



K2's Tales Of True Tech Crimes: Ripped From The Headlines

Session Description



We're all familiar with the headlines describing how criminals use new and creative approaches to commit their crimes. But what you may not know is that these same criminal elements also target accounting professionals. Unfortunately, accountants are one of the most targeted groups on the Internet!

In this session, you will learn how high-profile failures occurred due to control malfunctions. In turn, hackers gained full reign over entire networks that contained sensitive information such as financial data stored online. Attend this session so you can be more effective at preventing crimes such as theft, malware, ransomware, phishing, and hacking.

Learning Objectives



- List at least three major security incidents reported in the headlines in the last year and explain at least one primary control design or operation flaws that allowed the hack to occur
- Select the correct definitions from a list of standard security terms such as attack surface, vulnerability, exploit, social engineering, phishing, malware, heuristics, biometrics, and multi-factor authentication
- List at least three best practices learned because of reviewing the incidents cited in the case studies

Overview Of Presentation



- Phishing Enabled Ransomware Attack
- E-mail Accounts Compromised, Mined for Data
- Ransomware Payments Up Significantly in 2021
- Miscellaneous Privacy and Productivity Perils
 - Antivirus and crypto mining
 - Everyone wants your earnings data



“Inside a Ransomware Hit at Nordic Choice Hotels”,
WSJ Pro, January 12, 2022

WSJ **PRO**
CYBERSECURITY

PHISHING ENABLED RANSOMWARE ATTACK

What Happened?



- Nordic Choice Hotels is hotel operator of hotels branded by Choice Hotels, Inc. (Comfort, Quality, Clarion) in Norway, Sweden, Denmark, Finland and Lithuania
- Sometime on November 29, 2021, a tour operator e-mailed a Nordic Choice Hotels employee
- The employee clicked on a malicious website link
- This mistake made it possible for hackers to disable antivirus apps, download data, and install apps

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What Happened?



- Two days later, hackers deployed the Conti ransomware against the chain's computer networks
- Hackers demanded a \$5 million ransom to decrypt the files
- Front desk employees were forced to use paper and pens to check in guests
- Staff members had to escort employees to rooms since the digital key systems at the chain's hotels no longer worked

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What Happened?



- Hackers demanded a \$5 million ransom to decrypt the firm's data
- The chain refused to pay the ransom
- The organization's IT team sped up its plans to transition its thousands of computers using Microsoft's Windows with simpler devices running Google's ChromeOS
- The migration of over 2,000 computers to this simpler operating system at 212 hotels was completed in just two days, eliminating the need for technicians to visit each location to collect and clean the infected Windows computers



What Happened?



- Five weeks later, the chain reported that there were still some fixes needed to address glitches in heating, music, and other systems at some properties
- Hackers posted personal data about employees to the dark web, including government ID data and bank info
- Thankfully, hackers were unable to access data on the chain's guests
- NCH has created staff training courses on how to recognize fraudulent e-mails, but only after the damage was done

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“Microsoft the No. 1 Most-Spoofed Brand in Phishing Attacks”,
Dark Reading, March 16, 2022

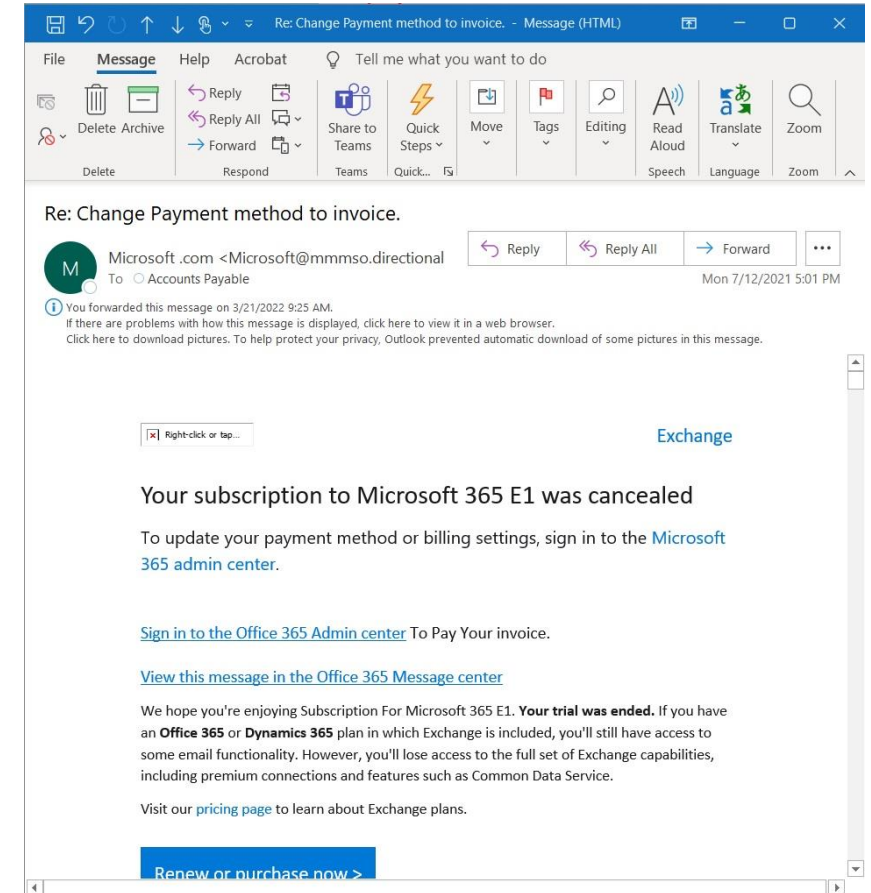


MICROSOFT IS TOP PHISHING BRAND

Spear Phishing: Still Significant



- According to the March 2022 publication, “Spear Phishing: Top Threats and Trends” by Barracuda Networks
 - 51% of social engineering hack attacks are phishing
 - Microsoft is the most impersonated brand, used in 57% of phishing attacks
 - An average small business with <100 employees will receive 350% MORE social engineering attacks than an employee of a large enterprise



