

# New Technology and Where Electronic Data Resides



Bauman & Brooke  
November 17, 2010

Presented by: Craig Reinmuth CPA, CFF, MST, EnCE  
President, Expert Insights, P.C. Scottsdale, AZ

**92% of information is created  
on computer**



# ESI Build UP – Why Attorneys have more Grey Hair

- Zubulake – “Virtually all cases involve the discovery of electronic data”; attorneys to educate their clients on e-discovery
- Qualcomm – Attorneys face sanctions; risk losing license/livelihood
- Pension Committee of U of Montreal defining “negligence” for purposes of sanctions
- 103 e-discovery decisions in first 5 ½ months of 2010 (including every Federal District)

# Litigation Support Services

## E Discovery

### Legal hold, collection and preservation

Preserve in place

Collect to preserve

Preserve data integrity

Provide metadata

### Processing

Filter

De-duplication

Decompressing compound files

Decryption

Exclude known files

Provide documents within timeframes, file types

Provide documents containing certain search terms

Indexing

Hashing

Delivering in a chosen review platform (e.g. Summation)

### Review

Hosting/prepare for attorney review



# Case Example

- 6/6 Warm fuzzies re: business r/ship (gmail)
- 6/11 Go to social event together (gmail)
- 6/15 Forwards resume to competitor (gmail)
- 6/17 Competitor invites EE to meeting on 6/19 (gmail)
- 6/19 EE attends meeting at competitor office (gmail)
- 6/20 (Sat) Install 1TB Backup storage device (USB)
- 6/20 Accesses company projects on server(recent)
- 6/20 (eve) Accesses company projects on server(recent)
- 6/20 (eve) Goes to Google documents account (cookie)
- 6/21 Apple computer in EE possession (deleted email)
- 6/22 Project files sent to competitor (gmail)

# Case Example (continued)

- 6/22-6/28 Employment negotiations (gmail)
- 6/25 EE connects USB thumb drive in LT (USB)
- 6/25 EE accesses server/files from home laptop (recent)
- 7/8 EE connects card reader for first time (USB)
- 7/8 Empties trash (recover deleted files)
- 7/14 (evening):
  - EE connects same backup drive to laptop (USB)
  - EE accesses project files from server (recent)
  - Email indicating EE wants to meet with boss (gmail)
  - EE communicating with b/friend re: computer on BB (phone)
  - EE access web mail account; forwards "opportunities" file (internet activity)
- 7/15 Terminates employment (from client)



# Defense Side Computer Forensics

- Is your client telling you “the whole truth”
- Be Proactive
- Up-front strategy
- Information on your clients’ computer they did not put there
- Assist with demands of opposition
- Turn claims into counter claims
- Working knowledge of case law
- Rebuke opposing experts’ credentials/methodology/findings
- Deposition line of questioning



# Case Examples



- Sexual Harassment
- Our own "Qualcomm"
- IP/Proprietary Data
- Spoliation
- Employee Going to New Company
- Providing all responsive ESI
- Claims into counter claims



# Computer Forensics is now Digital Forensics



# Computer Forensics is now Digital Forensics



# Computer Forensics is now Digital Forensics



# Smartphones (Blackberry, Droid, iphone)

## On the Device

- Call logs
- Text/Instant messaging
- Pictures
- SIM card information
- Emails and attachments (e.g. Outlook)
- Phone directories
- Internet history
- GPS tracking

