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Android Malware Detection Test

手机安全软件病毒检测率测试

2019 Jun

••• Celebrating 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.

Chap.2 Test Process

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

Detailed process is as follows:

1. 932 malware samples and bulks of clean android applications are prepared and delivered to the extended SD card.
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.

Vendor	Software	Version
AegisLab	AegisLab Antivirus Free	V4.2.0
Antiy	AVL Pro	2.2.2
Avira	Avira Antivirus Security Free	5.8.1 build No.4557
Baidu	Baidu Mobile Security	V9.19.0
Dr.Web	Dr.Web Light	11.3.0(0)
ESET	ESET Mobile Security for Android Free	5.0.57.0-0
INetCop	OnVaccine	1.0.12
Kaspersky Lab	Kaspersky Internet Security for Android Free	11.23.4.2043
Malwarebytes	Malwarebytes for Android	3.7.1.1
McAfee	McAfee Mobile Security	5.2.0.286
Panda	Panda Mobile Security Free	3.4.5
Trend Micro	Trend Micro Mobile Security Free	10.3.0.2043
Zemana	Zemana Mobile Security Free	1.8.3

Chap.3 Tested Software

Vendor	Total Samples	Missed Samples	Detected Samples	Detection Rate	False Positive Counts	Total Score
Avira	932	0	932	100.000%	0	100.000
ESET	932	0	932	100.000%	0	100.000
INetCop	932	0	932	100.000%	0	100.000
Kaspersky Lab	932	0	932	100.000%	0	100.000
Malwarebytes	932	0	932	100.000%	0	100.000
Trend Micro	932	0	932	100.000%	0	100.000
Dr.Web	932	1	931	99.893%	0	99.893
McAfee	932	2	930	99.785%	0	99.785
Baidu	932	10	922	98.927%	0	98.927
Antiy	932	34	898	96.352%	0	96.352
AegisLab	932	120	812	87.124%	2	86.924
Panda	932	134	798	85.622%	0	85.622
Zemana	932	417	515	55.258%	0	55.258

Chap.4 Test Result

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

2019.06	
Avira	5 Star Monthly Award 2019 June
ESET	
INetCop	
Kaspersky Lab	
Malwarebytes	
Trend Micro	
Dr.Web	
McAfee	
Baidu	
Antiy	

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 mobile 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 do we test security solutions for different environment, but we also provide test and consulting reports for other IT products, e.g. battery, mobile devices, computer power, etc.

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



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