

# 'Cyber Forensics'

"Cyber" is a prefix used to describe a person, thing, or idea as part of the computer and information age. Taken from *kybernetes*, Greek for "steersman" or "governor," it was first used in cybernetics, a word coined by Norbert Wiener and his colleagues.

*(Whatis.com, 2005)*

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# Cyber Forensics

- What is forensics?
  - **Forensic science** (often shortened to **forensics**) is the application of a broad spectrum of sciences to answer questions of interest to the legal system

(Source: Wikipedia)
- What is Cyber forensics?
  - **Cyber forensics** can be defined as the process of extracting information and data from computer storage media and guaranteeing its accuracy and reliability
- How does it differ from traditional forensics?
  - Analysis is normally done on a copy of the original and introduction into the legal system is usually copy or a approved representation of the original

# Cyber Forensics

- What is the difference between “computer forensics” and the collection of “digital evidence”?
  - “Digital Evidence is any information of probative value that is either stored or transmitted in a binary form,” (SWGDE, July 1998).
  - Digital evidence includes computer evidence, digital audio, digital video, cell phones, digital fax machines, etc.



# Cyber Forensics

- When/Why is Cyber Forensics needed?
  - Most common is when dealing with criminal investigations
  - Civil matter
  - Human Resource/Personnel Matters
  - Incident Response
    - Malware/Viruses
    - Intellectual Property Theft
    - Any other event which may be detrimental



# Cyber Forensics

Most common use of Computer forensics or digital evidence examinations is criminal investigations:

- What are common computer-related crimes?
  - Hacking/Cracking
  - Intrusions
  - Identity Theft/Phishing
  - Spamming
  - Virus Deployment
  - Component Theft/Cargo Theft
  - Online Auction Fraud
  - Email Threats

# Cyber Forensics

- Some not so common Computer related

## Crimes:

CHILD PORNOGRAPHY  
RAPE  
ROBBERY  
CARGO THEFT  
HOMICIDE  
NARCOTICS  
IDENTITY THEFT  
BURGLARY  
CHILD ABUSE  
EMBEZZLEMENT  
AUTO THEFT

# Cyber Forensics

- General instances where computers can be involved:

1. Technology is the target of criminals.

- *Intrusion*

2. Technology is used to commit crime.

- *Counterfeiting*

3. Technology becomes a repository of potential evidence.

- *Insurance Fraud*



# Definition of a Computer

## Computer

Date: 1646

:one that computes; specifically: a programmable **electronic device** that can **store, retrieve, and process data**.

What other common devices can be considered computers?

# Identification of Evidence

Desk Top PC's

Notebook PC's

Personal Data Assistants

Digital Cameras

Digital Camcorders

Cellular/Wireless Telephones

Pagers

Cordless Telephones

Caller I.D. Devices

Answering Machines

Audio Devices

GPS Devices

Web TV Devices

\*Supporting Storage Media

Desktop PC's



Network PC's



Notebook PC's



Wireless/Cellular Telephone



Digital Cameras



Pagers



Digital Video Recorders



Digital Audio Recorders



Cordless Telephones



Personal Data Assistant



Digital Answering Machines



Caller I.D. Recorders



# As an Example

- Mobile Telephone
- Internet Browser
- Text Messaging
- Personal Information Manager
- Built -in GPS Receiver
- Touch-Screen
- Fax Reception

- Infrared Port
- Ready for 144 kbps wireless connections
- Word Document Viewer

- Dictaphone
- Handwriting Recognition





## The Way It Was:

- All crimes were “local”
  - criminal/crime/victim all in same city or state
  - evidence never found far from crime scene
  - Tony Baretta, Joe Friday, Steve McGarrett of 5-0
    - never went far to get their man (woman)
  - only Lewis Erskine (*the FBI*) roamed the US
    - Bank robbers across state lines
    - Communist spy
    - Bombings

# Today: Revolution in Criminal Activity

- Crimes committed remotely
  - criminal can be 1,000 or 10,000 miles from victim
  - evidence can be thousands of miles away, too
- International element added to any crime
  - by geography or by design
  - *mechanisms for international cooperation can slow or derail many more investigations*

# Adding an International Element

- Criminal in San Diego; Victim in Riverside
- Hacker routes communication through:
  - Sweden
  - South Africa
  - Thailand
- Riverside LE needs assistance from Stockholm, Pretoria, Bangkok to solve “local” crime



# Current Challenges to Law Enforcement

- Anonymity, Reach More Victims, Intangibility, Rapid Tech Development
- Lack of boundaries
  - No jurisdictional boundaries - domestic or international
  - Conflicting laws
- Resources: Training and retention of technically skilled agents/personnel
- Perishable skill needs constant use and ongoing training

# Current Challenges to Law Enforcement

- Adequate substantive and procedural laws
- Educating the public
- As sophistication of attacks has increased, so has the need for computer forensic knowledge and techniques

# Corporate America

- Most companies are unwilling to report computer crimes
  - Fear
  - Bad press
  - Lack of confidence in law enforcement
  - Business interruption (seizing computers for evidence)
  - Little to gain

# THE GLOBAL INTERNET – Friend or Foe?

Since the commercialization of the Internet in the early 1990s, the Internet has become our best resource and our worst nightmare.

Started in \_\_\_\_\_ the once experimental Military project, has now grown into a global marketplace and information superhighway with over 500 million users worldwide, and 50% of those come from the U.S.

Although we have laws specific to the Internet, there is no exclusive governing agency.



# Today's Technology Experience

- More and more aspects of our lives are becoming virtual/online
  - We pay bills online
  - We shop online
  - We get medical advice online
  - Personal information is stored, updated and communicated in digital form
  - We even save lives over the Internet
  - And catch thieves

**napster**  
 UNLIMITED ACCESS  
 TO 1.5 MILLION SONGS  
 AND AN MP3 PLAYER  
 GIVE THE GIFT OF NAPSTER

# WORLD

## Sons save mom overseas with webcam

Friday, November 18, 2006; Posted: 6:31 a.m. EST (11:31 GMT)

**OSLO, Norway (AP) -- A Web camera in a Norwegian artist's living room in California allowed her sons in Norway and the Philippines to see that she had collapsed and call for help, one of the sons said Friday.**

Karin Jordal, 69, collapsed Thursday in her living room in Pinon Hills, California, and was motionless on a couch when her son Tore in the Philippines checked in through the Internet.

"He tried to call her, and got no answer," Tore's brother, Ole Jordal, said by telephone from the western Norway city of Bergen. "He had also tried to call the police and ambulances (in California) but couldn't get through."

Ole Jordal said his brother then called him in Norway, as he and his wife, Tammy, originally from Long Island, New York, were having breakfast.

"My wife is American and she knew exactly whom to call for help," he said. "It took five or 10 minutes for the ambulance personnel to arrive."

He said the family was on the verge of tears when they watched on the Web camera as ambulance personnel assisted their diabetic mother, who is recovering in the Desert Valley Hospital in California.

"I thank that camera and my sons for my life," Karin Jordal told the Norwegian newspaper Berneke Tidende by telephone from her hospital bed. She has lived in



Last Updated: Friday, 18 February, 2005, 12:53 GMT

[E-mail this to a friend](#)

[Printable version](#)

## How to catch a thief - with your PC

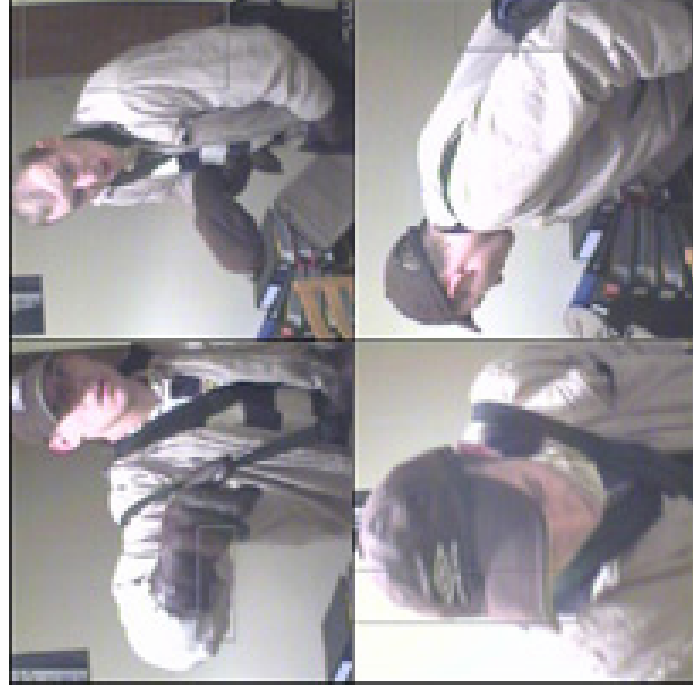
By Joe Boyle  
BBC News

Cambridgeshire police hailed a software engineer who caught a burglar on his webcam as "absolutely brilliant". But how easy is it to turn your home PC into a surveillance system?

"As long as you're not a complete technophobe, pretty much anyone can do it" says Simon Pickstock, editor of technology magazine PC Answers.

The first step is buying a webcam.

The tiny bug-eyed devices are available in most electronic shops and sell for anywhere between £15 and £60. They come with their own software



Serial burglar caught on webcam



# Impact of High Tech Crime

- The 2004 IC3 Annual Internet Fraud Crime Report states 207,449 complaints were received ([http://www.ifccfbi.gov/strategy/2004\\_IC3Report.pdf](http://www.ifccfbi.gov/strategy/2004_IC3Report.pdf))
  - Of those 190,143 complaints were referred to law enforcement agencies
  - The loss from the fraudulent criminal behavior was \$68.14 million dollars
- Computer Security Institute's (CSI) Annual 2005 Computer Crime survey reports \$130,104,542 in total loss estimated by the 639 respondents of the survey, with the highest category being Viruses totaling over \$42 million (CSI, 2005 Computer Crime and Security Survey, <http://www.gocsi.com>)



# Impact of High Tech Crime

- According to Symantec Jan-June 2005 Internet Security Threat Report (<http://ses.symantec.com/WP000ITR8>):
  - The time between the disclosure of a vulnerability and the release of an associated exploit was 6.0 days.
  - The average patch-release time for the past 6 months was 54 days. This means that, on average, 48 days elapsed between the release of an exploit and the release of an associated patch.
  - 73% of reported vulnerabilities this period were classified as easily exploitable.
  - 97% of vulnerabilities were either moderately or highly severe.

# Impact of High Tech Crime

- Symantec identified an average of 10,352 bots per day, up from 4,348 in December 2004.
- 33% of Internet attacks originated in the United States, up from 30% last period.
- Symantec documented more than 10,866 new Win32 virus and worm variants, a 48% increase over the second half of 2004 and a 142% increase of the first half of 2004.

# Impact of High Tech Crime

- Messages that constitute phishing attempts increased from an average of 2.99 million per day to approximately 5.70 million messages.
- Spam made up 61% of all email traffic.
- 51% of all spam received worldwide originated in the United States.
- Malicious code that exposes confidential information represented 74% of the top 50 malicious code samples received by Symantec.





