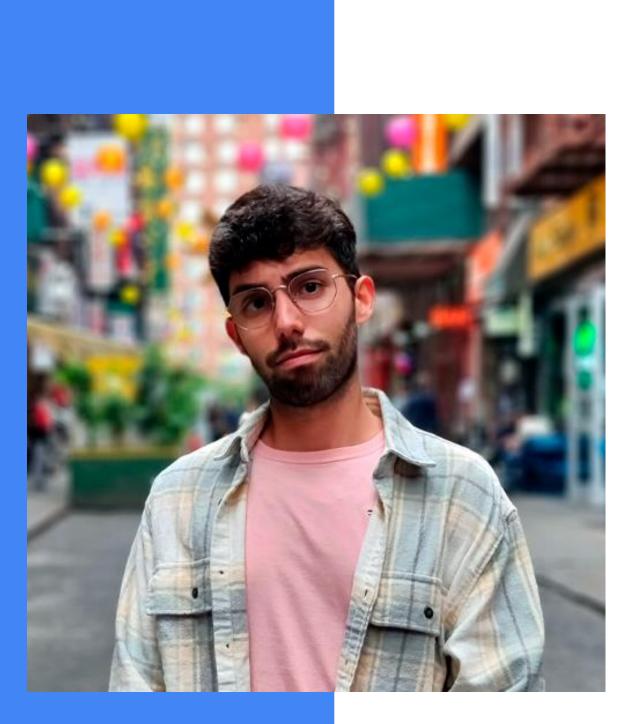
Monitoring 1st stage samples used by APTs and crime actors using images

Joseliyo Sánchez - @Joseliyo_Jstnk Security Engineer - VirusTotal







in



JOSE LUIS SÁNCHEZ MARTINEZ **AKA JOSELIYO**

• Security Engineer @ VirusTotal - Google

• Former McAfee and BlackBerry security researcher

@Joseliyo_Jstnk

/in/joseluissm/



- Why I decided to do this research
- Research explanation
- ITW examples
- Limitations and conclusions

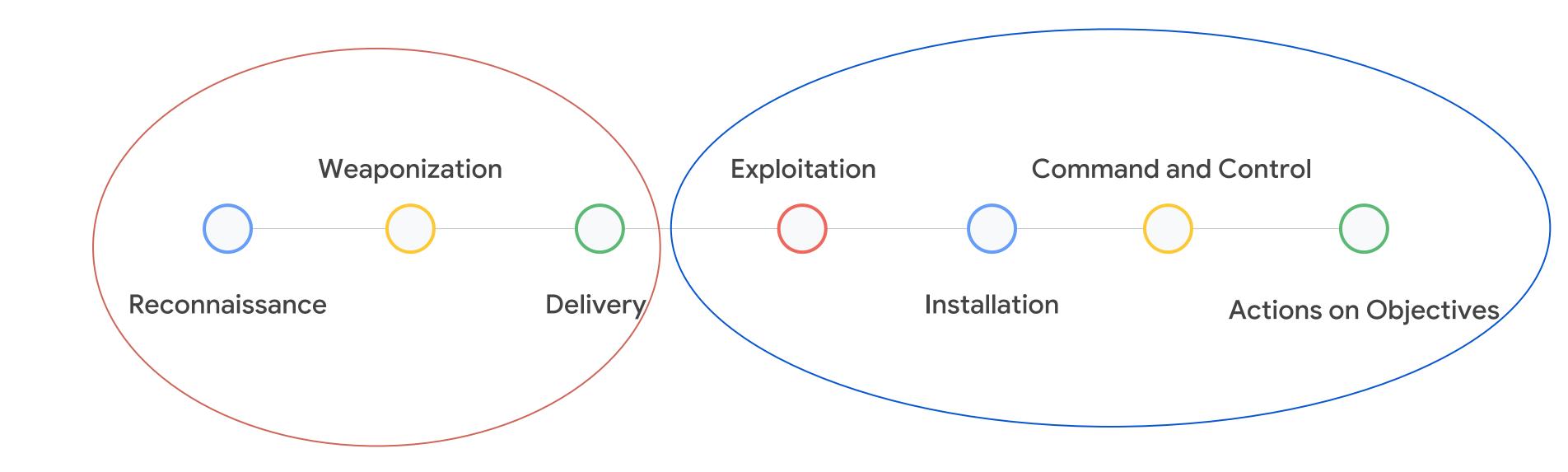






Why I decided to do this research

A little bit of context

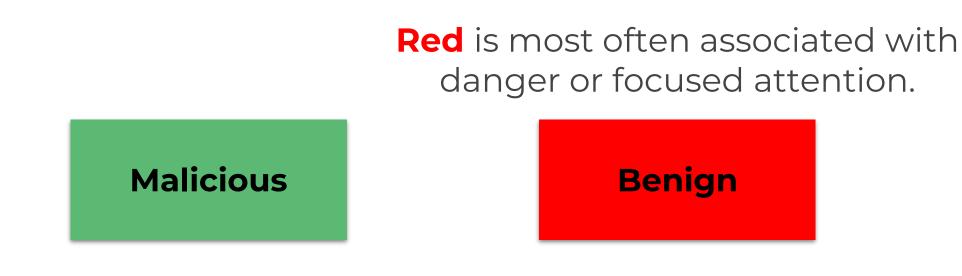






Color theory: Emotion + Bias

Hundreds of color psychology studies have demonstrated that colors can profoundly influence your decision making process.



Green communicates peace, growth and health. Green means "go".



Source: https://myva360.com/blog/color-for-success



Color bias on VT

32	① 32 security vendors and no sandboxes flagged this file as malicious					
164 ×		55a0bbde3e32c559715cdc9c7d30d003b9e14725a6369d30edef20c1ed6dd994 55a0bbde3e32c559715cdc9c7d30d003b9e14725a6369d30edef20c1ed6dd994.doc docx calls-wmi exploit cve-2017-0199				
Community Score						
DETECTION DETAI	LS RELATIONS	BEHAVIOR	CONTENT TELEMETRY COMMUNITY 9			
Contacted URLs (1) ①						
Scanned D	etections	Status	URL			
2024-01-31 11	/ 91	-	http://mofa-gov-np.fia-gov.net/notice/74b78aee/			
Contacted Domains (4)	Ū					
Domain	Detections	Created	Registrar			
fia-gov.net	19 / 90	2023-06-12	-			
mofa-gov-np.fia-gov.net	10 / 90	2023-06-12	-			
nexus.officeapps.live.com	0 / 90	1994-12-28	CSC CORPORATE DOMAINS, INC.			
time.windows.com	0 / 90	1995-09-11	MarkMonitor Inc.			
Sample						

Compressed Parents (1) 🕕

Scanned	Detections
2024-01-30	52 / 65

Bundled Files (13) 🕕

	Scanned	Detections
~	2024-02-17	8 / 60
~	2024-02-19	<mark>0</mark> / 60
~	2024-02-12	0 / 60
~	2024-02-12	0 / 60
~	2024-02-12	0 / 60
~	2024-02-12	0 / 60
~	2024-02-12	0 / 60
~	2024-02-12	0 / 59
~	2024-02-12	0 / 60
~	2024-02-12	0 / 60
~	2024-02-17	0 / 60
~	2024-02-19	0 / 58
~	2024-02-17	0 / 60

Dropped Files (3)

	Scanned	Detections	File type	Name	
~	2024-02-12	0 / 60	Text	word/media/image2.jpg	
~	2024-01-30	4 / 60	Windows shortcut	C:\Users\user\AppData\Roam	ing\Microsoft\Office\Recent\design.LNK
~	?	?	file	2c7adcff8bde0f7325ec069c	0274435c962e0b4f2c3a76e4bdaebaa6925a8388

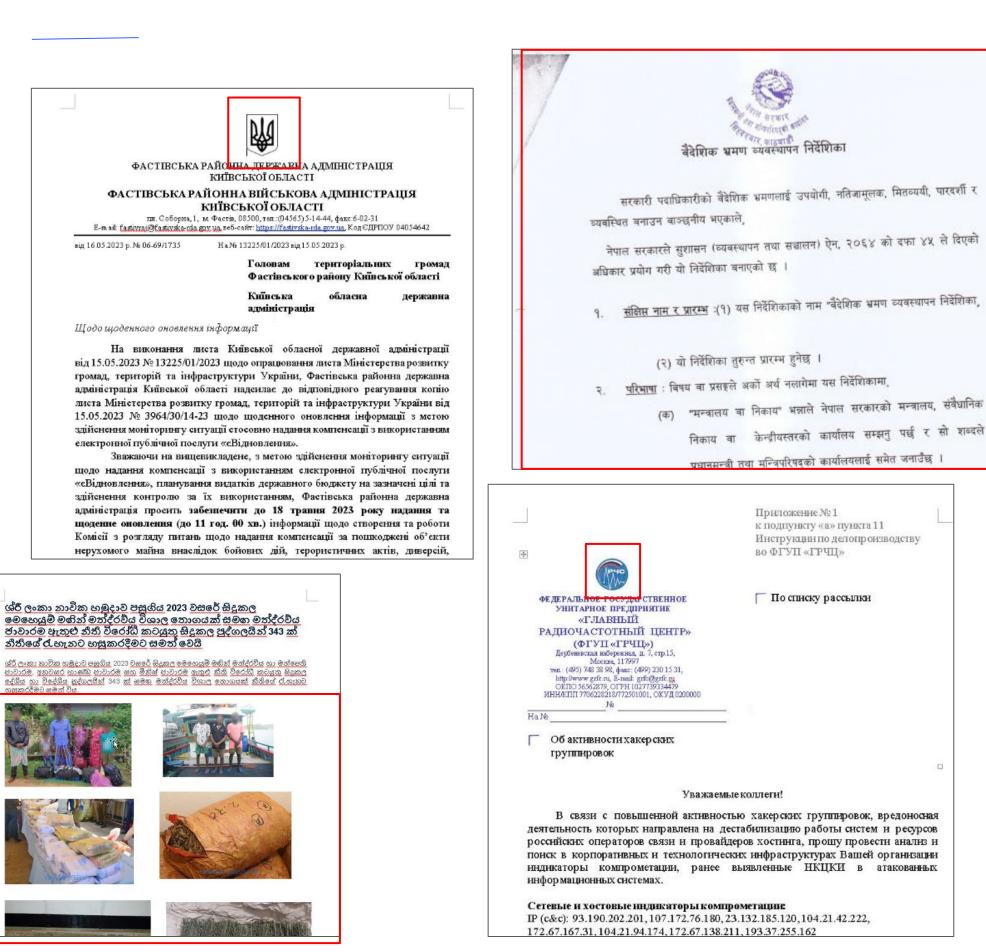


Type Name ZIP fdeef34eae3d21f099a347716aa0869104704ff60150cdbd98aeb5ae11870f4a

File type XML	Name word/_rels/document.xml.rels
XML	_rels/.rels
XML	[Content_Types].xml
XML	docProps/app.xml
XML	docProps/core.xml
XML	word/document.xml
XML	word/fontTable.xml
JPEG	word/media/image1.jpeg
Text	word/media/image2.jpg
XML	word/settings.xml
XML	word/styles.xml
XML	word/theme/theme1.xml
XML	word/webSettings.xml



What is there in common?



Α. Β. C.

Work order for upgrade of SR 47 BG onboard AZMT & DHST was issued to M/s CSTC China through existing RRC at cost of US\$ 0.858M vide reference A. M/s CSTC vide reference B has forwarded invoice for release of 20% 1st payment amounting to US\$ 171,600 (US Dollar One Hundred Seventy One Thousand and Six Hundred only) as per Milestone M1 (T_o+ 01 M) i.e. submission of Project Plan.

3

No. M05/ARM/DO/2023

Assalamu Alaikum,

You are requested to change the password of your Army mail by 080000 June 2023 (Night 08/09 June 2023) to ensure secure access and maintain the confidentiality of your email account. For setting a new password, few guidelines must be followed:

Your new password must:

Your present password will expire after 080000 June 2023 (Night 08/09 June 2023) and after that, you will not be able to login into your Army mail using current password.



SMR-WE/4241/2/ 267

Attache Defence Procurement Embassy of Pakistan No. 1 Dongzhimenwai Dajie Beijing, China Email: adp@pakbj.orq

03 September 2021 **PAYMENT RELEASE ORDER - UPGRADE OF SR 47**

Ships Maintenance & Repairs (WE)

Directorate of

ISLAMABAD

Naval Headquarters

Tele : 0092-51 20062995

Fax : 0092-51-9261551 Email : dsmrwe@paknavy.qov.pk

BG RADARs ONBOARD AZMT AND DHST

References:

Work Order CICP/FAC(M)/Work Order/1809 dated 30 Jun 21 M/s CSTC letter CSTCDSMRWE YRF 20210730 dated 30 Jul 21 M/s CSTC RRC No 351055/327079 dated 30 Jun 94

2. It may be mentioned that Project Plan submitted by CSTC for upgrade of SR 47 BG Radar onboard AZMT & DHST has been supported for implementation from President Acceptance Committee.

