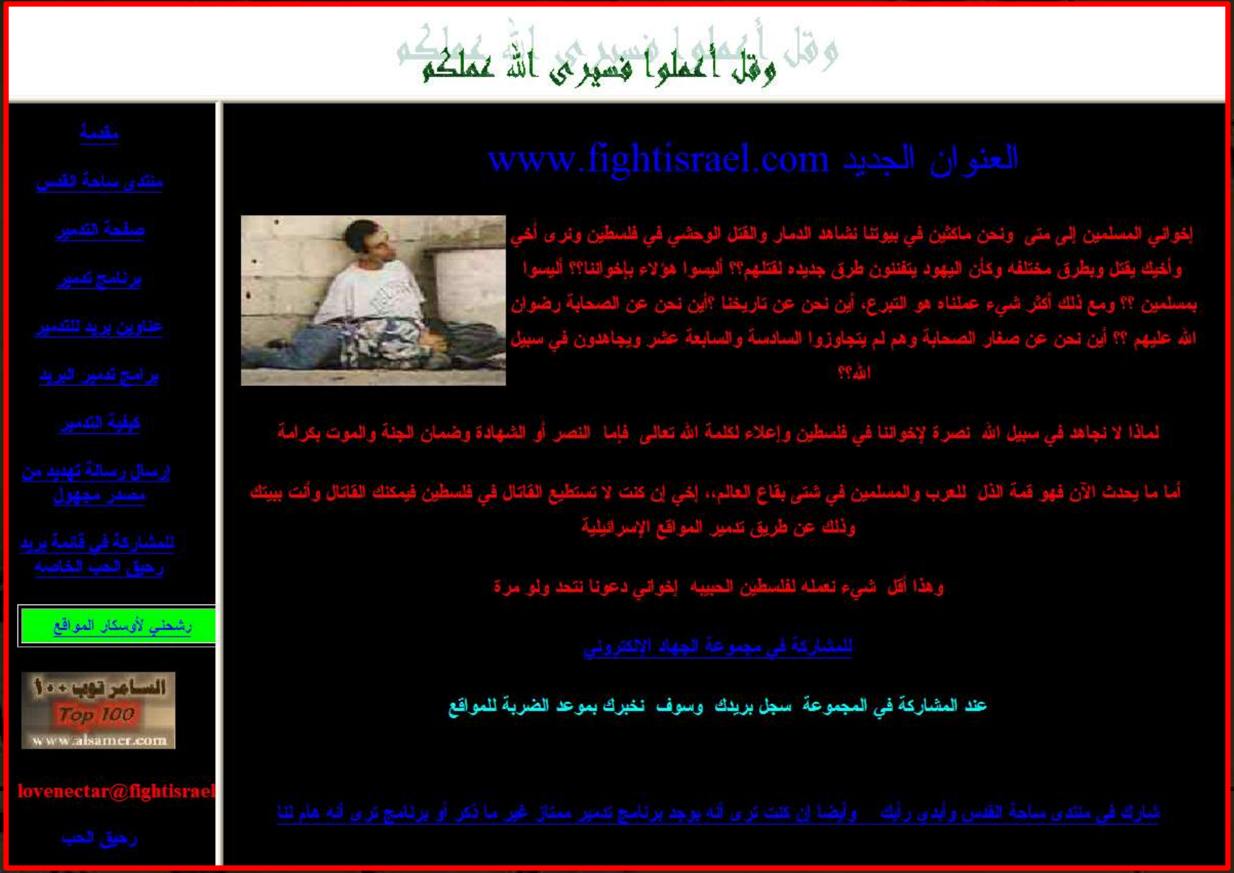
Israel: cyber target

- Unlike Palestinian side, extensive target list
- Thus, Israel potentially had more to lose
- Most of population, nation wired
- Millions of Internet connections
- More than all Arab countries combined
- More targets = more vulnerable boxes
- Pro-Palestinian hackers successfully attacked *many* more sites during the conflict

