ID: 680652
Sample Name: KlSEdcox0E
Cookbook:
defaultlinuxfilecookbook.jbs
Time: 23:28:02
Date: 08/08/2022
Version: 35.0.0 Citrine

Table of Contents

Linux Analysis Report

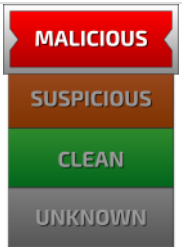
KlSEdcox0E

Overview

General Information

Sample Name:	KlSEdcox0E
Analysis ID:	680652
MD5:	0e06af9c65c55a…
SHA1:	619c6a5363b873..
SHA256:	d18b6b21df1deb..
Tags:	32 arm elf mirai
Infos:	

Detection



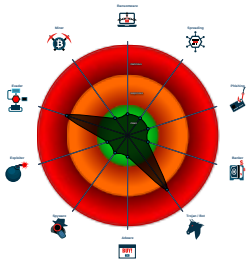
Mirai

Score:	68
Range:	0 - 100
Whitelisted:	false

Signatures

- Malicious sample detected (through…
- Yara detected Mirai
- Multi AV Scanner detection for subm…
- Sample is packed with UPX
- Sample contains only a LOAD segm…
- Yara signature match
- Uses the "uname" system call to qu…
- Tries to connect to HTTP servers, b…
- ELF contains segments with high en…

Classification



Analysis Advice

Static ELF header machine description suggests that the sample might not execute correctly on this machine.

Exit code information suggests that the sample terminated abnormally, try to lookup the sample's target architecture.

All HTTP servers contacted by the sample do not answer. The sample is likely an old dropper which does no longer work.

Non-zero exit code suggests an error during the execution. Lookup the error code for hints.

Static ELF header machine description suggests that the sample might only run correctly on MIPS or ARM architectures.

General Information

Joe Sandbox Version:	35.0.0 Citrine
Analysis ID:	680652
Start date and time: 08/08/202223:28:02	2022-08-08 23:28:02 +02:00
Joe Sandbox Product:	CloudBasic
Overall analysis duration:	0h 5m 7s
Hypervisor based Inspection enabled:	false
Report type:	light
Sample file name:	KlSEdcox0E
Cookbook file name:	defaultlinuxfilecookbook.jbs
Analysis system description:	Ubuntu Linux 20.04 x64 (Kernel 5.4.0-72, Firefox 91.0, Evince Document Viewer 3.36.10, LibreOffice 6.4.7.2, OpenJDK 11.0.11)
Analysis Mode:	default
Detection:	MAL
Classification:	mal68.troj.evad.lin@0/0@0/0

Runtime Messages

Command:	/tmp/KlSEdcox0E
PID:	6221
Exit Code:	139
Exit Code Info:	SIGSEGV (11) Segmentation fault invalid memory reference
Killed:	False

Standard Output:	
Standard Error:	qemu: uncaught target signal 11 (Segmentation fault) - core dumped

Process Tree

- **system is lnxubuntu20**
  - KlSEdcox0E (PID: 6221, Parent: 6122, MD5: 5ebfcae4fe2471fcc5695c2394773ff1) Arguments: /tmp/KlSEdcox0E
- **cleanup**

Yara Signatures

Initial Sample

Source	Rule	Description	Author	Strings
KlSEdcox0E	SUSP_ELF_LNX_UPX_Compressed_File	Detects a suspicious ELF binary with UPX compression	Florian Roth	• 0x7474:$s1: PROT_EXEC\|PROT_WRITE failed. • 0x74e3:$s2: $Id: UPX • 0x7494:$s3: $Info: This file is packed with the UPX executable packer

