

Turning the Tables: Putting Threat Intel to Work Against Attackers

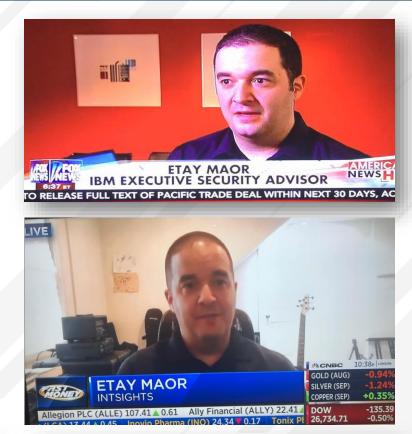
Etay Maor, Chief Security Officer

- Chief security officer, Intsights
 - IBM Executive security advisor
 - RSA Head of cyberthreats research lab
- Adj Prof at Boston College
- Started my career in high school... not in a good way





Want enhanced security? Think like a hacker





CTI is an ART

1 - Not Timely? Old news, attack already happened.

- 2 Not Reliable? Fake news, false positives are coming.
- 3 Not Actionable? Just a feed, data overload.

Holistic & Tailored



Who Is Targeted More These Days?

• People

Processes



Technology



The Two Reasons For Every Breach

8%		l Access hniques	
49/	Drive-by Compromise		
1%	Exploit Public-Facing Application		sed the most disruption
	External Remote Services		Charities
17%	Hardware Additions		ulent emails or being fraudulent websites
		Spearphishing Attachment	Others impersonating
	Phishing _(0/3)	II Spearphishing Link	spyware or malware
		Spearphishing via Service	Ransomware
	Replication Through Removable Media	_	ial-of-service attacks
	Supply Chain Compromise _(0/3)	11	ed use of computers, servers by outsiders
	Trusted Relationship		attempted hacking of panine bank accounts
		Default Accounts	ed use of computers, 1
	Valid Accounts (0/3)	Domain Accounts	r breaches or attacks
		Local Accounts	inesses that identified a breach



OSINT is EASY

BOSTON COLLEGE

Researching Target Affiliates

- According to the website, partners with 2 institutions to and to do research on Advancing state of the art discoveries:
 - Karolinska Institutet and Karolinska University Hospital Advancing state of the art discoveries with mRNA Therapeutics[™] to treat serious diseases
 - Institut Pasteur For the discovery and development of drugs and vaccines for infectious diseases using the mRNA Therapeutics[™] platform

Biopharma | Government | Foundations | Research Institutes







2

MASTER OF SCIENCE IN Cybersecurity Policy & Governance

BOSTON COLLEGE

Some Karolinska servers are vulnerable...

Autonomous System

BOSTON COLLEGE

> > (ki.se AND 443.https.ssl_3.support: true) AND autonomous_system.description.raw: "SUNET SUNET Swedish Universit

🖵 193.10.18.17 (kimacmgmdp01.ki.se)

443/https

Q IPv4 Hosts 🖨

6 SUNET SUNET Swedish University Network

Protocol: 6 443/https

- 5 80/http
- Tag:
- 6 http 6 https
 - 6 https 3 dhe-export 3 rsa-export

Q 443.https.tls.chain.parsed.extensions.crl_distribution_points: http://jacob.cck.ki.se :1640 130.237.143.41 (child2.ki.se)

SUNET SUNET Swedish University Network (1653) Stockholm, Stockholm County, Sweden

SUNET SUNET Swedish University Network (1653) Sweden

macmgmdp01.ki.se, macmgmdp02.ki.se, macmgmdp03.ki.se

Unix
 443/https, 80/http

Q 443.https.tls.certificate.parsed.extensions.subject_alt_name.dns_names: macmgmdp01.ki.se

SUNET SUNET Swedish University Network (1653) 9 Stockholm, Stockholm County, Sweden

- DHE-EXPORT RSA-EXPORT

□ 130.237.135.100 (xs2.cck.ki.se)

>__ Unix 🔅 443/https, 80/http

🖵 130.237.143.48 (child4.ki.se)

SUNET SUNET Swedish University Network (1653)
 Stockholm, Stockholm County, Sweden
 Unix
 443/https, 80/http
 Childhood Cancer Epidemiology Group Stockholm
 child2.ki.se, cceg.ki.se, www.cceg.ki.se
 443/https.tls.certificate.parsed.extensions.subject_alt_name.dns_names: child2.ki.se

DHE-EXPORT RSA-EXPORT

😐 130.237.99.120 (k9web01.ki.se)

- SUNET SUNET Swedish University Network (1653) 9 Solna, Stockholm County, Sweden
- 443/https, 80/http
- Q 443.https.get.body:@ki.se </center> </body> </html>

😐 130.237.143.42 (child3.ki.se)

- SUNET SUNET Swedish University Network (1653) 🛛 💡 Stockholm, Stockholm County, Sweden
- >_ Unix 🛛 🌣 443/https, 80/http
- A Childhood Cancer Epidemiology Group Stockholm

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vuln: Poodle

vuln: Poodle

vuln: Poodle, Logjam, FREAK

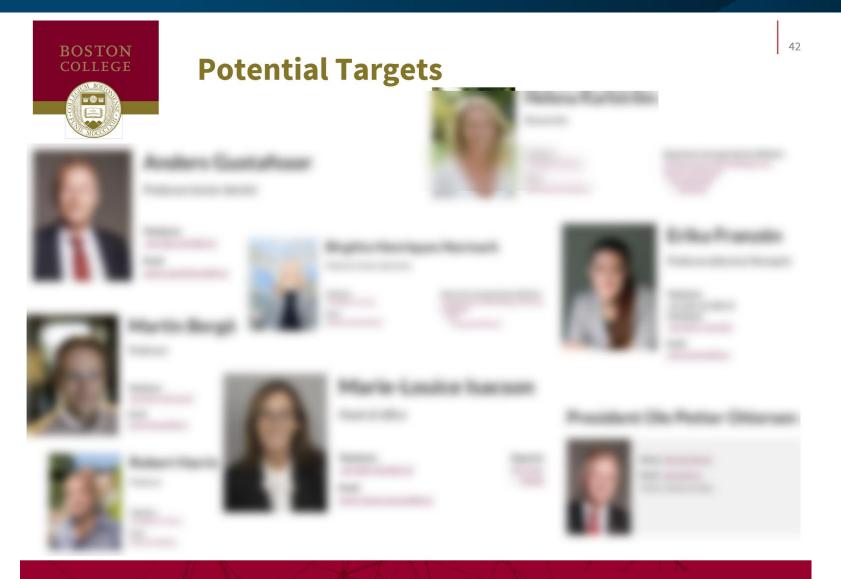
vuln: Poodle, Logjam, FREAK

vuln: Poodle

vuln: Poodle, Logjam, FREAK

BOSTON COLLEGE

WOODS COLLEGE OF ADVANCING STUDIES



MASTER OF SCIENCE IN Cybersecurity Policy & Governance **BOSTON COLLEGE** WOODS COLLEGE OF ADVANCING STUDIES

BOSTON COLLEGE	Оре	n Source In	vestigations
MDCCC			DR. 00023 Pg. 00
	Bk: 58623 P	g: 103	
			Executed as a SEALED instrument, UNDER THE PAINS AND PENALTIES OF PERJURY, this 25 day of PRIVARY, 2012.
Secordy Instrument and	OW, Dorrowsy accepts and agrees to the terms in any Kidor executed by Borrowse and recorded s	and covenante contained in this with a	AL
Witnesses:	_	by fin hardtharen bert	COMMONWEALTH OF MASSACHUSETTS Nor Rike as February 2012 hefore me, the undersigned notary public, personally appears to me through satisfactory evidence of iscentification, which were to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it vyjuntagy for its stated purpose.
	(Sec) decrea		(official signature and seal of notary) My Commission Expires:(0) 3V(1)
	(fec) Jaarin	(Sm) Burrer	
	(fed) dogree	(Sal) Russes	
ka Balaka NG (19) - Gran Taniya Ka Marka Ka Janiya Ka	Santa Shadharda Sher Jayobta Mitth Attitor . Anagaga L	new TP water and the second se	