Pro-Palestinian Hackers

- UNITY
- G-Force Pakistan
- Doctor Nuker
- Pakistani Hackerz Club
- ReALiST
- PROJECTGAMMA
- World’s Fantabulous Defacers (WFD)
- Arabhackers.org
- dodi
- Xegypt
- Hezbollah
- Ummah.net
- Arab Hax0rs
- al-Muhajiroun
- m0r0n
- nightman

www.fightisrael.com



وقل أعملوا فسيرى الله عملكم

العنوان الجديد www.fightisrael.com

إخواني المسلمين إلى متى ونحن ماكثين في بيوتنا نشاهد الدمار والقتل الوحشي في فلسطين ونرى أخي وأخيك يقتل وبطرق مختلفه وكأن اليهود يتفننون طرق جديده 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 نصرة 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 القاتال في فلسطين فيمكنك القاتال وأنت ببيتك وذلك عن طريق تدمير المواقع الإسرائيلية

وهذا أقل شيء نعمله لفلسطين الحبيبه 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 وأبدى رأيك وأيضا إن كنت ترى أنه يوجد برنامج تدمير ممتاز غير ما ذكر أو برنامج ترى أنه هام لنا

مقدمة

منتدى ساحة القدس

صفحة التدمير

برنامج تدمير

عناوين بريد للتدمير

برامج تدمير البريد

كيفية التدمير

إرسال رسالة تهديد من مصدر مجهول

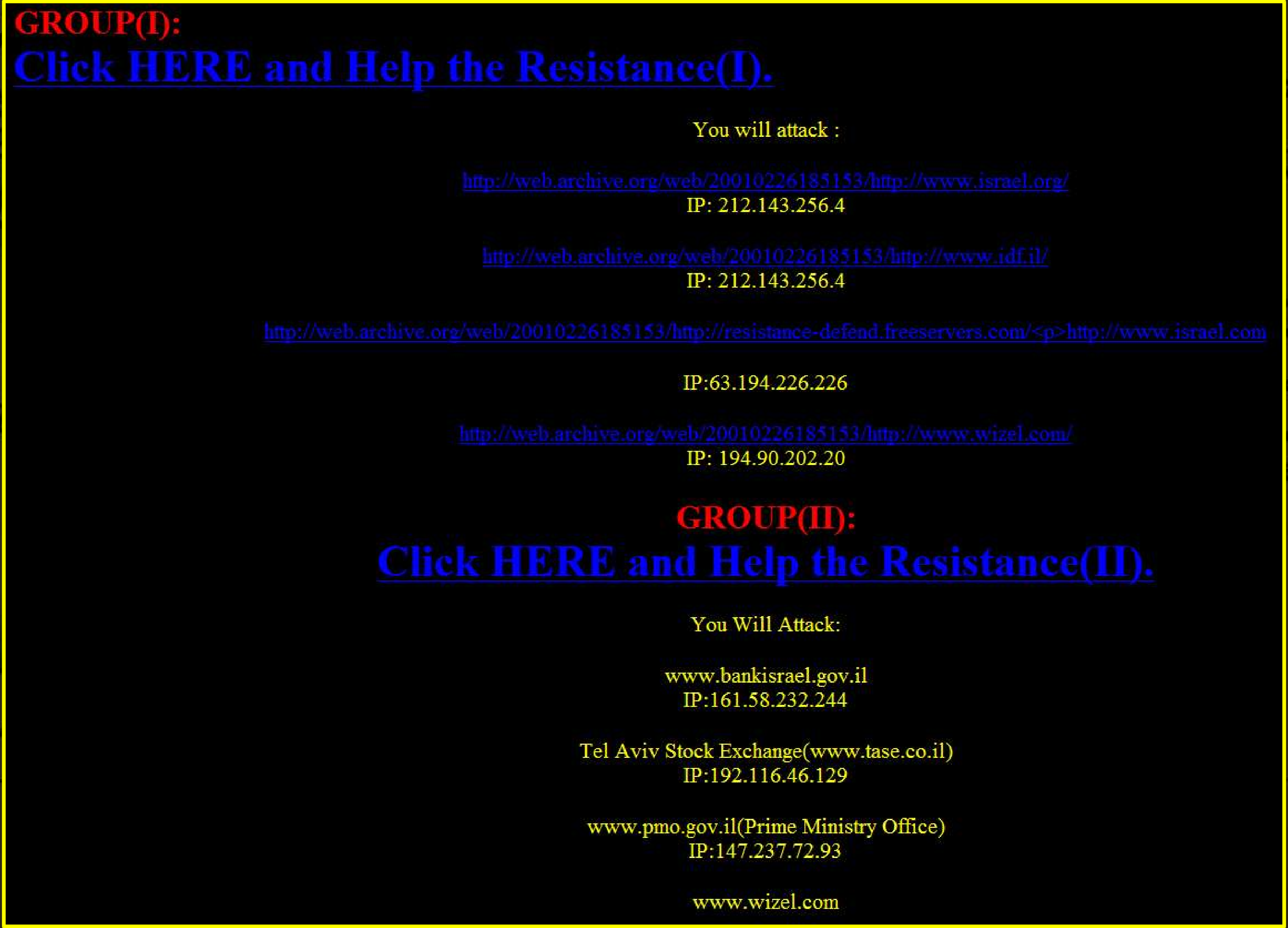
للمشاركة في قائمة بريد رحيق الحب الخاصه

رشحني لأوسكار المواقع

السامر توب ١٠٠
Top 100
www.alsamer.com

lovenectar@fightisrael

رحيق الحب



GROUP(I):

Click HERE and Help the Resistance(I).

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.freeservers.com/<p>http://www.israel.com

IP:63.194.226.226

http://web.archive.org/web/20010226185153/http://www.wizel.com/
IP: 194.90.202.20

GROUP(II):

Click HERE and Help the Resistance(II).

You Will Attack:

www.bankisrael.gov.il
IP:161.58.232.244

Tel Aviv Stock Exchange(www.tase.co.il)
IP:192.116.46.129

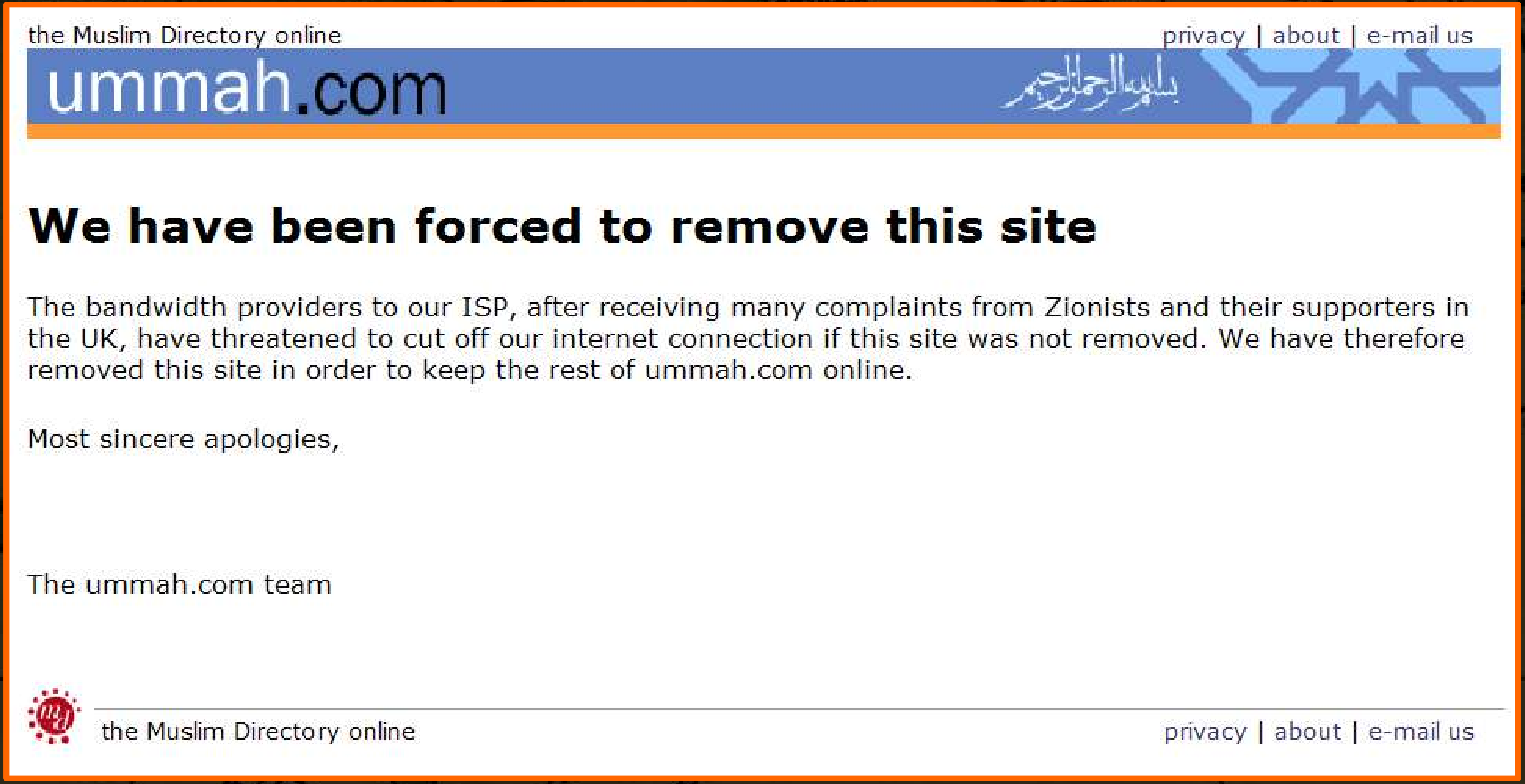
www.pmo.gov.il(Prime Ministry Office)
IP:147.237.72.93

