Information Warfare

The Weapons of Intelligence and Conflict in the Information Age

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Information Warfare: My definition in 1993

- A conflict where the use of information and information systems are used to compromise,corrupt or destroy the information and information systems of one's adversary.
- The Migration of Conflict To Commercial: Convergence
  - Replaces Conventional Warfare: Military pre-eminence outmoded?
  - No longer necessary for a military conflict
  - A new dimensiion without bombs and bullets
  - Prelude to Conflict /Lethality Reduction
  - The world is moving so fast these days that the person who says it can't be done is being interupted or passed by the person who is doing it. I hope to have put myself in that position.
  - Declassify the Threat
- How does any country defend itself against an attack? Electronic Pearl Harbor

Governments Need to Understand

- IW Can Be Waged By Anyone
- Open Source Intelligence
  - No More Secrets
- What's available to me/us, is available to them
- Commercial Infrastructure weak, unsecure.
  - Military requires commercial infrastructure
  - Technology Proliferation
- Borders are meaningles
- A lot more enemies than ever before
- Military can be effectively bypassed
- Enemies can be invisible and unidentified
- National Convergence
  - Military and Civilian Interests

hh

New World Order of Economic Competitiveness

- Three Spheres of influence with differing approaches to capitalism
  - North America
  - Europe
  - Far East ("Business in War")
- New targets abound
  - Third World and Agrarian/early industrial age adversaries

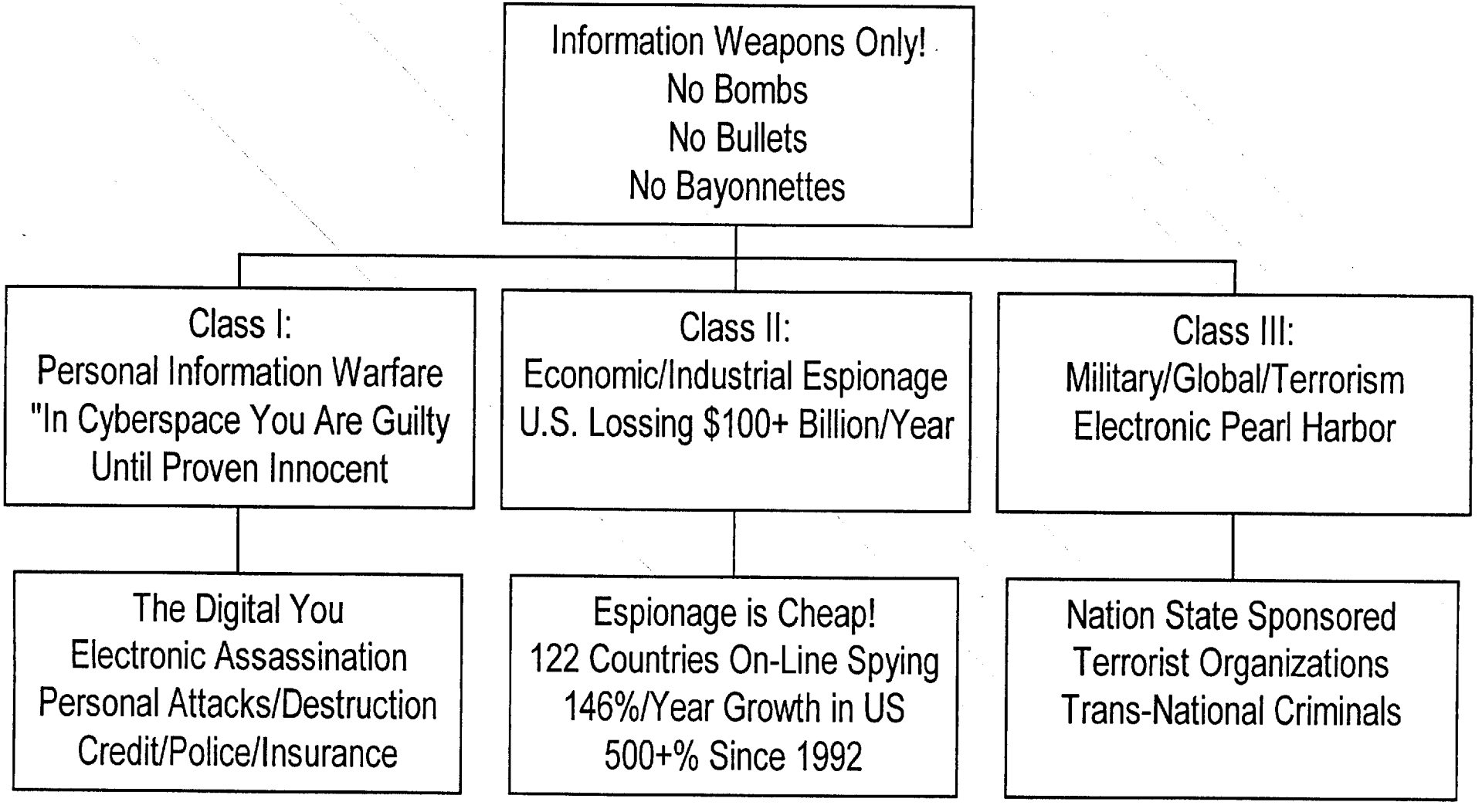
Computers Everywhere and the Global Network

