iTL

Mobile Device Data Population for Tool Testing

COMPUTER FORENSIC TOOL TESTING
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Agenda

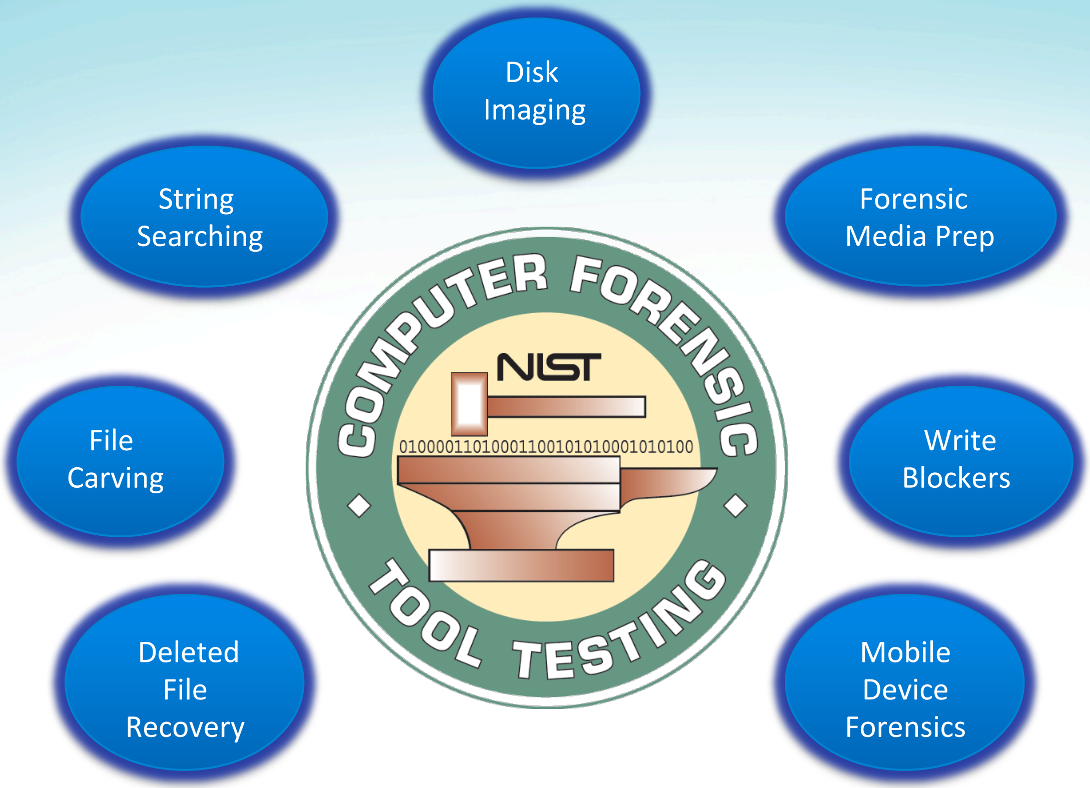
- Mobile Device Forensics Challenges
- Computer Forensic Tool Testing (CFTT) Program
- Setup and Test Procedures
- Mobile Device Data Population
  - Data Types
  - Population Techniques
  - Factors

Challenges

- Multiple interfaces
- Acquisition support for old and current models
- Quality control
- Closed mobile device operating systems
- Damaged devices

FEDERATED TESTING

COMPUTER FORENSICS TOOL CATALOG



TEST SPECIFICATIONS

TEST ASSERTIONS AND TEST PLANS

TEST REPORTS

SETUP DOCUMENTS

Setup and Test Procedures

- Objective: Documentation on data population of target media and test procedures providing third parties with information for an independent evaluation or replication of posted test results.
- Contents:
  - Data types
  - Test case execution procedures
  - Data population techniques

Mobile Device Data Population Factors

- Fresh / Unused mobile device
- PII on device with existing user data
- Connectivity: Cellular, WiFi, Bluetooth, PC synchronization

Mobile Device Data

- Subscriber / Equipment related data
  - Useful for uniquely identifying a cellular subscription and physical identification of a mobile device
    - IMEI, ESN/MEID, ICCID, MSISDN, SPN
- Address Book / Contacts
  - Contact name, associated number, metadata
  - Long, Regular, Special character, Blank, Non-Latin character entries
  - Contact metadata: email, address, URL, birthdates, pictures, ring-tones, notes

Mobile Device Data

- Personal Information Management (PIM) data
  - Datebook / Calendar, Memo (long, regular, special character entries)
- Call Logs
  - Incoming, outgoing, missed
  - Date / time and duration
- SMS / Chat / MMS Messages
  - Incoming, outgoing, drafts, deleted
  - Long, Regular, Special character, non-Latin character entries
  - Audio, graphic, video attachments

Mobile Device Data

- Stand-alone files
  - Audio: wav, aiff, mp3, flac, mp4
  - Graphic: jpg, gif, bmp, png, tiff
  - Video: 3gp, mov, flv, avi, wmv
- Email
  - Incoming, outgoing, drafts, deleted
  - Attachments: audio, graphic, video, txt, doc, pdf, etc.
- Native / Third-party applications
  - Vary based on manufacturer

Mobile Device Data

- Internet related data
  - Browsing history
  - Bookmarks
- Social media data
  - Profile data
  - Status updates
  - PMs
- GPS data
  - Longitude / Latitude coordinates
  - Geotagged pictures / video

Data Population Techniques

- Manual input
- E-mail client pairing
- PC synchronization
- Bluetooth

Mobile Device Population Techniques

- Manual input (time consuming)
  - SMS/MMS messages (incoming, outgoing, read, unread, active/deleted, drafts)
  - Call logs (incoming, outgoing, missed, date/time/duration, active/deleted)
  - Third-party application data
  - Social media data
  - GPS related data
- E-mail client pairing
  - Contacts, calendar entries, memos, stand-alone files (audio, graphic, video, docs)

Mobile Device Population Techniques

- PC Synchronization
  - Stand-alone files (audio, graphic, video, documents)
- Bluetooth pairing
  - Supported data objects e.g., Contacts, calendar entries, memos
  - Photos, video, audio files

Mobile Device Population Techniques

- Subscriber / Equipment Data
  - IMEI – battery cavity, *#06#
  - ICCID – printed on UICC
  - MSISDN – mobile device settings

Conclusions

- **Challenges of Mobile Forensics**
- **Overview of CFTT**
- **Setup and Test Procedures documentation**
  - **Goal:** provide techniques for populating mobile devices used for testing mobile forensic data extraction tools
- **Data Population Factors**
- **Common Mobile Device Data Elements**
- **Mobile Device Data Population Techniques**

Thank You!

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