Foregoing in view, it is requested that payment amounting to US\$171,600 (US Dollar One Hundred Seventy One Thousand and Six Hundred only) may please be

CONFIDENTIAL



Dated: 29th May, 2023

Password Updation Policy and Records.

Contain minimum 12 characters.

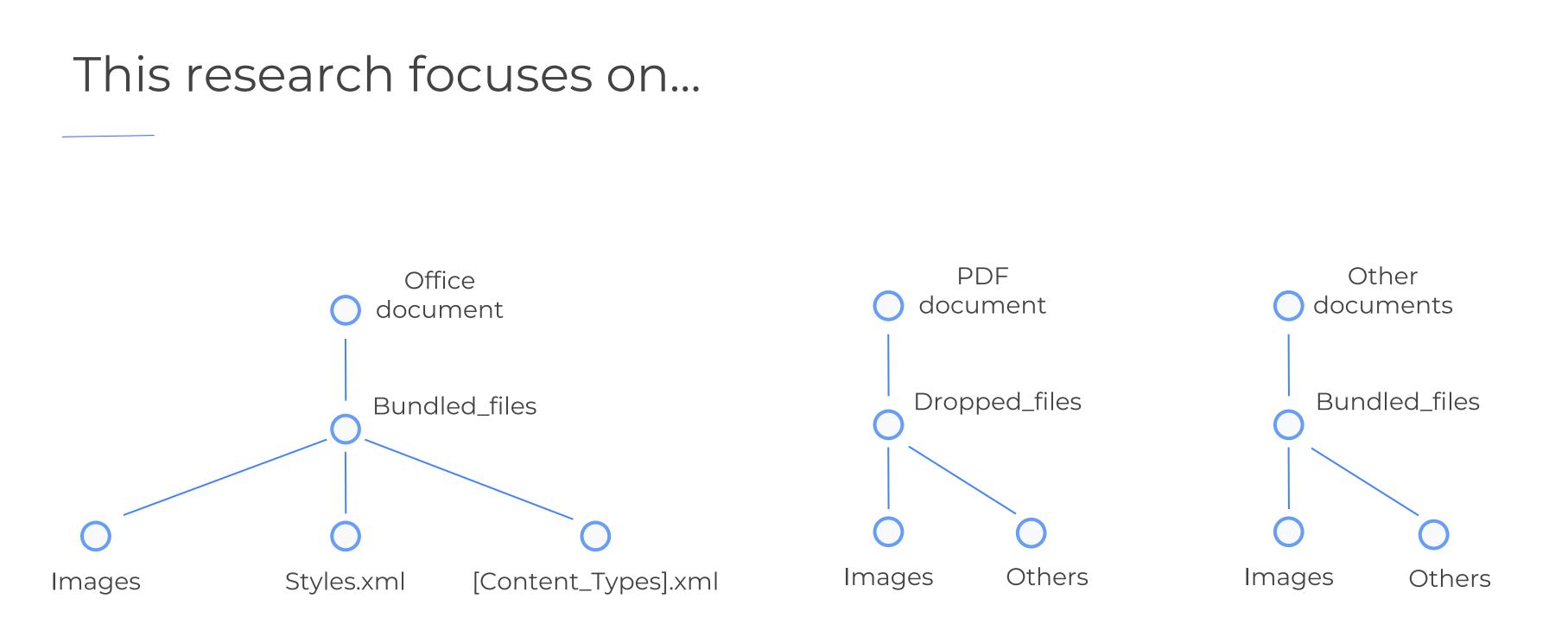
 Combination of uppercase, lowercase, symbols and numbers 0-9. Not be the same one as last 15 passwords.

A password change screen will appear during your next login attempt of your email account. If you face any problem or need further help, please contact at





Research explanation







Office documents

Images: As we could see, TA are using images within their documents. Usually, related to Governments and other agencies.

[Content_Types].xml: This file specifies the content types and relationships within the Office Open XML (OOXML) document. It essentially defines the types of content and how they are organized within the file structure.

Styles.xml: Stores stylistic definitions for your document. These styles provide consistent formatting instructions for fonts, paragraph spacing, colors, numbering, lists, and much more.







- We have identified the use of the same images in multiple documents used by the same threat actors at different moments in time.
- We have identified the use of the same [Content_Types].xml in multiple documents used by the same threat actor and other threat actors at different points in time. Some [Content_Types].xml were more generic than others.
- We have identified the use of styles.xml in multiple documents used by the same threat actor and other threat actors at different points in time. Some styles.xml were more generic than others.



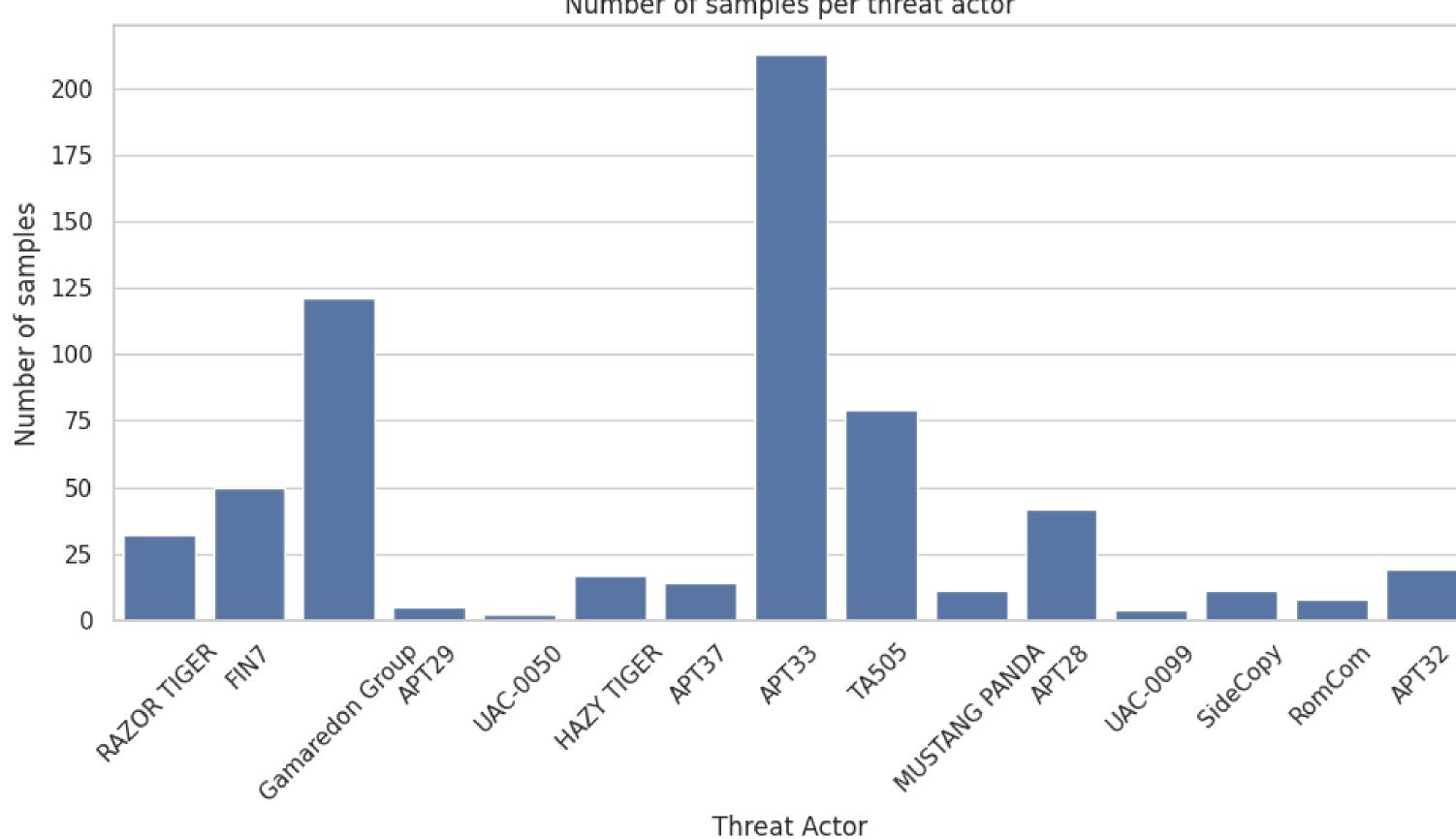




ITW examples - Office

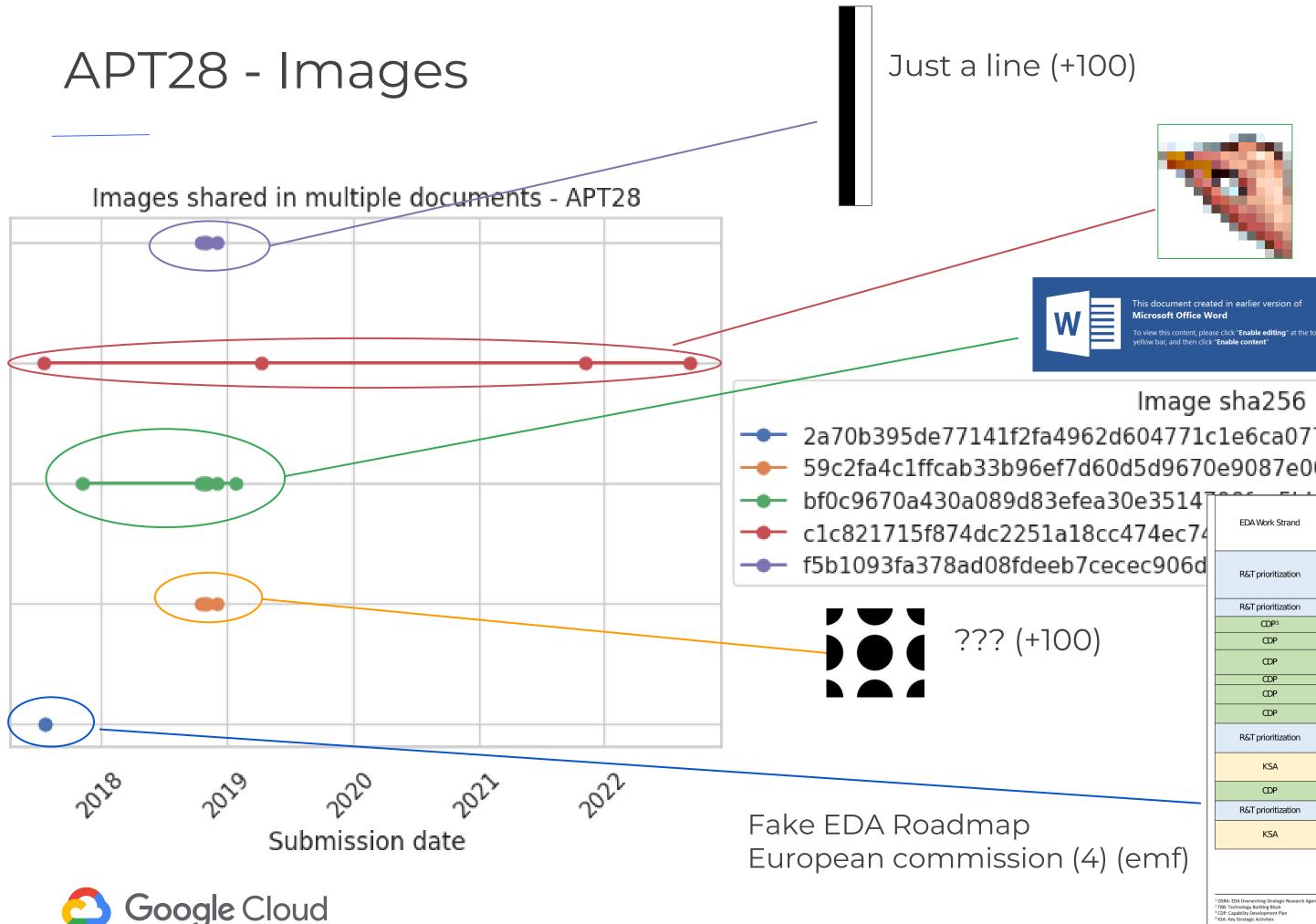
Scope

Number of samples per threat actor





sTotal



insignificant image of a hand (14)

