Mobile Security Apps

Hendrik Pilz

Director Technical Lab / Mobile Security

hpilz@av-test.de

The test report is also available on
www.av-test.org

About AV-TEST

- **24 employees in Magdeburg and Leipzig**
- **Tests of security solutions for consumers and enterprise**
- **300 TB test data (malware and clean files)**
- **Certification program**

Agenda

- **The Android threat landscape**
- **Common mobile security features**
- **Testing mobile security Apps**
- **Comparison of detection rates**
- **How to protect yourself?**

The Android threat landscape

- **Android is the most popular Smartphone OS**
- **It's easy to install apps from 3rd party app stores**
- **The Android Market was not very restrictive -> Google Bouncer was recently introduced**

The Android threat landscape
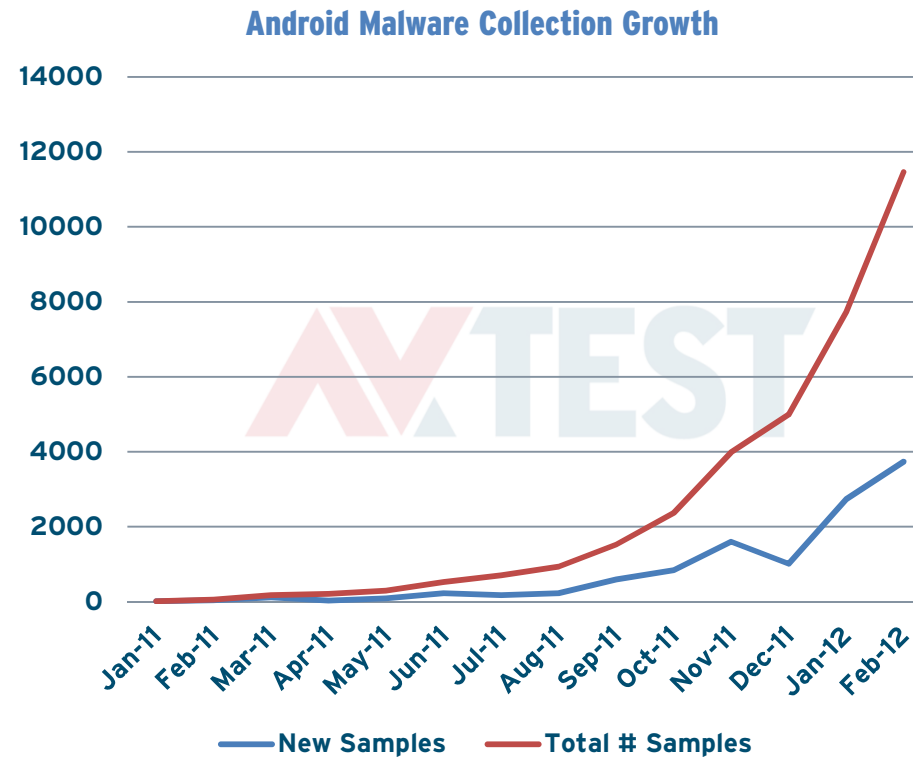
Android Malware Collection Growth

The Android threat landscape

- **Phishing-/Banking Trojans**
- **Spyware**
- **Bots**
- **SMS Fraud**
- **Premium Dialers**
- **Root Exploits**
- **Fake Installers**
- **Download Trojans**

The Android threat landscape

- Phishing-/Banking Trojans
- Spyware
- Bots
- SMS Fraud
- Premium Dialers
- Root Exploits
- Fake Installers
- Download Trojans

More than 100 malware families!
Each with dozens of unique samples!

