

# Anatomía de un Ransomware

Mauricio J.



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Developer  
Groups

# Agenda

(1)

¿Quién soy?

(2)

¿Qué es un Ransomware?

(3)

¿Cómo funciona?

(4)

Ransomware en el mundo real

(5)

Conclusiones

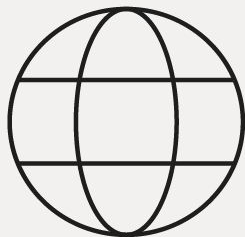
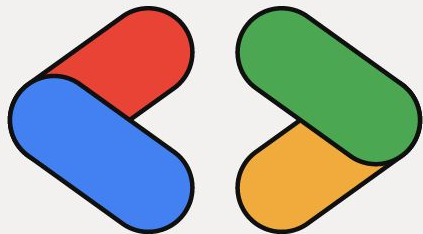
# Mauricio J.

- Security Researcher  
Ethical Hacker  
Red Teamer
- CRT0 / CEH / EWPT
- Peruhack  
Ekoparty - Red Team Space  
Bsides



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GDG Open - Lima

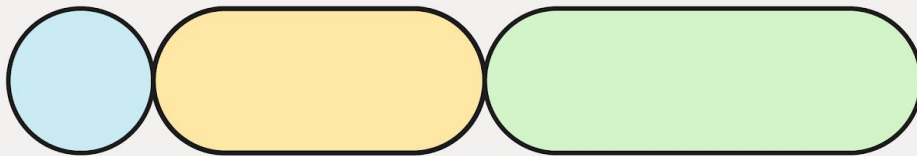
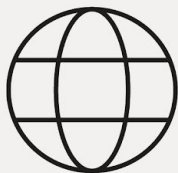
# ¿Qué es un Ransomware?



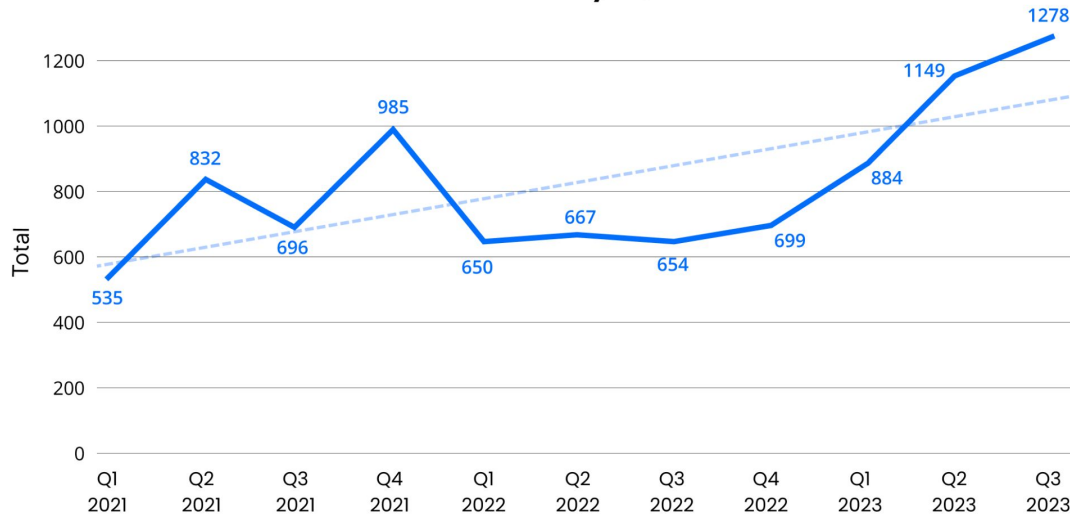
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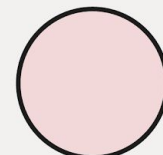
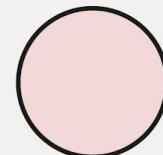
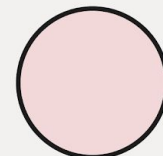
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Over Time by Quarter



Fuente: <https://www.corvusinsurance.com/blog/q3-ransomware-report>



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## LockBit extorted billions of dollars from victims, fresh leaks suggest

Investigating LockBit's finances has blown previous estimates of the operation's wealth out of the water

RANSOMWARE

## US Organizations Paid \$91 Million to LockBit Ransomware Gang

LockBit ransomware operators launched 1,700 attacks in the US and received roughly \$91 million in ransom payments.

17

Feb

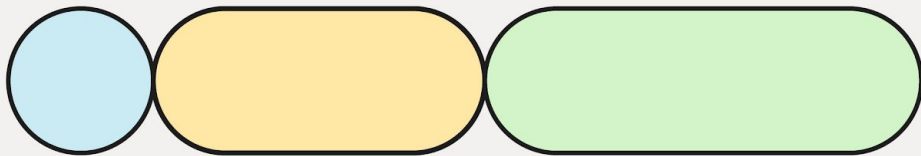
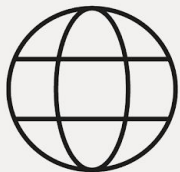
Conti Ransomware Attacks Reap in \$180 Million in 2021 as Average Ransomware Payments Rise by 34%

👤 Stu Sjouerman

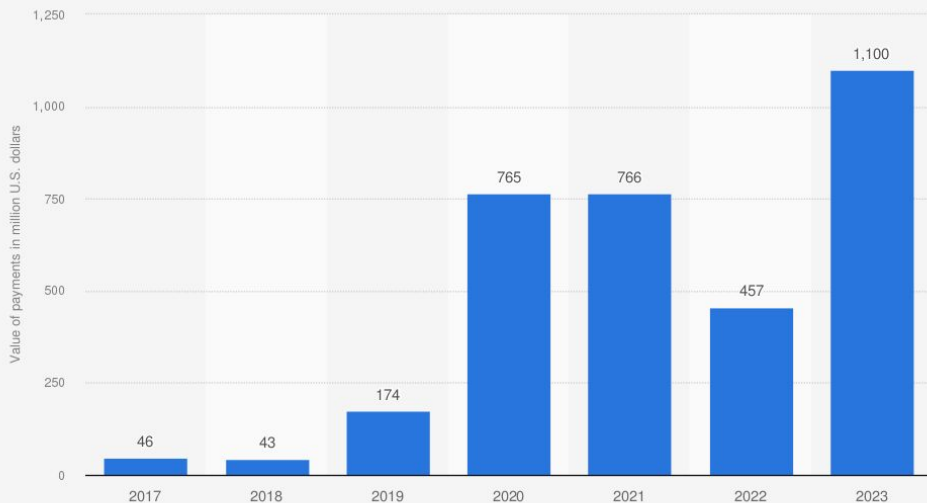


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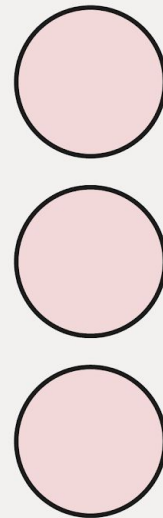


