



Federal Information Security Educators (FISSEA) Winter Forum

**STRONGER
TOGETHER**

February 15, 2022

1:00pm – 4:00pm ET

#FISSEA | nist.gov/fissea

Welcome and Opening Remarks from FISSEA Co-Chair

Maureen Premo

FISSEA Co-Chair

Immigration and Customs Enforcement

Department of Homeland Security



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Volunteer for the Planning Committee



Serve on the Contest or Award Committees for 2022
Email fissea@nist.gov

FISSEA Call for Proposals



OPEN year-round



March 18, 2022 – deadline for FISSEA
Spring Forum priority consideration

Submit proposals at:

<https://www.surveymonkey.com/r/fisseacallforpresentations>

FISSEA Innovator of the Year Award



Recognize an individual who has made significant contributions in inspiring the strategic planning, building, and management of innovative cybersecurity awareness and training programs.

Nominations due **April 4, 2022**

Submit nominations at:

<https://www.surveymonkey.com/r/fisseainnovatorform>

Best Practices for Diversity and Inclusion in Training

Diann W. McCants, Ph.D.

Strategic Analysis, Inc.

Contractor Support to Laboratories and Personnel

Office of the Under Secretary of Defense for Research and Engineering



Best Practices for Diversity and Inclusion in STEM: A Guide by and for Federal Agencies

A REPORT BY THE INTERAGENCY WORKING GROUP ON INCLUSION IN STEM

DR. DIANN W. MCCANTS

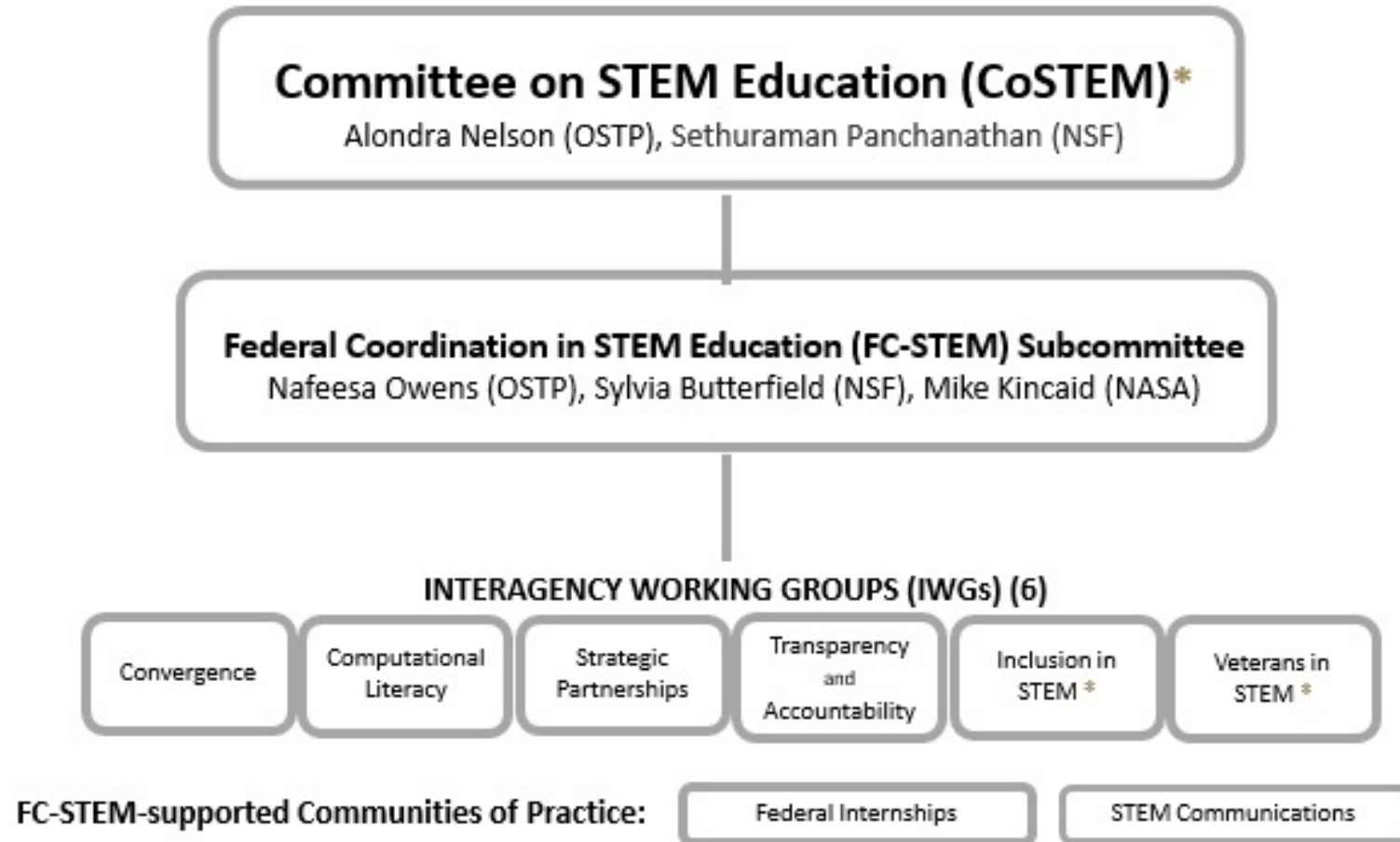
LABORATORIES AND PERSONNEL OFFICE, DOD (CONTRACTOR SUPPORT)