One of literally hundreds of MS365/O365 phishing e-mails received by the author

Spear Phishing: Still Significant



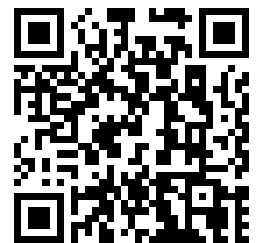
- According to the March 2022 publication, “Spear Phishing: Top Threats and Trends” by Barracuda Networks
 - Cybercriminals compromised ~500,000 MS 365 accounts - just in 2021
 - 1 in 5 organizations had an account compromised in 2021
 - 1/3 of malicious logins came from Nigeria
 - Cybercriminals sent out 3,000,000 messages from 12,000 compromised accounts
 - Conversation hijacking grew by 270% in 2021

Spear Phishing: Top Threats and Trends

Vol. 7 March 2022

Key findings on the latest social engineering tactics and the growing complexity of attacks

Cybercriminals are constantly refining their tactics and making their attacks more complicated and difficult to detect. In this in-depth report, Barracuda researchers share their insights on the most recent trends in social engineering and the new methods attackers are using to trick their victims.»

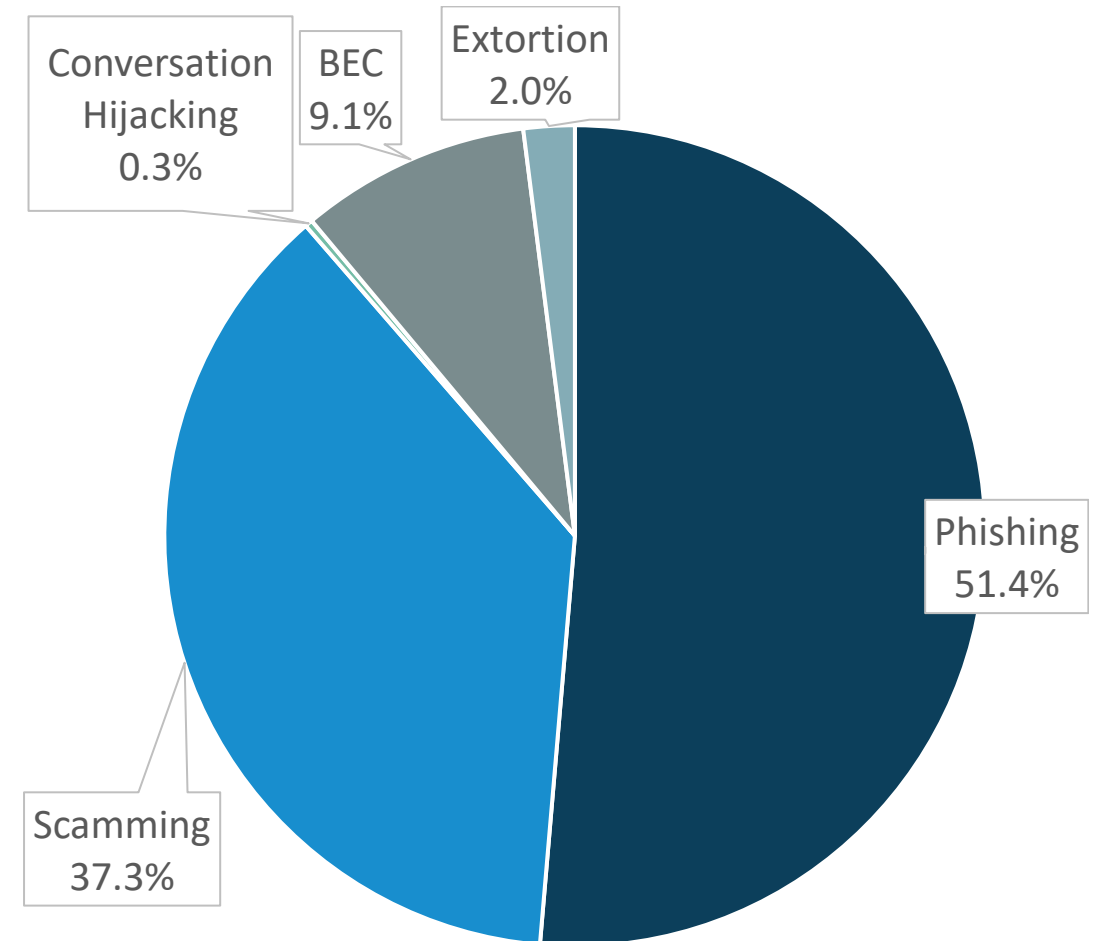


 Barracuda.
Your journey, secured.