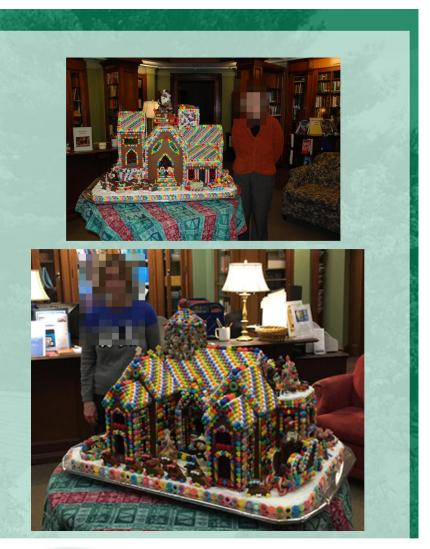
(Detailed)

 Has a favorite hobby that is baking gingerbread houses

train Management

- She bakes a massive gingerbread house for
- She starts shopping and preparing this house in mid to late October
- She shops at two stores every year

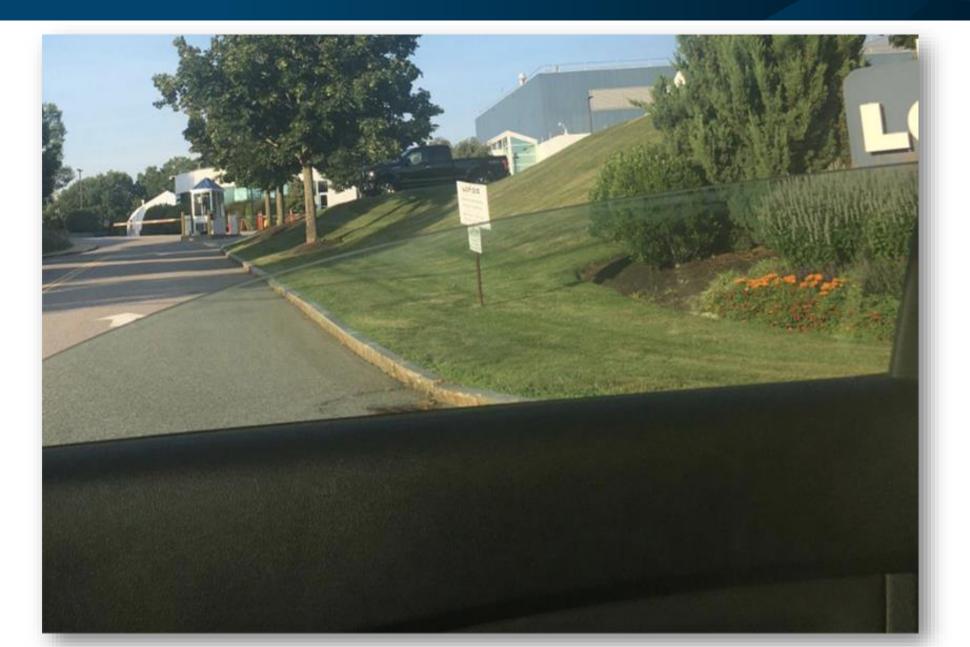
 - o **Harrison Carrier and Anna Anna Anna** in Kittery
- Emails:
 - o @aol.com
 - @comcast.net







6



"Home" Office

Router Brand	Login IP	Username	Password
3Com	http://192.168.1.1	admin	admin
Belkin	http://192.168.2.1	admin	admin
BenQ	http://192.168.1.1	admin	admin
D-Link	http://192.168.0.1	admin	admin
Digicom	http://192.168.1.254	admin	michelangelo
Digicom	http://192.168.1.254	user	password
Linksys	http://192.168.1.1	admin	admin
Netgear	http://192.168.0.1	admin	password
Sitecom	http://192.168.0.1	sitecom	admin
Thomson	http://192.168.1.254	user	user
US Robotics	http://192.168.1.1	admin	admin

"Home" Office

Censys 🔍	Pv4 Hosts ♦ 443.https.ssl_3.support: TRUE and (printer) and location.country: "united states"	K KADCEK9	Comma	nd Cei	nter R		: ECOSYS P3055 lame : KM558A37 on :	
		Home	_	English	~	Auto-refresh 2	ast Updated : 020/09/10 15:03:3	31
	I≣ Results	Admin Login	Dev	ice Status	_	_	_	
Quick Filters or all fields, see <u>Data Definitions</u>	IPv4 Hosts Page: 1/106 Results: 2,649 Time: 189ms Query Plan: <u>expanded</u>	Subser Na		vice Printer		Status		
Autonomous System:	🖶 208.105.119.158 (rrcs-208-105-119-158.nys.biz.rr.com)			_				
173 ATT-INTERNET4 84 UMDNET	 TWC-11351-NORTHEAST (11351) Olean, New York, United States 22/ssh, 443/https, 631/ipp, 80/http 		Login	Status Messa	age	Canceling		
80 UTK	🕋 Apache HTTP Server Test Page powered by CentOS 🛛 🔒 sourceware.southerntierele	ctrics		_	_		_	
73 KSU-NET	Q location.country: United States	Device I						
70 AMAZON-AES	IPP PRINTER	Job Stat	Con	nmand Ce	nter	Copier C	peration	Panel
Protocol:	₽ 70.57.213.38		Model	Username	Password	Model	Username	Passw
	CENTURYLINK-US-LEGACY-QWEST (209) CENTURYLINK-US-LEGACY-QWEST (209)	Links	FS-1370DN			FS-1370		
2,608 443/https	161/snmp, 21/ftp, 443/https, 631/ipp		FS-2100DN	Admin	Admin	FS-2100DN	4000	40
1,970 80/http	Primax.com.tw		FS-3920DN			FS-3920DN		
742 21/ftp	Q location.country: United States		FS-4100DN	Admin	Admin	FS-4100DN	4500	45
711 631/ipp	IPP PRINTER SNMP		FS-4200DN	Admin	Admin	FS-4200DN	5000	50
472 161/snmp			FS-4300DN	Admin	Admin	FS-4300DN	6000	60
More	🖶 152.1.32.10 (almond.cnr.ncsu.edu)		P2040dw	Admin	Admin	P2040dw	4000	40
			P2135d	Admin	Admin	P2135d	3500	35
): 	NCSU (11442) Raleigh, North Carolina, United States		P2135dn	Admin	Admin	P2135dn	3500	3
2,606 http	Dell Laser Printer 5230n 443/https, 80/http		P2235dn	Admin	Admin	P2235dn	3500	35
2,491 https	Q 443.https.get.body: Printer		P2235dw	Admin	Admin	P2235dw	3500	35
1,727 printer	EMBEDDED LASER PRINTER PRINTER		P3045dn	Admin	Admin	P3045dn	4500	4
909 embedded			P3050dn	Admin	Admin	P3050dn	5000	50
742 ftp	a 75.3.101.146		P3055dn	Admin	Admin	P3055dn	5500	55
More	ATT-INTERNET4 (7018) V Los Angeles, California, United States		P3060dn	Admin	Admin	P3060dn	6000	60
	443/https, 631/ipp		FS-9530dn			FS-9530dn		
	▲ KM74A181		FS-1028MFP		admin00	FS-1028MFP	2800	28
	Q location.country: United States		FS-1030MFP		admin00	FS-1030MFP	3000	30
			FS-1035MFP		admin00	FS-1035MFP	3500	35
	IPP PRINTER		FC 1120M/FD		admin00	FC 1130MED	2000	2

Oversharing On GITHUB

Uber data breach from 2016 affected 57 million riders and drivers

Darrell Etherington @etherington / 5:20 pm EST • November 21, 2017

Comment

The report says the attack occurred because attackers managed to gain login credentials for an Uber

Amazon Web Services account using a private GitHub site maintained by Uber engineers.



