

Define the rules Rebuild the order

About us

- From PwnZen (www.pwnzen.com), a startup founded by Team Pangu.
- Janus project: www.appscan.io
- Chen Yexuan
 - Chen Yexuan is working as a Product Manager in Team Pangu. He has rich experience in web security, mobile security, cloud computing, and data mining. He was a speaker for XCon 2009.
- Tang Zhushou
 - Tang Zhushou is a member of Team Pangu. His research focuses on program analysis, theory and algorithm. He is now leading the research on software similarity detection, machine learning, and data analysis in Team Pangu. He is also an active speaker of POC, syscan360, etc.

Motivation

- We have been developing static analysis engines for Android apps since 2010
 - Data flow analysis
 - Taint Tracking
- Capable to identify suspicious or malicious behaviors, and discover potential vulnerabilities
- But, it's slow
- False positives and false negatives are unavoidable

Motivation

Dilemma

- Analyzing all Android apps on the market is impossible for us
- Reviewing all reports is also impossible for us

Solution

- Scan applications on demand (with the interest of end users)
- Leverage the users' inspection and audit to purify analysis results
- Enable the users to define light-weight scanning rules
- Facilitate an open community for security professionals to cultivate the sharing of samples, experiences, common issues, and advanced knowledge















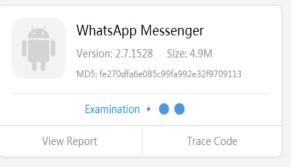
{/} Customized Scan

My Rules

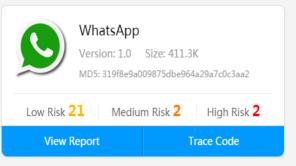
Community Rules

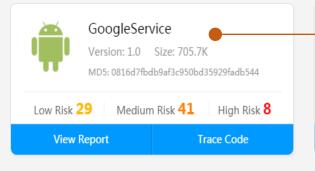


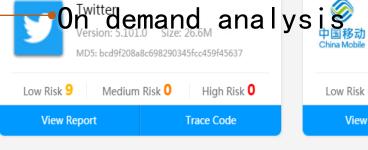
Trends



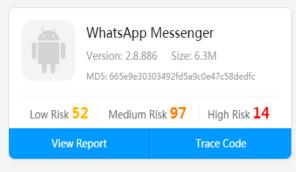


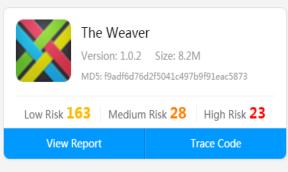










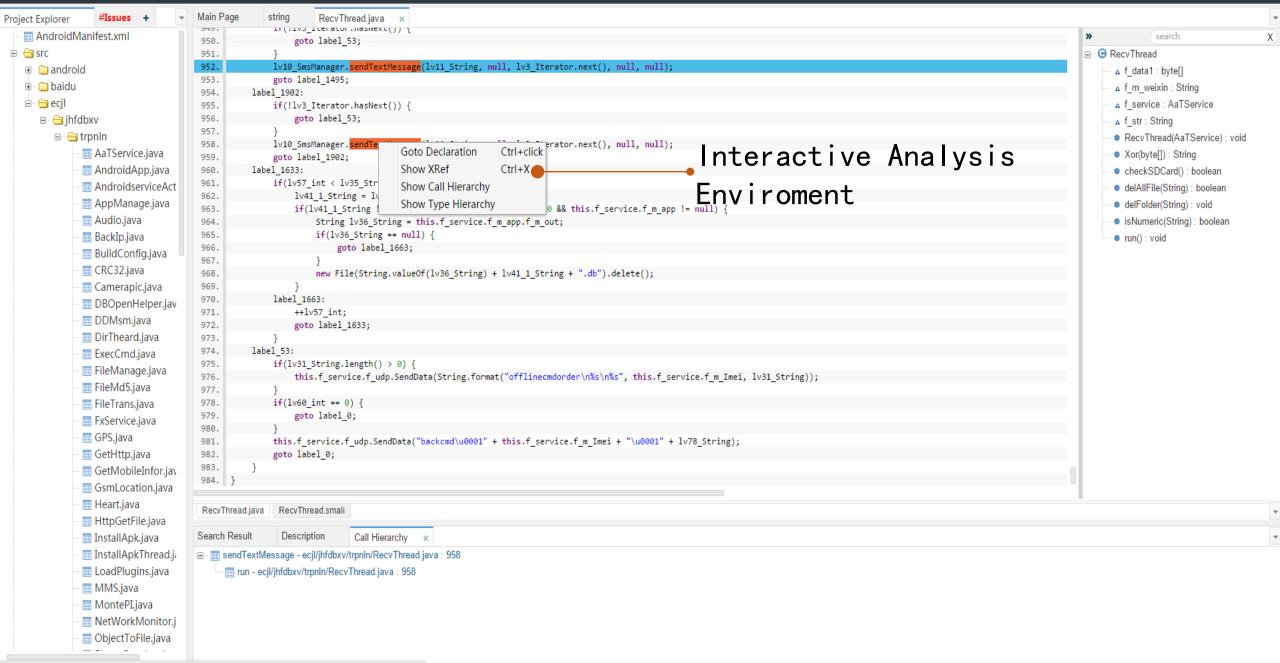




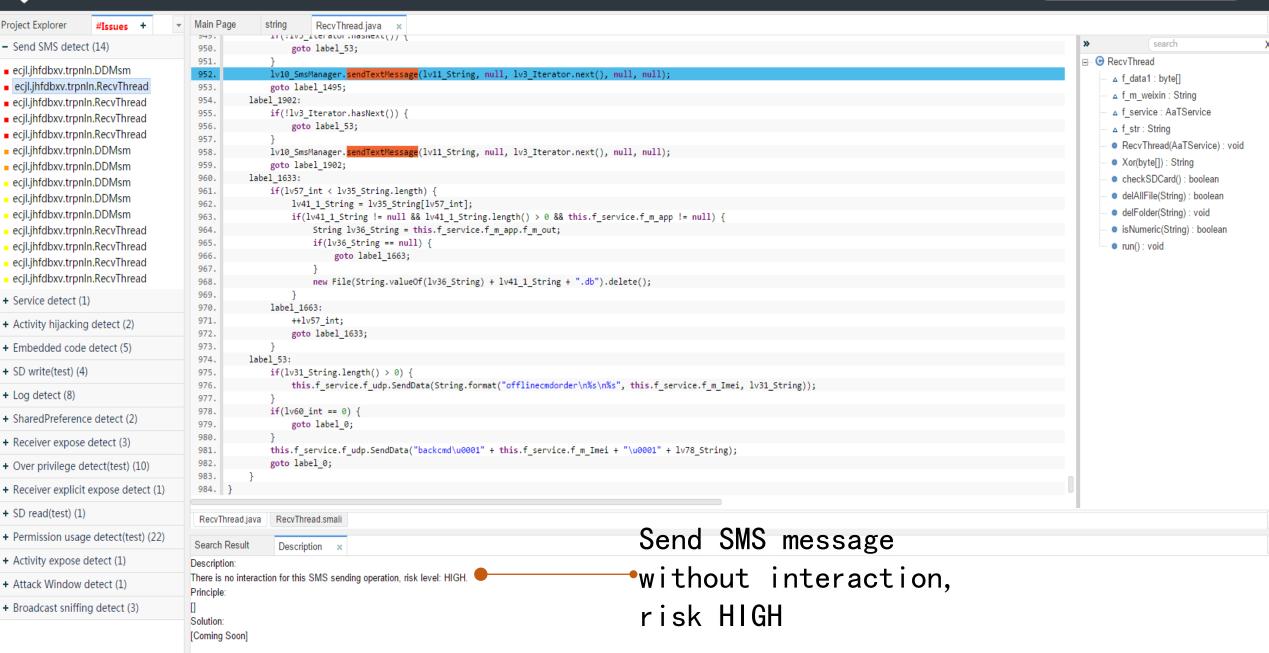




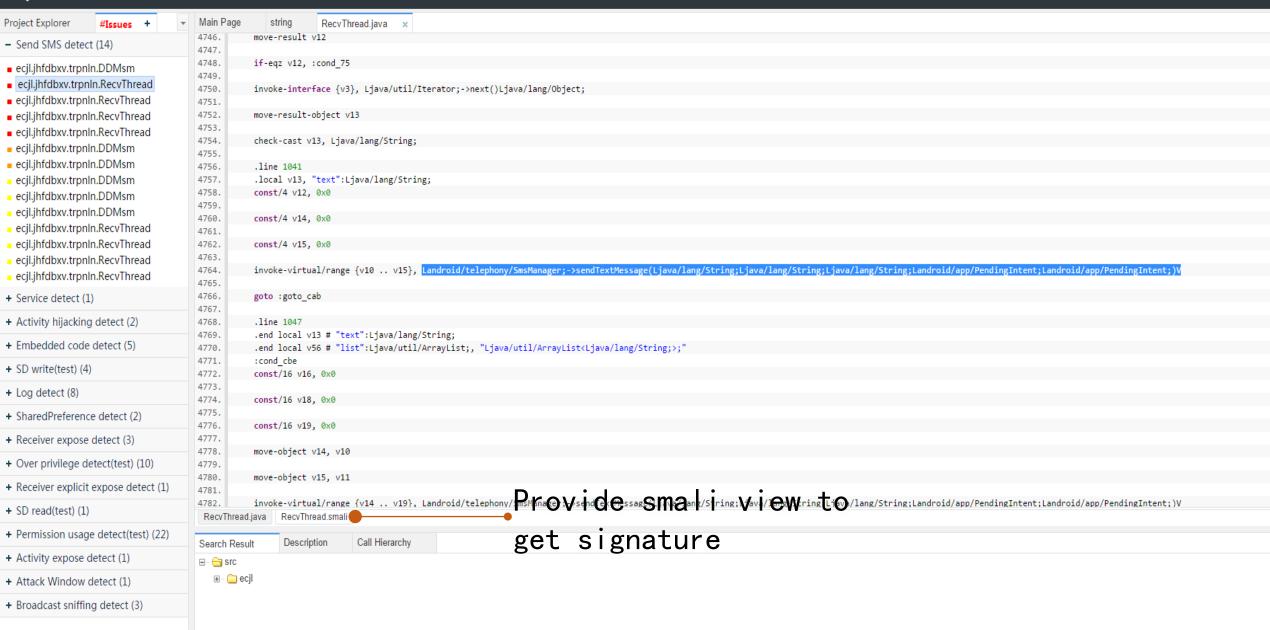


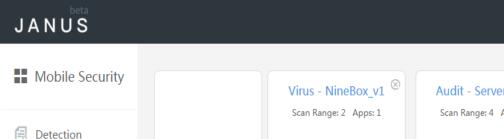












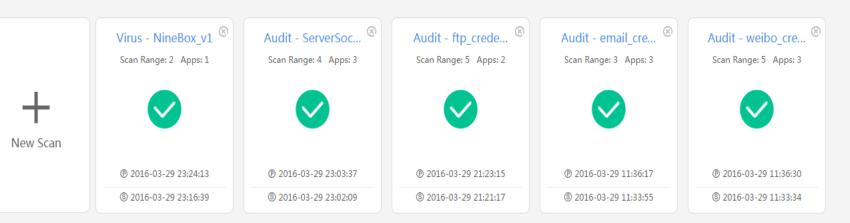
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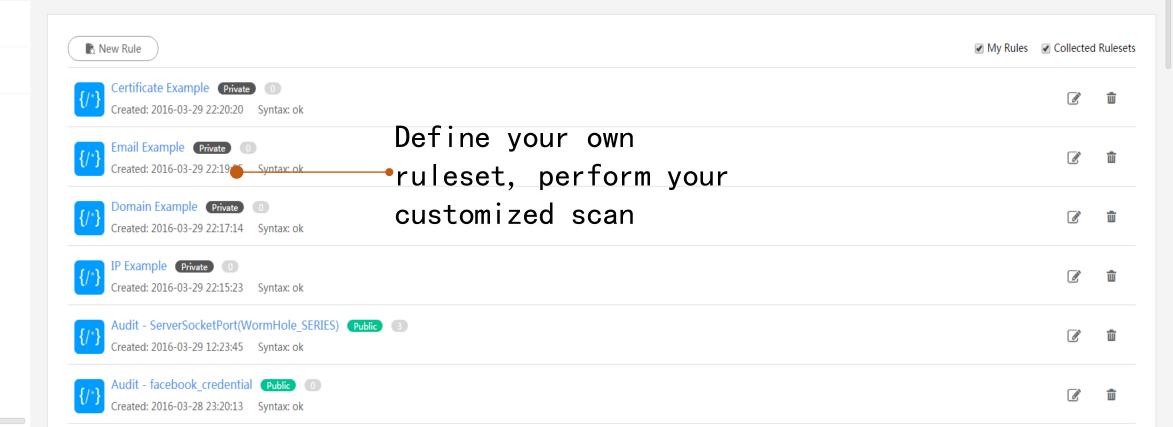
My Rules

Threat Center

Trends

Community Rules