Social Engineering Attacks, 2021



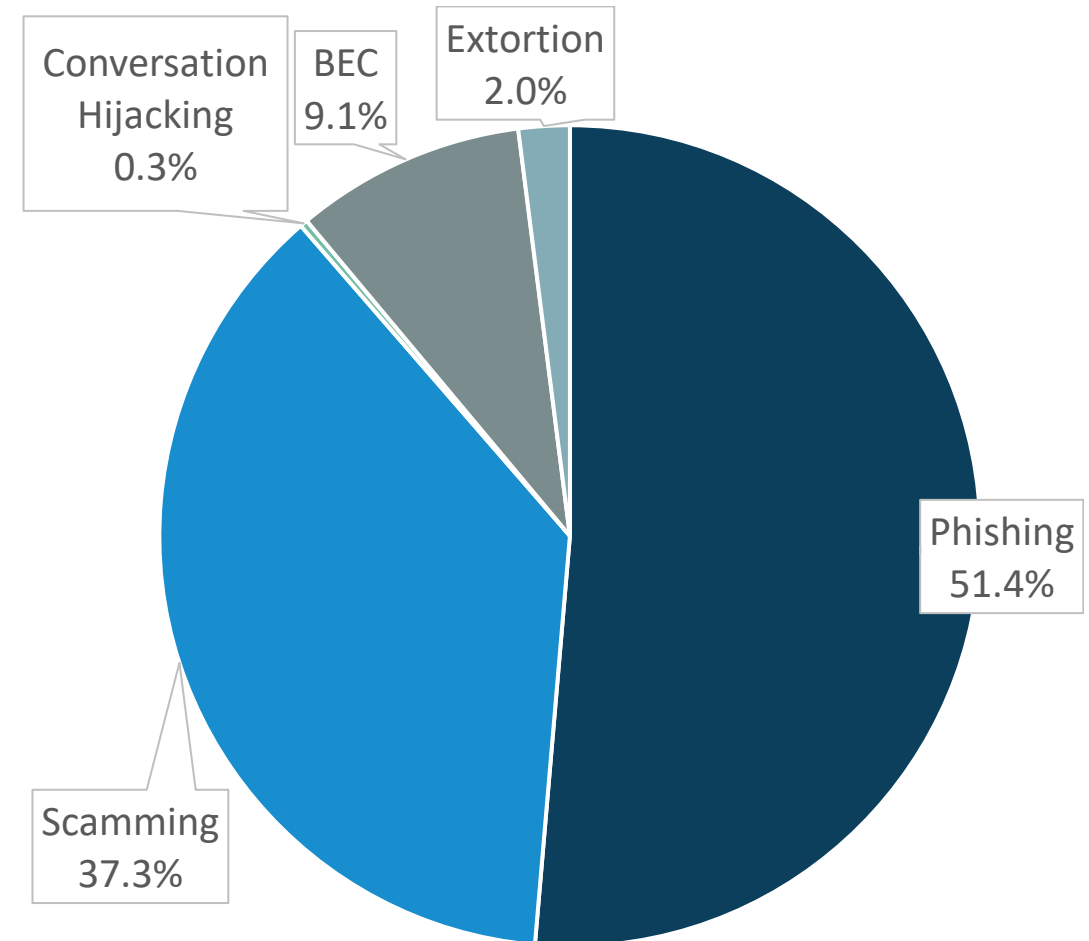
- **Phishing** attacks pose as legitimate e-mails from well-known brands or services
- **Scamming** uses scams such as get rich quick schemes and the like to trick people out of data and money



Social Engineering Attacks, 2021



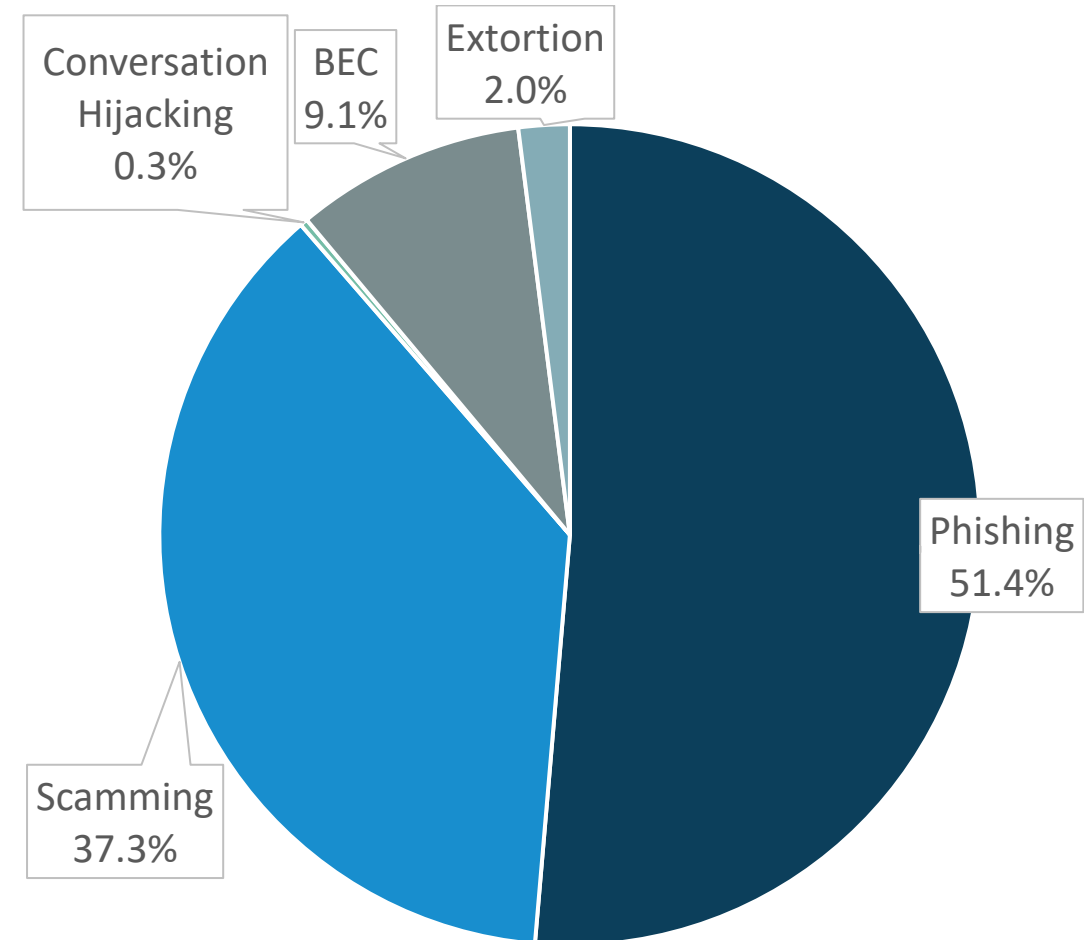
- **Business E-mail Compromises (BEC)** have fraudsters impersonating a legitimate user of a system to trick others out of assets or data or initiate wire transfers
- **Extortion** attacks use e-mail to threaten exposure of sensitive or embarrassing content unless a ransom is paid