# Computer crime related laws

- State of California:
  - Penal Code Section 502 covers most aspects of computer related crimes
- State of Washington
  - Malicious Mischief - RCW 9A.48.070
  - Computer Trespass - RCW 9A.52.110 and RCW 9A.52.120

# Computer crime related laws

- Federal Statutes
  - 18 U.S.C. 875 Interstate Communications: Including Threats, Kidnapping, Ransom, Extortion
  - 18 U.S.C. 1029 Possession of Access Devices
  - 18 U.S.C. 1030 Fraud and related activity in connection with computers
  - 18 U.S.C. 1343 Fraud by wire, radio or television
  - 18 U.S.C. 1361 Injury to Government Property
  - 18 U.S.C. 1362 Government communication systems
  - 18 U.S.C. 1831 Economic Espionage Act
  - 18 U.S.C. 1832 Trade Secrets Act

# Computer crime related laws

- Title III Wiretap (content)
- Pen Trap & Trace (header information)
  - Court order (search warrant)
- Exceptions to Title III
  - Court order
  - Consent
  - Intruder

## Other computer crime related legislation

- California Senate Bill 1386 - Civil codes 1798.29, 1798.82:
  - Any person, company, or agency
  - that owns or licenses computerized data that includes personal information
  - shall disclose any breach of the security of the system following discovery or notification of the breach in the security of the data
  - to any resident of California whose unencrypted personal information was, or is reasonably believed to have been, acquired by an unauthorized person



## Other computer crime related legislation

- Sarbanes Oxley Act of 2002 (SOX)
  - Requires Internal controls to stem corporate crime, including computer forensic capability
- Gramm-Leach-Bliley (GLB) Act
  - Mandates Financial institutions to have Computer Incident Response plan, timely investigation and notification
- US Patriot Act
  - ECPA
  - U.S.C. Title 1, Chapter 121, Section 2703

# Other Privacy Issues

- Scope of examination
  - Surgical court orders
- Privacy disclaimers
  - Employee/employer relationships
- Notification of subscriber information request
  - Patriot act
  - Search warrants

# Evolution of Computers

- 1980s – Small personal computers
  - DOS based programs
  - Tape Drives
- 1990s – Personal computers, networked businesses, Internet, Microsoft Windows Operating System became popular
  - Average Hard drive was 20mb-80mb
- 2000s- Personal computers, workstations, servers, Server class hardware
  - Home = 80 GB hard drives
  - Businesses = multi Terabyte storage arrays

# Data Storage



80 Gig  
Hard Drive



16 DVD's



74 CD's



57,142  
Floppy Disk's



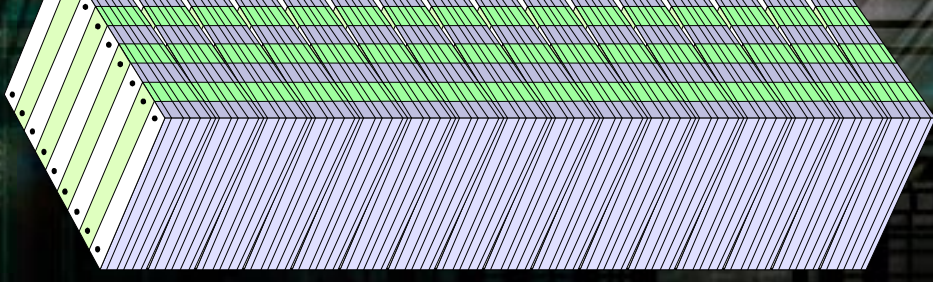
The  
Empire State Building

Stands 1,454'

Height of Paper  
Stacked  
Top  
to

Bottom nine  
times:

13,333 feet or  
2.5 miles high





# Evolution of Digital Forensics

- 1980s – Floppy disks were disk copied and examined using DOS
- 1990s – DOS command line tools were used to copy data from storage devices and examined in a DOS hex editor
- 2000s- GUI applications used to conduct advanced low level analysis of media and digital data
- 2005 – GUI applications & alternate operating systems used for forensic analysis, common digital media examination includes computers, removable media, cameras, PDAs, cell phones

# Current Challenges of Computer Forensics

- Larger storage capacity requires need to process more data
  - If an acquisition of 80gb takes 2 hours, what does 1TB take?
  - How do you store this long term?
- Forensic examination process is time consuming, new cases arrive faster than older ones are adjudicated
- Encryption has become easily available and has gained more popularity over time thus thwarting forensic examinations

# Current Challenges of Computer Forensics

- New technology such as steganography used to hide data inside data
- Data wiping tools readily available and more common
- Anonymous email, remailers, proxy services
- Public access computers/Internet

# Current Challenges of Computer Forensics

- Portable applications (browsers)
- Encrypted instant messaging
- VoIP



# The Process of Computer Forensics

- Network Forensics
  - The analysis of network, communication data
- Volatile Data Forensics
  - The analysis of transient, dynamic information on a live machine
- File System Forensics
  - The analysis of static information on digital media

# The Process of Computer Forensics

- Network forensics involves
  - Capturing digital communication data with a network capturing tool and interpretation

# The Process of Computer Forensics

- Volatile Data Forensics Involves
  - Involves the collection of volatile data and:
    - Analysis of running processes
      - Process list
      - Process/port mapping
    - Analysis of current socket conditions
      - Active communications
      - Processes bound to ports
    - Analysis of the contents of memory (RAM)
      - Current process usage
      - Residual memory data

# The Process of Computer Forensics

- Static File System Forensics
  - Involves “imaging” the original media and performing the analysis on the digital duplicate
  - Almost always a bit-for-bit copy is obtained
    - Different types of copies?
  - Specific commercial forensic tools or open source tools used to capture digital duplicate



# The Process of Computer Forensics

- Live File System Forensics
  - Performed on the system while running
  - Can include capturing a digital duplicate
    - Issues?
  - Used to triage multiple systems quickly
  - Used to deal with portions of data when large storage arrays are encountered

# Methodology

- Best Practices?
- Forensically sound?
- Federal Best Evidence Rule?

# Common Training & Skills

- Advanced computer knowledge
- Networking knowledge
- Multiple operating systems
- CS/CIS background
- Investigative knowledge / methodical
- Programming languages helpful
- Low level knowledge of media formats
  - Disk geometry
  - File systems
    - FAT/NTFS/EXT2-3/HFS/HFS+/UFS

## Computer Forensics at work

- How Computer Forensics played a crucial role in past criminal matters

# Case studies



# Sami Omar Al-Hussayan

## UNITED STATES DISTRICT COURT FOR THE DISTRICT OF IDAHO

UNITED STATES OF )  
AMERICA, )

Cr. No.

)  
Plaintiff, )

SECOND  
SUPERSEDING INDICTMENT

vs. )

(Vio. 18 U.S.C. 371 , 956, 2339A,  
2339B, 1546(a), 1001(a)(2), 3237,  
3238)

SAMI OMAR AL- )  
HUSSAYEN, )

)  
Defendant.



Case # 1

## Saudi Student's Trial Opens in Idaho

Government Alleges 'Material Support' for Terrorism in Use of Internet

By Susan Schmidt  
Washington Post Staff Writer  
Wednesday, April 15, 2004; Page A05



BOISE, Idaho, April 14 -- A Saudi doctoral candidate at the University of Idaho hid his true agenda as webmaster and "money man" for a worldwide Internet network that sought to finance and recruit fighters for violent holy war abroad, prosecutors charged Wednesday in opening their case against Sami Omar al-Hussayen.

Al-Hussayen, arrested a year ago in the tiny northern Idaho university town of Moscow, was a dual personality, federal prosecutor Kim Lindquist told the jury. The face he presented to the public was that of a studious family man, but his "private face" was that of a man who promoted "extreme jihad" and "provided recruitment and funding for terrorism," Lindquist said.

In a case that tests the contours of federal statutes barring "material support" for terrorists and terrorist organizations, federal authorities are seeking to prove that the use of the Internet to promote and recruit for jihad constitutes such support. Defense lawyers contend that al-Hussayen's Internet activity amounted to constitutionally protected free speech.

The case against Hussayen is the result of one of the most intensive terrorism-related investigations since the Sept. 11, 2001, attacks, a massive two-year probe that is tied to other cases, including ongoing investigations of charities suspected of financing terrorism.

Al-Hussayen is accused of conspiracy and providing support to terrorists in Chechnya and Israel, and of conspiracy to raise funds for the military wing of the Islamic Resistance Movement, a designated terrorist organization also known as Hamas. His indictment charges that al-Hussayen "knew and intended that the material support he provided [was] to be used in preparation for, and to commit, violations of federal law involving murder, maiming, kidnapping, and the destruction of property," a contention the government repeated on Wednesday.

# Partition Table

Primary Computer was seized and examined:

Type	Start Sector	Total Sectors	Size
FAT32X	0	41383440	19.7GB
Linux EXT2	41383440	10442250	5.0GB
Linux EXT2	58862160	755055	368.7MB
Linux Swap	59617216	176716	86.3MB
Linux Swap	51825690	498015	243.2MB
Linux EXT2	52323705	6538455	3.1GB



# Summary of Forensic Analysis

- The application “SmartFTP” was discovered on the system.
- Analysis of forensic residue from the use of this application revealed 155 user-initiated connections to 20 different computer servers on the Internet, utilizing 16 various user accounts.
- Subsequent forensic examination of the application resulted in the identification of 16 user account passwords.



# SmartFTP Folder

- The FAT32X partition of the system was mapped as logical drive “C:” on the suspect system. During examination, the application “SmartFTP” was found to be installed in the directory “C:\Program Files\SmartFTP\”.

Directory Name	Last Accessed	Last Written	File Created
C:\Program Files\SmartFTP	2/23/03	08/15/02 04:36:16PM	08/15/02 04:35:14PM

# SmartFTP Application Data

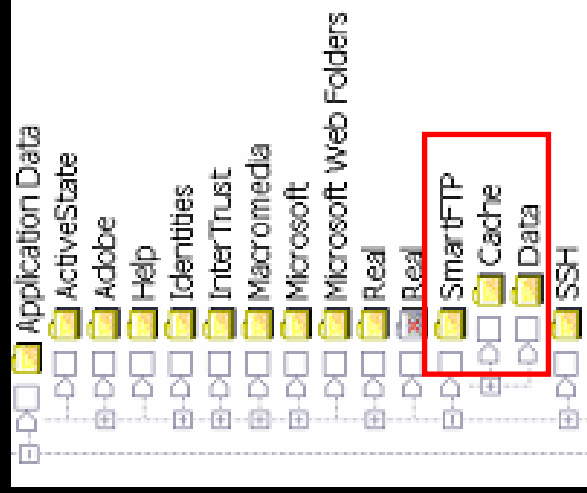
- Additional data associated with this application was found stored in the directory C:\Documents and Settings\Me\Application Data\SmartFTP\.

Directory Name	Last Accessed	Last Written	File Created
C:\Documents and Settings\Me\Application Data\SmartFTP	2/23/03	09/24/02 10:00:30 AM	09/24/02 10:00:28 AM

# SmartFTP Cache Folder

- The “SmartFTP” directory contained a subdirectory entitled “Cache”.

Directory Name	Last Accessed	Last Written	File Created
C:\Documents and Settings\Me\Application Data\SmartFTP\Cache	2/23/03	09/24/02 10:00:18:24AM	09/24/02 10:00:22AM



# Cache Folder

- The “Cache” directory contained entries for 155 subdirectories which were deleted.
- The subdirectories are created and deleted as part of the normal operation of the program.
- The “Cache” directory and the 155 subdirectories were created by the SmartFTP program.



# Cache Folder

- The names of the deleted subdirectories revealed information concerning use of the application by a user of the computer system, to include:
  - the remote destination computer name
  - user identification
  - port the user connected to when utilizing the SmartFTP application.





# Cache Folder Entry

- As an example, the directory entry below reveals that the user connected to the computer known on the Internet as “www.islamtoday.net” with the User Identification “Administrator” to Port 21.



 www.islamtoday.net-Administrator-21

Site	Account	Port
152.160.23.131-sami-21	sami	21 (FTP)
198.169.127.205-root-21	root	21 (FTP)
198.169.127.205-root-22	root	22 (Secure Shell)
198.169.127.205-sami-21	sami	21 (FTP)
198.169.127.211-Administrator-21	Administrator	21 (FTP)
al-multqa.com-alm15086-21	alm15086	21 (FTP)
alasn.net-alasn-21	alasn	21 (FTP)
alasn.ws-alasn-21	alasn	21 (FTP)
almultqa.com-alm15086-21	alm15086	21 (FTP)
ci.engboi.uidaho.edu-sami-21	sami	21 (FTP)
ftp.cis.fed.gov-anonymous-21	anonymous	21 (FTP)
ftp.its.uidaho.edu-anonymous-21	anonymous	21 (FTP)
islamtoday.net-Administrator-21	Administrator	21 (FTP)
islamway.com-admin-21	admin	21 (FTP)
liveislam.com-ftpuser-21	ftpuser	21 (FTP)
liveislam.com-ftpuser-6060	ftpuser	6060
liveislam.com-samio-21	samio	21 (FTP)
mail.islamtoday.net-Administrator-21	Administrator	21 (FTP)
muntada.islamtoday.net-FreeWheel-21	FreeWheel	21 (FTP)
muntada.islamtoday.net-jesse-21	jesse	21 (FTP)
muntada.islamtoday.net-root-21	root	21 (FTP)
nationvoice.com-nationvo-21	nationvo	21 (FTP)
nationvoice.com-upload-21	upload	21 (FTP)
neuron.engboi.uidaho.edu-ala-21	ala	21 (FTP)
neuron.engboi.uidaho.edu-sami-21	sami	21 (FTP)
reciter.org-reciterorg-21	reciterorg	21 (FTP)
unix.uidaho.edu-alhu6728-21	alhu6728	21 (FTP)
www.islamtoday.net-Administrator-21	Administrator	21 (FTP)



# Privileged Accounts

- The User Accounts “root”, “admin” and “Administrator” usually represent *privileged accounts* generally reserved for the owner or administrator of the computer.
- Based on the account names, the user of the system had privileged access to the sites
  - 198.169.127.205
  - 198.169.127.211
  - islamtoday.net
  - islamway.com
  - mail.islamtoday.net
  - muntada.islamtoday.net
  - www.islamtoday.net
- The rights and privileges of the other accounts cannot be determined from the limited information available.