**Total annual amount of money received by ransomware actors worldwide from 2017 to 2023 (in million U.S. dollars)**



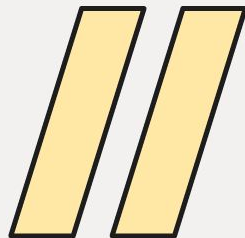
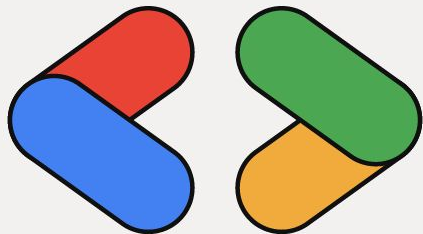
**Sources**  
Malwarebytes; Chainalysis  
© Statista 2024

**Additional Information:**  
Worldwide; Chainalysis; 2017 to 2023; data is based on an analysis of the cryptocurrency addresses known to be controlling wider industry metrics may vary

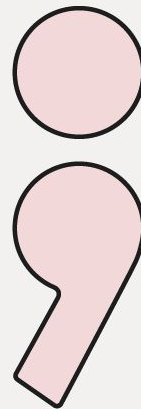


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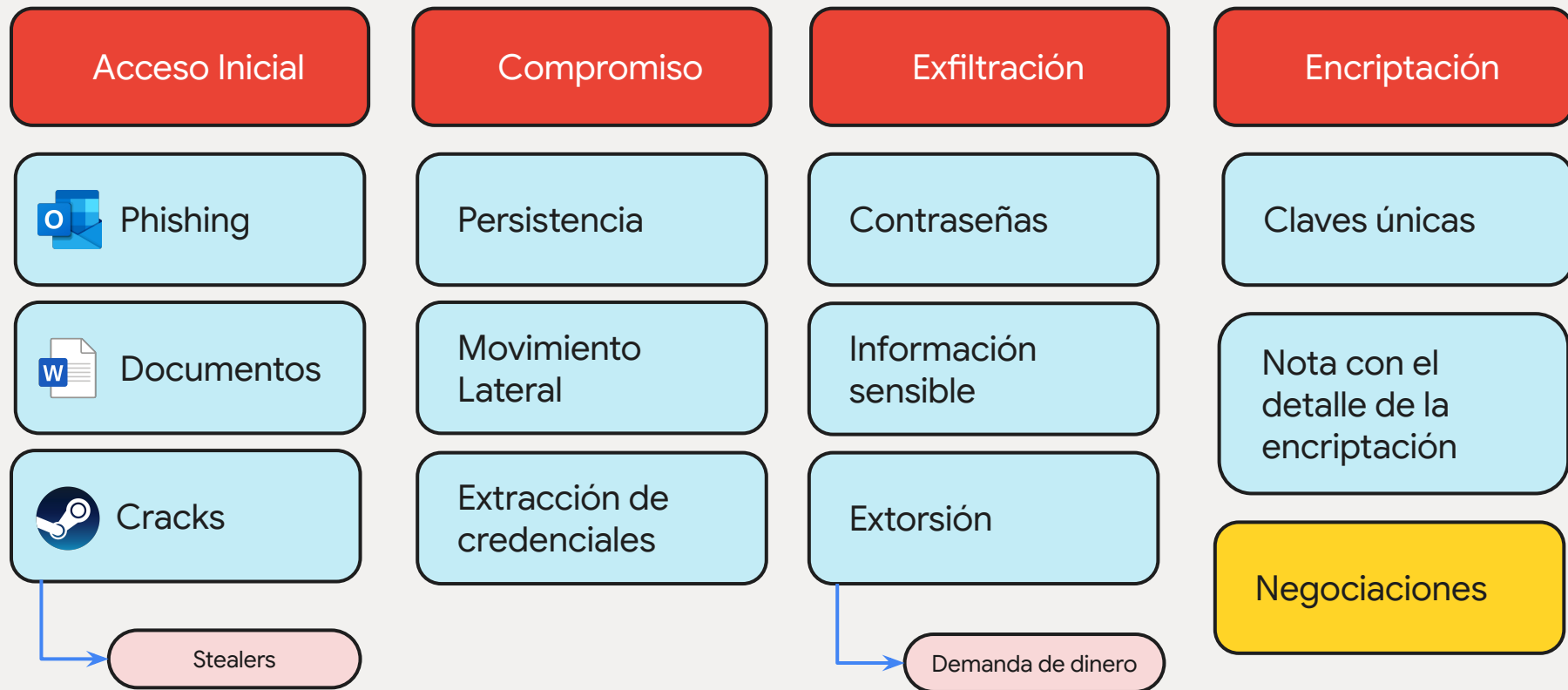