Social Engineering Attacks, 2021



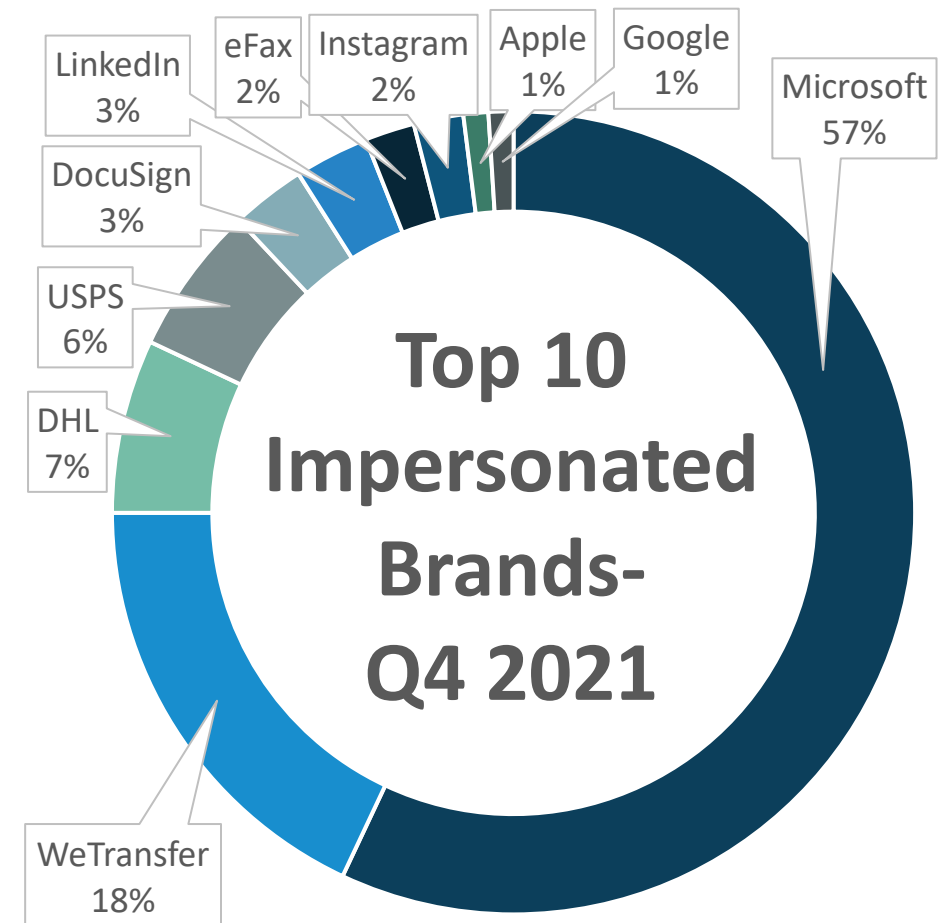
- **Conversation Hijacking** is a type of account takeover attack where someone compromises login credentials and impersonate either a vendor or a purchasing agent to trick victims into wiring money or updating existing payment information for a vendor



Who Do The Bad Guys Impersonate?



- Hackers impersonate brands that you trust and that create a sense of urgency for you to respond
- Why were Microsoft logins targeted so heavily?
 - The same study found that 79% of business organizations had migrated to Microsoft 365
 - Since so many use Microsoft 365/ Office 365, it makes sense for the bad guys to target its users





“Gift Card Gang Extracts Cash from 100K Inboxes Daily”,
Krebs on Security, September 2, 2021

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E-MAIL ACCOUNTS COMPROMISED, MINED FOR DATA

What Happened?



- A cybercrime group targets e-mail account compromises and mines the accounts for valuable information in messages
 - The group purchases databases of usernames and passwords online which they use in credential stuffing attacks
 - They try between five and ten million of the usernames and passwords against webmail sites
 - The report claims that they compromise 50,000 to 100,000 new e-mail accounts ***every day***
 - Once e-mail accounts are compromised, they run searches against the stored messages (IMAP) to try to find valuable data

What Do The Hackers Do With Accounts?



The group scans the messages in the account to look for things they can exploit:

- Gift cards delivered electronically that can be sold online
- E-mail messages from websites where they could steal personal data
- Items from cryptocurrency exchanges (e.g. Kraken or payment services (PayPal, Venmo, or bank-related services like Zelle)
- Frequent customer information which could help the hackers steal the points and sell them online

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SEARCH FROM "giftcards@gc.nordst
SEARCH FROM "gc-orders@gc.email.
SEARCH FROM "gifts@paypal.com"
SEARCH FROM "jcrewgiftcards@jcre
SEARCH FROM "notification@myprom
SEARCH FROM "bittrex.com"
SEARCH FROM "noreply@messaging.s
SEARCH FROM "@virtualrewardcente
SEARCH FROM "corporategiftcards@
SEARCH FROM "coinsbit.io"
SEARCH FROM "bitmex.com"
SEARCH FROM "gianteagle@info.gia
SEARCH FROM "starbucks@giftcards
SEARCH FROM "customerservice@wel
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SEARCH FROM "wazirx.com"
SEARCH FROM "@cabelas.com"
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SEARCH FROM "joinhoney.com"
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SEARCH FROM "@sm.ihg.com"
SEARCH FROM "marriott@email-marr
SEARCH FROM "hilton.com"
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What Accounts Are Targeted?



