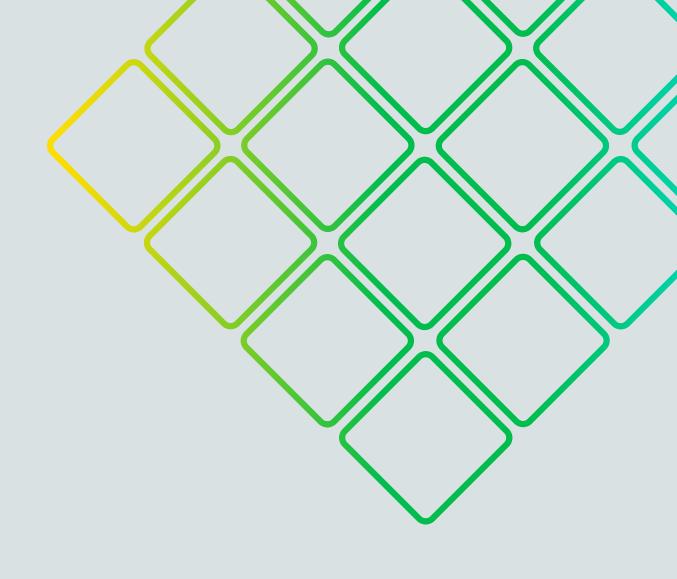


DNS ATT&CK

LOOKALIKE DOMAINS



Cosmin Vilcu Territory Account Manager cvilcu@infoblox.com Jan Rynes Solution Architect jrynes@infoblox.com

SECURE DNS LEADING VENDOR

US COMPANY 12,000+ CUSTOMERS

Gartner

"Infoblox accounting for approximately 50% of the existing installed base"





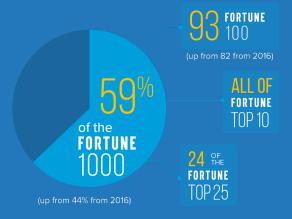




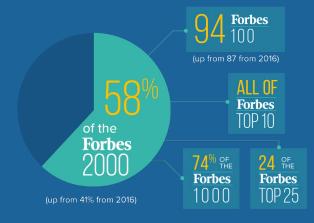
58.4 NPS

95.4 CUSTOMERS SAT.

FORTUNE 1000



Forbes 2000

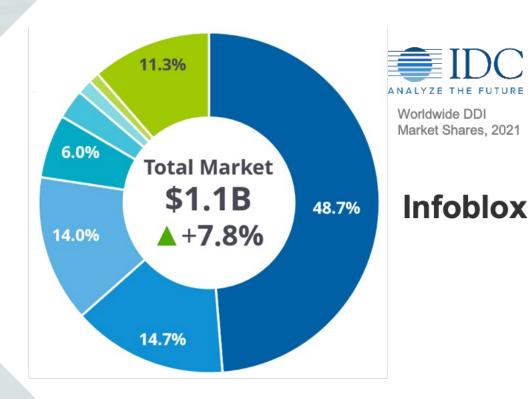


SECURE DDI LEADER

- US COMPANY WITH 20+ YEARS OF EXPERIENCE
- 12,000+ CUSTOMERS
- 93 FROM FORTUNE 100
- 350 FROM FORTUNE 500

Gartner

"Infoblox accounting for approximately 50% of the existing installed base"



MARKET LEADERS CHOOSE INFOBLOX





Lookalike Domains

- Visually similar
- Designed to trick human beings

What is similar?

• It depends.

Let's take a look!



Lookalike Domain Detection

Detects from Newly Observed Domains (NOD), domain names that try to mimic popular domains (Alexa top-100) or strategic domains for phishing (e.g. banks) and spamming.

Detects domains that overlaps and/or have homograph n-grams, e.g. letter 'O' and number 'O' are considered homographs.

Use distance analysis to detect the likelihood of lookalike attacks

SOA record is analyzed and used for catching false positives.

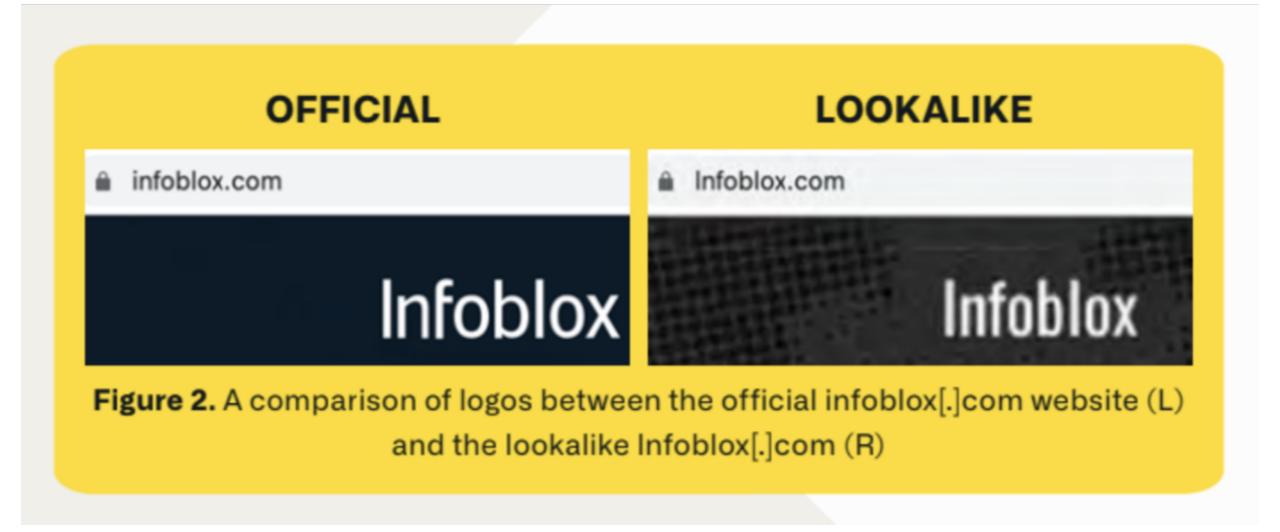
Detects

 Letter replacement, example g00gle.com, gooogle.com, bankofthevvest.com, rn1cr0soft.com



Lookalike domain techniques

TECHNIQUES TO CREATE LOOK-ALIKE DOMAIN NAMES				
TLD swap	phishlabs.tech	Omission	phshlabs.com	
Subdomains	phish.labs.com	Transposition	phsihlabs.com	
Typosquatting	phishlavs.com	Insertion	phishxlabs.com	
Hyphenation	phish-labs.com	Homoglyph	phishlaЪs.com	
Repetition	phishllabs.com	Vowel-swap	phishlebs.com	
Replacement	ph1shlabs.com	Addition	phishlabss.com	



Infoblox.com and Infoblox.com- try that at 7 point font!

Everyone is a Target! Example Infoblox.

