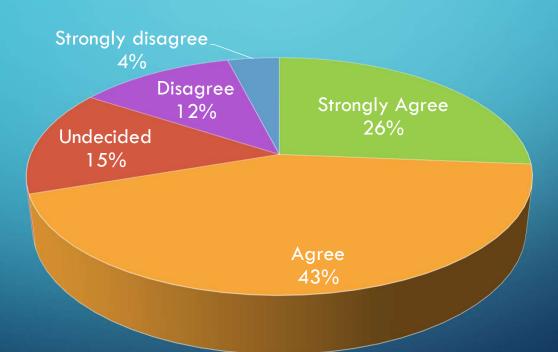
THOSE IN COMMAND AT MY AGENCY ENCOURAGE THE USE OF SOCIAL MEDIA FOR INVESTIGATION





DOES YOUR AGENCY/DEPARTMENT HAVE A POLICY FOR OBTAINING/SEARCHING EVIDENCE POSTED ON SOCIAL MEDIA FOR USE IN INVESTIGATIONS? Yes No 45% 55%



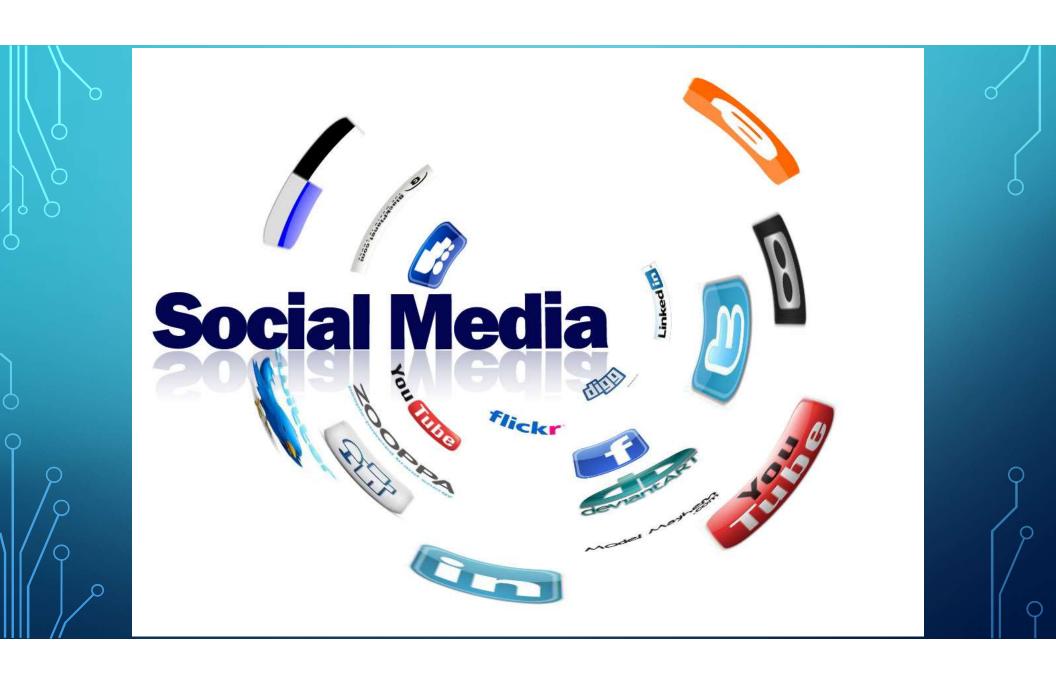
DEFINING "SOCIAL MEDIA"

"We define social [media] as web-based services that allow individuals to

- (1) construct a public or semi-public profile within a bounded system,
- (2) articulate a list of other users with whom they share a connection, and
- (3) view and transverse their list of connections and those made by others within the system.

The nature and nomenclature of these connections may vary from site to site."

-Boyd, D.M., and Ellison, N.B. (2007), Social Network Sites: Definition, History, and Scholarship. Journal of Computer-Mediated Communication, 13: 210-230, available at http://onlinelibrary.wiley.com/doi/10.1111/j.1083-6101.2007.00393.x/full.





SCREEN CAPTURE



ARCHIVING SOLUTIONS



FORENSIC SOFTWARE



BUSINESS RECORDS

<u>Screen Capture</u>: Take screenshots of the page one is currently viewing.

Archiving Solutions:
Google, Facebook,
Twitter & LinkedIn all
offer ways in which users
can download & archive
their data.

Forensic Software:
Application Program
Interfaces (APIs)
forensically collect
information from accounts,
depending on permissions.

