



BEC: More than Just Bacon, Egg and Cheese


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Disclaimer

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Comptroller



Jim Arnette
Director



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IS Audit Team





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**Division of
Local Government Audit**

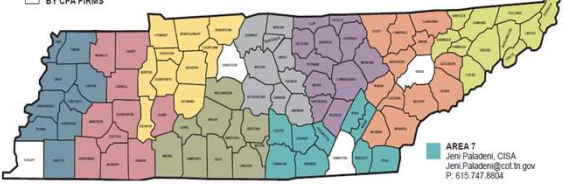
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May 2024

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Objectives

- ❖ Definition
- ❖ How It Works
- ❖ Examples
- ❖ Impacts
- ❖ Prevention
- ❖ Response



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DataReportal

- 400 minutes a day
- 7 hours a day
- 47 hours a week
- 101 days a year
- 17 years of our lives



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What is BEC?

- ⊕ **Business Email Compromise**
- ⊕ **A type of cybercrime where attackers use email fraud to deceive individuals or organizations into transferring money, sharing sensitive information or performing actions that could cause financial or operational harm.**




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FBI Knoxville
Public Affairs Officer Darrell DeBusk
(865) 544-0751

X.com Facebook Email

March 7, 2024

FBI: Scammers Stole \$160 Million From Tennesseans in 2023

KNOXVILLE, TN—Tennessee residents lost more than \$160 million to internet scammers last year, according to a new report released by the Federal Bureau of Investigation. The report highlights critical vulnerabilities and underscores the imperative for heightened cybersecurity measures in the Volunteer State.

In 2023, Tennessee ranked 31st in the country, with residents lodging a total of 8,484 complaints with the FBI's Internet Crime Complaint Center (IC3), reporting losses amounting to \$161,195,036. These figures underscore the devastating impact cybercrime has on individuals and businesses statewide.

"We've noticed a steady stream of cybercrime here in Tennessee. This means we all need to be extra careful and take action to stay safe online," said Joseph Carrico, special agent in charge of the FBI's Knoxville Field Office. "Cybercriminals are always coming up with new tricks to scam people, whether you're a regular person or a big company. So, it's really important for everyone in Tennessee to pay attention and make sure we're protecting ourselves online."

Tech support scams, investment fraud, and business e-mail compromise (BEC) emerge as the leading categories for losses in Tennessee. Particularly alarming is the heightened risk faced by individuals over 60, who are most susceptible to falling victim to these cyber scams.

Nationwide, in 2023, the IC3 recorded a staggering 800,418 complaints, indicating a substantial rise in cybercrime activities across the nation. The total losses incurred from these incidents exceeded a staggering \$12.5 billion, underscoring the severity of the cyber threat landscape.

Notably, this figure represents a significant increase compared to the average number of complaints received over the past five years. California, Texas, Florida, New York, and Ohio reported the highest number of victims, while California, Texas, and Florida also topped the list in terms of financial losses.

Protecting yourself online is crucial. Make sure to use strong, unique passwords for your accounts, and be cautious about clicking on links or opening attachments in e-mails from unfamiliar sources," said Jason Jaramin, supervisory special agent leading the FBI's cybercrime squad in Knoxville. "Keep your computer's software up to date and consider using antivirus software. And most importantly, if something seems suspicious or too good to be true, trust your gut and double-check before sharing personal information or sending money."


The FBI remains committed to working closely with local law enforcement agencies and community partners to mitigate risks and protect Tennesseans against cyber attacks. If your business is the victim of a cyber attack, contact your local FBI office immediately for assistance.

For more information on the 2023 Internet Crime Report and resources for cybersecurity, visit the IC3 website at www.ic3.gov.

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How BEC Works

- 1 Email account is compromised
- 2 Compromised account is used to request payment
- 3 Cyber attacker receives money



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Email SpooF

mayor@madisoncountyttn.gov
 ↓
 mayor@madisoncountyttn.com
 financedirector@yahoo.com
 ↓
 financedirect0r@yahoo.com




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Common Types of BEC




CEO Fraud: Impersonating executives to request fund transfers




Account Compromise: Hacking an employee's email for fraudulent requests



Vendor Email Compromise: Altering invoice details for payment redirection



Attorney Impersonation: Using urgency and authority to facilitate transfers



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Real-World Example

> On Friday, April 1, 2022, 10:38:55 AM CDT, Donna Craig <clerkoffceil1@gmail.com> wrote:

>

> Randi

> I'll need you to process a payment for me today via ACH/WIRE > TRANSFER/CHECK MAILING. For the > Administrative networking web-hosting activity expense.