Homograph Infoblox[.]com	Using a lowercase "L" to impersonate a capital "i" was registered in July 2022, and although it is offered for sale, the site shows in the upper left corner a rendering that is almost indistinguishable from that on our corporate website. See a comparison in Figure 2.
Typosquat infobloxbenifits[.]com	This domain was registered in China in April 2022 and is a slight typo from our employee benefits portal. This domain is currently parked with Bodis.
TLD Squat infoblox[.]info	Different top level domain, or TLD was registered in August 2022 through the highly abused registrar Sav[.]com. It is parked on dan[.]com, which allows users to sell domains.
Combosquat infobloxgrid[.]com	A combosquat lookalike to our flagship on-prem product used by thousands of customers around the world. Our patented Grid technology enables network administrators to combine diverse network applications into one single system. This domain is also available at dan[.]com and was registered in April 2022.
Combosquat infoblox-updater[.]com	An example of the technique of using common software words within the domain like "update" or "support." In this case, a customer may be deceived into connecting with a false system thinking it was related to Infoblox system updates. Names or products of technology companies are frequently leveraged for this type of combosquat domain, which might be used as a phishing domain or as malware C2. Other examples include dev[.]gitlabs[.]me and jira[.] atlas-sian[.]net, both used by the advanced persistent threat (APT) actor Iron Tiger in their SysUpdate malware. ¹⁴



Lookalike Domain Detection

paypal.com

pąypąl.com

paypal.com

Text

xn--pypl-53dc.com

xn--pypl-btac.com

paypal.com

Punycode

google.com

google.com

google.com

Text

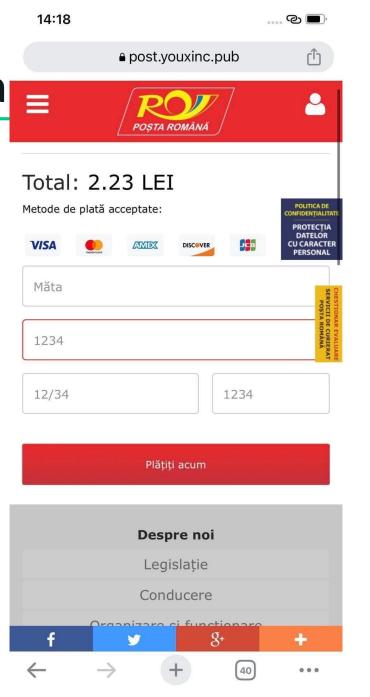
google.com

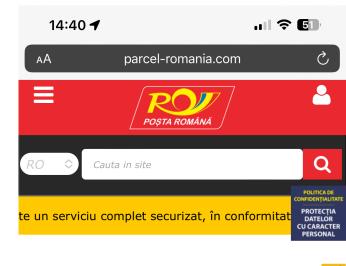
xn--ggle-Onda.com

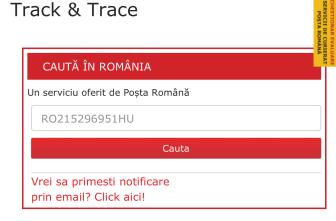
xn--ggle-55da.com

Punycode

Examples from Romania







- Poșta Română folosește un cod standard de identificare format din 13 caractere (AB123456789CD)
- Codul de urmărire utilizat de alţi operatori poate avea o structură diferită.

Scam

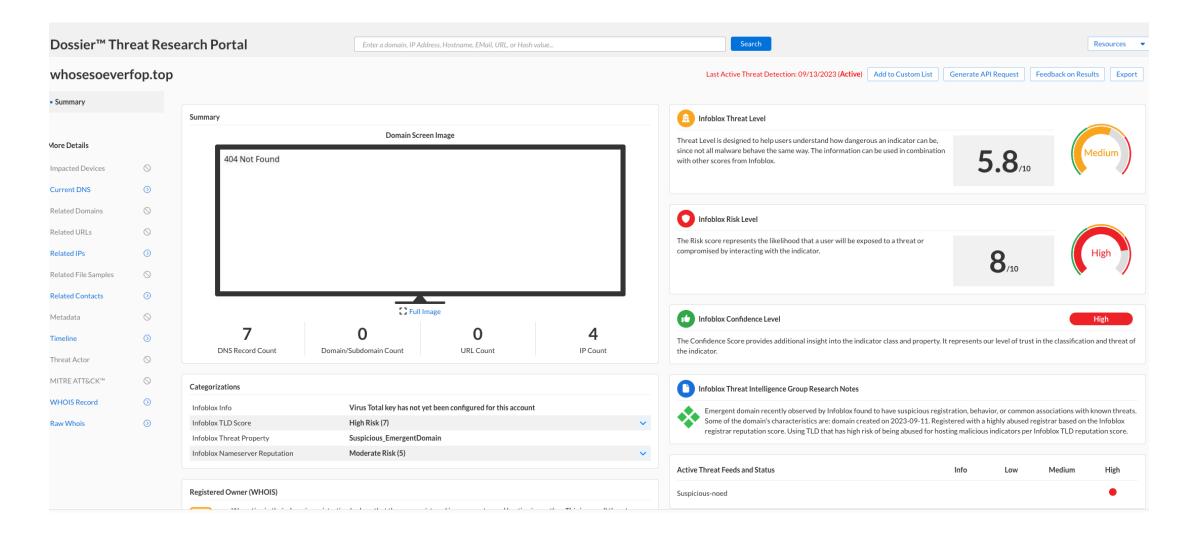
Scurte instrucțiuni despre cum să începeți să câștigați pe "RomTrading"

- Utilizați <u>link-ul</u> furnizat de Robert Turcescu.
- Alimentați-vă soldul. Depozitul minim pentru a începe programul este de 1200 de lei românești.
- In câteva minute, programul va începe tranzacțiile.
- Retragerea banilor se poate face în orice moment. Acesta este creditat în cont în 2-3 ore (în funcție de bancă).
- Până la 9/26/2023, înregistrarea conturilor va fi gratuită.

VIZITATI SITE-UL OFICIAL

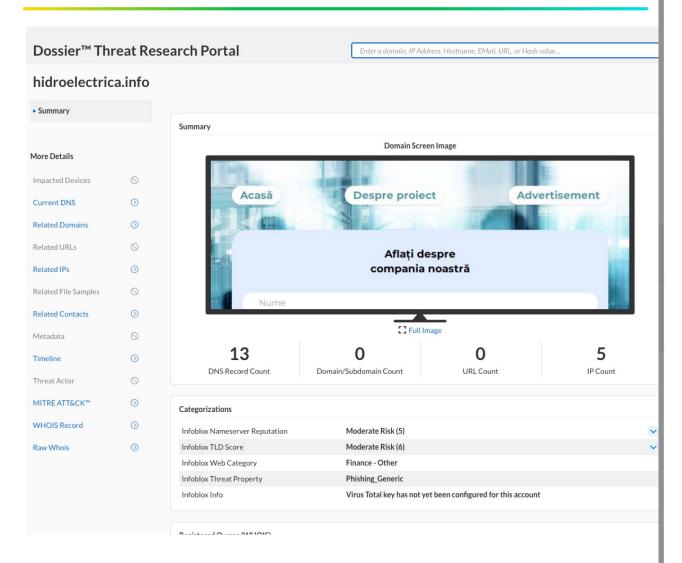
https://whosesoeverfop.top/?_lp=1&_token=uuid_1ef0p0t2ipk2_ 1ef0p0t2ipk26512a0171b5166.83493319&pixel_id=667248275436131 &sub_3=a8400y35rob

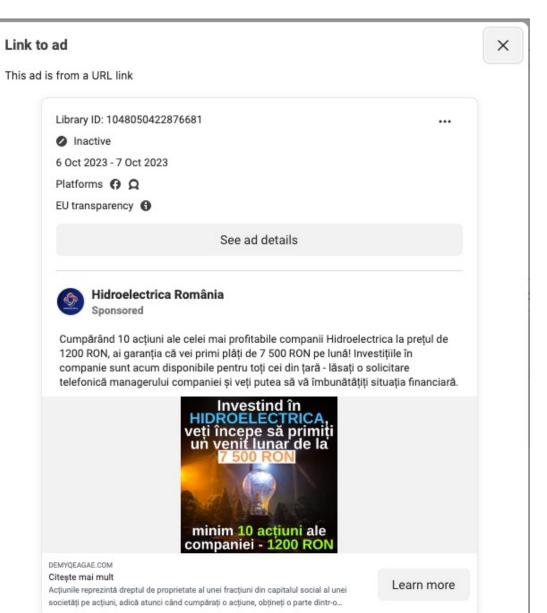
Scam





Easy money ©





Lookalike – partial match



DATUM 14/06/2021

SLEDOVACÍ KÓD BUDE ZASLÁN PO PROVEDENÍ PLATBY!