Memory Dumps

Source	Rule	Description	Author	Strings
6221.1.00007fae54017000.00007fae5402b000.r-x.sdmp	JoeSecurity_Mirai_8	Yara detected Mirai	Joe Security	
6221.1.00007fae54017000.00007fae5402b000.r-x.sdmp	Linux_Trojan_Gafgyt_28a2fe0c	unknown	unknown	• 0x11d70:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11d84:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11d98:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11dac:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11dc0:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11dd4:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11de8:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11dfc:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e10:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e24:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e38:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e4c:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e60:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e74:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e88:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11e9c:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11eb0:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11ec4:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11ed8:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11eec:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x11f00:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F
6221.1.00007fae54017000.00007fae5402b000.r-x.sdmp	Linux_Trojan_Gafgyt_ea92cca8	unknown	unknown	• 0x122c8:$a: 53 65 6C 66 20 52 65 70 20 46 75 63 6B 69 6E 67 20 4E 65 54 69 53 20 61 6E 64

Source	Rule	Description	Author	Strings
Process Memory Space: KISEdcox0E PID: 6221	Linux_Trojan_Gafgyt_28a2fe0c	unknown	unknown	• 0x15433:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15447:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1545b:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1546f:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15483:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15497:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x154ab:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x154bf:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x154d3:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x154e7:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x154fb:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1550f:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15523:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15537:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1554b:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1555f:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15573:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x15587:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x1559b:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x155af:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F • 0x155c3:$a: 2F 78 33 38 2F 78 46 4A 2F 78 39 33 2F 78 49 44 2F 78 39 41 2F 78 33 38 2F 78 46 4A 2F
Process Memory Space: KISEdcox0E PID: 6221	Linux_Trojan_Gafgyt_ea92cca8	unknown	unknown	• 0x158f1:$a: 53 65 6C 66 20 52 65 70 20 46 75 63 6B 69 6E 67 20 4E 65 54 69 53 20 61 6E 64

Snort Signatures

No Snort rule has matched

Joe Sandbox Signatures

AV Detection

Multi AV Scanner detection for submitted file

System Summary

Malicious sample detected (through community Yara rule)