Business Records:
Obtaining social media records through legal process served on the social media company

SCREEN CAPTURE

Pros

- Captures and preserves the information in a specific moment in time.
- Prevents the information from being deleted by the user.

Cons

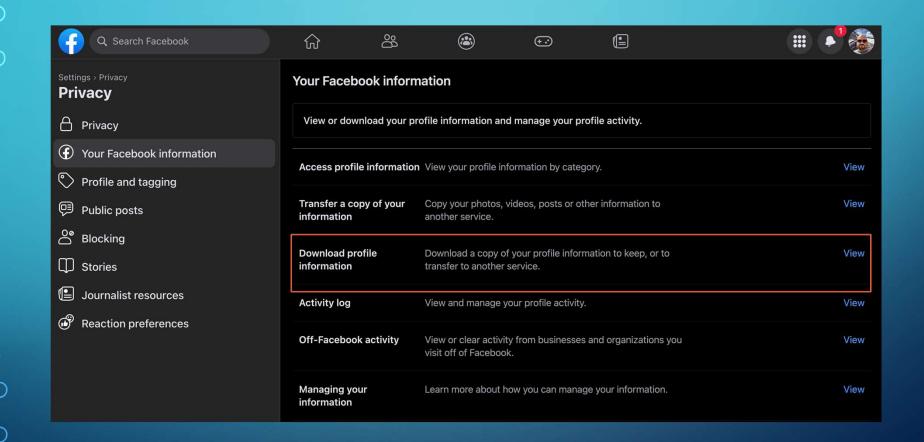
- Privacy settings may prevent access.
- Authentication problems in court.

ARCHIVING SOLUTIONS

Retrieve & analyze data that a user has requested about his/her own account.

Many social media sites offer users the ability to download a copy of the information contained about the user on the site.

- Facebook: https://www.facebook.com/help/131112897028467
- Twitter: https://blog.twitter.com/2012/your-twitter-archive





SCREEN CAPTURE



ARCHIVING SOLUTIONS



FORENSIC SOFTWARE



BUSINESS RECORDS



Forensic software is specially built to collect content and metadata.



X1 Social Discovery can provide all content & metadata that might be relevant to an investigation, all through the use of social networking sites' APIs.

Creates an MD5 hash of everything that will be useful for authentication purposes.

FORENSIC SOFTWARE

Cons:

May require information to be publicly available or obtained with consent, subpoena or court order. If information is not obtained under these circumstances, it may be excluded under the rules of evidence.

The software is based on each social media sites' API. Thus, if the site changes the way it offers data to be collected then the software needs to be updated to reflect these changes.





Unified Search & eDiscovery for Virtual, Cloud & Hybrid Environments

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Social Media Discovery and Web Collection

X1 Social Discovery™, the industry's first investigative solution specifically designed for eDiscovery and computer forensics professionals to effectively address social media content, website collection, webmail, and YouTube video capture, in one single interface.



Social media, webmail, website data and YouTube video are very common sources of evidence in criminal and civil litigation and must be routinely addressed in discovery. However, legal and investigative professionals have lacked a means to cope with the vast amounts of data in their workflow, in the same manner as email and files, until now.

X1 Social Discovery is designed to effectively address social media content from the leading social media networking sites such as Facebook, Twitter and Linkedin. In addition, it can crawl, capture and instantly search content from websites, webmail and YouTube. Unlike archiving and image capture solutions, X1 Social Discovery provides for a matter-centric workflow from search and collection through production in searchable native format, while preserving critical metadata not possible through image capture, printouts, or raw data archival of RSS feeds.

