SKURIO

4 WAYS TO REDUCE RISK FROM YOUR SUPPLY CHAIN Jeremy Hendy, CEO

WELCOME!

- > Supply Chain risks why should I care?
- > Supply Chain Impersonation
- > Exploit & vulnerability monitoring
- > Ransomware in the supply chain
- > Detecting and tracing the source of supply chain leaks

> Please post any questions in the Q&A of GoToWebinar as we go along!



BBC Sign in 🙏 Home 👎 News

NEWS

Home | Cost of Living | War in Ukraine | Climate | UK | World | Business | Politics | Culture | Tech

Weather

Technology

MOVEit hack: BBC, BA and Boots among cyber attack victims

③ 2 days ago





By Joe Tidy Cyber correspondent

The BBC, British Airways, Boots and Aer Lingus are among a growing number of organisations affected by a mass hack.

Staff have been warned personal data including national insurance numbers and in some cases bank details may have been stolen.

The cyber criminals broke into a prominent piece of software to gain access to multiple companies in one go.

There are no reports of ransom demands being sought or money stolen.

In the UK, the payroll services provider Zellis is one of the companies affected and it said data from eight of its client firms had been stolen.

It would not reveal names, but organisations are independently issuing warnings to staff.

In an email to employees, the BBC said data stolen included staff ID numbers, dates of birth, home addresses and national insurance numbers.

Staff at British Airways have been warned that some may have had bank details stolen.



"DEFENDING THE PERIMETER" IS NO LONGER GOOD ENOUGH



Complex Supply Chains

Cloud Apps

Shadow IT



SIGNIFICANT CHANGES TO THE THREAT LANDSCAPE







	ED DATA	=		
cbelaw.com	crossinggroup.com	buckprop.com		
Cohen Buchan Edwards LLP is a full service law firm providing practical, client- oriented service that delivers results. For more than 40 years, an exceptional legal () updated: 01 Jun, 2023, 0505 UTC 282 ()	Your current trajectory is tragic for yourselves. Refusal to pay will result in an escalation you'd be wise to avoid. We recommend you to change negotiators.	Buckingham Properties is a real estate developer and property management company located in Rochester, New York. Our diverse portfolio includes office.		
credicoop.coop.py	vdbassocies.fr 14D 20h 50m 28s \$400000	nycollege.edu 10D 16h 40m 59s \$200000		
Nuestra central de cooperativas en Paraguay tiene como misión promover el desarrollo económico y social de nuestros asociados, fomentando la solidaridad, la	Cabinet d'expertise comptable à Amiens. Nous intervenons dans tous les domaines pour accompagner les dirigeants d'entreprises	New York College of Health Professions was founded by a group of dedicated holistic health care providers more than 40 years ago and is proud of its status today		
🕒 Updated: 30 May, 2023, 19:21 UTC 🛛 1352 💿	🕞 Updated: 30 May, 2023, 19:15 UTC 1150 💿	🕒 Updated: 30 May, 2023, 19:06 UTC 1286 🗲		

Small & mid-size enterprises are now costeffective targets for automated cyberattacks Phishing, Fraud & Impersonation are on the rise Ransomware Groups now Leak & Auction Data on Dark Web





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AND DON'T FORGET YOUR "BACKOFFICE" SUPPLY CHAIN...

HR & Finance	Professional advisers	R&D	Third party integrations
 Payroll Pension Healthcare Benefits Accounts 	 Legal Accountants Patent attorneys Investors 	 Third party libraries Code repos Ticketing systems IT subcontractors 	 Business Intelligence Report generation Chatbots Knowledge base Analytics



A PYRAMID OF RISK



- > Typical enterprise : hundreds or thousands of systems and sites
- > Each partner has their own pyramid
 - > Vendors of Vendors : Fourth party risks



MOVEIT & ZELLIS – A FOURTH-PARTY VULNERABILITY

About

With over 50 years' experience and almost 2,000 employees, Zellis provides payroll, HR and managed services to UK and Ireland based companies with over 500 employees. We are the largest business of this nature in the UK counting a third of the FTSE 100 as customers, serving over 5 million of our customers' employees and processing in excess of 60 million payslips a year.

Zellis in numbers

We are also the people behind ResourceLink, the award winning Payroll and HR software.



5m

employees paid every month



paid each year through our Managed

ခိုရိ

42%

of the FTSE 100 are Zellis customers







IT'S NOT JUST YOUR SUPPLIERS...

"One of our major customers has been hit by ransomware. They are telling us everything's fine, but we want to know what the ransomware group are saying.

