Gitty RSA 解答

题目:

We find some suspicious activities in our organization's network...

找到流量中的目标

题目给了一个名叫 out.pcapng 的文件,可以看出来它是一个流量截获文件:



pcapng





○ 全部

☑ 图片

▶ 视频

■ 新闻 : 更多

设置 工具

找到约 87,500 条结果 (用时 0.33 秒)

https://github.com > pcapng > pcapng ▼ 翻译此页

PCAP Next Generation (pcapng) Capture File Format - GitHub

The pcap and pcapng specifications are written using the kramdown superset of Markdown and the kramdown-rfc2629 extensions to kramdown. This allows ...

https://wiki.wireshark.org > Development > Pc... ▼ 翻译此页

Development/PcapNg - The Wireshark Wiki

2018年9月28日 — PcapNg. The PCAP Next Generation Dump File Format (or pcapng for short) is an attempt to overcome the limitations of the currently widely used ...
Malformed pcapng Files · Options working · Wishlist

https://pcapng.github.io > pcapng ▼ 翻译此页

pcapng/pcapng master preview

Editor's drafts for master branch of pcapng/pcapng. View saved issues, or the latest GitHub issues and pull requests. draft-gharris-opsawg-pcap, html·plain text ...

https://blog.csdn.net > article > details -

wireshark的pcapng的文件格式 yang chen shi wo的博客 ...

2015年7月1日 — 在linux平台下,用wireshark-1.12.2进行抓包并保存,文件格式是.pcapng格式。由于项目需求,需要搞清楚其文件格式。通过将保存的.pcapng ...

https://m33.wiki > extension > pcapng ▼

PCAPNG文件扩展名-什么是.pcapng文件,如何打开它?

什么是PCAPNG文件?包含数据"转储"的数据包捕获格式包通过网络捕获;以PCAP下一代文件格式(用于存储捕获的数据的标准格式)保存。更多信息.

■ pcapng的图片搜索结果

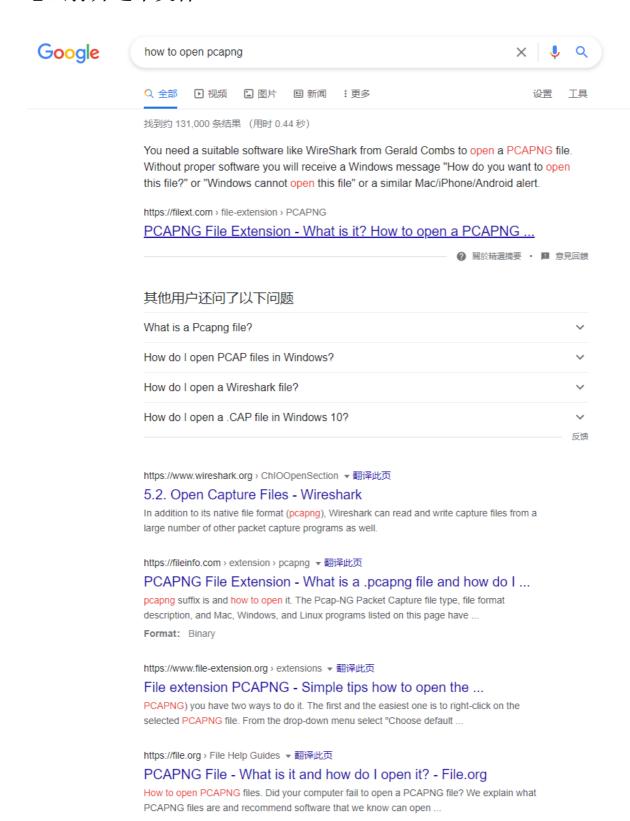


https://www.qacafe.com > resources > 5-reaso... ▼ 翻译此页

Five Reasons to Move to the Pcapng Capture Format | qa | cafe

Where did Pcapng come from? The original ".pcap" file format is part of an API for performing captures on a network interface. In Unix/Linux, this is ...