Chinese hotel group investigates possible leak of millions of guests' data

O 29 August 2018

< Share

Scotiabank source code, credentials found open on GitHub: news report



Howard Solomon @howarditwc Published: September 19th, 2019

Oversharing On GITHUB



- 140,000 Social Security numbers
- 1 million Canadian Social Insurance numbers
- 80,000 bank account numbers



Responsible Disclosure (Shared) <responsibledisclosure@capitalone.com>

[External Sender] Leaked s3 data

CNN B HACKE

CapitalOne



To: "responsibledisclosure@capitalone.com" <responsibledisclosure@capitalone.com>

Hello there,



There appears to be some leaked s3 data of yours in someone's github / gist:

https://gist.github.com

Let me know if you want help tracking them down.

Thanks,



Wed, Jul 17, 2019 at 1:25 AM

Or Just Search GitHub...

♦ Code ① Issues 0 ⑦ Pull requests 1	♦ Code ① Issues 0 ۩ Pull requests 0 Projects 0
Branch: Code () Issues 0 (1) Pull rec	Tree: d52aa67082 • yacovi-comfig-service / src / test / java / com / kiongroup / dc / kunctions / search / Find file Copy path SearchFunctionIntegrationTest java SearchFunctionIntegrationTest java Find file Copy path
Tree: b6a220f3c7 → 1 contr dataSources.pro	I contributor b6bda10 on May 15
1 line Per Lövdinger 1 commit	34 lines (24 sloc) 3 KB 🔲 History 🖵 🖋 🕅
1 0 contributors 10 lines (9 sloc) 290 Bytes 1 dbDialect=POSTGRESQL 2 XADataSourceClassName=org.pos 3 databaseName=gglord01 4 serverName=segot12214 5 portNumber=5432 6 DriverClassName=org.postgress 7 userName=u_gglord01_00 8 password=zTy80WrJ 9 url=jdbc:postgresql://	<pre>1 private static final String CONFIG_URL = "http://localhost:7071/api/GetConfig"; 1 private static final String SEARCH_URL = "nttp://localhost:7071/api/SearchReferences"; 1 private static final String AURE_TOKEN = "eyJ@EXALOIJKV1QiLCJhbGci0JSV1INIJSIngldCI6Ik4tbEMwbi05REFMcXdodUhZbkhRNjNHZUNYYJISImtp</pre>



For Sale

Domain Admins

SlayerFrom_K Опубликовано: В среду в 13:01 килобайт Предлагаю доступ в корпоративную сеть компании, один из лидеров мировой судостроительной промышленности. •• Revenue - 12.5 billion \$ Сотрудников ~ 33 000 <u>JS</u> Доступ: Платная регистрация 01 29 публикаций Регистрация 05.07.2019 (ID: 94 114)

Деятельность хакинг / hacking 1) domain admins

Цитата

+

2) 50 000 уникальных пар логин/пароль к учетным записям сотрудников в доменах 3) ~ 20 000 корпоративных ящиков

хакинг / hacking

Наше предложение - 15 btc

Работаем только через гаранта данного форума Связь в ЛС форума, далее в jabber

smogger Опубликовано: 3 минуты назад байт Access Type: Domain Admin Industry: Cyber Security, Homeland Security, SCADA Services Location:Israel S Price: \$3200 Host in the network : 300+ Платная регистрация + Цитата • 0 1 публикация Регистрация 07.08.2020 (ID: 107 151) Деятельность

0

RCE Vul, RDP/VNC

RCE at *** Bank Автор: Ferb, 6 сентября в [Достуг

Автор: Ferb, 6 сентября в [Доступы] - FTP, shell'ы, руты, sql-inj, БД, дедики

		Создать тему	Ответить в тему
Ferb ^{байт}	Опубликовано: 6 сентября (изменено) Price: \$10,000 USD (UNITED, STATES, DOLLAR)		Жалоба <
	I am selling a vulnerability that allows RCE, you can get a <u>reverse shell at the bank</u>. You can contact me via XMPP[1] or e-mail[2]. Be direct in negotiation.		
Ллатная регистрация 0 3 публикации	This bank is very good for you to hack, steal and in the end earn good money. I recommend that you read this Phineas Fisher guide[3] Come talk to me and I will show you the proof of this vulnerability.		
3 публикации Регистрация 24.08.2020 (ID: 107 681) Деятельность	Come talk to me and I will share details like(bank name) and show you the proof of this vulnerability. [1] ghostfalcon@jabbim.ru [2] jestersnc@protonmail.com [3] https://dl.packetstormsecurity.net/papers/attack/hackback-bankrobbing.txt		
хакинг / hacking	Изменено 6 сентября пользователем Ferb		
	+ Цитата		G
Z Продажа Автор: zone, 19 и	а брут RDP/VNC июня в [Доступы] - FTP, shell'ы, руты, sql-inj, БД, дедики		Подписаться 1
		Создать тему	Ответить в тему
	Опубликовано: 19 июня		Жалоба 🛃
байт			

В наличии брученные внц и рдп По локациям юса и европа рдп от 10\$

Jabber: stopware@jabber.ru

vnc от 20\$

+ Цитата

Оплата в бтс

Платная регистрация

٠

Ζ

• 0 6 публикаций Регистрация 06.04.2020 (ID: 102 372) Деятельность хакинг / hacking Подписаться

1

Bank Accounts



Sell 20 400 BA US

Author: GREAT , Sunday at 15:54in Auctions



GREAT

Seller 07 156 posts Registration 17.04.2019 (ID: 92 204) Activities other / other

Accession Accession	counts	
Update Support: Ch	nat us directly from	m sho
USA Info User+ PayPal Info -	Pass + AN/RN - Bill pay Logs -	US/ Au
		в
Баланс 23130	Назі	зание
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	Update Support: Ch USA Info User PayPal Info ~ Credit Card Sec Credit Card Sec CENIACOK SanaHC 23130 4251 93125 54	Update Support: Chat us directly from USA Info User+Pass + AN/RN • PayPal Info Bill pay Logs • Credit Card Section. •

🍳 Корзина 😑 💥

3359

23714

50991

25847

5128

14224

Accounts

ardShop > Ac	counts									
									1	NEW UPDATE
late Support: Ch	hat us directly from	n shop contact sup	port:							2020-08-10 Added to TD bank AN/RN
USA Info User+ PayPal Info -	+Pass + AN/RN - Bill pay Logs -	USA Bank Info Use Australia Bank -	er+Pass + AN/RN +Name Spamming Tools -	User+F	Pass/random balance - Canada Bank Logs -	USA Fullz Info - Direct Deposit Lo	A Email Access Logs - Germany Bank -			2020-08-09 Added to Chase User+Pa Added to Asbhwawaii AN/ Added to Citi Bank 1 acco
Credit Card See	ection. 🗸									2020-08-08 Added to PayPal Info 22 a
писок	товаров	В								2020-08-07 Added to Asbhwawaii AN/
	Назв				Цена \$					2020-08-05 Added to fairwindsCU Em Added to Vystar AN/RN 8
ланс	назв	ание			цена э					2020-08-04
23130			Balance = 23130.3			70.00		🗮 Купить	- The	Added to TD bank AN/RN Added to Chase User+Pa
4251			Balance = 4251.77			30.00		🐂 Купить		Added to TD Canada Log
93125			Balance = 93125.63			90.00		🗮 Купить		
54			Balance = 54.26			10.00		🗮 Купить		
4025			Balance = 4025.48			30.00		🐂 Купить		