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My Rules

Community Rules

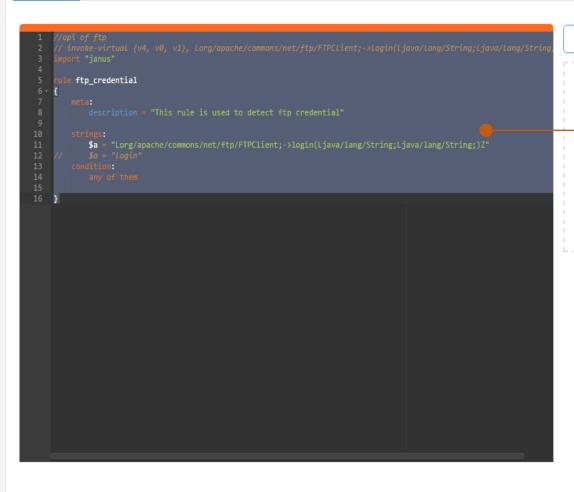
Threat Center

Trends

```
Audit - ftp_credential
Create: 2016-03-28 22:21:51
```

Owner: demo

Rule Code Related Apps Comment



Write your own rule. In this example, we can find apps use ftp Checkeprotocol, which potentially leaks username and password







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View hit signature 2

View hit signature 1







{/} Customized Scan

My Rules

Community Rules



Trends



Audit - ftp_credential

Create: 2016-03-28 22:21:51

Owner: demo

Rule Code

Related Apps

Comment



儿童每日食谱-菜谱,营养,喂养,饮食,辅食,做菜,美食,早餐

Version: 1.1 Size: 12.1M

SHA1: 5618d8f7f6564fee30a75902cf376921776ad34a

MD5: 574d0442b9891f7f357bfa540df9d948



笑话视频

Version: 1.0 Size: 5.3M

SHA1: 9581d87e84345f096d98200416872ef93491eaef

MD5: 5d3f33107997a4f93c9885ff9f8e9ea5



Perfect Viewer

Version: 2.5.1.5 Size: 7.1M

SHA1: ff7ac1c0b4161371ea5859a43aa8e3bdb4c50d93 MD5: a860e6bb2e83421282dc98eebf33e569

\$a = Lorg/apache/commons/net/ftp/FTPClient;->login(Ljava/lang/String;Ljava/lang/String;)Z

This app hit the rule

Fold



Edit





61 **1**







{/} Customized Scan

My Rules

Community Rules

Threat Center

Trends



rule1

Create: 2016-03-28 21:43:44

Owner: xiaoho

Rule Code

Related Apps Comment

```
rule wormHole
2 - {
            description = "Wormhome vulnerability found in com.qihoo.secstore con GPlay. After app launch, a
            $a = "/getModel0"
            $b = "/in" // download and install apk
            $c = "/openPage" // Open URL
            $d = "/openActivity" // Launch activity
            $e = "/isAppInstalled" // Check app existance
            f = ".360.cn"
            $g = ".so.com"
            $h = ".qihoo.net"
            $i = ".gamer.cn"
// 360 domains host through yunpan clod storage (anyone can upload files here)
            $i = ".gamer.cn"
            ($a or $b or $c or $d or $e) and ($f or $g or $h or $i)
21 }
```

Domain 360.cn so.com gihoo.net gamer.cn Automatically extract domain, ip, etc. in rule.