# Application Analysis

- Forensic examination and testing was performed on the SmartFTP application to confirm the operation of the software and the creation of the contents of the cache directory.
- The application was installed on a forensic workstation which was disconnected from the Internet.
- A default installation of SmartFTP was performed.

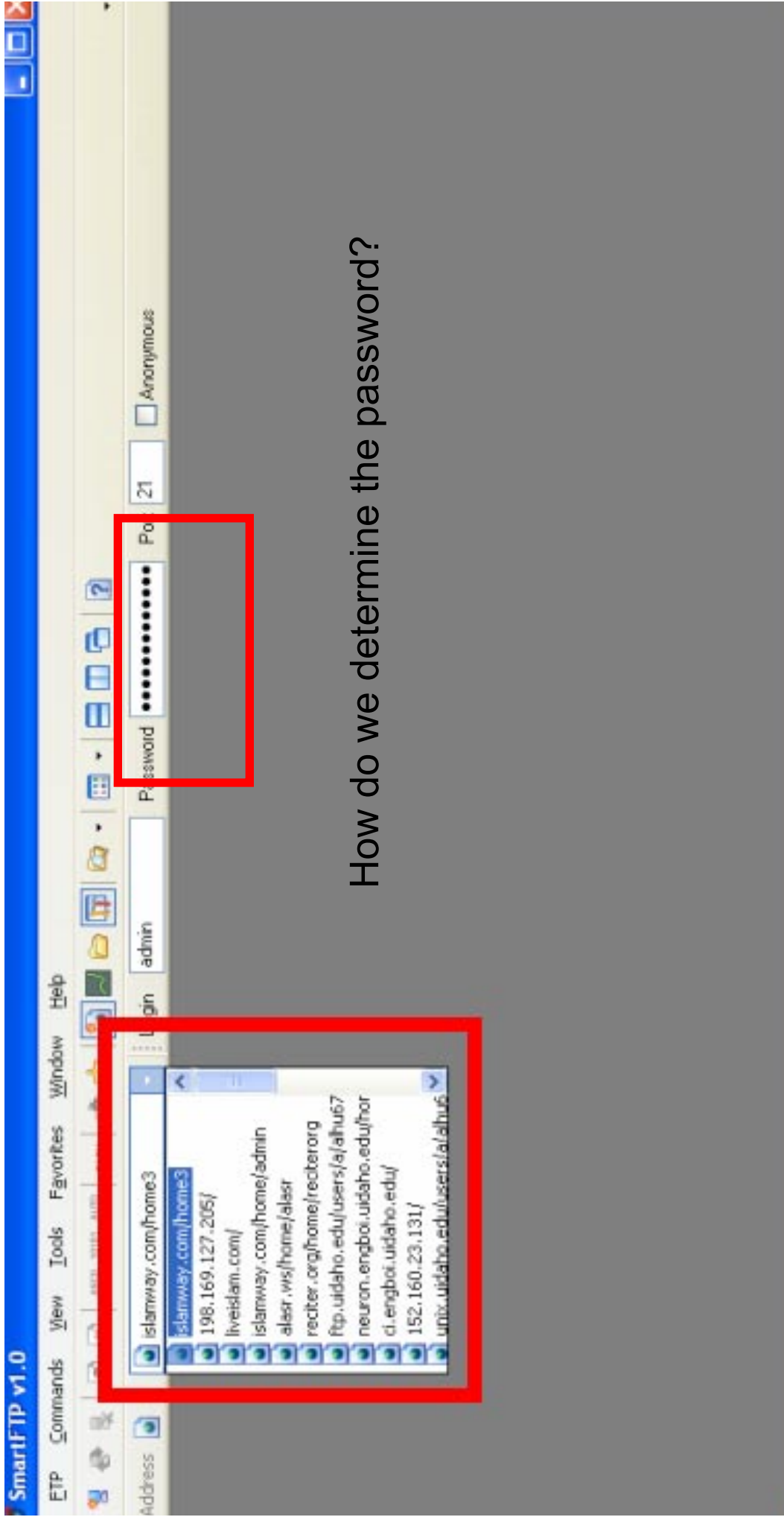


# Files of Interest

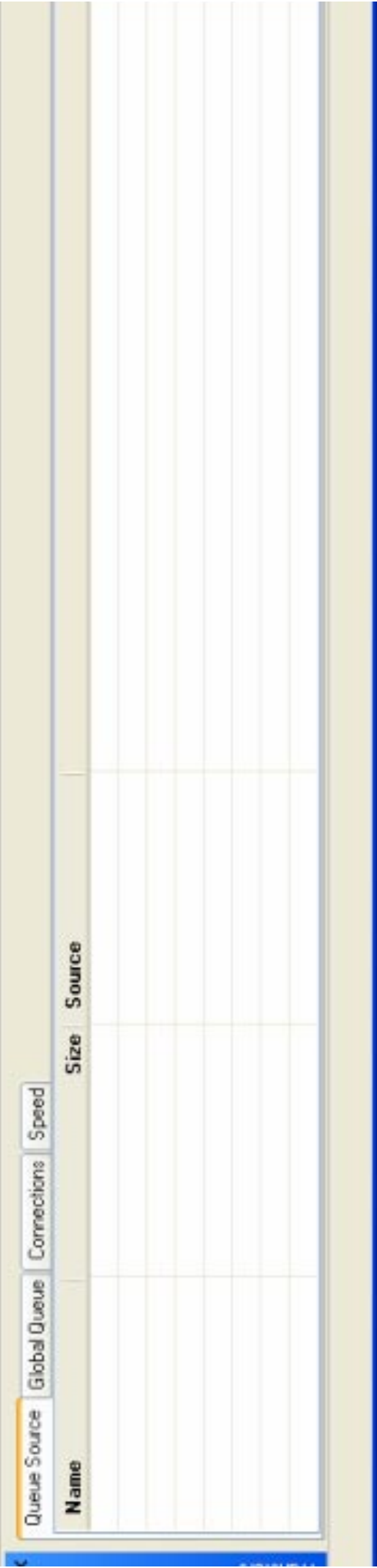
- During the testing, it was determined that the two files listed below contained the user accounts and passwords in an encrypted and/or proprietary format.
- *By placing the suspect files in the appropriate location on the forensic workstation, the user's application history can be viewed.*

File Name	Last Accessed	Last Written	File Created	Logical Size	Hash Value
C:\Documents and Settings\Me\Application Data\SmartFTP\History.dat	02/23/03	02/23/03 11:55:06AM	09/24/02 10:00:28AM	1,577	e9f90c943a686ca2006ea3ad8e8100f
C:\Documents and Settings\Me\Application Data\SmartFTP\CUSTOM.DAT	02/23/03	02/23/03 11:55:06AM	09/24/02 10:00:30AM	3,361	36f901b0dae05031a021d988a6331a8





How do we determine the password?



# Password Extraction From Application Memory

The screenshot displays a hex editor window titled "Hex Workshop - [SmartFTP.dmp]". The main area shows a grid of hexadecimal data. Three specific memory locations are highlighted with red boxes and labeled with arrows:

- Remote Site:** mail.islamtoday.net
- Account:** Administrator
- Password:** BrEaDy2SeRvE

The hex editor interface includes a menu bar (File, Edit, Disk, Options, Tools, Window, Help), a toolbar with various icons, and a status bar at the bottom showing "Sound at position: 0x0001ADE3 (110051)", "Offset: 0001ADE2", "Sel: -oct7 bytes", "42642799 bytes", and "OVR: AND: RE:AD".



Navigation pane showing file structure:

- readers
- reports
- audio-tapes
- audio\_files
- authors
- Experience
- Files
- Amaleiqah
- Fedal
- File
- Globalization
- taliban
- images
- ads
- files
- New Folder
- news
- 4-2001

Table	File Name	Description	Logical Size	Last Accessed	Last Written	File Created
1	article_103.shtml	File, Archive	6,194	02/07/03	05/15/01 02:09:30AM	05/02/01 02:21:32PM
2	article_104.shtml	File, Archive	11,999	02/07/03	05/15/01 02:09:30AM	05/02/01 02:23:44PM
3	article_105.shtml	File, Archive	13,184	02/07/03	05/15/01 02:09:32AM	05/02/01 02:25:06PM
4	article_115.shtml	File, Archive	13,978	02/07/03	05/15/01 02:09:02AM	05/13/01 09:13:40AM
5	index.shtml	File, Archive	2,412	02/07/03	05/15/01 02:10:14AM	05/02/01 02:20:06PM
6	index_article.shtml	File, Archive	1,043	02/07/03	05/15/01 02:10:14AM	05/02/01 02:20:06PM
7	index_audio.shtml	File, Archive	275	02/07/03	05/15/01 02:10:14AM	05/02/01 02:20:08PM
8	nav.html	File, Archive	499	02/07/03	05/15/01 02:10:14AM	05/02/01 02:20:08PM
9	print_article_103.shtml	File, Archive	6,028	02/07/03	05/15/01 02:09:30AM	05/02/01 02:21:32PM
10	print_article_104.shtml	File, Archive	11,833	02/07/03	05/15/01 02:09:30AM	05/02/01 02:23:44PM
11	print_article_105.shtml	File, Archive	13,018	02/07/03	05/15/01 02:09:32AM	05/02/01 02:25:06PM
12	print_article_115.shtml	File, Archive	13,810	02/07/03	05/15/01 02:09:02AM	05/13/01 09:13:42AM
13	WS_FTP.LOG	File, Archive	1,881	02/07/03	05/15/01 01:13:22AM	05/14/01 10:01:28AM

Hex | Report | Disk | Evidence | Lock | P5 3204579 L5 3204516 CL 398062 50 0 FO 0 LE 1

```

0000 3C 21 2D 23 69 6E 63 6C 75 64 65 20 76 69 72 74 75 61 6C 3D 22 2F 61 6C 61 73 72 2F 69 6E 63 6C
0033 75 64 65 73 2F 68 65 61 64 65 72 2E 73 68 74 6D 6C 22 2D 3E 20 20 3C 21 2D 2D 23 69 6E 63 6C 75
0066 64 65 20 76 69 72 74 75 61 6C 3D 22 2F 61 6C 61 73 72 2F 69 6E 63 6C 75 64 65 73 2F 72 69 67 68 74
0099 2E 68 74 6D 6C 22 2D 3E 20 20 0D 0A 0D 0A 3C 21 2D 2D 20 23 69 6E 63 6C 75 64 65 20 66 69
0132 6C 65 3D 22 6E 61 76 2E 68 74 6D 6C 22 2D 3E 20 0D 0A 3C 62 72 20 63 6C 65 61 72 3D 22 61 6C
0165 6C 22 3E 0D 0A 3C 66 6F 6E 74 20 63 6C 61 73 73 3D 22 74 69 74 6C 65 22 3E DD CA E6 EC 20 C7 E1
0198 DA E1 C7 E3 C9 20 D3 E1 ED E3 C7 E4 20 C8 E4 20 E4 C7 D5 D1 20 C7 E1 DA E1 E6 C7 E4 20 DD ED 20 C7
0231 E1 DA E3 E1 ED C7 CA 20 C7 E1 DD CF C7 C6 ED E5 20 D6 CF 20 C7 E1 ED E5 E6 CF 3C 2F 66 6F 6E 74 3E
0264 0D 0A 3C 62 72 20 63 6C 65 61 72 3D 22 61 6C 6C 22 3E 0D 0A 3C 74 61 62 6C 65 20 77
0297 69 64 74 68 3D 22 39 38 25 22 20 20 63 65 6C 70 61 64 69 6E 67 3D 22 22 20 63 65 6C 6C 73
0330 70 61 63 69 6E 67 3D 22 30 22 20 61 6C 69 67 6E 3D 22 63 65 6E 74 65 72 22 3E 0D 0A 0D 0A 0D
0363 0D 0A 09 3C 74 64 3E 0D 0A 09 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 09
0396 0D 0A 09 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 3C 2F 74 64 3E 0D 0A 3C 2F 74 72 3E 0D
0429 0D 0A 3C 74 72 3E 0D 0A 09 3C 74 64 3E 0D 0A 09 09 0D 0A 09 0D 0A 09 0D 0A 68 6F 73 68 61 64 65 20 73 69
0462 7A 65 3D 22 31 22 3E 09 0D 0A 09 3C 2F 74 64 3E 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 3C 74 72 3E 0D
0495 0D 0A 09 3C 74 64 3E 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0D
0528 0A 09 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 09 0D 0A 3C 54 41 42 4C 45 20 63 65