CELKOVÁ ČÁSTKA: 53,47 KČ

ZPŮSOB PLATBY:

Kreditní karta

PLATIT A POKRAČOVAT

ZRUŠIT

Ceskapostapay[.]com

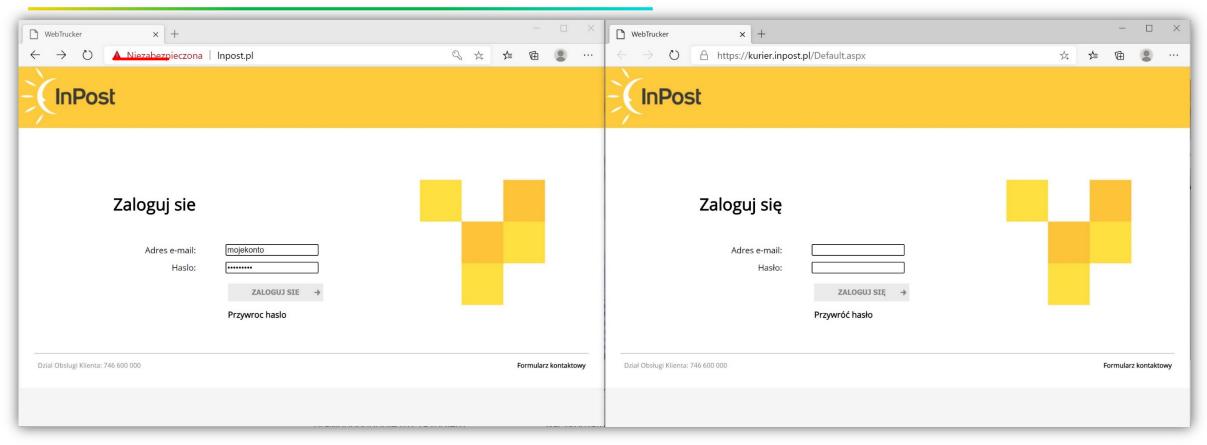
WHOIS Record (Created) 2021-06-14T01:40:11+00:00 Policy_NewlyObservedDomains 2021-06-14T01:44:32.000Z MalwareDownload_Generic 2021-06-15T05:51:33.037Z

192[.]64[.]117[.]221 Malicious Activity!

Effective URL: https://ceskapostapay[.]com/payment/Package/Select-payment-method.php?NAME_PATH= track_yy_dl24&SCREEN=identification_contrat_...



Letter replacement: InPost.pl

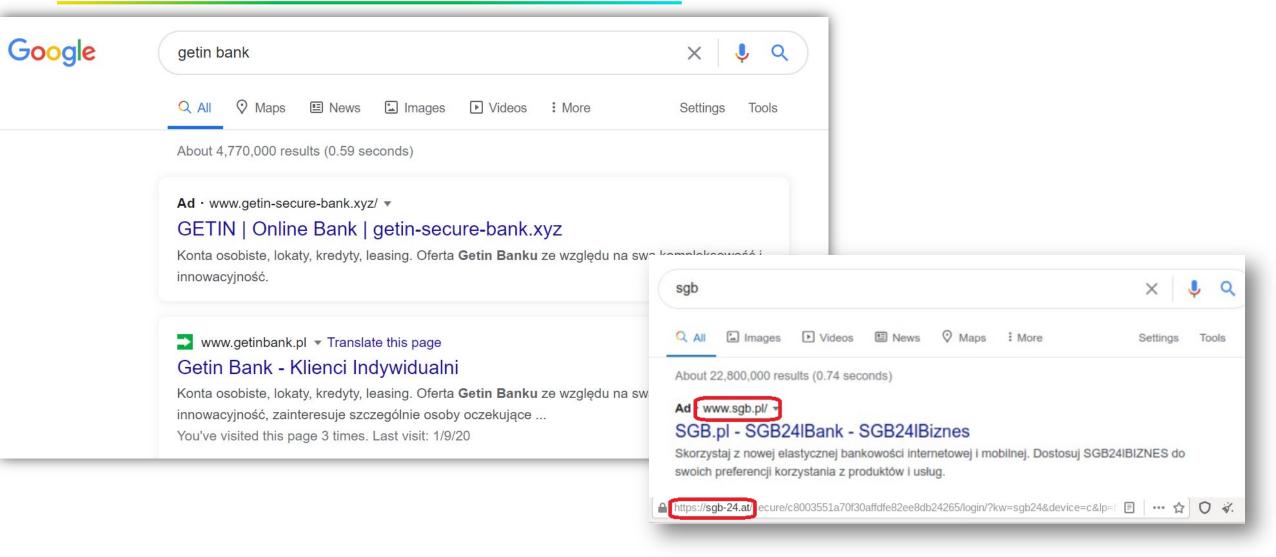


Fake: <form method="post" action="hXXp://18.194.99[.]238/post.php"index.html" class="account" name="sign-in" id="form1">

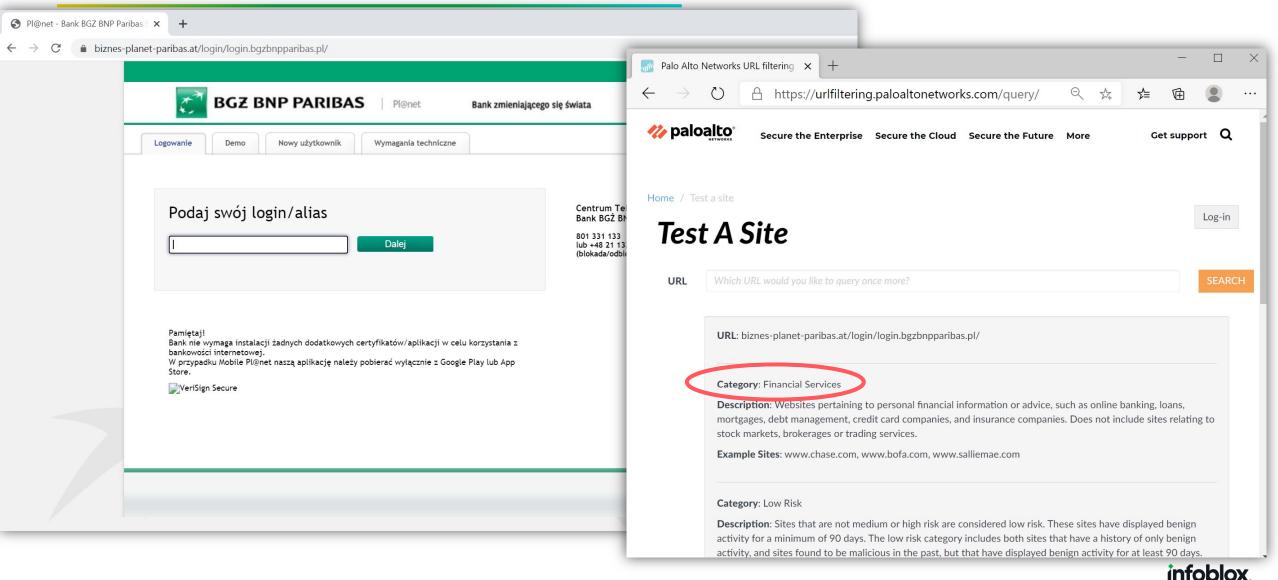
Original: <form method="post" action="./Default.aspx?ReturnUrl=%2f" id="form1">