Fake Office enable content image (13)

Image sha256 2a70b395de77141f2fa4962d604771c1e6ca0775a01781f74930db91862ad864 (2) 59c2fa4c1ffcab33b96ef7d60d5d9670e9087e0048ea60a67641dcc42837d81f (5)

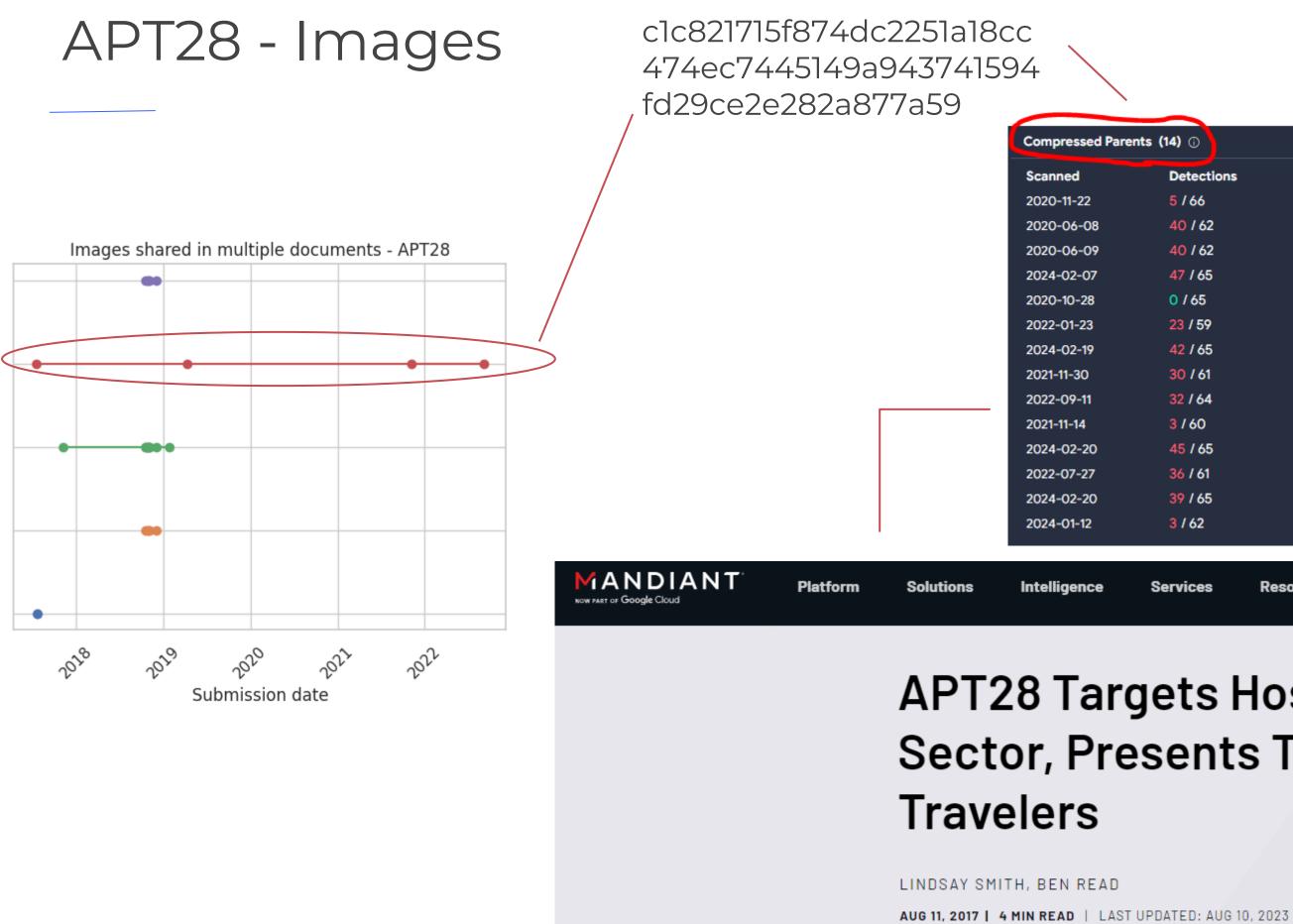
EDA Deliverable Delivery Date OSRA1 Version 0 including TBBs2 2017 Context, including links with CDP 2014 June 2017 Methodology + Tools Approved OSRA v1 including prioritized TBBs December 2017 CSDP Military Shortfalls December 2017 Long term Capability Trends Analysis December 2017 Assessment of Potential for Cooperation base December 2017 on pMS plans and programs Prioritized GMTL Tasks January 2018 EDA Proposal on EU Capability Developmer February 2018 Priorities Agreement on new set of EU Capability March 2018 Development Priorities Revision of OSRA process March 2018 Revised methodology Links with CDP 2018 Identification of KSA⁴ at EU level after the application of KSA methodology to OSRA v1 April/May 2018 and their approval Agreement on the implementation of EU May 2018 Capability Development Priorities Approval OSRA v2 including prioritized June 2018 TBBs in line with CDP 2018 Identification of KSA at EU level after the October/November application of KSA methodology to OSRA v2 2018 and CDP priorities 2018 and their approval

a

)f (10)

59 (4)

d (5)





(14) 🕕		
Detections	Туре	Name
5 / 66	Office Open XML Document	Hotel_Reservation_Form.doc
40 / 62	Office Open XML Document	Hotel_Reservation_Form.doc
40 / 62	Office Open XML Document	5e9056b5aca1839dc38ded0eded870be455e8c5303db6495255020
47 / 65	Office Open XML Document	apt
<mark>0</mark> / 65	Office Open XML Document	Документ Microsoft Word.docx
23 / 59	Office Open XML Document	kl.doc
<mark>42</mark> / 65	Office Open XML Document	KISD.zip
30 / 61	Office Open XML Document	dblink.doc
32 / 64	Office Open XML Document	C:\Users\ <user>\AppData\Local\Temp\9e77927c8f86bbbe22ea82f4</user>
3 / 60	Office Open XML Document	off.doc
45 / 65	Office Open XIM Desument	
36 / 61	Office Open XI	HOTEL RESERVATION WITH GUARANTEE

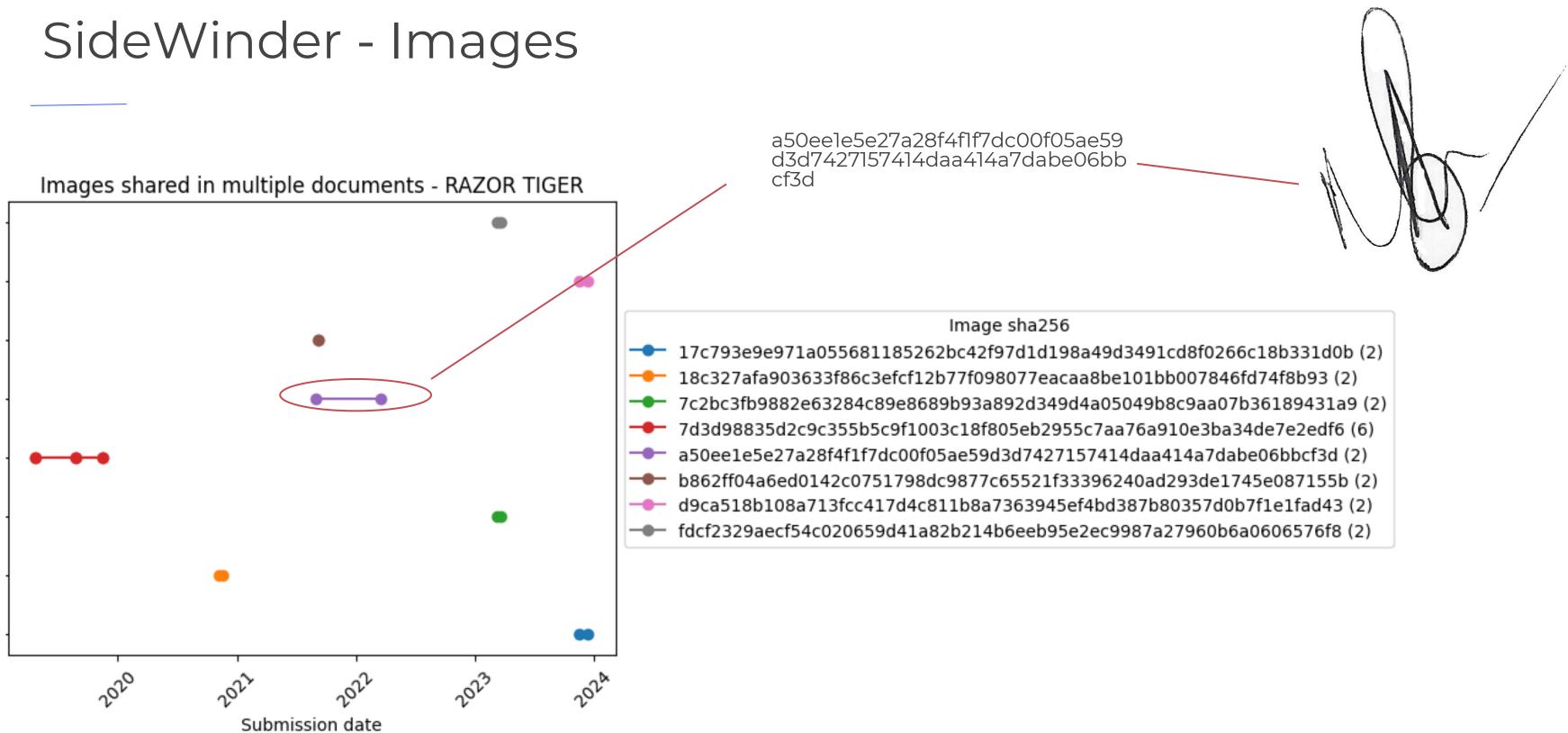
ets	Но	sp	ita
ent	s T	⁻ hr	ea

Resources

Office Open XI

Office Open XI

Hotel name :			
Guest name :			
Guest nationality :			
RESERVATION INFO:			
Number of guests :			
Number of rooms :			
Room Type:			
Check in date :			
Check out date :			
Credit Card Information			w.
Card type :			
Card number :			
Expiry date (mm/yy):			
Cardholder's name :			
Cardholder's address :			
FRONT COPY OF Y CREDIT CARD (must to be provid to the hotel)		BACK COPY C CREDIT CARD (must to b to the ho	e provided according
I agree that one night room rate in fai cancellation once reservation confirm charged for no show or early check o	ed and one nig		
Signature: (same as appears on card) (written by hand)			date:
Vour Passport Number:			
Your Email Address:			
Your Fax Number:			
Your Telephone Number			