Balance = 3359.16

Balance = 23714.96

Balance = 50991.38

Balance = 25847.3

Balance = 5128.88

Palanco - 14224 74

25.00

60.00

100.00

50.00

30.00

70.00

RN + Name 24 accounts Pass + AN/RN 4 accounts AN/RN 8 accounts ccounts 22 accounts AN/RN 10 accounts Email Access 3 accounts 8 accounts /RN + Name 1 accounts Pass + AN/RN 4 accounts ogs AN/RN + Name 2 accounts

🚝 Купить

Купить

Купить

🗮 Купить

🗮 Купить

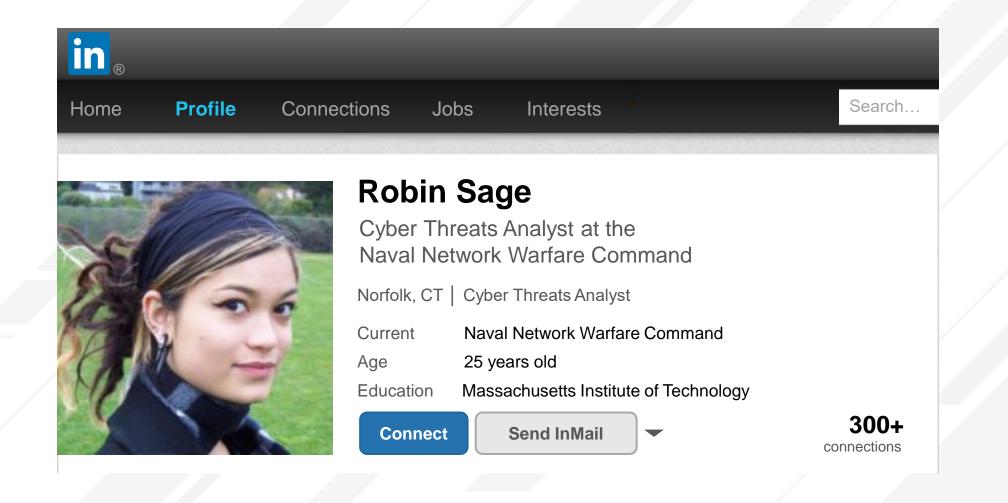
Identity Markets Booming

🗑 gene	sis	
A Dashboard		A Home
i Genesis Wiki	new	Welcome to Genesis Store - professional place that helps you to increase anonymity in World Wide Web.
E News	6	
Bots	305k+	The are few simple steps to do it: 1. Login to Genesis Store on any OS (Windows, Mac OS, Linux) from Chromium-based browser* (SR
🌾 Generate FP		 2. Find, choose and buy the bot you like: bot only with logs
Orders		 bot only with fingeprints Image and fingeprints Image + Image and fingeprints Image + Image and fingeprints Image + Image and fingeprints Image a

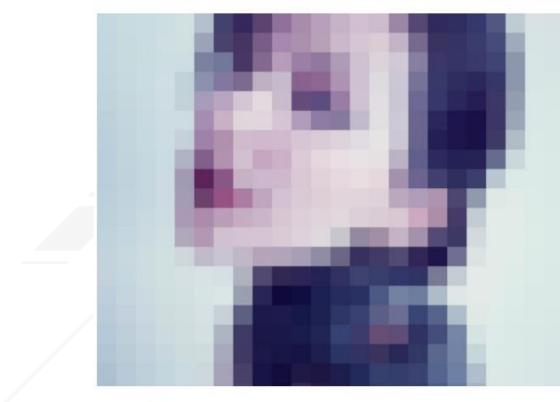


Social Engineering

Meet Robin Sage



IRL MEET MIA ASH, THE FAKE WOMAN IRANIAN HACKERS USED TO LURE VICTIMS



SECUREWORKS

MIA ASH IS a 30-year-old British woman with two art school degrees, a successful career as a photographer, and plenty of friends—more than 500 on Facebook, and just as many on

	TT CI	SO.in						
	News ~	Whitepapers	CISO Mind Speak	CISO Wall	Interviews	CISO TV	Brand Solutions \sim	
v	Vulnerabilities Mobility Threats ETCISO Annual Summit 2020 Email Security Cyberwarfare Digital Se							

IT Security News / Latest IT Security News / Vulnerabilities

Cyber spies use LinkedIn to hack European defence firms: Report

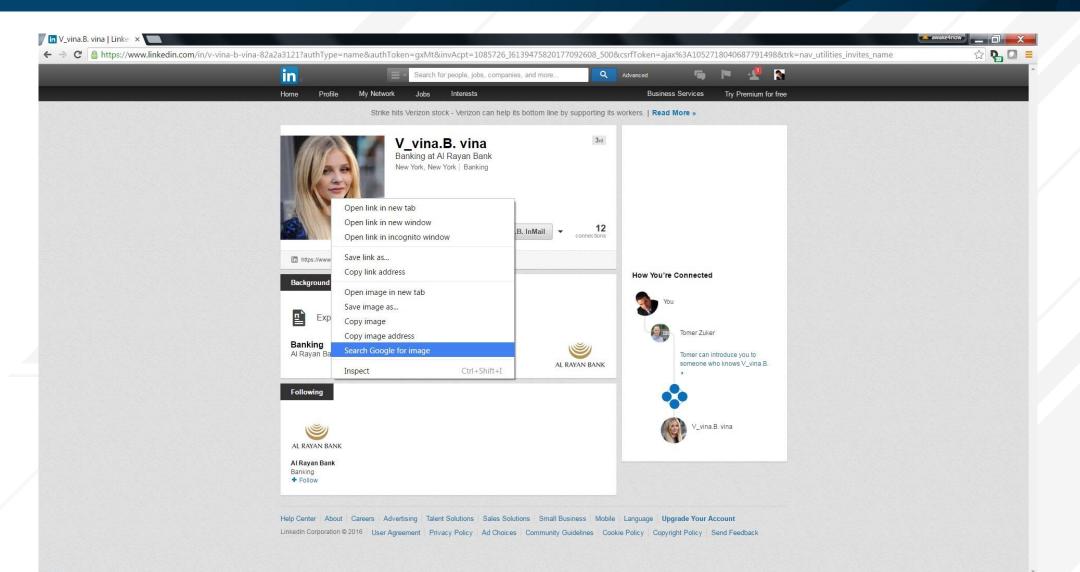
sThe attackers used LinkedIn's private messaging feature to send documents containing malicious code which the employees were tricked into opening, said Jean-Ian Boutin, ESET's head of threat research.

Reuters • June 18, 2020, 11:07 IST

Home Profile	My Network Jobs Interests Strike hits Verizon stock - Verizon can help its bottom line by su	Busines	ss Services Try Premium fo	pr free	
	Strike hits Verizon stock - Verizon can help its bottom line by su			And the second sec	
	to be a second of the second o	upporting its workers. Read	More »		
	V_vina.B. vina Banking at Al Rayan Bank New York, New York Banking Accept invitation Send V_vina.B. InMail	3rd 12 connections			
T https://www.inked	n.com/in/v-vina-b-vina-82a2a3121				
Background		How You're	e Connected		
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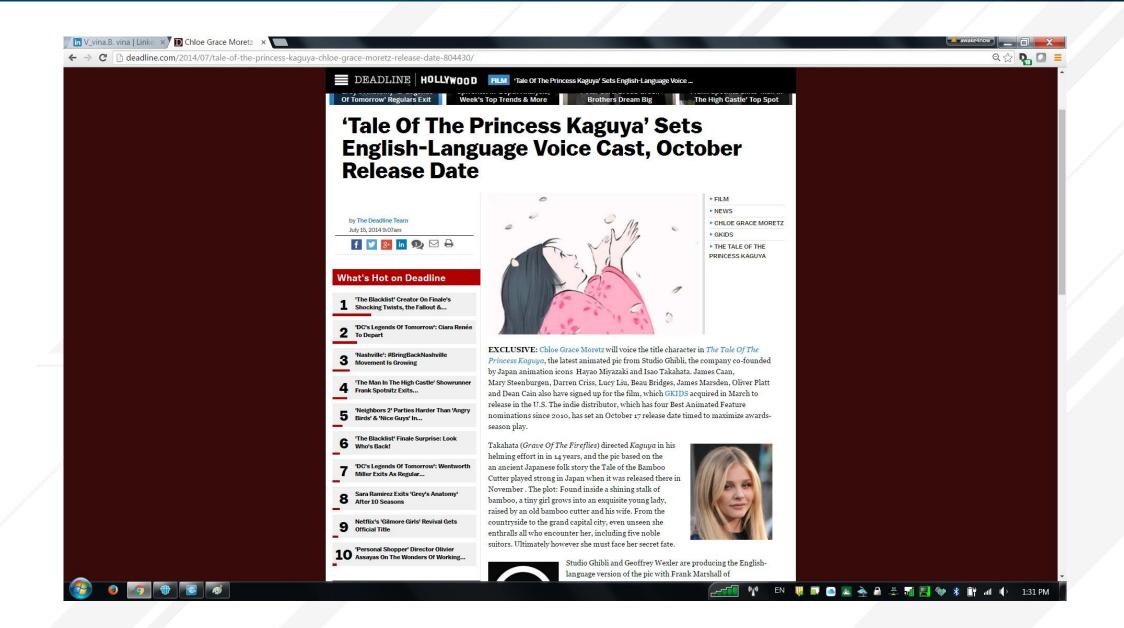