Detection

{/} Customized Scan

My Rules

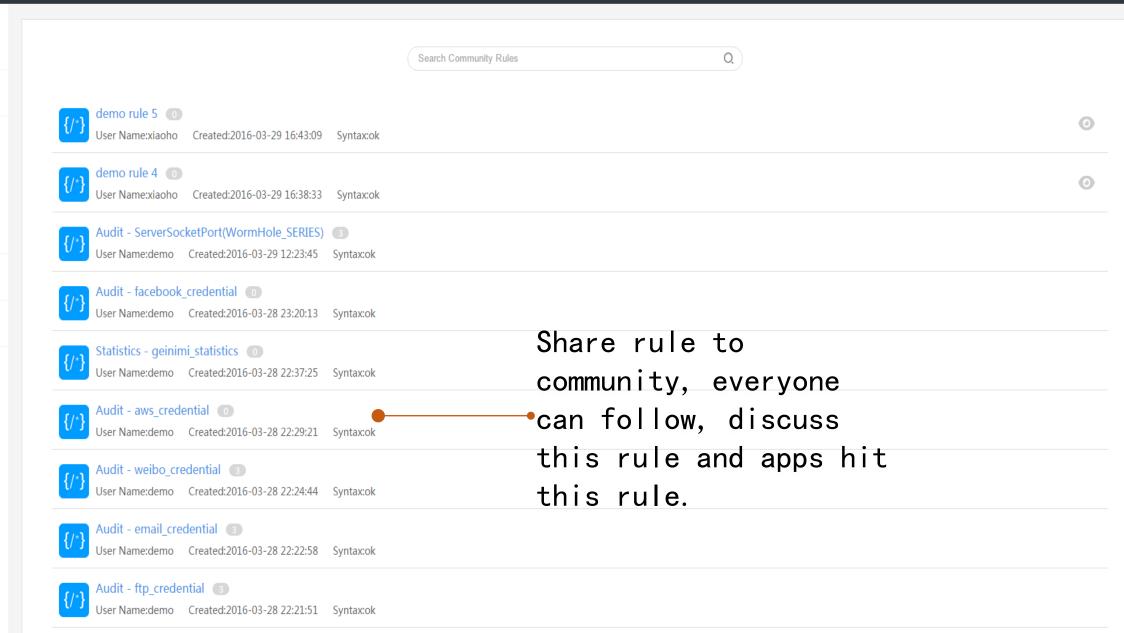
Community Rules

Audit - WormHole demo

User Name:demo Created:2016-03-28 20:39:21 Syntax:ok

Threat Center

Trends







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{/} Customized Scan

My Rules

Community Rules

Threat Center

Trends

360浏览器 Full Reports

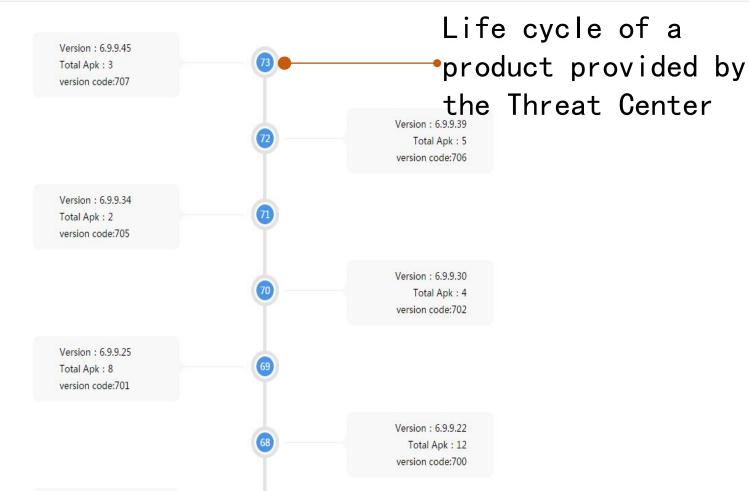
com.qihoo.browser Packege:com.qihoo.browser Displayed version:6.8.7beta Size:7.5M Date added:2015-11-16 11:05:11