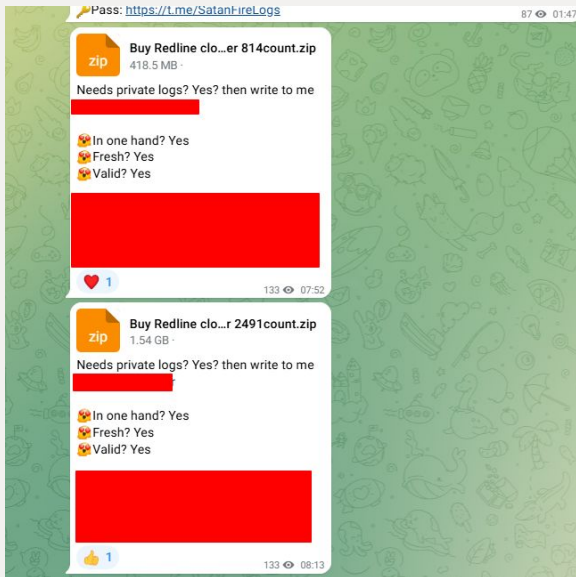


# ¿Cómo funciona un Ransomware?



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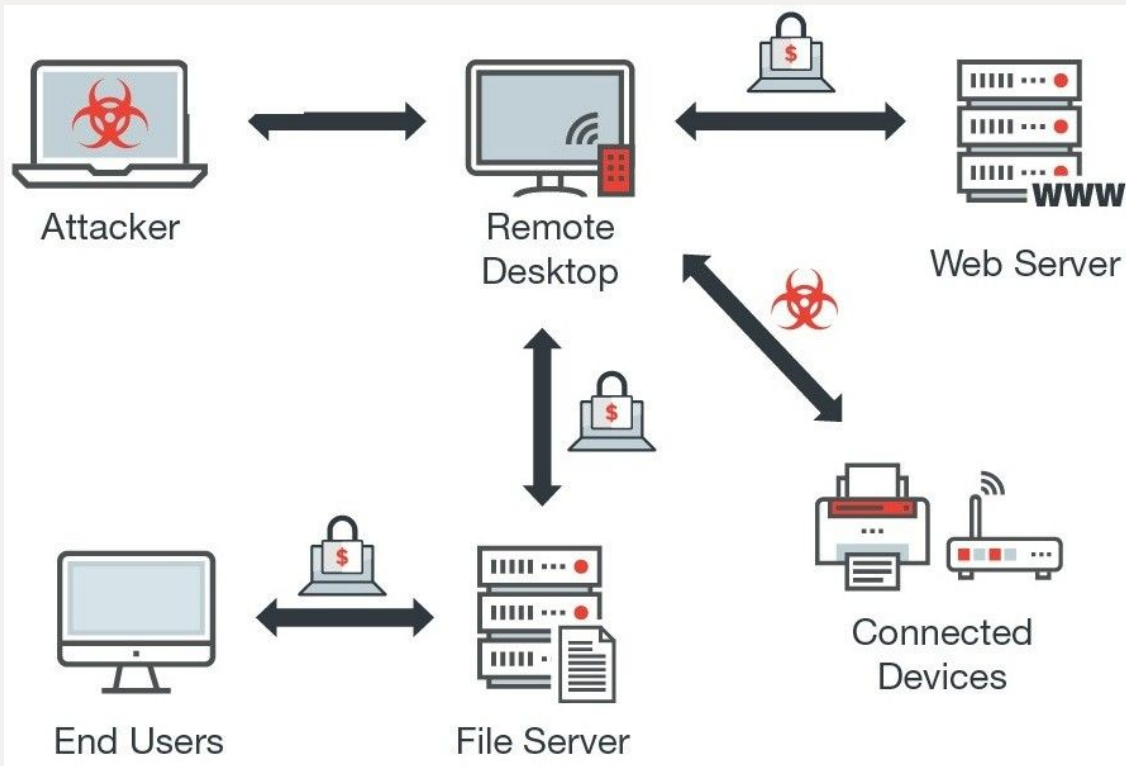


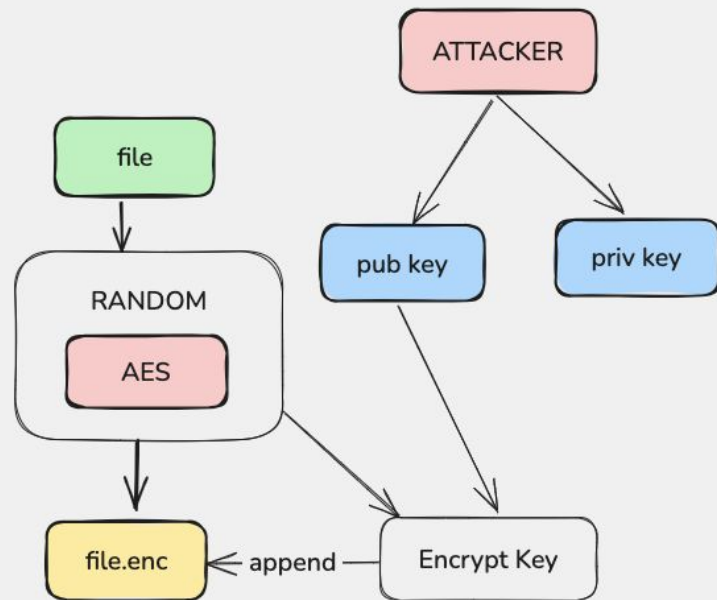
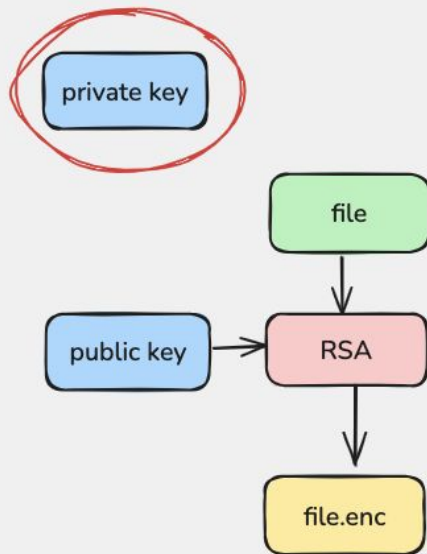
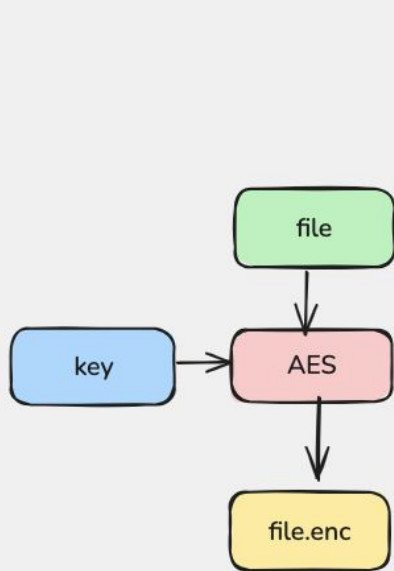