## Other items uncovered

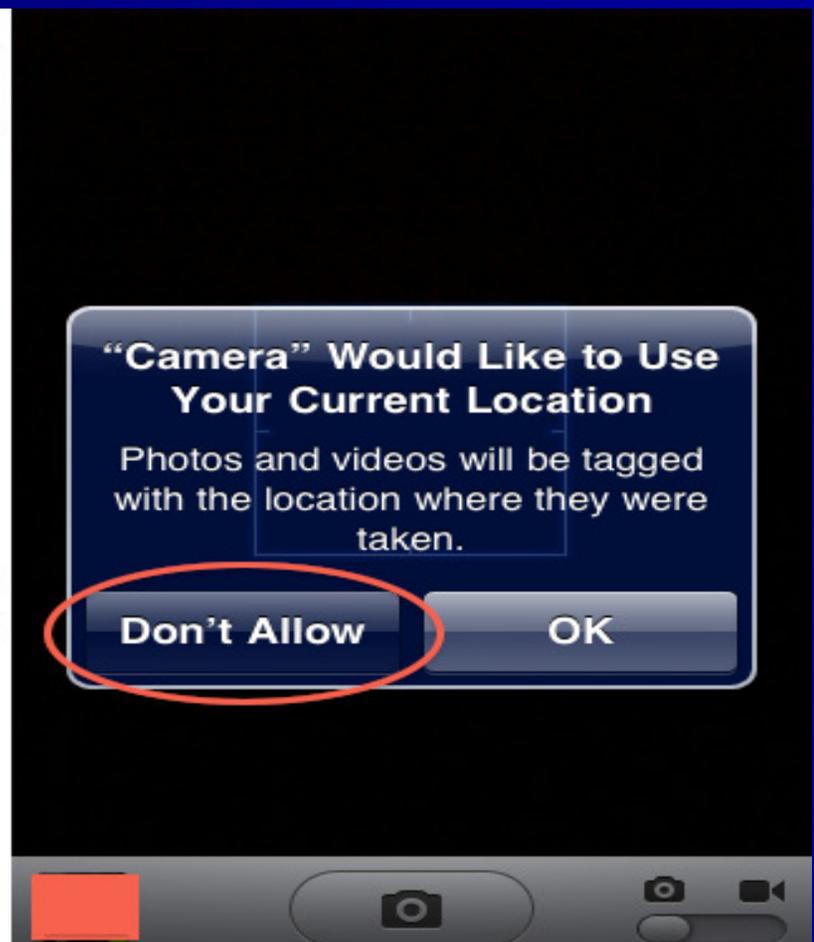
- Remote access programs (e.g. Log Me In, VNC, Homepipe)
- Web based email – specific providers
- Where else to go to get info