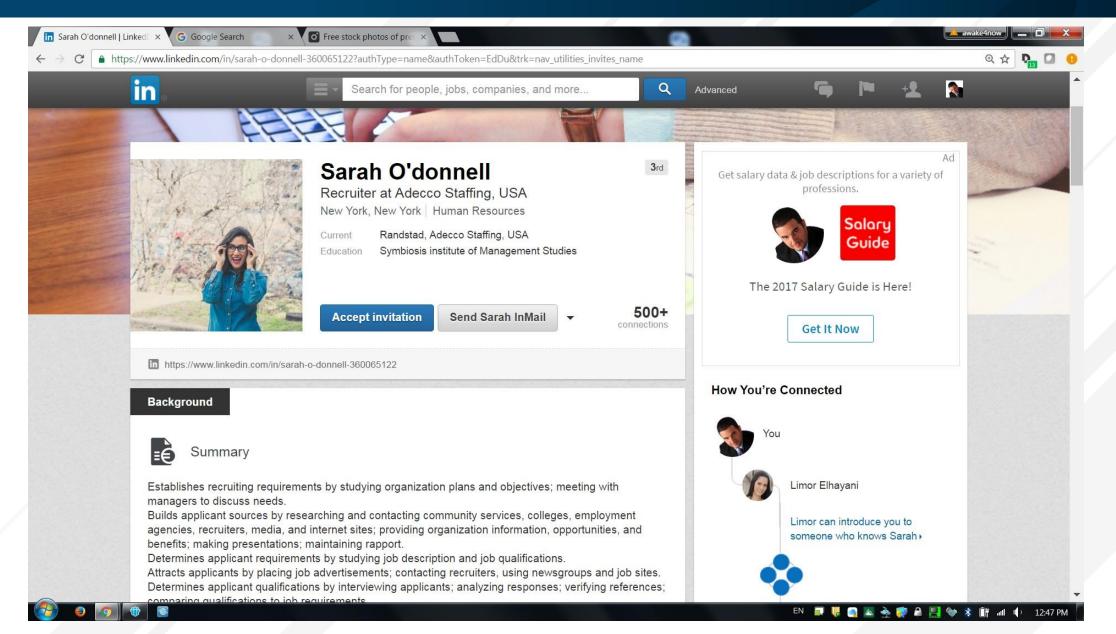
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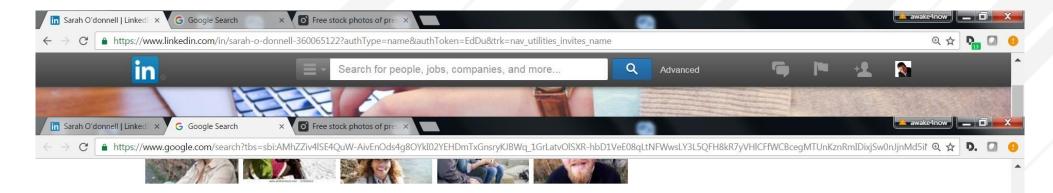




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www.centerforcommunication.org/articles/ -

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Why You Should Build A Career That Aligns With Your Life Purpose

www.forbes.com/.../why-you-should-build-a-career-that-aligns-with-your-... •



960 × 640 - Jul 15, 2016 - Don't waste the one-third of your life you spend at work. When you're fulfilled by your job, you experience multiple benefits to your mental and ...

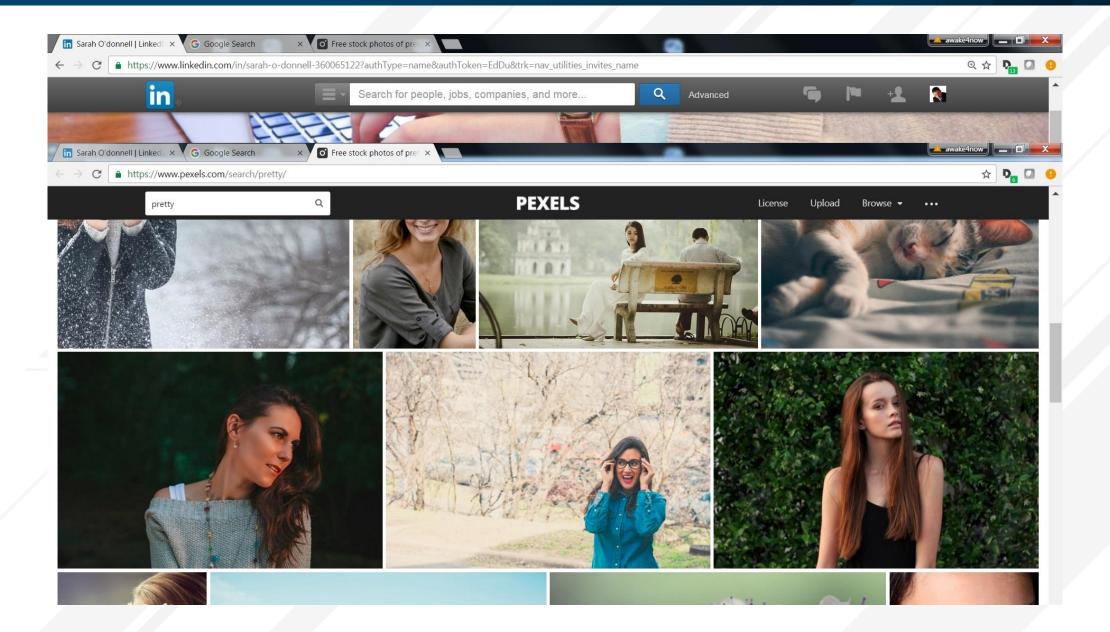
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https://www.pexels.com/search/pretty/ -

525 × 350 - Find the best free stock images about pretty. Download all photos and use them even for commercial projects.

Free stock photos of lady · Pexels



in Sarah O'donnell | Linked: × M Recruiter Job Description ×

← → C 🛛 hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/job-descriptions/recruiter-job-description-sample.aspx

MONSTER

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Recruiter Job Description Sample

This recruiter sample job description can assist in your creating a job application that will attract job candidates who are qualified for the job. Feel free to revise this job description to meet your specific job duties and job requirements.

Recruiter Job Responsibilities:

Achieves staffing objectives by recruiting and evaluating job candidates; advising managers; managing relocations and intern program.

Recruiter Job Duties:

Download our 2016 Small Business

Guide to Hiring

Learn More

- Establishes recruiting requirements by studying organization plans and objectives; meeting with managers to discuss needs.
- Builds applicant sources by researching and contacting community services, colleges, employment agencies, recruiters, media, and internet sites; providing organization information, opportunities, and benefits; making presentations; maintaining rapport.





