ACQUISITION AND ANALYSIS OF IOS DEVICES

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SANS FORENSICS PRAGUE

PRAGUE, 10 OCTOBER 2013

FORENSIC ACQUISITION….BEFORE STARTING

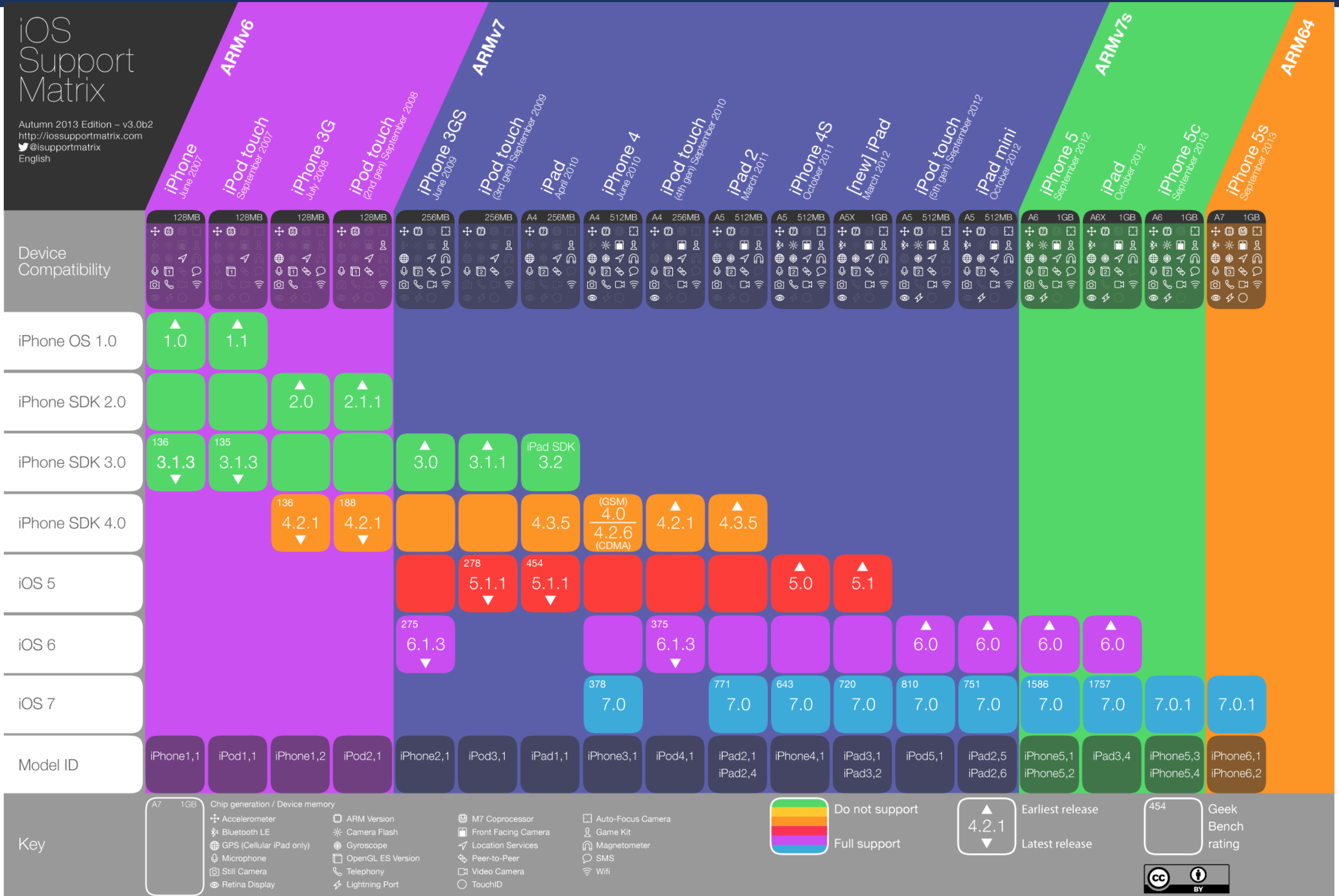
- When we are dealing with the **forensics acquisition** of an iOS device we have to answer **3 questions** before starting the operation:

1. What is the model?
2. What is the iOS version installed?
3. Is the device locked with a pass code?
    1. Simple passcode?
    2. Complex passcode?

IPHONE MODEL CHART

Device name	Model number	Internal Name	Identifier	Year	Capacity (GB)
iPhone 5S (CDMA)	A1457-A1518-A1528-A1530	N53AP	iPhone6,2	2013	16, 32
iPhone 5S (GSM)	A1433–A1533	N51AP	iPhone6,1	2013	16, 32, 64
iPhone 5C (CDMA)	A1507 – A1516 – A1526 – A1529	N49AP	iPhone5,4	2013	16, 32
iPhone 5C (GSM)	A1456 – A1532	N48AP	iPhone5,3	2013	16, 32
iPhone 5 rev.2	A1429 - A1442	N42AP	iPhone5,2	2012	16, 32, 64
iPhone 5	A1428	N41AP	iPhone5,1	2012	16, 32, 64
iPhone 4s (China)	A1431	N94AP	iPhone4,1	2011	8, 16, 32, 64
iPhone 4S	A1387			2011	8, 16, 32, 64
iPhone 4 - CDMA	A1349	N92AP	iPhone3,2	2011	8, 16, 32
iPhone 4 - GSM	A1332	N90AP	iPhone3,1	2010	8, 16, 32
iPhone 3GS (China)	A1325	N88AP	iPhone2,1	2009	8, 16, 32
iPhone 3GS	A1303			2009	8, 16, 32
iPhone 3G (China)	A1324	N82AP	iPhone1,2	2009	8, 16
iPhone 3G	A1241			2008	8, 16
iPhone 2G	A1203	M68AP	iPhone1,1	2007	4, 8, 16

IOSSUPPORTMATRIX.COM



iOS Support Matrix

Autumn 2013 Edition – v3.0b2
http://iossupportmatrix.com
@isupportmatrix
English

	ARMv6				ARMv7										ARMv7s			ARM64
	iPhone June 2007	iPod touch September 2007	iPhone 3G July 2008	iPod touch (2nd gen) September 2008	iPhone 3GS June 2009	iPod touch (3rd gen) September 2009	iPad April 2010	iPhone 4 June 2010	iPod touch (4th gen) September 2010	iPad 2 March 2011	iPhone 4S October 2011	[new] iPad March 2012	iPod touch (5th gen) September 2012	iPad mini October 2012	iPhone 5 September 2012	iPad October 2012	iPhone 5c September 2013	iPhone 5s September 2013
Device Compatibility	128MB	128MB	128MB	128MB	256MB	256MB	A4 256MB	A4 512MB	A4 256MB	A5 512MB	A5 512MB	A5X 1GB	A5 512MB	A5 512MB	A6 1GB	A6X 1GB	A6 1GB	A7 1GB
iPhone OS 1.0	▲ 1.0	▲ 1.1																
iPhone SDK 2.0	■	■	▲ 2.0	▲ 2.1.1														
iPhone SDK 3.0	136 3.1.3 ▼	135 3.1.3 ▼	■	■	▲ 3.0	▲ 3.1.1	iPad SDK 3.2											
iPhone SDK 4.0			136 4.2.1 ▼	188 4.2.1 ▼	■	■	4.3.5	(GSM) 4.0 4.2.6 (CDMA)	▲ 4.2.1	▲ 4.3.5								
iOS 5					■	278 5.1.1 ▼	454 5.1.1 ▼	■	■	■	▲ 5.0	▲ 5.1						
iOS 6					275 6.1.3 ▼			■	375 6.1.3 ▼	■	■	■	▲ 6.0	▲ 6.0	▲ 6.0	▲ 6.0		
iOS 7								378 7.0		771 7.0	643 7.0	720 7.0	810 7.0	751 7.0	1586 7.0	1757 7.0	7.0.1	7.0.1
Model ID	iPhone1,1	iPod1,1	iPhone1,2	iPod2,1	iPhone2,1	iPod3,1	iPad1,1	iPhone3,1	iPod4,1	iPad2,1 iPad2,4	iPhone4,1	iPad3,1 iPad3,2	iPod5,1	iPad2,5 iPad2,6	iPhone5,1 iPhone5,2	iPad3,4	iPhone5,3 iPhone5,4	iPhone6,1 iPhone6,2

Key

A7 1GB Chip generation / Device memory

Accelerometer	ARM Version	M7 Coprocessor	Auto-Focus Camera
Bluetooth LE	Camera Flash	Front Facing Camera	Game Kit
GPS (Cellular iPad only)	Gyroscope	Location Services	Magnetometer
Microphone	OpenGL ES Version	Peer-to-Peer	SMS
Still Camera	Telephony	Video Camera	Wifi
Retina Display	Lightning Port	TouchID	