```

1B29\C:\inetpub\wwwroot\alastri\Fedal\article\_103.shtml

```

<!--#include virtual="/alastri/incl
udes/header.shtml"--> <!--#inclu
de virtual="/alastri/includes/right
.html"--> <!-- #include fi
le="nav.html"--> <br clear="al
l"> <font class="title">ال
فديو ال
سلامة سليمان بن ناصر العلوان في ا
لعمليات الخاطئة ضد ال
<br clear="all"> <table w
idth="98%" cellpadding="2" cells
padding="0" align="center">
<td>
</td> </tr>
<tr> <td> <hr noshade si
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<td>
</td>
</tr> </table ce

```







# WS\_FTP.LOG

```
2001.05.14 10:01 B C:\Inetpub\wwwroot\alasar\Files\Fedai\article_115.shtml --> ftp.alasr.ws
/home/alasar/www/alasar/Files/Fedai article_115.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\article_103.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai article_103.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\article_104.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai article_104.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\article_105.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai article_105.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\article_115.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai article_115.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\index.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai index.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\index_article.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai index_article.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\index_audio.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai index_audio.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\index_article_103.shtml --> ftp.alsunnah.net
/alasar/Files/Fedai index_article_103.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\print_article_104.shtml -->
ftp.alsunnah.net /alasar/Files/Fedai print_article_103.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\print_article_104.shtml -->
ftp.alsunnah.net /alasar/Files/Fedai print_article_104.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\print_article_105.shtml -->
ftp.alsunnah.net /alasar/Files/Fedai print_article_105.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\print_article_115.shtml -->
ftp.alsunnah.net /alasar/Files/Fedai print_article_115.shtml
2001.05.15 01:13 B C:\Inetpub\wwwroot\alasar\Files\Fedai\WS_FTP.LOG --> ftp.alsunnah.net
/alasar/Files/Fedai WS_FTP.LOG
```

# Computer Forensics at work

## Bombing / Extortion

Case # 2

# The Crime . . .

- 9/22/99 at 5:44 p.m. a pipe bomb detonated at Lowe's Home Improvement Warehouse, Salisbury, N.C.









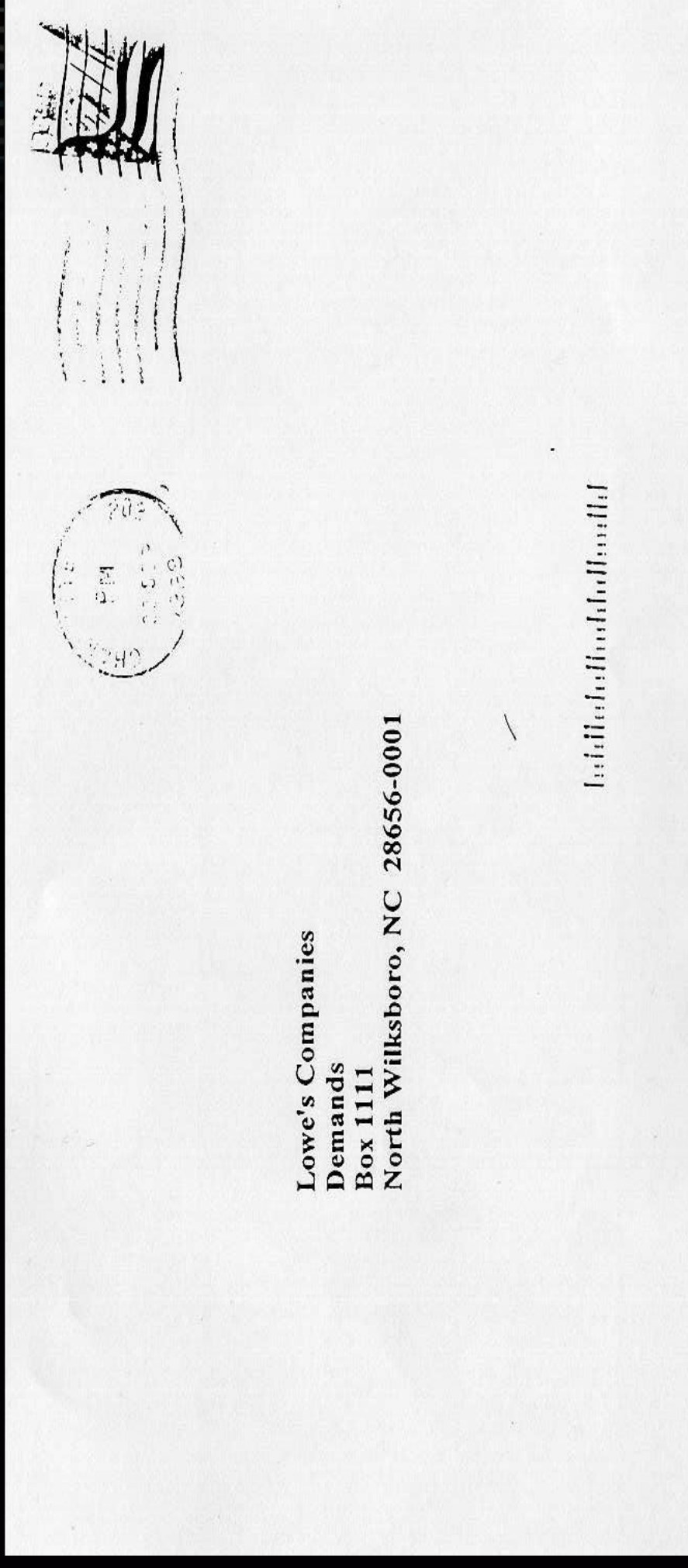


# Another Crime . . .

- 9/22/99 at 5:52 p.m. another pipe bomb detonated at another Lowe's Home Improvement Warehouse, Asheboro, N.C.

# Lowe's receives demands . . .

- 9/23/99 - Two separate and identical letters were received at Lowe's Headquarters in Wilkesboro, N.C.



## Lowe's Companies

I have been forced to take drastic measures due to the lack of help for two of my friends. At the lowe's motor speedway you killed many people and hurt many more. Since the speedway refuses to help my friends I must resort to other measures.

I will keep bombing your 500 stores until you pay \$250,000.00 . If you don't agree I am very sure your business will drop off greatly. I have your red aprons and vests and will be able to get in and out of your stores without much trouble.

When you decide to pay the money, let me know by putting "Ready to meet demands" on the bottom of your WWW/Lowes.com home page under where it says "Please review our privacy/security information and terms of use", at that time I will stop the pipe bombs and make arrangements to be paid



# So What Do You Do?

- Do you pay the extortion?
- Do you close your stores?
- Identify any suspects?
  - Camera Review
  - Interviews
  - Known “Bad Blood”
- CSIRT Activities
  - Begin Monitoring Web Logs.
  - Create Scripts to Ease Review.
    - Automate nslookups and whois queries.
  - Create Cookies to plant additional evidence.
  - Review online sources for Evildoer.

# Only communication with bomber – Lowe's homepage

- 9/24/99 - Lowe's placed "Will meet your demands." on the bottom of their homepage

## Good Morning !

### Help Can't Wait

Please join the American Red Cross and Lowe's Home Improvement Warehouse in helping victims of Hurricane Floyd. [Contribute to the American Red Cross Disaster Relief Fund](#). Lowe's customers have demonstrated their generosity by already donating \$275,000 to Red Cross Disaster Fund collection sites in stores in the Carolinas and Virginia. 'We're proud to work side-by-side with Lowe's to help residents recover from Hurricane Floyd,' said Joe Fay, acting vice president of Marketing at the American Red Cross. 'It's thanks to the support of companies like Lowe's that the Red Cross is able to be there for the people who have been so hard hit by disasters like Hurricane Floyd.' [Read more about the relief efforts.](#)

### Featured How-To's:

#### [How to Highlight Your Home's Decor with Lighting](#)

Learn how to use lighting to enhance the look of your home. Find lighting ideas for every room in this how-to.

#### [How to Renew the Look of Stucco](#)

Is your stucco fading or cracking? Learn how to repair the surface and protect it with a fresh coat of paint.

#### [How to Install Undercabinet Lighting](#)

Don't prepare food under shadowy cabinets--under-cabinet lighting is simple to install.



### Quick Tips

Fall is the best time to plant trees that have been machine-burlapped or container-grown. Take advantage of this planting time so your new trees will be ready to burst forth with spring growth. Need more tips on planting trees? [Click here.](#)



# Web Access Logs

```
#Software: Microsoft Internet Information Server 4.0
#Version: 1.0
#Date: 1999-09-24 15:35:44
#Fields: time c-ip cs-method cs-uri-stem sc-status
15:35:44 146.11.21.13 GET /Default.asp 200
15:35:44 146.11.21.13 GET /iissamples/default/SQUIGGLE.GIF 200
15:35:44 146.11.21.13 GET /iissamples/default/MSFT.GIF 200
15:35:44 146.11.21.13 GET /iissamples/default/IISTitle.gif 200
15:35:44 146.11.21.13 GET /iissamples/default/nav2.gif 200
15:35:44 146.11.21.13 GET /iissamples/default/IE.GIF 200
15:35:44 146.11.21.13 GET /iissamples/default/IISide.GIF 200
```

**Look for IP Addresses in the NC Area**



# Another bomb is located . . .

- 9/28/99 at 3:00 p.m. - an unexploded pipe bomb was located in the paint department at the Lowe's Home Improvement store in Concord, N.C.

Analysis of bombs revealed no leads . . .

- No fingerprints were found
- Readily available components
- Only 1 pubic hair found in tape on bomb



# More instructions . . .

- 11/9/99 at 3:00 p.m. - Two separate and identical letters were received at Lowe's Headquarters in Wilkesboro, N.C.



# BOMBING DEMANDS

AMOUNT

Gentlemen:

I would just like to clarify a few things and give you instructions for the transfer of monies. I had nothing to do with the fires in your other stores. I did place the third pipe bomb in your store but it was not turned on. I was going to turn it on if you didn't agree to my terms. At this time there are no other bombs in any of your stores, I have not called in any bomb threats anywhere.

Enclosed is the bank information to make a wire transfer in the amount of 250,000.00 as agreed. This is to be done Tuesday or Wednesday of this week. The funds should be received by the end of the week in this account. If not I will start the bombings again. Also, if anyone tries to tamper with this account (FBI etc.) and close it or seize the funds, I will resume the bombings. This account has nothing to do with me and is not traceable back to me. It is a Panamanian Corporation. For your own good pay the monies and don't get the FBI or ATF involved. It is getting close to the busiest time of the year in your stores and if there are any problems " " will start again.

When the funds have been sent please underline the last line of your privacy statement on the bottom of your homepage on the internet, leave it there for a week and then remove it.

**CORRESPONDENT ACCOUNT**  
for payments in USD

AMOUNT	_____
BENEFICIARY NAME	NPC
BENEFICIARY ADDRESS	
BENEFICIARY ACCOUNT NUMBER	0000 3291 1241
BENEFICIARY BANK NAME	PARITATE BANK
BENEFICIARY BANK ADDRESS	4 Terbatas Street, Riga, Latvia
INTERMEDIARY BANK NAME	SVENSKA HANDELSBANKEN
INTERMEDIARY BANK ADDRESS	Stockholm, Sweden SWIFT HAND SE SS
BENEFICIARY BANK ACCOUNT NUMBER	99-47 848 979
DETAILS OF PAYMENT	ANY

# Lowe's again complies . . .

- On 11/11/99, Lowe's wire transfers \$250,000.00 to the Paritate Bank as directed
- Lowe's underlined the last line of the privacy statement on the bottom of their homepage



# Paritate Online Banking

- Can be initiated with online request
- Paritate bank required:
  - physical address to which signature cards were to be mailed
  - Cards must be notarized
  - Corporate Account agreement also snail mailed
  - Must install a client software for remote banking
- Account cost \$250.00 U.S. dollars to setup

## Extortion bank account created . .

- Created online in the name of Bruce Phillips
- Phillipps' address was 399 Peters Creek Parkway, Winston Salem, N.C.
  - Address belonged to a Dunkin Doughnuts
  - Paritate Fed X package delivered and signed for here
- Paritate Bank received e-mail correspondence from [brucephillips99@hotmail.com](mailto:brucephillips99@hotmail.com) requesting Fed X tracking number for package



## What Computer Evidence Do We Have??

- SUBJECT Used Hotmail
- On Subjects Machine
  - Cookies?
  - Account Name in Slack?
  - History ... Bookmarks ... Cache?
- On Hotmail Servers
  - When the brucephillips99@hotmail.com account is accessed
  - What IP Addresses Use the Account
  - Any IP's Same as the Ones on Lowe's Web Servers???