📥 awake4now 🔜 🔲

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☆ 📭 🖸 🤮



> C 🗿 hiring.monster.com/hr/hr-best-practices/recruiting-hiring-advice/job-descriptions/recruiter-job-description-sample.aspx	x 📭 🛛 (
	Monster.com OFCCP Info Contact Monster Security Center Help
MONSTER	Sign In
Home Products Solutions Resource Center Success Stories	
in Sarah O'donnell Linked × M Recruiter Job Description ×	awake4now 📃 🗇 📥
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Ransomware Review

Maze Group ROI?

Maze Team official press release. June 22, 2020

Maze Team is working hard on collecting and analyzing the information about our clients and their work. We also analyzing the post attack state of our clients. How fast they were able to recover after the successful negotiations or without cooperation at all.

Today we would like to tell some words about the cost of non-cooperation and about our clients who were trying to recover all the information themselves. Looking ahead all those attempts were more close to suicide than to recovery.

So the company was attacked and the files were blocked and encrypted. What are the worst mistakes the company can made?

Maze Locker can't be decrypted without the help of Maze Team. A few companies we are not going to name were trying to decrypt the files with the help of side organizations. Those organizations are well known security companies. That happened at the end of 2019 and they are still waiting for a solution. As we know, compared to the first offer of Maze Team, those companies already paid two and a half times more money. One of those companies already spend four times more trying to decrypt the files themselves. And we guarantee that it would take them years to wait until decryption.

But encrypting files is not the main risk. If the company have chosen to make a long pause in its operations this is the company's right. But sometimes companies can't understand the risk of information leak, especially the private information. We are specializing in client's private information, financial information, databases, credit card data, NDA documents and all the company's researches.

Usually that kind of information leaks will lead for multimillion losses, fines and lawsuits. And don't forget about the lost profit and falling of the stock price.

As we know from the reports of our clients the average recovery costs are about \$60M. We have never asked for amounts even close to those.

According to our statistics the loss from lawsuits and fines varies from \$18M to \$47M. As we know from one of our clients, in one week he loosed \$12M while his files were in open access. For large companies the average lost if about \$50M-60M after the publication of private data. A few very large companies have lost from \$250M to \$350M.

While hiring the negotiators from the side, especially the those who work on government, and listening to what they tell you, try to think are they really interested in solving your problems or they are just thinking about their own profit and ambitions of the government agency they belong to. They can't minimize your loss or eliminate the data breach. You'll pay from your own pocket.

Ransomware: Customer Service

1 E	Support	26/2020 00:24:03
	Hello! Can I help you?	
03:27:33	07/27/202	You
	What do we need to do to get our data deleted from your servers and unlock our files?	Hello
6	Support	27/2020 07:43:08
~	Hello !	
	You have 30.000 infected and locked devices from different countries.	
	Our price is consists of two services, decryption software and deleting all downloaded data from our servers.	
	If you need both of them you have to pay 10.000.000\$ in Bitcoins, before the timer on main page will ends.	
	will provide you with the details about how we breach your security perimeter and give you recommendations	s a bonus w
	about improving security measures to help your admins avoid such issues in future!	



Support

For sure we understand your worries about this deal, that's why we will decrypt two your random files for Free, just to prove that our decryptor is working properly!

07/27/2020 17:47:17

Support



So in your message that you left us, you mentioned a "very SPECIAL PRICE" if we reached out to you within 2 days, which we did. There's no way that \$10M is a "very SPECIAL PRICE" right?



07/27/2020 18:07:05

You

This price isn't a Special price, correct! However it is a standard amount for company of your size and it's probably much cheaper than lawsuits expenses, reputation loss caused by leakage. Yes we did offered a special price and you are eligible for it, so if you are ready to process the payment promptly, we can make a step forward to your direction and give you a discount.



I appreciate the discount and kind words here, but to be honest, we were hoping for something that we actually^{07/27/2020 18:31:25} have available cash for. I completely understand that this is a business for you, but right now I'm tasked with trying to keep our business afloat. In all honesty, \$8M puts us in a spot where we would need to double current revenue to keep our doors open. We were willing to get you \$3.7M potentially today if we could have found common ground. I don't mean to belittle you and your team's work here, I'm just trying to help prevent further layoffs on our side.

07/27/2020 18:48:03

Support

We appreciate your offer, but understand us too, this is the market and you have been offered an adequate price. unfortunately, the amount you offered is not enough to close our deal with you, we gave you 20% not because we are ready to bargain heavily, but because we see your business spirit and immediately gave you a good discount, we can offer 5% discount more and payment by installments. For example for \$4M you will get the Decryptor and after you will pay the rest amount, we will delete all the private Data.



Here are the list of recommendations to avoid such a things in future: - Turn off local passwords

- Force end of administrators sessions

 In group policy set up wdigest value to "0", If the UseLogonCredential value is set to 0, WDigest will not store credentials in memory.

- Update passwords every month !

Check the granted privileges for users, to make them maximum reduced privileges and access only to exact applications.
 In most cases there would enough standard windows software like an Applocker.

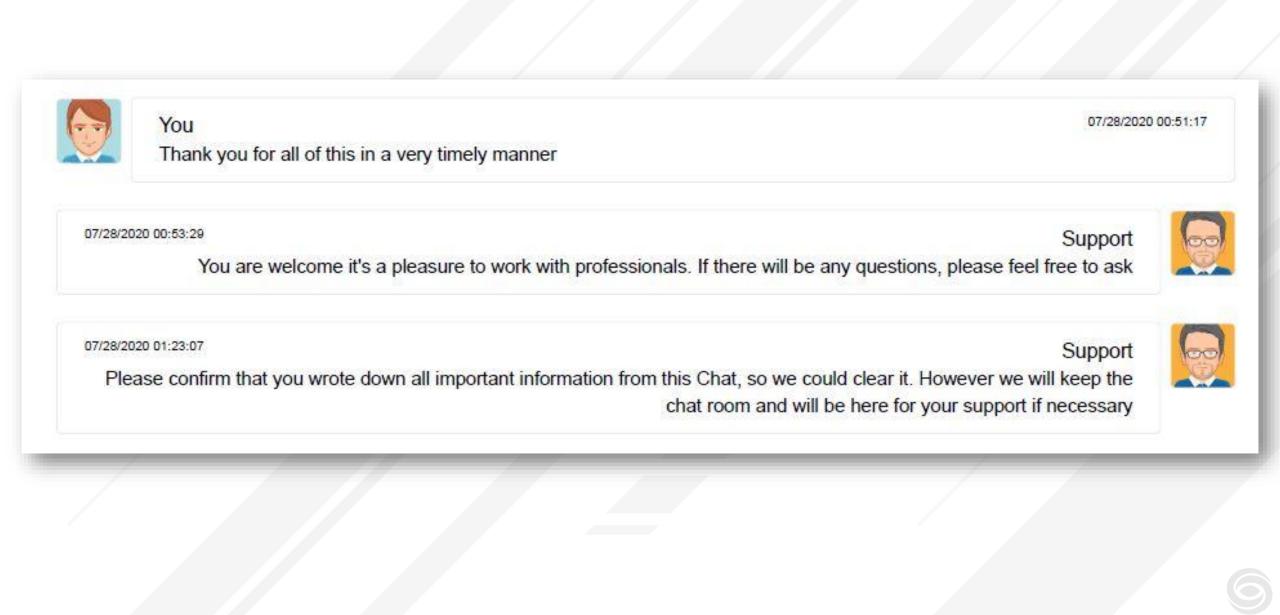
Approve to run only necessaries applications ONLY.

 Don't count on the Anti-Virus, there is no one AV that really helps, they can be useful only in long-term infections, if hackers for some reasons didn't attack in short time.