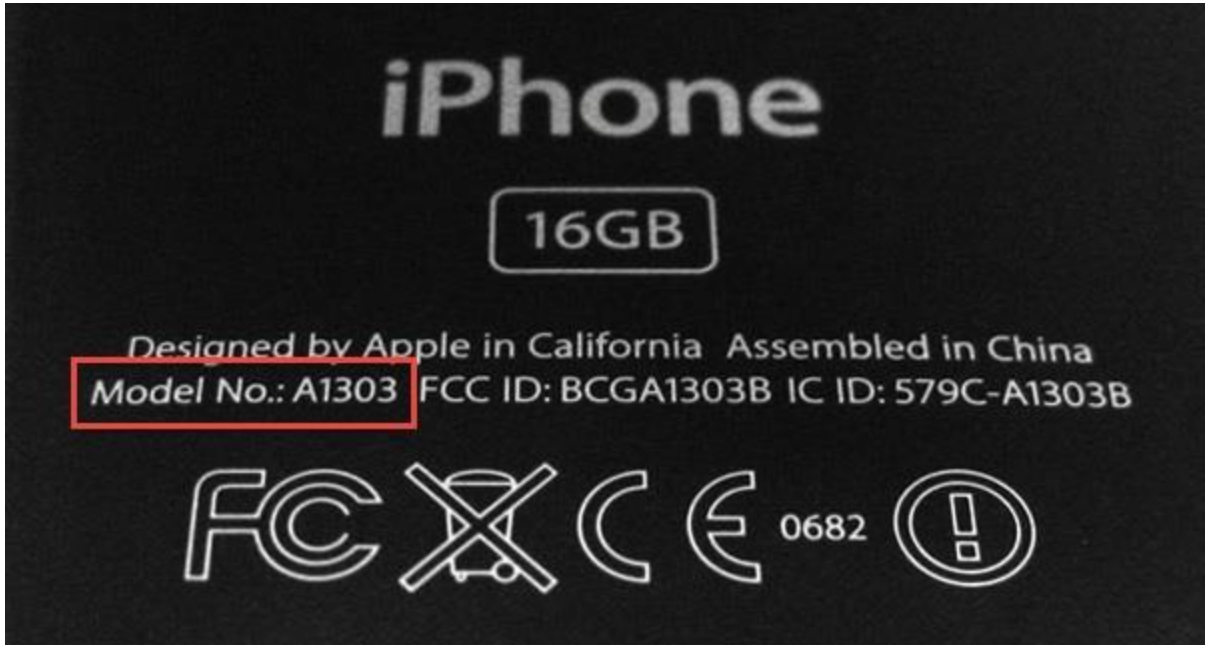
Do not support
Full support

▲ 4.2.1 ▼
Earliest release
Latest release

454 Geek Bench rating

IDENTIFY THE MODEL

- The model number is located on the back of the device



iPhone

16GB

Designed by Apple in California Assembled in China

Model No.: A1303 FCC ID: BCGA1303B IC ID: 579C-A1303B

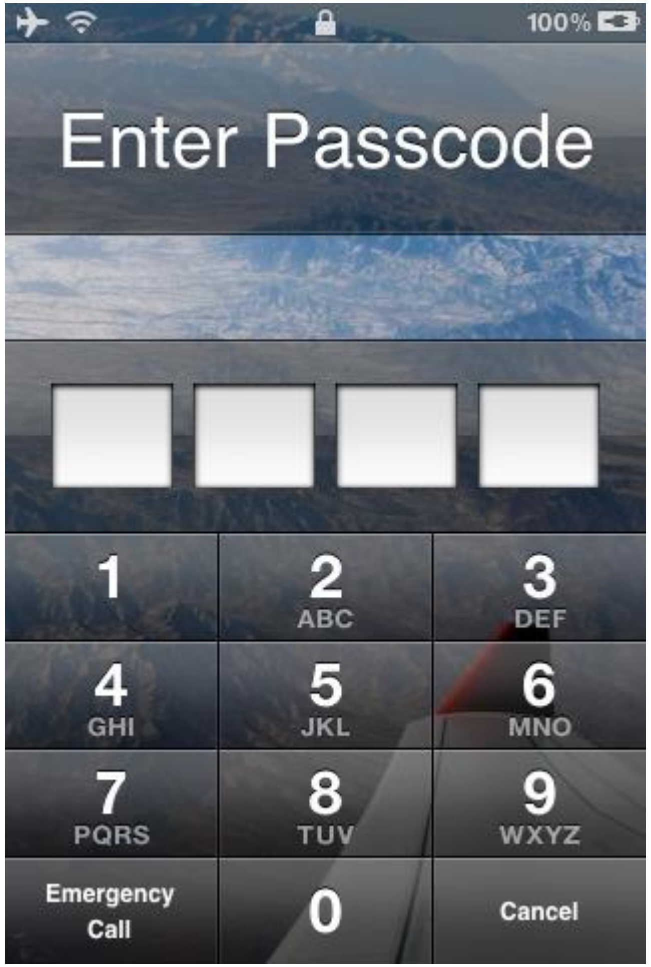
IDENTIFY THE MODEL AND THE OPERATING SYSTEM

- **Tool: ideviceinfo** (libimobiledevice.org)
- It works **also if the device is locked by a passcode**

```
santoku@santoku:~$ ideviceinfo –s

DeviceClass:              iPhone
DeviceName:               EpiPhone
HardwareModel:            N94AP
ProductVersion:           6.1.3
TelephonyCapability:      true
UniqueDeviceID:           26ccdbcb74b2ab8e9e97aa096883a10442c6f2ef
WiFiAddress:              84:fc:fe:d3:ac:e2
```

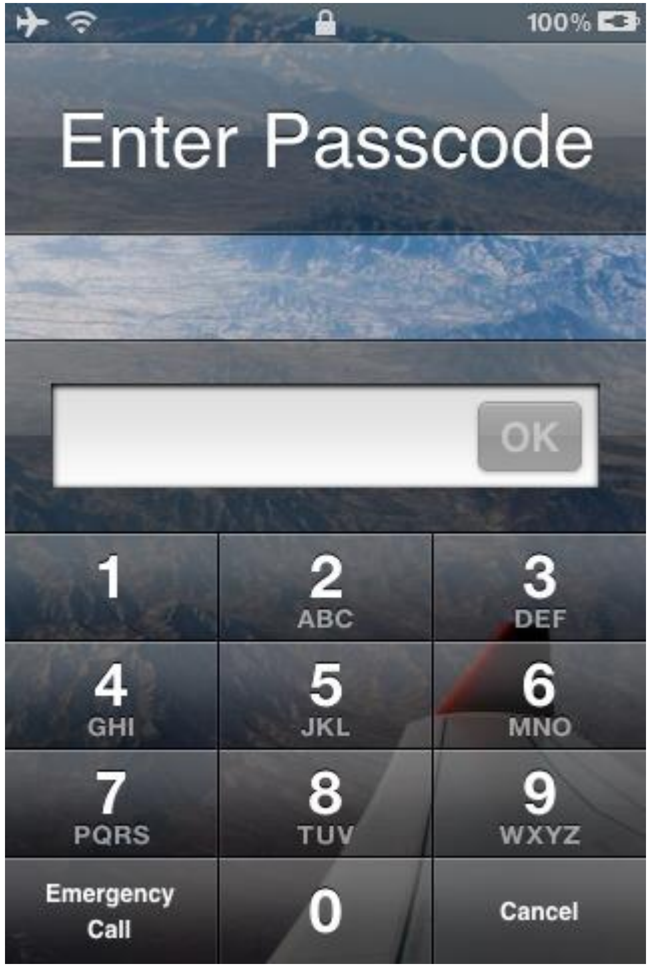
IS THE DEVICE LOCKED?

- **Digits only**
- Length = 4 (simple passcode)



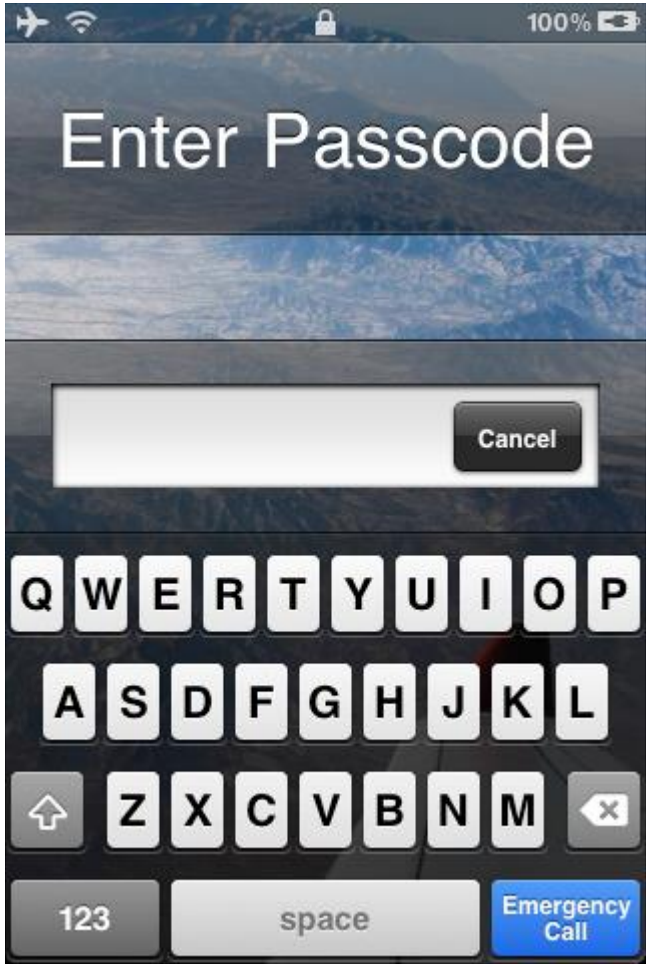
IS THE DEVICE LOCKED?

- **Digits only**
- Length > 4 (simple passcode)



IS THE DEVICE LOCKED?

- **Contains non digits**
- Any length



PHYSICAL VS LOGICAL ACQUISITION

- Physical acquisition → Bit-by-bit image of the device
- Logical acquisition → Extract (part of) the file system
- What is NOT available in a logical acquisition?
  - **Email**
  - **Geolocation database (Consolidated.db)**
  - **Apps "Cache" folder (es. Opened files in Dropbox)**
  - **Executables**

PHYSICAL ACQUISITION

- If the device is an **iPhone 4** then we can perform a physical acquisition as long as:

  1. Device is not locked

  or

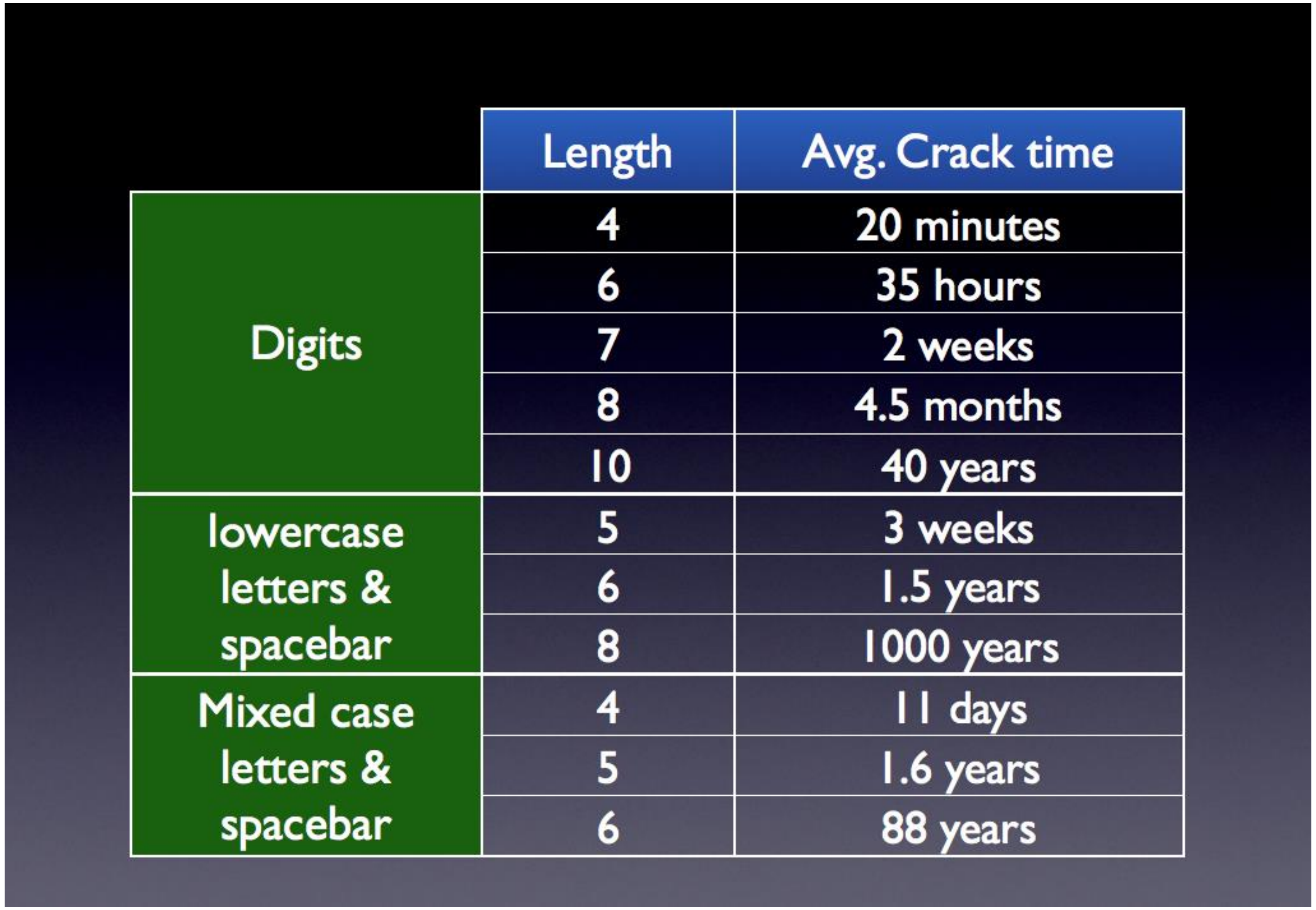
  2. Device is locked with a passcode that can be cracked within a "reasonable time"

- If the device is an **iPhone4s** or **iPhone5** we can perform a physical acquisition only if:

  1. The device is jailbroken (**mandatory!**) → Up to **iOS 6.1.2**
  2. The same conditions with the lock code

- If the device is **iPhone5s** or **iPhone5c**…no way at the moment!