怎么打开这个文件



稍微浏览一下文件.....

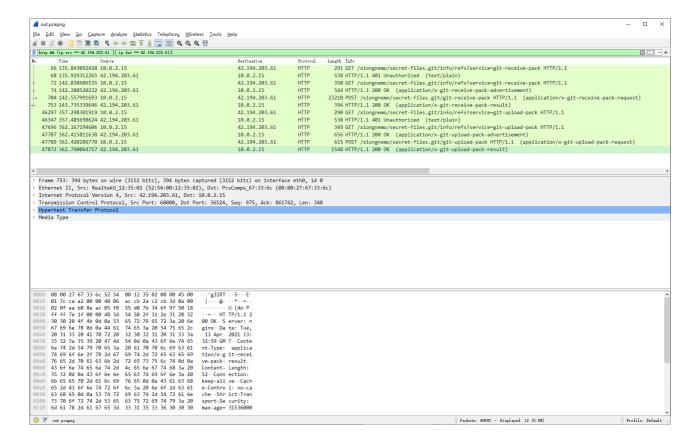
在 Wireshark 顶部有可以筛选所截获的包。



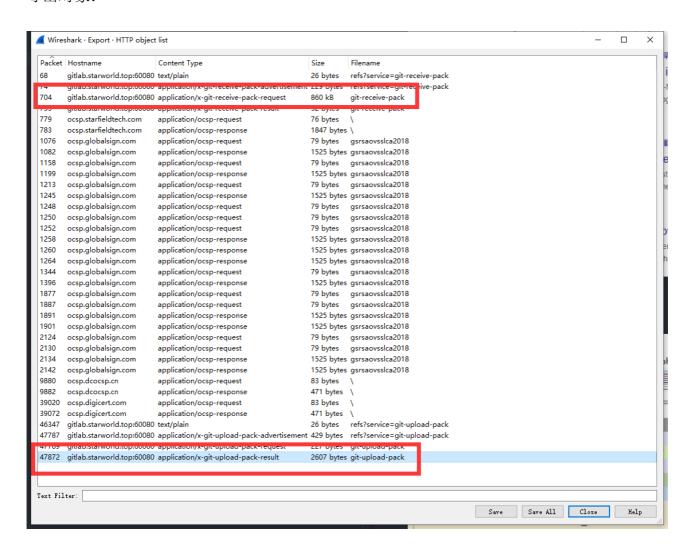
Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help ③ □ □ □ X □ □ ↑ ← ← 至 ▼ ▼ □ □ □ □ Q Q Q ₹ 🊺 Apply a display filter … 〈Ctrl-/〉 Time Destination PrNo. Source 64 135.842887581 42.194.203.61 10.0.2.15 65 135.842934809 10.0.2.15 42.194.203.61 TC 66 135.843092428 10.0.2.15 HT 42.194.203.61 67 135.843192691 42.194.203.61 TC 10.0.2.15 68 135.929312265 42.194.203.61 10.0.2.15 HT 69 135.929336884 10.0.2.15 42.194.203.61 TC 70 140.949302175 PcsCompu 67:33:6c AR RealtekU 12:35:02 71 140.949463043 RealtekU 12:35:02 PcsCompu_67:33:6c AR 72 142.038606535 10.0.2.15 42.194.203.61 HT > Frame 68: 538 bytes on wire (4304 bits), 538 bytes captured (4304 bits) on interface eth0 > Ethernet II, Src: RealtekU 12:35:02 (52:54:00:12:35:02), Dst: PcsCompu 67:33:6c (08:00:27 > Internet Protocol Version 4, Src: 42.194.203.61, Dst: 10.0.2.15 > Transmission Control Protocol, Src Port: 60080, Dst Port: 36524, Seq: 1, Ack: 238, Len: 4 > Hypertext Transfer Protocol > Line-based text data: text/plain (1 lines)

```
0000 08 00 27 67 33 6c 52 54 00 12 35 02 08 00 45 00
                                                        ..'g31RT ..5...E⋅
                                                        · · · ; · · @ · · · * · · = · ·
0010 02 0c c8 3b 00 00 40 06 ae a2 2a c2 cb 3d 0a 00
                                                        ..... R.{'JWP.
0020 02 0f ea b0 8e ac 05 f8 52 02 7b 27 4a 57 50 18
0030 ff ff 7f 3d 00 00 48 54 54 50 2f 31 2e 31 20 34
                                                        ···=··HT TP/1.1 4
0040 30 31 20 55 6e 61 75 74 68 6f 72 69 7a 65 64 0d
                                                        01 Unaut horized-
0050 0a 53 65 72 76 65 72 3a 20 6e 67 69 6e 78 0d 0a
                                                        ·Server: nginx··
0060 44 61 74 65 3a 20 54 75 65 2c 20 31 33 20 41 70
                                                        Date: Tu e, 13 Ap
0070 72 20 32 30 32 31 20 31 33 3a 33 32 3a 35 32 20
                                                        r 2021 1 3:32:52
0080 47 4d 54 0d 0a 43 6f 6e
                              74 65 6e 74 2d 54 79 70
                                                        GMT · · Con tent-Typ
0090 65 3a 20 74 65 78 74 2f
                              70 6c 61 69 6e 3b 20 63
                                                        e: text/ plain; c
00a0 68 61 72 73 65 74 3d 75
                              74 66 2d 38 0d 0a 43 6f
                                                        harset=u tf-8··Co
00b0 6e 74 65 6e 74 2d 4c 65 6e 67 74 68 3a 20 32 36
                                                        ntent-Le ngth: 26
```

