

## The Efficacy of Anti-Malware on Android

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### Abstract

The Android operating system is the largest mobile operating system in the world (IDC, 2016). Android's popularity and open nature made the platform a large target for malware. The rise of malware resulted in the rise various anti-virus solutions in the Google Play Store. The purpose of the research conducted was to determine whether popular anti-virus solutions were effective in preventing malware attacks, or ultimately ineffective security tools. The antivirus solutions tested were AVG Antivirus, Lookout Mobile Security, and Kaspersky Antivirus. Five samples of malware from different categories were selected for testing:

- Andr/Generic-S: Defined by apps that install other apps to display system wide ads.
- Andr/BBridge-A: An individual app (usually disguised as a game), that aggressively displays ads system – wide.
- Trojan-Installer: An app disguised as a legitimate app, used to obtain personal info. (The sample used disguised itself as the Google Play Store)
- Spyware(Dendroid)- Apps used to access private information. Hosts can view and take pictures on infected systems.
- Spyware(Dendroid) Variant- A modified version of the previous application, to test if antivirus simply scans for code matches or is able to detect changes.

	Andr/Generic-S	Andr/BBridge-A	Trojan Downloader	Dendroid	Dendroid (modified)	
AVG Antivirus	Detected	Detected	Failed	Failed	Detected	3/5
Kaspersky Antivirus	Detected	Detected	Detected	Detected	Detected	5/5
Lookout Security	Failed	Detected	Detected	Detected	Detected	4/5

### Conclusions

Of the antivirus solutions tested, Kaspersky Antivirus was the most effective. AVG Antivirus and Lookout were less effective. Their areas of weakness were different. If both AVG and Lookout had been used simultaneously, they would have been able to detect all threats. The study revealed that antivirus software on Android is legitimate. However, to maximize security, it is best to have multiple solutions installed. Where certain antivirus software may display vulnerabilities, alternatives may be able to detect them and vice versa.

#### References

IDC: Smartphone OS Market Share. (n.d.). Retrieved March 25, 2017, from <http://www.idc.com/promo/smartphone-market-share/os>