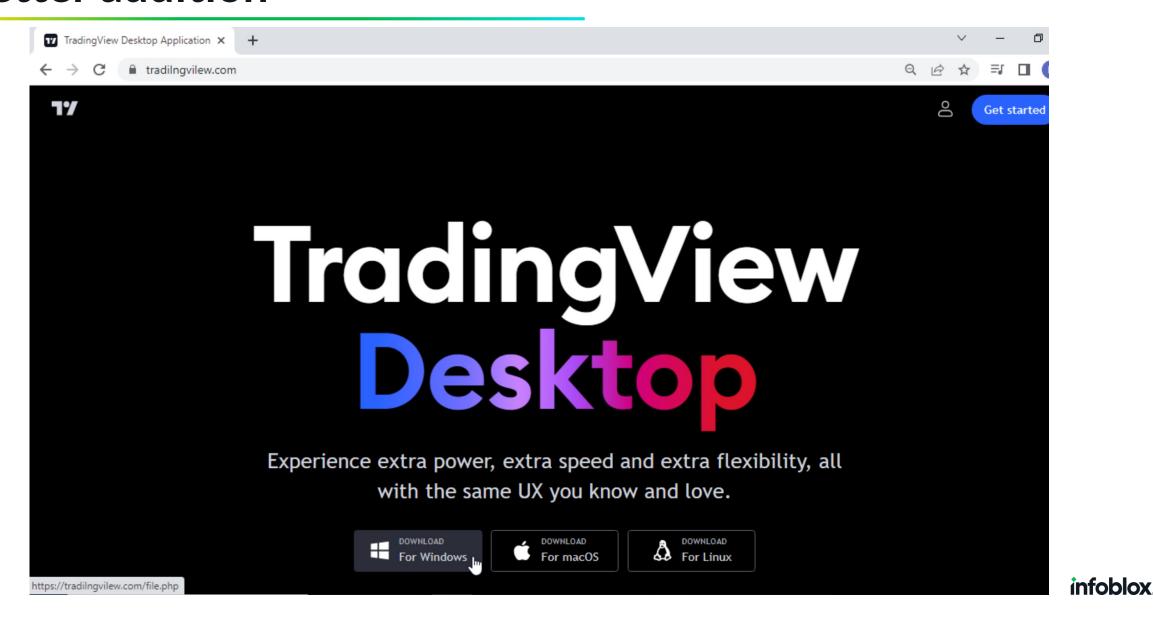
Lookalike + web advertisement (!)