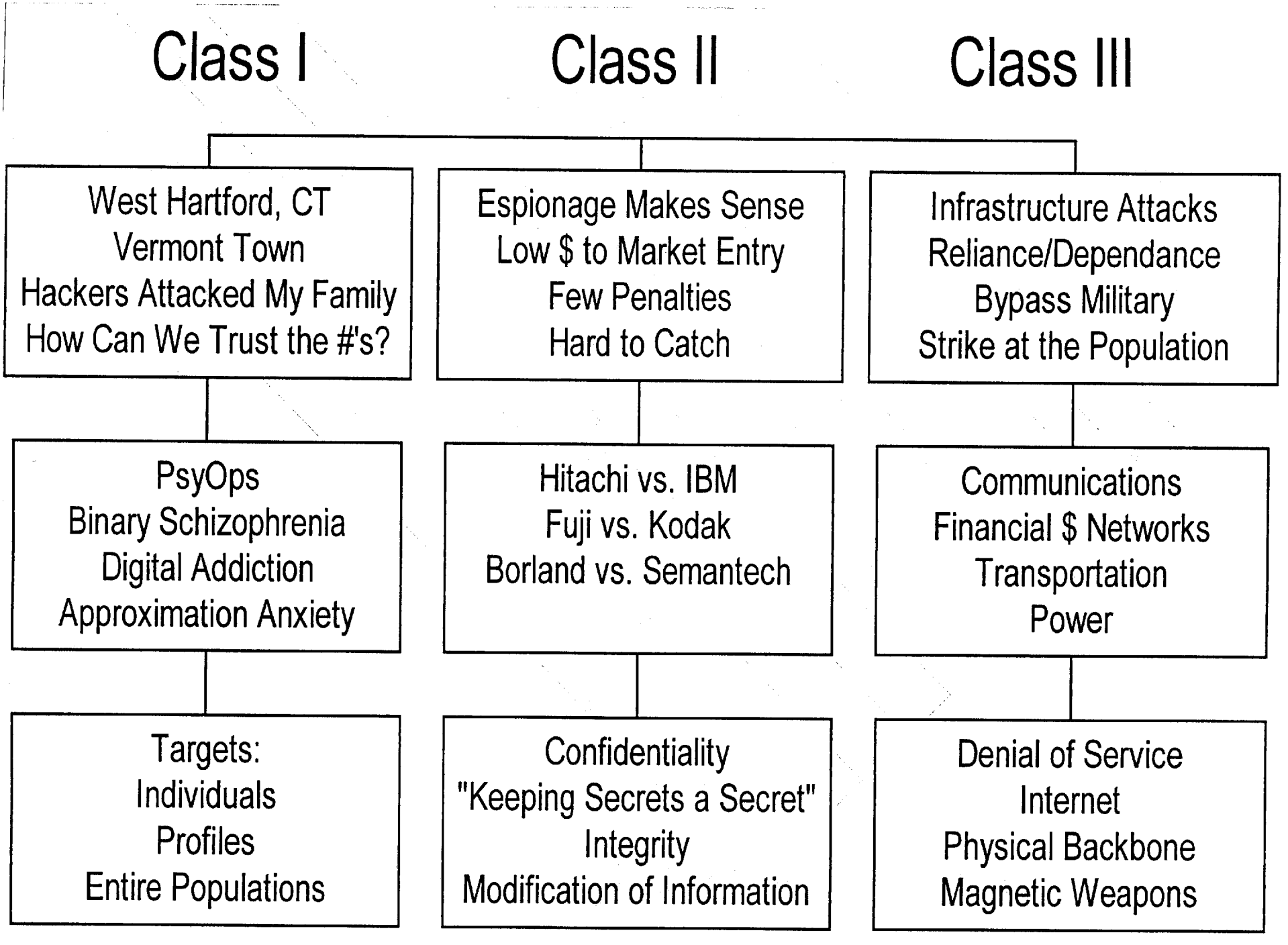
- 3 Spheres of Capitalism
  - Economic Competitors replace Military
  - Military Allies = Commercial Competition
- Econo-technical Infrastructure is the target
  - Finance: Corp/Personal -
  - Transportation
  - Power Distribution
  - Communications
  - Complexity Breeds Vulnerability - ergo - that which gives us the advantage also is our greatest vulnerability
- Commercial Sector is the Battlefield

Defensive Policy

- For decades we based have our defensive posture upon our adversaries capabilities, not their presumed intentions.
  - I suggest that we currently have no policy to defend the US against a concerted enemy Cyber-attack
  - Corporations need new definitions and charters.
- All of our economies and domestic econo-technical infrastructure is a strategic national security asset worthy of protection.
  - Should we sacrifice it for the sake of military secrets?