> The customer owes us £4.5M - our board are really worried about how long the customer will be out of action, and whether we're going to get paid



- UK CISO

DIGITAL OPERATIONAL RESILIENCE ACT (DORA)

- New EU legislation (EU 2022/2554) covering the financial sector
- Came into force January 2023, will apply from 17 January 2025
- Regulatory requirement for "the sound management of ICT third-party risk"

1. In order to achieve a high common level of digital operational resilience, this Regulation lays down uniform requirements concerning the security of network and information systems supporting the business processes of financial entities as follows:

(a) requirements applicable to financial entities in relation to:

(i) information and communication technology (ICT) risk management;

(ii) reporting of major ICT-related incidents and notifying, on a voluntary basis, significant cyber threats to the competent authorities;

(iii) reporting of major operational or security payment-related incidents to the competent authorities by financial entities referred to in Article 2(1), points (a) to (d);

(iv) digital operational resilience testing;

(v) information and intelligence sharing in relation to cyber threats and vulnerabilities;

(vi) measures for the sound management of ICT third-party risk;

(b) requirements in relation to the contractual arrangements concluded **between ICT third-party service providers** and financial entities;

(c) rules for the establishment and conduct of the Oversight Framework for **critical ICT third-party service providers** when providing services to financial entities;



PROACTIVE APPROACHES TO SUPPLY CHAIN RISK MANAGEMENT

Questionnaires	Staff education	Risk Scoring Tools	DRP / OSINT Tools
 Manual Time consuming Generic Static 	Reminders"Show and tell"	Easy to digestLimited scopeInaccurate	 Early warning Tailored threat intelligence Data breach detection

Increasingly Proactive



RISK SCORING PLATFORMS





Supply Chain Impersonation Attacks



LINK IMPERSONATION TECHNIQUE

Private & Confidential



DocSend <info@bellnet.ca>
 To: O Jeremy Hendy

This message is high priority.

[EXTERNAL]

This E-mail was sent from "skurioIMC1500"(IM C1500).

Scan Date: 06.04.2023 13:15:04

Queries to: jeremy.hendy@skurio.com

https://www.skurio.com/ck/a?!&&p=b1685dc2cfed6c5dJmltdHM9MTY4NTU3NzYwMCZpZ3VpZ Mi1IZDQ3MjRhZTY2MzImaW5zaWQ9NTE1Nw&ptn=3&hsh=3&fclid=062afe64-2587-6768-12f2ed4724ae6632&u=a1aHR0cHM6Ly9sb3BlemNhc3Ryb21pbC5jb20v&ntbFwvy4De15#amVyZW1:

Original URL:

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Y3NjgtMTJmMi1IZDQ3MjRhZTY2MzImaW5zaWQ9N1E 1Nw%26ptn%3D3%26hsh%3D3%26fclid%3D062afe6 4-2587-6768-12f2-

ed4724ae6632%26u%3Da1aHR0cHM6Ly9sb3BlemNh c3Ryb21pbC5jb20v%26ntbFwvy4De15%23amVyZW15 LmhlbmR5QHNrdXJpby5jb20=

Click to follow link.

 \odot \leftarrow \ll \rightarrow

Sunday, 4 June 2023 at 21:17

Querres co: Jerenny.nendy@skt

https://www.skurio.com/ck/a?!&&p=b1685dc2cfe Mi1lZDQ3MjRhZTY2MzImaW5zaWQ9NTE1Nw&pt

Original URL: https://fwvy4de15.vk.com/away.php? to=https%3A%2F%2Fwww.bing.com%2Fck%2Fa %21%26%26p%3Db1685dc2cfed6c5dJmltdHM9 4NTU3NzYwMCZpZ3VpZD0wNjJhZmU2NC0yNTg



SUPPLY CHAIN IMPERSONATION EXAMPLE

2023/2024 Vendor EC	DI - Inbox • jeremy.hendy@skurio.com						
🔟 Delete 🗁 Archive 🕞 Move 🏳 Flag 🗸 ᅜ Mark as Unread	🗘 Sync 😪 Block ① Report …						
ి Unverified 2023/2024 Vendor EOI	\odot \leftarrow \ll \rightarrow						
O noreply@salesforce.com <noreply@salesforce.com> on beha O vendor@aramco-vendor.net <vendor@aramco-vendor.net></vendor@aramco-vendor.net></noreply@salesforce.com>	If of Thursday, 1 June 2023 at 10:04						
[EXTERNAL]	vendor@aramco-vendor.r						
Dear Sir/Madam,							
Greetings of the Day,							
We are extending an invitation to your company to become a vendor/supplier for ARAMCO and collaborate on the ongoing Saudi Arabia National Oil Company (ARAMCO) 2023/2024 Projects.							
If Interested, confirm by requesting the Vendor Questionnaire and Expression of Interest (EOI) Applications process.							
Looking forward to a quick response.							
Kind Regards,							
Brian Anthony Vendor Registration Unit							



PHISHY DOMAIN REGISTRATIONS IMPERSONATING "ARAMCO"