Screenshots (6) Click to view >

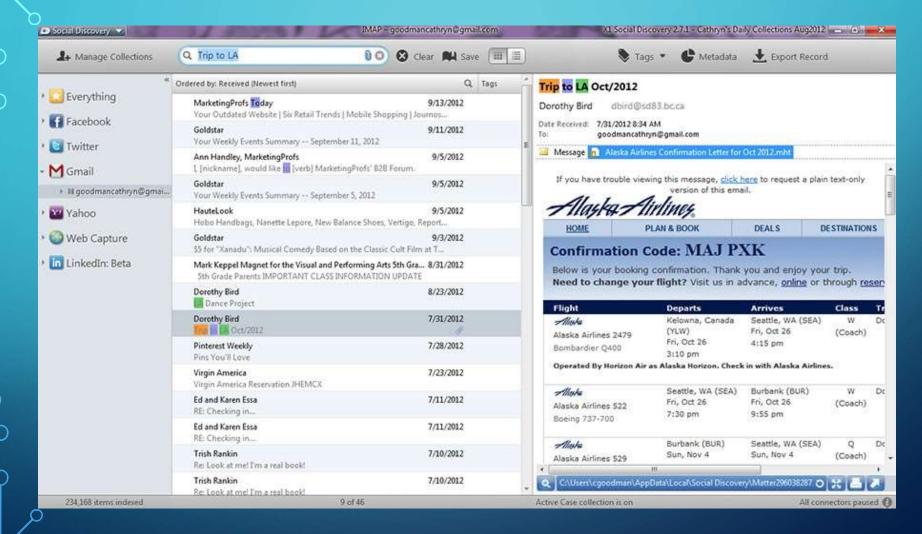


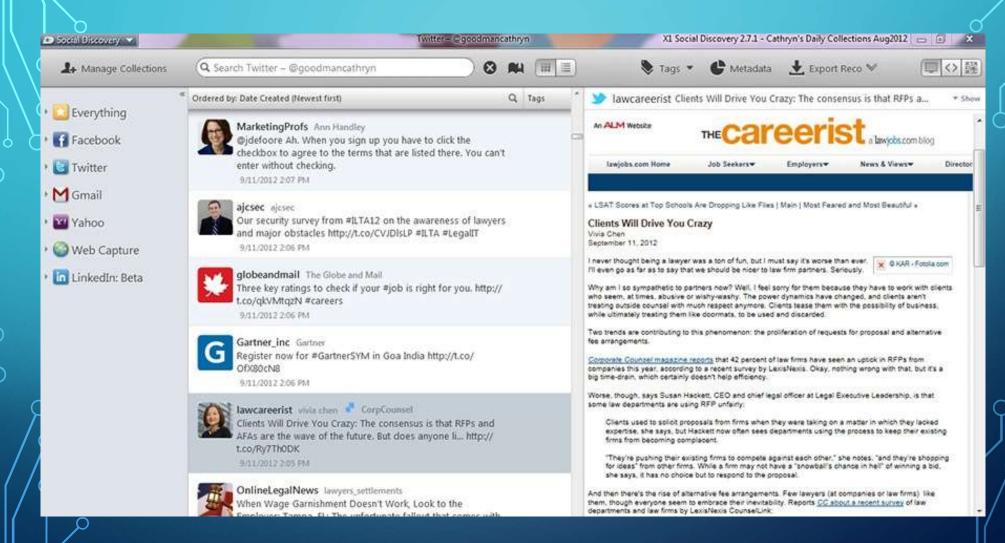
Blog Articles

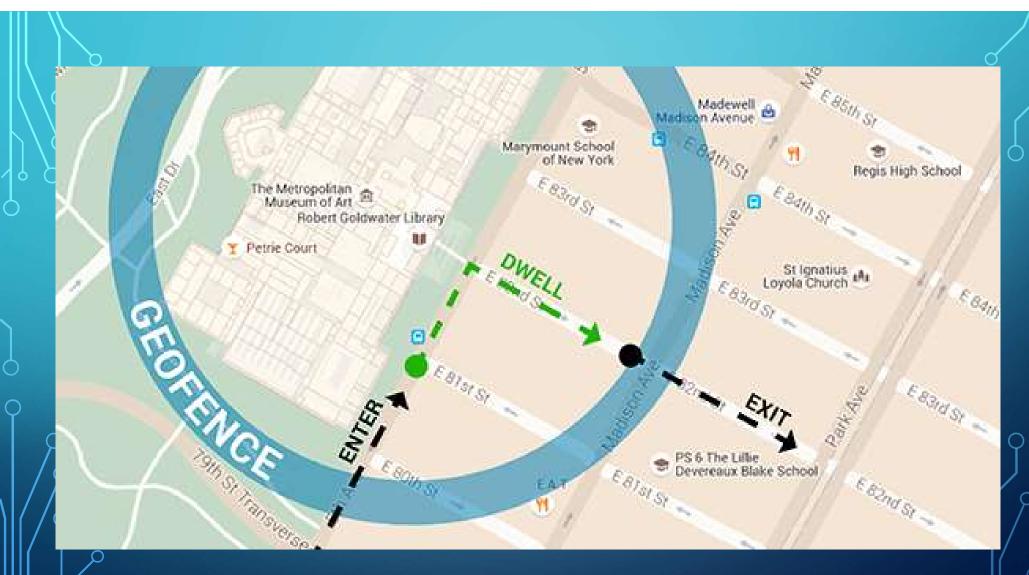
Live Social Media Evidence Capture from Today's Vegas Strip Shooting >