题目中提到了 git, 那么让我们先来看看 http 对象:



导出对象:



导出为以下两个文件:



解包 git pack

直接进行一个 walk 的 bin

```
🉏 ..tty_rsa/solve
       solve git:(master) x binwalk -e ./git-upload-pack
DECIMAL
                                                                     DESCRIPTION
                               HEXADECIMAL
481
                                0x1E1
                                                                     Zlib compressed data, default compression
637
719
                                                                     Zlib compressed data, default compression
                                0x2CF
                                                                     Zlib compressed data, default compression
      solve git:(master) x binwalk -e ./git-receive-pack
                               HEXADECIMAL
                                                                     DESCRIPTION
                                                                     Zlib compressed data, default compression
Zlib compressed data, default compression
Zlib compressed data, default compression
186
                                0xBA
313
365
                                0x139
                                0x16D
 solve git:(master) x file ./_git-upload-pack.extracted/*
./_git-upload-pack.extracted/1E1: ASCII text
./_git-upload-pack.extracted/1E1.zlib: zlib compressed data
./_git-upload-pack.extracted/27D: data
./_git-upload-pack.extracted/27D.zlib: zlib compressed data
./_git-upload-pack.extracted/2CF: ASCII text
./_git-upload-pack.extracted/2CF.zlib: zlib
/_git-upload-pack.extracted/2CF: ASCII text
./_git-upload-pack.extracted/2CF.zlib: zlib compressed data

→ solve git:(master) x file ./_git-receive-pack.extracted/*
./_git-receive-pack.extracted/139: data
./_git-receive-pack.extracted/139.zlib: zlib compressed data
./_git-receive-pack.extracted/16D: PNG image data, 2048 x 2048, 8-bit/color RGBA, non-interlaced
./_git-receive-pack.extracted/16D.zlib: zlib compressed data
./_git-receive-pack.extracted/BA: ASCII text
./_git-receive-pack.extracted/BA: Zlib: zlib compressed data
   /_git-receive-pack.extracted/BA.zlib: zlib compressed data
       solve git:(master) 🗴 🗕
```

