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Android Malware Detection Test

手机安全软件病毒检测率测试

2019 Mar

●●● Accelerating Technology Innovation

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Chap.1 Background

Android is a mobile operating system developed by Google. It is based on a modified version of the Linux kernel and other open source software, and is designed primarily for touchscreen mobile devices such as smartphones and tablets. In addition, Google has further developed Android TV for televisions, Android Auto for cars, and Wear OS for wrist watches, each with a specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics.

Android's smartphone share will hover with around 85% throughout the forecast. Volumes are expected to grow at a five-year compound annual growth rate (CAGR) of 1.7% with shipments approaching 1.36 billion in 2022. Android average selling prices (ASPs) are estimated to grow by 9.6% in 2018 to US\$258, up from US\$235 in 2017. IDC expects this upward trajectory to continue through the forecast, but at a softened rate from 2019 and beyond. Overall this is a positive sign that consumers are seeing the benefits of moving to a slightly more premium device than they likely previously owned.

Android security software can protect you away from the following malware activities (all are actual cases):

1. Send messages to "premium service" SMS numbers that cost extra money.
2. Send your personal information to unknown parties.
3. Turn your phone into a part of a botnet so others can execute commands remotely for nefarious purposes, such as spam, DDOS attack, and more.
4. Non-authorized persons may monitor your phone calls and text messages.
5. Open you to blackmail, if something embarrassing can be found and sent elsewhere.
6. Trick you into entering financial information, such as account number, birth date, and more.
7. Even stuff on your PC if you connect your PC to your smartphone.

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Chap.2 Test Process

Several android mobility devices will be prepared and backup images are created then.

Detailed process is as follows:

1. 952 malware samples and bulks of clean android applications are prepared and delivered to the extended SD card or internal storage.
2. Install a security product on the device.
3. Update the security product and perform a full scan against the malware set and clean applications. Malware detection rate and false positive status will be recorded. If full scan function is not provided, then perform one by one installation.
4. Restore the backup image and repeat the three steps above.

Chap.3 Tested Software

<i>Vendor</i>	<i>Software</i>	<i>Version</i>
<i>AegisLab</i>	AegisLab Antivirus Free	V4.1.0
<i>Antiy</i>	AVL Pro	2.2.2
<i>Avira</i>	Avira Antivirus Security Free	5.7.0 build No.4510
<i>Baidu</i>	Baidu Mobile Security	V9.16.0
<i>Dr.Web</i>	Dr.Web Light	11.2.1(0)
<i>ESET</i>	ESET Mobile Security Free	5.0.14.0-15
<i>IKARUS</i>	IKARUS mobile.security Free	1.7.119
<i>INetCop</i>	OnVaccine	1.0.12
<i>Kaspersky Lab</i>	Kaspersky Internet Security For Android Free	11.20.4.1121
<i>Malwarebytes</i>	Malwarebytes for Android	3.6.0.7
<i>McAfee</i>	McAfee Mobile Security	5.2.0.231
<i>Panda</i>	Panda Mobile Security Free	3.4.2
<i>Quick Heal</i>	Quick Heal Mobile Security Free	2.05.03.010
<i>Trend Micro</i>	Trend Micro Mobile Security Free	10.2.0.1896
<i>Zemana</i>	Zemana Mobile Security Free	1.7.9

Chap.4 Test Result

Vendor	Total Samples	Missed Samples	Detected Samples	Detection Rate	False Positive Counts	Total Score
Antiy	952	0	952	100.000%	0	100.000
Avira	952	0	952	100.000%	0	100.000
ESET	952	0	952	100.000%	0	100.000
IKARUS	952	0	952	100.000%	0	100.000
Kaspersky Lab	952	0	952	100.000%	0	100.000
Trend Micro	952	0	952	100.000%	0	100.000
Dr.Web	952	1	951	99.895%	0	99.895
McAfee	952	3	949	99.685%	0	99.685
Quick Heal	952	1	951	99.895%	3	99.595
Baidu	952	6	946	99.370%	0	99.370
Malwarebytes	952	11	941	98.845%	0	98.845
AegisLab	952	12	940	98.739%	0	98.739
INetCop	952	10	942	98.950%	3	98.650
Panda	952	133	819	86.029%	0	86.029
Zemana	952	175	777	81.618%	0	81.618

Remarks: Final Score= (Detection %) *100-0.1*FP

6 different mobile security products from six renowned security vendors crashed during the original test, we have already delivered the crash log and related information to them.

Monthly Award 2019.03	Vendor
5 Star Monthly Award 2019 March	Antiy
	Avira
	ESET
	IKARUS
	Kaspersky Lab
	Trend Micro
	Dr.Web
	McAfee
	Quick Heal
	Baidu
	Malwarebytes
	AegisLab
	INetCop

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Chap.5 Information

Jiaxing Chenxiang Information Technology Co., Ltd. (PCSL IT Consulting Institute), is an IT product test and consulting company located in Jiaxing, Zhejiang, P. R. China. As a professional tester of desktop security products and mobility security solutions, we are willing to provide references to the endpoint users for choosing security solutions and provide security vendors product improvement solutions and consulting services. Not only we test security solutions for different environment, but also, we provide test and consulting reports of other IT products, e.g. battery, mobility devices, computer power, etc.

In early 2015, we launched a brand-new service named BOOM Feeds Data Collection and Analysis Service, which provided varieties of different digital threat data like, android applications collection, PE malware collection, phishing URLs, malicious URLs, Linux threat binaries, iOS binaries, attack records, white binaries collections.



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