HOW LONG DOES IT TAKE TO CRACK? (IPHONE 4)

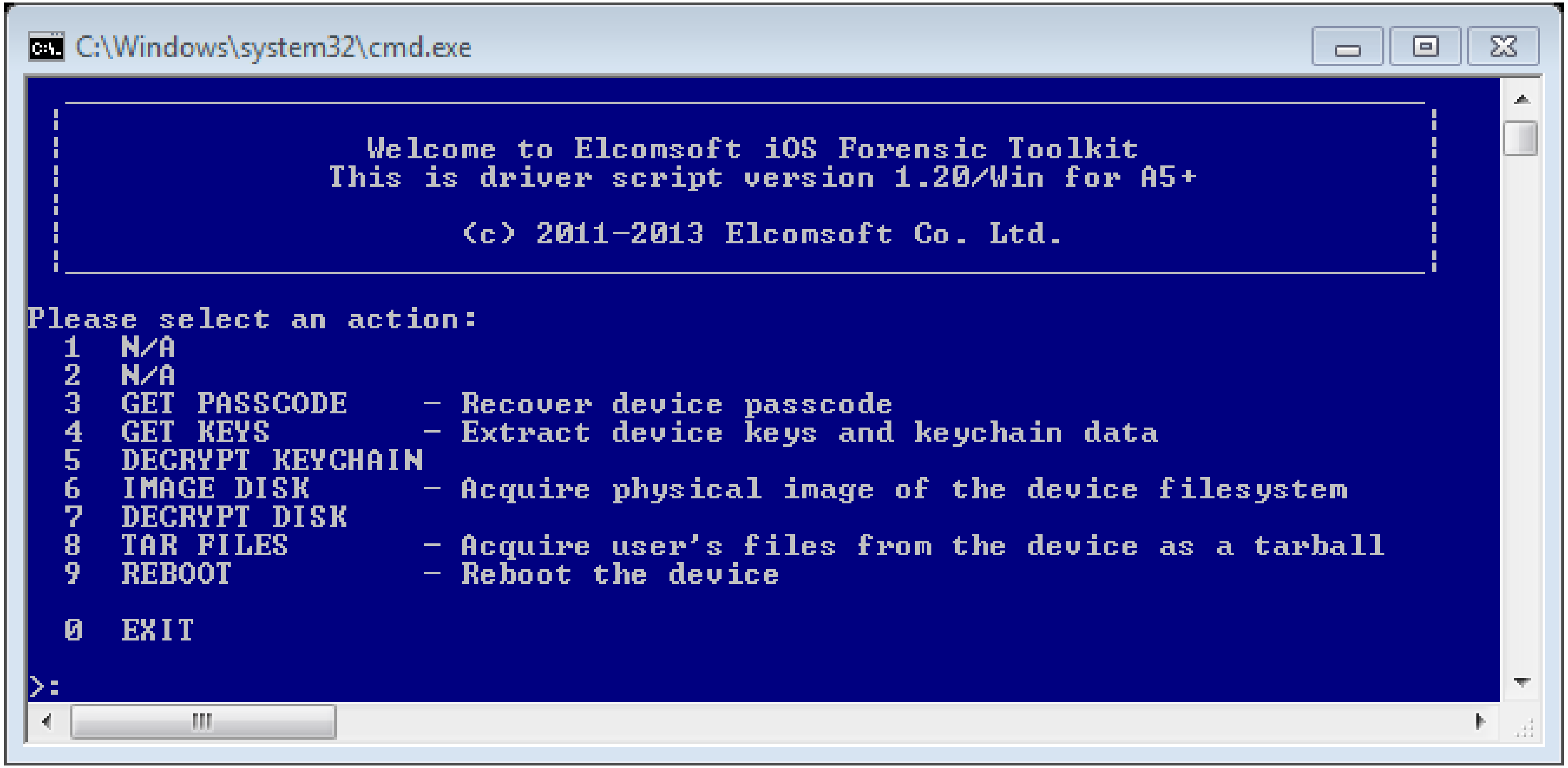


	Length	Avg. Crack time
Digits	4	20 minutes
	6	35 hours
	7	2 weeks
	8	4.5 months
	10	40 years
lowercase letters & spacebar	5	3 weeks
	6	1.5 years
	8	1000 years
Mixed case letters & spacebar	4	11 days
	5	1.6 years
	6	88 years

PHYSICAL ACQUISITION - TOOLS

UFED Cellebrite	Commercial	iPhone 4
AccessData MPE+	Commercial	iPhone 4
Katana Lantern	Commercial	iPhone 4
iXAM	Commercial	iPhone 4
XRY	Commercial	iPhone 4
Elcomsoft iOS Forensic Toolkit	Commercial	iPhone 4/4s/5
iPhone Data Protection Tools	Opensource	iPhone 4 (up to iOS 5)

PHYSICAL ACQUISITION – IOS FORENSIC TOOLKIT



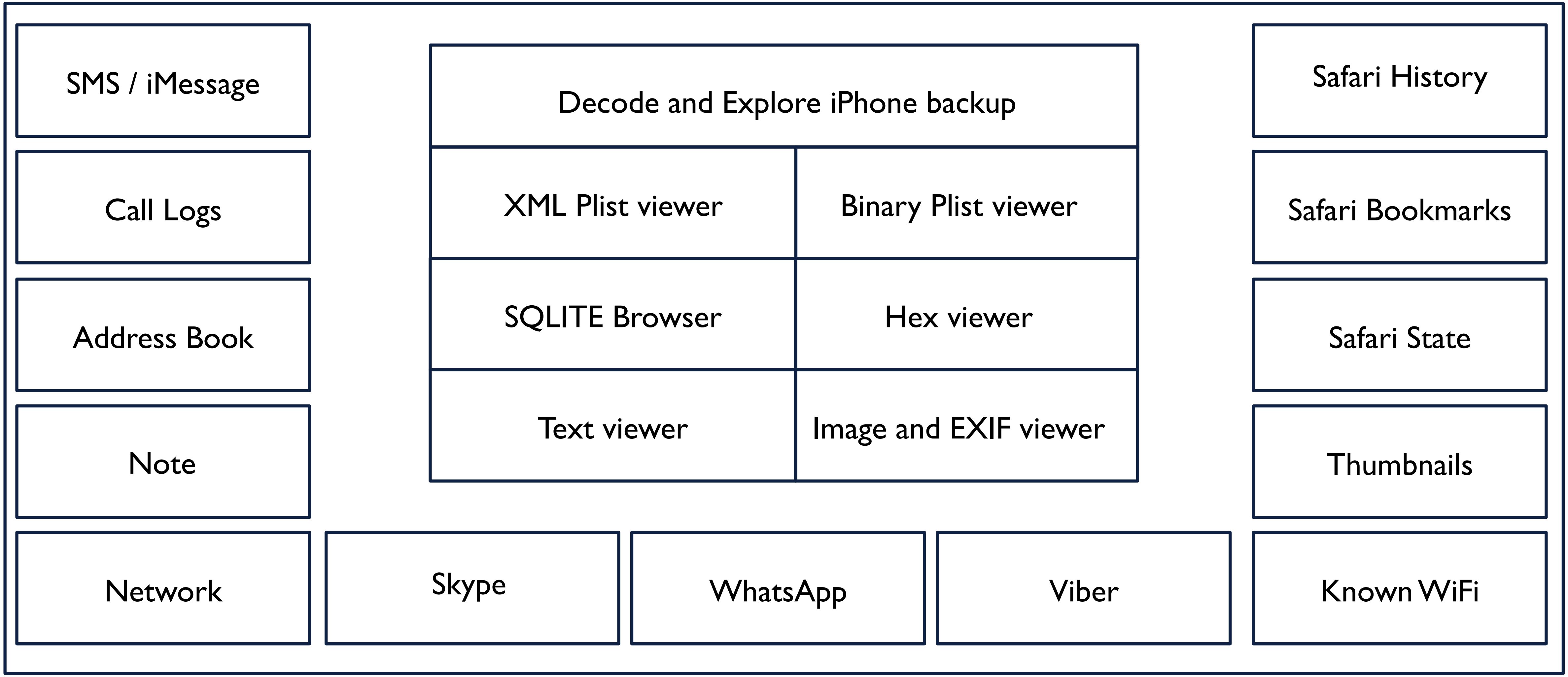
```
              Welcome to Elcomsoft iOS Forensic Toolkit
           This is driver script version 1.20/Win for A5+

                 (c) 2011-2013 Elcomsoft Co. Ltd.

Please select an action:
  1   N/A
  2   N/A
  3   GET PASSCODE      - Recover device passcode
  4   GET KEYS          - Extract device keys and keychain data
  5   DECRYPT KEYCHAIN
  6   IMAGE DISK        - Acquire physical image of the device filesystem
  7   DECRYPT DISK
  8   TAR FILES         - Acquire user's files from the device as a tarball
  9   REBOOT            - Reboot the device

  0   EXIT

>:
```

LOGICAL ACQUISITION AND BACKUP

- What can we do if we have iPhone 4S/5/5s/5c with iOS 7 and without lock code?
- Logical acquisition (or simply a backup!)
  - **Forensic tools**
    - Oxygen Forensics, UFED Cellebrite, AccessData MPE+, XRY, MobilEdit, etc.
  - **iTunes + Backup parser/analyzer**

iPhone Backup Analyzer 2	Opensource
iBackupBot	Commercial
iPhone Backup Extractor	Commercial