>

> Get back to me if you can get this done, so i can forward the payment > details to you.

>

> Regards

> Donna

On 4/1/22, Randi French <randifrench@yahoo.com> wrote:

> Yes ma'am I sure can :)

> Thank you, Randi French Henry County Trustee



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From: Donna Craig (clerkoffice1@gmail.com)
 To: randifrench@yahoo.com
 Date: Friday, April 1, 2022, 11:05 AM CDT

Randi

initiate a an outgoing wire transfer to the account details below:
 ACCOUNT HOLDER: CONSTANCE LYON
 BANK NAME: M&T BANK
 ACCOUNT NUMBER: 9888615268
 ROUTING NUMBER: 031302955
 AMOUNT :\$4,780.00
 BANK ADDRESS : 550 Suburban Dr, Newark,19711

Payment for Administrative Networking web-hosting activity service expenses


Get back to me with the payment confirmation slip once you are done making the payment.

Regards
 Donna

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Real-World Example


> On Friday, April 1, 2022, 10:38:55 AM CDT, Donna Craig
 > <clerkoffice1@gmail.com> wrote:
 >
 > Randi
 > i 'll need you to process a payment for me today via ACH/WIRE
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 >
 > Get back to me if you can get this done, so i can forward the payment
 > details to you.
 >
 > Regards
 > Donna



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BEC 101

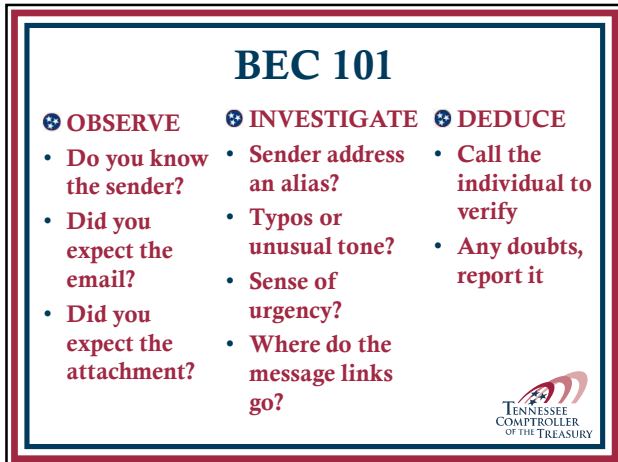
- **OBSERVE**
 - Do you know the sender?
 - Did you expect the email?
 - Did you expect the attachment?
- **INVESTIGATE**
 - Sender address an alias?



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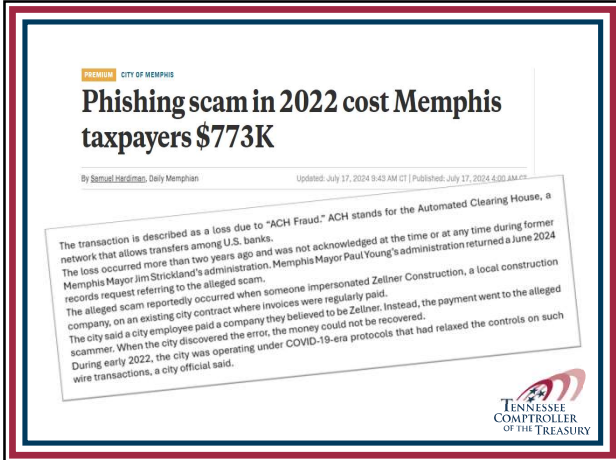
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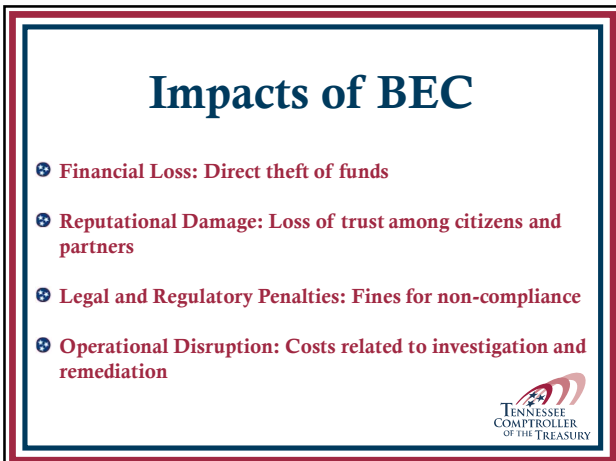
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How to Prevent BEC