The 3 Classes of Information Warfare





Information Weapons Goals: same for THEM as for US

- Goal dependent
  - Anonymous
  - Invisible
  - Passive
  - Insidious
  - Effective
  - Available
  - Inexpensive
- Attack the Fundamentals
  - Integrity
  - Confidentiality
  - Denial of Service (Availability)

Weapons for the Information Warrior: PsyOps in Cyberspace

- Manipulate the images - sounds - ideas
  - Perception Management
  - ie, Somalia
  - New Sarnoff Tools
- Data Bankers
- Hacking
- Public Records
- Social Engineering
- Media
- Attack the Social Malaises of the population

Anonymous Financial Transactions

- Criminal Central
- Use Tools of Today
- Electronic Bank
- No Names
- Sender/Receiver
  - Know each other
  - Exchange Keys
- "Bank" commission
  - Establishes Trust

Soft Weapons for the Information Warrior

- Malicious Software -
  - Bots - Viruses - Trojan Horses
  - Modified Applications for military offense
- Software is inherently error-prone - Goedel
  - Bank of New York
  - Chicago Bank
- Exploit the weaknesses
  - Technical
  - People

Malicious Hardware - Chipping

- Import: How do we know it/they will operate as advertised?
  - Keyboard, BIOS,
  - Already happening
  - Iraqi Virus Hoax
  - Pentium debacle"
- The only difference between a programming error and malicious software is intent!