👪 Summary (20) 🗐 Insi	ghts 🛄	Timeline 📰 F	Results (23)			
Domain	Risk 🔻	Match Position	Match Context	Detected	Priority	
aramco.digital	Oritical	Direct	[aramco]	2022-01-10	Unspecified	Details
aramco-aevendors.com	1 High	Prefix	[aramco]	2023-05-01	Unspecified	Details
aramco-vendor.net	🕇 High	Prefix	[aramco]	2023-05-07	Unspecified	Details
aramco-suppliers.net	1 High	Prefix	[aramco]	2023-05-07	Unspecified	Details
aramco-trading.com	† High	Prefix	[aramco]	2022-01-15	Unspecified	Details
aramco-uae.org	† High	Prefix	[aramco]	2023-04-21	Unspecified	Details
process-aramco.com	† High	Suffix	[aramco]	2023-05-18	Unspecified	Details
saudiarabia-aramco.com	1 High	Suffix	[aramco]	2023-05-05	Unspecified	Details
aramco-ar.com	🕇 High	Prefix	[aramco]	2023-05-29	Unspecified	Details



AGAIN THIS WEEK – SAME TACTICS, DIFFERENT DOMAIN

Notice for vendors registration - Inbox • jeremy.hendy@skurio.com	
🔟 Delete 🗃 Archive 🔓 Move 🏳 Flag 🗸 더 Mark as Unread 🗘 Sync 🕹 Block ① Report 🗚 🖉 🗛 🖉 🔒 🖉 🔒	GROUP <adnoc@epc-ae.com></adnoc@epc-ae.com>
e ² Unverified Notice for vendors registration	
O noreply@salesforce.com <noreply@salesforce.com> on behalf of O ADNOC GROUP <adnoc@epc-ae.com></adnoc@epc-ae.com></noreply@salesforce.com>	Tuesday, 6 June 2023 at 11:06
[EXTERNAL]	News Upstream Downstream Technology People Analysis Events v More v Lists v
Attention;	ADNOC awards multi-million EPC contracts for Abu Dhabi's Bab and Asab fields
Notice for vendors registration and intending partners for 2023 projects as we continue the development of Abu Dhabi National Oil Comp National Oil Company Tower, West Corniche Road, P.O. Box: 898 United Arab Emirates.	by Faiza Rizvi June 5, 2023 SHARE 🕇 У 😝 in
These projects is open for all companies around the world, if you have intention to participate on the vendors registration process,Please (Adnoc@epc-ae.com)	
Note:We shall send you the attached vendor and contractor assessment Questionnaire/Acknowledgement Letter which includes the instru submission of required documents for this prequalification process.	
Kind Regards,	
Mr. Robert Carlos,	
Vendor Coordinator Group Procurement & Contracts Shared Services Center	
Abu Dhabi National Oil Company (ADNOC)	أدنوك
P.O. Box : 898. Abu Dhabi	ADNOC
United Arab Emirates	HU.

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DEFENDING AGAINST SUPPLY CHAIN IMPERSONATION ATTACKS

- > Educate staff on the risks
 - > "Show and tell" examples monthly meetings or company IM
- > Set up typosquatting monitoring for key supply chain partners
 - > Protect your staff
 - > Proactively blocklist any similar new domains at your email gateway
 - > Can be automated / orchestrated
- > Block access to any Newly Registered Domains at your endpoints
 - > Optional setting in Microsoft Defender (Web Content Filtering)
 - > Balance of usability vs security
 - > Bad actors are often waiting weeks or months to weaponise a domain



Supply Chain Ransomware Attacks



SUPPLY CHAIN RANSOMWARE ATTACKS

- > New modus operandi
- 1. Break in
- 2. Steal data
- 3. Lock machines
- 4. Publish & extort
 - > Free Samples
 - > Auction your data
 - > Publish anyway





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What's Inside

Email Addresses

IP Addresses

Bank Cards

Matched Snippets

1. PROGRESS MOVEIT

2 CONTINUE TO STEP 2

TO EDUCATE COMPANIES WHO USE

- IF YOU HAD MOVEIT SOFTWARE

Overview

Discover > Search > Message Details

Discover

Back

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(0 of 7) ()