SideWinder - Images

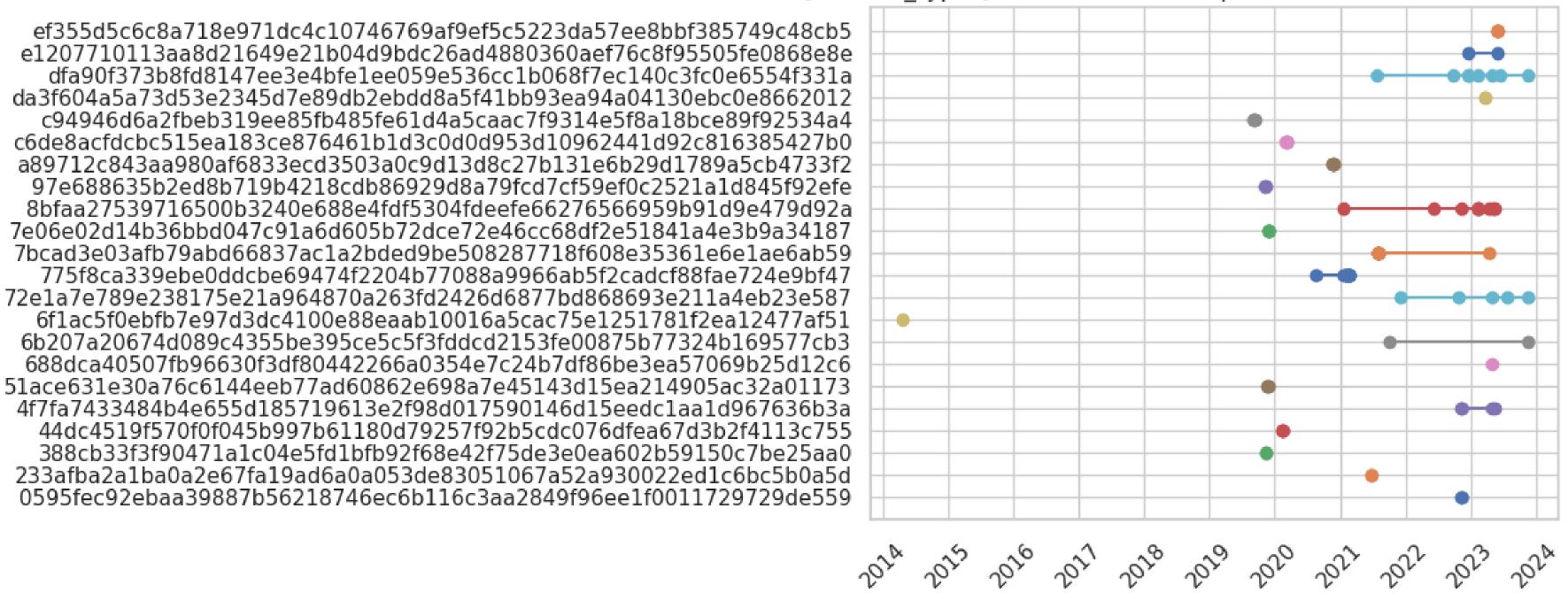
ambassadors, Strategists & reps of think tanks and NHQ reps (if desired) will be B. **Proposed Participants:** Proposed participants/ discussants will be 10 - 12 for both days invited to attend the activity. are as under: NIMA Conference Room at BUHO. Venue. 5. On day-1, participants/ discussants from Academia, Retired Armed Forces officials, retired ambassadors, Strategists and reps of think tanks will be invited to Proposed Schedule. 6 & 7 Jul 21 6. attend the activity. 2 On day-2, participants/ discussants Retired Naval Officers, selected retired ambassadors, Strategists & reps of think tanks and NHQ reps (if desired) will be invited to attend the activity. 3. Venue NIMA Conference Room at BUHO. Proposed Schedule : 20 & 21 Mar 22 4 5. Security Classification of Activity. Discussion during the focused talk will remain Security Classification of Activity. Discussion during the focused talk will remain 7. classified. Two post event reports will be generated, one each for media/ public classified. Two post event reports will be generated, one each for media/ public and and other specifically for NHQ. other specifically for NHQ. Requirement from NHQ. NHQ points of view regarding desired end state of the 6. 8. Requirement from NHQ. NHQ points of view regarding desired end state of the activity is requested. In addition, to carry out meaningful discussion and to reach activity is requested. In addition, to carry out meaningful discussion and to reach at at logical deductions/ conclusions, it is requested that exact/ realistic on ground logical deductions/ conclusions, it is requested that exact/ realistic on ground situation with respect to topic. If forwarding of written information is not considered situation with respect to US-Pak relation (including US demands from Pakistan appropriate, undersigned may visit NHQ for guidance/ briefing on the subject. during and post withdrawal from Afghanistan) in contemporary scenario may be shared with NIMA. If forwarding of written information is not considered appropriate, undersigned may visit NHQ for guidance/ briefing on the subject. 2022 sample 2021 sample BABER BILAT HAIDER SI(M) Commodore (Retd) Director



https://www.researchgate.net/profile/Baber

Baber Bilal Haider Bahria University BU · international relations
About Network
About
Introduction
Skills and Expertise (International Relations Theory) (International Politics) (International Security)
International Cooperation Security Studies Peace & Conflict Studies Geopolitics Diplomacy Haid Glibbal Governance and Regional) (Global Governance)

Gamaredon - [Content_Types].xml



Google Cloud

Types].xml

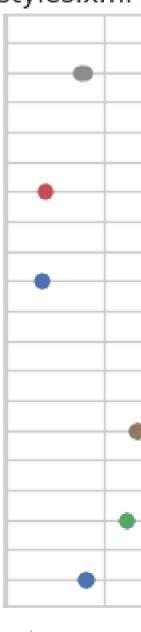
[Content

[Content_Types].xml shared in multiple documents - Gamaredon Group





Gamaredon - styles.xml



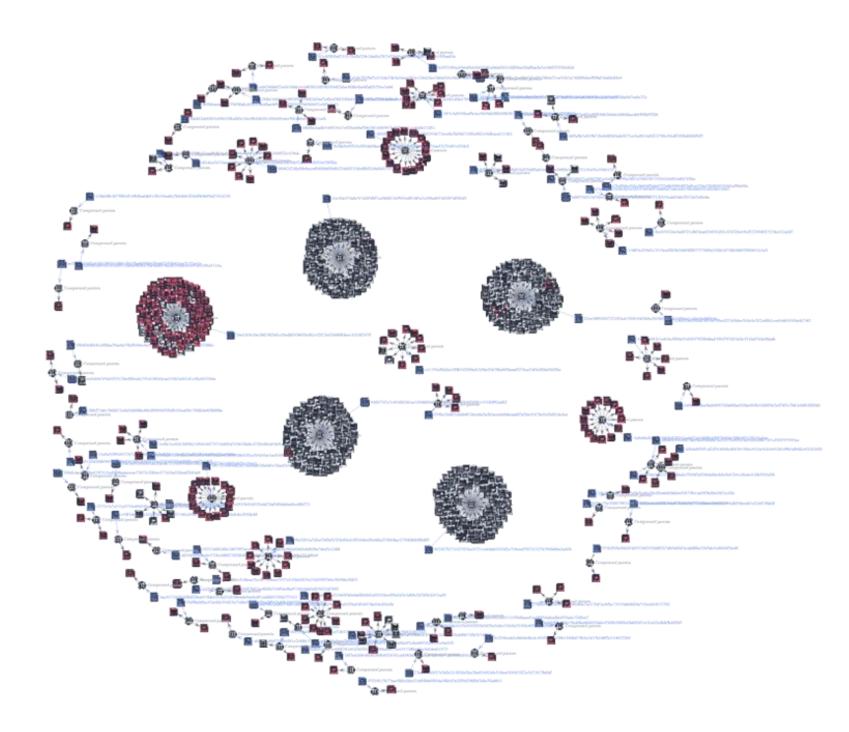
fdab82de6093e50b430bafd3c10a4fb46d4b1465a89cdce901ae6a56d75b1aeb f79be7dd67c8dddf13dce6a2a4b5aca5a9abcaa6f7a26e55478c9e3bf51dc4ec f5f06b4070c61248bf15c075d09ab7a6c26ec06f6b1ecf5a22143d35c5568132 d2bc4e1a86b0300469243bfc1df1c5552b82d523c6d7faf369abdaa8ecdfb273 c2060bde81513f4ed4cdbe1a7550d0f7879b893a28b729edf06710b327af4e1a baed7e3366ebfe5e37b4258303d4676c3cbc135e9a75450c693a0b8dfddf1db7 b3f723f5ac59de6b4c0d10df1a0ddd30150099ee58af0ac0a7a10d0270764836 897627b774427028a4527c1ab6ab553562e716eeaf702413276796fa06a3a84b 81e40980a8333135edb22fe1dad8c7b7107665cada44dd84d2b4d1d1f49aa04e 64b6e0f3f31d24918909cdf4285708e5434c9185e91051f9b3df580c83303500 59df7787c7cf5408481ae149660858d3af765a0c2cd63d6309b151380f92adb2 489824240e0fefccccf98f48699d9421660721fc6f0d24fa5b015393584db88b 407c3a0359aa9b4ce365fafcf00d5fb9874e8a3f6da29ed92645eadc277f920c 3ff2337e0f56626218e8a6526a8d5e78aa53eb6e88ce666b15e02c9712ece220 3ed464652c1cd18c5036e5163557920b6bad1984797d34e0e4344a934dcfdaab 2ed78dc9f0b4216892d5ebd0b8684d9352fee409a3d2e4d0fc2d762b4457eaf3 2de1fc9c48c4b0190361c49cdb053fd39cf81e32f12c82d08f88aec34358257f 28fa1364fa13a082f1a159883d2ad7cfbed2b0350bd10e2c13b8ce0b016a6ecd 14605a329d3c7519ca4008b36d0fd007727660a330d1d736b56b92080843c3a9

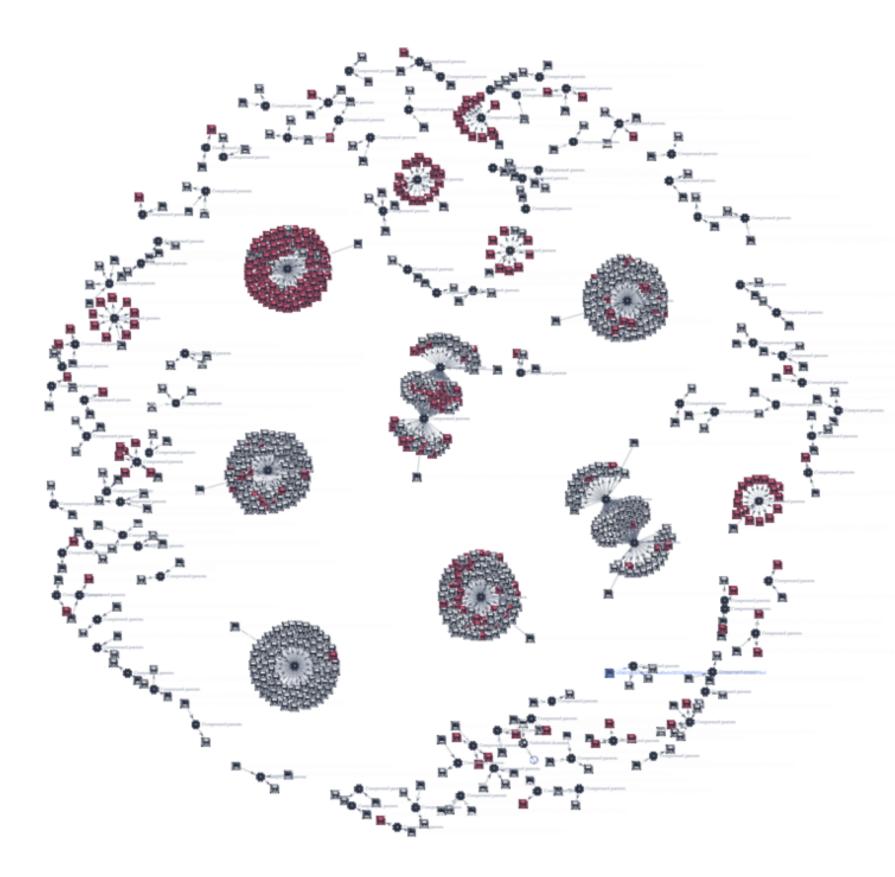


styles.xml

styles.xml shared in multiple documents - Gamaredon Group ٠ 0-0 2022.02 2022-07 2029.01 2020.02 2020.01 Submission date **VirusTotal**