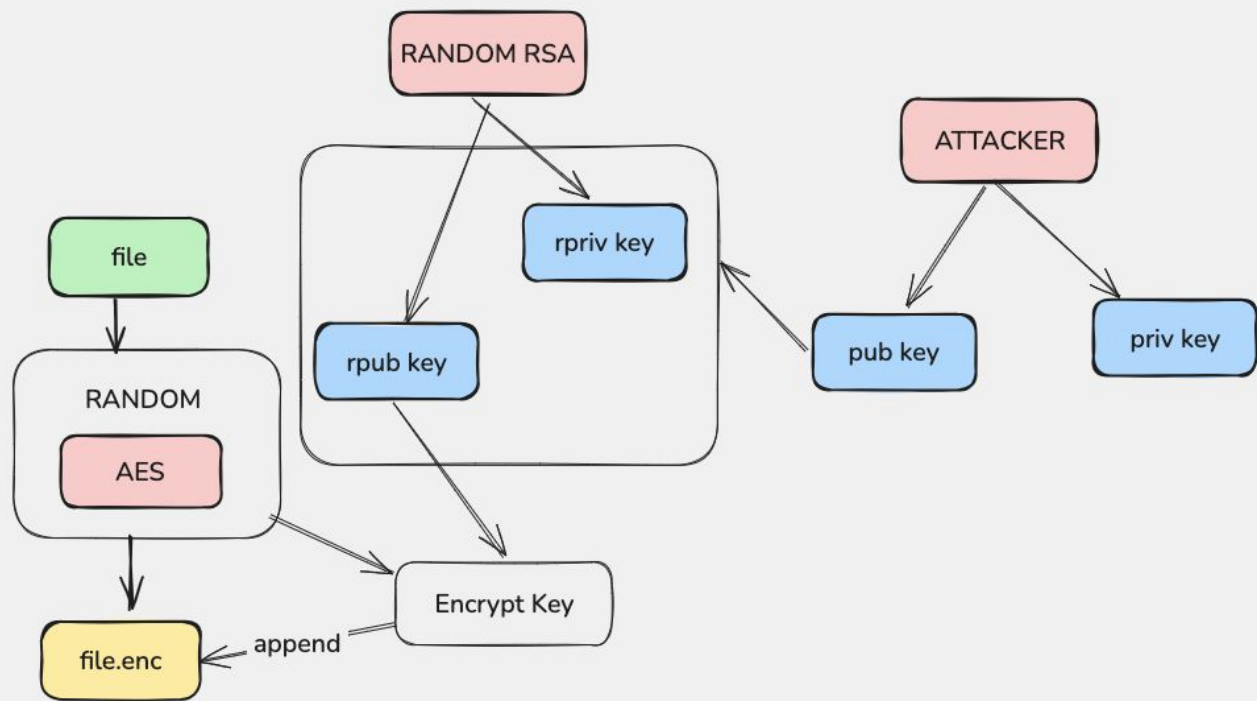
```
https://passport.minedu.gob.pe/Passportv3Web
https://miboleta.minedu.gob.pe/:10083309:NaN
http://mundoie.dreim.gob.pe/auth/login:09773
http://mundoie.dreim.gob.pe/auth/login:10085
http://sistemas10.minedu.gob.pe/siagie3/:100
https://passport.minedu.gob.pe/Passportv3Web
https://miboleta.minedu.gob.pe/:09773482:JUA
http://sistemas10.minedu.gob.pe/siagie3/Logi
e-plataformaanterior.sunat.gob.pe/xssecurity
https://expotalentos.pronabec.gob.pe/Registr
https://enlinea.sunarp.gob.pe/sunarpweb/pa
https://www.rnp.gob.pe/valida.asp:
https://ww1.sunat.gob.pe/xssecurity/signon.h
https://cursos.congreso.gob.pe/pjoven/login/i
https://capacitaciones.minjus.gob.pe/login/i
https://aplicativo.pj.gob.pe/psep/wfmlLogueo
https://e-plataformaanterior.sunat.gob.pe/xs
https://api-seguridad.sunat.gob.pe/v1/client
https://www.rnp.gob.pe/valida.asp:1073190273
https://aplicativo.pj.gob.pe/psep/wfmlLogueo
https://e-menu.sunat.gob.pe/cl-ti-itmenu/Aut
https://miboleta.minedu.gob.pe/:21815226:fee
https://aplicativo.pj.gob.pe/psep/wfmlLogueo
https://aplicativo.pj.gob.pe/psep/login.aspx
https://sso.pronabec.gob.pe:8444/realms/conc
https://api-seguridad.sunat.gob.pe/v1/client
e-plataformaanterior.sunat.gob.pe/xssecurity
https://reclutamiento.rcc.gob.pe/RegistroCas
https://concursos.pronabec.gob.pe/:7273496:
https://login.microsoftonline.com/common/oa
medidoroperadoras.osiptel.gob.pe/MedidorInte
sistemas.policia.gob.pe/denuncias/Login.aspx
https://e-menu.sunat.gob.pe/cl-ti-itmenu/men
https://sistemasdgc2.rree.gob.pe/psc_webapp/
https://api-seguridad.sunat.gob.pe/v1/client
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https://pao.pronabec.gob.pe/Account/Login:72
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https://e-menu.sunat.gob.pe/cl-ti-itmenu/Aut
https://e-menu.sunat.gob.pe/cl-ti-itmenu/Aut
https://castillas.pj.gob.pe/sinoe/login.xhtml
https://e-menu.sunat.gob.pe/cl-ti-itmenu/Men
https://api-seguridad.sunat.gob.pe/v1/client
https://api-seguridad.sunat.gob.pe/v1/client
https://ww1.sunat.gob.pe/xssecurity/SignOnVerification.htm
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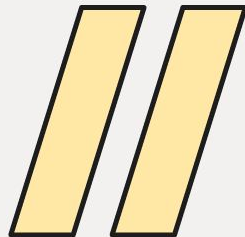
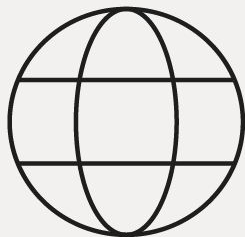
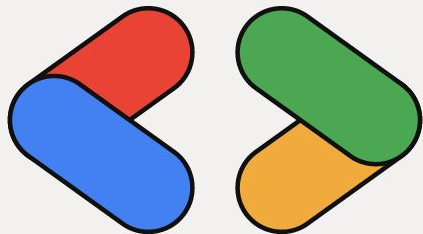


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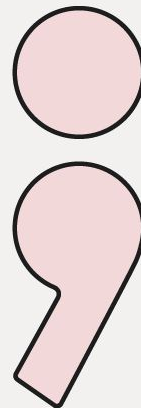






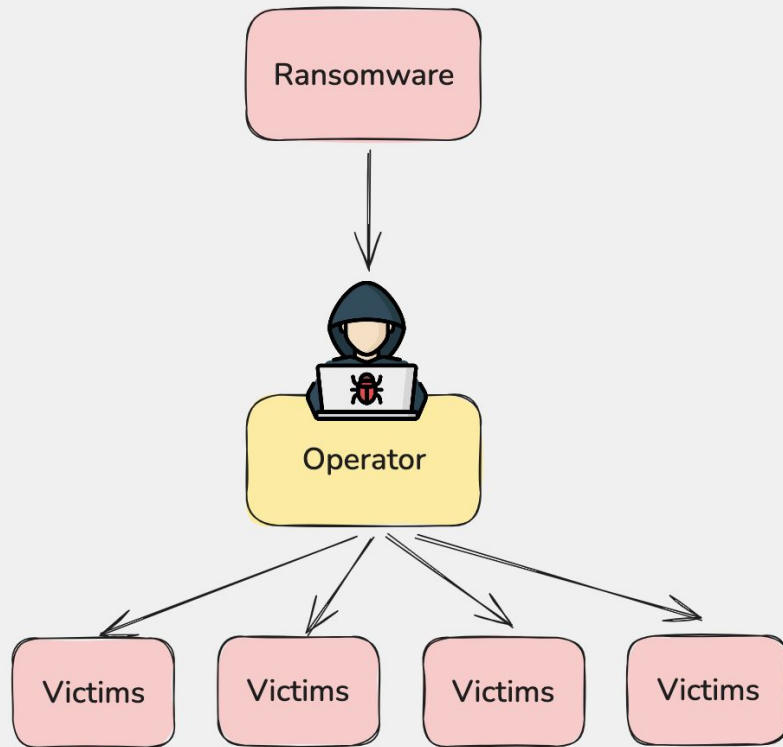


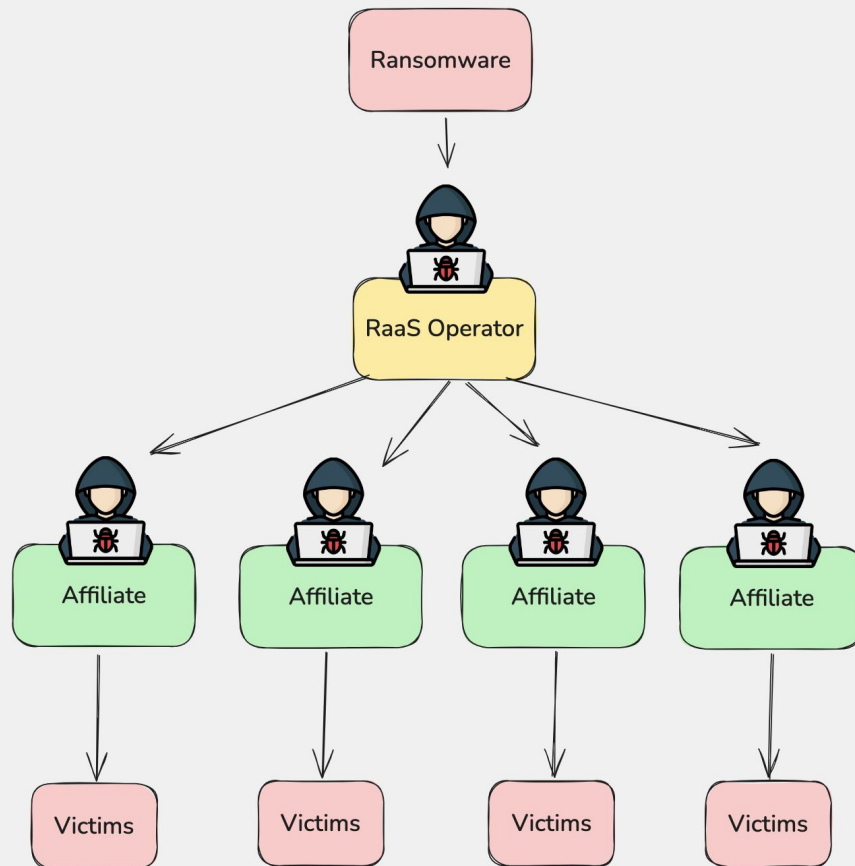
# ¿Qué es un RaaS?



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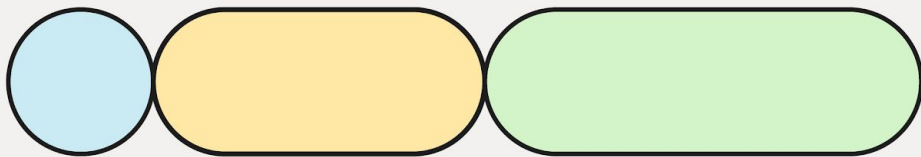
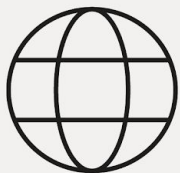
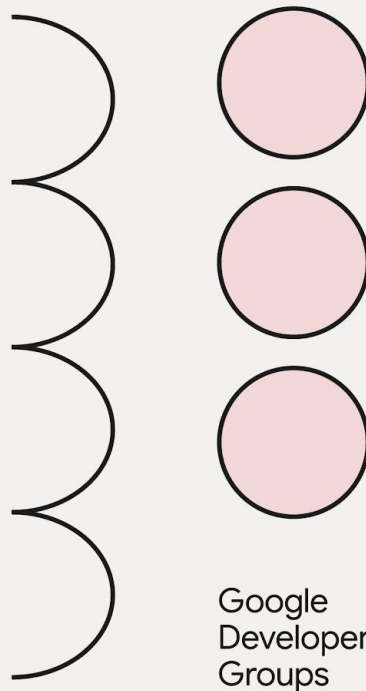


Figure 1 //

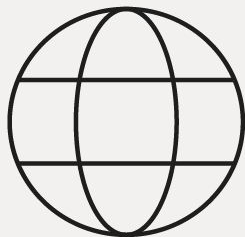
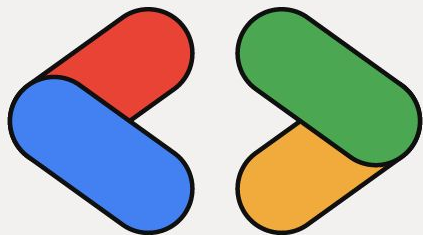
## TOP 10 ACTIVE RANSOMWARE GROUPS IN Q4



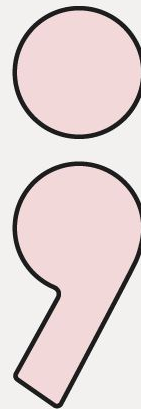
Fuente: <https://cyberint.com/blog/research/ransomware-trends-and-statistics-2023-report/>



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# Ransomware en el mundo real



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putinkrab

Original poster New Member

Messages: 1 Reactions: 0

07/12/2019

Written in C, without stl, crt OS

support starting from Windows 7, Win Server 2008 R2 Removing shadow copies

and Windows restore points Each file is encrypted using the AES algorithm with a

unique key, the key is encrypted using the RSA algorithm and appended to the end of the file Reading a list of files directly from the table MFT

(similar to Everything - voidtools.com)

Multithreading

Autorun when Windows starts Bypassing

UAC Exiting

Low integrity level The response of