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2 snippets

RIOTINTO.COM INVESTQUEBEC.COM MEDEXHCO.COM NEWEUROPEANOFFSHORE.COM GALDERMA.COM AVIDXCHANGE.COM SAE.ORG DEAR COMPANIES. CLOP IS ONE OF TOP ORGANIZATION OFFER PENETRATION TESTING SERVICE AFTER THE FACT. THIS IS ANNOUNCEMENT TO EDUCATE COMPANIES WHO USE PROGRESS MOVEIT PRODUCT THAT CHANCE IS THAT WE DOWNLOAD ALOT OF YOUR DATA AS PART OF EXCEPTIONAL EXPLOIT. WE ARE THE ONLY ONE WHO PERFORM SUCH ATTACK AND RELAX BECAUSE YOUR DATA IS SAFE. WE ARE TO PROCEED AS FOLLOW AND YOU SHOULD PAY ATTENTION TO AVOID EXTRAORDINARY MEASURES TO IMPACT YOU COMPANY. IMPORTANT! WE DO NOT WISH TO SPEAK TO MEDIA OR RESEARCHERS. LEAVE. STEP 1 - IF YOU HAD MOVEIT SOFTWARE CONTINUE TO STEP 2 ELSE LEAVE. STEP 2 - EMAIL OUR TEAM UNLOCK@RSV-BOX.COM OR UNLOCK@SUPPORT-MULT.COM STEP 3 - OUR TEAM WILL EMAIL YOU WITH DEDICATED CHAT URL OVER TOR WE HAVE INFORMATION ON HUNDREDS OF COMPANIES SO OUR DISCUSSION WILL WORK VERY SIMPLE STEP 1 - IF WE DO NOT HEAR FROM YOU UNTIL JUNE 14 2023 WE WILL POST YOUR NAME ON THIS PAGE STEP 2 - IF YOU RECEIVE CHAT URL GO THERE AND INTRODUCE YOU STEP 3 - OUR TEAM WILL PROVIDE 10% PROOF OF DATA WE HAVE AND PRICE TO DELETE STEP 4 - YOU MAY ASK FOR 2-3 FILES RANDOM AS PROOF WE ARE NOT LYING STEP 5 - YOU HAVE 3 DAY TO DISCUSS PRICE AND IF NO AGREEMENT YOU CUSTOM PAGE WILL BE CREATED STEP 6 - AFTER 7 DAYS ALL YOU DATA WILL START TO BE PUBLICATION STEP 7 - YOU CHAT WILL CLOSE AFTER 10 NOT PRODUCTIVE DAY AND DATA WILL BE PUBLISH WHAT WARRANTY? OUR TEAM HAS BEEN AROUND FOR MANY YEARS. WE HAVE NOT EVEN ONE TIME NOT DO AS WE PROMISE. WHEN WE SAY DATA IS DELETE IT IS CAUSE WE SHOW VIDEO PROOF. WE HAVE NO USE FOR FEW MEASLE DOLLARS TO DECEIVE YOU. CALL TODAY BEFORE YOUR COMPANY NAME IS PUBLISH HERE. FRIENDLY CLOP. PS. IF YOU ARE A GOVERNMENT, CITY OR POLICE SERVICE DO NOT WORRY, WE ERASED ALL YOUR DATA.

YOU DO NOT NEED TO CONTACT US. WE HAVE NO INTEREST TO EXPOSE SUCH INFORMATION.

🛟 SKURIO

SUPPLY CHAIN PARTNERS ARE TAKING A TOUGHER STANCE

"If you've suffered a ransomware attack, your customers will pull the plug on you as a supplier, until you can demonstrate that you've got your act together.

> Many are now insisting on post-breach Dark Web monitoring to make sure that their data is not turning up again or being sold



- UK MSSP



Vulnerability Monitoring



KEYWORD-BASED MONITORING FOR CRITICAL COMPONENTS

	🗘 SKURIO	Discover	Analyse	Inve	stigate		\rm O Skurio Demo	≡
Show me posts containing these keywords:	Discover > Search > Messa	age Details		_				
moveit	What's Inside	< <u>Bac</u>	<u>s</u>		unknown		🛱 Save Messag	ze
	Overview	େ			2023-06-02 at 16:17:4	9		
	Email Addresses	(0 of 1) 🕃)		Domain	web.nvd.nist.gov	<u>View less meta da</u>	ata 🔺
ANY of these keywords ALL of these	IP Addresses	(0 of 0) 📀			Title Link	CVE-2023-34362 https://web.nvd.nist.gov/view/vuln/detail?vulnId=CVE-2023-34362		
	Bank Cards	(0 of 0) 🖸			Language Timeline	en Received - 2023-06-02 16:17		
	Matched Snippets	4 snippet:	5		Channel	https://nvd.nist.gov/feeds/xml/cve/misc/nvd-rss.xml		
AND also includes these keywords: "15.0.1"	. In Progress MOVEII 1. before 2021.0.6), 2022.1.5 (14.1.5), a 2. (15.0.1), a SQL injection vulnerabilit 3. found in the MOVEII		c	Content	This vulnerability is currently awaiting analysis. In Progress MOVEII; Transfer before 2021.0.6 (13.0.6), 2021.1.4 (13.1.4), 2022.0.4 (14.0.4), 2022.1.5 (14.1.5), and 2023.0.1 (15.0.1), a SQL injection vulnerability been found in the MOVEII Transfer web application that could allow an unauthenticated attacker to gai access to MOVEII Transfer's database. Depending on the database engine being used (MySQL, Microsol SQL Server, or Azure SQL), an attacker may be able to infer information about the structure and conter of the database, and execute SQL statements that alter or delete database elements. NOTE: this is exploited in the wild in May and June 2023; exploitation of unpatched systems can occur via HTTP or HTTPS. By selecting these links, you will be leaving NIST webspace. We have provided these links to other web			
ANY of these keywords ALL of these	unauthenticated att. 4. access to <mark>MOVEit</mark> Tra	acker to gain ansfer's				because they may have information that would be of interest to you. No infe account of other sites being referenced, or not, from this page. There may be appropriate for your purpose. NIST does not necessarily endorse the views e facts presented on these sites. Further, NIST does not endorse any commerc mentioned on these sites. Please address comments about this page to nvdd	rences should be drawn or other web sites that are r xpressed, or concur with t al products that may be Phist.gov.	n more the