Gamaredon - styles.xml

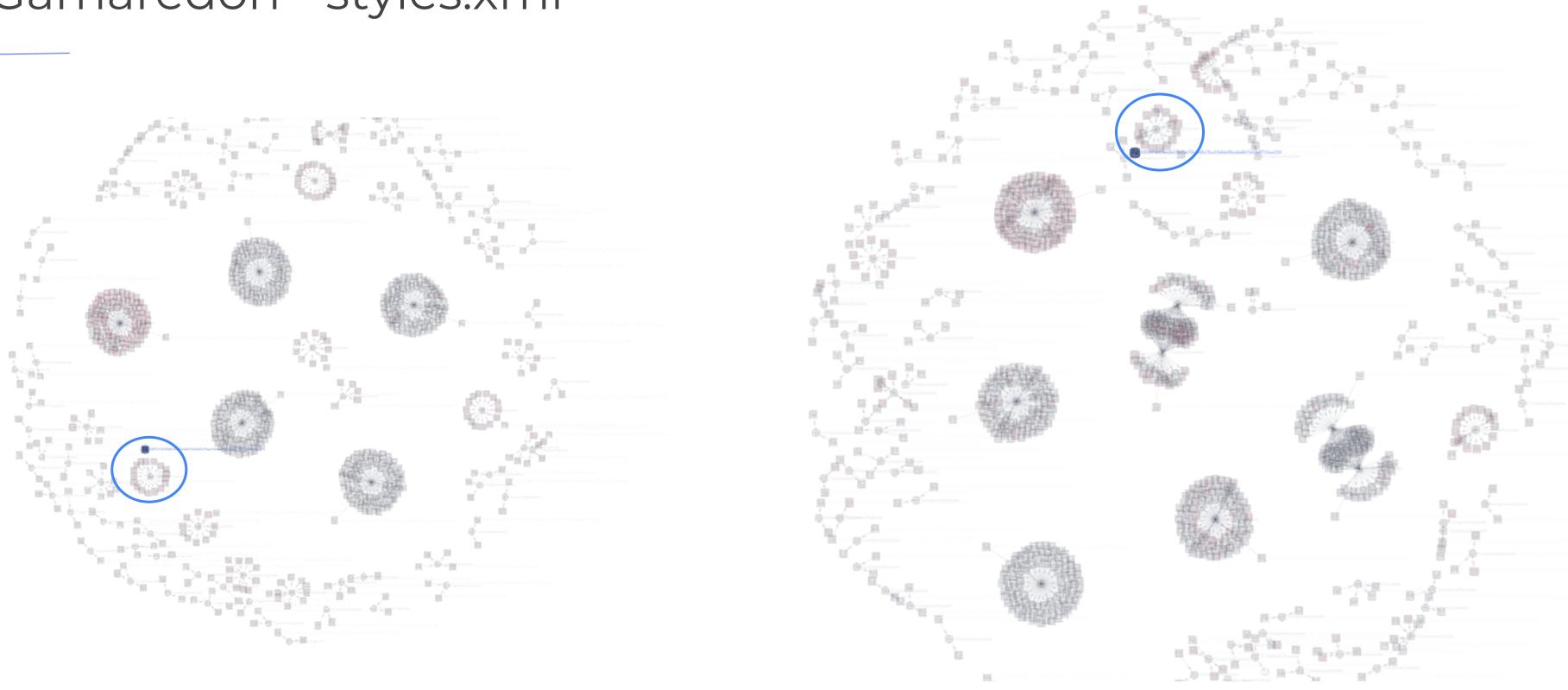






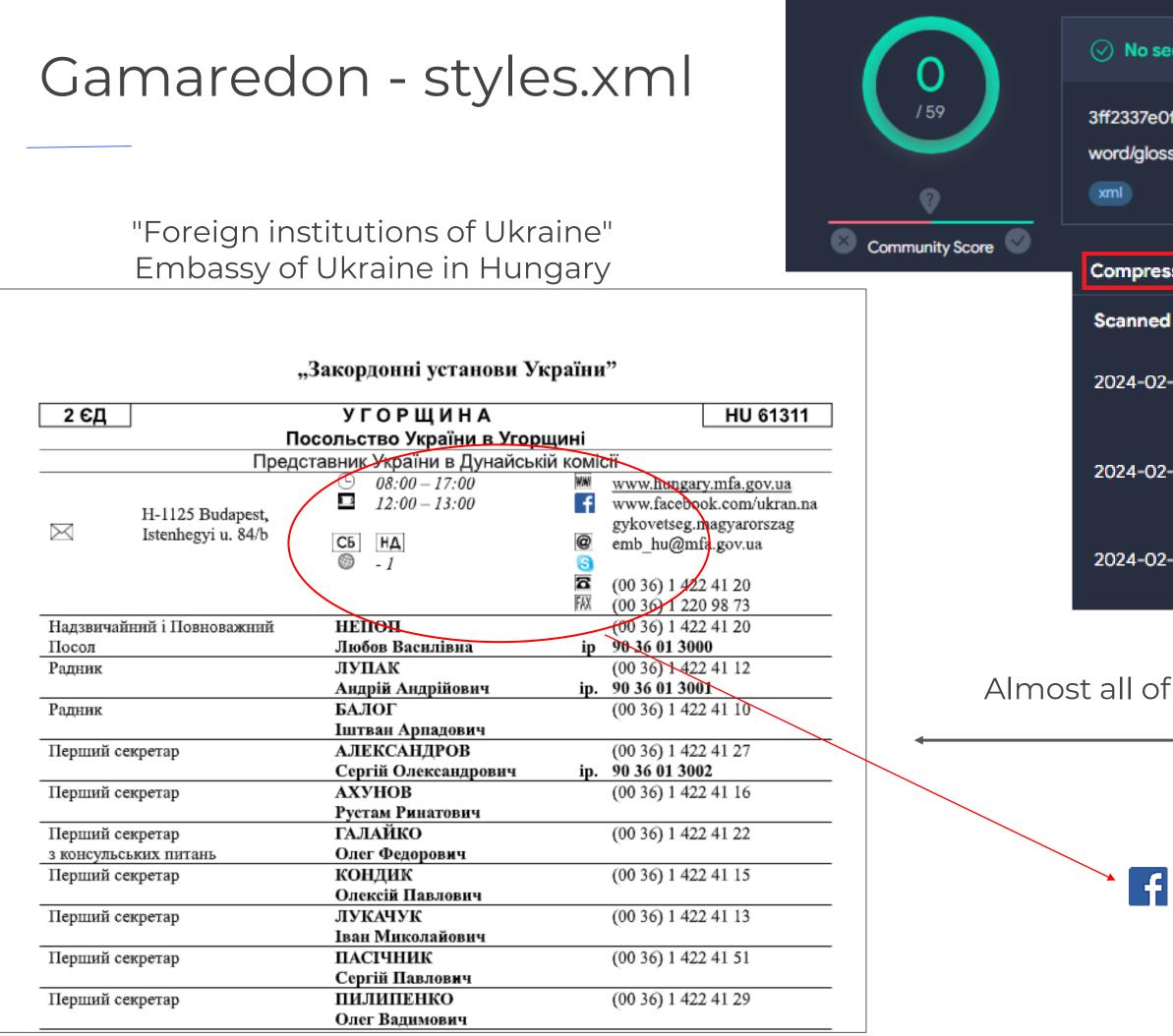


Gamaredon - styles.xml





VirusTotal



No security vendors and no sandboxes flagged this file as malicious

3ff2337e0f56626218e8a6526a8d5e78aa53eb6e88ce666b15e02c9712ece220 word/glossary/styles.xml

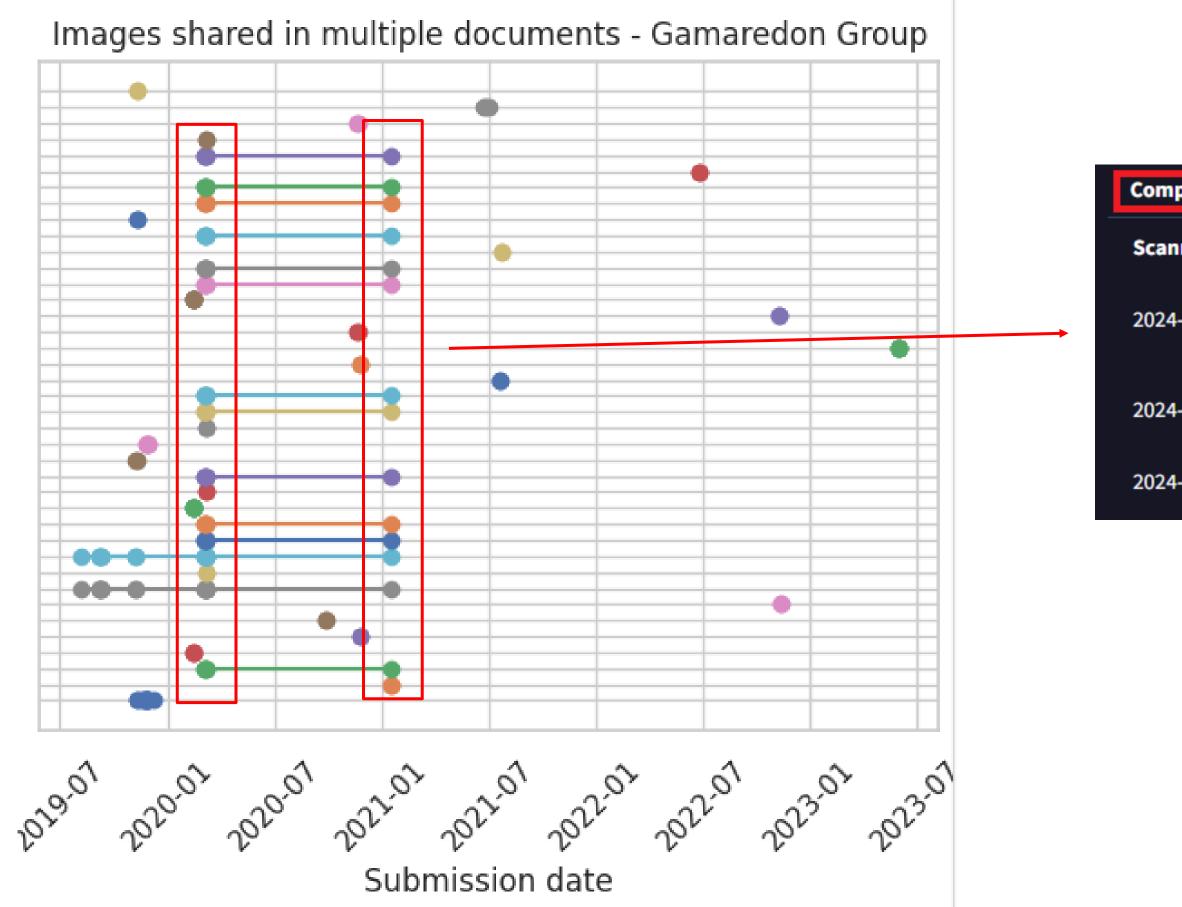
pressed Parents (17) ①			
ined	Detections	Туре	
-02-20	28 / 63	Office Open XML Document	
-02-20	36 / 64	Office Open XML Document	
-02-10	37 / 63	Office Open XML Document	

Almost all of them were like this



Sample

Gamaredon – from styles to images

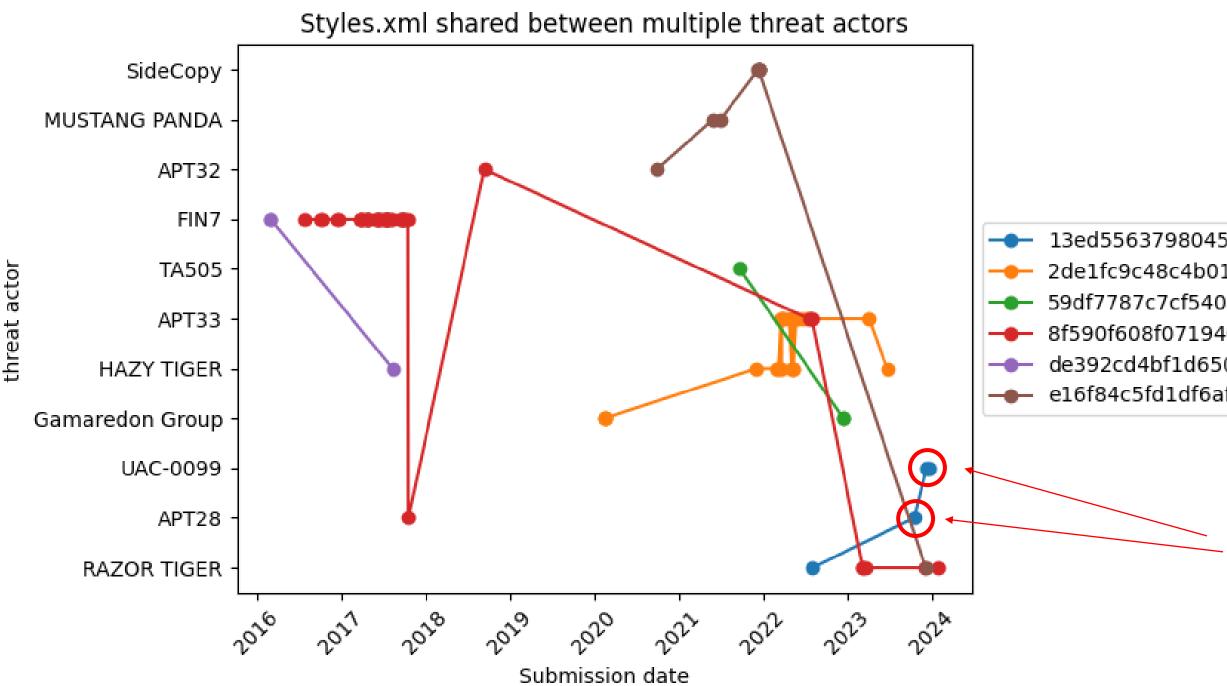




pressed Parents (12) 🛈			
ined	Detections	Туре	
-03-26	36 / 62	Office Open XML Document	
-02-23	31 / 62	Office Open XML Document	
-02-23	21 / 48	Office Open XML Document	



Styles.xml shared between threat actors





13ed55637980452662cb6838a2931a5e54fbed5881bcbae368b3d189d3a01930 2de1fc9c48c4b0190361c49cdb053fd39cf81e32f12c82d08f88aec34358257f 59df7787c7cf5408481ae149660858d3af765a0c2cd63d6309b151380f92adb2 8f590f608f0719404a1731bb70a6ce2db420fd61e5a387d5b3091d47c7e21ac9 de392cd4bf1d650a9cf8c6d24e05e0605bf4eaf1518710f0307d8aceb9e5496c e16f84c5fd1df6af1a1f2049f7862f4ea460765863476afb17e78edee772d35b



An interesting case

BSYD Teknik Şartname Formu Zeyilname

Teknik şartnamenin 3.19 maddesinde aşağıda verilen maddeler değiştirilmiştir.;

"Çözüm fiziksel sunucu üzerine kurulabilmelidir.Kurulumu yapılacak fiziksel sunucular, x varlık sayısını desteklemeli ve üreticinin kurulum dökümanlarında belirtilen x çekirdek, x GB RAM, x GB SSD disk gibi özellikler baz alınarak teklif edilmelidir" maddesi,

"Çözüm fiziksel sunucu üzerine kurulabilmelidir. Kurulumu yapılacak fiziksel sunucular, 1000 varlık sayısını desteklemelidir. İhtiyaç halinde 10000 varlığa kadar artırılabilmelidir. Üreticinin kurulum dokümanlarında belirtilen 32 çekirdek, 64 GB RAM, 3*960 GB SSD disk gibi özellikler baz alınarak teklif edilmelidir. Fiziksel sunucularda üretici bakımlarının en az 5 yıl olacak şekilde teklif verilmelidir." şeklinde değişmiştir.