SHA1:931aeb81cc3fd140bc7d29e28187db7381c0fada

MD5:797ff3af86be8d103fb45b452fc6b0d6

Life Cycle

Comments











Detection

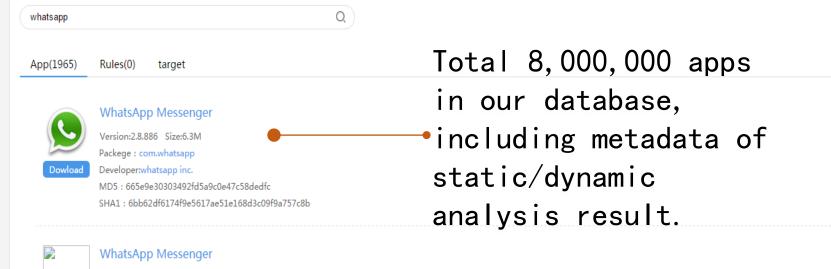
{/} Customized Scan

My Rules

Community Rules



Trends



✓ Google App

Baidu App

wandoujia.com

▼ Tencent App

✓ 163.com App

✓ Hiapk.com App

✓ d.cn App

✓ Gfan.com App

Sogou App

0

Anzhi App



WhatsApp Messenger

Version:2.8.3143 Size:6.6M

Packege: com.whatsapp

Developer:whatsapp inc.

Version:2.7.1528 Size:4.9M

Packege: com.whatsapp Developer:whatsapp inc.

MD5: fe270dfa6e085c99fa992e32f9709113

MD5: 34fc7196a19152d4969e233cfede421b SHA1: 9f16b7cda45207c9b37e8f072bc9fae973097feb

SHA1: 6507256483b52c812dc32bc37059a92fadf4b45c



WhatsApp Messenger

Version:2.7.7109 Size:4.6M

Packege: com.whatsapp Developer:whatsapp inc.

MD5: 01a17b2b861e841d380cc2eb415f80f2

SHA1: 5917ec4bcf6d83e960e9648392bcf095c9442687

手机淘宝 appname icon com.zkjtb.model_3_c...efff4aab753d (3).apk filename md5 C923169E14FECF89B055EFFF4AAB753D sha l 06D4B585CBDC07AB5446D27434EF805D85A8F7DA sizo 0.9MB shell Not Found com.zkjtb.model 3.0 packagename version CN=iwn,OU=ie,O=ing,L=ot,ST=wn,C=cn 1650561

icon1	icon2 layout signature-packa	gename pair call sequence code sequence drawable image			
icon	apk name	package name	similarity	download	debug
V	VynmeMobile	Com tymme	72	download	debug
	AuxusNucleaNl	appinventor.ai_DanDraperuk.AuxusNucleaN1	51	download	debug
•	Places Near By	appinventor.ai_onlineuse147.PlacesNearBy	60	download	debug
@	Q-Ma	com. Quae. testapp	78	download	debug
	Welcome To SensiBra	com janellehinds selfexamapp	86	download	debug
(3)	Touch Square	com. eterna l'olne, touchdirection	63	download	debug
	Predicas Cristianas	app.avzxmas.predicas	61	download	debug
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KOSA.	KralFm	com SeloSoft kralfin	51	download	debug
	發利證券 -天 准	com megalmb.prime.activity	60	download	debug
*	Bloemendaal	mobowski bloemendaal	69	download	de bu
2	RSS Reader	org.ccc.rss	74	download	debug
*	boxfish	com oceanbetter, boxfish	52	download	debug
	UII BR Token	com bron starocurity	61	download	dalma