Social Media Discovery Hotter Than Predictive Coding? >

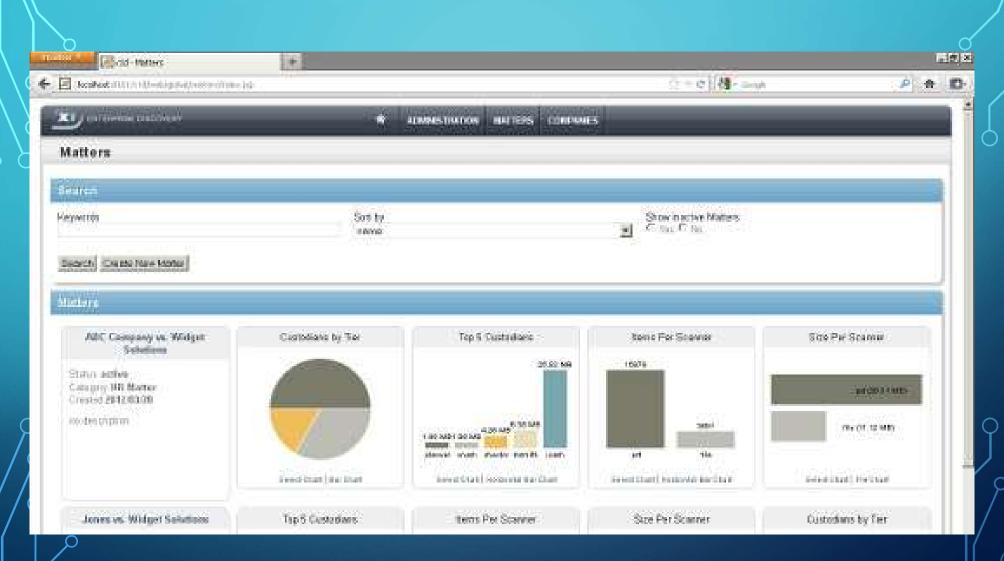














THE STORED COMMUNICATIONS ACT (SCA)

18 U.S.C. Chapter 121 §§ 2701–2712

183

Stored Communications Act

- (F) REQUIREMENT TO PRESERVE EVIDENCE.—
- (1) IN GENERAL.— A PROVIDER OF WIRE OR ELECTRONIC COMMUNICATION SERVICES OR A REMOTE COMPUTING SERVICE, UPON THE REQUEST OF A GOVERNMENTAL ENTITY, SHALL TAKE ALL NECESSARY STEPS TO PRESERVE RECORDS AND OTHER EVIDENCE IN ITS POSSESSION PENDING THE ISSUANCE OF A COURT ORDER OR OTHER PROCESS.
- (2) PERIOD OF RETENTION.— RECORDS REFERRED TO IN PARAGRAPH (1) SHALL BE RETAINED FOR A PERIOD OF 90 DAYS, WHICH SHALL BE EXTENDED FOR AN ADDITIONAL 90-DAY PERIOD UPON A RENEWED REQUEST BY THE GOVERNMENTAL ENTITY.

the term "governmental entity" means a department or agency of the United States or any State or political subdivision thereof.

STORED COMMUNICATIONS ACT (SCA)

Crispin v. Christian Audigier Inc.

2010 U.S. Dist. Lexis 52832 (C.D. Cal. May 26, 2010).

- Ruled that Facebook & MySpace fall under the definition of an Electronic Service Provider (ESP), as defined by SCA, because they provide message delivery services.
- Thus, the Court found the SCA is applicable to social networking sites.

STORED COMMUNICATIONS ACT:

REQUIRED DISCLOSURE OF CUSTOMER COMMUNICATIONS OR RECORDS

18 U.S. Code § 2703 - Required disclosure of customer communications or records

Letter of Preservation

Warrants/Subpoenas



STORED COMMUNICATIONS ACT: LETTER OF PRESERVATION

Letter of Preservation: "shall take all necessary steps to preserve records and other evidence in possession pending the issuance of a court order or other process."