IPHONE BACKUP ANALYZER



SMS / iMessage

Call Logs

Address Book

Note

Network

Decode and Explore iPhone backup

XML Plist viewer

Binary Plist viewer

SQLITE Browser

Hex viewer

Text viewer

Image and EXIF viewer

Skype

WhatsApp

Viber

Safari History

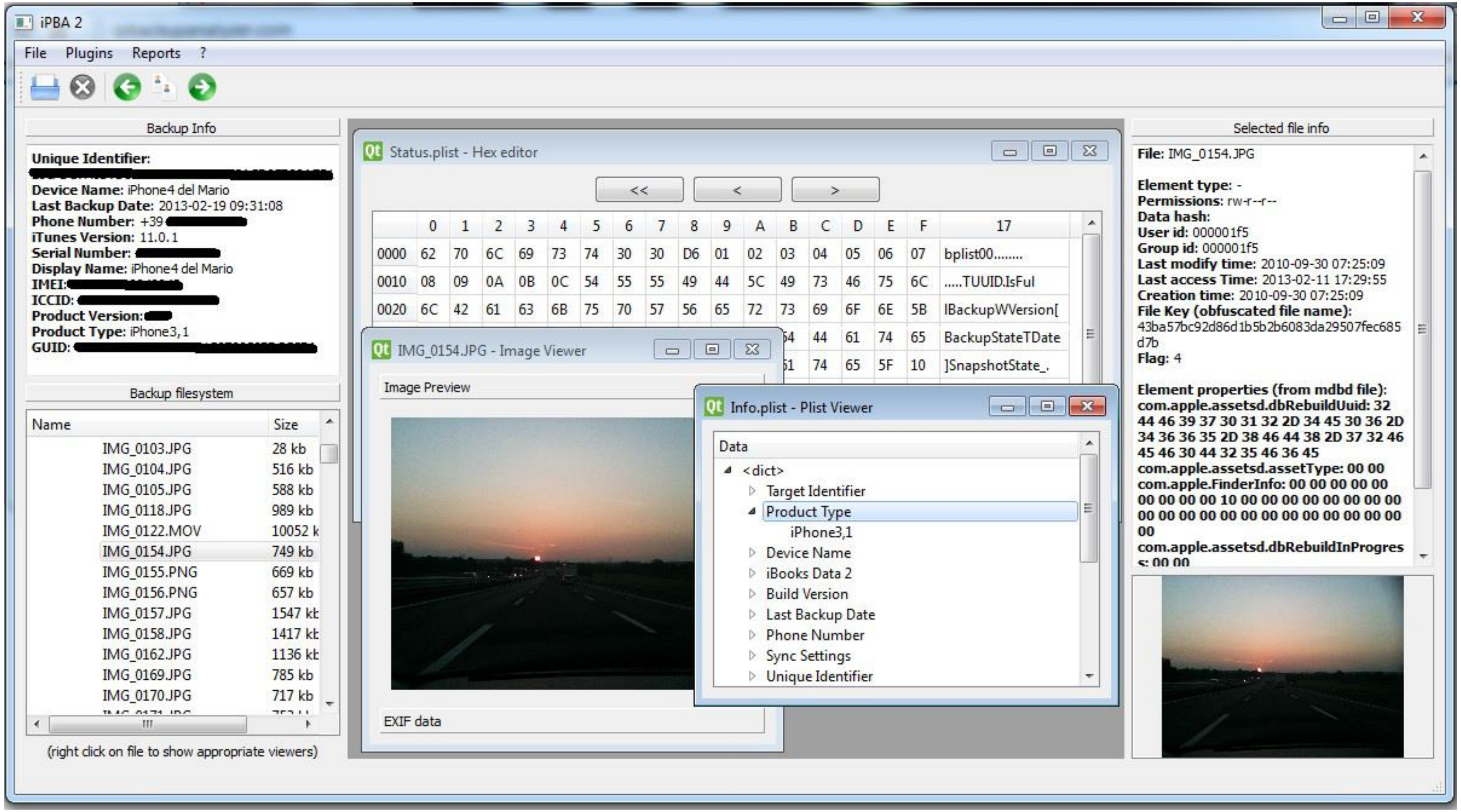
Safari Bookmarks

Safari State

Thumbnails

Known WiFi

IPHONE BACKUP ANALYZER – MAIN WINDOW



Unique Identifier: [redacted]
Device Name: iPhone4 del Mario
Last Backup Date: 2013-02-19 09:31:08
Phone Number: +39 [redacted]
iTunes Version: 11.0.1
Serial Number: [redacted]
Display Name: iPhone4 del Mario
IMEI: [redacted]
ICCID: [redacted]
Product Version: [redacted]
Product Type: iPhone3,1
GUID: [redacted]

Name	Size
IMG_0103.JPG	28 kb
IMG_0104.JPG	516 kb
IMG_0105.JPG	588 kb
IMG_0118.JPG	989 kb
IMG_0122.MOV	10052 k
IMG_0154.JPG	749 kb
IMG_0155.PNG	669 kb
IMG_0156.PNG	657 kb
IMG_0157.JPG	1547 kb
IMG_0158.JPG	1417 kb
IMG_0162.JPG	1136 kb
IMG_0169.JPG	785 kb
IMG_0170.JPG	717 kb

(right click on file to show appropriate viewers)

```
      0  1  2  3  4  5  6  7  8  9  A  B  C  D  E  F  17
0000  62 70 6C 69 73 74 30 30 D6 01 02 03 04 05 06 07  bplist00........
0010  08 09 0A 0B 0C 54 55 55 49 44 5C 49 73 46 75 6C  .....TUUID.IsFul
0020  6C 42 61 63 6B 75 70 57 56 65 72 73 69 6F 6E 5B  lBackupWVersion[
                                             54 44 61 74 65  BackupStateTDate
                                             51 74 65 5F 10  ]SnapshotState_.
```

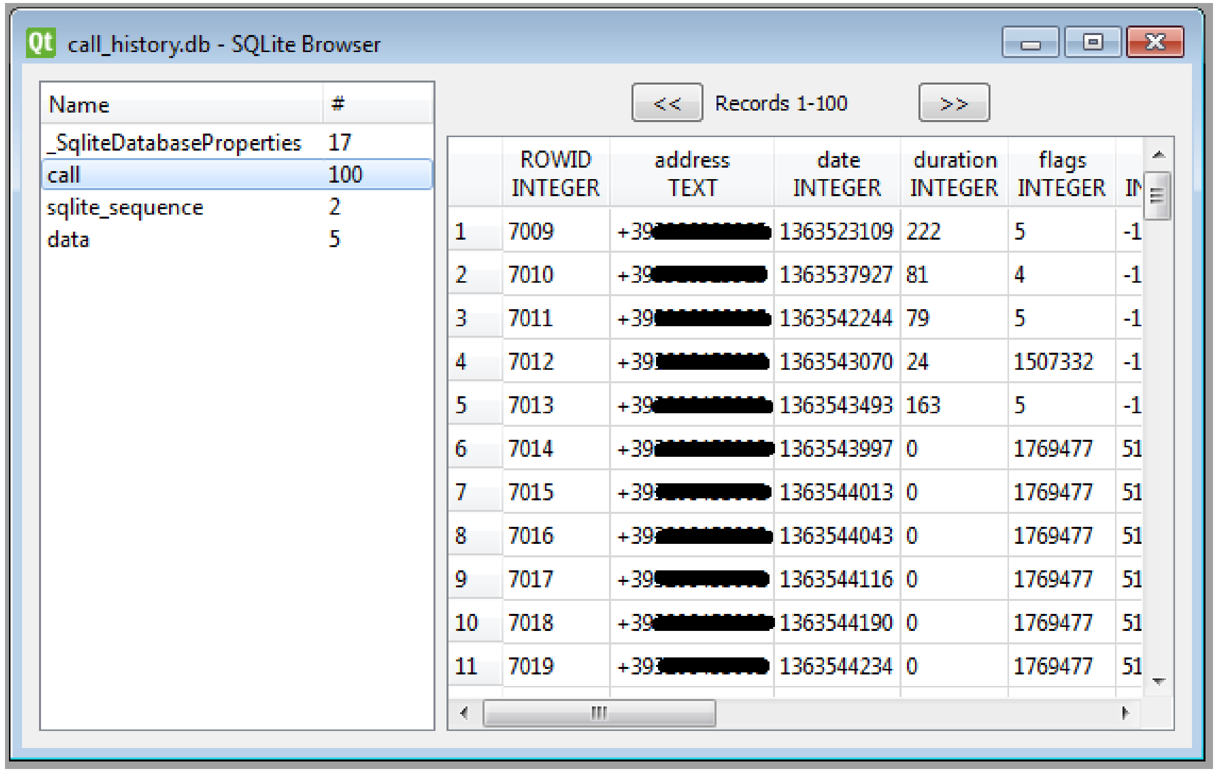
```
Data
◢ <dict>
   ▷ Target Identifier
   ◢ Product Type
        iPhone3,1
   ▷ Device Name
   ▷ iBooks Data 2
   ▷ Build Version
   ▷ Last Backup Date
   ▷ Phone Number
   ▷ Sync Settings
   ▷ Unique Identifier
```

File: IMG_0154.JPG

Element type: -
Permissions: rw-r--r--
Data hash:
User id: 000001f5
Group id: 000001f5
Last modify time: 2010-09-30 07:25:09
Last access Time: 2013-02-11 17:29:55
Creation time: 2010-09-30 07:25:09
File Key (obfuscated file name): 43ba57bc92d86d1b5b2b6083da29507fec685d7b
Flag: 4

Element properties (from mdbd file):
com.apple.assetsd.dbRebuildUuid: 32 44 46 39 37 30 31 32 2D 34 45 30 36 2D 34 36 36 35 2D 38 46 44 38 2D 37 32 46 45 46 30 44 32 35 46 36 45
com.apple.assetsd.assetType: 00 00
com.apple.FinderInfo: 00 00 00 00 00 00 00 00 00 10 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
com.apple.assetsd.dbRebuildInProgress: 00 00