programs when the encryptor is running does not change, only free disk and processor resources are used Large files are partially encrypted

and do not

break Instructions, keys, Bitcoin addresses are compressed and packed into the

build, work with the network is not possible performed After encryption is complete, instructions are output to the folders desktop,

documents, directory

user



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Lockbi

Premium

Premium

registration: 01/17/2020

Messages: 6

Reactions: 4

Points: 3

01/17/2020

Topic Author

#1

Hello friends!

Lokbit development has been underway since September 2019; they could not decrypt; there have been attempts.

There are no school emails, multithreading, which, in fact, loads the system more than encrypts, is not here.

The software is written in C and Asembler, encryption through the IO completion port, port scanner on local subnets, finds all DFS, SMB, WebDav balls, admin in the torus, automatic test decryption, descriptor output, chat with PUSH notifications, Jabber bot forwarding correspondence, termination of services / processes according to the list and preventing the opening of the file in the moment. Setting file permissions and removing blocking attributes, deleting shadow copies, cleaning logs, mounting hidden partitions, drag'n'drop files and folders, console / hidden mode of operation. Encrypts files in chunks in different places, the larger the file size, the more chunks. Algorithm AES + RSA.

The amount of the ransom is set by you after talking with the patient, you receive payment in your wallets, in a convenient currency.

Jabber-bot completely replaces the admin panel, ban, decrypt, chat - all this without leaving the jabber.

Work speed clearly




Local NVMe SSD M.2




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LockBit

kilobyte



Seller

 3

40 posts

Joined

01/16/20 (ID: 99278)

Activity

другое / other

Posted May 15, 2020

Нужен запуск DLL из памяти на powershell и морфер кода для него. ЯП значения не имеет. Более подробное ТЗ исполнителю.

**Бюджет 20к\$**

Контакт в ПМ.

LockBit

kilobytes



Posted September 16, 2020

Looking for a specialist.

We need automation of one task for the entire domain. Active Directory Group Policies.

The price starts from \$5k. Contact in PM.

 [Quote](#)



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ALL YOUR **IMPORTANT FILES** ARE **STOLEN AND ENCRYPTED!**

All your files stolen and encrypted  
for more information see  
**RESTORE-MY-FILES.TXT**  
that is located in every encrypted folder.

Would you like to earn millions of dollars?  
Our company acquire access to networks of various companies, as well as insider information that can help you steal the most valuable data of any company.  
You can provide us accounting data for the access to any company, for example, login and password to RDP, VPN, corporate email, etc.  
Open our letter at your email. Launch the provided virus on any computer in your company.  
Companies pay us the forfeiture for the decryption of files and prevention of data leak.  
You can communicate with us through the Tox messenger

Using Tox messenger, we will never know your real name, it means your privacy is guaranteed.  
If you want to contact us, use ToxID:

If this contact is expired, and we do not respond you, look for the relevant contact data on our website via Tor or Brave Browser.



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LockBit - CHATS

CHATs STATS BUILDER LISTING NEWS FAQ PUBLICATIONS BLOG Events 274 Errors 105 Jobs 17 admin

FILTERING: TRIAL DECRYPT NEGOTIATION HIDDEN PAID NOTPAID ONLINE IMPRINT LIMITED