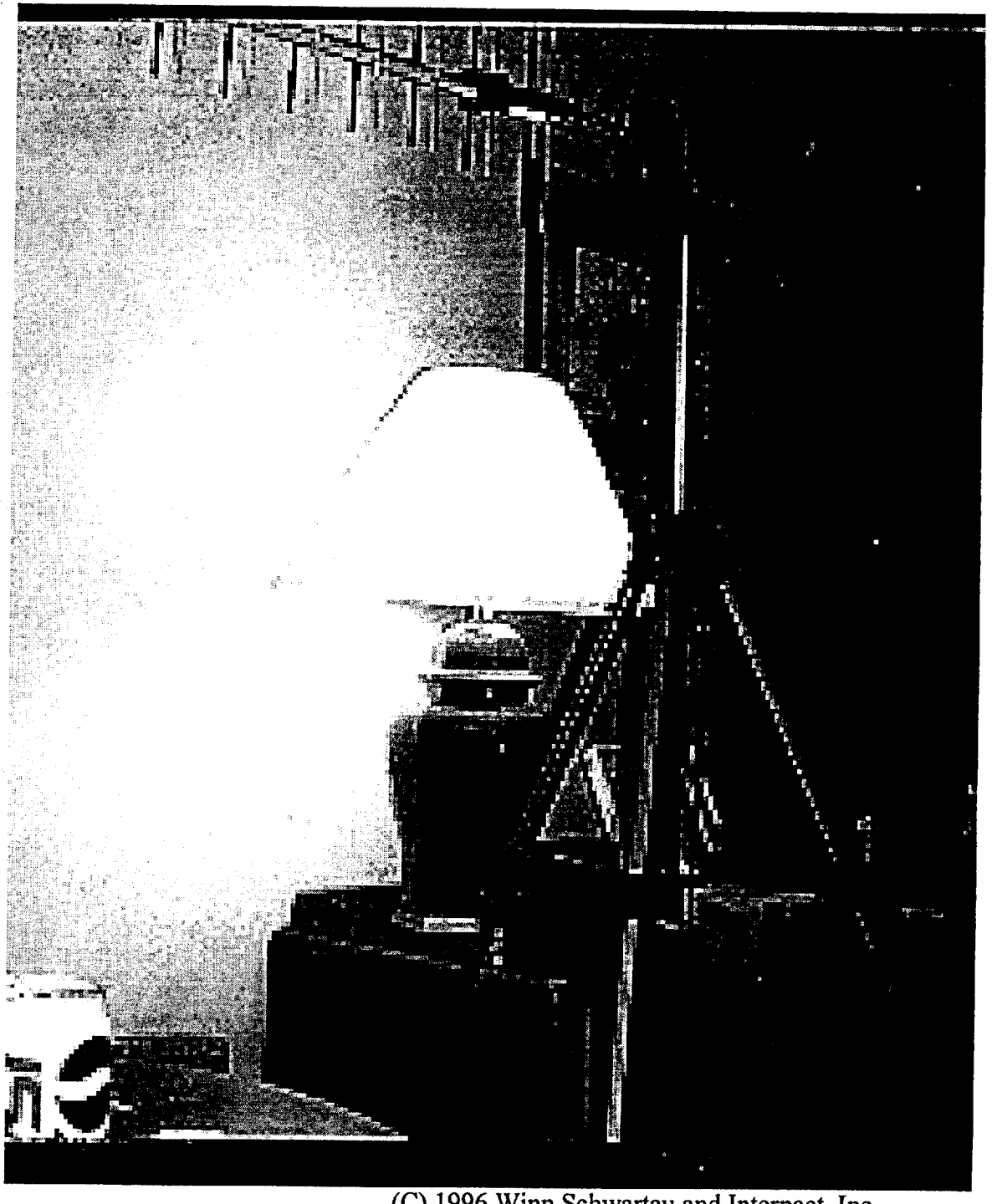
Hacking

- Anonymity - Amateur or Professional Hacking
- DISA - 1/399 MI 1/1000
- "Hackers are a national resource to be cultivated, not persecuted."
  - Netscape - Three Times in Three Months
- Hacking as National Resource
  - Amoral Sociopathic Scum?
  - Early Warning Radar System for Cyberspace?
- Counter-Culture of the 1990's; Remember the 60's!
- Do they have a place in national security?

Sniffing the Net

- Interception
- Eavesdropping
- Internet
- PSN's
- Voice
- Cellular
- FAX
- Satellite
- Buy/Acquire the tools for free (The Internet)

Cellular Hacking



Electromagnetic Eavesdropping

- Tempest Busting Once a secret
  - Van Eck Papers 1985,
  - BBC 1989 - Moeller 1990 - Geraldo 1991 - No. CA Chemical Co. 1990 - Chemical Bank 1993
- Power Lines, Ground Signals
- Home Brew for less than $50

Why worry about Denial of Service?

- Confidentiality and Integrity Solved
  - Virus and WORM Events
- Tech based orgs: comm and mil
  - Soft kill
  - Civilian Government : Unclassified Military
- Banks - Retail Presence <50% in 6 years: Prime Victim
  - Apply to Future
- Double Whammy - World Trade Center - 1993 : No-name Storm of 1993
- "We have the Acts of God thing down. What about the Acts of Man?"

document.Bomber.JavaScript_MailBomber_Says.value = ""; } // End of hiding our code -->

This is a fully **FUNCTIONAL** harrassment tool. Use this at your own risk. Many system administrators find email bombing **VERY ANNOYING** *(but don't let me discourage you)*.

This works *most* of the time but like all code there is plenty of room for error so I don't promise any thing.

WARNING

This only works with Netscape 2.0 not 2.1 or 3.0 sorry!

don't forget to configure Netscape to your mailhost!!

User to Harrass *(user@host)*:

How many email bombs would you like?