Common mobile security features

- **Anti-Malware scanner, Privacy scanner**
- **Real-time protection**
- **Anti-Theft: remote wipe, remote lock, localization of lost devices**
- **Message filter for SMS/mail**
- **Safe browsing, Parental control**
- **Data Encryption**
- **Backup**

Common mobile security features

**Features among all tested
Mobile Security Apps**
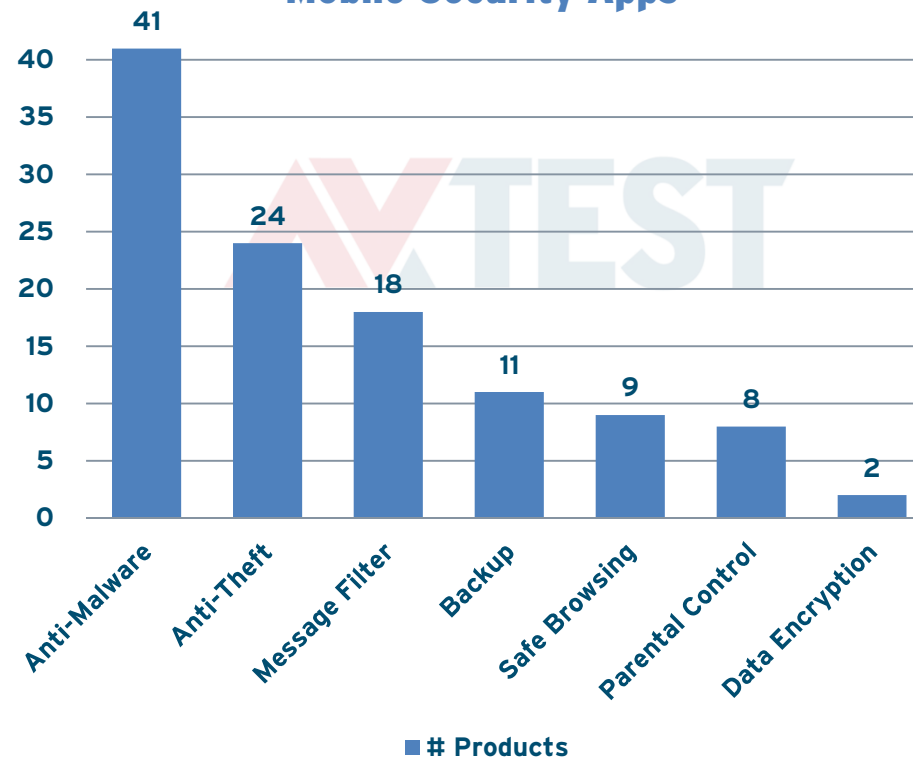
Testing mobile security Apps

- **Our goal: determining malware detection rate**
- **Test environment: Android Emulator with API-level 10, Samsung GalaxyTab, Samsung Galaxy Nexus, Motorola Xoom**
- **Emulator snapshots were used to freeze signatures**
- **All emulator tests were cross checked on a real device**