Data Obfuscation

Sample is packed with UPX

Stealing of Sensitive Information

Yara detected Mirai

Yara detected Mirai

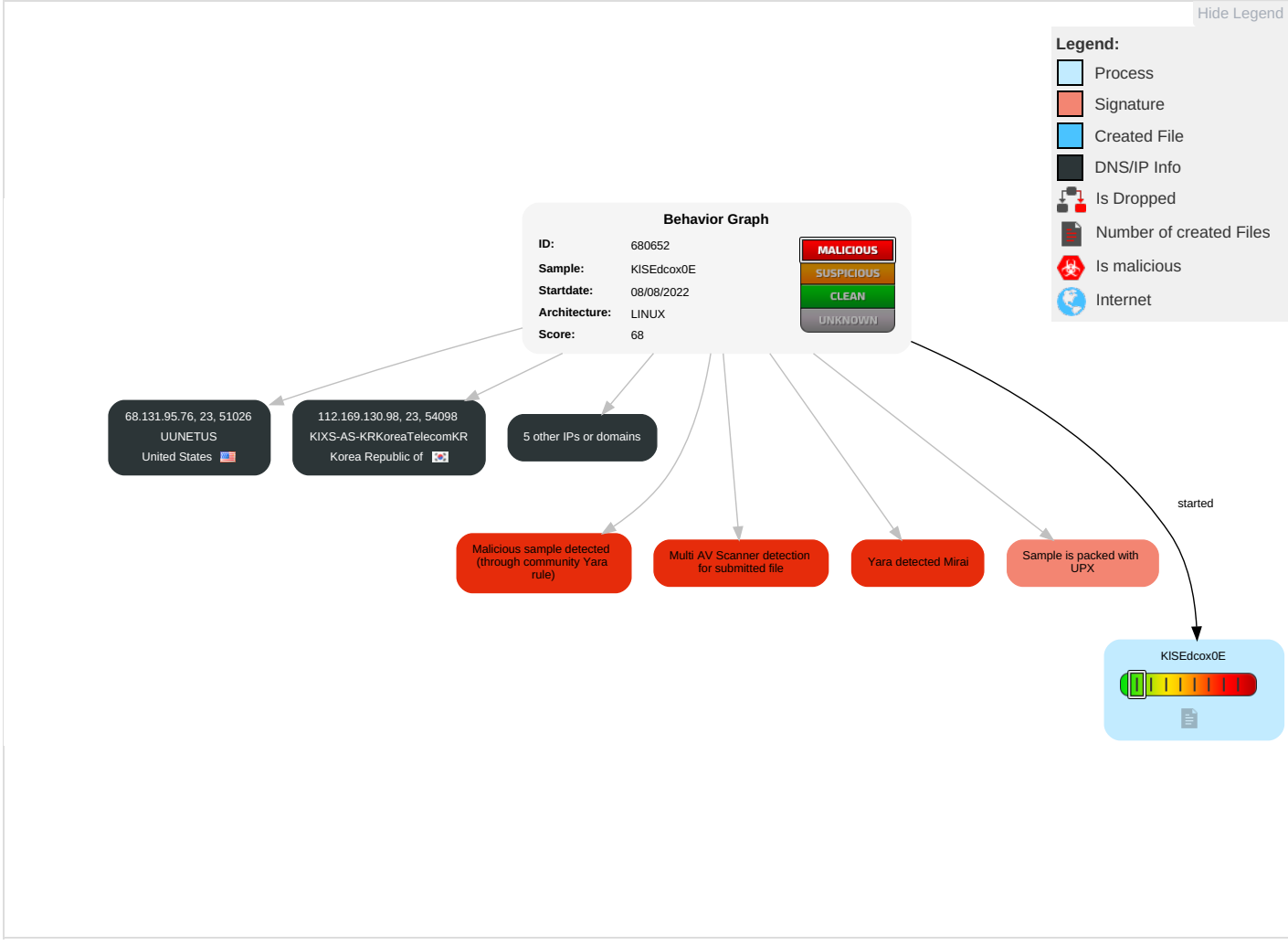
Mitre Att&ck Matrix

Initial Access	Execution	Persistence	Privilege Escalation	Defense Evasion	Credential Access	Discovery	Lateral Movement	Collection	Exfiltration	Command and Control	Network Effects	Remote Service Effects	Impact
Valid Accounts	Windows Management Instrumentation	Path Interception	Path Interception	1 1 Obfuscated Files or Information	OS Credential Dumping	1 1 Security Software Discovery	Remote Services	Data from Local System	Exfiltration Over Other Network Medium	1 Encrypted Channel	Eavesdrop on Insecure Network Communication	Remotely Track Device Without Authorization	Modify System Partition
Default Accounts	Scheduled Task/Job	Boot or Logon Initialization Scripts	Boot or Logon Initialization Scripts	Rootkit	LSASS Memory	Application Window Discovery	Remote Desktop Protocol	Data from Removable Media	Exfiltration Over Bluetooth	1 Application Layer Protocol	Exploit SS7 to Redirect Phone Calls/SMS	Remotely Wipe Data Without Authorization	Device Lockout

Malware Configuration

No configs have been found

Behavior Graph



Antivirus, Machine Learning and Genetic Malware Detection

Initial Sample

Source	Detection	Scanner	Label	Link
KISEdcox0E	37%	Virustotal		Browse
KISEdcox0E	38%	ReversingLabs	Linux.Trojan.Mirai	