A list published as part of this story included 2,000 search terms which are applied against compromised accounts, including:

- Key retail brands targeted by searches include Cabelas, Nordstrom, Amazon, Apple, Best Buy, and virtually any retailer who offers gift cards to customers
- Financial institutions like Wells Fargo, Fidelity Investments, and many bank-related award sites
- Major cryptocurrency exchanges like Kraken, BitBay, Bitfinex, Crypto.com, and Dex-Trade
- Hospitality brands like most major airlines, hotel chains

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SEARCH FROM "giftcards@gc.nordst
SEARCH FROM "gc-orders@gc.email.
SEARCH FROM "gifts@paypal.com"
SEARCH FROM "jcrewgiftcards@jcre
SEARCH FROM "notification@myprom
SEARCH FROM "bittrex.com"
SEARCH FROM "noreply@messaging.s
SEARCH FROM "@virtualrewardcente
SEARCH FROM "corporategiftcards@
SEARCH FROM "coinsbit.io"
SEARCH FROM "bitmex.com"
SEARCH FROM "gianteagle@info.gia
SEARCH FROM "starbucks@giftcards
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SEARCH FROM "bitbay"
SEARCH FROM "wazirx.com"
SEARCH FROM "@cabelas.com"
SEARCH FROM "stremail@microsoft.
SEARCH FROM "noreply@kraken.com"
SEARCH FROM "joinhoney.com"
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SEARCH FROM "info@2020.opinionir
SEARCH FROM "@sm.ihg.com"
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SEARCH FROM "hilton.com"
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How Should You Protect Yourself?



tom's guide

The best password managers in 2022

By Paul Wagenseil published 26 days ago

BEST PASSWORD MANAGERS: TOP 8

1. LastPass
2. 1Password
3. Keeper
4. Dashlane
5. Bitwarden
6. NordPass
7. Myki
8. RoboForm

Credible review websites like [PCMag.com](https://www.pcmag.com) or [TomsGuide.com](https://www.tomsguide.com) review and rank password managers so you can pick one and get to work immediately

- Use password management software and have a different long/strong password for literally each account/website
- Wherever possible, activate “two factor authentication” (2FA) to protect your logins – in addition to username/password, have sites require additional proof before letting you log in – things like:
 - A code generated by a smartphone authenticator app
 - A hardware-based authentication USB key like a YubiKey or a Fido key
 - While having a code sent to your cell phone or a call to your phone is less secure than the above options, it is certainly better than no 2FA at all for the account

How Should You Protect Yourself?



- Avoid sending gift cards to e-mail – it's not just impersonal, it makes your recipients subject to this kind of attack
 - When you do receive messages like this, retrieve the data on the gift card and either spend it quickly or print the code and delete the message
 - Do NOT leave the unredeemed code in your e-mail messages!
 - Don't forget to empty your deleted items folder after deleting the message from your Inbox



“Ransomware Payments, Demands Rose Dramatically in 2021”,
Dark Reading, March 24, 2022



RANSOMWARE PAYMENTS UP SIGNIFICANTLY IN 2021

What Happened?



Palo Alto Networks' Unit 42, a incident response vendor, reported on changes by ransomware attackers in 2021 as observed by their investigations team and as discovered on leak websites

- Ransomware attackers demanded higher ransom payments in 2021– up 144% to \$2.2 million
- The average ransom payment made to attackers rose 78% to \$541,010

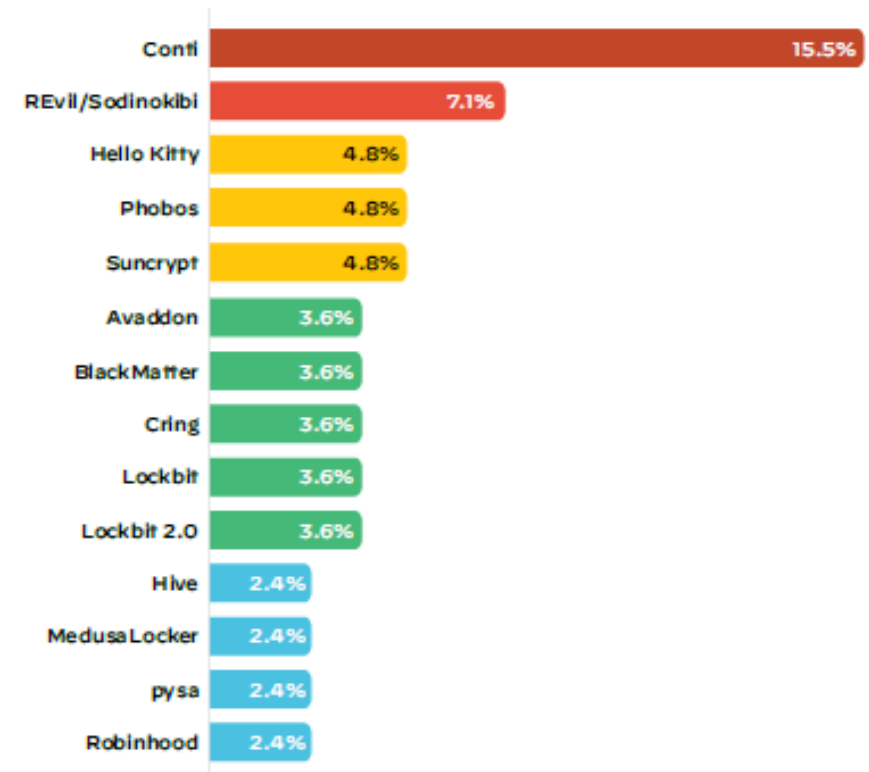


What Happened?