Bruce Phillips™  
<brucephillips99@h  
otmail.com>

To: agnese@paritate.lv

01.11.99 23:43

cc:

Subject: new account

A. Kasparova:

me  
Thank you for your quick service opening this account. You informed  
that the opening documentation was sent out fedex on 01 November 1999. If  
at  
all possible can you supply me with the tracking number? Thank you.

Bruce Phillips

brucephillips99@hotmail.com

Account #0000-3291-1241

---

Get Your Private, Free Email at <http://www.hotmail.com>

# Fake identities continue . . .

- Signature card from Paritate Bank had to be notarized for the foreign bank account





# Wire Transfer to Paritake Bank

- Bomber wired \$250.00 to Paritake Bank to set up the Bruce Phillips account

# WESTERN UNION | QUICK COLLECT<sup>SM</sup>

## To send a Quick Collect<sup>SM</sup> payment

The fastest way to make a payment.<sup>SM</sup>

Do not write in shaded area

Agency \_\_\_\_\_

Operator number \_\_\_\_\_

Time \_\_\_\_\_ Date 1/11/99

Sent time \_\_\_\_\_ Date 1/1

I.D. Type \_\_\_\_\_ Number \_\_\_\_\_

Social Security No. \_\_\_\_\_

Money Transfer Control Number 4048231594

Amount 250.00

Charge 1.500

Tax \_\_\_\_\_

Total amount received 265.00

Agent's signature ROC

Dollar amount \$250.00  
Not to exceed \$5,000

Dollar amount in words Two hundred fifty

If sending \$3,000 or more, you must provide valid I.D. and your social security number.

Pay to Paritaste Bank  
Company name

Code City Paritaste, Lt State Lt

Sender's name Steve A Boyd

Sender's telephone (area code) 336 number 456-2944

Sender's address 3620 Clemmons Rd  
Street

Clemmons NC 27012  
City State Zip

Sender's account number with company 000-3295-0004

Reference number PLA-3049

Attention: Paritaste Corp

Customer's signature Steve A. Boyd

## **Bomber Needs to Install Software**

- In order to use an Online Bank Account at Paritrate, you must run software that they mail to you on a floppy disk.



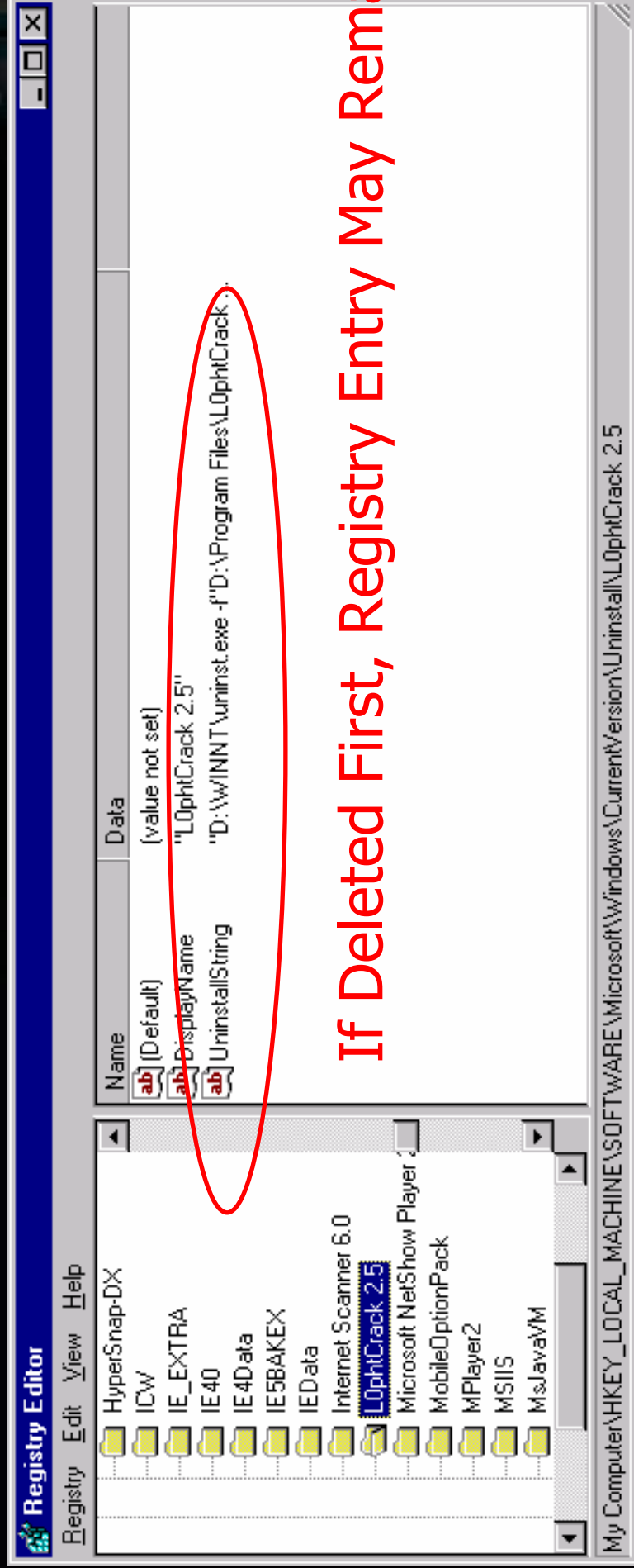


What Computer Evidence Do We Have??

- SUBJECT Installed Software
  - Subjects Machine
  - Registry Entries
  - Presence of the Paritrate Bank Software
- Paritrate Bank
  - Perhaps IP Address
  - What else can they get??

# Traces of Installed Programs

Remnants of Installed Programs Deleted Improperly



If Deleted First, Registry Entry May Remain

## Bomber Needs to Install Software

- During the installation of the client software for remote online banking, information from the bomber's hard drive was transmitted to Paritāte bank without his knowledge
- A text file was created on the Latvian bank's computer which actually revealed the bomber's true identity



NPC.txt

Client-Bank installed!

Date: 11/07/99 23:14:39

MailBox: NPC

Company:

Owner: George M. Rocha


CLW32.WZD product version 3.32.2.6

CLW32.BIN product version 3.32.3.4

Volume name:

Volume serialno = \$253C16F2

Run mode: FULL



**Let's Not Forget About the Hotmail Account**

# Net Force aka Cyber Swat is called in . . .

- 2703(d) court order was served on Hotmail in California
- Received information only of the Internet Protocol Addresses which accessed the e-mail account



key	value	description
login	brucephillips99	the name of the Hotmail account
lname	Phillips	last name
fname	Bruce	first name
country	US	n/a
zip	27804	n/a
timezone	America/New York	n/a
maildomain	hotmail.com	n/a
Headers	basic	how message headers are viewed by the user
UserDefinedReplyTo	No	n/a
gender	male	n/a
regfromip	198.85.26.106	the Internet Protocol address the account was registered from
age	1979	n/a
PpBirthday	29101	n/a

\* Not every field may appear in your report.

This data was provided to us by the user, and Hotmail does not make any representations regarding its authenticity.

**name.space**  
not everything people™

# Name.Space

SWHOIS

Smart Whois Query Result from: **whois.arin.net**

- [home](#)
- [about](#)
- [privacy](#)
- [help](#)
- [faq](#)
- [contact](#)
- [services](#)
- [new](#)
- [help](#)
- [vote](#)

CONCERT Network ([NETBLK-CONCERT-CIDR2](#)) [NETBLK-CONCERT-CIDR2](#)  
[198.86.0.0](#) - [198.86.198.86](#)

Greensboro Public Library ([NET-GPL1](#)) [GPL1](#)

To single out one record, look it up with "!xxx", where xxx is the handle, shown in parenthesis following the name, which comes first.

The ARIN Registration Services Host contains ONLY Internet Network Information: Networks, ASN's, and related POC's. Please use the whois server at rs.internic.net for DOMAIN related Information and nic.mil for NIPRNET Information.

Smart Whois Search:  
Enter Domain Name, IP Number, or Handle

12

IP	Time{PST}	Date	Pass/Fail [successful(pass) and failed(fail) authentication]
198.86.22.212	09:05:38	11/10/99	pass
198.86.22.153	10:08:28	11/9/99	pass
198.86.22.153	07:34:02	11/8/99	pass
198.86.22.146	08:16:55	11/5/99	pass
198.85.108.103	09:38:04	11/4/99	pass
216.78.172.148	07:51:36	11/2/99	pass
216.78.172.148	07:42:30	11/2/99	pass
216.78.172.148	13:26:45	11/1/99	pass
216.78.172.148	13:25:44	11/1/99	pass
216.78.172.148	13:13:04	11/1/99	pass
216.78.172.148	12:46:50	11/1/99	pass
216.78.172.148	05:27:59	11/1/99	pass
216.78.172.148	14:33:22	10/31/99	pass
216.78.172.148	08:01:24	10/31/99	pass
216.78.172.148	22:53:34	10/30/99	pass
216.78.172.148	22:52:10	10/30/99	pass
216.78.172.148	06:48:39	10/30/99	pass
216.78.172.148	06:21:26	10/29/99	pass
216.78.172.148	11:05:12	10/28/99	pass
216.78.172.148	06:33:55	10/28/99	pass
216.78.172.148	18:11:20	10/27/99	pass
216.78.172.148	07:29:14	10/27/99	pass



**name.space**  
the dot everything people™

# Name.Space

SWHOIS  Search

Smart Whois Query Result from: **whois.arin.net**

- [home](#)
- [about](#)
- [switch](#)
- [manage](#)
- [software](#)
- [how to](#)
- [press](#)
- [policy](#)
- [law](#)
- [faq](#)
- [admin](#)
- [search](#)
- [contact](#)
- [services](#)
- [new](#)
- [atlds](#)
- [vote](#)

Bellsouth.net Inc. ([NETBLK-BELLSNET-BLK5](#))

1100 Ashwood Parkway  
Atlanta, GA 30338

Netname: BELLSNET-BLK5

Netblock: [216.76.0.0 - 216.79.255.255](#)

Maintainer: BELL

Coordinator:

Muir, Ronald ([RM36-ARIN](#)) [ipadmin@BELLSOUTH.NET](mailto:ipadmin@BELLSOUTH.NET)  
770-522-6363 (FAX) 770-522-6050

Domain System inverse mapping provided by:

<a href="#">NS.BELLSOUTH.NET</a>	<a href="#">205.152.0.5</a>
<a href="#">NS.ATL.BELLSOUTH.NET</a>	<a href="#">205.152.0.20</a>

ADDRESSES WITHIN THIS BLOCK ARE NON-PORTABLE

# Subject Checked Hotmail e-mail

Monday, October 4

12:13 p.m. Forsyth MIS (library-2-whizzer.co.forsyth  
12:14 p.m. Forsyth MIS

Wednesday, October 6

11:03 a.m. Greensboro Public Library  
11:07 a.m. Greensboro Public Library  
11:31 a.m. Greensboro Public Library

Thursday, October 7

10:57 a.m. Greensboro Public Library

Friday, October 8

9:14 a.m. gso.bellsouth.net  
10:36 a.m. gso.bellsouth.net  
11:30 a.m. gso.bellsouth.net  
2:04 p.m. gso.bellsouth.net  
3:18 p.m. gso.bellsouth.net  
7:17 p.m. gso.bellsouth.net  
10:46 p.m. gso.bellsouth.net

Saturday, October 9

9:40 a.m. gso.bellsouth.net  
9:15 p.m. gso.bellsouth.net  
8:47 p.m. gso.bellsouth.net

# Hotmail account analysis

- The IP numbers were traced back to the Forsyth County Public Library, Greensboro Public Library and the Bellsouth Network
- A “whois” revealed who to serve the next 2703(d) order upon



# BellSouth.net Response

- Had Caller ID on the network modems
- Had some direct dialups from a modem
- Subscriber was:
  - George Rocha
  - 4246 Princeton Avenue
  - Greensboro, NC 27407
  - 336-854-5974

# Record Checks

- DMV photo obtained
- Criminal history checked
  - Arrested by Greensboro PD for obtaining property under false pretenses at Lowe's Home Improvement stores
- Utility checks confirm Rocha is subscriber at 4246 Princeton Avenue
  - Power
  - Telecommunications



Image Storage Date: 8/13/99 2:59:40 PM

Portrait:



Signature:



**Need physical world validation of cyber information . . .**

- **Western Union employees confirmed Rocha was the individual who sent the wire**

# Investigation Continues . . .

- Surveillance of subject is initiated
- Probation Officer is contacted
- Arrest warrant obtained
  - Taken into custody on 11/12/99
- Search warrant obtained
  - Conducted of house, car, and storage area on 11/12/99

**COMPUTER!!!**



Let's Grab His Computer!