INTERAGENCY WORKING GROUP ON INCLUSION IN STEM

Overview

- The IWGIS was established according to the American Innovation and Competitiveness Act (2017)
- An interagency working group under the Committee on STEM Education (CoSTEM) and the Federal Coordination in STEM Education (FC-STEM) Subcommittee
- Collaborative effort of representatives from 19 Federal agencies
- Why this document now
 - Executing a strategic approach
 - Critical role of diversity, equity, inclusion and accessibility : Priority of current Administration
 - Executive Order 14035: ***Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce***
- The process for developing this summary of best practices that can be employed by Federal agencies as they implement strategies to promote diversity and inclusion in the Federal STEM workforce included:
 - Developing definitions
 - Reviewing the literature
 - Soliciting best practices from Federal agencies

Overview of CoSTEM



*Congressionally Mandated

Key Contributors

Report Writing Team	Other Key Contributors
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Key Topics Covered

- Definitions
- Current Status of the Federal STEM Workforce
- Barriers to Diversity and Inclusion in STEM
- Key Areas for Advancing Diversity and Inclusion in STEM
- Promising and Emerging Practices
- Recommendations to Help Increase Recruitment, Retention, Achievement, and Advancement of Underrepresented Groups

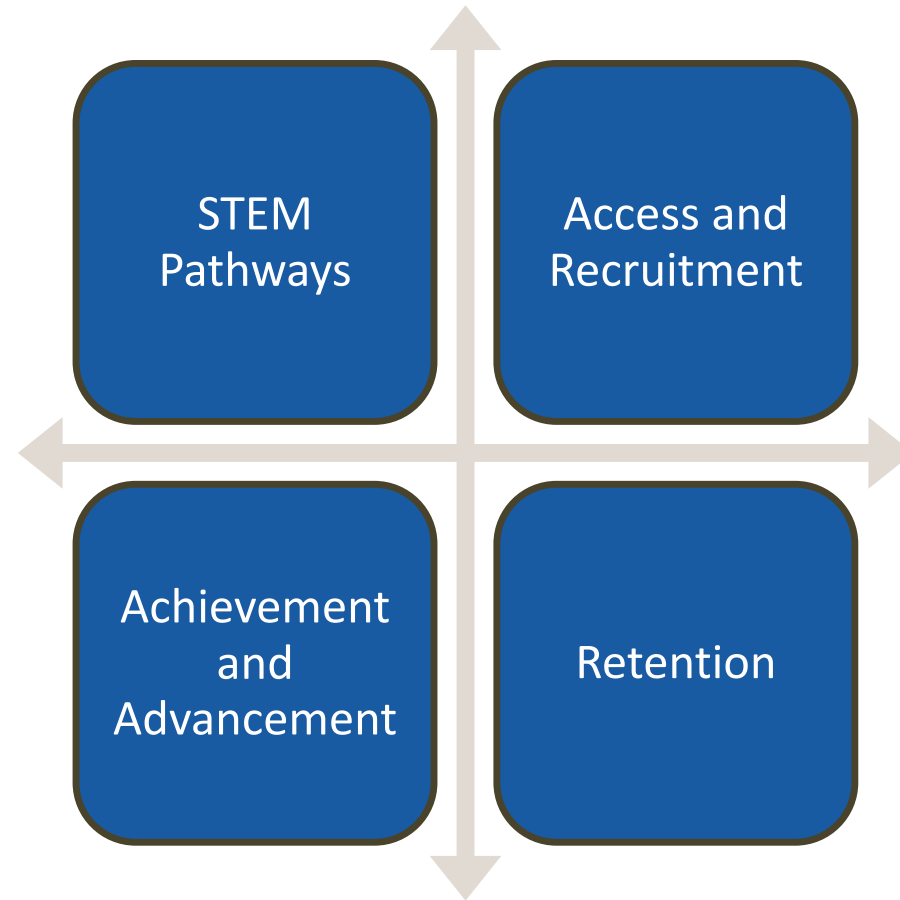
Introduction

- Understanding and identifying barriers within Federal agencies and STEM pathways is integral to developing and implementing best practices.
- This content was assembled from an extensive STEM literature review.
- It provides an overview of leading institutional and individual barriers to diversity and inclusion in STEM.