Testing mobile security Apps
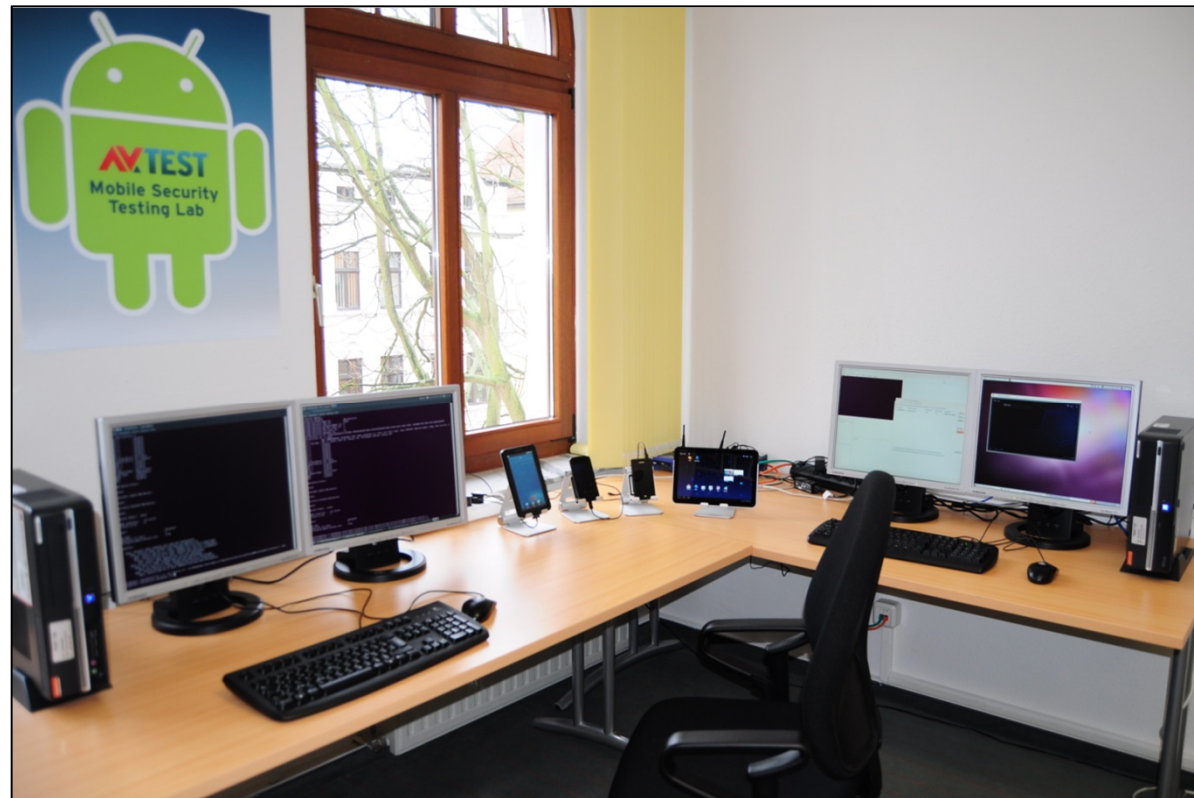
Testing mobile security Apps

- Scan sample set on SD card
- Use real-time protection, to check all remaining files

Testing mobile security Apps

- Scan sample set on SD card
- Use real-time protection, to check all remaining files
  -> Install each sample one by one!

Testing mobile security Apps

- Scan sample set on SD card

- Use real-time protection, to check all remaining files
  -> Install each sample one by one!
  -> In addition to the scans we've performed thousands of real-time tests!
  -> Used ADB to automate tasks

# Testing mobile security Apps

Testing mobile security Apps

Some Problems:

- No consistent reporting

- No "Delete all" buttons

- Cloud queries didn't always work on the emulator due to high latency

- Different implementations of on-demand and real-time scans

Testing mobile security Apps

Future tests

- **Anti-Theft**
- **Message filters**
- **Safe browsing**
- **Performance / Battery usage**

Comparison of detection rates
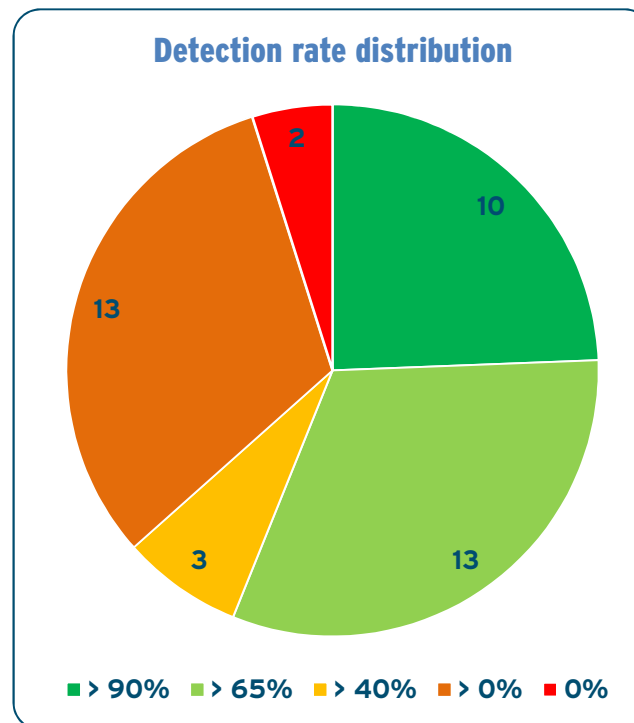
Detection rate > 90%
avast! Mobile Security
Dr.Web anti-virus
F-Secure Mobile Security
IKARUS mobile.security
Kaspersky Mobile Security
Lookout Security & Antivirus
McAfee Mobile Security
MYAndroid Protection
NQ Mobile Security
Zoner AntiVirus