Dropped Files

No Antivirus matches

Domains

No Antivirus matches

URLs

No Antivirus matches

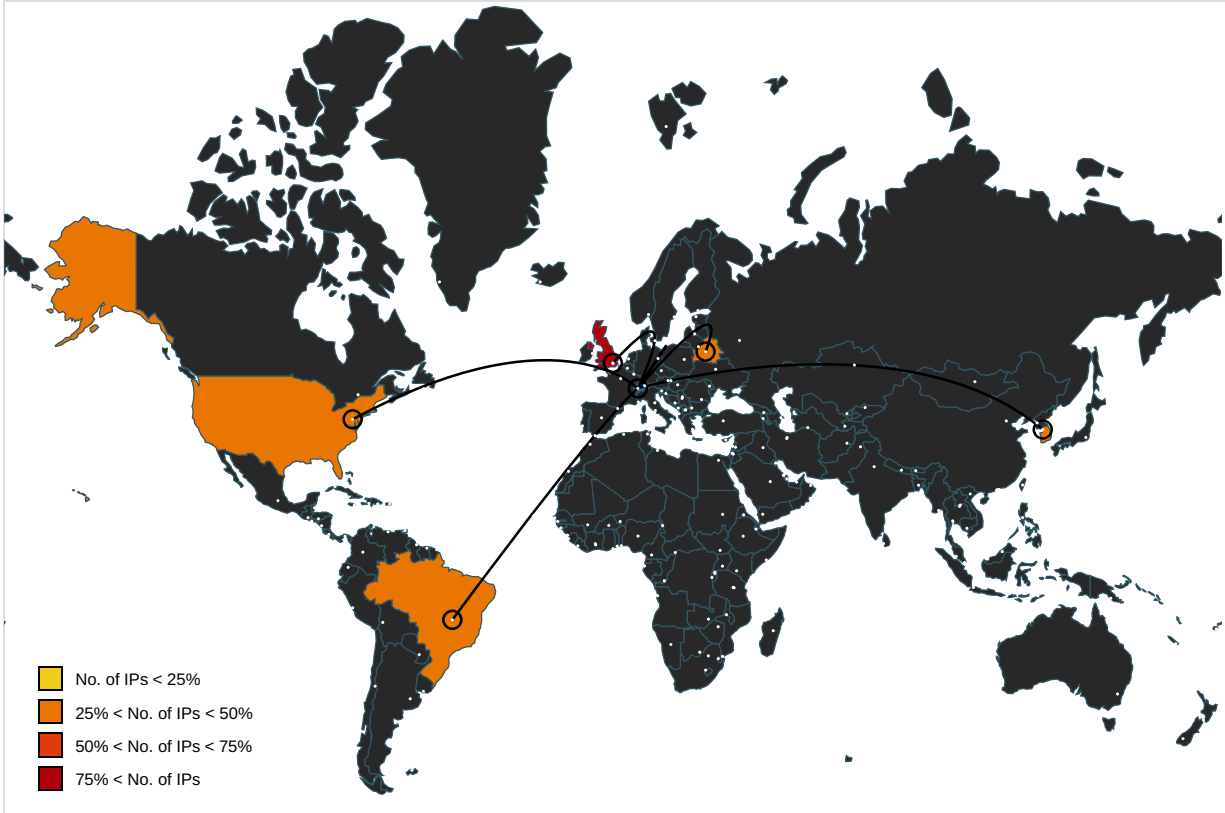
Domains and IPs

Contacted Domains

No contacted domains info

URLs from Memory and Binaries

World Map of Contacted IPs



Public IPs

IP	Domain	Country	Flag	ASN	ASN Name	Malicious

IP	Domain	Country	Flag	ASN	ASN Name	Malicious
112.169.130.98	unknown	Korea Republic of		4766	KIXS-AS-KRKoreaTelecomKR	false
68.131.95.76	unknown	United States		701	UUNETUS	false
201.48.164.246	unknown	Brazil		16735	ALGARTELECOMSABR	false
109.202.202.202	unknown	Switzerland		13030	INIT7CH	false
91.189.91.43	unknown	United Kingdom		41231	CANONICAL-ASGB	false
91.189.91.42	unknown	United Kingdom		41231	CANONICAL-ASGB	false
217.21.43.86	unknown	Belarus		13171	BSUBY	false