 "Çözümün kurulacağı fiziksel sunucu üzerinde en az 8 x 1 G bakır ve 2 X 10 G SFP+ ağ arayüz kartı bulunmalıdır" maddesi,

"Çözümün kurulacağı fiziksel sunucu üzerinde en az 2 adet 4 x 1 G bakır ve 2 adet 2x10 G SFP+ ağ arayüz kartı bulunmalıdır." şeklinde değişmiştir.

 "Çözümün kurulacağı sunucu üzerinde en az 2 adet güç kaynağı bulunmaldır." maddesi.

Reported by IBM X-Force & TrendMicro

Судова повістка про виклик до суду в справі цивільній, адміністративній, про адміністративне правопорушення, іншій (потрібне підкреслити) Дата документу 05.12.2023 Справа № 623-6341-11		Судова повістка про виклик до суду в справі цивільній, адміністративній, про адміністративне правопорушення, іншій (потрібне підкреслити) Дата документу 28.11.2023 Справа № 623-6341-11	
Франківський районний суд м.Львова	Кому : Гіленко В.А. 28.11.1968 р.н.	Франківський районний суд м.Львова	Кому : Гіленко В.А. 28.11.1968 р.н.
(найменування суду)	Місцезнаходження/ місце проживання:	(найменування суду)	Місцезнаходження/ місце проживання:
викликає Вас як: заявник	Стрийська, 88 ,Львів ,79026	викликає Вас як: заявник	Стрийська, 88 ,Львів ,79026
на 13:00 год 15.12.2023 р.	 Додатково просимо подати такі документи:	на 13:00 год. 05.12.2023 р.	Додатково просимо подати такі документи:
у справі про оголошення фізичної особи померлою		у справі про оголошення фізичної особи померлою	
Місцезнаходження суду:	-	Місцезнаходження суду:	
м. Львів, вул. Генерала Чупринки, 69,		м. Львів, вул. Генерала Чупринки, 69,	
Суддя: Г. П. Шевченко		Суддя: Г. П. Шевченко	
(підпис, ініціали, прізвище)		(підпис, ініціали, прізвище)	

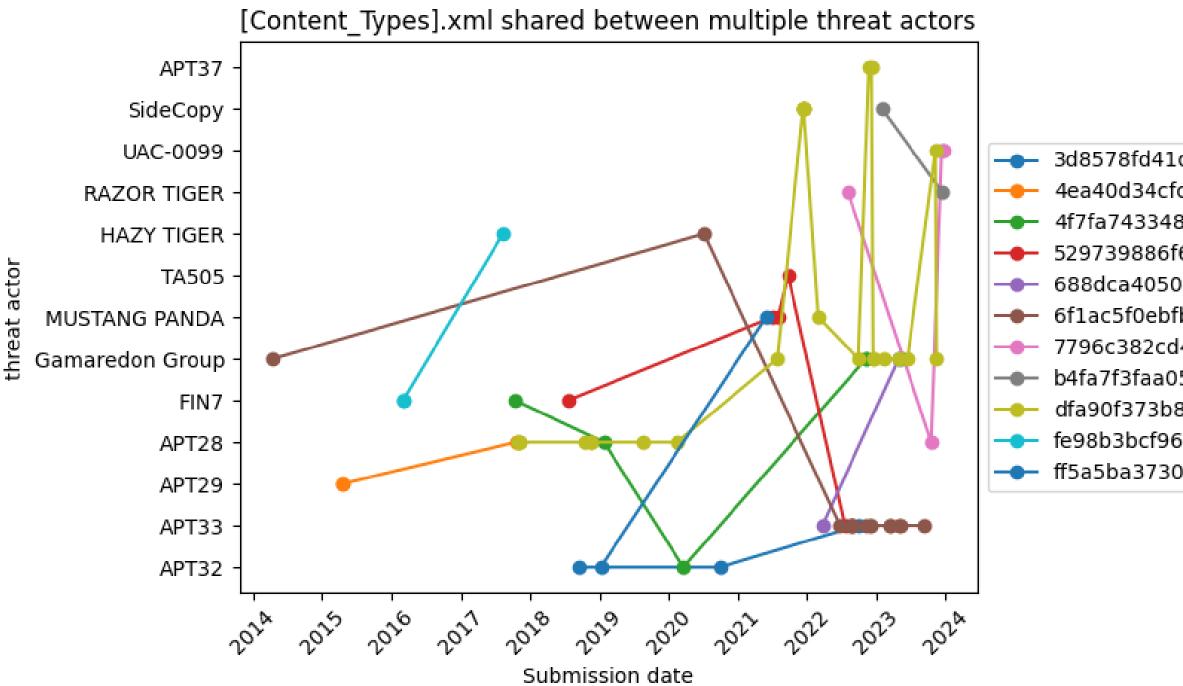
These three files have the same [Content_Types].xml and styles.xml



Reported by deepinstinct



[Content_Types].xml shared between threat actors





3d8578fd41d766740a1f1ddef972a081436a2d70ab1e9552a861e58d8bbf5321 4ea40d34cfcaf69aa35b405c575c7b87e35c72246f04d2d0c5f381bc50fc8b3d 4f7fa7433484b4e655d185719613e2f98d017590146d15eedc1aa1d967636b3a 529739886f6402a9cd5a8064ece73eef19c597ef35c0bc8d09390e8b4de9041b 688dca40507fb96630f3df80442266a0354e7c24b7df86be3ea57069b25d12c6 6f1ac5f0ebfb7e97d3dc4100e88eaab10016a5cac75e1251781f2ea12477af51 7796c382cd4c7c4ae3bcf2eed4091fbb20a2563ca88f2aecadb950ad9cf661f8 b4fa7f3faa0510e4d969219bceec2a90e8a48ff28e060db3cdd37ce935c3779c dfa90f373b8fd8147ee3e4bfe1ee059e536cc1b068f7ec140c3fc0e6554f331a fe98b3bcf96f9c396eb9193f0f9484ef01d3017257300cc76098854b1f103b69 ff5a5ba3730a8d2ec0cbad39e5edf4ad502107bd0ef8a5347f29262b3dfe8a43



Applying Al Gemini

id: eeedb710a58783bc790a4251db4d11e9efc7298ae4a81cb1fefbff6071cb3608	
<pre>id: 12dc492bcd1ecce31326b7e1b0a1b7c8b9236b8735e0b691df4bd765d696d7a7 response: [Ukrainian State Border Guard Service]</pre>	
id: dde5c64671da502aaf82e33649385e443731f0f67de8d34a73a0c2282af3b1d3	
response: [National Health Commission of the People's Republic of China]
id: c0d57fbbb1221e270d8b80eacc9040df9f2c0577959d67034afe52119298e8a3 response: [नेपाल सरकार, निर्वाचन आयोग]	









中华人民共和国国家卫生健康委员会

National Health Commission of the People's Republic of China



(६) बैदेशिक भ्रमणको मनोनयनको जानकारी सम्बन्धित सरकारी पदाधिकारीको अभिलेख राखे निकायलाई दिनु पर्नेछ । वैदेशिक भ्रमणको अभिलेखलाई सम्बन्धित निकायले अद्यावधिक गर्नु पर्नेछ ।

(७) वैदेशिक भ्रमणमा गएका सरकारी पदाधिकारीहरूको विवरण सम्बन्धित मन्त्रालय वा निकायको वेवसाइटमा समेत राखु पर्नेछ ।

(८) वैदेशिक भ्रमणमा मनोनयन भइसकेपछि मनासिव कारण बाहेक भ्रमणमा नजाने सरकारी पदाधिकारीलाई कम्तीमा दुई वर्षसम्म वैदेशिक भ्रमणका लागि मनोनयन गरिने छैन ।

(९) व्यक्ति विशेष किटान गरेर प्राप्त हुने निमन्त्रणा उपर मनोनयनको कारबाही गरिने छैन ।

तर संस्थागत प्रयोजनको लागि वा सम्बन्धित विषय हेर्ने जिम्मेवारी भएको वा सम्पर्क बिन्दु (फोकल प्वाइन्ट) भएको कारणले सम्बोधन गरी आएका संस्थागत निमन्त्रणा उपर मनोनयनको कारबाही गर्न सकिनेछ ।

 वैदेशिक भ्रमणको सिफारिश तथा मनोनयनः :(१) प्रत्येक मन्त्रालय वा निकायमा वैदेशिक भ्रमणमा जाने राजपत्रांकित द्वितीय श्रेणी वा सो सरहसम्मका सरकारी पदाधिकारीको मनोनयनको लागि देहाय बमोजिमको सिफारिश समिति रहनेछ :

(क)	प्रशासन महाशाखा प्रमुख	संयोजक
(ख)	अन्य महाशाखा प्रमुखहरु	सदस्य
(ग)	प्रशासन शाखा प्रमुख	सदस्य सचि



Applying AI Gemini

id: 88bb63ad01a8b1e1307e8db045b0242a060fa8df00a1530410b207c09bdb2f56
<pre>response: [citi, deutsche bank, mastercard, visa]</pre>
id: 5aceb0afa9def9efacfa9e7ccc6a4639b78292a1881580caa349504a49274d3d 🧹
response: [Google]
id: 9c99ec61392b9022a38c1354124360147e8185065095bd2ec92b1416cf9f4b68
<pre>id: 9c99ec61392b9022a38c1354124360147e8185065095bd2ec92b1416cf9f4b68 response: [Pepsi, Sprite]</pre>
response: [Pepsi, Sprite]