TAG

D2B5A7E2DB608C31 14.02.24 verified 08:53 14.02.24 Revenue: 60kk Site: Comment - Decryptor will delete at - 2024-02-22 21:25:49  
Please, can it be lower? Please hel...

7A04C01BBFAB003 09.02.24 verified 08:45 14.02.24  
The CEO transferd money from the co...

2AA1A87C3C5EE39A 14.02.24 verified 08:37 14.02.24  
Hello you locked our computers?

66676768659696A 08.02.24 verified 08:39 14.02.24  
This is out offer if you pay until ...

9036FA1DC961EA87 14.02.24 verified 08:17 14.02.24  
Hello!

C3F297B0847987BF 30.01.24 07:39 14.02.24  
Try copy encrypted file to another ...

7213534784EA2855 14.02.24 verified 08:16 14.02.24  
hello

FC365850592FB168 14.02.24 verified 05:04 14.02.24  
we can give 2600\$

D3D3D3D3D4D4D4D4 06.02.24 verified 02:18 14.02.24  
While we are in conversation we wou...

Revenue: 60kk Site: Comment - Decryptor will delete at - 2024-02-22 21:25:49

You have 48 hours to pay and delete your files or explore your files for free on the internet after 48 hours.

That's very unfortunate to hear, as we were hoping to resolve this through payment. We will be here should you decide to change your mind. We are still interested in negotiating.

If you wanted to settle, you'd pay I've seen how much money you have, I've seen how much money you'll make, I understand that your losses will be ten times greater than I won't settle for anything less than

We understand that you feel that should be paid. However, the money you say we h our lenders. It is not our money. Also, the data you have is not worth given the fact I already knows we were attacked and we have to notify everyone anyway.

Despite that, we are willing to pay some amount as we are trying to do everything we can to hel you decline to work with us, then we've done all we can, and we can tell them that we tried to n refused.

We are genuinely surprised that you would rather walk away with no payment, and that you are negotiate. From our perspective, while it would sting a bit, we would survive you posting our dai there is some middle ground for us to meet at because we are willing to pay.

20000\_files.7z 102.50kB

Here's 10 times your files, maybe you'll find not only creditor money in your wallet but a

Message ...

II DELETE CHAT II

Download decryptor

Limited chat

Paid commission

Mark as read

Reset trial

Decrypt

Hide chat

Ban

II IMPORTANT II

LockBit - STATS

CHATs STATS BUILDER LISTING NEWS FAQ PUBLICATIONS BLOG Events 274 Errors 105 Jobs 17 admin

PAGE VIEWS UNIQUE VIEWERS DAY WEEK MONTH DAY 86 (1%) WEEK 1072 (17%) MONTH 5104 (82%) ALL 626

SETTINGS LOG OUT ADMIN PAGE FIND BUILD SOCKET STATUS API STATUS BLOG REPORT

350  
250  
200  
150  
100  
50  
0

14.01 15.01 16.01 17.01 18.01 19.01 20.01 21.01 22.01 23.01 24.01 25.01 26.01 27.01 28.01 29.01 30.01 31.01 01.02 02.02 03.02 04.02 05.02 06.02 07.02 08.02 09.02 10.02 11.02 12.02 13.02 14.02

ALL CLIENTS VISITED CHAT

LAST	CLIENT	TEST	DECRYPT
5m 14.02.24	27F500C9C9E762D2D25A7E2DB608C31 rev: 10kk	no	no
7m 14.02.24	7A04C01BBFAB0037A04C01BBFAB003 rev: 5kk	no	no
15m 14.02.24	1374A2E9E7A50CC2A1A1A87C3C5EE39A rev: 20kk	no	no
22m 14.02.24	07A8BF9E40CCCE466676768669696A rev: 10kk	no	no
52m 14.02.24	960786845860879036FA1DC961EA87 rev: 20kk	no	no
1h 43m 14.02.24	55C169049CFBE78C3F297B0847987BF rev: 30kk	no	no
2h 16m 14.02.24	4A349606A7957B07123534784EA2855 rev: 5kk	no	no

CLIENTS USED TRIAL DECRYPT

DATE	CLIENT	TESTFILE
1d 20h 16m 12.02.24	0064C365CCE76647399877CE491A95 rev: 10kk	690454549676232767c3d 64d1287e565ca10e7b757 5 adbe adobe1 dependen cies.manifest 3.50kB
2d 4h 21m 12.02.24	65C5F90E76DDF98F22C4568C43FC8B58 rev: 15k	279427b31072ca297779e52 d26dc3f65c99eae955 6-3xxx-1- 14.50kB