Joe Sandbox View / Context

IPs

No context

Domains

No context

ASNs

No context

JA3 Fingerprints

No context

Dropped Files

No context

Created / dropped Files

No created / dropped files found

Static File Info

General

File type:	ELF 32-bit LSB executable, ARM, EABI4 version 1 (GNU/Linux), statically linked, stripped
Entropy (8bit):	7.953356510609825
TrID:	• ELF Executable and Linkable format (generic) (4004/1) 100.00%
File name:	KISEdcox0E
File size:	31888
MD5:	0e06af9c65c55a33b511790474a694a2
SHA1:	619c6a5363b87332dd94f70dd2cdc363b83169c5
SHA256:	d18b6b21df1debcd89b26f432f5f95707991b651c64dbc8bfc9738d38ce9768c
SHA512:	946b4040253fac6a4a34f9284d96c7899b4485f14c206b6528d94b3a644add2b4130cca6c59105f23acc36317d1164677a653afcbe504b5edcab9bf9f714e058
SSDEEP:	768:ry3GjR5EMWYFF/pDTxHhkkZusz8Q1Fmm7T4f5O/9q3UELd1:ry3GjIMdT/RRhkkZuehFmm7KDLD
TLSH:	2AE2F1956D6E4043D7322C76DA9DC84634049EFAE3BBB02983B893787A595638EDC1C2
File Content Preview:	.ELF.....(.....4.....4. ...(.....m{..m{.....Z.....Q.td.....>. NUPX!.....7...7.....S.....?.E.h;....#..$..1).....p....K.....E...%.C*}.....dJS..%aPd.....4.

Static ELF Info

ELF header

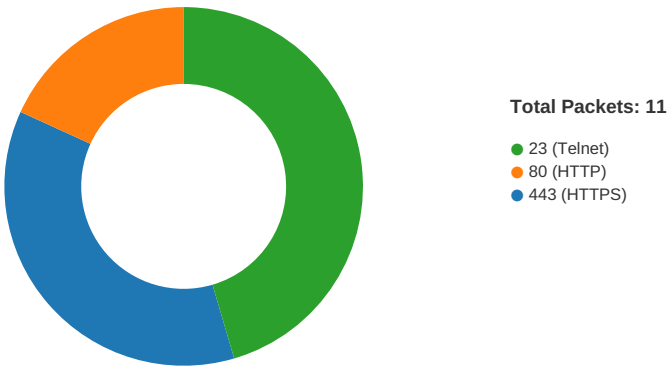
Class:	ELF32
Data:	2's complement, little endian
Version:	1 (current)
Machine:	ARM
Version Number:	0x1
Type:	EXEC (Executable file)
OS/ABI:	UNIX - Linux
ABI Version:	0
Entry Point Address:	0xe980
Flags:	0x4000002
ELF Header Size:	52
Program Header Offset:	52
Program Header Size:	32
Number of Program Headers:	3
Section Header Offset:	0
Section Header Size:	40
Number of Section Headers:	0
Header String Table Index:	0

Program Segments

Type	Offset	Virtual Address	Physical Address	File Size	Memory Size	Entropy	Flags	Flags Description	Align	Prog Interpreter	Section Mappings
LOAD	0x0	0x8000	0x8000	0x7b6d	0x7b6d	7.9560	0x5	R E	0x8000		
LOAD	0x5aa0	0x2daa0	0x2daa0	0x0	0x0	0.0000	0x6	RW	0x8000		
GNU_STACK	0x0	0x0	0x0	0x0	0x0	0.0000	0x7	RWE	0x4		

Network Behavior

Network Port Distribution



TCP Packets

System Behavior

Analysis Process: KlSEdcox0E PID: 6221, Parent PID: 6122

General

Start time:	23:28:48
Start date:	08/08/2022
Path:	/tmp/KlSEdcox0E
Arguments:	/tmp/KlSEdcox0E
File size:	4956856 bytes
MD5 hash:	5ebfcae4fe2471fcc5695c2394773ff1

File Activities

File Read