18 USC 2703(f)



223 N. Memorial Drive Independence, Missouri 64050 (816) 325-7271 FAX (816) 325-7316

DATE:

Compliance Team YAHOO, Inc. 701 First Avenue Sunnyvale, California 94089 Fax: (408) 349-7941 Voice: (408) 349-3300

Dear Custodian of Records,

Our agency is conducting an ongoing criminal investigation that involves one or more Yahoo! users. As part of that investigation, we are requesting that information related to the [Yahoo! ID or Yahoo! e-mail address or Yahoo! Group] listed below be preserved pending the issuance of formal legal process. More specifically, we are requesting that you preserve all [subscriber information and/or account contents or Group information] related to the following customer or subscribers:

Yahoo! IDs:

Yahoo! e-mail address:

Name:

Address:

Additional Identifying Information (e.g. DOB, credit card number):

At this time we are expecting to obtain formal legal process in the next 90 days. We acknowledge that if we do not serve legal process upon you in the next 90 days, and do not request a 90 day extension, the preserved information may no longer be available.

This letter is a request to preserve such records and is being made under the provisions of 18 United States Code Section 2703 (f) which states "...a provider of wire or electronic communication services or a remote computing service, upon request of a government entity, shall take all necessary steps to preserve records and other evidence in possession pending the issuance of a court order or other process."

You are also requested not to disclose the existence of this request to the subscriber or any other person, other than as necessary to comply with this request.

Please refer any questions to:

Detective -insert-Independence, Missouri Police Department Intelligence Unit 223 N. Memorial Drive Independence, Missouri 64050 Desk: (816) 325-7805 Fax: (816) 325-7256

Thank you for your cooperation.



Dear Custodian of Records,

Our agency is conducting an ongoing criminal investigation that involves one or more Yahoo! users. As part of that

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You are also requested not to disclose the existence of this request to the subscriber or any other person, other than also necessary to comply with this request.



STORED COMMUNICATIONS ACT: JUDICIAL WARRANTS/SUBPOENAS

- Warrants/Subpoenas: Obtain the information directly from the social networking site via warrant, subpoena or other legal mechanism. I8 USC 2703(d)
- *Direct Presence of Officer is not Required. 18 USC 2703(g)

CRIMINAL COURT OF THE CITY OF NEW YORK
COUNTY OF QUEENS

IN THE MATTER OF THE APPLICATION OF
DETECTIVE
3HIELD NO.
OF THE NYPD FOR A SEARCH WARRANT

Warrant#

Warrant#

TO ANY MEMBER OF THE NEW YORK CITY POLICE DEPARTMENT AND TO ANY POLICE OFFICER OF THE STATE OF NEW YORK:

Proof by affidavit and/or oral deposition, having been made this day before me by Detective Shield No. of the New York City Police Department, there is reasonable cause to believe the following will be found at Street.

- Computers (as that term is defined in Section 156.00 (1) of the Penal Law of New York), also known as electronic devices, including but not limited to desktop CPUs, laptops, cell phones, tablets and gaming devices;
- computer-related equipment such as video gaming devices, smart TVs, BluRay players, printers, scanners, keyboards, video display monitors, video game systems, optical readers, related communications devices such as modems and other devices that allow a user to connect to the internet;
- external storage media including hard drives, video gaming systems, optical storage devices, Smart TVs, memory storage devices including, cameras, web cameras, and devices capable of storing and/or transmitting digital images;
- portable storage media such as flash drives, thumb drives, USB devices, memory cards, compact discs, DVDs, BluRay discs, magnetic media such as tape, cassette, disk, diskette or memory storage devices such as optical disks, programmable instruments such as telephones including cellular telephones, electronic calendar/address books, calculators, wristwatches, personal communication service (PCS) devices or any other storage media;
- documents in both hard copy format (printed, written, typed, photocopied, faxed, photographs, etc.), and electronically stored as computer data (as that term is defined in Section 156.00 (2) of the Penal Law of New York) (also known as electronic data) which may be contained on internal storage media or on any external storage media and which is likely to contain emails, chat transcripts or instant message transcripts, text messages, histories of access to internet websites, any contact information for correspondents including names, addresses, telephone

numbers, email addresses, screen names, profiles, etc. which may be contained in compilations such as buddy lists, or address books or in any other files;