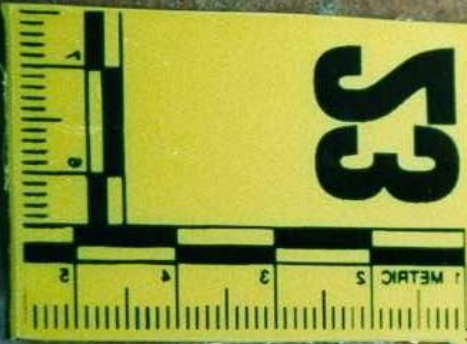








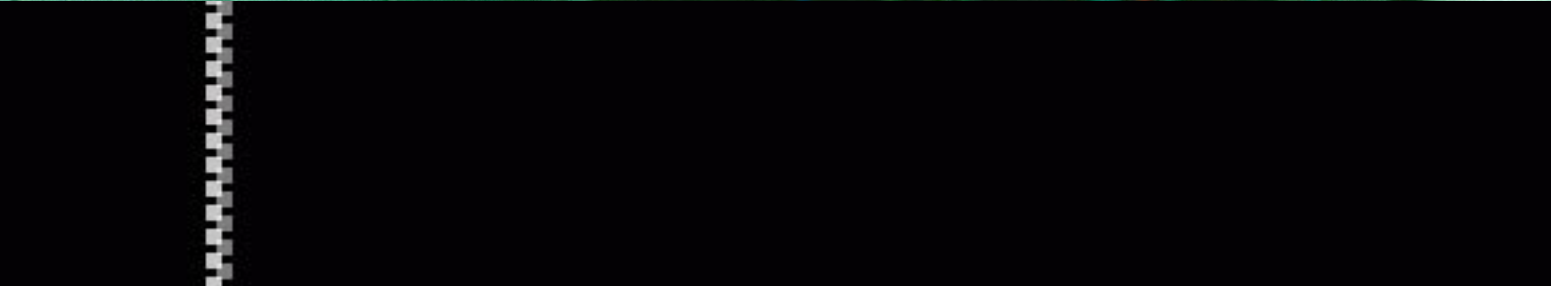
53



53





















# Computer Forensics at work

- Forensic examination of hard drive revealed hotmail email fragments and Internet History showing he had visited Lowe's website several times during the time of the bombings
- Confirmed software from bank was installed
- Serial number of volume matched data sent to bank

```
Volume name:  
Volume SerialNo = $253C16F2  
Run mode: FULL
```

# Computer Forensics at work

## Sutphen Case

### **Autopsy says cellist was asphyxiated**

Durham cellist Janine Sutphen's decomposed body showed no evidence of injuries, leading a medical examiner to conclude she was asphyxiated, according to an autopsy report released Thursday. The report by Dr. Thomas Clark III, an assistant state medical examiner, says he reached that determination after excluding all other injuries and after being unable to find any suitable specimens to undergo toxicology tests, which can show the presence of alcohol or poisons. Updated: Oct. 23, 2005 3:43 AM | [Full story](#)

### **Affidavit show items seized in Sutphen case**

A computer system, rope and a green mattress were seized from murder suspect Robert Petrick's townhouse two weeks after his missing wife's body was found in Falls Lake, according to an affidavit filed Friday. The affidavit says Investigator Terry Mikels wanted to search the couple's townhouse at 1304 Seaton Road on June 9 after Janine Sutphen's body was found May 29. She was wrapped in "numerous layers of materials, some of which had been identified by family members" as belonging to Sutphen and kept in her home. Updated: Oct. 23, 2005 12:56 AM | [Full story](#)



Case # 3



# Computer Forensics at work

- Among the circumstantial evidence against Petrick, analysts discovered that one of his computers was used to research the depth, currents and underwater topography of Falls Lake. Someone also used the computer to visit a now-defunct Web site called "Bloodfest 666" and peruse instructions on "22 Ways To Kill A Man With Your Bare Hands," evidence showed.
- In addition, the terms "rigor mortis" and "body decomposition" were looked up on the computer, a prosecution analyst testified.

(Source: <http://www.heraldsun.com/durham> )

# Google: Witness for the Prosecution

Tuesday, December 06, 2005

By Ben Channy

**eWEEK.COM**

**Robert James Petrick, 51, didn't exactly point a Web browser to the Internet search engine Google and type in "how do you kill your wife?"**

But he came pretty close, say prosecutors in Durham County, N.C.

Petrick used Google to search the Internet for references to "body decomposition," "rigor mortis," "neck" and "break" in the days before and after he murdered his wife, Janine Sutphen, then dumped her body in a lake, said Durham County assistant prosecutor **Mitchell Garrell**.

By "Googling" his wife's murder, Petrick was inadvertently supporting the prosecutor's time line of events.



# Police: Ludwig's computers hold crime plans

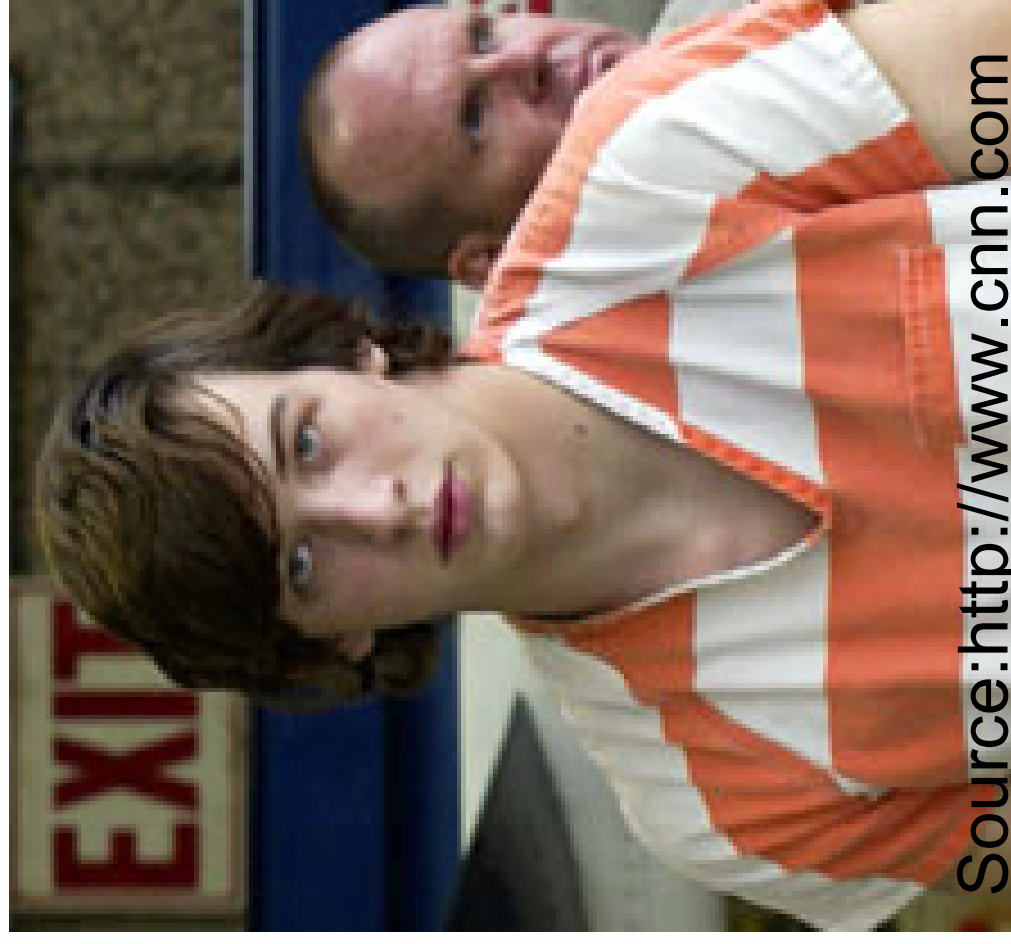
Teen charged in killing of girlfriend's parents

Tuesday, November 22, 2005; Posted: 12:31 a.m. EST (05:31 GMT)

**LITIZ, Pennsylvania (CNN) -- The images are disturbing: A 14-year-old girl in various stages of undress; two gun-toting young men making plans to break into a house and kill everyone inside.**

According to a court affidavit, police found the images on computers belonging to David Ludwig, the 18-year-old Pennsylvania man charged with shooting his girlfriend's parents and fleeing the state with her.

The affidavit was filed Friday in Lancaster



Source: <http://www.cnn.com>



Detective Christopher Erb, a computer expert, has found nearly 400 pieces of possible evidence, Tobin wrote in the affidavit.

Other images, besides the ones of Borden, included pictures of Ludwig with family and friends "possessing firearms and swords," the affidavit said.

One video shows the two friends, dressed in dark clothing, entering a room where they handled firearms and ammunition, Tobin said.

The video shows the young men leaving the house with weapons and driving to a house where they are heard planning "an armed forcible entry ... by climbing onto a roof and entering through a dormer window," Tobin says in the document.

The alleged plot was never carried out.

"Ludwig and Lohr talked about using their weapons to shoot and kill family member inside of the residence," the affidavit says.

While the two men walked back to the car, they can be heard discussing having sex with Kara and her 13-year-old sister, Katelyn, and that "the sex would constitute statutory rape and the potential to have to shoot a guy named 'Jonathan' if he found out about it," the affidavit says.

Source:<http://www.cnn.com>

# RIVERSIDE COUNTY INTRUSION CASE



People vs. William Grace  
& Brandon Wilson

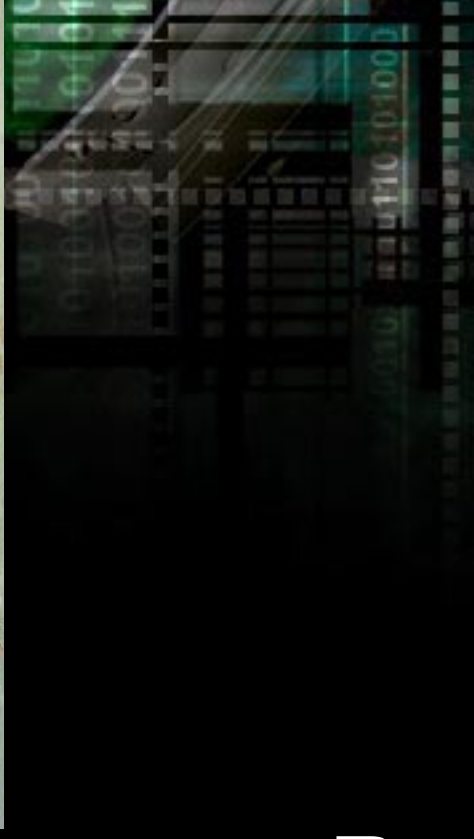


Case # 4

# RIVERSIDE COUNTY INTRUSION CASE

## WILLIAM GRACE

- 25 year old “anti-social” computer consultant
- Recluse
- Worked odd & end computer jobs, lives paycheck to paycheck.
- No formal computer education.
- Self-taught computer skills.
- Fluent in seven programming languages.
- No Criminal History
- Recognized member of hacking crew known as T.D.U.