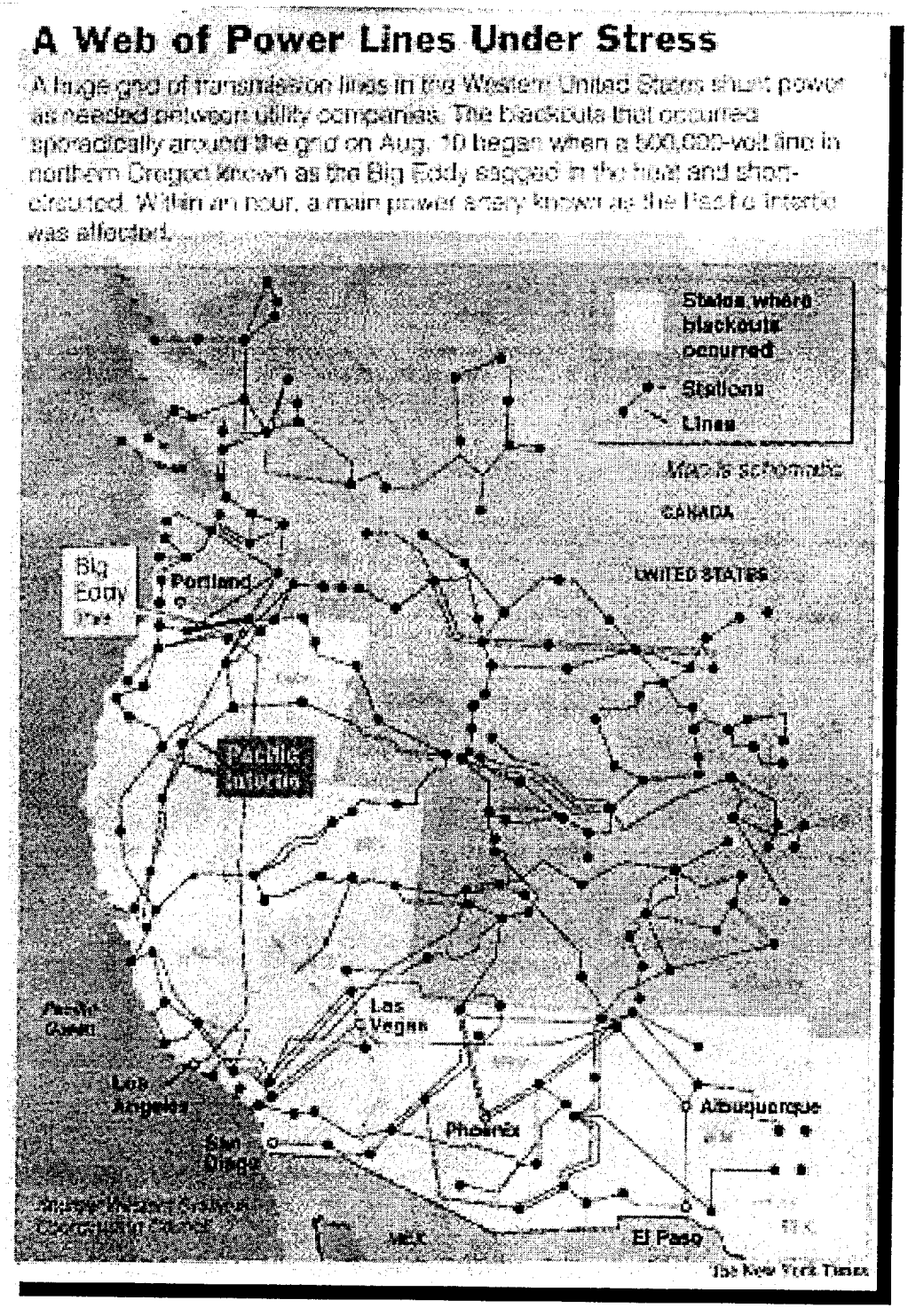
1000

Subject:

Your Terrorist Demands:

The Physical Transport Layer

- Velociraptor
- Comm
- Banking
- Backhoes
- Collapse
  - China
  - NY => Israel



The Western Power Grid: Part of the Critical Infrastructure

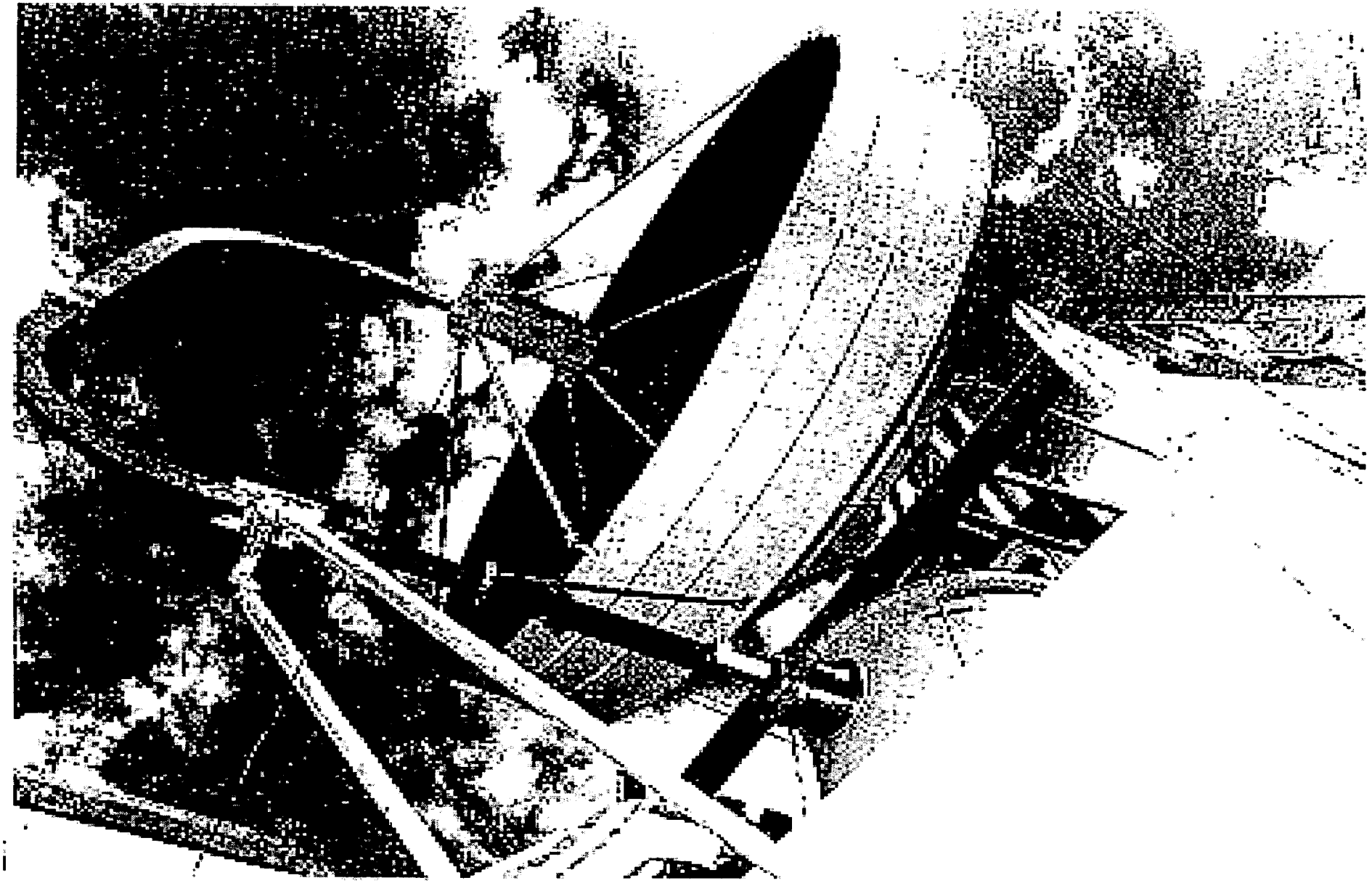
Large Scale DOS Events of Note

- Newark Airport - Power and backup power in same conduits
  - 24 Hour collapse & world-wide
- Air Traffic Controls
  - New York Airports -All 3 closed by fire in phone switch
  - 23 major events in 1995
- Telephone Companies
  - 1990, 1991
- Alleged Financial Attacks with stolen US weapons: 41 in Europe and US