🌐 Strong Passwords




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TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD IN 2024

Hardware: 12 x RTX 4090 | Password hash: bcrypt

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	3 secs	6 secs	9 secs
5	Instantly	4 secs	2 mins	6 mins	10 mins
6	Instantly	2 mins	2 hours	6 hours	12 hours
7	4 secs	50 mins	4 days	2 weeks	1 month
8	37 secs	22 hours	8 months	3 years	7 years
9	6 mins	3 weeks	33 years	161 years	479 years
10	1 hour	2 years	1k years	9k years	33k years
11	10 hours	44 years	89k years	618k years	2m years
12	4 days	1k years	4m years	38m years	164m years
13	1 month	29k years	241m years	2bn years	11bn years
14	1 year	766k years	12bn years	147bn years	805bn years
15	12 years	19m years	652bn years	9tn years	56tn years
16	119 years	517m years	33tn years	566tn years	3qd years
17	1k years	13bn years	1qd years	35qd years	276qd years
18	11k years	350bn years	91qd years	7qn years	19qn years

 > Learn more about this at hivesystems.com/password


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How Secure is the Password?

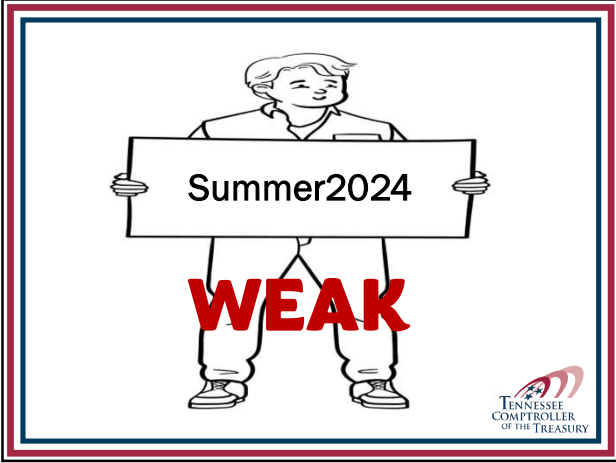
Weak

Moderate

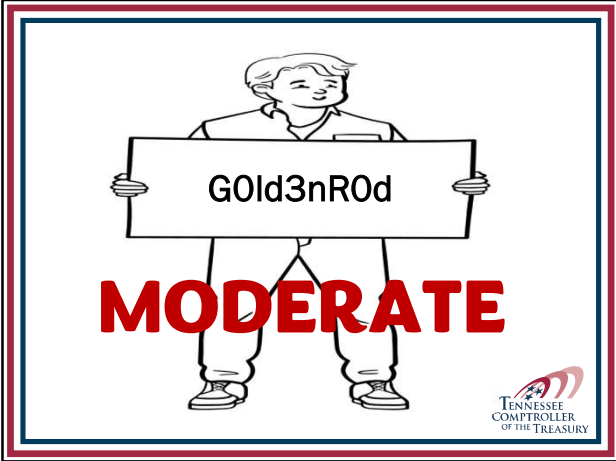
Strong



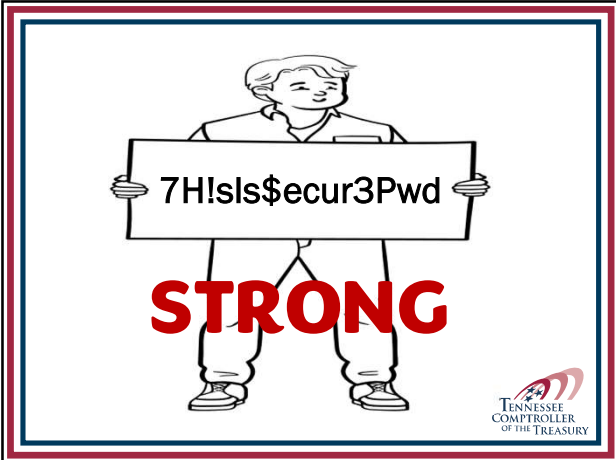