研究内容

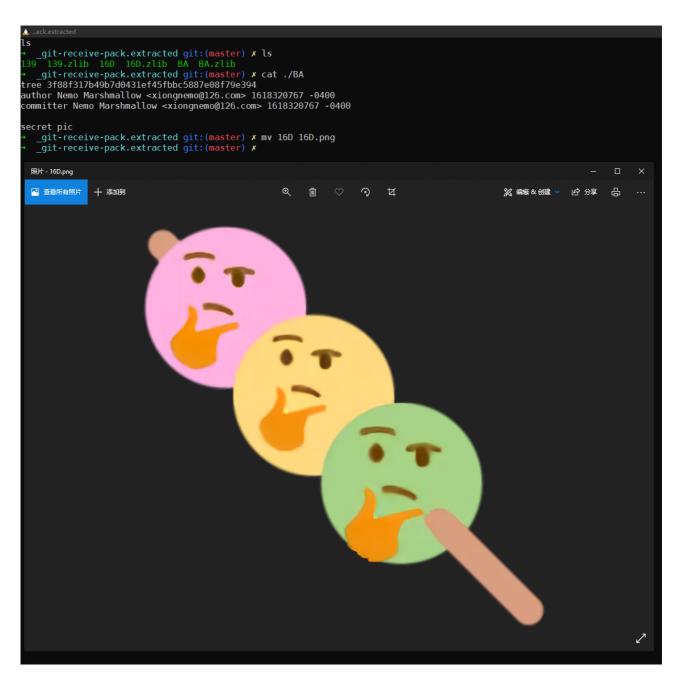
先看看 upload pack

```
..ack.extracted
   qit-upload-pack.extracted git:(master) x cat 1E1
tree 8ca09ca64b7efe211cbb1f868cada5e48fb857a1
parent 2d6a1ec4b89250c4bfc5976840812219b59853d6
author Nemo Xiong <xiongnemo@126.com> 1618320982 +0000
committer Nemo Xiong <xiongnemo@126.com> 1618320982 +0000
super secret rsa key%
    git-upload-pack.extracted git:(master) x cat ./27D
100644 UbFoPBmQ.png %nS5|B*dgn{.j100644 id rsa ∏J∏∏7∏=B%
    git-upload-pack.extracted git:(master) x cat ./2CF
  ----BEGIN RSA PRIVATE KEY----
MIIJKAIBAAKCAgEA3129Yyk+TVso9gwdQ3Ri7mijhvM1gc2+CAeSJpkk4TanIoOz
aYyWT6UAj9RuVdWAoSeAqseufBAVlxJIHDlDnne/y7mBPsFtitvpGAk5CT4wkq06
iLeHyDAMUXlII0jmIZswXk03ejVSdZXyy1M5x8VYyhNkMuR4FAGhfqX00txS9Hkp
L/KrobKhOwq33Uan7WwZjXHGt+JE1Ekj6BAf/oGgbjsUfvIJtV13gmKMuiQqalAT
YIE7KopORwz06+URgNjXZV+Bs2h+8adN5DDiwdsPWSlzHEGC4uY3KcWjA1jjdGgK
RLQCqHWo1BUDlhHIkbWgWB/Q6qn7RA5EDp2TAo0SCYDdHTND081y0FR/r1mKijhJ
MfCeggEp8gQgBF100ctrAFIp/u/2wxmx8Cg3+SJ6SQYuruUN4B6ZFY/x9wiAak/a
rfznr+yZ3gegzjoCE077UiULypa2VZkRkw1KYuEHS8jLBAbYKs0WuwS7hBW9+ffz
of2PyHoQ6WPFzLsqddDfQb1+c+ymr7W0b7Pz2fNrISh8bgN9CVC0/fsU7TXVPdZ2
EGYQv/Xtz3AkufaXtgo9zW7o/PLw9LTBVGD1N8Y/81he/cf/cWdmRH/s4PFWi2Ua
P/20X2i3uCvIgJc6/+5XeMbMjAWKM30+PIHEkS8JiV0epwJkAgKxaMiYoKkCAwEA
AQKCAgEA11KdRF844Qd06L4og6NJz3vt0CTa0uRkQYdS24ScKcMuwTXmmWRebi6o
6P4m0vW7Rx82i0tvh8dVmMmV3CdTyQq1SKXuMtnySH8QKAyUABYEawgMxMjvywg0
hWf+I42d012v9d8fm16VvCat5FW5iJv0qPCikfDu1JJx5Q3fTZyhF21JSCC0VZVG
mg00C/CV52ljBJhesVsdc0uFAquwu/6n8jtf2bRnqX+NupJYCQTeIphI5ao0qEal
iRaOzpaHFqdzNRUpihK89SWMD+MUZT5QqGpVvjJlA2hcWxdbutlQqyHcbDh/q3ep
JbGQQHWqPNSy2uDo2567SvLZpqE+WdScDk0mnM/b8i+TGozxwc6DfGlMhAALGbX6
cgPvkkEtSAm4GNaFk3ggDhhozH1tykdwRfhBzfFwBlCF4dvuG+bu0ZEktc0EoVJL
Po3DjGFYsXIh+vjjt80K0oDM6RTr+UfYr7y5IrRx5zaIy00zXt5z6pfsGEh2a9cY
q5oUo7HFydIf1Fp9R4n9uv+S6UMJmWlgnMyQTDdF6+X10Rr5/A6TRWFMaJpbMuw4
LTnxBIy+oiNqKs8+Rnu6Rfqz3NCT1X73lcRu4+YYcmJMHJyyHmPtnvj4InvahVmW
3IsU4ZaC1AMAetPlph35FCzZupa2uc/my5Ap8i1HKWD76DlL04ECggEBAPs+Uizr
gOYtdqgNvGs8D+vrNwX459MZ5iPmPhGC6Yk6LDN8JE3ZNSpXHJn3jgPBUTkFiHuT
ss+XxUdDq1/IG9ECqqEBA00YTvw8fEy5squfr9xDhLczCGAP7b2+/AhcryEbmBGL
```