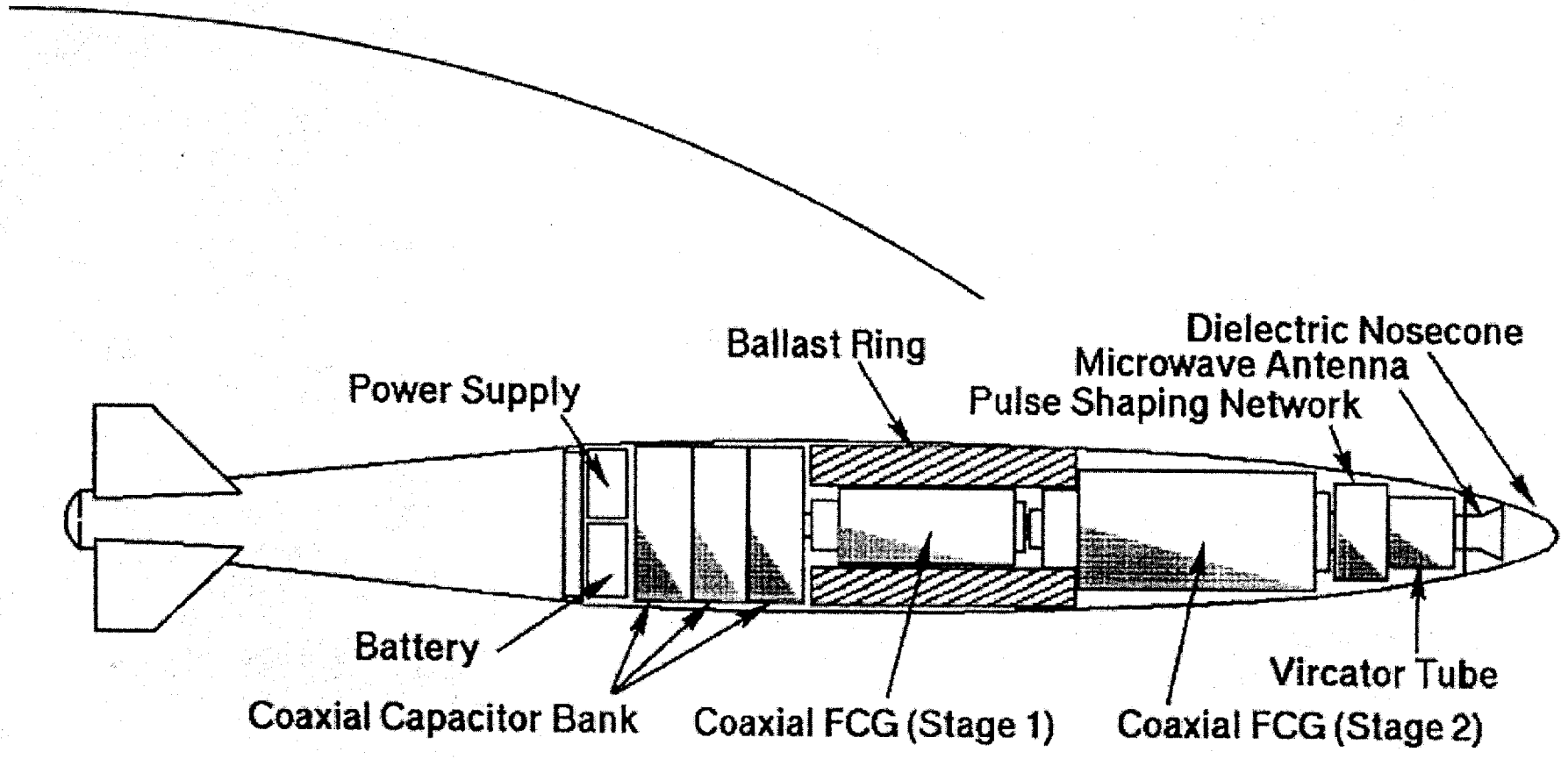
Nuclear Weapons of the Information Age

- Highly Classified - DEW
- HERF Guns - High Energy Radio Frequency
- EPC - Electromagnetic Pulse Cannons
- EMP/T Bombs - Electromagnetic Pulse Transformer Bombs
- HPM -High Power Microwave
- Congressional Committee who had never heard of these weapons.
  - Gulf War Use
  - HERO - Above air non nuclear - attack mil weapons with electronic vulnerability