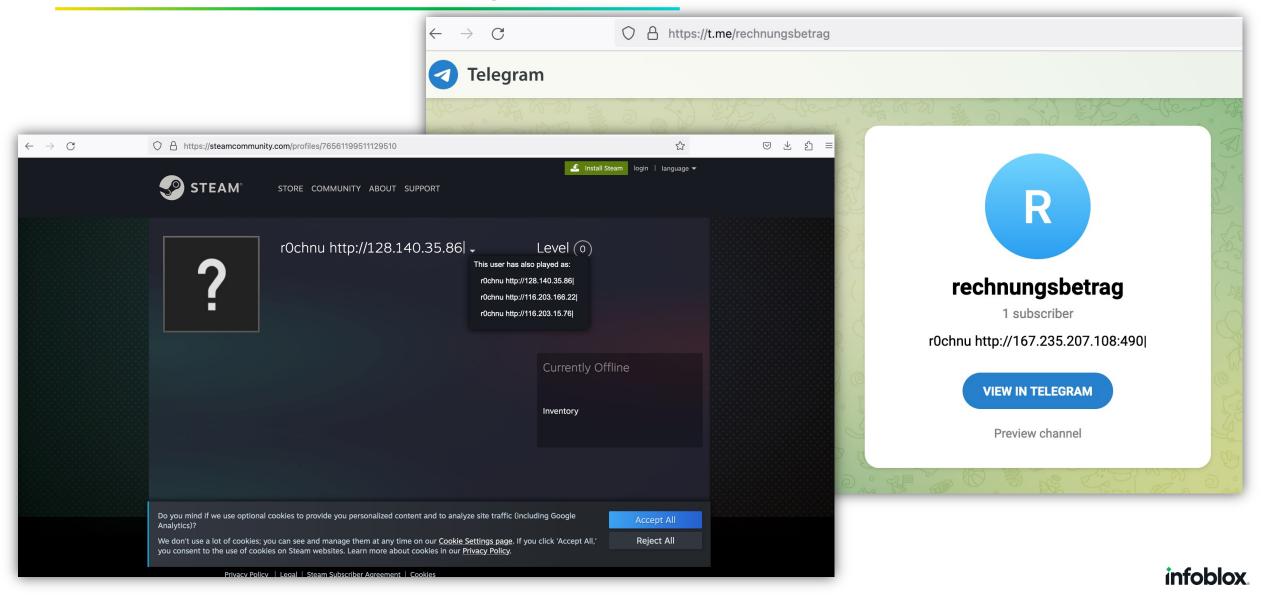
Lookalike + redirect to legitimate page



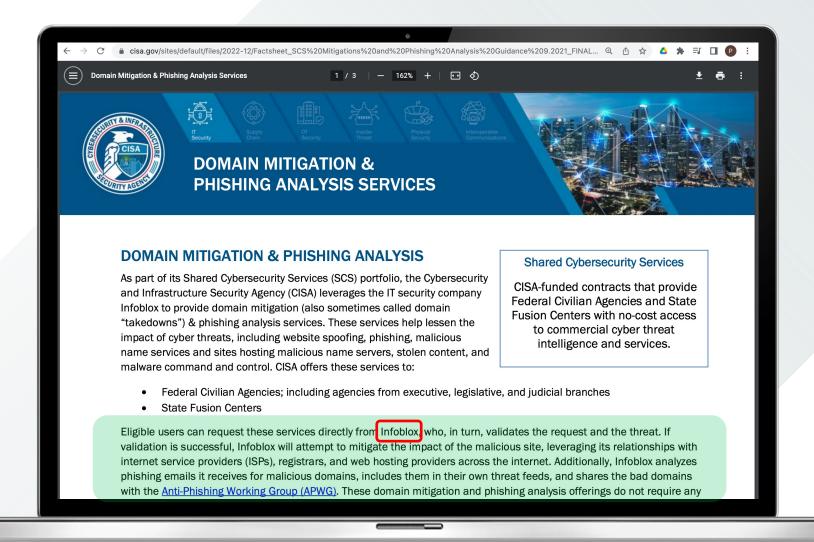
Letter addition



C2 from Steam / Telegram profiles



Trusted by CISA

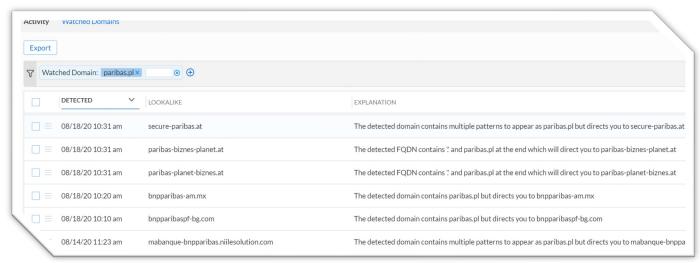


DNS Threat Intelligence



Searching for lookalike domains in TIDE

- curl -s
 "https://csp.infoblox.com/tide/api/data/threats/host/daily?target=apple.com
 &data_format=tsv&field=detected,host&rlimit=20&property=Policy_Lookali
 keDomains"
- apple.bucket.americanexprees[.]com
- www.apple.com-login-online.ekdriywyxq65irefusvlhxat1s4jbww97rdamd89d67.coastalcarolinalandmaintenance[.]com
- www.apple.com-login-online.hgxxurwzv560nm8tzbkyd9solvn4spw97rdamd89d67.coastalcarolinalandmaintenance[.]com
- appleid.apple.com.update.gq.opsgeni[.]us
- www.appleid.apple.com-support-account.fvsag[.]com



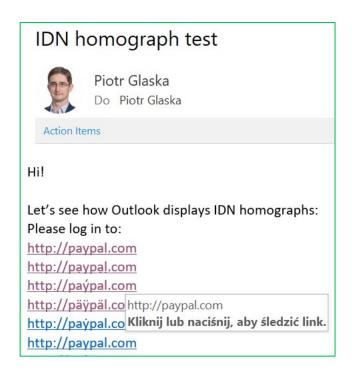
Lookalike Domain Detection

 Alphabet change, used in homograph attacks like Beta Bot Trojan: adobe[.]com http://xn--adoe-x34a[.]com/

LOT Polish Airlines rozdaje 2 darmowe bilety z okazji 89. rocznicy. Uzyskaj
bezpłatne bilety na: http://www.lot.com/.

apple.com (Cyrillic) apple.com (Latin)

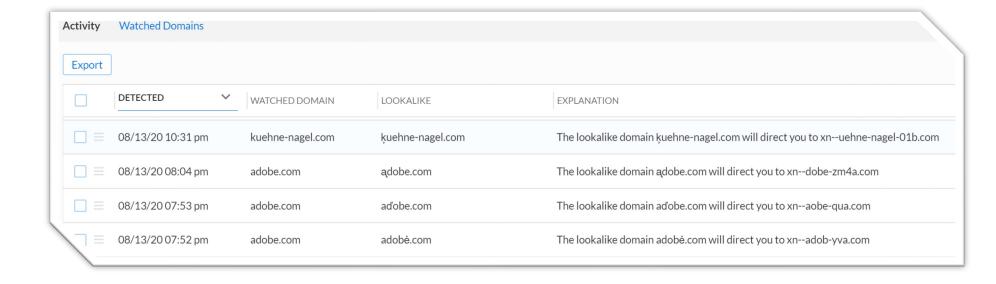
аррІе.бг



Searching for IDN homographs in TIDE

 curl -s "https://platform.activetrust.net:8000/api/data/threats/host? property=Policy_IDNHomograph&target=apple.com &field=host&rlimit=100&data_format=csv"

applè[.]com æpple[.]com applé[.]com applé[.]com apple[.]com apple[.]com apple[.]com applé[.]com applé[.]com apple[.]com apple[.]com apple[.]com apple[.]com



Dossier[™] Threat Research Po...

0

(>)

Enter a domain, IP Address, Hostname, EMail, URL, or H

ThreatLab ==



orlen.in

Summary

Last Active Threat Detection:

est Results
Benign

Products

Home / Test a site

Test A Site

URL: orlen.in

Category: Government Description: Official v

Example Sites: www.

Category: Low Risk

Description: Sites that The low risk category displayed benign activ

Example Sites: www.

Request Change

More Details	
Impacted Devices	\bigcirc
Current DNS	\odot
Related Domains	\odot
Related URLs	\bigcirc
Related IPs	\odot

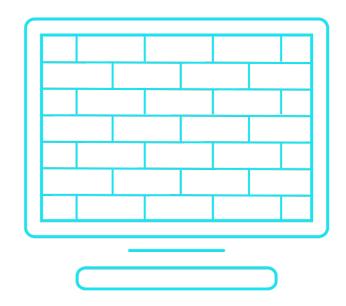
Related File Samples

Related Contacts

Discovered on	Expired on	Description	Send Us Feedback
6/13/23	Active	Source: Infoblox Property: Suspicious_Lookalike orlen.in	
6/13/23	Active	Source: Infoblox Property: Policy_LookalikeDomains orlen.in	
6/14/23	Active	Source: Infoblox Property: Phishing_Lookalike orlen.in	
		Source: Infoblox	RISK
4/21/23	4/28/23	Property: Policy_NewlyObservedDomains orlen.in	0
			0
4/19/23	4/22/23	Source: FarsightSecurity Property: Policy_NewlyObservedDomains orlen.in	0

Infoblox Secure DNS

- Like a firewall it implements a security policy
- Which has triggers:
 - Queried domain name
 - IP address in response
- And actions:
 - Block (log or don't log)
 - Redirect (log or don't log)
 - Allow (log or don't log)