SS+XXUDDq1/1G9ECggEBAOOYTVW8TEy5squfr9xDhLczCGAP/b2+/AhcryEbmBGL
HNvydqvP02chYCLh7rDGSHScflgTmH5K4n40x/vEywUd0FNeWzAmLeHhITK9JuPe
2Du4LHfC6I9ReD1t2A9hpnt2ECpYi/inFugKbfbq80/lpACLJ0F2/0z2I60Ik1Qf
EcpPJgsZ0lvFnIXz1dRR6kr4MGtN5vIllRl6qak7NFwa7fnCQKyGI8QCNdayD0o4
YFMVek9yVy2/N85p3J/ivZMJX9/Rf7BWLkqkcetSujly+mspndDrPQj70AJ2tq00
+obNKVMnVM9+8aeSSzbRhcZZEBwXVgT6sLx7zMMV5VkCggEAQiMxtql4ER++sJaN
Fx2Eg3Iz1dqkDCoxLxoZFLsFhx5NLHBtjiCzoiW0Xc0RGuP04bHXL9C9n5IFzUd9
PBRj5hzMsBT0dYocSYCjyDBQQbozoCD16ujevqCLygQgYRzeZkXm/2RXN0/as9BG
3Q6ZUWoEnT4yNUTxmDfVVSGyh/bTEU8CbyR8PHBpUtsMLoHlh9V7ftZrbL5iYC+F
qA3xyDylhz4laebvS4TYqP0r30TCWe0NuSPvoQHWina70HmICf35G1Gyq8I/FezW
kdVR9XPAdiRuTQEFdHg2XAHGJxdAa1ttTt9F0VP0/nL10qi4jHye6Vf95i/puszR
fDFNQQKCAQAePMcJpf0Rsf415QJVTjccq9AKCz03yN7tMXsm9+aNNiFAa4curm7U

```
-
-
-
-
-
-
----END RSA PRIVATE KEY----%
→ _git-upload-pack.extracted git:(master) x _
```