- any documents or data, including but not limited to concerning email accounts, instant message accounts, and internet access accounts, regarding the possession, acquisition, storage, or transmission of images of adults or children engaged in sexually explicit conduct;
- any evidence including but not limited to any software that may be used
 for communicating over the internet or for storing said data or documents
 on an electronic device or on the internet including any online storage
 accounts also known as "cloud storage", e-mail accounts, or other
 remote electronic storage account including unique software for such
 account, subscriber information, user logs, or archived data that shows
 connection to such service, and user login and password for such
 service;
- any records containing or concerning addresses, telephone numbers, e-mail addresses, e-mails, instant messages, text messages or other electronic correspondence between or regarding correspondence between persons any person(s) appearing to be a minor child or person(s) interested in sex with young children including but not limited to correspondence and other records concerning attempts to contact young children, obtaining sharing or storing of photos or image files including video and still, any depictions of young children and /or adults engaged in sexual contact or lewd exhibition of the genitals;
- any software that may be used for sharing files over the internet or a local network including but not limited to any peer to peer software;
- records regarding the ownership of any electronic devices not limited to those recovered from the premises as well as manuals or notebooks regarding the operation of said electronic devices and any programs or external electronic device connected or contained on them;
- any notes regarding the protection of files by passwords, as well as any handwritten notes containing the name or any portion of any screen name, email address, profile name or password for any account;
- records regarding the ownership or use of said premises and equipment including but not limited to utility bills, telephone bills, cell phone bills, internet service provider bills, and bank account records which may be found at the premises described as follows:

Street, Queens County New York – an attached, private house with beige siding with stackers affixed to the exterior of the front, first-floor storm door which state Two entrances are in the front of the building – one beige door on the left side, garden-level and one red door with a glass window on the right-side, first-

floor - both with exterior glass and metal storm doors. In the center of first-floor storm door is a mail slot.

MOREOVER, there is reasonable cause to believe that the property set forth above will be at the premises set forth above and that said property is stolen or unlawfully possessed or has been used or is possessed for the purpose of being used to commit or conceal the commission of an offense or constitutes evidence or tends to demonstrate that an offense was committed in this state, or that a particular person participated in the commission of an offense in this state, to wit Promoting a Sexual Performance by a Child, New York Penal Law Section 263.15; Possessing a Sexual Performance by a Child, Penal Law Section 263.16 and Conspiracy to commit those crimes as defined in Article 105 of the Penal Law.

YOU ARE THEREFORE COMMANDED to make a search of the abovedescribed premises, to wit: Queens County. New York, within ten (10) days of the signing of this warrant and commencing between the hours of 6 am and 9 pm, without first announcing your presence or authority, NO KNOCK

AND, if you find such property and/or evidence, or any part thereof, to bring it and this warrant before this or another Court without unnecessary delay, and it is further;

ORDERED that Special Agents from Homeland Security Investigations, Child Exploitation Group may assist in the search of the above-described premises:

ORDERED that you may forensically examine such computer(s), computer related equipment, internal or external storage media, portable storage media, or personal communication devices and computer data as you may find, and copy any computer data, and examine and photograph or videotape or digitally copy any of the above described property and that the premises may be photographed, to assist in the documentation of the search;

ORDERED that the affidavit of Detective City Police Department, in support of the application for this warrant is hereby sealed pending the further order of this Court or another court of appropriate jurisdiction.

ORDERED that you may utilize fingerprint unlocking or facial recognition require any occupant of County, New York to press their finger(s) against the fingerprint sensor of the



Queens, New York

locked devices(s) found at the premises in an attempt to identify the device user(s) and unlock the device(s).

ORDERED that should the device require facial recognition, you may have each occupant look at the phone screen in an attempt to unlock the

device. IT IS FURTHER ORDERED, that in performing the forensic examination

you are hereby authorized to utilize the assistance of others with expertise in decoding and/or obtaining password protections and/or encryptions, and in transferring, downloading, converting, dumping or draining of data from the memories of such electronic devices, in order to minimize the possible loss or alteration of such data in the course of making such data legible and storable in legible form. Such experts may be members of law enforcement organizations not empowered to execute search warrants by New York law, industry trade associations, or from companies which manufacture or service such electronic devices or telecommunications industries

Judge of the Criminal Coul.

Date: Time:

11/18/19 2:46 10

US V. MEREGILDO, 883 F. SUPP. 2D 523, S.D.N.Y. (2012)

- Court ruled "the Government did <u>not</u> violate the Fourth Amendment when it accessed Colon's Facebook profile through a cooperating witness" as there was no justifiable expectation of privacy that his friends would keep his posts private.
- http://scholar.google.com/scholar case?case=1305448164744211386&hl=en&as sdt=6 &as vis=1&oi=scholarr

Commonwealth v. Williams 926 N.E.2d 1162 (Mass. 2010)

- Determine who has access to the account and what protective measures are deployed.
- Held "that MySpace messages were not properly authenticated, because State failed to offer evidence regarding who had access to the page and whether the purported creator authored the relevant message."