- 85% of ransomware victims (2,566 companies) had their data dumped and exposed on leak websites – a “second chance” to get a ransom from victims
- 60% of victims were in the Americas, while 31% of targets were in Europe, Middle East, and Africa, and only 9% of those targeted were in the Asia/Pacific region
- Unit 42 found 35 new ransomware gangs in 2021 and the new gangs planned up to three different extortion attempts against victims – asking for ransoms to get decryption keys, not release data publicly, and finally a fee to avoid a distributed denial of service attack (DDoS) against the companies during their ransomware weakened state

Most Active Ransomware Variants in 2021

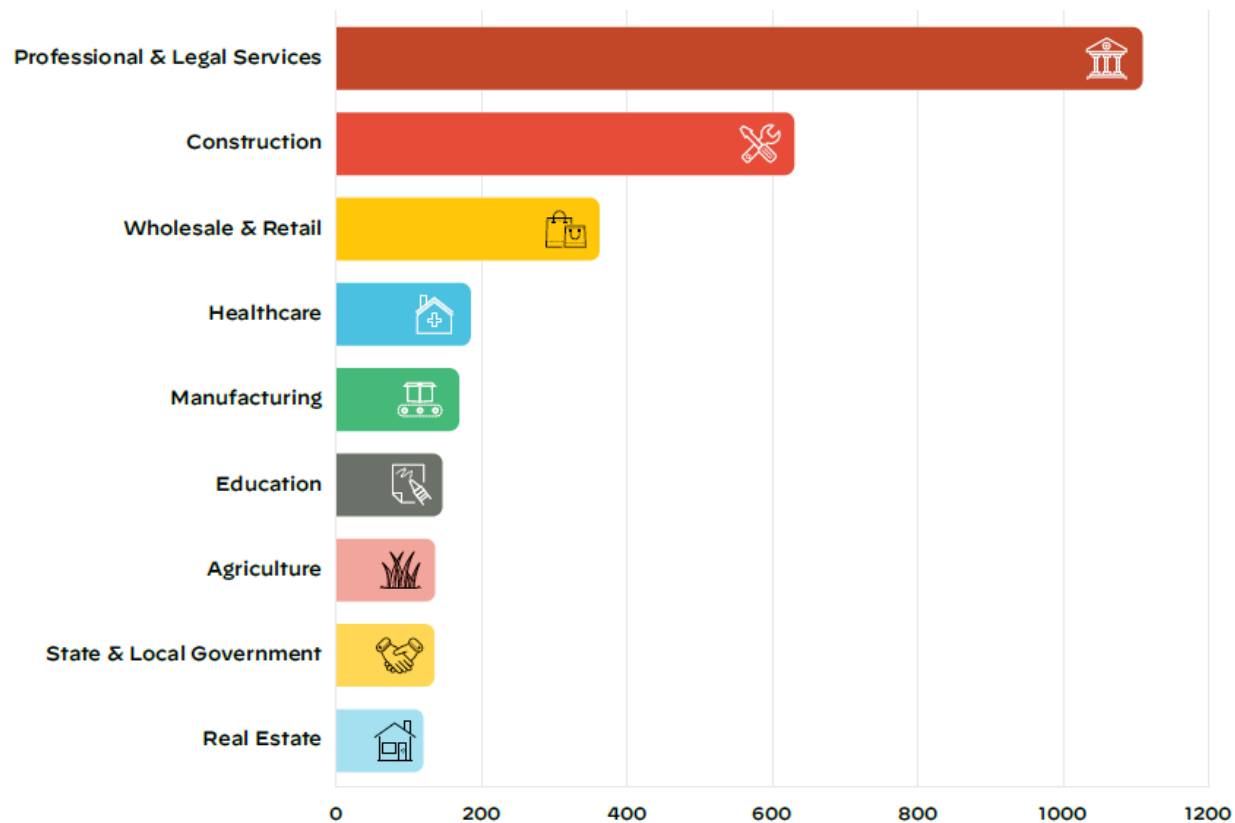


(Source: Palo Alto Networks/Unit 42)

What Happened?



Sectors and Industries Most Heavily Targeted by Ransomware (from leak sites)



The most common industries targeted were:

- Professional services
 - Construction,
 - Wholesale/retail
 - Healthcare
 - Manufacturing
- followed by Education, Agriculture, Government, and Real Estate

How Should We Respond?



- There are no short cuts, and cybercriminal gangs will continue to innovate as they improve their operations – but the price of freedom is eternal vigilance
- Some of the basics which can mitigate some of the selected risks associated with ransomware include:
 - Have all employees and contractors take end-user security awareness training and test the effectiveness of this training with e-mail tests
 - Require all administrators/superusers to use 2FA at all times
 - Don't run unnecessary servers, and limit data/services exposed to the web
 - Keep your applications, operating systems, and the tools used to create custom applications up to date with the latest security updates
 - Evaluate your backup procedures and test the backup recovery procedures to gain assurance that your backups actually work
 - Have your network tested by credible penetration testers



“A Hacker Got All My Texts for \$16”, **Vice**, March 15, 2021

“Can We Stop Pretending SMS is Secure Now?”
Krebs on Security, November 19, 2021



SMS INTERCEPTION AND COMPROMISES USING BUSINESS TEXTING TOOLS

What Happened?