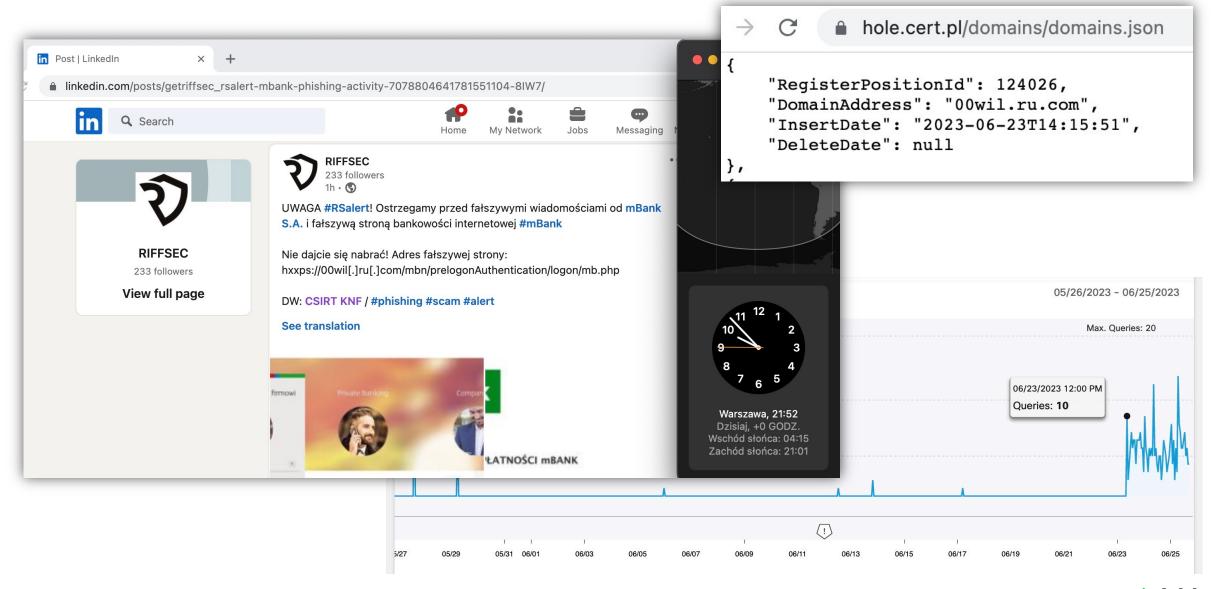
Suspicious feeds

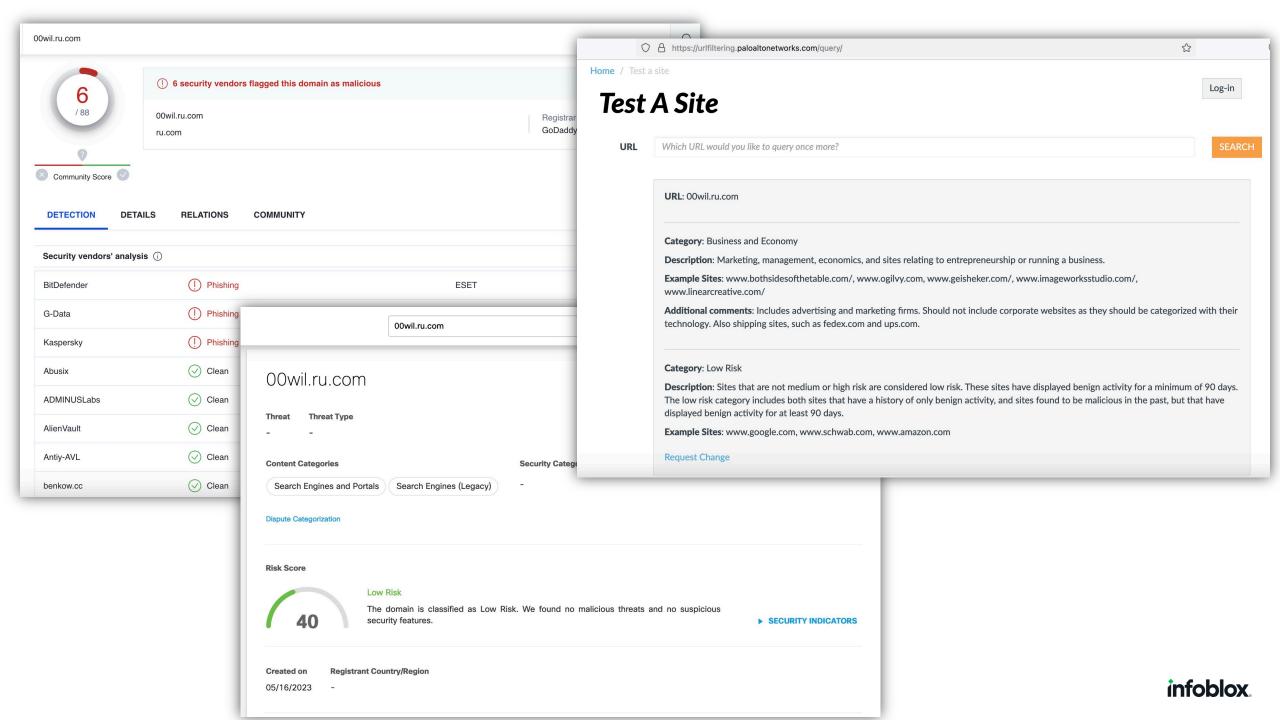
- Suspicious Lookalikes
- Suspicious NOED (Newly Observed Emergent Domains)
- Suspicious Domains

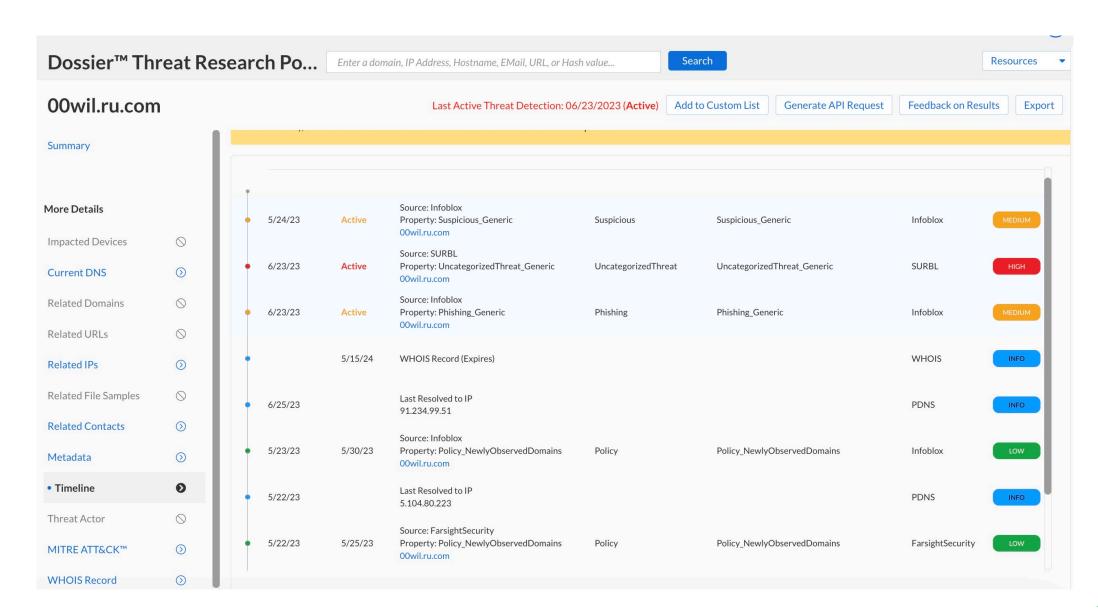
Domains that have suspicious characteristics typical for malicious domains.

Listed in suspicious feed for 4 months.