ACCESS TO ACCOUNTS

AUTHENTICATION

Griffin v. State of Maryland, 2011 WL 1586683 (Md. 2011)

- Ruled the testimony of witnesses with knowledge was insufficient to support the evidence as authenticated.
- Stated a photo of the defendant & her date of birth, along with the name of the defendant's boyfriend, were "not sufficient 'distinctive characteristics".

AUTHENTICATION

The Court stated: "The potential for abuse and manipulation of a social networking site by someone other than its purported creator and/or user leads to our conclusion that a printout of an image from such a site requires a greater degree of authentication than merely identifying the date of birth of the creator and her visage in a photograph on the site in order to reflect that [the alleged] was its creator".

AUTHENTICATION

Court provided suggestions on how to authenticate such evidence:

"Ask the purported creator if she indeed created the profile and also if she added the posting in question".

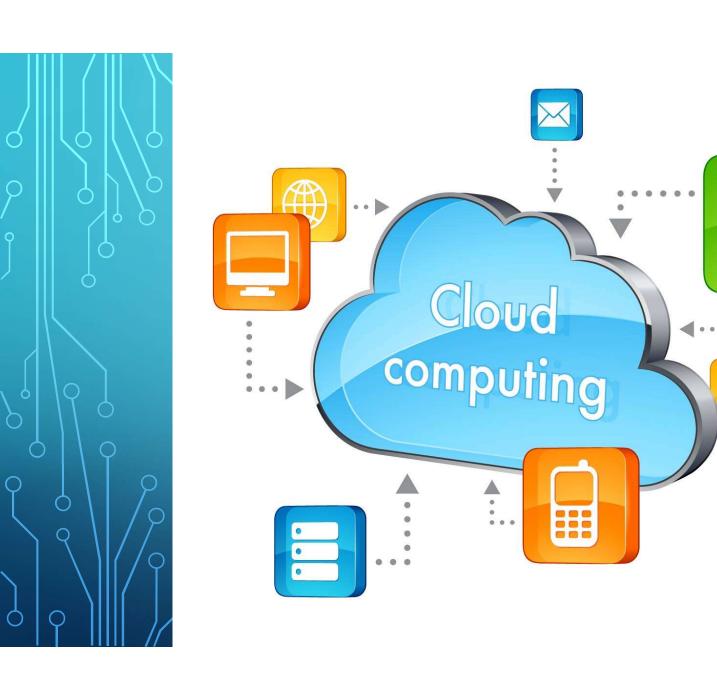
Get a computer forensic expert to analyze the computer of the person who allegedly made the post "to determine whether the computer was used to originate the social networking profile and posting in question".

Did multiple people have access to the account?

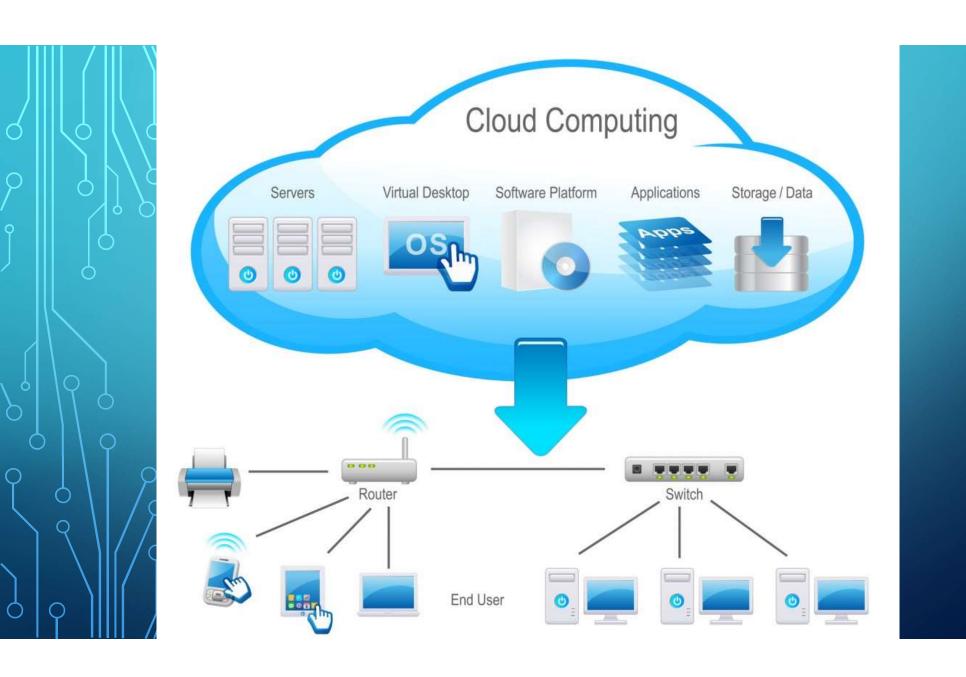
Metadata can help depending on the social media site.