- A Vice reporter requested that a hacker take over his phone number to prove SMS message security vulnerabilities
- The hacker was able to redirect the messages from the reporter's cell phone and was also able to compromise many of that reporter's other accounts, including
 - The Bumble dating service
 - Meta's WhatsApp instant messaging service
 - Postmates food and grocery delivery service
- All of this was handled without any telltale activity to tip off the reporter that the compromise had occurred – the reporter's phone was on and connected to the carrier's network during the events – but no messages were received by the reporter

How Did It Occur?



- The hacker used a prepaid credit card to pay \$16/month to [Sakari](#), one of many services which use the telephone network to allow businesses to send and receive marketing and sales text messages from a PC
 - Others in this segment include [Beetexting](#) & [TextMyMainNumber](#)
- The hacker forged the Letter of Authorization (LOA) for the reporter by filling in fake information purporting to be the reporter authorizing the redirection of the cell number to Sakari
- Sakari never validated that the number on the LOA matched the information with the carrier, nor did they text the reporter's cell phone number in this case (March 2021)

What Should I Do?



- Don't ever assume that your text messages are secure or that they are being delivered
- Don't utilize SMS two factor authentication (2FA) tools and "log in with your phone number" solutions
- Consider not using a call or an SMS to your cell phone as a method for resetting your password on websites
- DO use other robust two-factor authentication methods like authentication apps, hardware devices like FIDO/YubiKey, and biometric authentication in addition to usernames and strong passwords to secure your accounts
- If you're using business texting, you might consider a tool like [Okey Monitor](#) to monitor your phone numbers for unauthorized changes



“The ‘Zelle Fraud’ Scam: How it Works, How to Fight Back”
Krebs on Security, November 19, 2021

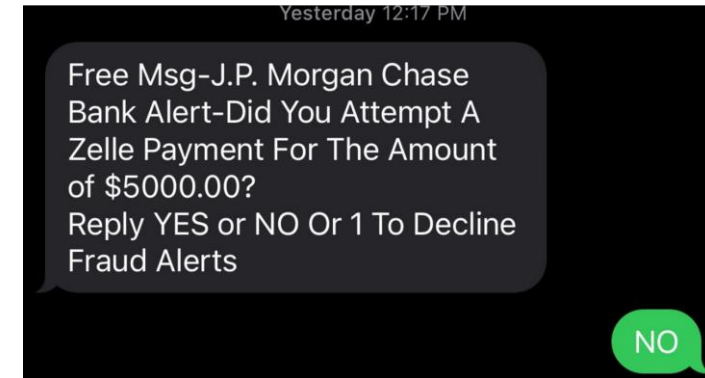
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VOICE SCAM FRAUD

What Happened?



- Cybercriminals are reportedly exploiting online peer to peer payment platforms like Zelle to drain victim bank accounts
- The criminals allegedly send SMS messages or call the victims, pretending to be an institution's fraud prevention department calling about a fake fraudulent transaction
- The criminals initiate the password reset process and initiate two-factor authentication regimes by creating fake SMS messages and calls to victims which gather SMS validation information and password reset data from the victim while the perpetrators are online resetting passwords, initiating transactions or otherwise advancing their scams
- The perpetrators reset the passwords, initiate the transfers, and are long gone before the fraud is discovered by the victim



What Are The Implications?



- While businesses do not receive consumer fraud protections under Regulation E, CFPB has confirmed that banks and non-bank financial institutions are required to refund losses occurred in electronic funds transfers
- Banks are NOT required to refund losses related to transactions which they themselves initiated when fooled by fraudsters – these are NOT unauthorized transfers, since the transactions were confirmed by two factor authentication by the victims
- Frauds perpetrated on non-bank financial systems may make it harder for consumers to have institutions refund their losses from EFTs created under false pretenses



“Intuit to Share Payroll Data from 1.4M Small Businesses With Equifax” **Krebs on Security, July 1, 2021**

“Fintech Startup Offers \$500 for Payroll Passwords”, **Krebs on Security, May 10, 2021**

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MISCELLANEOUS PRIVACY AND PRODUCTIVITY PERILS

What Is Happening?

- Some technology companies are beginning to, “by default,” offer to share your employees’ income and their employment status with credit bureaus as a “benefit” to the employer and employee (which provides the most benefit to the tech company, who can sell the formerly private data)



 **intuit quickbooks.**

 **Change to QuickBooks Online Payroll and QuickBooks Terms of Service**

Thank you for being a valued QuickBooks Online Payroll customer. We are writing to inform you about an exciting change to QuickBooks Online Payroll.

In early fall 2021, your QuickBooks Online Payroll subscription will include an automated income and employment verification service powered by The Work Number® from Equifax.

Your employees may need to verify their income and employment info when applying for things like loans, credit, or public aid. Before, you likely had to manually provide this info to lenders, creditors or government agencies. These verifications will be automated by The Work Number, which helps employees get faster approvals and saves you time. There will be no additional charges from Intuit or Equifax to you or your employees for this benefit.

We have changed the QuickBooks Terms of Service to reflect the addition of this new benefit. The updated Terms are available [here](#).

If you have any questions or would like to learn more about this benefit, please review our [FAQs](#).

If you would like this service included with your QuickBooks Online Payroll subscription, no action is needed on your part. You can change your preference at any time.

What Is Happening?