- Install Endpoint Detection and Response security (EDR) and teach the IT-admin to work with it.

 For huge companies we suggest at least 3 system administrators working 24 hours, maximum 4 admins working 3 shifts for 8 hours per day, that would be enough.

07/28/2020 00:47:12





The Take Aways

Understand the Threat - Sodinokibi

External Remote Services Inter-Process Communication Qi (Qi) Execution Qi (Qi) Boot or Logon Autostart Execution Qi (Qi) Boot or Logon Autostart Figure Access Boot	Initial Access 9 techniques	Execution 10 techniques	Persistence 17 techniques	Privilege Escalation 12 techniques	Defense Evasion 32 techniques	Credential Access 13 techniques	Discovery 22 techniques	Lateral Movement 9 techniques	Collection 15 techniques	Command and Control 16 techniques	Exfiltration 8 techniques	Impact 13 techniques
Note: Market Name Market Name <th< td=""><td>Drive-by Compromise</td><td></td><td>Account Manipulation (0/2)</td><td></td><td></td><td>Brute Force (0/4)</td><td>Account Discovery (0/3)</td><td></td><td>Archive Collected Data (0/3)</td><td>Application Layer Protocol (0/4)</td><td>Automated Exfiltration</td><td>Account Access Removal</td></th<>	Drive-by Compromise		Account Manipulation (0/2)			Brute Force (0/4)	Account Discovery (0/3)		Archive Collected Data (0/3)	Application Layer Protocol (0/4)	Automated Exfiltration	Account Access Removal
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Image: marked black	Hardware Additions	Native API		Execution (0/11)			-	Remote Service Session		Data Obfuscation (0/3)		(0/3)
Mathematical Machine General Machine Machine Machine	Phishing (0/3)	Scheduled Task/Job (0/5)	1	Boot or Logon Initialization Scripts (0/5)						Dynamic Resolution (0/3)	1	(0) 27
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Highe Securition from gamma in the formation in the formatio			External Remote Services	(0/11)	(0/0)	Tickets (0/3)	Process Discovery		Input Capture (0/4)	Non-Standard Port		Service Stop
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Understand the Threat - Maze

Initial Access 9 techniques	Execution 10 techniques	Persistence 17 techniques	Privilege Escalation 12 techniques	Defense Evasion 32 techniques	Credential Access 13 techniques	Discovery 22 techniques	Lateral Movement 9 techniques	Collection 15 techniques	Command and Control 16 techniques	Exfiltration 8 techniques	Impact 13 techniques
Drive-by Compromise	Command and Scripting	Account Manipulation (0/2)	Abuse Elevation Control Mechanism	Abuse Elevation Control Mechanism man	Brute Force (0/4)	Account Discovery (0/3)	Exploitation of Remote	Archive Collected Data (0/3)	Application Layer Protocol (1/4)	Automated Exfiltration	Account Access Removal
Exploit Public-Facing Application	Interpreter (1/7) Exploitation for Client Execution	BITS Jobs	Access Token Manipulation (0/5)	Access Token Manipulation (0/5)	Credentials from Password Stores (0/3)	Application Window Discovery	Services Internal Spearphishing	Audio Capture	Communication Through Removable Media	Data Transfer Size Limits	Data Destruction
External Remote Services	Inter-Process Communication (0/2)	Boot or Logon Autostart Execution (0/11)	Boot or Logon Autostart	BITS Jobs	Exploitation for Credential	Browser Bookmark Discovery	Lateral Tool Transfer	Automated Collection	Data Encoding (0/2)	Exfiltration Over Alternative Protocol (0/3)	Data Encrypted for Impact
Hardware Additions	Native API	Boot or Logon Initialization	Execution (0/11) Boot or Logon Initialization	Deobfuscate/Decode Files or Information	Forced Authentication	Domain Trust Discovery File and Directory Discovery	Remote Service Session Hijacking (0/2)	Clipboard Data	Data Obfuscation (0/3)	Exfiltration Over C2 Channel	Data Manipulation (0/3) Defacement (0/2)
Phishing (0/3)	Scheduled Task/Job (0/5)	Browser Extensions	Scripts (0/5)	Direct Volume Access	Input Capture (0/4)	Network Service Scanning	Remote Services (0/6)	Repositories (0/1)	Dynamic Resolution (0/3)	Exfiltration Over Other	Disk Wipe (0/2)
Replication Through Removable Media	Shared Modules	Compromise Client Software	Create or Modify System Process (0/4)	Execution Guardrails (0/1)	Man-in-the-Middle (0/1)	Network Share Discovery	Replication Through	Data from Local System	Encrypted Channel (0/2)	Network Medium (0/1)	Endpoint Denial of Service (0/4)
Supply Chain Compromise (0/3)	Software Deployment Tools System Services (9/2)	Binary Create Account (0,0)	Event Triggered Execution (0/15)	Exploitation for Defense Evasion	Modify Authentication Process (0/3)	Network Sniffing	Removable Media Software Deployment Tools	Data from Network Shared Drive	Fallback Channels	Exfiltration Over Physical Medium (0/1)	Firmware Corruption
Trusted Relationship	User Execution (0/2)	Create or Modify System	Exploitation for Privilege Escalation	File and Directory Permissions Modification (0/2)	Network Sniffing	Password Policy Discovery	Taint Shared Content	Data from Removable Media	Multi-Stage Channels	Exfiltration Over Web Service (0/2)	I Inhibit System Recovery
Valid Accounts (0/3)	Windows Management Instrumentation	Event Triggered Execution (0(15)	Group Policy Modification	Group Policy Modification	OS Credential Dumping (0/8)	Peripheral Device Discovery Permission Groups Discovery	Use Alternate Authentication	Data Staged (0/2) Email Collection (0/3)	Non-Application Layer Protocol	Scheduled Transfer	Network Denial of Service (0/2)
	Instrumentation	External Remote Services	Hijack Execution Flow (0/11)	Hide Artifacts (0/6)	Steal or Forge Kerberos Tickets (0/3)	Process Discovery	Material (0/2)	Input Capture (0/4)	Non-Standard Port		Resource Hijacking Service Stop
		Hijack Execution Flow (0/11)	Process Injection (1/11)	Hijack Execution Flow (0/11)	Steal Web Session Cookie	Query Registry		Man in the Browser	Protocol Tunneling		System Shutdown/Reboot
		Office Application Startup (0/6)	Valid Accounts (0/2)	Impair Defenses _(1/5) Indicator Removal on Host _{man}	Two-Factor Authentication Interception	Remote System Discovery		Man-in-the-Middle (0/1)	1 Proxy (0/4)		
		Pre-OS Boot (0/3)	I Valid Accounts (0/3)	Indirect Command Execution	Unsecured Credentials (0/5)	Software Discovery (0/1)	<u>.</u>	Screen Capture	Remote Access Software		
		Scheduled Task/Job (0/5)		Masquerading (0/6)	1	System Information Discovery		Video Capture	Traffic Signaling (0/1)		
		Server Software Component (0/3) Traffic Signaling (0/1)		Modify Authentication Process (0/3)	1	System Network Configuration Discovery	_		Web Service (0/3)	1	
		Valid Accounts (0/3)		Modify Registry		System Network Connections Discovery			selection controls	laver controls	
			-	Obfuscated Files or Information (1/5)		System Owner/User Discovery			€ Q, =+, ×	all controls	╤, <u>†</u>
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Application Isolation

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Understand the Threat - Maze