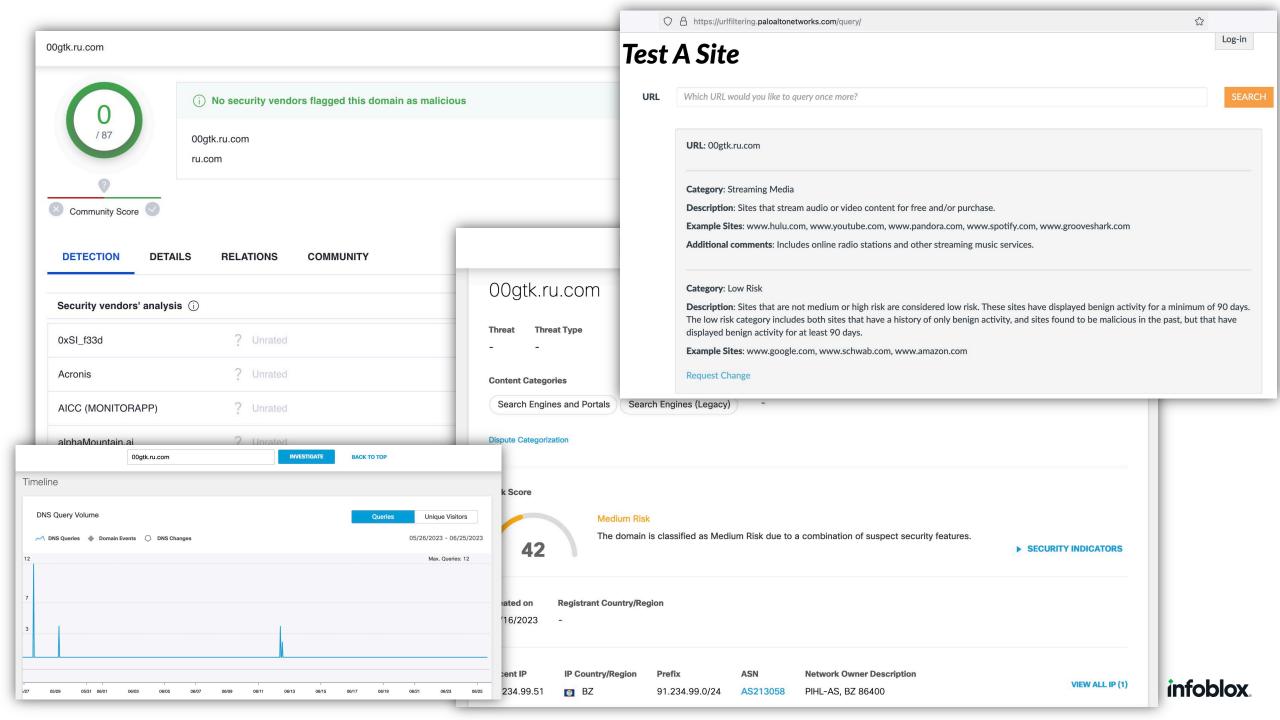
June 25th 2023 21:52 CET

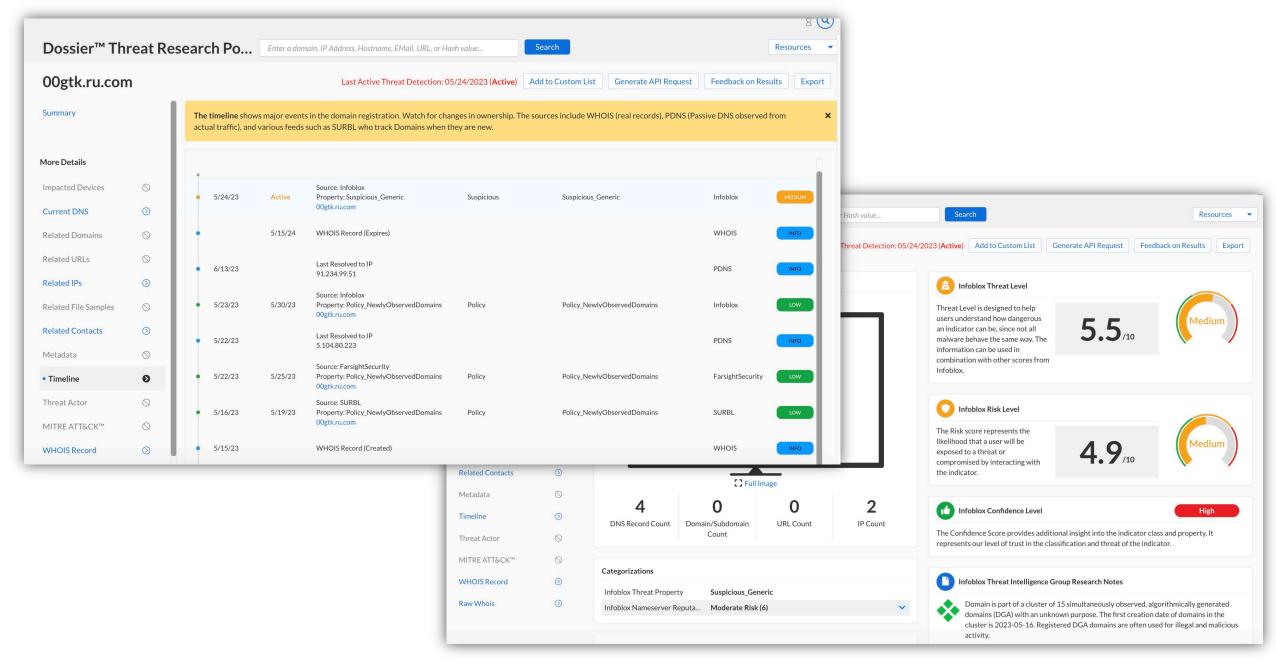












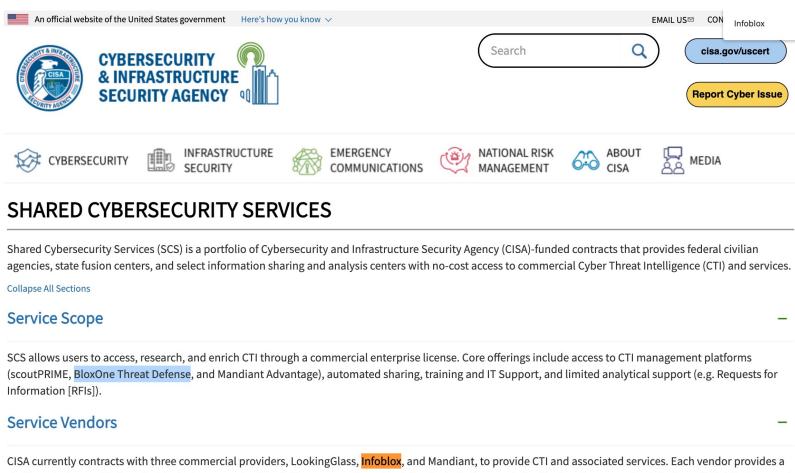


Infoblox Threat Feeds

- Public DoH provides a list of known public DNS over HTTPS resolving services. This may
 be from a browser, a piece of malware, or a user attempting to bypass your organization's
 DNS policies. This feed contains "canary" domains. We recommend all organizations enable
 this blocking rule.
- Country-based custom feed all IP addresses located in specified countries
- Custom feeds anything we have in threat intelligence database

Newly Observed Emergent Domains – recently created and newly active domains

Threat Intelligence provider for US Gov

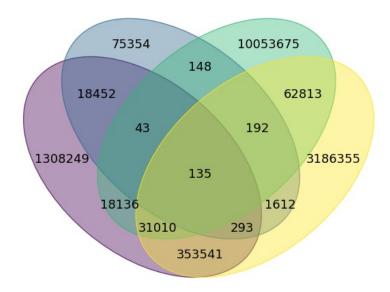


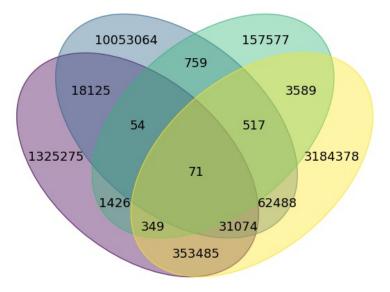
CISA currently contracts with three commercial providers, LookingGlass, Infoblox, and Mandiant, to provide CTI and associated services. Each vendor provides a similar set of core offerings that includes access to: CTI platform accounts and training/technical support, Application Programming Interfaces (APIs) that support machine-to-machine threat data connections, and analyst support. In addition, each vendor offers specific capabilities, including Domain Takedowns and Phishing Analysis, tied to their special area of expertise. The SCS portfolio also allows the vendors to share and enrich intelligence, Indicators of Compromise (IOCs), and threat reporting amongst each other, ultimately enhancing the quality of CTI available to SCS users. See our SCS Mitigations and Phishing Analysis Fact Sheet for more information