Try to find out who had access and when.

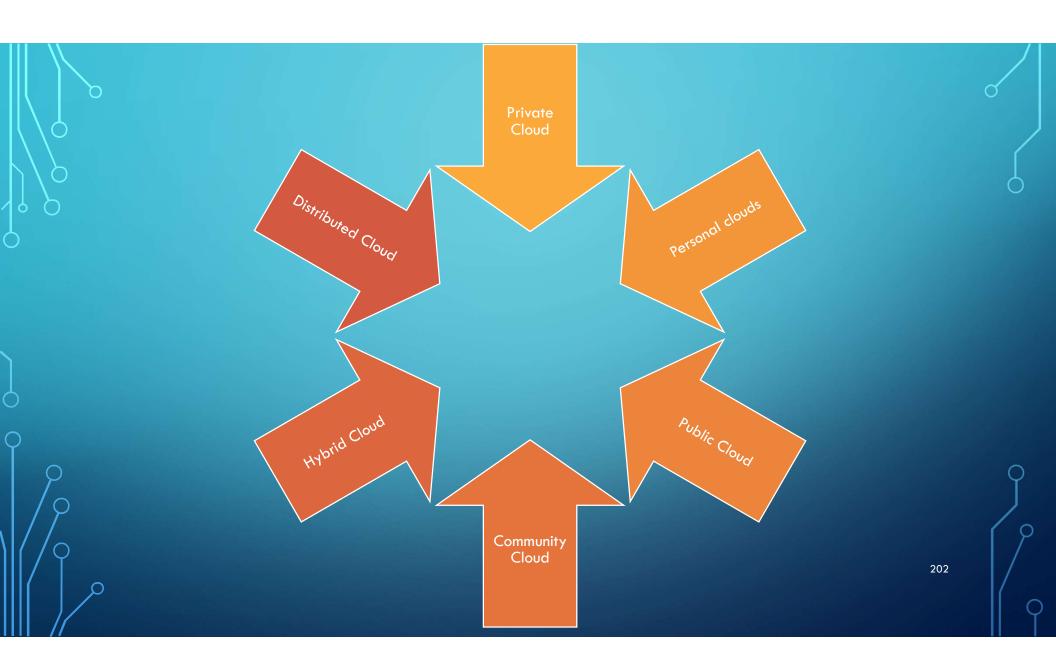
Look at the past IP address logins. If they repeatedly show up you can insinuate that past activity shows a pattern of behavior that a user was responsible for.











SERVICE MODELS

iaaS = Infrastructure as a Service

PaaS = Platform as a Service

SaaS = Software as a Service



Cloud Storage / Cloud Data Cloud Computing Providers

Cloud Applications

Cloud OS

CLOUD TYPES

Cloud Storage / Cloud Data

 Dropbox, Google Drive, Sky Drive, PC Backup, SugarSync, Mozy, Box, CrashPlan

Cloud Computing Providers

• VMware, Microsoft, AmazonWS, Bluelock, Citrix, Joyent, Verizon/Terremark, Rackspace

CLOUD TYPES

Cloud Applications

 Adobe Creative Cloud, Salesforce, Waze, Audiobox (music), Pandora, Do, Spotify, Evernote

Cloud OS

Microsoft Cloud OS, Chrome OS

CLOUD NETWORK FORENSICS

Still in its infancy.

Depending on level of access: use a tool like tcpdump or Wireshark to perform network analysis on the network traffic.

Follow Legal Procedures to obtain logs.

Usually task & time inattentive.

Logs....Logs....Logs.

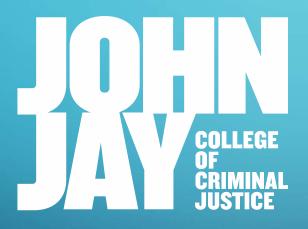


SOCIAL MEDIA INVESTIGATIONS POLICY

A REQUEST FOR SOCIAL MEDIA
INVESTIGATIONS POLICIES TO BE
EMAILED TO
AWANDT@JJAY.CUNY.EDU

CERTIFIED INSPECTOR GENERAL INVESTIGATOR

SOCIAL MEDIA & CLOUD FORENSICS





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