Remote Forensic Software

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DigiTask GmbH, Germany
Remote Forensic Software

DigiTask – Who we are and what we do

- Special Telecommunication Systems for Law Enforcement Agencies (LEA)
- Development of special solutions for the needs of LI
- Located in the middle of Germany
- DigiTask has overall experience of many years in LI systems
- DigiTask is market leader for LI in Germany
- DigiTask is privately owned and independent
Remote Forensic Software

DigiTask – Main Products

- Complete LI systems
  - Database supported analysis for
    - telephony
    - real time IP decoding and visualization
  - Integrating multimedia player
  - Supporting ETSI standards
  - Mediation Devices
  - 24/7 support
  - Onsite training

- WiFi-Catcher
- Remote Forensic Software
1. What intelligence may be lost with today's LI systems?
2. What is Remote Forensic Software?
3. What is provided by the DigiTask solution?
1. What intelligence may be lost with today's LI systems?

Information that
• can be gathered but not decoded
• might be decoded but cannot be gathered
• is not available even after seizure of equipment
1. What intelligence is lost?

- **Instant Messaging Clients**
  - encrypted by default:
    - Wikipedia overview of IM lists 55 clients, 34 with out of the box encryption
  - Skype

<table>
<thead>
<tr>
<th>Toolkits or SDKs</th>
<th>Encryption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adium</td>
<td>Cocoa</td>
</tr>
<tr>
<td>AIM</td>
<td>W32</td>
</tr>
<tr>
<td>aMSN</td>
<td>Tk/Tk</td>
</tr>
<tr>
<td>BitDee</td>
<td>n/a</td>
</tr>
<tr>
<td>BitWise IM</td>
<td>W32, GT2,</td>
</tr>
<tr>
<td></td>
<td>Carbon</td>
</tr>
<tr>
<td>Centericq</td>
<td>n/a</td>
</tr>
<tr>
<td>climm</td>
<td>line based</td>
</tr>
<tr>
<td>Coccinella</td>
<td>Tk/Tk</td>
</tr>
<tr>
<td>Ebuddy</td>
<td>?</td>
</tr>
<tr>
<td>EOO</td>
<td>n/a</td>
</tr>
<tr>
<td>Exodus</td>
<td>W32</td>
</tr>
<tr>
<td>Fire</td>
<td>Cocoa</td>
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<tr>
<td>Gadu-Gadu</td>
<td>W32</td>
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<tr>
<td>Gajim</td>
<td>GTK2</td>
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<tr>
<td>GCN</td>
<td>W32</td>
</tr>
<tr>
<td>GOIM</td>
<td>Java/SWT</td>
</tr>
</tbody>
</table>


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1. What intelligence is lost?

- **External tools for encryption:**
  - e.g. SimpLite/SimpPro targets
  - Windows Live Messenger
  - ICQ/AIM
  - Yahoo

<table>
<thead>
<tr>
<th>No.</th>
<th>Time</th>
<th>Source</th>
<th>Destination</th>
<th>Protocol</th>
<th>Info</th>
</tr>
</thead>
<tbody>
<tr>
<td>78</td>
<td>10:41:14</td>
<td>e2a54.35d18ffe8</td>
<td>AIM Me AIM Messaging, Outgoing to: 3779</td>
<td></td>
<td></td>
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<tr>
<td>86</td>
<td>10:54:55</td>
<td>205.188.</td>
<td>AIM Me AIM Messaging, Outgoing to: 3779</td>
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<td></td>
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<td>96</td>
<td>10:54:55</td>
<td>4.699924</td>
<td>AIM Me AIM Messaging, Acknowledge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>95</td>
<td>10:54:55</td>
<td>205.188.</td>
<td>AIM Me AIM Messaging, Acknowledge</td>
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1. What intelligence is lost?

- **WWW: sensitive data uses HTTPS**
  - Online banking
  - E commerce
  - Booking systems
  - Webmail
  - Chat

- **Observable data**
  - Remote IP
  - Time and amount of traffic
Remote Forensic Software

1. What intelligence is lost?

- **E-Mail**
  - POP/SMTP use TSL/SSL

- **Local encryption with PGP, GnuPG**
1. What intelligence is lost?

- **VPN connections**
  - between endpoints
  - commercial anonymising VPN
    e.g.
    - Relakks
      (Sweden, € 5/month)
    - Swissvpn
      (Switzerland, US$ 5/month)

- **Tor/JAP**
  - encrypted traffic
  - changing endpoints
1. What intelligence is lost?

- **Nomadic targets**
  - travellers
  - suspects seeking open WLANs

- **Tapping internet connections of targets useless**

- **Disk encryption software**
  - Seizure of equipment useless if password is unknown
Remote Forensic Software

1. What intelligence is lost?

- **Availability**
  - Most of this software is
    - easily available
      » computer magazines
      » internet
    - free of cost
    - easy to use

- **Answer to question:**
  - Everything may be lost
  - With a few hours effort, today's LI systems can be turned blind and deaf.
2. What is Remote Forensic Software?

- Stealth software installed on computer of target to
  - overcome encryption
  - handle nomadic targets
  - monitor activity

for

- criminal investigations
- intelligence gathering
3. What is provided by the DigiTask solution?

3.1. Additional intelligence
- Audio data, e.g. from messengers
- Screenshots
- Keylogs
- File search
- Registry settings
- Remote shell
- ... (more in track 5)
3. What is provided by the DigiTask solution?

- **SSL decryption**
  - Keys intercepted in application
  - Keys and encrypted traffic tapped
  - Decoding possible
  - Requires DigiTask LI system
3.2. Data Analysis

- **Standalone system**
  - Immediately deployable
  - Backward channel to target

- **Optional seamless integration in DigiTask LI system**
  - No new user interface for operators
  - Correlation of RFS data with conventional LI
  - Interactions with target become impossible

- **Core area of private life**
3.3. Security

- **Protection of data stream**
  - Data is AES encrypted
  - Proxies between target and recording server
  - Connection cannot be traced

- **Authenticity of data**
  - File transfers are signed
  - Safeguards against manipulations
  - Important for criminal investigation
3.4. Customization

- *Software may be built according to court order*
- *"Forbidden" features*
  - removed from software
  - cannot be activated
- *After installation:*
  - online update possible
- *Source code of customization*
  - archived
  - verifiable by expert witness
Remote Forensic Software

Conclusion

- Encryption for every kind of communication easily available
- Circumvention by means of Remote Forensic Software
- Standalone operation
- Integration in LI system
- Authenticity of data for criminal investigations
Presentation in track 2 today:
13:30 DigiTask LI system

Life demonstration in track 5 today:
14:30 DigiTask LI system
16:00 Remote Forensic Software

Visit our booth in main exhibition hall
Arrange presentation at your location

Thank you.