Protecting your data throughout the supply chain



OUTSIDE YOUR CONTROL, BUT STILL YOUR RESPONSIBILITY

"We've just gone through a massive digital transformation project and migrated everything to cloud.

> It's delivered great productivity benefits to the rest of the business - but the board still expect me to maintain the same level of security as before"



- UK CISO



MONITORING & DETECTING LEAKS



Metadata

- Company names
- Product names
- Database schema
- Field names
- Unique patterns

Data

- Watermarks
- Fingerprints



5 TECHNIQUES FOR DETECTING LEAKS OF YOUR DATA



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COMPANY AND PRODUCT NAMES

- Hackers will often use the name of the organisation when marketing, selling, or leaking the data
 - > Forums
 - > Ransomware sites
- > A useful start point for monitoring
 - > Need to include multiple variants, typos, etc
- Can generate false positives depending on the name
 - > Important to be able to quickly pivot and filter the data to identify relevant posts
- Could also be a scam : need to assess the credibility & reliability of the "merchant"



5 TECHNIQUES FOR DETECTING LEAKS OF YOUR DATA



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DATABASE IDENTIFIERS

- > Unique strings in your datasets
 - > Database & table names
 - > Server names & IP addresses
- Can match metadata included in data leak
 - > Database dumps
 - > CSV file exports
 - > Exposed source code
- > No PII in monitored terms





PATTERNS IN YOUR DATA

- Can monitor for data matching a pattern specific to your organization
 - > Account Numbers
 - Customer IDs
 - > Reference Numbers
- > Search term is the pattern, not the data
 - > R7GB00233874F
 - > R5GB00493549J
 - > RnGBnnnnnnNX



Synthetic data example

5 TECHNIQUES FOR DETECTING LEAKS OF YOUR DATA



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INTRODUCING BREACHMARKER[™] : SYNTHETIC IDENTITIES

- > Added to your datasets as markers
- > Unique details
- > Detect breach and misuse
- > No "false positives"
- > Deployed in minutes
- > Not real people GDPR doesn't apply!



ADDING BREACHMARKERS TO YOUR DATA





BREACHMARKERS DETECT DATA MISUSE AS WELL AS BREACH



- Sales person leaves, and joins one of your competitors
- > Takes a copy of lead database with them
- Competitor starts sending sales emails to your prospects



- Staff email address & password exposed in breach of unrelated website
- > Hacker runs automated scripts to try to login to other sites with those credentials
- Gains access to your cloud-hosted email marketing app
- > Exports client list, and start sending them phishing emails



MONITOR FOR UNEXPECTED EMAIL TRAFFIC AND BREACHES & LEAKS OF PERSONAL INFORMATION



BREACHMARKER EMAIL ALERT : MISUSE / SPAM



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UNIQUE BREACHMARKERS FOR EACH SUPPLY CHAIN PARTNER



HubSpot Email Marketing Platform



Partner Webinar Marketing Agency



Customer Support Call Centre



UNIQUE BREACHMARKER COMBOS AS ROTATING TIMESTAMPS









TRACE THE SOURCE OF LEAKS AND MISUSE

Name	Address	Email
Mrs Christine P Pengilly	19 Cocknage, Stoke-on-Trent, Staffordshire, ST3 4AE	christine_pengilly@icloud.com
Mr Peter M Brown	314 Lythalls Lane, Coventry, West Midlands, CV6 6GA	peterbrown@virgin.co.uk
Mr Lee J Owen	4 Kent Road, Doncaster, South Yorkshire, DN4 8JG	lee.owen81@googlemail.co.uk
Mr Jonathan Carter	St John's Innovation Centre, Cowley Road, Cambridge CB4 0WS	jonathan.carter@rngdesigns.co.uk
Mr Tristan J Watkins	2 Greenside Close, Kidsgrove, Stoke-on-Trent, Staffordshire, ST7 4TG	tristan.j.watkins@btopenworld.com
Mrs Emma P Whitla	247 Rowrah Crescent, Middleton, Manchester, Greater Manchester, M	emma.whitla@gmail.com
Mr Michael M Brown	64 Chalfont Road, London, Greater London, N9 9LY	michael.brown83@btinternet.com
Miss Gemma A Munro	40 Marne Street, Hull, North Humberside, HU5 3SU	gemma.munro@gmail.com
Ms Saffron S Paine	14 Gray's Inn Road, London WC1X 8HN	saffron.paine@rngdesigns.co.uk
Ms Karen S Hutton	110 Evenlode Road, Southampton, Hampshire, SO16 9EG	karen.hutton83@me.com
Mr Nayan A Rogers	Alder Lane Barn, Alder Lane, , Burtonwood, Warrington, Cheshire, WA5	nayan.rogers10@yahoo.co.uk
Mr Simon N Lynch	55 Cumberland Road, Castleford, West Yorkshire, WF10 2RA	simon.lynch83@btinternet.com
Mrs Chantelle P Checketts	20 Poplar Drive, Alsager, Stoke-on-Trent, Staffordshire, ST7 2RE	chantelle_checketts@hotmail.com
Mrs Shania P Derham	21 Hollyhock Drive, Mansfield, Nottinghamshire, NG19 7FG	shania_derham@outlook365.com
Mr Stephen J Foster	57 Argyle Street, Tamworth, Staffordshire, B77 3EQ	stephen.foster82@googlemail.co.uk