2d 19h 10m 11.02.24	6416C2F563A7DF8027B7D98B0E7E2 rev: 10kk	269101019b42329c2cad4 8350a07602465c9c3233f 4afA00-q200er-win2012-r esults.txt 2.50kB
3d 1h 10m 10.02.24	7955D9CB8273243AC5B8ICE9801F22 rev: 10kk	h80c39596138-4827b65 af3ba57b765c7eda8ca58 c:company-001-sage-dbs.tx t 68.00kB
4d 10h 16m 09.02.24	4B09932C8C290303366F20E684D67942 rev: 5kk	c754073ec2c0a1d1090e 9f233090ac65c5ab8f95b da3033 eventslog.txt 8.30 kB
8d 48m 06.02.24	2F665078376FF70C3C3C3C4C4C4 rev: 10kk	3759kB
8d 5h 49m 06.02.24	DBC61E30B8062AF4M60A7E083805868 rev: 10kk	2203_0.pdf 6.60kB



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TechRadar

## [LockBit ransomware attack stole data on millions of Infosys McCamish users](#)

When LockBit ransomware affiliates struck Infosys McCamish Systems (IMS) in late 2023, they did not steal sensitive information on some...



The Record from Recorded Future News

## [Industrial and Commercial Bank of China dealing with LockBit ransomware attack](#)

One of the world's largest banks is dealing with a ransomware attack, according to media reports on Thursday.



SC Media UK

## [LockBit Ransomware Operators Demanded \\$80M from Royal Mail](#)

The operators of LockBit demanded an \$80 million ransom payment, according to TechCrunch. The ransomware gang threatened to publish all stolen data from the...



BankInfoSecurity

## [LockBit Leaks 1.5TB of Data Stolen From Indonesia's BSI Bank](#)

The LockBit ransomware group on Tuesday published 1.5 terabytes of personal and financial information the group said it stole from Bank Syariah Indonesia.



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Encryption speed comparative table for some ransomware							
PC for testing: Windows Server 2016 x64 \ 8 core Xeon E5-2680@2.40GHz \ 16 GB RAM \ SSD							
Name of the ransomware	Date of a sample	Speed in megabytes per second	Time spent for encryption of 100 GB	Time spent for encryption of 10 TB	Self spread	Size sample in KB	The number of the encrypted files (All file in a system 257472)
LOCKBIT 2.0	5 Jun, 2021	373 MB/s	4M 28S	7H 26M 40S	Yes	855	109964
LOCKBIT	14 Feb, 2021	266 MB/s	6M 16S	10H 26M 40S	Yes	146	110029
Cuba	8 Mar, 2020	185 MB/s	9M	15H	No	1130	110468
Babuk	20 Apr, 2021	166 MB/s	10M	16H 40M	Yes	79	109969
Sodinokibi	4 Jul, 2019	151 MB/s	11M	18H 20M	No	253	95490
Ragnar	11 Feb, 2020	151 MB/s	11M	18H 20M	No	40	110651
NetWalker	19 Oct, 2020	151 MB/s	11M	18H 20M	No	902	109892
MAKOP	27 Oct, 2020	138 MB/s	12M	20H	No	115	111002
RansomEXX	14 Dec, 2020	138 MB/s	12M	20H	No	156	109700
Pysa	8 Apr, 2021	128 MB/s	13M	21H 40M	No	500	108430
Avaddon	9 Jun, 2020	119 MB/s	14M	23H 20M	No	1054	109952
Thanos	23 Mar, 2021	119 MB/s	14M	23H 20M	No	91	81081
Ranzy	20 Dec, 2020	111 MB/s	15M	1D 1H	No	138	109918
PwndLocker	4 Mar, 2020	104 MB/s	16M	1D 2H 40M	No	17	109842
Sekhmet	30 Mar, 2020	104 MB/s	16M	1D 2H 40M	No	364	random extension
Sun Crypt	26 Jan, 2021	104 MB/s	16M	1D 2H 40M	No	1422	random extension
REvil	8 Apr, 2021	98 MB/s	17M	1D 4H 20M	No	121	109789
Conti	22 Dec, 2020	98 MB/s	17M	1D 4H 20M	Yes	186	110220
Ryuk	21 Mar, 2021	92 MB/s	18M	1D 6H	Yes	274	110784

Fuente:

[https://www.splunk.com/en\\_us/blog/security/gone-in-52-seconds-and-42-minutes-a-comparative-analysis-of-ransomware-encryption-speed.htm](https://www.splunk.com/en_us/blog/security/gone-in-52-seconds-and-42-minutes-a-comparative-analysis-of-ransomware-encryption-speed.htm)

1



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```
<?php
$phar = new Phar('malicious.phar');
$phar->startBuffering();
$phar->addFromString(str_repeat('A', PHP_MAXPATHLEN - 1).'B', 'This is the content of the file.');
```