再看看 receive pack



从 upload pack 中,我们看到了一个不完整的 RSA 私钥。

从 receive pack 中,我们看到了一个图片。

从不完整的 RSA 私钥中恢复私钥

source

准备好一个 base64 to hex 转换器,从不完整的私钥中获取部分信息然后跟着做吧。

过程可以看 crack_rsa.ipynb

(OSINT 题目实锤)

从图片中获取信息

做得挺简单的。

```
→ _git-receive-pack.extracted git:(master) x strings ./16D.png | tail &ArSh& &2s)4r
/_kn
Af.SX
%tEXtdate:create
2021-04-13T14:09:13+08:00
%tEXtdate:modify
2021-04-13T14:09:13+08:00
IEND
extra data at the end of the file: ctf.anzupop.com 17365
→ _git-receive-pack.extracted git:(master) x ______
```

连接服务器

都有了这两个大概能猜出这是个什么服务了:

```
→ _git-receive-pack.extracted git:(master) x ssh ctf.anzupop.com -p 17365 -i ~/.ssh/tongjictf_2021_misc_key
hello, [chall]engers
nemo@ctf.anzupop.com: Permission denied (publickey).
→ _git-receive-pack.extracted git:(master) x _
```

看起来这用户名不够劲,让我们换一个试试:

找到 flag

```
-bash-5.1$ ls
welcome.txt
-bash-5.1$ cat welcome.txt
find super SECRET flag
-bash-5.1$
```

你知道该干什么:

```
-bash-5.1$ find / | grep SECRET
find: /proc/tty/driver: Permission denied
find: /proc/1/task/1/fd: Permission denied
find: /proc/1/task/1/fdinfo: Permission denied
find: /proc/1/task/1/ns: Permission denied
find: /proc/1/fd: Permission denied
find: /proc/1/map files: Permission denied
find: /proc/1/fdinfo: Permission denied
find: /proc/1/ns: Permission denied
find: /proc/8/task/8/fd: Permission denied
find: /proc/8/task/8/fdinfo: Permission denied
find: /proc/8/task/8/ns: Permission denied
find: /proc/8/fd: Permission denied
find: /proc/8/map files: Permission denied
find: /proc/8/fdinfo: Permission denied
find: /proc/8/ns: Permission denied
find: /proc/33/task/33/fd: Permission denied
find: /proc/33/task/33/fdinfo: Permission denied
find: /proc/33/task/33/ns: Permission denied
find: /proc/33/fd: Permission denied
find: /proc/33/map files: Permission denied
find: /proc/33/fdinfo: Permission denied
find: /proc/33/ns: Permission denied
find: /proc/35/task/35/fd: Permission denied
find: /proc/35/task/35/fdinfo: Permission denied
find: /proc/35/task/35/ns: Permission denied
find: /proc/35/fd: Permission denied
find: /proc/35/map files: Permission denied
find: /proc/35/fdinfo: Permission denied
find: /proc/35/ns: Permission denied
find: /proc/37/task/37/fd: Permission denied
find: /proc/37/task/37/fdinfo: Permission denied
find: /proc/37/task/37/ns: Permission denied
find: /proc/37/fd: Permission denied
find: /proc/37/map files: Permission denied
find: /proc/37/fdinfo: Permission denied
find: /proc/37/ns: Permission denied
find: /proc/39/task/39/fd: Permission denied
find: /proc/39/task/39/fdinfo: Permission denied
find: /proc/39/task/39/ns: Permission denied
find: /proc/39/fd: Permission denied
find: /proc/39/map files: Permission denied
find: /proc/39/fdinfo: Permission denied
find: /proc/39/ns: Permission denied
find: /root: Permission denied
/lib/SECRET.txt
-bash-5.1$ cat /lib/SECRET.txt
tictf{mo5@IC M#Ans noThiNG}
-bash-5.1$
```