IPHONE BACKUP ANALYZER – SQLITE AND PLIST

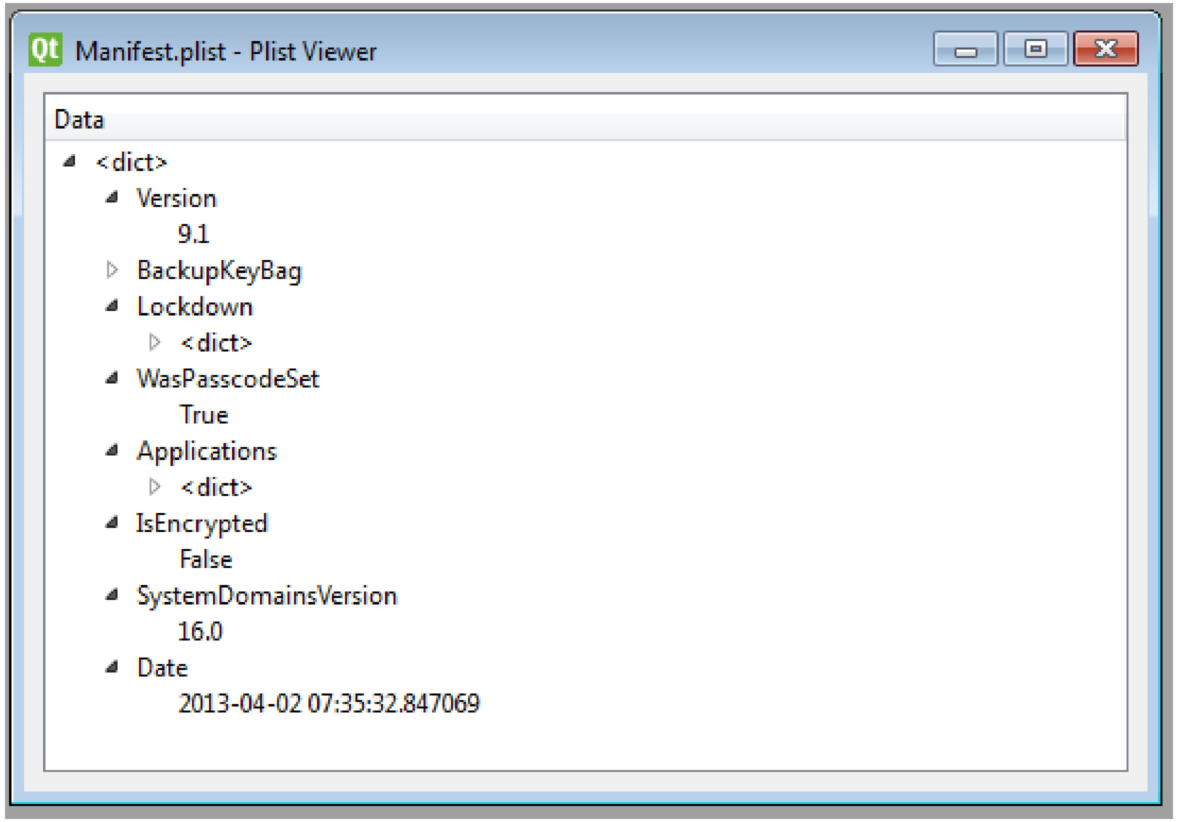


call_history.db - SQLite Browser

Name	#
_SqliteDatabaseProperties	17
call	100
sqlite_sequence	2
data	5

<< Records 1-100 >>

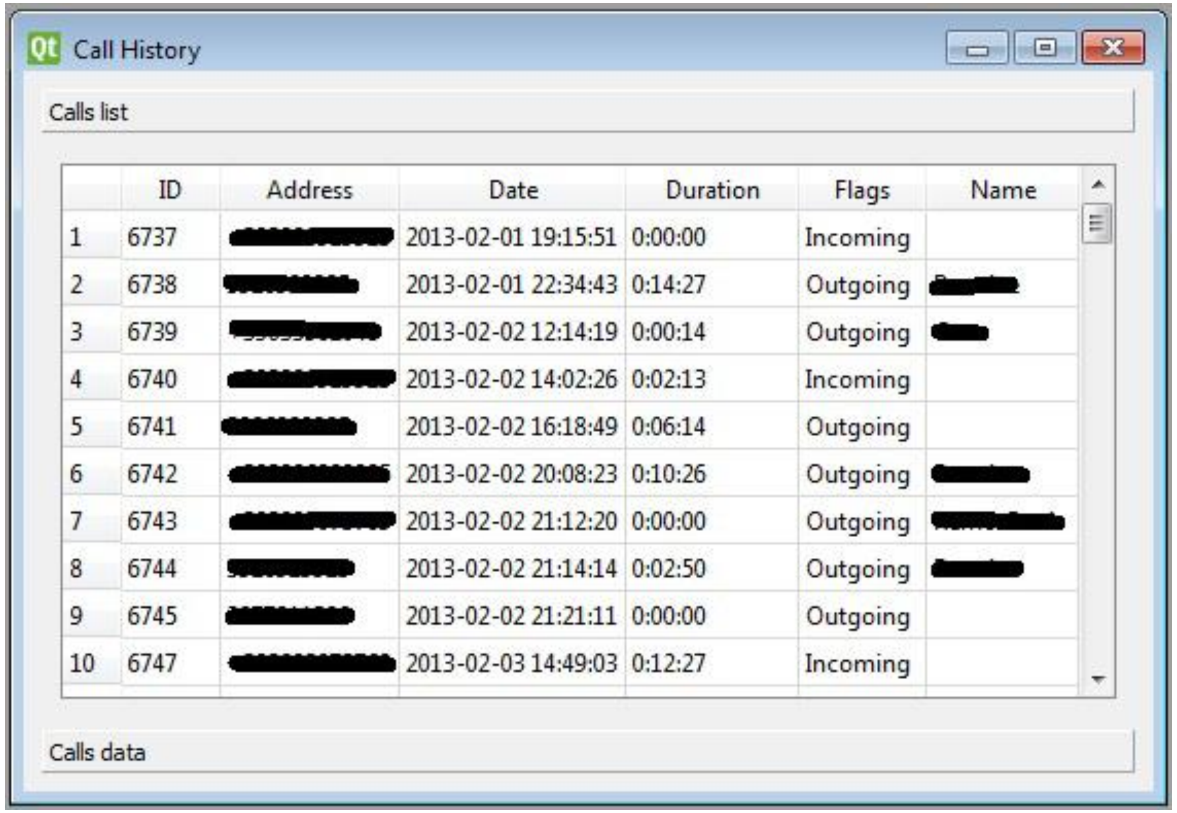
	ROWID INTEGER	address TEXT	date INTEGER	duration INTEGER	flags INTEGER	IN
1	7009	+39[redacted]	1363523109	222	5	-1
2	7010	+39[redacted]	1363537927	81	4	-1
3	7011	+39[redacted]	1363542244	79	5	-1
4	7012	+39[redacted]	1363543070	24	1507332	-1
5	7013	+39[redacted]	1363543493	163	5	-1
6	7014	+39[redacted]	1363543997	0	1769477	51
7	7015	+39[redacted]	1363544013	0	1769477	51
8	7016	+39[redacted]	1363544043	0	1769477	51
9	7017	+39[redacted]	1363544116	0	1769477	51
10	7018	+39[redacted]	1363544190	0	1769477	51
11	7019	+39[redacted]	1363544234	0	1769477	51



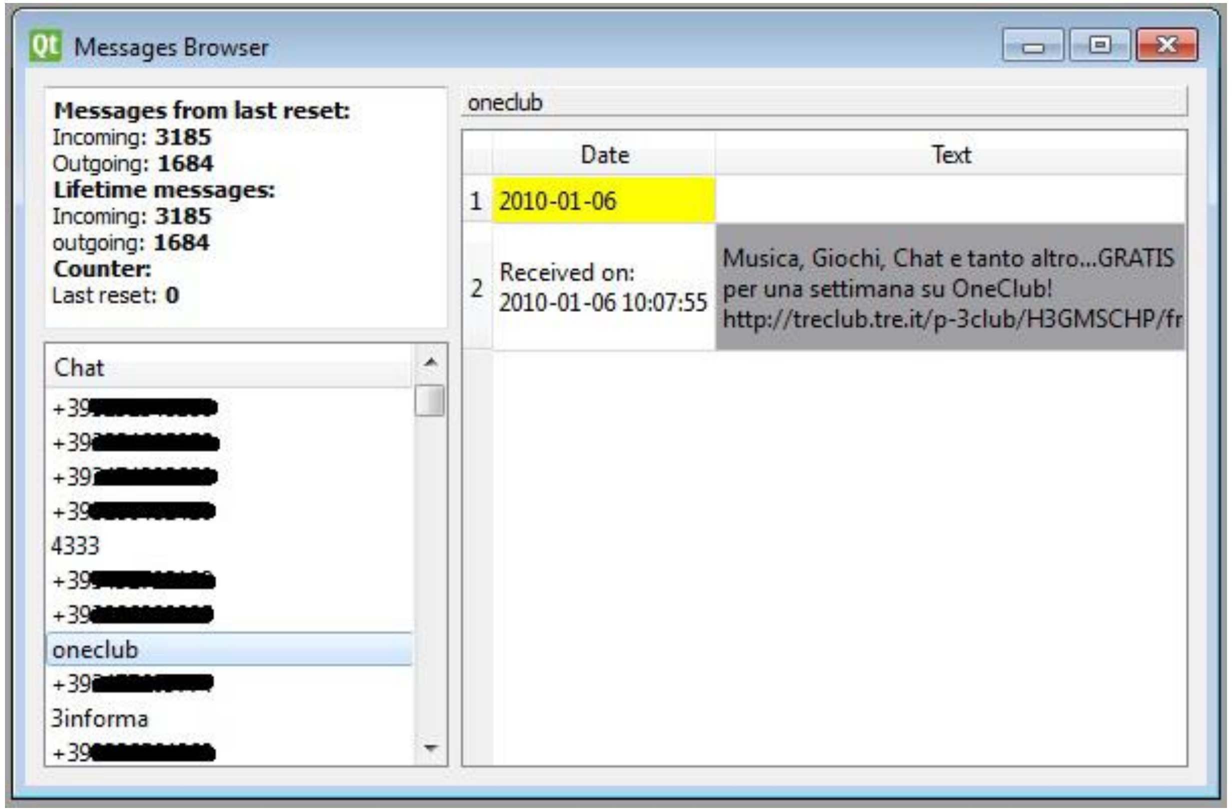
Manifest.plist - Plist Viewer

```
Data
◢ <dict>
    ◢ Version
          9.1
    ▷ BackupKeyBag
    ◢ Lockdown
        ▷ <dict>
    ◢ WasPasscodeSet
          True
    ◢ Applications
        ▷ <dict>
    ◢ IsEncrypted
          False
    ◢ SystemDomainsVersion
          16.0
    ◢ Date
          2013-04-02 07:35:32.847069
```

IPHONE BACKUP ANALYZER – CALLS AND MESSAGES



	ID	Address	Date	Duration	Flags	Name
1	6737	[redacted]	2013-02-01 19:15:51	0:00:00	Incoming	
2	6738	[redacted]	2013-02-01 22:34:43	0:14:27	Outgoing	[redacted]
3	6739	[redacted]	2013-02-02 12:14:19	0:00:14	Outgoing	[redacted]
4	6740	[redacted]	2013-02-02 14:02:26	0:02:13	Incoming	
5	6741	[redacted]	2013-02-02 16:18:49	0:06:14	Outgoing	
6	6742	[redacted]	2013-02-02 20:08:23	0:10:26	Outgoing	[redacted]
7	6743	[redacted]	2013-02-02 21:12:20	0:00:00	Outgoing	[redacted]
8	6744	[redacted]	2013-02-02 21:14:14	0:02:50	Outgoing	[redacted]
9	6745	[redacted]	2013-02-02 21:21:11	0:00:00	Outgoing	
10	6747	[redacted]	2013-02-03 14:49:03	0:12:27	Incoming	



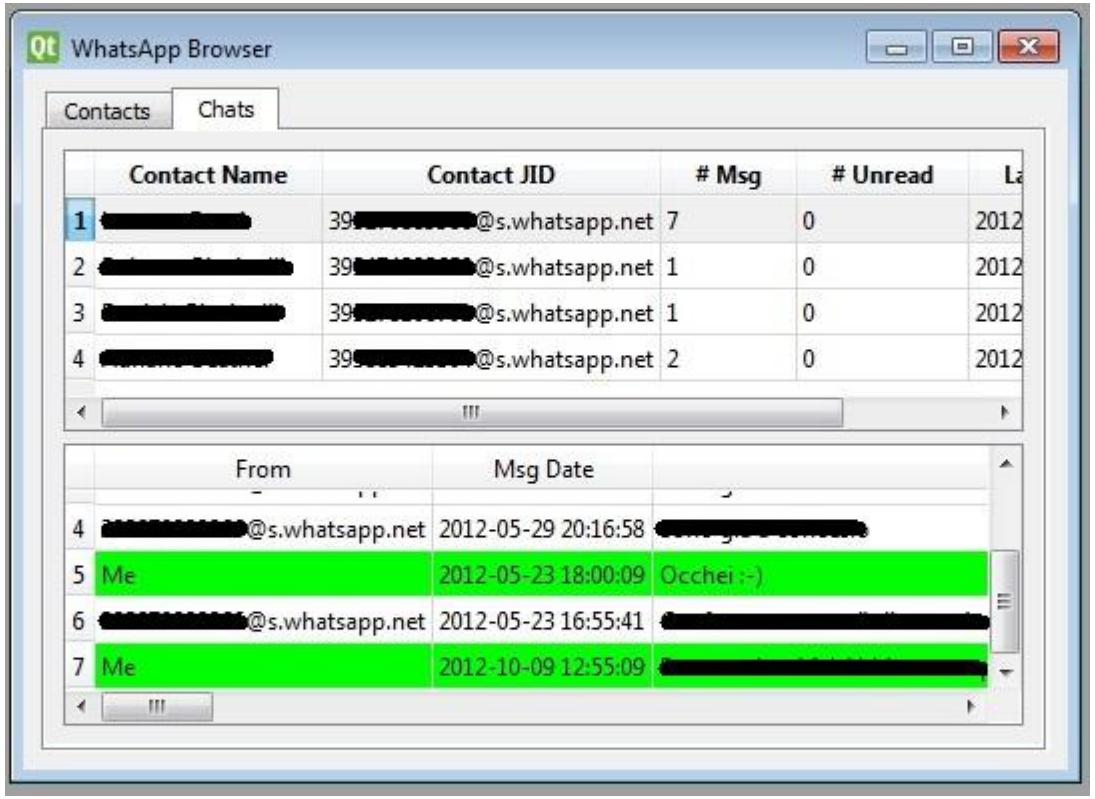
Messages from last reset:
Incoming: **3185**
Outgoing: **1684**
Lifetime messages:
Incoming: **3185**
outgoing: **1684**
Counter:
Last reset: **0**