Initial Access	Execution	Persistence	Privilege Escalation	Defense Evasion	Credential Access	Discovery	Lateral Movement	Collection	Command And Control	Exfiltration	Impact
11 items	34 items	62 items	32 items	69 items	21 items	23 items	18 items	13 items	22 items	9 items	16 items
External Remote Services	Command-Line Interface	Valid Accounts	Valid Accounts	Valid Accounts	Credential Dumping	Account Discovery	Remote Desktop Protocol	Data from Network Shared	Commonly Used Port	Data Compressed	Data Encrypted for Impact
Valid Accounts	PowerShell	Modify Existing Service	Process Injection	Obfuscated Files or Information	Credentials in Files	Domain Trust Discovery	Remote File Copy	Drive	Remote File Copy	Exfiltration Over	Service Stop
Spearphishing	Scripting	New Service	New Service	Scripting	LLMNR/NBT-NS	File and Directory Discovery	Pass the Ticket	Data Staged	Standard	Alternative Protocol	Inhibit System
	Service Execution	Create Account	Access Token Manipulation	Code Signing	Poisoning and Relay	Permission Groups	Windows Admin Shares	Data from Local System	Application Layer Protocol	Automated Exfiltration	Recovery Account Access
Drive-by Compromise	Rundll32	.bash_profile and .bashrc	Accessibility Features	Disabling Security Tools	Brute Force	Discovery Remote System Discovery	Windows Remote	Audio Capture	Remote Access Tools	Data Encrypted	Removal
Exploit Public- Facing Application	User Execution	Accessibility	AppCert DLLs	Indirect Command Execution	Account Manipulation	Network Share Discovery	Management	Automated Collection	Standard	Data Transfer	Data Destruction
Hardware	Windows Remote Management	Features	AppInit DLLs	Masquerading	Bash History	System Owner/User	AppleScript	Clipboard Data	Cryptographic Protocol	Size Limits	Defacement
Additions	AppleScript	Account Manipulation	Application	Modify Registry	Credentials from	Discovery	Application Deployment	Data from	Communication	Command and	Disk Content Wipe
Replication Through	CMSTP	AppCert DLLs	Shimming	Process Injection	Web Browsers	System Network Configuration Discovery	Software	Information Repositories	Through Removable Media		Disk Structure Wipe
Removable Media Spearphishing	Compiled HTML File	AppInit DLLs	Bypass User Account Control	Redundant Access	Credentials in Registry	Application Window Discovery	Component Object Model and Distributed COM	Data from Removable	Connection Proxy	Other Network Medium	Endpoint Denial of Service
Link	Component Object Model and	Application Shimming	DLL Search Order Hijacking	Deobfuscate/Decode Files or Information	Exploitation for Credential Access	Browser Bookmark	Exploitation of	Media	Custom Command and Control	Exfiltration Over	Firmware Corruption
Spearphishing via Service	hishing via Distributed COM	Authentication	Dylib Hijacking	File Deletion	Forced	Discovery	Remote Services	Email Collection	Protocol	Physical Medium	Network Denial of Service



I Mean, REALLY IN THE OPEN

Securing Passwords ... On National TV



Securing Passwords ... On National TV



Securing Passwords ... On National TV



Securing Passwords... During A Site Visit



Jeffrey Wong, the Hawaii Emergency Management Agency's current operations officer, shows computer screens monitoring hazards at the agency's headquarters in Honolulu on Friday. Hawaii is the first state to prepare the public for the possibility of a ballistic missile strike from North Korea. | AP

ASIA PACIFIC

Hawaii first U.S. state to prepare for 'unlikely' North Korea missile threat

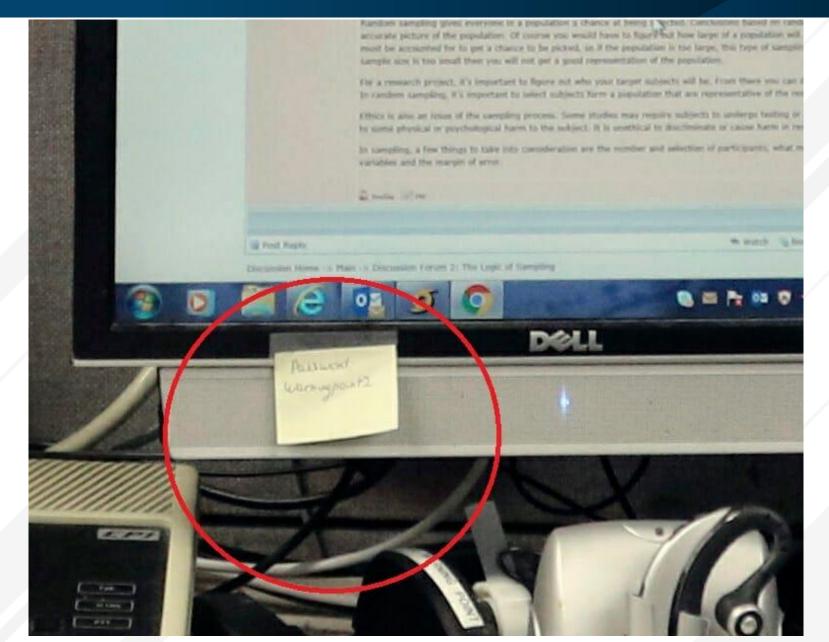
AP, STAFF REPORT

HONOLULU – Hawaii is the first state to prepare the public for the possibility of a ballistic missile strike from North Korea.

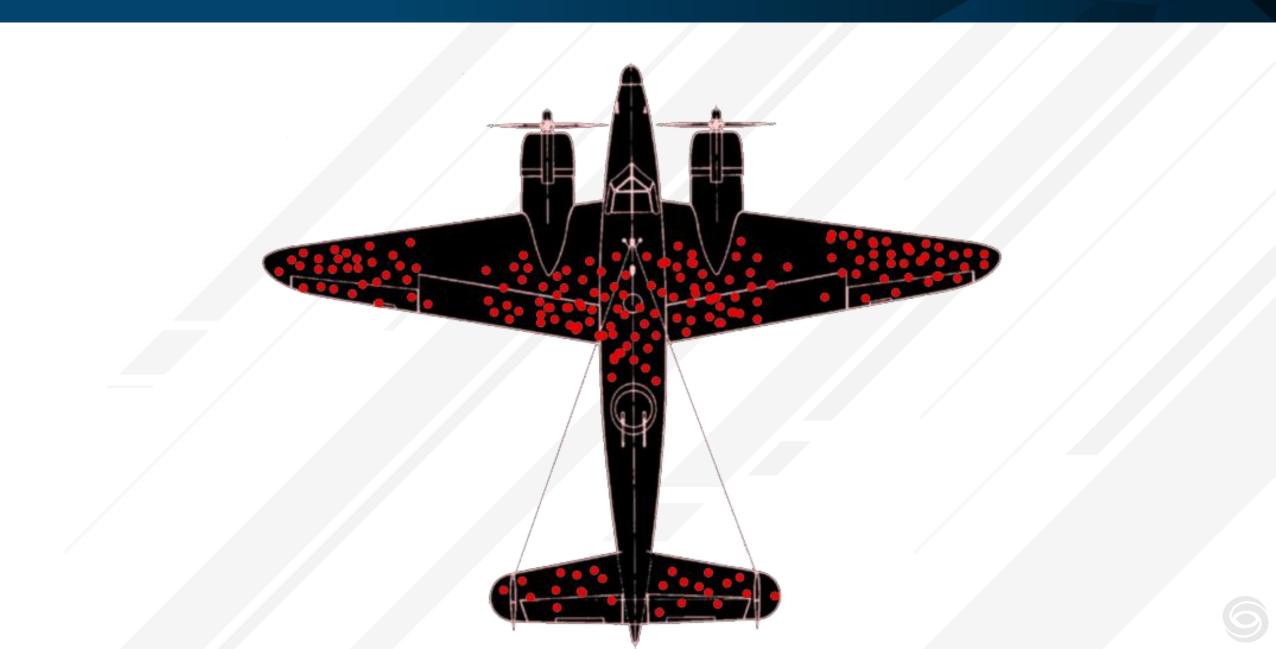
JUL 22, 2017 ARTICLE HISTORY

The state's Emorganow Managament Aganav on Evider announced a nublic

Securing Passwords... During A Site Visit



The Bias





Thank You Questions?