Android Malware: Server-Side Polymorphism

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Why Target Smartphones?

I believe that smart phones are going to become the primary platform of attack for cybercriminals in the coming years.
- Bruce Schneier

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1. Growing Market
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2. Personal Information
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Why?

1. Growing Market
2. Personal Information
3. Limited Resources (Memory and Battery)
How?

Social Engineering

1. More common on unofficial app stores
How?

Social Engineering

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2. Pose as a popular game (Angry Birds, etc.)
Social Engineering

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2. Pose as a popular game (Angry Birds, etc.)
3. Trick the user into granting excessive permissions
Then what?

SMS Fraud

1. Messages are sent from the smartphone without the user’s knowledge
Then what?

SMS Fraud

1. Messages are sent from the smartphone without the user’s knowledge
2. User gets stuck with premium charges
Avoiding Detection

Server-Side Polymorphism

1. Effective against signature-based known malware detection
Avoiding Detection

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2. Variable data changes - Content of SMS messages changes
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3. File re-ordering - Causes different manifest and signature files
Avoiding Detection

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2. Variable data changes - Content of SMS messages changes
3. File re-ordering - Causes different manifest and signature files
4. Insertion of dummy files - Variable numbers of useless files
Bouncer - Scans Android Market for malicious software
Prevention

1. Bouncer - Scans Android Market for malicious software
2. Common Sense - Pay attention to terms of use and permissions