Chat
+39[redacted]
+39[redacted]
+39[redacted]
+39[redacted]
4333
+39[redacted]
+39[redacted]
oneclub
+39[redacted]
3informa
+39[redacted]

oneclub

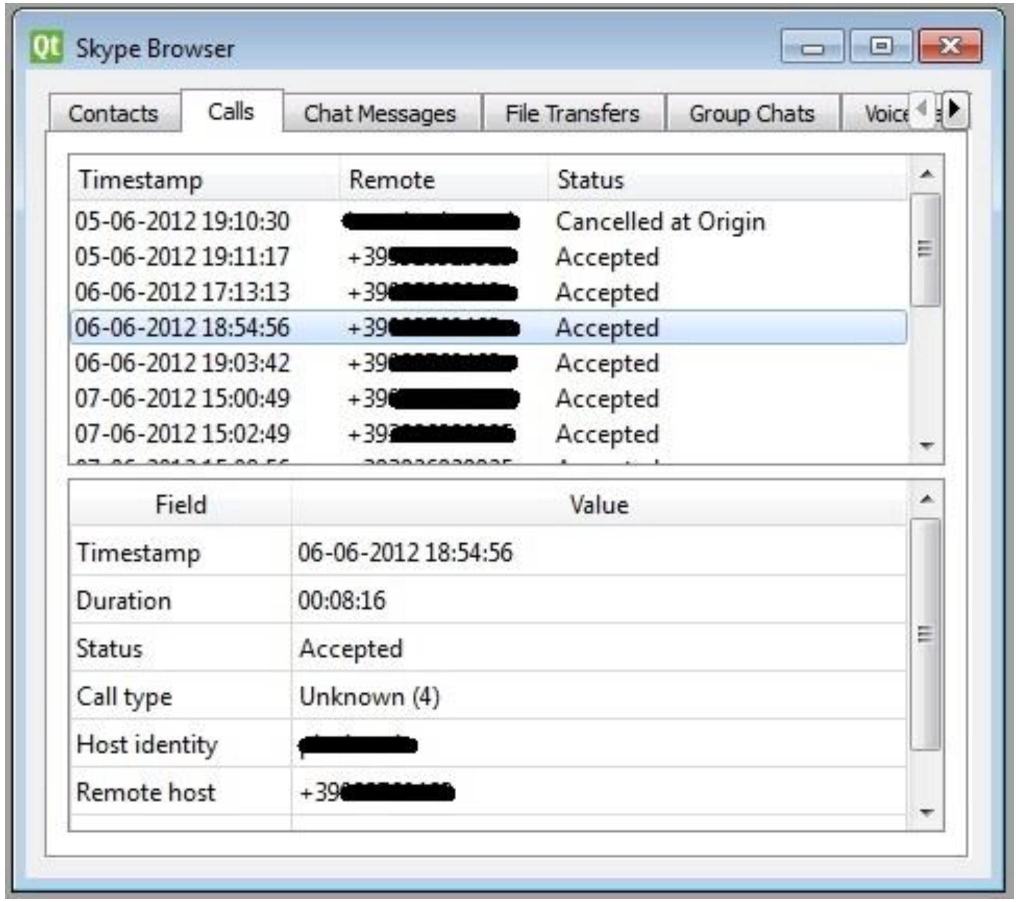
	Date	Text
1	2010-01-06	
2	Received on: 2010-01-06 10:07:55	Musica, Giochi, Chat e tanto altro...GRATIS per una settimana su OneClub! http://treclub.tre.it/p-3club/H3GMSCHP/fr

IPHONE BACKUP ANALYZER – WHATSAPP AND SKYPE



	Contact Name	Contact JID	# Msg	# Unread	La
1	[redacted]	39[redacted]@s.whatsapp.net	7	0	2012
2	[redacted]	39[redacted]@s.whatsapp.net	1	0	2012
3	[redacted]	39[redacted]@s.whatsapp.net	1	0	2012
4	[redacted]	39[redacted]@s.whatsapp.net	2	0	2012

	From	Msg Date	
4	[redacted]@s.whatsapp.net	2012-05-29 20:16:58	[redacted]
5	Me	2012-05-23 18:00:09	Occhei :-)
6	[redacted]@s.whatsapp.net	2012-05-23 16:55:41	[redacted]
7	Me	2012-10-09 12:55:09	[redacted]



Timestamp	Remote	Status
05-06-2012 19:10:30	[redacted]	Cancelled at Origin
05-06-2012 19:11:17	+39[redacted]	Accepted
06-06-2012 17:13:13	+39[redacted]	Accepted
06-06-2012 18:54:56	+39[redacted]	Accepted
06-06-2012 19:03:42	+39[redacted]	Accepted
07-06-2012 15:00:49	+39[redacted]	Accepted
07-06-2012 15:02:49	+39[redacted]	Accepted

Field	Value
Timestamp	06-06-2012 18:54:56
Duration	00:08:16
Status	Accepted
Call type	Unknown (4)
Host identity	[redacted]
Remote host	+39[redacted]

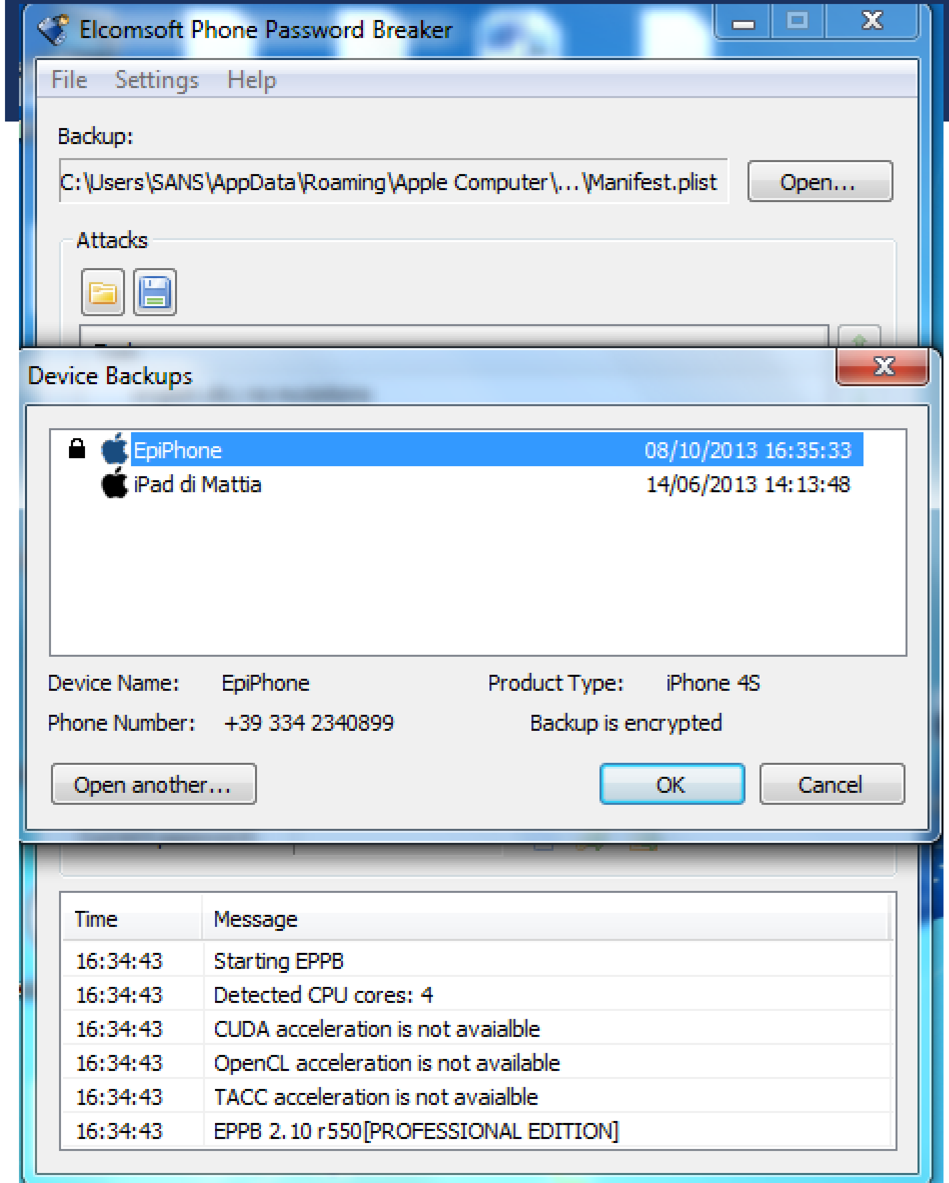
LOGICAL ACQUISITION AND BACKUP

- What can we do if we have:
  - **iPhone 4s or iPhone 5 protected with a lock code and is not jailbroken**
  - **iPhone 5s/5c is protected with a lock code**
- We need to answer another question:

Do we have access to any PC the device was synced with?

1. **If not…we can not perform an acquisition!**
2. If yes…
   1. Is it a not password protected backup available in the PC? → **We can analyze it!**
   2. Is it a password protected backup available in the PC? → **We can try to crack it!**
   3. Are the lockdown certificates available? → **We can access the device!!!**

PASSWORD PROTECTED BACKUP

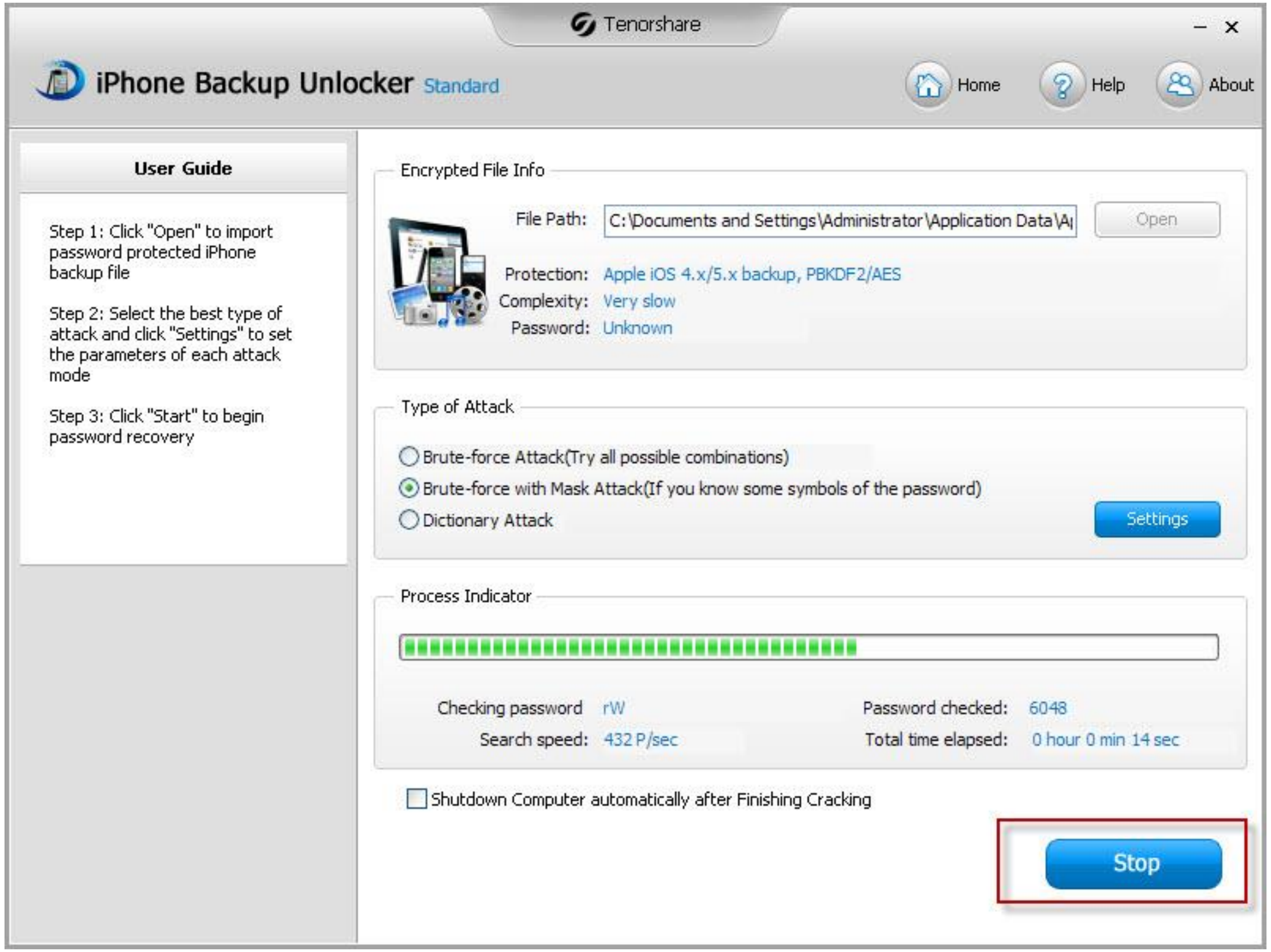


Backup: C:\Users\SANS\AppData\Roaming\Apple Computer\...\Manifest.plist

EpiPhone	08/10/2013 16:35:33
iPad di Mattia	14/06/2013 14:13:48

Device Name: EpiPhone
Product Type: iPhone 4S
Phone Number: +39 334 2340899
Backup is encrypted

```
Time      Message
16:34:43  Starting EPPB
16:34:43  Detected CPU cores: 4
16:34:43  CUDA acceleration is not avaialble
16:34:43  OpenCL acceleration is not available
16:34:43  TACC acceleration is not avaialble
16:34:43  EPPB 2.10 r550[PROFESSIONAL EDITION]
```