Barriers Cover Numerous Areas

- Policies
- Workplace Climate
- Differential Compensation Packages
- Availability and Use of Data
- Cost of Education
- Workplace Interactions
- Individualized STEM Workforce Barriers
- Perceptions of STEM Programs
- Stereotypes and Stereotype Threat
- Biases
- Science Identity
- Accessibility for Individuals with Disabilities

Key Areas for Advancing Diversity and Inclusion in STEM



Key Areas for Advancing Diversity and Inclusion in STEM

STEM Pathways

Career paths are not always linear

Guided Pathways

Pathways for specific groups:
Military Veterans

Appealing STEM Pathways

Example

The NASA Community College Aerospace Scholars (NCAS) is a nationwide activity designed for post-traditional learners enrolled in an accredited 2-year institution in the U.S. who are interested in a STEM career.

- Helps students make the connection between a STEM degree and NASA career opportunities
- Prepares and motivates students to participate in other competitive NASA projects, programs, and internships
- Encourages community college students to finish their 2-year degree and pursue a 4-year degree or career in a STEM field

Key Areas for Advancing Diversity and Inclusion in STEM

Access and Recruitment

Broad access and Intentional Recruitment are Critical

Partnerships in support of individuals from groups currently underrepresented in STEM

Leverage Human Resources Departments

Human Resources Departments can play a key role:

- Identify and change recruitment and hiring practices that fail to be inclusive
 - Consider marketing materials, recruitment sources, qualifying questions and candidate scoring rubrics, make-up of hiring committees, and the interview processes
- Address unconscious bias. For example, rather than viewing hiring persons with disabilities as just being “the right thing to do,” it must be viewed as part of a talent strategy that will benefit the organization
- Use appropriate data for comparison when assessing diversity and inclusion internal to your agency
 - For example, only 13% of companies in the U.S. have reached the Department of Labor’s target of having 7% disability representation in their workforce

Key Areas for Advancing Diversity and Inclusion in STEM

Retention

Retention is key in maintaining D&I

Alignment of institutional culture and climate

Institutional Commitment and Accountability

Data Disaggregation and Intersectionality

Data Disaggregation and Intersectionality:

To adequately understand the issues that impact retention, institutions must look at differences by population and STEM discipline as an important factor in implementing effective strategies for change

- Data disaggregated by populations, geographical regions, and race/ethnicities is critical to STEM participation, identifying target populations, and capturing their unique characteristics
- Furthermore, data must be disaggregated by sex within race/ethnicity, disability, citizenship, and STEM discipline to understand the experiences at the intersection of different identities
- Evaluation studies with disaggregated data can help leaders set goals related to their duties and responsibilities and be more reflective about their decision-making processes

Key Areas for Advancing Diversity and Inclusion in STEM

Achievement and Advancement

Achievement can be related to individuals, but the opportunity for achievement is systemic

Establish clear guidelines for evaluation and promotion

Develop robust systems of support

Create opportunities and pathways for growth

Example

The NIST International and Academic Affairs Office (IAAO)

implements several best practices to support inclusion in STEM through achievement and advancement, as well as retention

- IAAO utilizes affinity groups and employee resource groups to raise awareness and expand networks for diversity and inclusion in STEM
- The mission of the Steering Group for Equity in Career Advancement is to identify the causes of apparent inequities in **promotions at NIST for women and minority researchers** and make recommendations

Recommendations

- Recommendations are grouped into four categories to address:
 - Use of definitions for evidence-based, emerging, and promising practices
 - Barriers to participation in STEM
 - Ways to increase diversity and inclusion in STEM
 - Incorporating emerging and promising practices

To Use Definitions

- Use the definitions of evidence-based, emerging, and promising practices to explain the best practices that are used
- These definitions will:
 - Clarify what works and why a practice is adopted for a specific group
 - Substantiate the expectations of effectiveness

To Address Barriers to Participation

- Identify barriers to access and participation in STEM programs and partner with other agencies, institutions, and professional organizations
- Create a comprehensive plan that includes incentives for participants and grantees to demonstrate progress.

To Address Barriers to Participation

- Focus on one or more institutional barriers to STEM such as policies, workplace climate, differential compensation packages, data, and peer-to-peer interactions.
- Require program participants and grant recipients to share how they will reduce or eliminate institutional barriers to diversity in STEM.