# iphone GPS Tracking



# iPhone Geolocation Services



# Android Geolocation

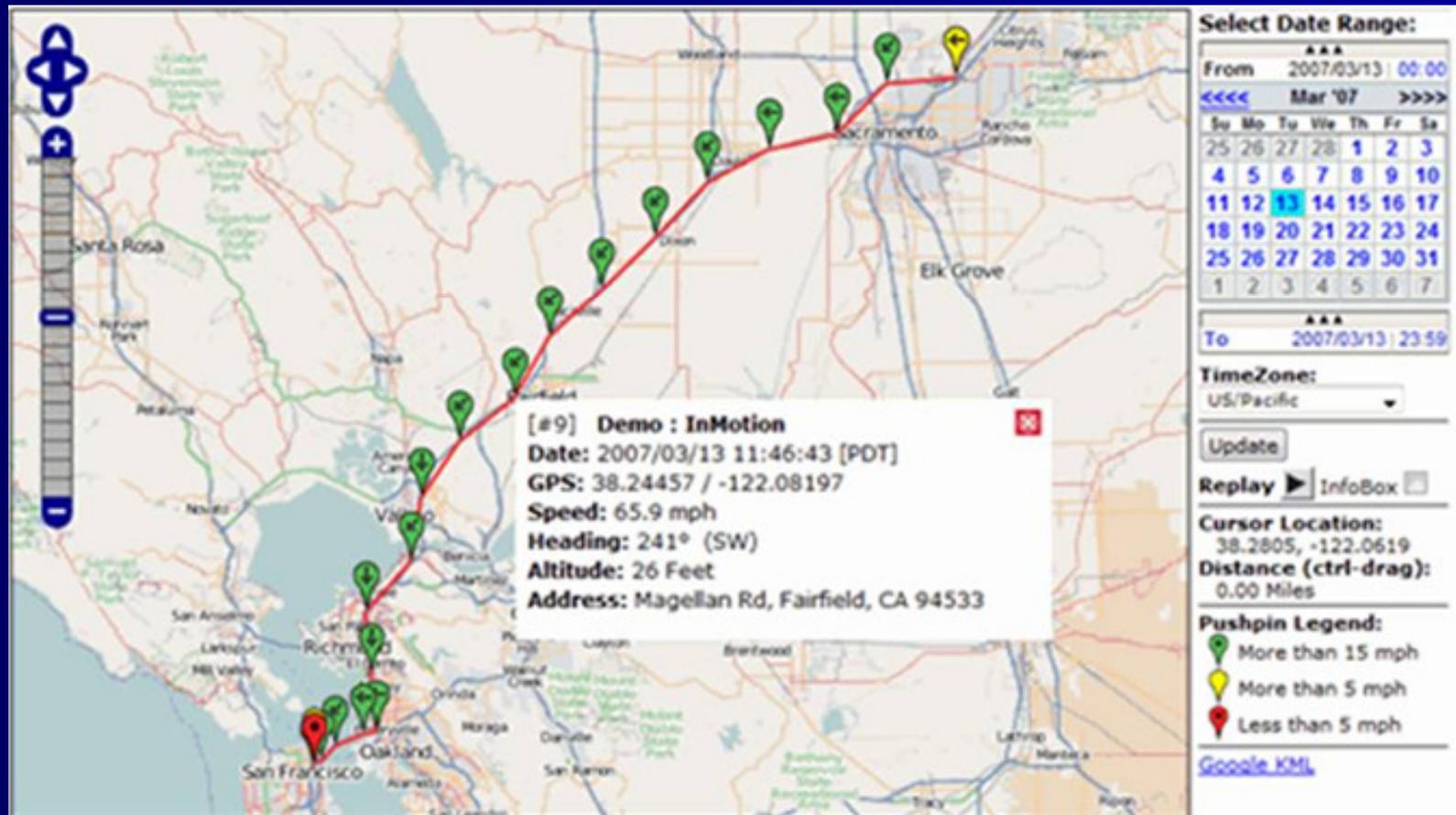
The image displays three sequential screenshots of an Android phone's settings application, specifically the 'Location & security' settings page. The top status bar shows the time as 2:30 PM and 2:31 PM, along with various system icons like Bluetooth, Wi-Fi, and battery level.

**Left Screenshot (Settings Menu):** Shows the main settings menu with 'Location & security' highlighted in yellow. Other visible options include 'Wireless & networks', 'Call settings', 'Sound & display', 'Applications', 'Accounts & sync', 'Privacy', and 'SD card & phone storage'.

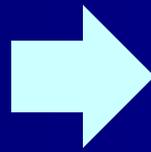
**Middle Screenshot (Location & security settings):** Shows the 'Location & security' settings page. The 'My Location' section is expanded, showing three options: 'Use wireless networks' (checked), 'Use GPS satellites' (checked and highlighted in yellow), and 'Screen unlock pattern'. The 'Use GPS satellites' option includes the text: 'When locating, accurate to street level (uncheck to conserve battery)'. Below this, the 'Screen unlock pattern' section is visible, with options for 'Set unlock pattern', 'Require pattern' (unchecked), 'Use visible pattern' (unchecked), and 'Use tactile feedback' (unchecked).

**Right Screenshot (Location & security settings):** Shows the same 'Location & security' settings page as the middle screenshot, but with the 'Use GPS satellites' option unchecked. The 'Screen unlock pattern' section is also visible, with options for 'Set unlock pattern', 'Require pattern' (unchecked), 'Use visible pattern' (unchecked), and 'Use tactile feedback' (unchecked).