- This privacy assault takes many forms:
 - Employees being offered, by default, payroll portals where the terms of service (TOS) and privacy policy indicate that the data can be combined with other data that the company has on the individual and will be shared with other Intuit subsidiaries like Credit Karma and Quicken Loans
 - Employers (and CPAs) are warned in junk mail-style messages that say that if you do nothing, your employees will be offered these portals – whose TOS/privacy policy the employees are unlikely to read and understand – so they are likely to consent without understanding the implications on the privacy of their data

qb intuit quickbooks

🔔 Important news about your QuickBooks Payroll Service

QuickBooks Payroll + Workforce
We're writing to let you know about an important change to your QuickBooks Payroll Service.

To save you time and give your employees electronic access to their pay info, we'll be turning Workforce on automatically to give employees greater access to their pay, banking, and employment info. We expect to begin inviting employees to Workforce on or around September 20, 2021.

Software License Agreement changes
The Workforce terms have been updated in the QuickBooks License Agreement to include new information regarding the change in the service. View the [QuickBooks legal notices page](#) to find your software license agreement.

What has changed?
Instead of you having to manually invite employees to Workforce, we'll automatically invite employees to create a Workforce account. We'll invite employees using their contact information from QuickBooks Payroll. We'll start inviting current employees who are set to active and getting paid, and when you add new employees, they'll be invited automatically.

This change will allow employees to view, edit, and manage their personal, banking, and payroll withholding information, keep on top of their pay details, and access important documents like paystubs or W-2s. There's no additional cost for you or your employees to use Workforce.

How do I make sure employees get their invites?
To ensure your employees get their Workforce invites, include email contact information each time you add a new employee and review your existing employees' contact information to make sure it is up to date.

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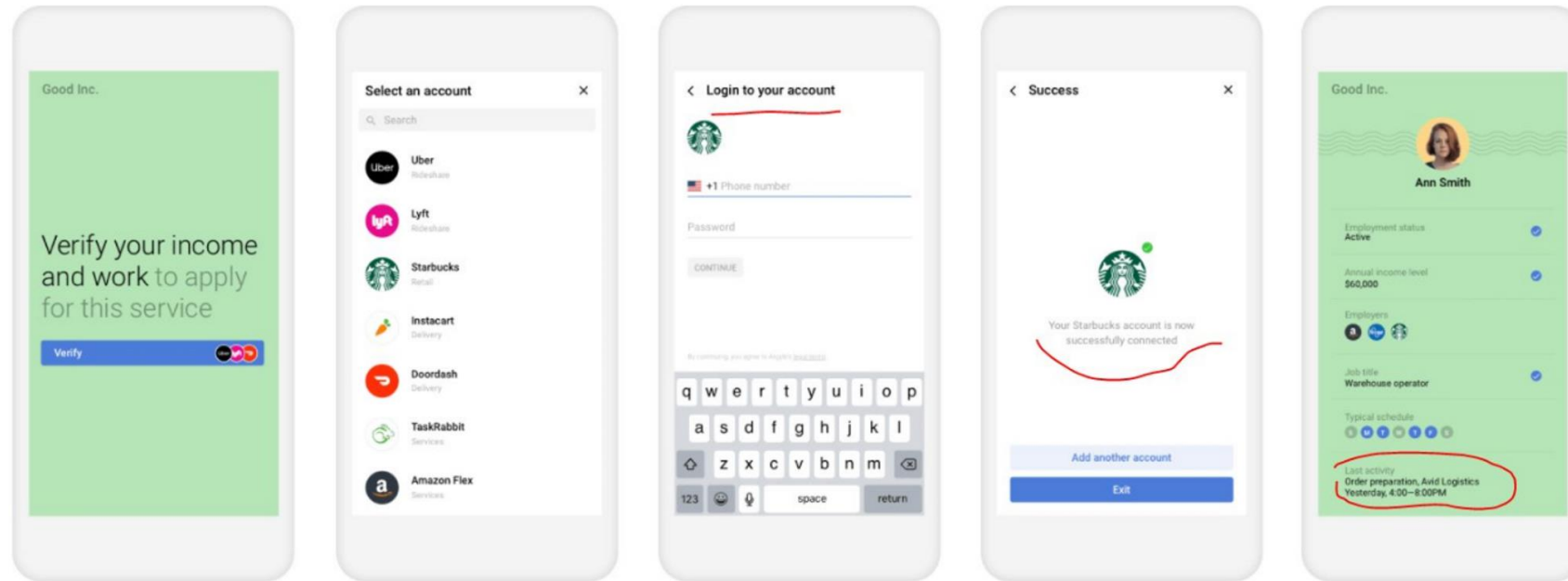
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What Is Happening?



How it works

An example of Argyle Link integration into an app flow



Let's connect your work accounts

Be one of the first community members to improve your earnings



By clicking Connect Payroll, you are allowing Argyle to provide Earnin with your payroll information. More information [here](#).

Application

The user is asked to add their gig and employment accounts to verify income and work.

Argyle Link module

Argyle Link is surfaced to the user with a selection of gig and employment platforms.

A gig platform is successfully connected and work history data is being scanned in the

The user is presented with a custom product experience best on historic work data.

How Should We Respond?



- It is critical that employees, employers, and their CPAs understand the privacy policies of the service providers which they use
- CPAs and business leaders should read and understand the terms of service, privacy policy, and should “opt out” of offering services to their employees which sell, store, and use their private payroll data to data brokers
- Some believe that accountants should avoid service providers whose business models include the sale of payroll data and other “validated data” to third-parties or consumer lending affiliates

Steps to Opt Out of Data Verification in QB Online Payroll

1. Sign in to QuickBooks Online Payroll.
2. Go to Payroll Settings.
3. In the Shared data section, select the pencil and uncheck the box.
4. Select Save.



The End

QUESTIONS?