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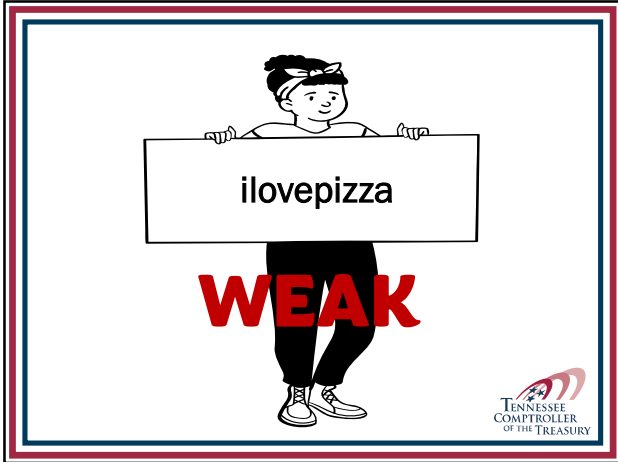
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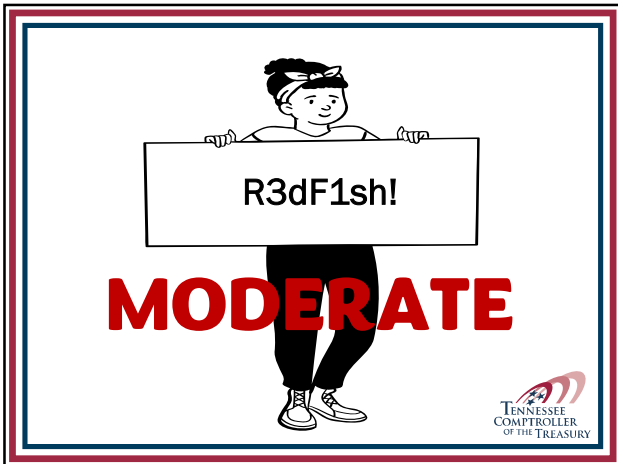
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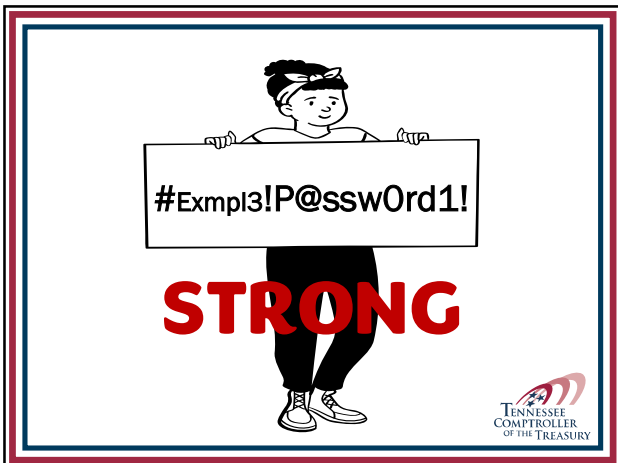
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Passwords – Dos and Don'ts

DO

- Use different passwords for all accounts
- Change passwords regularly
- Create strong, memorable passwords

DON'T

- Don't use widely known information
- Don't write down and "hide" your password
- Don't save passwords in browsers



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Password Creation Tip

- Sixteen horses in a cave in Shawnee
- Step 1: Remove spaces and add uppercase letters
 - SixteenHorsesInACaveInShawnee
- Step 2: Add special characters and numbers
 - (16h0r\$e\$N@cAv3n\$H@n33)



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How to Prevent BEC

Multi-factor authentication

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This is MFA at work for you!

TENNESSEE
COMPTROLLER
OF THE TREASURY

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How to Prevent BEC

**Security
Awareness
Training**

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Questions?

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