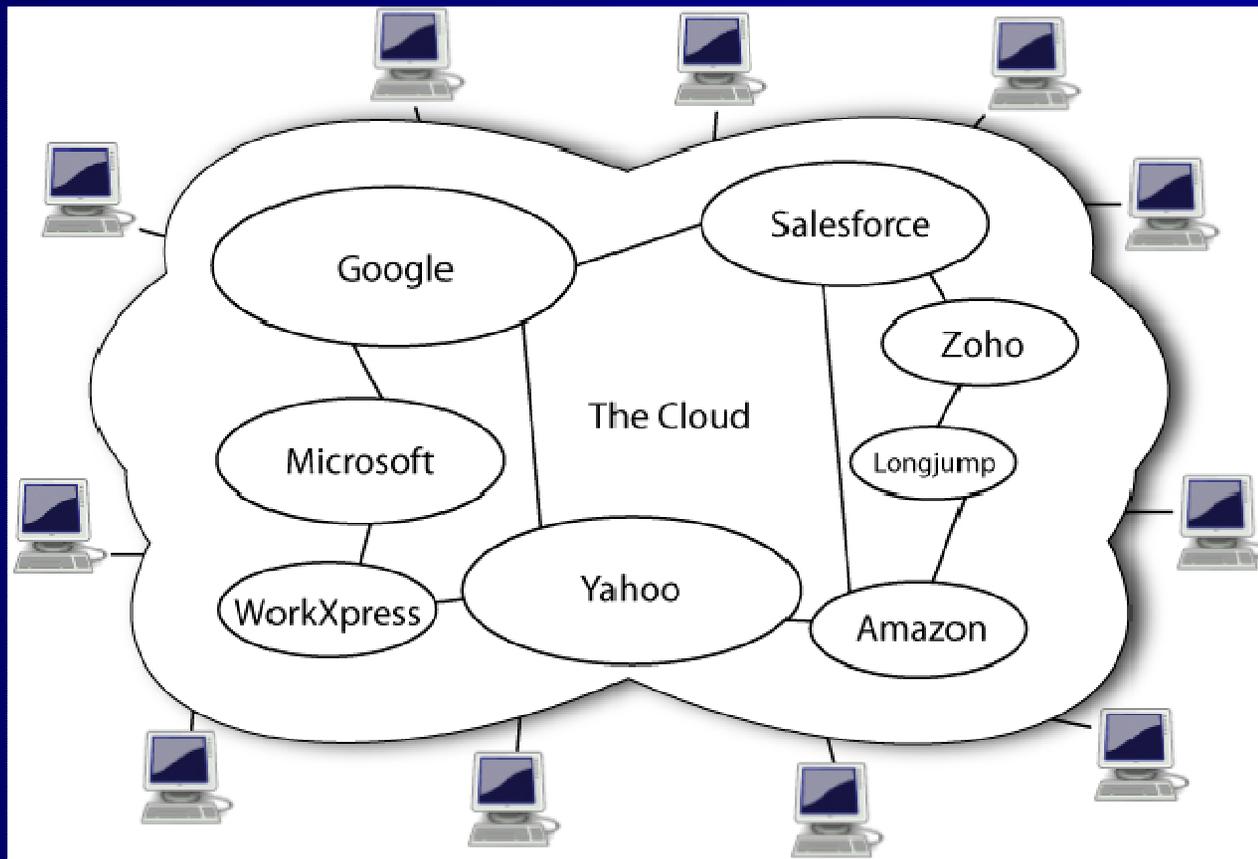
# GEO Logging – GPS tracking



# Get Head Into the Clouds!



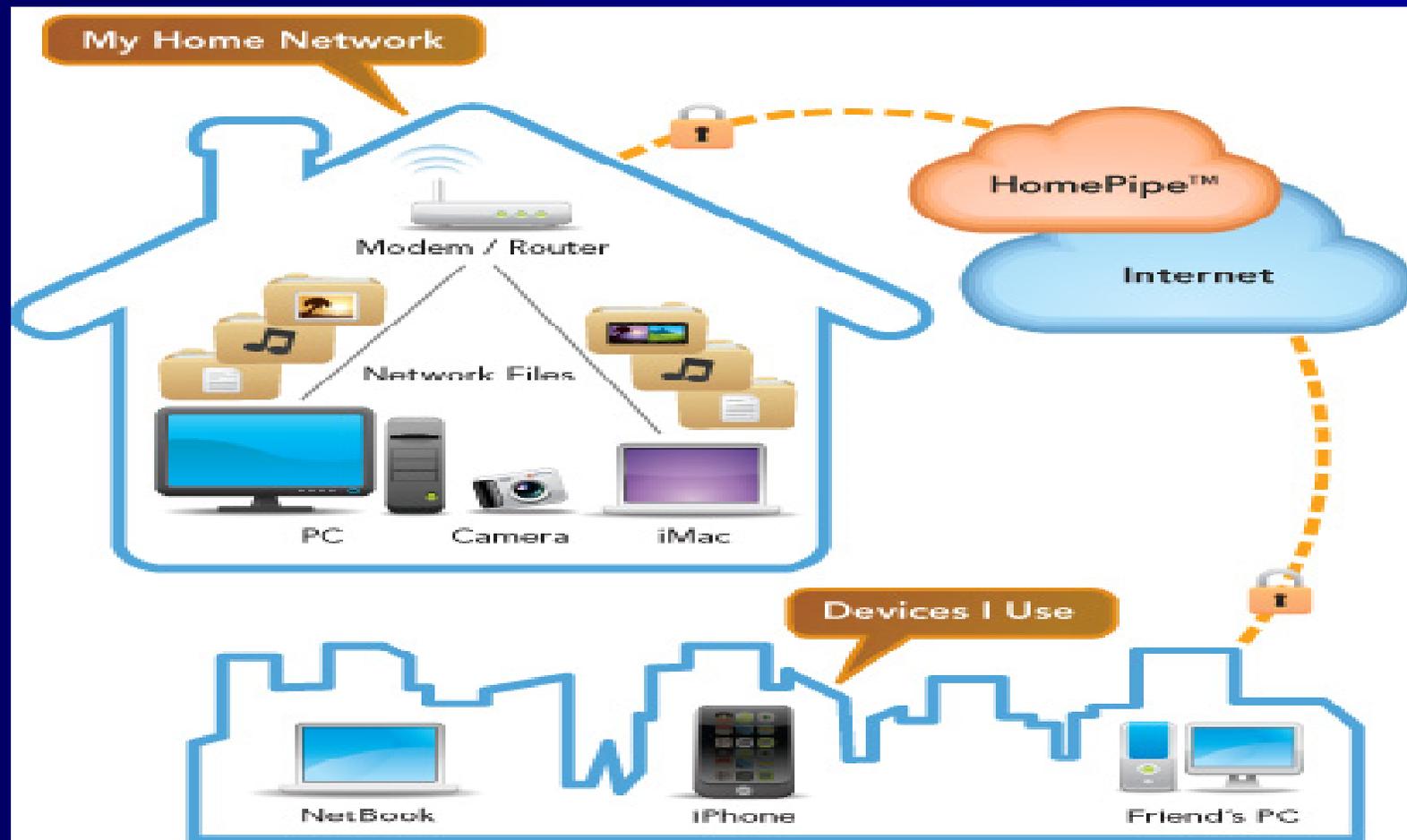
# Cloud Computing



# Cloud Computing Tools

- MyDropbox
- Docs.google
- Skydrive
- 4shared
- Box.net
- Mozy
- Streamload
- Drop.io
- Livedrive
- sugarsync
- MegaUpload
- Yousendit
- Idiskme
- Carbonite
- ibackup
- My account
- Idrive
- Kineticd
- Datadepositbox
- Flipdrive.....

# HomePipe Remote Access



# Social Networking Obtainable Data

- facebook® live chat messages
- Facebook® page fragments
- MSN/Windows Live Messenger® chat
- Yahoo!® chat
- Yahoo!® Webmail chat
- GoogleTalk® chat
- Gmail® email
- Limewire® ver 5.2.8 – 5.5.14 Search History
- Limewire.props files
- IES InPrivate/Recovery URLs
- Yahoo!® Messenger Group Chat
- Yahoo!® Webmail email
- Hotmail® Webmail email
- AOL® Instant Messenger chat logs
- Messenger Plus!® chat logs
- MySpace® chat
- Bebo® chat
- Non-encrypted Yahoo!® Messenger chat
- Facebook® Email “Snippets”

# Summary

- Computer forensics can add additional investigative tools to work with your internal/client teams to obtain critical information not otherwise available (user intent, timelines, etc.)
- Makes sense to use computer forensics even when you're representing the defense
- Computer forensics is now digital forensics
  - Consider all locations for computer/digital information
  - Cloud computing is here to stay and will grow in size
- Smartphones are mini-computers and data sometimes does not go any further than in palm of hand