User Guide

Step 1: Click "Open" to import password protected iPhone backup file

Step 2: Select the best type of attack and click "Settings" to set the parameters of each attack mode

Step 3: Click "Start" to begin password recovery

Encrypted File Info

File Path: C:\Documents and Settings\Administrator\Application Data\A|

Protection: Apple iOS 4.x/5.x backup, PBKDF2/AES
Complexity: Very slow
Password: Unknown

Type of Attack

○ Brute-force Attack(Try all possible combinations)
● Brute-force with Mask Attack(If you know some symbols of the password)
○ Dictionary Attack

Process Indicator

Checking password: rW
Password checked: 6048
Search speed: 432 P/sec
Total time elapsed: 0 hour 0 min 14 sec

□ Shutdown Computer automatically after Finishing Cracking

LOCKDOWN CERTIFICATES

- Stored in:

C:\Program Data\Apple\Lockdown	Win 7/8
C:\Users\[username]\AppData\roaming\Apple Computer\Lockdown	Vista
C:\Documents and Settings\[username]\Application Data\Apple Computer\Lockdown	XP
/private/var/db/lockdown	Mac OS X

- One certificate for every device synced with the computer
- Certificate name → **Device UDID.plist**
- **We can take the certificate and copy into another machine → We will then have access to the device!**

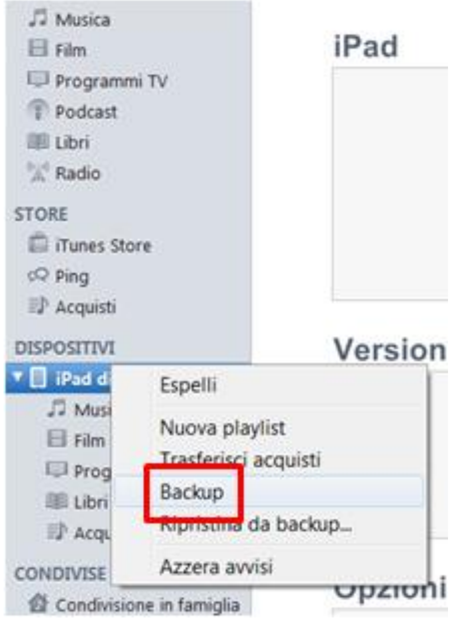
LIVE DEMO - SCENARIO

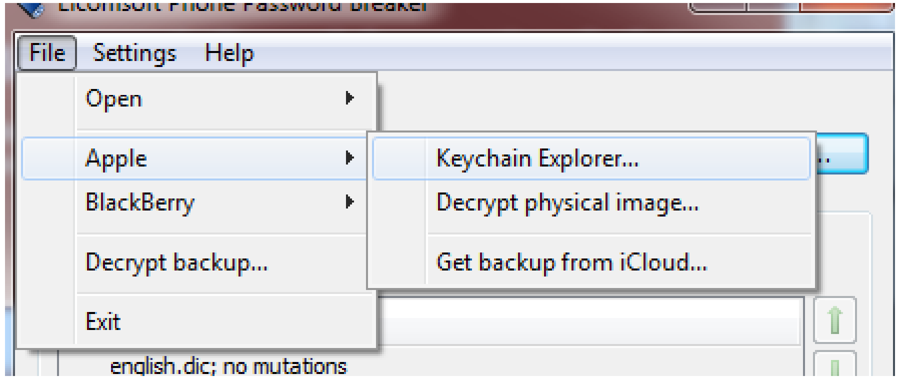
- An iPhone 4S was seized from Mattia Epifani, a very dangerous WiFi wardriver
- The iPhone is locked with a 4 digit passcode and isn’t jailbroken (iOS 6.1.3)
- A personal computer was also seized in Mattia’s flat
- We are searching for:
  - WiFi password stored on the device
  - Personal email password
  - SMS sent and received
  - WhatsApp contacts and chats

ICLOUD

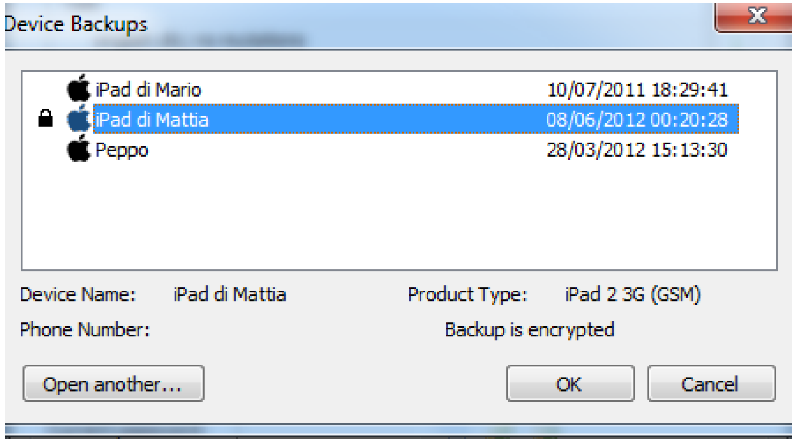
- Using iTunes we can make a **backup of an iOS device**
- In order to perform the backup it is essential to find out whether:
  - The phone is not protected by a lock code, or
  - Do we know the lock code, or
  - Can we obtain the synchronization certificates for the device from a trusted computer
- The **keychain file** stores **WiFi, e-mail and third-party applications passwords**
- If the backup is **not encrypted** → keychain file is encrypted using a key hard-coded into the device
- If the backup is **password protected** → keychain file is **encrypted using the user-chosen password**

ICLOUD




Elcomsoft Phone Password Breaker
File
Settings
Help
Open
Apple
BlackBerry
Decrypt backup...
Exit
Keychain Explorer...
Decrypt physical image...
Get backup from iCloud...

english.dic; no mutations



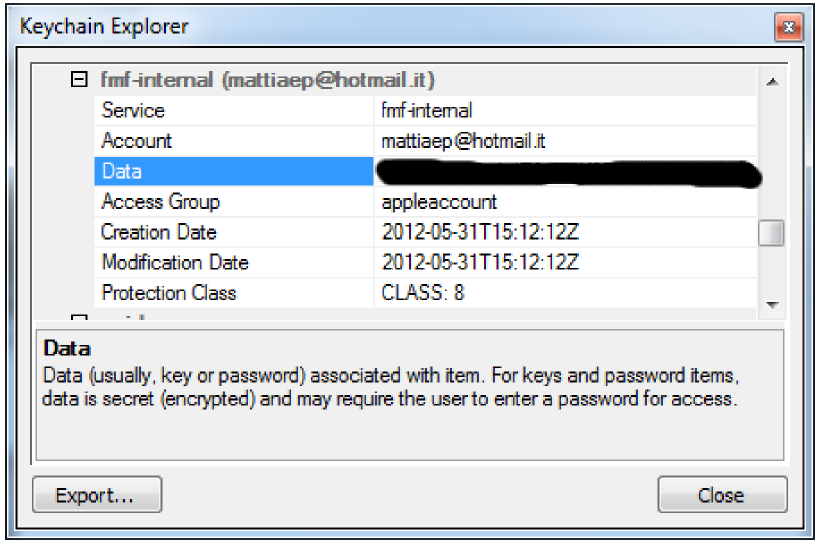
iPad di Mario	10/07/2011 18:29:41
iPad di Mattia	08/06/2012 00:20:28
Peppo	28/03/2012 15:13:30

Device Name: iPad di Mattia

Product Type: iPad 2 3G (GSM)

Phone Number:

Backup is encrypted



fmf-internal (mattiaep@hotmail.it)

Service	fmf-internal
Account	mattiaep@hotmail.it
Data	[redacted]
Access Group	appleaccount
Creation Date	2012-05-31T15:12:12Z
Modification Date	2012-05-31T15:12:12Z
Protection Class	CLASS: 8

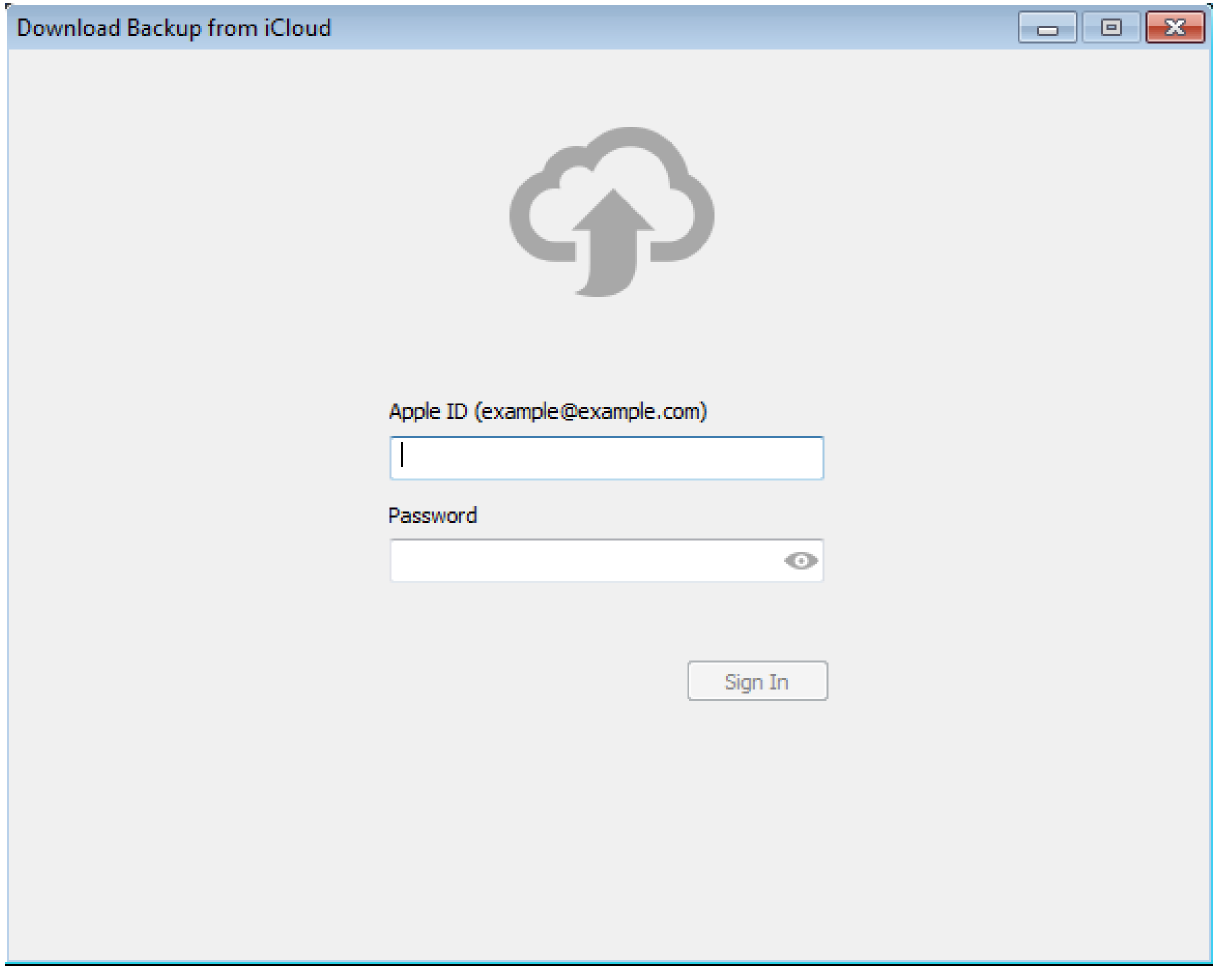
Data

Data (usually, key or password) associated with item. For keys and password items, data is secret (encrypted) and may require the user to enter a password for access.