Customer Support Call Centre 5 March 2023



"GUERRILLA WATERMARKING" ON YOUR PUBLIC-FACING SYSTEMS





CONTRACTOR IN SKURIO'S CLOUD-BASED HR SYSTEM

SKURIO Home My Info	People Hiring Reports Files	Q. Search
	Mark Waters Sales Executive Personal Job Time Off Benefits Emergency Documents Notes Training	Request a Change 🔻 🔯 🔹
□ 07946 138977 ■ mark.waters@purplegorill	😝 Personal	Customize Fields
Hire Date Apr 1, 2017	Basic Information Employee # Status 9999999 Artive	
3y - 11m - 23d 	Name Preferred Name Mark Waters	
T' Contractor	Title Mr.	
Sales & Marketing	Birth Date 01/04/1976 [1] Age: 44	
Manager Jeremy Hendy Chief Executive Offic	National Insurance No. KR 29 43 78	
	Gender Marital Status Male Married	



5 TECHNIQUES FOR DETECTING LEAKS OF YOUR DATA





CUSTOMER DATA MONITORING : THE DETECTION CHALLENGE

fag

deals

\leftarrow \rightarrow C \cong pastebin.com







CUSTOMER DATA MONITORING : THE DETECTION CHALLENGE

deals

 \leftarrow \rightarrow C \cong pastebin.com

PASTEBIN + new paste API tools fag aaronscrivener@btopenworld.com/maxpodcoffee denise.hart62@yahoo.co.uk|littledude1 denise@gloriousbridal.co.uk|glentoran chandnicarpanini@me.com/marcus14a kitty_hodson@btinternet.com|super2reds marcus@green-electrics.co.uk|lucinda0110 dayaflack27@gmail.com/r8091504 conna.rose@btinternet.com|Rainbows97 connadoherty@btconnect.com|maxpodcoffee haroldallwood@aol.com/shopping9 haroldallwood@aol.com|Saffer99+ iwanwillcocks12@aol.com/brownie deena richards@hotmail.co.uk|rubicon django.rigler@hardinglaw.co.uk|Chandler1 ellice@hythegrangedental.com/jess15 adrian@ashtax.co.uk|misterpip e.singh@southwarkunited.net|lollypop12 e.hall15@ntlworld.com/rooney10 divya.coyne@yahoo.co.uk|hannahzara01 amy906@sky.com|summ3rTime billywilson@empathyls.com|Seattle elspeth.hughes@hotmail.co.uk|florida99 emily-maywilks@gmail.com|Hannah123 katie.hannah@yahoo.co.uk|Busterthebeagle katietyler31@yahoo.com/kakaliukas1





CUSTOMER DATA MONITORING : THE DETECTION CHALLENGE





CUSTOMER DATA FINGERPRINTING : SEARCH TERM SECURITY

Scrambled Fingerprint



- Unique, 1:1 mapping
- Also incorporates a shared secret
- Comparison requires both the original data and the secret