Comparison of detection rates

Detection rate > 90%
avast! Mobile Security
Dr.Web anti-virus
F-Secure Mobile Security
IKARUS mobile.security
Kaspersky Mobile Security
Lookout Security & Antivirus
McAfee Mobile Security
MYAndroid Protection
NQ Mobile Security
Zoner AntiVirus

Traditional Anti-Virus vendors

Comparison of detection rates

Detection rate > 90%
avast! Mobile Security
Dr.Web anti-virus
F-Secure Mobile Security
IKARUS mobile.security
Kaspersky Mobile Security
Lookout Security & Antivirus
McAfee Mobile Security
MYAndroid Protection
NQ Mobile Security
Zoner AntiVirus

Anti-Virus vendors focused on Mobile Security and other areas

Comparison of detection rates

Detection rate > 65%
AegisLab Antivirus
AVG Mobilation Anti-Virus
Bitdefender Mobile Security
BullGuard Mobile Security
Comodo Mobile Security
ESET Mobile Security
Norton Mobile Security
Quick Heal Mobile Security
Super Security
Trend Micro Mobile Security
Total Defense Mobile Security
Vipre Mobile Security
Webroot SecureAnywhere Mobile

Comparison of detection rates

Detection rate > 65%
AegisLab Antivirus
AVG Mobilation Anti-Virus
Bitdefender Mobile Security
BullGuard Mobile Security
Comodo Mobile Security
ESET Mobile Security
Norton Mobile Security
Quick Heal Mobile Security
Super Security
Trend Micro Mobile Security
Total Defense Mobile Security
Vipre Mobile Security
Webroot SecureAnywhere Mobile

Comparison of detection rates

Detection rate > 65%
AegisLab Antivirus
AVG Mobilation Anti-Virus
Bitdefender Mobile Security
BullGuard Mobile Security
Comodo Mobile Security
ESET Mobile Security
Norton Mobile Security
Quick Heal Mobile Security
Super Security
Trend Micro Mobile Security
Total Defense Mobile Security
Vipre Mobile Security
Webroot SecureAnywhere Mobile

Comparison of detection rates

Detection rate > 40%
BluePoint Security Free
G Data MobileSecurity
Kinetoo Malware Scan

Comparison of detection rates

Detection rate > 0%
ALYac Android
Android Antivirus
Android Defender / Virus Shield
Antivirus Free
BlackBelt AntiVirus
CMC Mobile Security
Fastscan Anti-Virus
GuardX Antivirus
MobiShield Mobile Security
MT Antivirus
Privateer LITE
Snap Secure
TrustGo Mobile Security

Comparison of detection rates

Detection rate > 0%
ALYac Android
Android Antivirus
Android Defender / Virus Shield
Antivirus Free
BlackBelt AntiVirus
CMC Mobile Security
Fastscan Anti-Virus
GuardX Antivirus
MobiShield Mobile Security
MT Antivirus
Privateer LITE
Snap Secure
TrustGo Mobile Security

Comparison of detection rates

Detection rate = 0%
LabMSF Antivirus beta
MobileBot Antivirus

How to protect yourself?

- **Install apps from trusted sources!**

- **Check the permissions!**

- **Check the reliability with help of ratings, user comments, reviews or the developer website!**

Questions?