ICLOUD

- Researchers at the Russian software company Elcomsoft have analyzed the communication protocol between iDevice and Apple iCloud
- They were able to **emulate the correct commands to retrieve the contents of a user's iCloud storage**
  - http://cansecwest.com/slides/2013/Cracking% 20and% 20Analyzing% 20Apple% 20iCloud.ppt
  - http://www.elcomsoft.com/PR/recon_2013.pdf
- The download operations are **completely transparent to the device owner**, so an attacker can **monitor user activities every time a new backup is created online**

ICLOUD

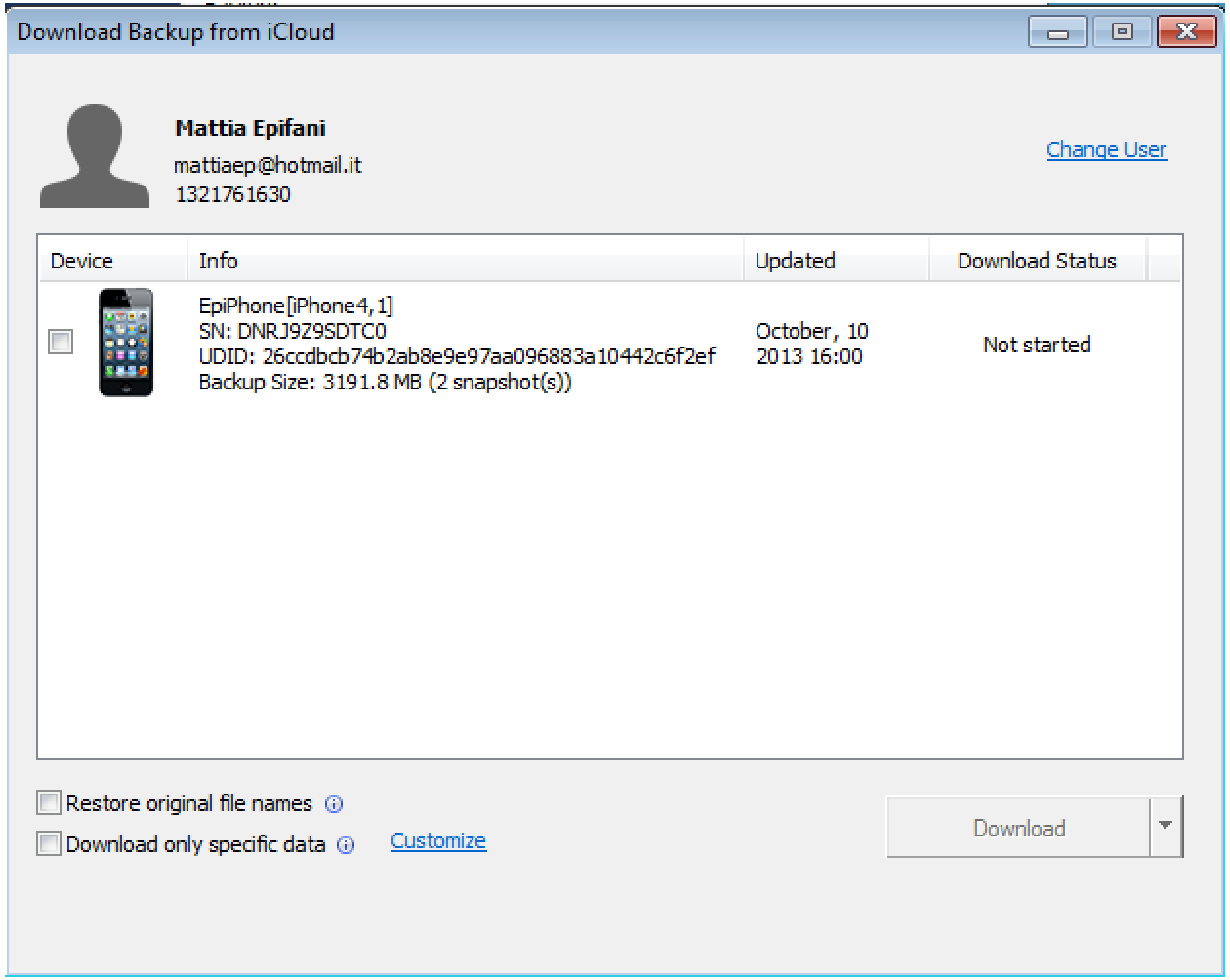


Download Backup from iCloud

Apple ID (example@example.com)

Password

ICLOUD



Download Backup from iCloud

Mattia Epifani
mattiaep@hotmail.it
1321761630

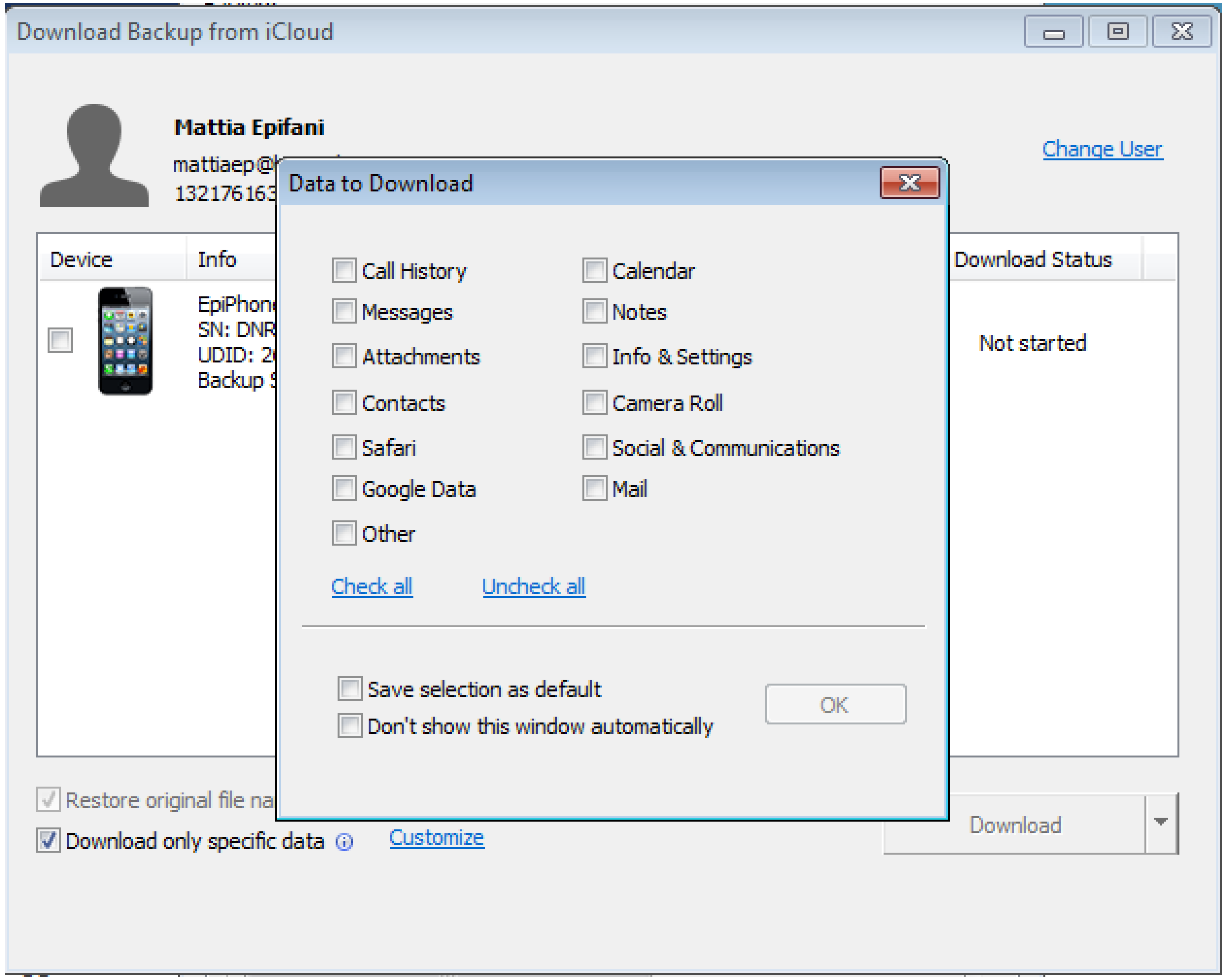
Change User

Device	Info	Updated	Download Status
□	EpiPhone[iPhone4,1] SN: DNRJ9Z9SDTC0 UDID: 26ccdbcb74b2ab8e9e97aa096883a10442c6f2ef Backup Size: 3191.8 MB (2 snapshot(s))	October, 10 2013 16:00	Not started

□ Restore original file names

□ Download only specific data

ICLOUD



Download Backup from iCloud

Mattia Epifani
mattiaep@
132176163

Change User

Device	Info	Download Status
□	EpiPhon SN: DNR UDID: 2 Backup	Not started

Data to Download

□ Call History
□ Messages
□ Attachments
□ Contacts
□ Safari
□ Google Data
□ Other

□ Calendar
□ Notes
□ Info & Settings
□ Camera Roll
□ Social & Communications
□ Mail

Check all Uncheck all

□ Save selection as default
□ Don't show this window automatically

OK

☑ Restore original file na
☑ Download only specific data Customize

Download

UNLOCKED IPHONE

Model	Logical Acquisition	Physical Acquisition
iPhone 3G	Yes	Yes
iPhone 3Gs	Yes	Yes
iPhone 4	Yes	Yes
iPhone 4s	Yes	Only if jailbroken (iOS 6.1.2)
iPhone 5	Yes	Only if jailbroken (iOS 6.1.2)
iPhone 5s	Yes	No
iPhone 5c	Yes	No

LOCKED IPHONE

Model	Logical Acquisition	Physical Acquisition
iPhone 3G	Yes, with lockdown	Yes, if code is «easy» enough
iPhone 3Gs	Yes, with lockdown	Yes, if code is «easy» enough
iPhone 4	Yes, with lockdown	Yes, if code is «easy» enough
iPhone 4s	Yes, with lockdown	Only if jailbroken (iOS 6.1.2) and If code is «easy» enough
iPhone 5	Yes, with lockdown	Only if jailbroken (iOS 6.1.2) and If code is «easy» enough
iPhone 5s	Yes, with lockdown	No
iPhone 5c	Yes, with lockdown	No

LINKS

- **The iPhone Wiki**
  http://theiphonewiki.com
- **iOS Support Matrix**
  http://iossupportmatrix.com/
- **Elcomsoft iOS Forensic Toolkit**
  http://www.elcomsoft.it/eift.html
- **Elcomsoft Phone Password Breaker**
  http://www.elcomsoft.it/eppb.html
- **iPhone Backup Unlocker**
  http://www.windowspasswordsrecovery.com/product/iphone-backup-unlocker.htm
- **AccessData Mobile Phone Examiner Plus**
  http://www.accessdata.com/mpe-ios-support/
- **Cellebrite UFED Touch**
  http://www.cellebrite.com/mobile-forensics/capabilities/ios-forensics

Q&A?

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