Enable Editing



Dhash? Not at all

main_icon_dhash:cc692b2b1517cc2b

	Detections	Size	First seen	Last seen	Submitters	
8C51A942974DF5E79355129200E0583FB7E6374C7D82DB3E5BCEC6151DD7D308	0 / 60	670 B	2023-09-15 09:48:55	2024-02-12 10:30:35	2	
<pre>0B6F83A2909E6F6DC94D42E129F1EF0E98FB75C47B8CE6E4CB15A65598CCEB79</pre>	0 / 60	330 B	2023-09-15 09:50:57	2024-02-12 10:34:28	2	
67ED647D2939C2044F55DB1B4A9EF2211F56C38511F3B4208E27BAFCED7069D9	0 / 59	911 B	2023-09-15 09:51:35	2023-09-15 09:51:35	1	
532B4FF7FD42FFEC469C18F77D82814AB1DBC988858D1E0A573BE43DD2883A9A	0 / 60	666 B	2023-09-15 09:52:27	2024-02-12 10:33:47	2	
4F494A5FF339BDB9A8D331EF3C81710AF48EB7AD528E006E028B2FFB531C0B43	0 / 59	341 B	2023-09-15 09:55:43	2024-02-12 10:28:43	2	

main_icon_dhash:c869696949550f0f







ITW examples - PDF

Blind Eagle

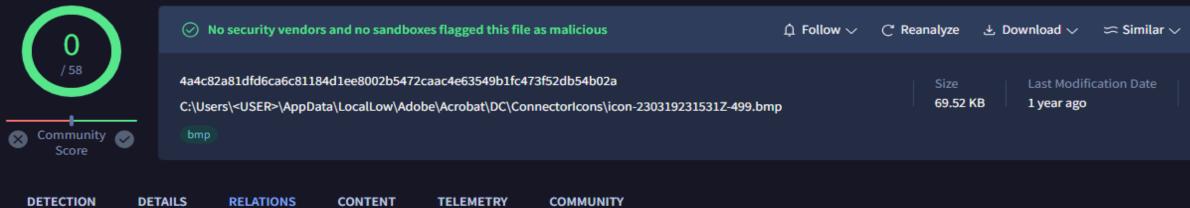
	$(!)$ 1/59 security vendor and no sandboxes flagged this file as malicious $(!)$ Follow \lor C Reanaly.	e . Łí	Download 🗸	∽ Simila	ar \checkmark More \checkmark	-							
/ 59	c6da79c508d2e91046f949ae99ba9eb7cbd7e363a8581f7292691c7e33827e09 Size Citacion73295R22cd2451a691901c6a5420.pdf 69.25 KB	_	t ion73295R22 it View Sign		0 1901c6a5420.pd Help	df - Adobe A	scrobat Reader	(32-bit)				_	. <u>8 ×</u>
Community Score	pdf runtime-modules detect-debug-environment checks-network-adapters long-sleeps direct-cpu-clock-access checks-user-input	Hom	ne Tools	s (Citacion73295R	R22c ×					?	Sign	In
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DFIR TIP			A	A continuación,	podrá descargar su ci	itación				E	Edit PDF 오		
lf you are	in an incident response where PDF files were				alia.gov.co/colombia// su citación : 2023	/cd2451a69190	1c6a5420/Citaci n	73295.R22		Po 🤇	Create PDF	~	,
	nd opened by Adobe, remember that you			F		DNERAL DE LA NACIÓN	siawas			P (Comment		
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		// Starl	t <i>(</i>) 🔘	~						* ()) (2 📼





Blind Eagle

Dropped Files (42) 🕕			
Scanned	Detections	File type	Name
v 2023-02-23	0 / 58	DOS COM	C:\Users\user\AppData\LocalLow\A
✓ 2024-03-15	0 / 61	ZIP	C:\Users\ <user>\AppData\Local\Te</user>
v 2023-03-01	0 / 59	DOS COM	C:\Users\user\AppData\LocalLow\A
v 2023-03-01	0 / 59	Text	C:\Users\user\AppData\Local\Adob
v 2023-09-14	0 / 59	JSON	102/Google/Chrome/User Data/Swl
v 2023-09-14	0 / 59	Text	102/Google/Chrome/User Data/Swl
✓ 2023-02-23	0 / 59	DOS COM	C:\Users\user\AppData\LocalLow\A
✓ 2023-02-22	0 / 58	ВМР	C:\Users\ <user>\AppData\LocalLo</user>
v 2023-02-23	0 / 59	Text	C:\Users\user\AppData\Local\Adob
v 2024-02-16	0 / 72	Win32 EXE	c:\users\AliArbia\AppData\Local\Go
			••••



RELATIONS CONTENT TELEMETRY

COMMUNITY

Execution Parents (6) ①

Scanned	Detections	Туре	Name
2023-04-20	14 / 60	PDF	Citacion73295R22cd2451a691901c6a5420.pdf
2023-03-09	0 / 59	PDF	Citacion73295R22cd2451a691901c6a5420 (1).pdf
2024-03-15	21 / 61	PDF	Citacion73295R22cd2451a691901c6a5420.pdf
2023-03-09	1 / 59	PDF	Citacion73295R22cd2451a691901c6a5420.pdf
2023-10-13	1 / 59	PDF	Citacion73295R22cd2451a691901c6a5420.pdf
2023-03-26	1 / 54	PDF	Citacion73295R22cd2451a691901c6a5420.pdf

- \Adobe\AcroCef\DC\Acrobat\Cache\Code Cache\js\index-dir\temp-index
- Temp\A9102w9zo_1glgy9e_20g.tmp
- Adobe\AcroCef\DC\Acrobat\Cache\Code Cache\js\index-dir\temp-index
- bbe\Acrobat\DC\SOPHIA\Reader\SOPHIA.json
- vReporter/107.294.200/manifest.json
- vReporter/107.294.200/manifest.fingerprint
- Adobe\AcroCef\DC\Acrobat\Cache\Code Cache\js\index-dir\temp-index
- ow\Adobe\Acrobat\DC\ConnectorIcons\icon-230319231531Z-499.bmp
- be\Acrobat\DC\SOPHIA\Reader\SOPHIA.json
- Google\Chrome\User Data\SwReporter\107.294.200\software_reporter_tool.exe





Blind Eagle – Other artifacts, similar logic

Execution Parents (47) ①

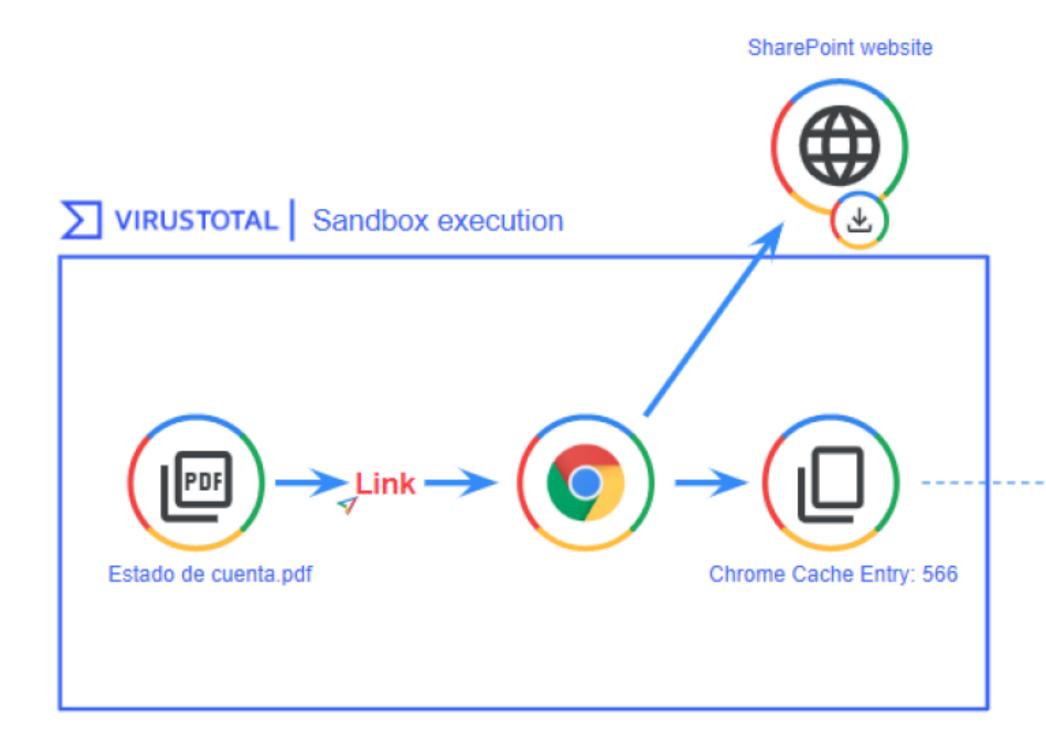
				Research Control of Co										
				Scanned	Detections	Туре	Name							
0 () 8/60 security v	() 8/60 security vendors	s and 1 sandbox flagged this	s file as malicious 🌼 🇘 Follow 🗸 C Rea	2024-02-25	8 / 60	PDF	Estado de cuenta.pdf							
8			2023-12-18	22 / 61	PDF	05184813ce52dd1d86d808e444e87f1e1ac6e0bf34460208b52852b963b86607.pdf								
/ 60	01057137f7f15371f4981e5a34928023a9aa656c5c676a4a9272cee38a905618 Size Estado de cuenta.pdf 71.30 KB				01057137f7f15371f4981e5a34928023a9aa656c5c676a4a9272cee38a905618									
					2023-10-09 0 / 63 Office Open XML Document /wp-content/uploads/2023/10/96-Con-DIAN-1245-2023-Tiguetes-de-transporte-aereo-a-San-Andres-exclu									
					0 / 61	PDF	120249300100270781_00001.pdf							
Community	pdf runtime-modules	detect-debug-environment	checks-network-adapters attachment checks-user-input direct-cpu-clock-acce	2024-03-21	0 / 61	PDF	4-Ensayo-Depositos-Judiciales.pdf							
Score				2024-01-16	0 / 59	PDF	37. FONDO DE EMPLEADOS ENERGIFONDO.pdf							
				2023-11-03	0 / 61	PDF	Compilacion-Doctrina-Oficial-Ley-2277-2022-01112023.pdf							
Dropped Files (61) ①				2022-05-05	0 / 60	PDF	Instructivo pago PSE.pdf							
Scanned	Detections	File type	Name	2024-02-25	10 / 61	PDF	Estado de cuenta.pdf							
 2022-07-20 	0 / 58	Web Open Font Format	Chrome Cache Entry: 873	2024-03-05	0 / 60	PDF	120245900100358871_00002.pdf							
				2023-09-18	0 / 60	PDF	120233100001563851_00001.pdf							
✓ 2023-10-11	0 / 60	GZIP	NPR90W/NetRadioSmall.exe.WebView2/EBWebView/Default/Cache/Cache_Da	2022-04-20	0 / 59		DIAN MUISCA _ Catálogo de solicitudes.pdf							
v 2022-02-21	0 / 58	Text	Chrome Cache Entry: 303	2023-07-17	0 / 60	PDF	OFICIO BROEKHOF COLOMBIA SAS.pdf							
✓ 2016-08-04	0 / 55	Text	Chrome Cache Entry: 737	2023-04-26	0 / 60	PDF	DIAN ESTADO DE CUENTA NOTIFICACION DE ESTADO DE CUENTA.pdf							
				2022-04-11	0 / 62	Office Open XML Document								
v 2023-04-19	0 / 59	GZIP	Chrome Cache Entry: 1084	2022-07-22	0 / 60		RADIAN RedCapital Colombia - Proceso rápido.pdf							
v 2023-10-11	0 / 60	GZIP	NPR90W/NetRadioSmall.exe.WebView2/EBWebView/Default/Cache/Cache_Da	2024-02-25	7/61		Estado de cuenta.pdf							
✓ 2023-04-13	0 / 59	GZIP	Chrome Cache Entry: 1381	2024-02-28	0 / 59	PDF	OFICIO_2296.pdf							
			·	2024-03-07	0 / 60	PDF	72b07b424932650691395604ca78c4e484abd9f531a08271c9b17645c46d176d	1						
✓ 2022-07-18	0 / 58	GZIP	C:\Users\user\AppData\Local\Programs\DigiParts EPC\Epc_app.exe.WebView2	2022-02-16 2024-02-25	5/61 10/61	PDF PDF	dian.pdf Estado de cuenta.pdf							
✓ 2023-08-30	0 / 59	GZIP	Chrome Cache Entry: 932	2022-07-11	16 / 60	PDF	f4dc4c3684186766b76d43a9e7bfa10427177195f5d84c75a81d9b5b0887fe8a.dian.pdf							
✓ 2023-08-09	0 / 59	Web Open Font Format	monee/dist/fonts/work-sans-v5-latin-regular.woff2	2022-03-10	7 / 58	PDF	dian.pdf							
				2024-02-25	8 / 61		Estado de cuenta.pdf							
✓ 2022-02-21	0 / 58	Text	Chrome Cache Entry: 283	2022-03-03										
v 2023-10-11	0 / 54	GZIP	NPR90W/NetRadioSmall.exe.WebView2/EBWebView/Default/Cache/Cache_Da	2024-02-25		⊘ File distributed by Microsoft	🗘 Follow 🗸 - 🔿 Reanalyze	\pm Download \checkmark $ ightarrow$ Similar \checkmark More \checkmark						
v 2019-06-12	0 / 56	C++	Chrome Cache Entry: 566	2023-10-03	0									
				2022-07-18	/ 56	3bd83d569bd286dea7d907741cc2deb1	73f705eb347f81be084528b864174b53 S	ize Last Modification Date C++						
				2023-08-01		CUSTOMSTRINGS.JS_3082	4	16 B 1 month ago CPP						
				Con	nmunity	cpp trusted known-distributor								
					Score									
				DETE	CTION DETAIL	LS RELATIONS CONTENT	TELEMETRY COMMUNITY							
				Strin	ngs Hex	Preview								
							adas y, a continuación, incluya estos diccionarios de cadenas en la	as plantillas para mostrar mediante						
				la f	función \$includ	leLanguageScript								