CONTINUOUS MONITORING OF THE FINGERPRINT

What would you like to search for?				🖺 Save this search	View saved searches		
Email Addresses					Anonymous		
	Show me posts containing these email ad	dresses:	10/100		2018-01-04 at 11:33	:25	Save Message
2c5a5a6bb0e5f476966d0ac726d1fd4c574ed462b09b3321b54acd15d1748bb2 2bcb0e776a4209ba13a682f31e97408039c7a43659189e282c5df6fc4c7ffer0					Domain	nzxj65x32vh2fkhk.onion	<u>View more meta data</u> 🕶
	b 1	ħ.	Content R4GB00737717J Mr Alan P Wright 19 Grinstead Close,Birstall,Leic 4921819428641535 , EXP: 08/20 , CW:307 alan.wright9@talktalk. R0GB00811762Y Mr Thomas J Taylor 50 Lambourne Road,Nelsor EXP: 01/18 , CW:786 thomas.taylor@gmail.com 00a0167e000e30 R7GB00299086V Ms Michelle C Black 160 Barkerhouse Road,123 4921818663126939 , EXP: 05/20 , CW:373 michelle.black9@bigfo dr/cfb1189641315647230467766756ab		3irstall,Leicester,Leicestershire LE4 9RY 9@talktalk.net f15f272f24f25e930ea0d8d0db0da16c oad,Nelson,Lancashire BB9 2UZ 4263972456087869 , 67e000e3043ff5fe981fff1cfbc e Road,123 St. Marys,Barking,Essex IG11 9RL ack9@bigfoot.com		
ANY of these email addresses ALL of these email addresses Upload CSV Add Exclude List Add Keywords Hide search details						R0GB00407864A Mrs Rebecca A Norman 71 Rookwood EXP: 09/19, CVV:062 rebecca_norman@outlook365.cor R5GB00970909K Mrs Anne F Dodd 158 Wanstead Park 4921819035619676, EXP: 06/20, CVV:777 anne.dodd9 R1GB00325064B Mr James P Brown 682 Foleshill Road, EXP: 06/20, CVV:337 james.brown9@tesco.net e50e1a R2GB00368252X Ms Nicola S Watts 41 Riverside Drive, EXP: 03/20, CVV:019 nicola.s.watts@btopenworld.com P0CPD009252562 Mic Amaged L Electors 10 Hinfed J	d House,llford,Essex IG1 7QQ 4921816099788207, m 9c27d2148024472a63d82deb7fdbb8d5 < Road,Coventry,West Midlands CV6 8LZ @@aol.co.uk e74ff7bfdfdb2fb418b008402024d04b j.leicester,Leicestershire LE2 9ZE 4921818947451038 la7617adaebd1af1e589e8525142 ,Maidenhead,Berkshire SL6 9UQ 4921818108316301, n cf92a15482cf27fc306d5eab7d30d803 Lane London Creater Leaden E7 80T
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4659021576109807 , EXP: 06/18 , CVV:055 gemma.butcher@gmail.com

2859fb05279002d0d7a604fad86ffd2f

REAL EXAMPLE : SKURIO'S SALESFORCE CRM DATA (22,000 RECORDS)



> 30% of all our B2B customers were in a breach over the last 8 years

> Large number of false positives

- > Small quantity of "our" data exposed in an unrelated breach
- > Easy to filter based on "Matches per document" and "Percentage Matched"



REAL EXAMPLE : SKURIO SALESFORCE DATA (22,000 RECORDS)



> Filter based on more than 3 of our CRM records in a single breach / post

- > Filter based on more than 5% of the breach/post being our data
- > Exclude large data dumps (e.g. HavelBeenPwned)



INVESTIGATION SHOWS IT'S OUR OWN BREACHMARKER TESTS...





5 TECHNIQUES FOR DETECTING LEAKS OF YOUR DATA



SKURIO

CUSTOMER DATA FINGERPRINTING : ANONYMISING THE DATA

Fingerprint Fragment



- Non-unique, 1-to-many mapping
- "Fuzzy Search" in DRP platform
- Deliberately returns false positive results
- Final comparison match is performed in your environment





