

# Fifth International Conference on Empirical Approaches to Anti-Money Laundering & Finance Crime

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Nassau, Bahamas



United States Secret Service  
Global Investigative Operations Center

# Background



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## Credentials

- 2005: James Madison University, Commonwealth of Virginia, United States (BA in History)
- 2008-2012: Deputy Sheriff & Police Officer, New York
- 2012-2013: Project Coordinator II, International Association of Chiefs of Police
- 2013-2017: Criminal Investigator, Washington, D.C. Office of the Inspector General
- 2017-2020: Special Agent, U.S. Department of Homeland Security (DHS), Homeland Security Investigations (HSI)
- 2020-2022: Senior Open-Source Intelligence Analyst, United States Postal Inspection Service
- 2022-2023: Senior Cybercrimes Investigator – Chainalysis, Inc.



# Topics of Discussion

- Illicit Activity on the Blockchain – Statistical Data
- On-Chain Money Laundering Techniques & Trends
- USSS Investigation (Case Study+)

“In just the past month, the Justice Department has successfully prosecuted the CEOs of two of the world’s largest cryptocurrency exchanges in two separate criminal cases.... The message here should be clear: Using new technology to break the law does not make you a disrupter. It makes you a criminal.”

- Merrick Garland, United States Attorney General, DOJ, November 22, 2023



# On-Chain Illicit Activity – By the Numbers

## 2022 Statistics

Movement of illicit funds: **\$23.8B**

Mixing Services: **\$7.8B** ↑↓

- **\$5.9B** mixed were from illicit cryptocurrency addresses

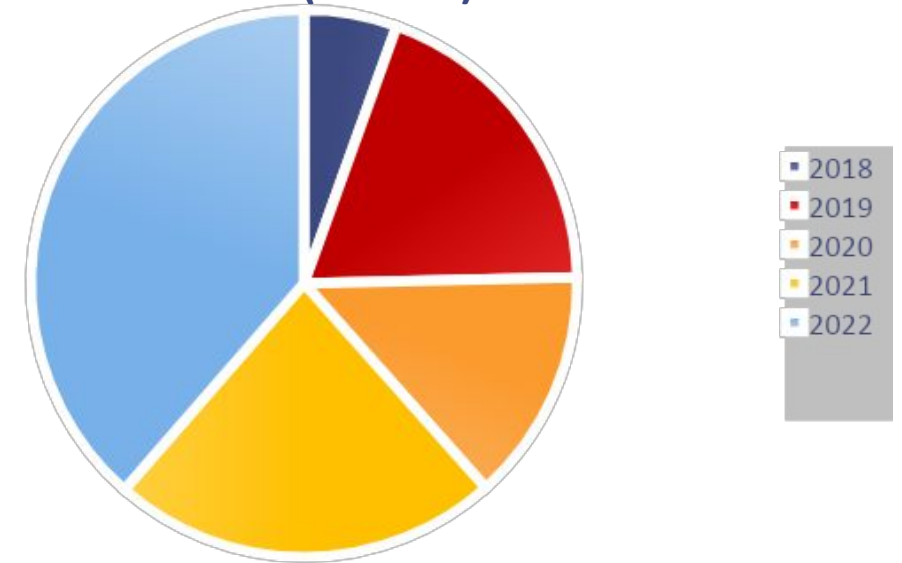
**43%** of all transactions involve US Dept. of Treasury, OFAC Sanctioned Entities

**81%** of all stolen crypto = Decentralized Finance (DeFi) Protocols

- **\$3.7B** stolen through hacks and other on-chain exploits
- **\$2B** stolen through cross-chain bridges attacks

**January 2024:** Orbit Bridge: **\$81M** loss

Total Cryptocurrency Laundered by Year  
(Billions)



# Cryptocurrency vs. Fiat – Money Laundering

How is money laundering in the Traditional Financial System different than the Crypto space?

## **Traditional Financial System:**

- Hidden system
- Shell Companies
- Physicality
- Connections | Hawala | TRUST

## **Decentralized Financial System:**

- Extremely Accessible
- High Visibility
- Conversion
- Service Accessibility– DEXs, Mixers, Crypto ATMs, Gambling Services, Privacy Coins, Mixers
- Support not needed



# Cryptocurrency Money Laundering Methodology

## *Decentralized Finance (DeFi):*

- DEXs – Tokenlon
- Cross Chain Bridges | ‘Chain Hopping’ – RenBridge/THORChain
- Liquidity Pools
- NFTs – Wash Trading