Military HPM/EMP >10-100 GWatt



U.S. Military EMP: Cruise Missile/HA Bomb

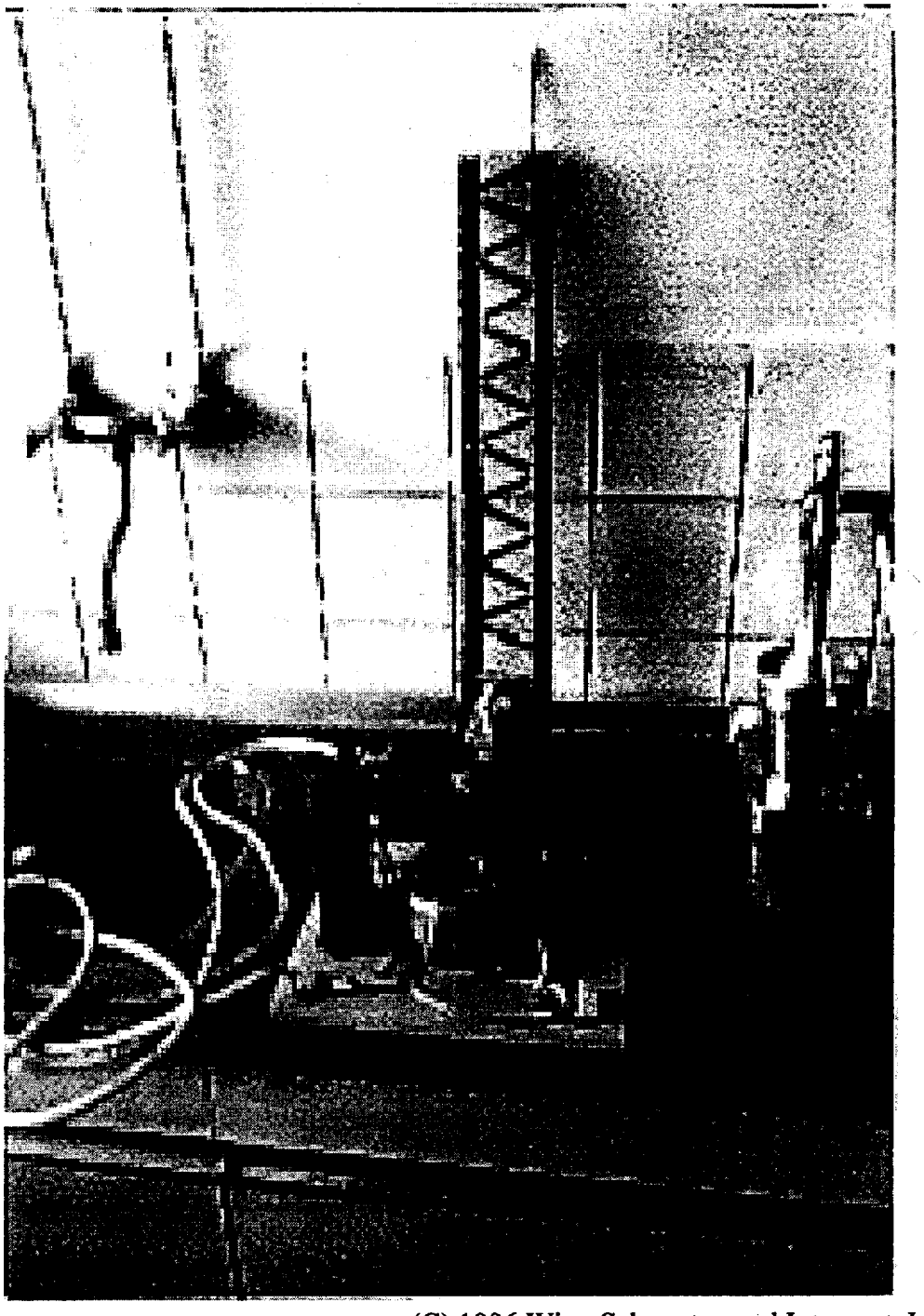


HIGH POWER MICROWAVE E-BOMB – GENERAL ARRANGMENT MK.84 PACKAGING
WARHEAD USING VIRCATOR AND 2 STAGE FLUX COMPRESSION GENERATOR

FIG.6 HPM E-BOMB WARHEAD (Mk.84 FORM FACTOR)

Home Made HERF/EMP Device

20MWatts
100 Ft. Soft Kill Range



National Information Policy

- Electronic Civil Defense
- Info as a Third Wave Asset and projection of power
- A Constitution for Cyberspace
- Create International Cyber-Borders?
- Federal/State Cyber-Borders?
- Information As Strategic Asset
- Should We Spy On the World?

National Solutions

- Acceptance of responsibility
- Argue/Lobby for smart legislation
- Declassify the Threat
- Get Commercial Help
  - Training/Awareness
- Reconsider old jurisdictional issues
  - No borders in Cyberspace

Electronic Bill of Rights

- Own Your Own Name
  - And associated information
- Organizations Must Protect Your Name and Info
- Notification of data
  - Right to Access
  - Right to Contest
  - Right to Remove
- New Gov't Classification
- No Local Ordinances
  - TN vs. CA Porno Case

What constitutes an attack?

- Hussein against
  - Attacks a Mil base in Europe or US
  - Blows up Statue of Liberty
  - Blows up a sports stadium (no loss of life)
  - Steals $267 from CitiBank
- What are proper responses?
- Who matters?
- Who decides?
- Where is the policy and leadership?

Closing

- New Paradigms
  - Is the economy a strategic asset of any country?
  - Do countries want to remain globally competitive?
- The Future has to Happen
  - So, do we want to adapt new thinking and understand new weapons to reflect the new realities of the 21st. century?
  - Chinese Proverb: If we don't change direction, we'll end up where we're going.

Netscape - [Information Warfare and INFOSEC]

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Location: http://www.infowar.com/index1.htm

What's New! | What's Cool! | Handbook | Net Search | Net Directory | Software

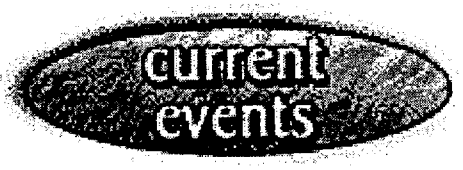

Class I
Privacy

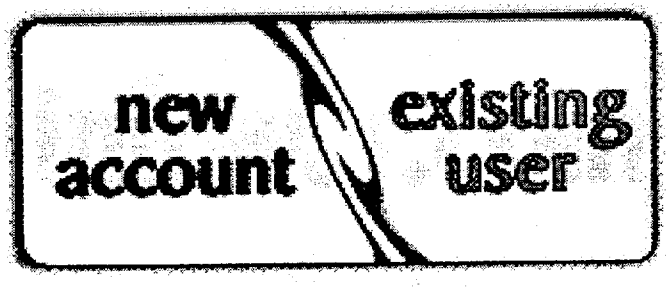

Class II
Espionage


Class III
Terrorism


Military & C4I


Hacker Musings





Reaching Us 

Discussion Groups 

Infosec
(coming soon) 

Chat
(coming soon) 

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Open Source Intelligence: CONFERENCE Proceedings, 1997 Volume IV 6th International Conference & Exhibit Global Security & Global - Link Page

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Next	OSS '97 PROCEEDINGS Bonnie C. Carroll, CENDI Information Managers' Group: A Brief Introduction,

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