Threat feeds overlap between vendors

• 2 graphs due to 5 sources





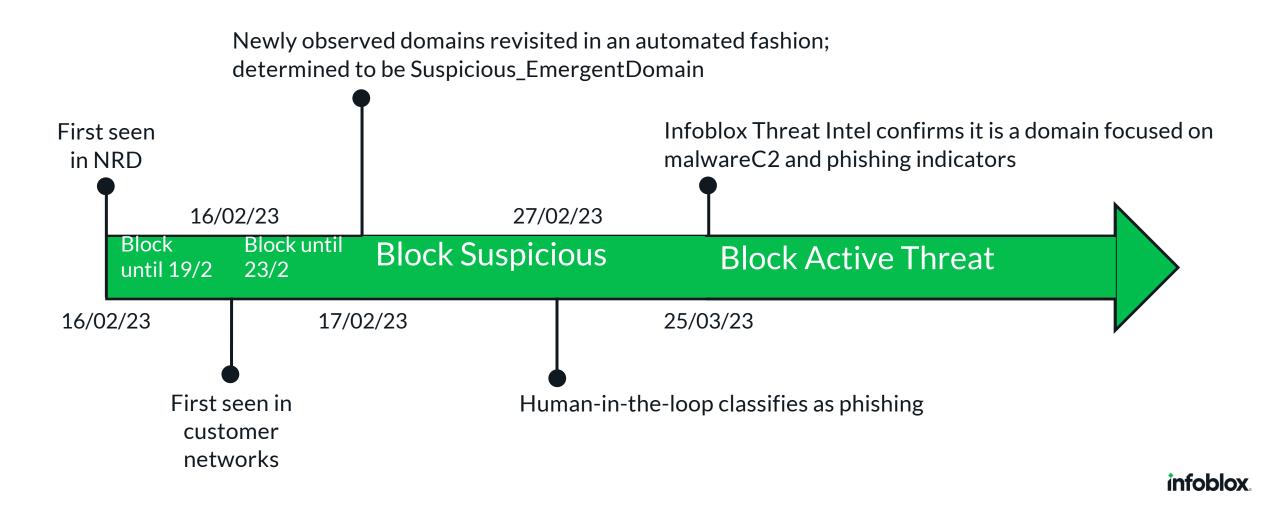
US Dept. Of Homeland Security Feeds

Automated Indicator Sharing (AIS) enables the exchange of threat indicators, among the Federal Government and the private sector.

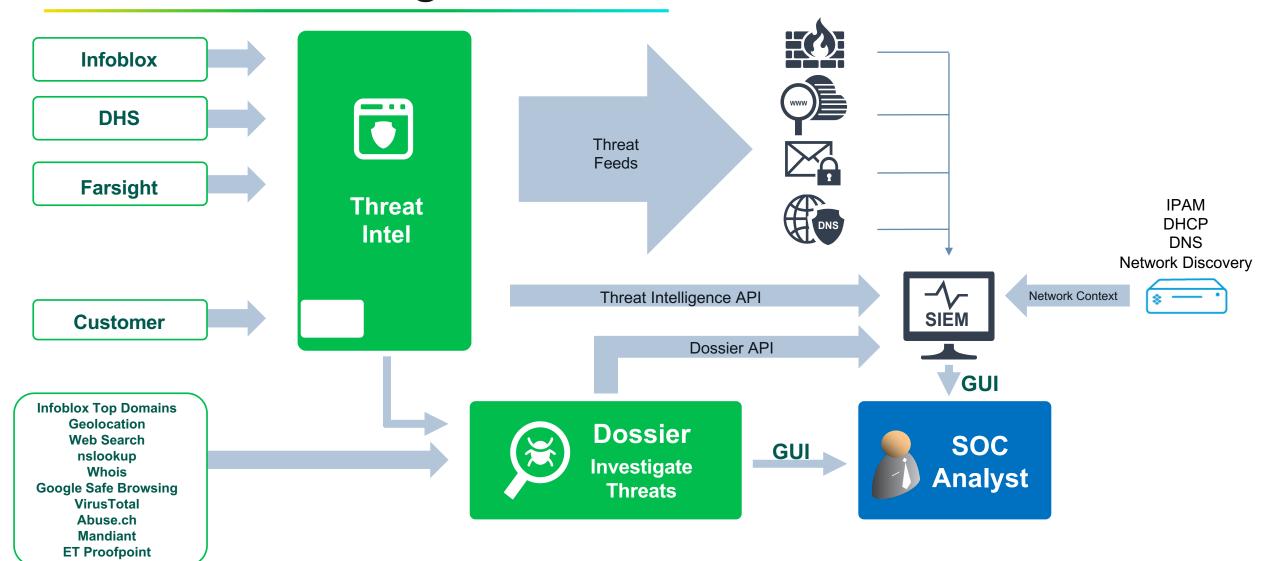
- Automated Indicator Sharing (AIS) Indicators of compromise (Hostnames and IP addresses) shared through Department of Homeland Security with the private sector
- AIS NCCIC Watchlist Indicators contained in this feed appear on the watch list from the National Cybersecurity & Communications Integration Center (NCCIC). These are medium confidence feeds with a higher chance for false positives since they are not verified or validated by DHS or Infoblox.

Domain Lifecycle

Indicator ekisenos-jp[.]top ▶



DNS Threat Intelligence



infoblox.



THANK YOU

JAN RYNES

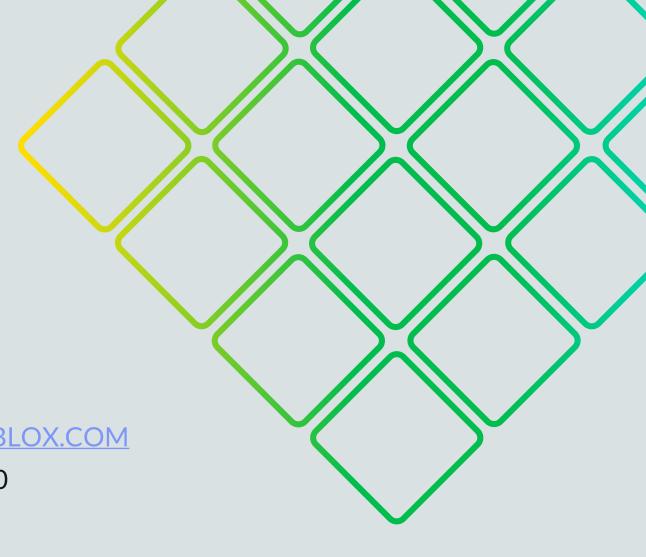
JRYNES@INFOBLOX.COM

+420 731 591 259

COSMIN VILCU

CVILCU@INFOBLOX.COM

+40 764 433 310



SECURITY. IT'S IN OUR DNS.