# RIVERSIDE COUNTY INTRUSION CASE

- BRANDON WILSON
  - 22 year old unemployed collection agent.
  - Good social skills
  - Limited, but above average computer skills
  - Several criminal contacts/arrests for fraud/fake Identification



# RIVERSIDE COUNTY INTRUSION CASE

- The two suspects took advantage of host computers visible on the Internet utilizing NetBIOS services and other remotely accessible services to compromise those hosts.
- Once access was gained to those hosts, the suspects were able to “learn” the network topology by probing internal computers that were visible from the compromised computers.
- Once a network topology was acquired, computers of interest were then extensively probed and compromised.

# RIVERSIDE COUNTY INTRUSION CASE

## COMPUTER FORENSIC AFTERMATH

- 1 Terabyte (1,024,000,000 bytes) of disk storage seized
- 400 Gigabytes of digital evidence =
  - 180,000,000 pages of data
  - Stack of paper just over 60,000 feet (11.8 miles) high.
- Over 1,000 computers were found to be compromised.
- Over 21,000 passwords were obtained and cracked by Grace & Wilson.



# RIVERSIDE COUNTY INTRUSION CASE

- All effected computers had to be completely wiped clean and rebuilt for data integrity and security.
- Estimated loss & expense to clean up intrusion is just under \$1 million dollars.
- Several Web Servers, FTP Servers and other Servers were compromised

# RIVERSIDE COUNTY INTRUSION CASE

## OTHER IDENTIFIED VICTIMS

- Alameda County was probed
- Paging service company
- Internet Service Provider
- Online Credit Union
- Several other small businesses
- Several thousand personal computers compromised and personal data was located on suspect's computers
- Telephone sex entertainment service – Database contained over 12,000 names, addresses & CC#'s which suspects used.
  - Suspects extorted money from victims threatening public disclosure of entertainment service use.

# RIVERSIDE COUNTY INTRUSION CASE

Court records were modified on 72 separate occasions.

Each suspect charged with 219 felony counts of unlawful computer access & altering government records for changing.

An additional 150 felony counts were filed claiming unlawful access to various county computers and obtaining user passwords.

The suspects could have been charged with at least 1000 additional felony counts.

Total exposure for each defendant was 99 years.





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Online yellow pages  
and a Local Business

## Pair who hacked court get 9 years

Former computer consultant tried to dismiss pending cases

By Bob Sullivan  
MSNBC

Feb. 7 — Two hackers who broke into Riverside County, Calif., court computers and electronically dismissed a variety of pending cases pleaded guilty to the crime Friday. Both William Grace and Brandon Wilson were sentenced to nine years in jail after pleading guilty to 72 counts of illegally entering a computer system and editing data, along with seven counts of conspiracy to commit extortion.

**JANUARY 2003**

**THREAT**  
Security Krew

**Case # 6**

# THR34T KREW

- January 2003 – Law Enforcement was notified by a company that several computers contained unauthorized software which had been installed by unknown persons.
- Forensic examinations conducted on several computers quickly revealed a worm/trojan program present.
- Monitoring network traffic revealed suspicious outbound traffic.



# THR34T KREW

- Worm/Trojan designed to perform four major functions:
  - Self replicate by scanning class A address space looking for IIS machines susceptible to Unicode exploit. If found, exploit and install worm to start same process on new victim.
  - Create a TCP proxy service on the default port of 1297 to allow suspects to use victims as proxies.

# THR34T KREW

- Install and configure an FTP server (Serv-U deamon) on default port 65130.
- **The most devastating feature** – install trojan MIRC program as a service, which constantly attempts an outbound connection to one of seven IRC servers where the victim computer will enter a private, invisible, password protected chat room and remain a drone awaiting commands from suspects.

# THR34T KREW

- The MIRC trojan completely compromises the victim computer at the administrator level and allows the suspects to have complete control over the entire computer.
- Once in the chat room, the suspects can enter various “trigger” text which will cause the victim computer to execute various functions locally.



# THR34T KREW

- Available commands:
  - !HDSTAT Hard drive stats
  - !PORTFREE Available ports
  - !NETSPEED Net Stats
  - !KILL Kill process
  - !BNCP Configure Proxy port
  - !PASSWORD Change password
  - !SCANSTAT Scanning stats
  - !BNCCONFIG Configure Proxy
  - !INFO Machine info
  - !NETWORK Network Information
  - !DNS Perform DNS lookup
  - !VERSION Version of trojan

# THR34T KREW

- DANGEROUS COMMANDS
  - !WEBHIT Hit website x times
  - !UDP UDP flood
  - !FIND find file
  - !FS Start FTP Server
  - !WWW Get webpage
  - !DCC Send/Receive
  - !IISHIT Hit IIS machine
  - !AROOT Perform rooting

# THR34T KREW

- Two additional features:
  - Perform DDOS attack on Microsoft on each November 11<sup>th</sup> from 12:00 a.m. to 12:01 a.m.
  - Perform DDOS attack on [www.natfront.com](http://www.natfront.com) every 11<sup>th</sup> reboot.



# THR34T KREW

- Trojan/Worm was hard coded with seven different domain names as the IRC servers for the victims to contact.
- IRC servers were constantly moved around by the use of a dynamic DNS service which allowed instant DNS updates from a web interface.
- IRC servers were victim machines that had previously been compromised by the Trojan/Worm.

# THR34T KREW

- Suspects used publicly available proxies and victim proxies to multi-proxy when connecting to IRC servers and when updating DNS records.
- Following proxy layers backwards and researching email addresses used to register for the DNS service was their downfall.

```

#tkworld
* TK--619 has quit IRC (Ping timeout)
* TK--599 has quit IRC (Ping timeout)
* TK--441 has joined #tkworld
* TKJ322 has quit IRC (Ping timeout)
<TK^775> Logged in
* TK--439 has quit IRC (Ping timeout)
* TK--950 has joined #tkworld
* TKJ828 has joined #tkworld
* TKJ887 has quit IRC (Ping timeout)
<TK--496> Logged in
<TK--178> Logged in
* TKJ888 has quit IRC (Ping timeout)
* TK^863 has joined #tkworld
* TK^130 has quit IRC (Ping timeout)
* TK--746 has quit IRC (Ping timeout)
* TK^391 has joined #tkworld
* TKJ110 has quit IRC (Ping timeout)
<h> !hdstat
* TK_150 has joined #tkworld
<TK^598> Free space: <C:\> 1848.08MB <D:\> 0MB <E:\> 4590.95MB <F:\> 10335.49MB << Total space: <C:\> 4094.66MB
<D:\> 0MB <E:\> 8032.47MB <F:\> 33188.94MB
* TK^687 has quit IRC (Ping timeout)
<TK^434> Free space: <C:\> 1535.64MB <D:\> 78699.75MB <E:\> MB <F:\> MB << Total space: <C:\> 16386.58MB <D:\>
101410.28MB <E:\> MB <F:\> MB
* TK--503 has quit IRC (Ping timeout)
* TKJ549 has quit IRC (Ping timeout)
* TK^847 has quit IRC (Ping timeout)
<TK^614> Free space: <C:\> 59628.24MB <D:\> 0MB <E:\> MB <F:\> MB << Total space: <C:\> 69415.78MB <D:\> 0MB <E:\>
MB <F:\> MB
* TK--358 has joined #tkworld
<TKJ397> Free space: <C:\> 875.75MB <D:\> 0MB <E:\> 0MB <F:\> MB << Total space: <C:\> 2047.03MB <D:\> 0MB <E:\>
0MB <F:\> MB
<TKJ305> Free space: <C:\> 1214MB <D:\> 30547.6MB <E:\> MB <F:\> MB << Total space: <C:\> 4094.66MB <D:\> 30906.3MB
<E:\> MB <F:\> MB
<TKJ287> Free space: <C:\> 858.61MB <D:\> 0MB <E:\> 37007.13MB <F:\> 6MB << Total space: <C:\> 4149.57MB <D:\> 0MB
<E:\> 39070.41MB <F:\> 1905.84MB
* TK--648 has joined #tkworld
<TK--183> Free space: <C:\> 6705.21MB <D:\> 8496.75MB <E:\> 8003.67MB <F:\> 16846.14MB << Total space: <C:\>
8667.85MB <D:\> 8675.7MB <E:\> 8675.7MB <F:\> 17492.62MB
* TKJ530 has joined #tkworld
<TKJ950> Free space: <C:\> 1295.07MB <D:\> 0MB <E:\> MB <F:\> MB << Total space: <C:\> 9750.36MB <D:\> 0MB <E:\> MB
<F:\> MB
<TK^932> Free space: <C:\> 11636.16MB <D:\> 0MB <E:\> 0MB <F:\> MB << Total space: <C:\> 19077.16MB <D:\> 0MB <E:\>
0MB <F:\> MB
<TKJ341> Free space: <C:\> 544.54MB <D:\> 0MB <E:\> 0MB <F:\> MB << Total space: <C:\> 8628.66MB <D:\> 0MB <E:\> MB
<F:\> MB
* TK^450 has joined #tkworld
* TKJ592 has joined #tkworld
* TK^988 has joined #tkworld
<TK9768> Logged in
* TKJ937 has joined #tkworld
* TKJ421 has joined #tkworld
* TKJ622 has joined #tkworld