## *Mixers*

## *Privacy Coins*

- XMR | FATF

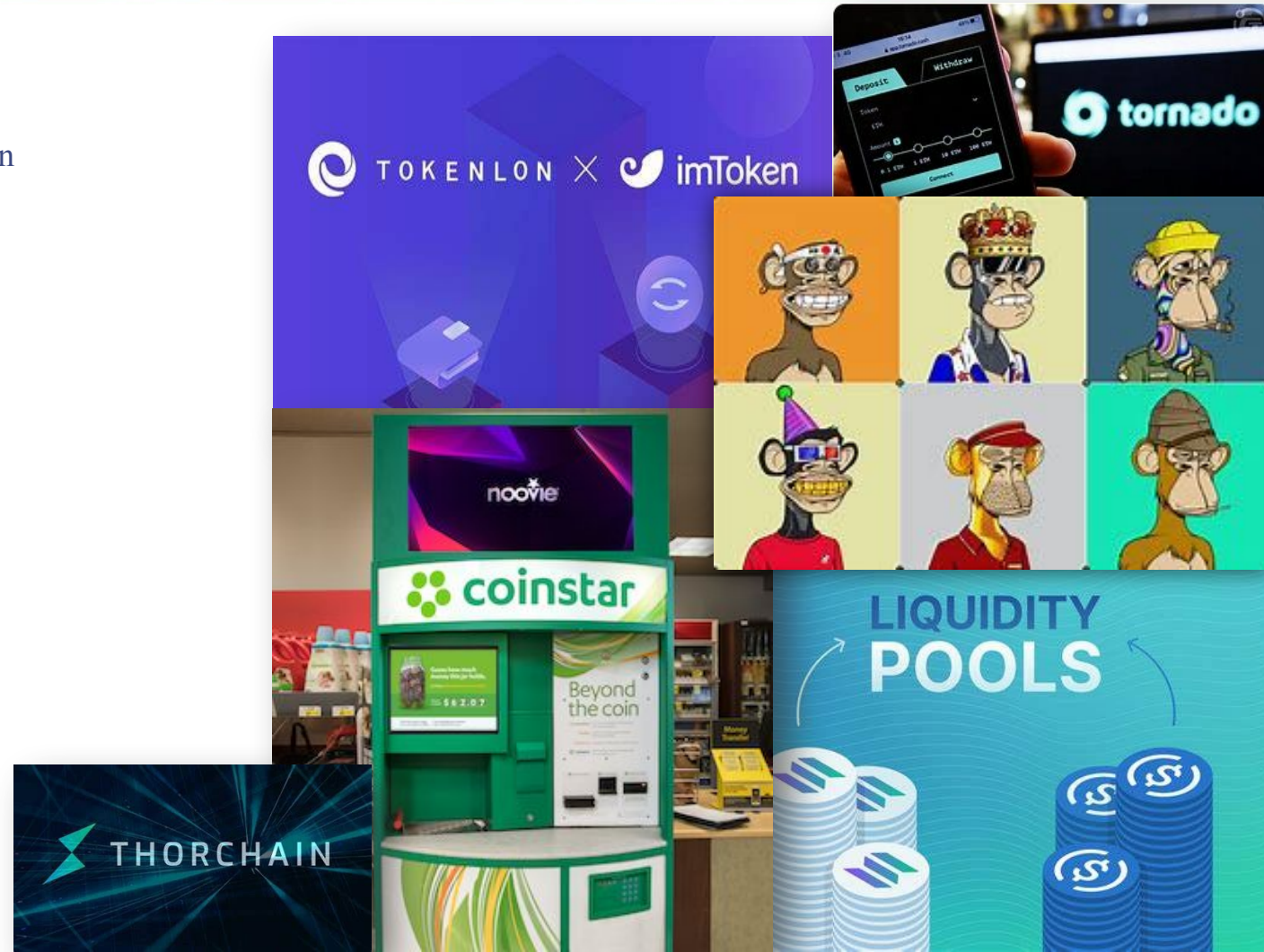
## *ATMs/Crypto Kiosks*

## *Mules*

- Victims

## *Additional Methods*

- High-Risk Exchanges
- Online Gambling Sites
- Fraud Shops
- DNMs
- OTCs



# Case Study

## Analyzing Cybercrimes – SIM Swap

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# SIM Swaps

## Subscriber Identity Module (SIM)

- Criminal actors target mobile carriers to gain access to victims' bank accounts, cryptocurrency accounts, and other sensitive information.
- Use of social engineering, insider threat, or phishing techniques.
- Once the SIM is swapped, the victim's calls, texts, and other data are diverted to the criminal's device.
- Using SMS-based two-factor authentication, mobile application providers send a link or one-time passcode via text to the victim's number, now owned by the criminal, to access accounts.
- The criminal uses the codes to login and reset passwords, gaining control of online cryptocurrency accounts.