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# LEAKED DATA

THIS SITE IS NOW UNDER THE CONTROL OF THE UK, THE US  
AND THE CRONOS TASK FORCE



## Press Releases

PUBLISHED



Updated: 01 Feb, 2024, 04:12 UTC

3947

## LB Backend Leaks

PUBLISHED



Updated: 31 Jan, 2024, 01:44 UTC

1182

## Lockbitsupp

PUBLISHED

**You've Been  
Banned From  
LOCKBIT 3.0**

Updated: 31 Jan, 2024, 01:44 UTC

1182

## Who is LockbitSupp?

2D 6H 42M 50S



The \$10m question

Updated: 01 Feb, 2024, 04:12 UTC

31337

## Lockbit Decryption Keys

PUBLISHED



Law Enforcement may  
be able to assist you  
to decrypt your  
Lockbit encrypted

Updated: 01 Feb, 2024, 04:12 UTC

3947

## Recovery Tool

PUBLISHED



Japanese recovery tool key to access  
encrypted files and expand Europol's  
#Nomoreransom family

Updated: 01 Feb, 2024, 04:12 UTC

3947

## US Indictments

PUBLISHED



FBI Investigation Leads to a Total of 5  
LockBit Affiliates Charged By the  
Department of Justice. Two of Those  
Indictments Released Today.

Updated: 31 Jan, 2024, 01:44 UTC

1182

## Sanctions

PUBLISHED



United States Sanctions for Threat  
Actors Engaged in Significant  
Malicious Cyber Related Activity

Updated: 31 Jan, 2024, 01:44 UTC

1182

## Arrest in Poland

PUBLISHED

## Activity in Ukraine

PUBLISHED

## Report Cyber Attacks!


PUBLISHED

## Cyber Choices



PUBLISHED







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# LEAKED DATA

 TWITTER
  PRESS ABOUT US

 HOW TO BUY BITCOIN
  AFFILIATE RULES

 CONTACT US
  MIRRORS

**ahn.org**

20D 20h 36m 18s

Greetings! Today we are posting here the new company, "West Penn Allegheny Health System .Inc". Company Description: West Penn Hospital, centrally located in Pittsburgh's Bloomfield

Updated: 27 Nov, 2024, 16:45 UTC 24

**habeshacement.com**

20D 20h 27m 57s

Greetings! Today we are posting here the new company, "HABESHA CEMENT S.C". Company Description: ABESHA Cement Share Company HABESHA Cement Share Co. is a cement

Updated: 27 Nov, 2024, 16:37 UTC 35

**madison-home.com**

1D 20h 45m 45s

Madison Industries Inc Rug Manufacturer Gross Revenue: \$47,000,000

Updated: 22 Nov, 2024, 16:44 UTC 3053

**vikurverk.is**

PUBLISHED

Greetings! Today we are posting here the new company, "Vikurverk ehf.". Company Description: Vikurverk is a company that sells new motorhomes, caravans, motorhomes and

Updated: 17 Nov, 2024, 22:56 UTC 9637

**mirandaproduce.com.ve**

PUBLISHED

Greetings! Today we are posting here the new company, "ALIMENTOS SERIMAR C.A". Company Description: National producer of healthy dairy products, specifically Greek yoqurt. Headquarters:

Updated: 01 Nov, 2024, 15:48 UTC 11910

**kumhotire.com**

PUBLISHED

Updated The first part of the data has been published, stay tuned for updates Kumho Tire (formerly known as Samyang Tire) is a South Korean tire manufacturer. Kumho Tire was

Updated: 31 Oct, 2024, 09:14 UTC 24020

**fordcountrymotors.mx**

PUBLISHED

Greetings! Today we are posting here the new company, "CMAMERICAS S.A. DE C.V". Company Description: COUNTRY MOTORS specializes in the retail sale of new passenger cars and trucks.

Updated: 21 Oct, 2024, 20:38 UTC 16575

**tpgagedcare.com.au**

PUBLISHED

Greetings! Today we are posting here the new company, "TPG Aged Care". Company Description: At TPG Aged Care, we believe that everyone has the right to be treated with dignity,

Updated: 03 Oct, 2024, 15:50 UTC 18828

**oleopalma.com.mx**

PUBLISHED

Greetings! Today we are posting here the new company, "Oleopalma Compania Agroindustrial Cia Ltda LLC". Company Description: Oleopalma is a company specialized in the cultivation,

Updated: 30 Sep, 2024, 13:48 UTC 22021

**chcm.us**

PUBLISHED

Greetings! Today we are posting here the new company, "College Hospital Costa Mesa". Company Description: College Hospital Costa Mesa is a facility specializing in psychiatric and

Updated: 30 Sep, 2024, 13:47 UTC 21994

**nhbg.com.co**

PUBLISHED

Greetings! Today we are posting here the new company, "Nuevo Hospital de Bocagrande". Company Description: The New Bocagrande Hospital is a high-level comprehensive health

Updated: 26 Sep, 2024, 17:09 UTC 27694

**bnsgroup.co.uk**

PUBLISHED

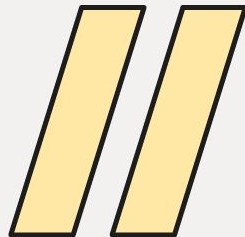
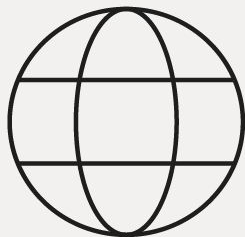
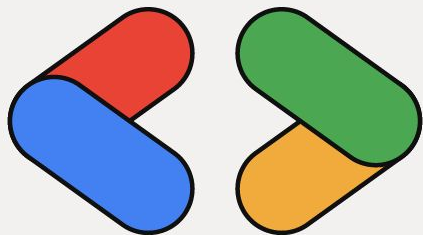
Greetings! Today we are posting here the new company, "BNS GROUP Ltd". Company Description: Founded over twenty years ago B&S GROUP has grown into a organisation focused

Updated: 26 Sep, 2024, 17:05 UTC 41496

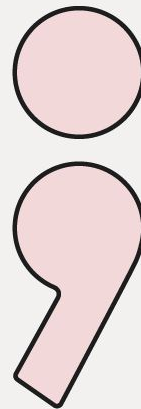


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**GRACIAS** 🕶️



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