```

- TK--178
- TK--183
- TK--241
- TK--262
- TK--358
- TK--441
- TK--496
- TK--648
- TK--712
- TK--752
- TK--950
- TK43768
- TK69012
- TK9768
- TKJ128
- TKJ203
- TKJ287
- TKJ305
- TKJ341
- TKJ397
- TKJ402
- TKJ421
- TKJ450
- TKJ530
- TKJ592
- TKJ607
- TKJ622
- TKJ658
- TKJ661
- TKJ680
- TKJ687
- TKJ725
- TKJ751
- TKJ799
- TKJ828
- TKJ854
- TKJ915
- TKJ916
- TKJ937
- TKJ944
- TKJ950
- TK^111
- TK^154
- TK^278
- TK^285
- TK^391
- TK^434
- TK^450
- TK^491
- TK^586
- TK^598
- TK^614
- TK^659
- TK^718
- TK^753
- TK^775



```
File Tools DCC Commands Window Help
#tkworld
Usage: 384/7512MB (75.00%)
<TK^278> Logged in
<TK9768> Free space: <C:\> 211.39MB <D:\> 9680.92MB <E:\> MB <F:\> MB <G:\> 8032.45MB <D:\>
12405.27MB <E:\> MB <F:\> 0MB
* TK_154 has joined #tkworld
* TK--517 has joined #tkworld
* TK-885 has joined #tkworld
* TK^598 has quit IRC (Ping timeout)
<TK^278> Free space: <C:\> 7309.4MB <D:\> 0MB <E:\> 0MB <F:\> MB <G:\> 17316.09MB <D:\> 0MB <E:\>
0MB <F:\> MB
* TK-ALT has joined #tkworld
* TK--648 has quit IRC (Ping timeout)
<h> !netspeed
* TK[794] has joined #tkworld
* TK[230] has joined #tkworld
* TK--358 has quit IRC (Ping timeout)
* TK[944] has quit IRC (Ping timeout)
* TK[950] has quit IRC (Ping timeout)
* TK[341] has quit IRC (Ping timeout)
* TK[530] has quit IRC (Ping timeout)
* TK--506 has joined #tkworld
<TK--496> -(Network Bandwidth)- xxx Download 3.26 k/s (122MB) xxx Upload 1.68 k/s (44.7MB) xxx Total 4.93 k/s
(167MB) xxx Average taken over: 10 seconds
* TK--950 has quit IRC (Ping timeout)
* TK^163 has joined #tkworld
<TK69012> -(Network Bandwidth)- xxx Download 1.07 k/s (30.5MB) xxx Upload 0.41 k/s (150MB) xxx Total 1.48 k/s
(180MB) xxx Average taken over: 10 seconds
* TK[592] has quit IRC (Ping timeout)
<TK--178> -(Network Bandwidth)- xxx Download 0.03 k/s (477MB) xxx Upload 0.42 k/s (123MB) xxx Total 0.45 k/s
(601MB) xxx Average taken over: 10 seconds
* TK^450 has quit IRC (Ping timeout)
<TK[128> -(Network Bandwidth)- xxx Download 0.05 k/s (10.3MB) xxx Upload 0.01 k/s (2.69MB) xxx Total 0.06 k/s
(13.0MB) xxx Average taken over: 10 seconds
* TK[291] has joined #tkworld
<TK[305> -(Network Bandwidth)- xxx Download 0.25 k/s (1.03G) xxx Upload 0.03 k/s (186MB) xxx Total 0.28 k/s (1.21G)
xxx Average taken over: 10 seconds
<TK--241> -(Network Bandwidth)- xxx Download 1.46 k/s (2.24G) xxx Upload 0.67 k/s (1.47G) xxx Total 2.13 k/s
(3.71G) xxx Average taken over: 10 seconds
<TK^775> -(Network Bandwidth)- xxx Download 0.47 k/s (1.71G) xxx Upload 2.82 k/s (2.57G) xxx Total 3.29 k/s (4.28G)
xxx Average taken over: 10 seconds
* TK[725] has quit IRC (Ping timeout)
<TK--183> -(Network Bandwidth)- xxx Download 8.43 k/s (3.34G) xxx Upload 10.45 k/s (2.74G) xxx Total 18.87 k/s
(6.07G) xxx Average taken over: 10 seconds
<TK[287> -(Network Bandwidth)- xxx Download 0 k/s (0B) xxx Upload 0 k/s (0B) xxx Total 0 k/s (0B) xxx Average taken
over: 10 seconds
* TK[854] has quit IRC (Ping timeout)
<TK[661> -(Network Bandwidth)- xxx Download 40.88 k/s (992MB) xxx Upload 41.63 k/s (1.33G) xxx Total 82.51 k/s
(2.3G) xxx Average taken over: 10 seconds
* TK[658] has quit IRC (Ping timeout)
<TK[450> -(Network Bandwidth)- xxx Download 0.13 k/s (2.25MB) xxx Upload 1.99 k/s (36.2MB) xxx Total 2.12 k/s
(38.4MB) xxx Average taken over: 10 seconds
<TK^278> -(Network Bandwidth)- xxx Download 0.18 k/s (643MB) xxx Upload 0.15 k/s (3.09G) xxx Total 0.33 k/s (3.72G)
xxx Average taken over: 10 seconds
```

```
@h
TK-885
TK-956
TK-ALT
TK--178
TK--183
TK--241
TK--262
TK--432
TK--441
TK--459
TK--496
TK--506
TK--517
TK--746
TK--819
TK--897
TK69012
TK9768
TK[128
TK[158
TK[203
TK[230
TK[242
TK[268
TK[287
TK[291
TK[305
TK[302
TK[397
TK[421
TK[450
TK[457
TK[622
TK[661
TK[687
TK[734
TK[762
TK[783
TK[799
TK[813
TK[828
TK[852
TK[902
TK[937
TK^163
TK^278
TK^285
TK^291
TK^391
TK^484
TK^464
TK^491
TK^519
TK^557
TK^614
TK^748
```



```

* TK-857 has joined #tkworld
<TK^614> -(Network Bandwidth)- xxx Download 45.9 k/s (2.016) xxx Upload 61.72 k/s (2.696) xxx Total 107.62 k/s
(4.76) xxx Average taken over: 10 seconds
* TK--501 has joined #tkworld
<TK^718> -(Network Bandwidth)- xxx Download 0.29 k/s (923MB) xxx Upload 0.26 k/s (906MB) xxx Total 0.55 k/s (1.796)
xxx Average taken over: 10 seconds
* TK^386 has joined #tkworld
* TK 405 has joined #tkworld
* TK^863 has quit IRC (Ping timeout)
<h> !version
<TK^847> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 18:21:37 2002 Uptime: 6wks 55mins 48secs Online:
2mins 32secs
* TK[]369 has joined #tkworld
<TK[]450> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 15:30:00 2002 Uptime: 11hrs 58mins 26secs
Online: 9mins 46secs
* TK[]813 has quit IRC (Ping timeout)
<TK[]395> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 21:35:16 2002 Uptime: 1wk 6days 3hrs 9mins 9secs
Online: 11mins 41secs
<TK69012> Version: TKbot.R00t.EDITION.FINAL Signup Time: Tue Nov 05 11:22:00 2002 Uptime: 2hrs 24mins 3secs Online:
10mins 37secs
* TK^145 has joined #tkworld
<TK^718> Version: TKbot.R00t.EDITION.FINAL Signup Time: Tue Nov 05 08:55:31 2002 Uptime: 1wk 7hrs 15mins 48secs
Online: 9mins
<TK^932> Version: TKbot.R00t.EDITION.FINAL Signup Time: Tue Nov 05 20:40:55 2002 Uptime: 4days 8hrs 11mins 58secs
Online: 12mins 41secs
* TK[]200 has joined #tkworld
<TK--241> Version: TKbot.R00t.EDITION.FINAL Signup Time: Sat Nov 02 07:02:27 2002 Uptime: 2wks 6days 10hrs 14mins
52secs Online: 15mins 33secs
<TK^278> Version: TKbot.R00t.EDITION.FINAL Signup Time: Fri Nov 01 22:45:57 2002 Uptime: 1wk 3days 1hr 32mins 41secs
Online: 10mins 27secs
<TK9768> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 21:02:26 2002 Uptime: 6hrs 13mins 50secs Online:
14mins 59secs
* TK[]128 has quit IRC (Ping timeout)
<TK--183> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 17:35:10 2002 Uptime: 6days 8hrs 14mins 26secs
Online: 13mins 40secs
* TK^285 has quit IRC (Ping timeout)
<TK[]661> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Nov 28 13:47:51 2002 Uptime: 5days 3hrs 48mins 33secs
Online: 10mins 29secs
* TK^775 has quit IRC (Ping timeout)
* TK[]291 has quit IRC (Ping timeout)
<TK^614> Version: TKbot.R00t.EDITION.FINAL Signup Time: Sat Nov 02 10:00:33 2002 Uptime: 5days 9hrs 11mins 56secs
Online: 12mins 28secs
* TK[]287 has quit IRC (Ping timeout)
* TK[]827 has joined #tkworld
<TK--178> Version: TKbot.R00t.EDITION.FINAL Signup Time: Wed Nov 06 09:35:16 2002 Uptime: 7hrs 45mins 47secs
Online: 12mins 14secs
<TK[]397> Version: TKbot.R00t.EDITION.FINAL Signup Time: Thu Oct 31 03:05:10 2002 Uptime: 1wk 2days 7hrs 8mins
34secs Online: 9mins 53secs
* TK^223 has joined #tkworld
<TK--496> Version: TKbot.R00t.EDITION.FINAL Signup Time: Sun Nov 03 12:07:17 2002 Uptime: 7hrs 30mins 21secs
Online: 11mins 48secs
* TK[]799 has quit IRC (Ping timeout)
* TK--262 has quit IRC (Ping timeout)

```

- TK-857
- TK-885
- TK-956
- TK-ALT
- TK--178
- TK--183
- TK--241
- TK--432
- TK--441
- TK--459
- TK--496
- TK--501
- TK--506
- TK--517
- TK69012
- TK9768
- TK[]136
- TK[]158
- TK[]200
- TK[]230
- TK[]242
- TK[]268
- TK[]305
- TK[]362
- TK[]369
- TK[]397
- TK[]421
- TK[]450
- TK[]457
- TK[]592
- TK[]614
- TK[]622
- TK[]661
- TK[]723
- TK[]734
- TK[]783
- TK[]827
- TK[]828
- TK[]852
- TK[]902
- TK[]937
- TK^145
- TK^163
- TK^223
- TK^278
- TK^291
- TK^386
- TK^391
- TK^464
- TK^473
- TK^491
- TK^519
- TK^555
- TK^614
- TK^718
- TK^817

# THR34T KREW

- Eight suspects were identified and arrested including two in the UK, one in California, two in Illinois, one in Indiana, one in Maryland and one in Florida
- Suspects are between the ages of 16 & 21 years old.
- Total number of compromised hosts was over 20,000.
- Estimated damage was 9 million dollars.
- Victims in over 20 different countries.



# THR34T KREW



- Over 2.5 terabytes of data was seized from the various computers (one suspect has 9 computers)
- Forensic examination of Illinois suspect revealed captured IRC chat logs that contained IP addresses of several other suspects

# THR34T KREW

- Interviews with suspects revealed that they were using many of the victim computers to host illegally copied movies, music and software.
- Additional planned uses included using the distributed services of the victim computers to break encryption & passwords and conduct denial of service attacks against various businesses.

# THR34T KREW

- Both suspects in the UK pled guilty to unauthorized computer tampering
- Suspect in Indiana was formally charged and pled guilty to receive 21 months federal prison
- Other suspects were either juveniles or no formal charges were filed.



i read your e-mail.



got root?

Do not mistake us for others  
for they are not like us and  
they are not like us and  
they are not like us and

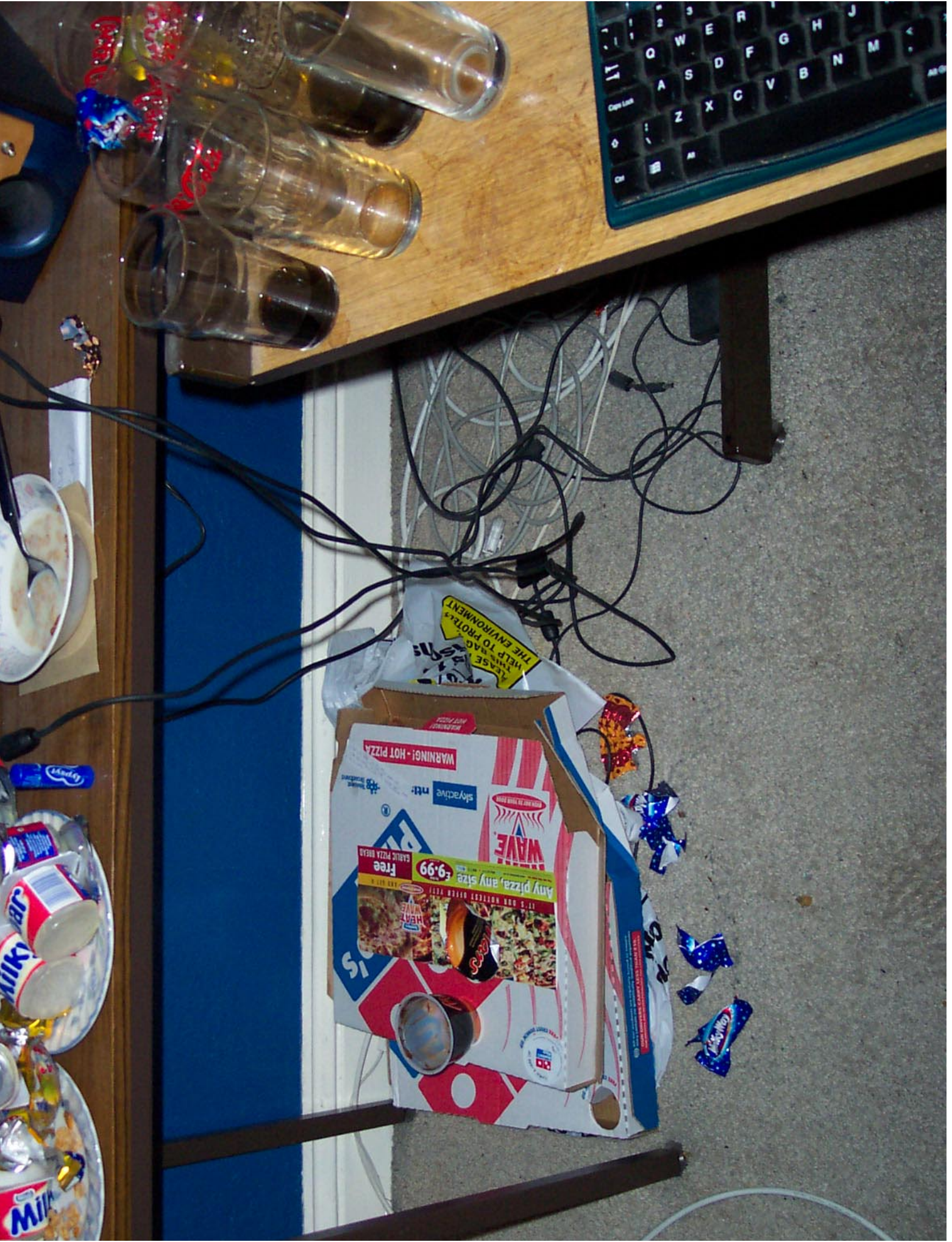
3.5 floppy

- Physion2 The Getaway
- Physion2 Mission 2: Silent Assassin
- Physion2 Grand Theft Auto III
- Physion2 Tekken 4
- Physion2 Gran Turismo 3: Sport
- Physion2 Ali G Indahouse
- Grand Theft Auto: Vice City



















# Questions

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