\$registerResourceDictionary("es-es", {

- "sampleCustomStringId": "Cadena personalizada de muestra",
- "rf_RefinementTitle_ManagedPropertyName": "Título de refinamiento de muestra para ManagedPropertyName"

Blind Eagle – Other artifacts, similar logic





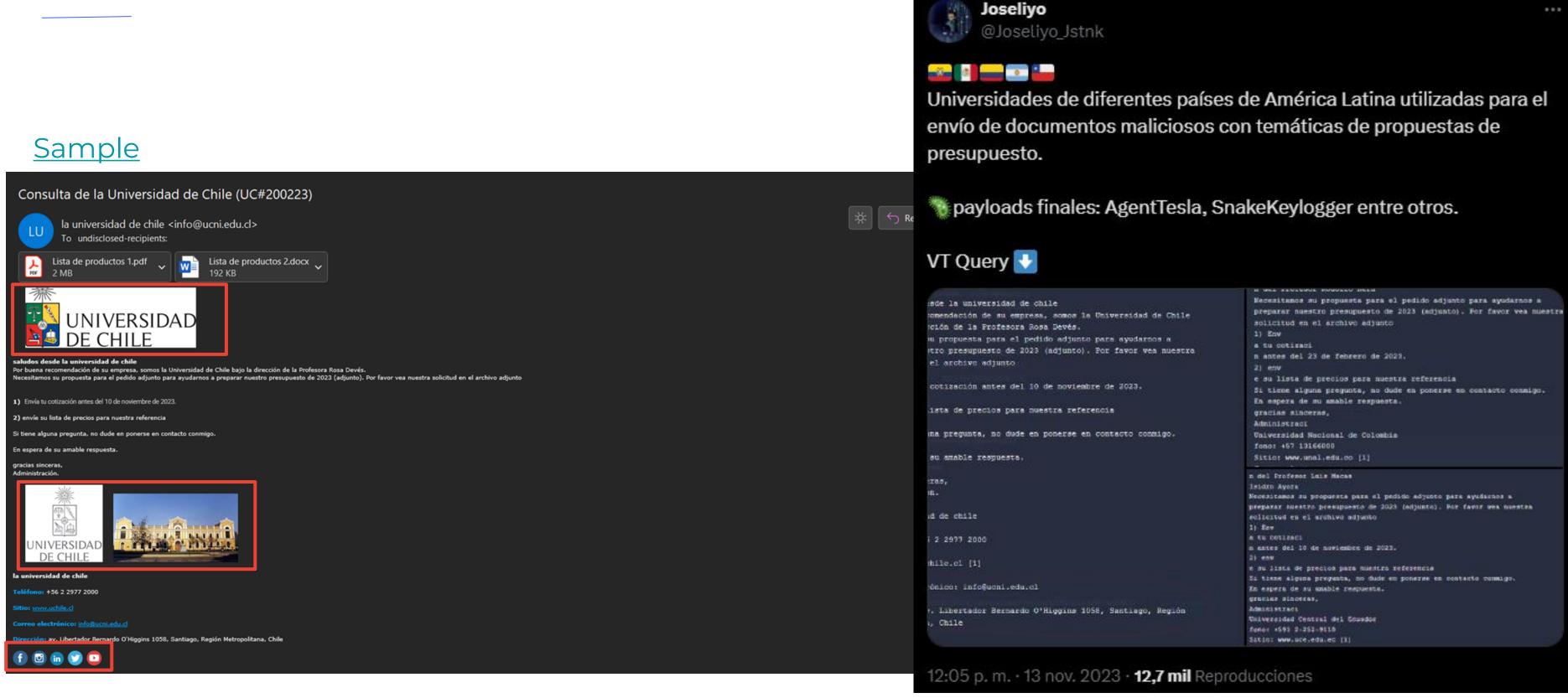
This information can be used to pivot to other files that could potentially perform ≻ similar communications.





ITW examples - Emails

Don't forget to follow us on social networks! > Fail





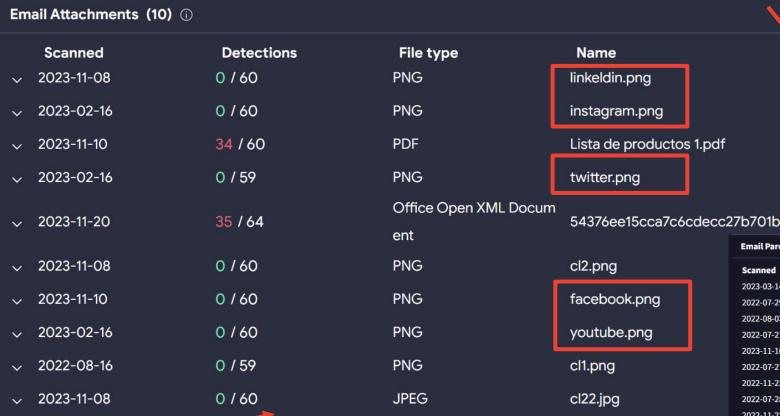




Don't forget to follow us on social networks! > Fail

Pivoting using the footer images from this campaign

Consulta de la Universidad de Chile (UC#200223)									
LU la universidad de chile <info@ucni.edu.cl> To undisclosed-recipients:</info@ucni.edu.cl>									
Lista de productos 1.pdf 2 MB Lista de productos 2.docx									
CONTRACTOR SUPPORTANT SUPPOR									
1) Envía tu cotización antes del 10 de noviembre de 2023.									
2) envíe su lista de precios para nuestra referencia									
Si tiene alguna pregunta, no dude en ponerse en contacto conmigo.									
En espera de su amable respuesta.									
gracias sinceras, Administración.									
UNIVERSIDAD DE CHILE									
la universidad de chile									
Teléfono: +56 2 2977 2000									
Sitio: <u>www.uchile.cl</u>									
Correo electrónico: info@ucni.edu.cl									
Die tiere de la Chilippine 1058, Santiago, Región Metros diuma, Chile									
(f) 🖾 🔝 💽 💽									



Images attached in the ema

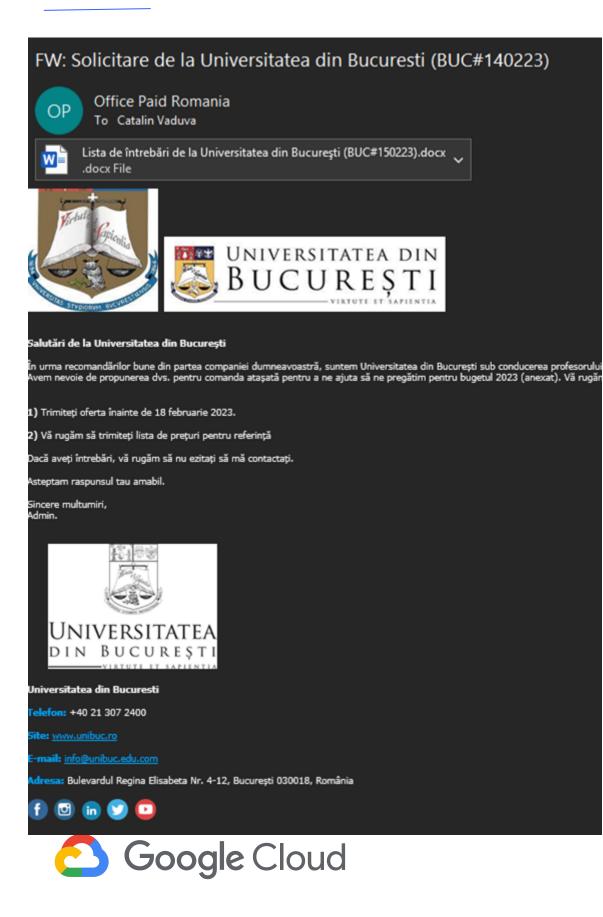


Other 33 emails with the same footer images affecting in other countries and universities

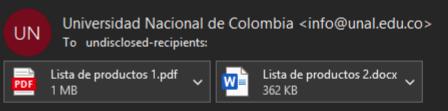
	Email Parents (33	0		
	Scanned	Detections	Туре	Name
	2023-03-14	27 / 60	Email	3yOXfEI-67450-E219181982653EE36201b4696.txt
k.png	2022-07-29	24 / 61	Outlook	FW 緊急: 詢價 (2022 年學校預算) .msg
	2022-08-03	15 / 61	Outlook	Acil Teklif Talebi (2022 okul projesi).msg
.png	2022-07-27	11 / 60	Outlook	SpamTrap 緊急: 詢價(2022 年學校預算) SpamTrap .msg
	2023-11-16	31 / 61	Email	Consulta de la Universidad Nacional de Colombia (UNAL#151123).eml
	2022-07-27	10 / 61	Outlook	緊急: 詢價 (2022 年學校預算) .msg
	2022-11-22	<mark>23</mark> / 62	Email	29d6a6f71d3c8b35cb96fa8a32c4fa01aa5b84e553edbc850501d9164795a19b
	2022-07-28	10 / 61	Email	Temp[119].eml
	2022-11-22	22 / 62	Outlook	37993bdaf1b183b4ca12d780fecc195392948dac0830ea8990953656ae2e32d2
	2023-11-15	31 / 61	Email	3yPyYxD-67450-0920E2263924CF255560053baf7.txt
	2022-07-28	17 / 61	Email	Fw緊急: 詢價 (2022年學校預算).eml
- :1	2022-11-10	24 / 59	Outlook	FW_Acil_Teklif Talebi (Koç 2022 okul projesi).msg
all	2022-11-22	25 / 62	Email	fc355b1d-6499-4694-6318-08dacbcbc24f/934cf05b-b2ee-d9b3-917d-a3fe13db330b.eml
	2023-03-12	0 / 59	Email	1843529230925574232.eml
	2023-11-09	33 / 61	Email	Consulta de la Universidad Central del Ecuador (UCE#081123).eml
	2023-11-26	29 / 60	Outlook	7dbee02ad41a4cc350590955efe3f4bc033220d0bf9927c2d10f2651216d40d0
	2023-12-03	28 / 61	Outlook	Consulta de la Universidad de Chile (UC#200223).msg



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Posible SpamI:Consulta de la Universidad Nacional de Colombia (UNAL#151123)





iludos desde la Universidad Nacional de Colombia

iguiendo la buena recomendación de su empresa, somos la Universidad Nacional de Colombia bajo la dirección del Profesor Rodolfo Hernández Suárez. Jecesitamos su propuesta para el pedido adianto para avudarnos a preparar nuestro presupuesto de 2023 fadianto. Por favor vea nuestra solicitud en el archivo adiant

Envia tu cotización antes del 17 de noviembre de 2023

2) envie su lista de precios para nuestra referencia

Si tiene alguna pregunta, no dude en ponerse en contacto conmigo

En espera de su amable res

gracias sinceras, Administración





reo electrónice: info@unal.edu.co

inección: Cra 45, Bogotá, Colombia

f 🖸 🗓 🍞 🖸

緊急: 詢價 (2022 年學校預算)



jaguar chang <jaguar.chang@ms1.hland.com.tw> To wendy yang; ella liao



項目 NTU_0027072022.docx ~ .docx File





來自台灣大學的同候

在貴公司的良好推薦下,我們是在Chi-Huey Wong的指導下的國立台灣大學, 我們需要您對所附訂單的建議,以幫助我們準備2022 年預算(附後),銷在附件中查看我們的請求

1)在 2022 年 7 月 29 日之前提交報價・

2) 續發送您的價目表供我們參考

如果您有任何問題・綺麗時與我聯繫・

等待您的善意回應・



國立合港大學

🏥 : +886 2 3466 3766

調紙:<u>www.ntu.edu.tw</u>

弊籍:_info@taiuni.edu.com

地址:台灣台北市大安區羅斯福路四段1號 10617







Conclusions and limitations

Conclusions - Limitations

We can potentially trace malicious individuals by examining evidence linked to the initial documents they use to launch their intrusions.

- Today we do not incorporate **bundled_files** into the JSON structure that can be used to create a livehunt _ rule, but it is planned to be added. Instead we can use vt_behaviour_files_dropped.sha256 for those scenarios where the files are dropped.
- In certain situations, the styles.xml and [Content_Types].xml files within office documents can provide valuable clues for identifying and tracking the same threat actor.
- The method presented here offers an alternative to traditional hunting or pivoting techniques, serving as _ a valuable addition to a team's activities.
- We are happy to hear your feedback and suggestions | https://www.virustotal.com/gui/contact-us and joselsm@virustotal.com





Thank you

Joseliyo Sánchez @Joseliyo_Jstnk joselsm@virustotal.com

virustotal.com



@Joseliyo_Jstnk

/in/joseluissm/