Facus - MobiSec Lab

AppName: Twitter

Package: com.twitter.android

MD5: bcd9f208a8c698290345fcc459f45637

SHA-1: ed6b2494a5f387c3eb56f449ac959a0c506e67a2

Version: 5.101.0

Signature: CN=Android Debug, O=Android, C=US

PublicKey: Sun RSA public key, 2048 bits modulus: 20208267221096304619078111634802311480

> 74851410418041151952677755335253324678 65478923820481701236166668830685343843 27872585152444062754352066209959084410 56595739500455090838031807792757832241 20090446184635990688604425636406130057 66513752409994512288193820894194774812 17080836918082770053399620110116093718 69232611923857823874088272340155417280 21830183895567851845953633838116024319 41248986324928552296494620859271705967 27014398136611016791728244923650448364

23367032978979288150227523585259260053 08720676380296005498292706923847210249 75887837696951496283479815328983617686 44947057922044996877282351109288125344

026503201

public exponent: 65537

sig_version: 3 sig_serialnum: null Summary

This task takes: 134.168s Conclusion: Coming soon

Link to: 🧿 🔀

Basic Analysis

Re-pack Check: Repacked APK(total 12266 certifications) ADs Check: AdMob(total 72 advertisement signatures)

Obfuscator Check: Not Found(total 9 signatures) Virus DB Check: Not Found(total 24 signatures)

Embedded APK Check: Not Found

Plugin Analysis

FakeID Check: Not Found Root Check: Offline Smishing Check: Offline Masterkey Check: Offline

Advance Analysis

Behavior Check: #1 java engine takes 237 ms.

Risk Level: HIGH (total 84 checkPoints and 18 rules)

[Receiver] On receiving sms message, the app read sms message

#3 c++ engine for server, build version: 2015122207 takes 1972

#2 c++ engine

Risk Level: HIC [Service] On st [Receiver] On

128518 ms.

ms.

Risk Level: HIGH

[Service] On startup, the app manipulate accounts

[Receiver] On receiving sms message, the app read sms message

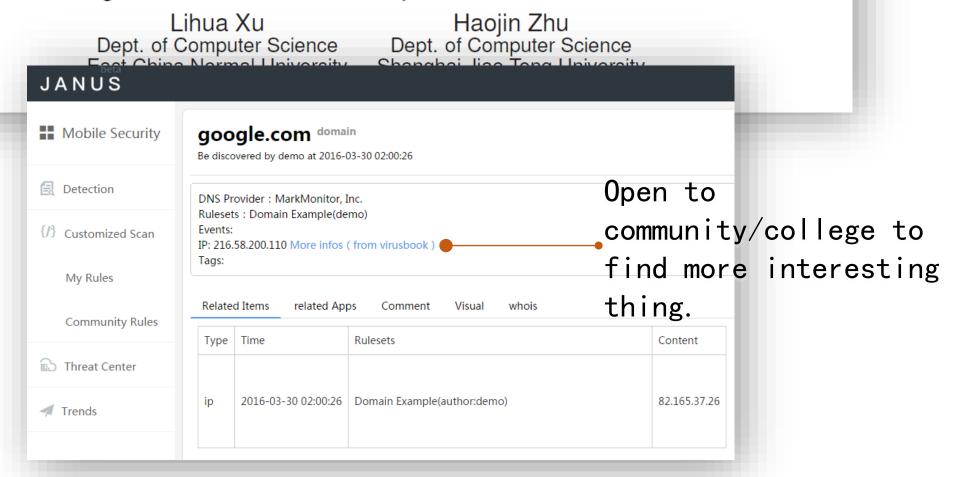
Integrate more function

StormDroid: A Streaminglized Machine Learning-Based System for Detecting Android Malware

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ecnuchensen@gmail.com

Minhui Xue East China Normal University NYU Shanghai minhuixue@nyu.edu

Zhushou Tang Shanghai Jiao Tong University Pwnzen Infotech Inc. ellison.tang@gmail.com



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