SKURIO'S CUSTOMER DATA – ANONYMISED FINGERPRINTS

001771c	014e1eb	029£039	03f393f	051a3e6	068c995	07bebd1	0942c51	0a53405	0b7c988	0c96663	0db4370	0ec217f	100481b
001b65e	0156d9b	02a0856	03f588f	051d520	068ea08	07c710d	094ed34	0a589bb	0b7f3c5	0c96dd7	0dbb381	0ec22d7	100830c
002043a	015c5da	02a41b8	03f615f	051d9e9	069055d	07cae50	094f8df	0a5a502	0b80bcc	0c96f44	0dbd2bc	0ec4947	10180f7
0026bde	01613d5	02a7c6d	03f820e	0521bbf	069423b	07cae7f	094f92e	0a5ef05	0b80de4	0c97577	0dc8919	0ec6602	10214f4
0033d5b	0163eb4	02a8bb5	03f9113	0523c2c	069441c	07cb74e	095df92	0a5f397	0b84aee	0c990b2	0dce03b	0ecdde5	102597b
0036ba0	0167ce1	02b3c80	03fc74e	052707a	069acc8	07cd6d9	0965ed7	0a5f630	0b84f9f	0c9b9d1	0dd1460	0ed1df9	1028c64
00380b7	016e0fa	02b4411	04004f6	052c6d1	069e2d8	07d015c	096b365	0a63927	0b85776	0c9cae0	0dd2842	0ed3850	102d081
003a31d	01729b1	02b4541	0400b45	052d5cc	069edf8	07d13f9	097130f	0a63cdf	0b85b0b	0ca006c	0dd55a6	0ed5372	10332d8
003a469	0172fec	02b4d41	0405f2c	052e79e	069£325	07d242b	097165a	0a6638b	0b876ff	0ca31ff	0dd6048	0ed7754	10349c3
003b96e	01731ba	02b5acb	040858e	0531b55	06a2b13	07d2568	0976f27	0a66d2c	0b8770e	0ca9a02	0dd69cb	0eda9ac	103ad0f
003bc96	01731ba	02b6450	040a888	0533b87	06b1a21	07d9d1b	0977b3c	0a6a16b	0b8a732	0cabb01	0dd86be	0ee209e	103c65e
004448b	0173eb1	02b91dc	040d67a	05347c1	06b565d	07dedbe	097efb6	0a715c6	0b8e7c8	0cadef3	0dd9d9e	0ee2d76	103e3ca
004461b	017d122	02c6389	040d9d5	0536dac	06b573e	07e1158	097f2d4	0a77fde	0b95ba3	0caf11c	0dddb17	0ee4f41	103e874
00498bd	017e27e	02cc0de	040e813	053c47f	06b6695	07e14f0	0983a78	0a787cc	0b96604	0cb0b0c	0ddf79b	0ee6039	104a8da
004a807	018271f	02d1554	041c972	053ca28	06b7495	07e2b1e	09861df	0a79875	0b99720	0cb13a5	0de1e47	0eef967	104dc8f
004ae21	0183fbd	02d89de	0420eb4	053e8a5	06bedb4	07e35cc	0986b79	0a7a1eb	0b9cdf0	0cb718d	0de36dd	0ef0361	10533ce
004ae22	018ad41	02d9034	0423c75	0556bd8	06c01d3	07e5114	09897d2	0a7fec6	0ba65d0	0cbb425	0de50a8	0ef3765	10533ce
004b449	018f78a	02d91f5	0426d72	05648b2	06c08a0	07ead6c	098aad8	0a7fef6	0ba75f7	0cca750	0de736b	0ef5520	105715f
0059c9c	01900c7	02d9c33	04283b3	056da53	06c0dff	07f1136	098f1c4	0a80665	0baaab0	0ccd46d	0de948d	0ef84c9	1058f23
005fed9	01917ce	02e7ba5	042c47d	05708c6	06c13c3	07f4da5	09931b8	0a841cf	0bab8b2	0ccd7c0	0dee4f6	0efdf01	105e320
0060b4f	01983db	02f1929	0434f3f	05754c8	06c2872	07£7686	0995dd1	0a86a62	0bad635	0ccffa7	0def7b4	0efe847	105e7ed
0060c67	019871f	02f1fb7	0435b1b	057dbf8	06c3b86	07f7e59	0999c7e	0a86c95	0badd3b	0cd1b51	0df403d	0f012fc	1063ba6
00625d3	0198a0d	02f37e0	0439fc2	057fc94	06caa53	07f8dc3	099e79d	0a874b9	0bafa3c	0cde9ca	0df8f17	0£03939	1064efe
0063cd2	019a7fa	02f744b	043b296	058265f	06d2ad1	07fa0b8	099fab5	0a8ab17	0bb1b38	0ce02cb	0df971e	0f04ad4	1064efe
0064ca9	019bb18	02f811a	043e462	0589d65	06d31a8	0811c62	09a30ab	0a8bbdf	0bb2717	0ce33ae	0dfb66a	0f07b04	1066a46
00653cb	01a1ea0	02f84b3	044405f	058c538	06d4825	081632c	09a4879	0a8ed4c	0bb5612	0ce6134	0dfe6cf	0f093cd	106a031
0066f91	01a1fb3	02f95a3	04468c6	0590b92	06d6375	0829c95	09a7098	0a8fb39	0bb5dc3	0ce61e3	0dfe817	0f0a4e4	106a4de
0068b6b	01a3715	02fc12d	044b254	0591ce8	06d6ae2	082f53f	09af332	0a95f56	0bbe1e4	0cef1bf	0e006e2	0f0aa87	107dad0
00690a4	01a6d32	0302f1f	044cbe3	059329d	06d995e	0831a28	09b00d5	0a9669c	0bc0832	0cf283b	0e0245c	0f0f9e9	1083d1b



COMPARISON OF FULL FINGERPRINT & ANONYMISED VERSION





Wrap-up





SUMMARY

- > Your data is everywhere, and outside your direct control
- > Breaches can happen through no fault of your own
- > Supply chain may be a bigger source of risk than your own organisation
- > Ransomware, automation & cybercrime-as-a-service making the problem worse
- > New regulatory requirements bringing supply chain cyber risks in-scope
- > Proactive monitoring for supply chain risks doesn't have to be a big overhead
 > Multiple techniques to detect & trace leaks of your data across the supply chain
 - > Metadata monitoring, Watermarking & Fingerprinting
- > Questions?



THANK YOU