## SIM Swap Loss:

2018-2021: \$12M

2021: \$68M

2022: \$72M (>2,000 Victims)

May – August 2023: \$13M

“SIM Swap attacks hitting high-profile figures and crypto-related projects



*“It was a SIM swap, meaning that someone socially-engineered T-Mobile itself to take over my phone number.” –Vitalik Buterin, Co-Founder, Ethereum*



*Vitalik Buterin*



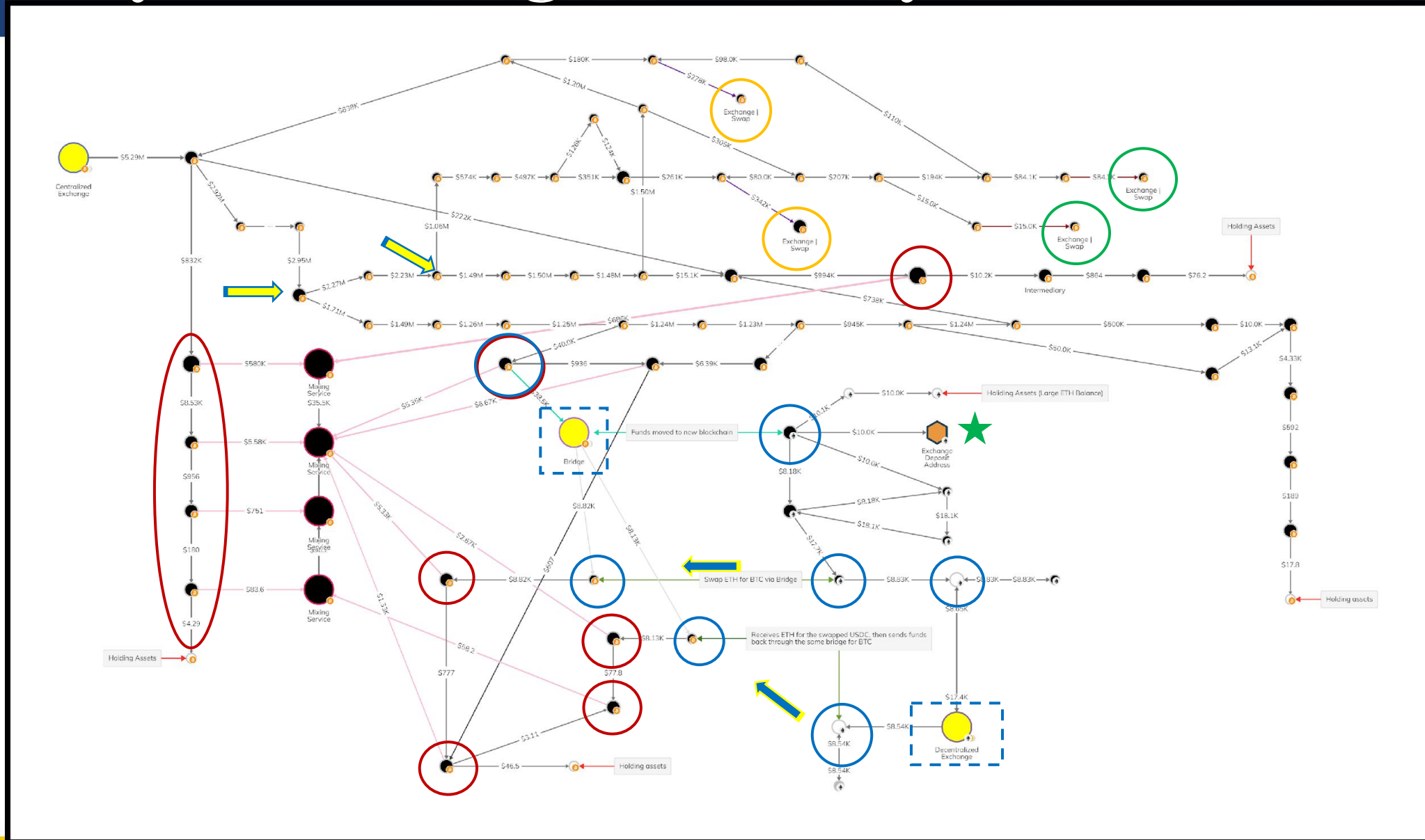
*Bart Stephens*





# Money Laundering Case Study 1

Mixers + Exchanges + DEXs + Chain Hopping



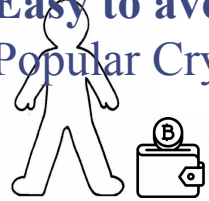


# Nested Services

## Nested Services

- Crypto trading services utilizing Centralized Exchange Infrastructure
- Instant Crypto Exchangers
- Can act as a Bridge

- High volume, fast transactions, low fees
- **Easy to avoid KYC/AML requirements**
- Popular Crypto Instant I



Hacker



Nested Service A

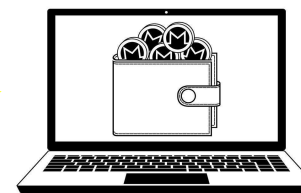
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Centralized Exchange



Nested Service A



Hacker