www.wizel.com

Pro-Palestinian attack portals

- www.ummah.com/unity
- Pro-Palestinian attack portal
- Due to complaints, moved and renamed:
  - http://defend.unity-news.com
  - http://members.tripod.com/irsa2003
  - http://members.tripod.com/irsa2004

Non-cyber cyber attacks



the Muslim Directory online

privacy | about | e-mail us

ummah.com

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

Israeli victims

- Official gov’t portal
- Israeli Foreign Ministry
- Israeli Knesset
- Israeli Army
- Israeli Central Bank
- Haaretz, Jpost
- Netvision

- TA Stock Exchange
- Bank of Israel
- www.wizel.com
- AIPAC
- Prime Minister
- Likud party
- Israeli universities
- AT&T

USA: caught in the crossfire

- The friend of my enemy is my enemy
- Israeli hackers had been hacking U.S. sites for years
- Pro-Palestinian hackers (including the anti-American Brazilians) found a natural target in Israel’s ally, the U.S.A.

Hacking the U.S.A.

- Largest player in international politics
- Largest IT infrastructure
- Corporate Internet security still inadequate
- Vulnerable to same tactics used in ME
- FBI's NIPC warned early that ME Cywar could spread to US-based sites
- Should expect shots in future cyber conflicts

The USA versus China

- May 2001: PRC hackers attempted a national, coordinated cyber attack on U.S.
- EP-3 triggered a major conflagration
- Chinese, U.S. hacking portals built: “USA Kill”, “China Killer”
- U.S. retaliation: Poizonbox
- NIPC warning: 26 April 2001

Impact: perception and reality

- Cyber war is a new avenue through which to take part in global conflicts
- Computer exploits can be good PR
- ME Cyber War may serve as a test bed for cyber weapons and strategies
- DoS and defacements worth guarding against, but they are not WMD!
- The question of defacements and free speech

National defense strategies

- Still in flux, like early nuclear era
- Europe: squashing all hacking activities
- United States: laissez-faire attitude
- International agreements not likely
- Widespread scanning for zombies
- Incentives to security, law enforcement
- Encourage the White Hats?
- Fine those with poor security practices?

Can hacking affect military operations?

- Before the fighting
  - – Intelligence collection
  - – Indications and warning
- During the fighting
  - – Denial and deception
  - – Negative e-mail campaigns
  - – Poisoning military blogs

Could populist cyber attacks spark a real war?

- Cyber attacks usually follow, and react to international events, not vice versa
- If governments are not in control, hackers could affect level, timing of tension
- In Middle East, not enough pro-Palestinians are yet wired
- U.S.-China case: American hackers have more independence, thus more power

The most powerful cyber attack: propaganda

- Old fashioned
- Some *faked* in English papers
- The Internet dissemination of the Abu Ghraib photos did more to damage the political interests of the U.S. than all of the cyber attacks since the beginning of the Internet age!

Who is most at risk from hackers?

- Corporations have the most to lose
- Loss of trust
- Public ridicule
- Money lost from downed e-commerce
- Time and effort needed to fix the problem costs even more money

The Future

- Populist cyber attacks will be part and parcel of highly-charged, emotional conflicts
- So far not very effective at accomplishing political goals
- They are best for targeting corporations
- Sophistication of attacks is increasing over time
- Will anti-globalization forces launch the next cyber war?
- Will traditional extremist groups begin to work with these hacker groups?

Cyber Jihad and the Globalization of Warfare

Computer Networks as a Battle Ground in the Middle East and Beyond

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