To Address Barriers to Participation

- Focus on one or more individualized barriers to participation in STEM and develop programs that address areas such as mentoring, support systems, discrimination, perception of STEM programs, stereotypes and stereotype threat, bias, and STEM identity
- Focus on one or more barrier impacting STEM participation for individuals with disabilities
 - Develop policies and practices to ensure their representation in leadership and decision-making bodies

To Increase Diversity and Inclusion

- Develop a pathways approach to STEM academic and career programs that allows multiple entry points allowing participants to build on their academic achievement and research expertise
- Identify barriers to access and participation in STEM programs then develop strategies to reduce or eliminate them by partnering with other agencies, institutions, and professional organizations

To Increase Diversity and Inclusion

- Create a plan and provide opportunities for leadership training and skills development
- Use existing Federal leadership programs or create leadership development efforts
- Provide unconscious bias training for existing managers to raise awareness about the impact of implicit bias

To Increase Diversity and Inclusion

- Use existing hiring authorities to diversify the Federal STEM workforce at all levels
- Develop more flexible hiring pay authorities, particularly for entry level positions
- Create authority for Federal scholars and fellows to be hired noncompetitively into Federal service

Questions

Thank You!

<https://www.whitehouse.gov/wp-content/uploads/2021/09/091621-Best-Practices-for-Diversity-Inclusion-in-STEM.pdf>

FISSEA Trivia Competition

Susan Hansche

FISSEA Chair

Cybersecurity & Infrastructure Security Agency

Department of Homeland Security



Standards and Guidance for Cybersecurity Training Program: Updates to NIST Special Publications 800-50 and 800-16 Creating a Cybersecurity and Privacy Awareness and Training Program



Marian Merritt

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IT Specialist (Privacy)

Privacy Engineering Program
National Institute of Standards and Technology

NICE

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



Update to NIST SP 800-50/800-16
Marian Merritt and Jess Dickson

Outline

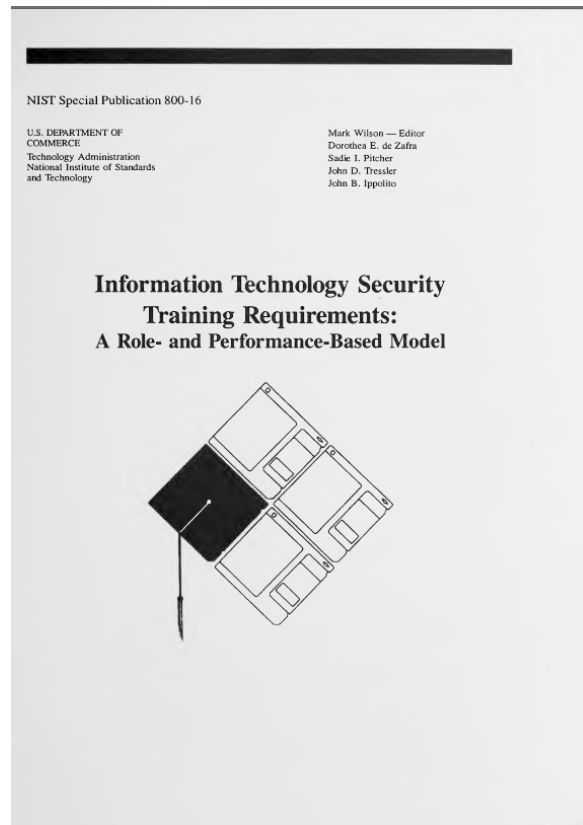
- Overview of the project
 - History of the publications
 - Why update now?
- Key Objectives
- Work to Date
- Take-aways from pre-draft comments
- Next steps
- Q&A

Overview: History of the publications:



- 800-50: “Building an Information Technology Security Awareness and Training Program”
 - October 2003
 - Foundational document to guide creation of an organization’s cybersecurity A/T program

Overview: History of the publications (cont):



- 800-16 “Information Technology Security Training Requirements: A Role and Performance-Based Model”
- April 1998
- Revised:
 - V1 3rd draft 2014
 - Prelim draft R2 2020 (not published)

Overview: Why Update Now?

- Opportunity to sync NIST guidance with latest updates and recommendations from outside guidance informing this work
 - OMB A-130
 - National Defense Authorization Act (NDAA) for FY2021
 - Cybersecurity Enhancement Act of 2014
- Opportunity to address gaps and open questions within existing guidance

Key Objectives

- Update to security awareness and training program lifecycle
- Incorporating privacy awareness and training programs in parallel with security
- Consolidation of 800-50 and 800-16
- Incorporate NICE Workforce Framework KSTs

Work to Date

- Co-authoring team formed:
 - NIST (NICE and Privacy Engineering), DHS, OPM, DOT
- Pre-draft Call for Comments
 - Issued Sept. 21, 2021
 - Closed Nov. 5, 2021
 - Adjudication completed Jan. 2022

Take-aways from pre-draft comments

- Interest in an iterative lifecycle approach
- Desire for flexibility, scalability
- Standardized, clearly defined terms
 - E.g., awareness, literacy training, role-based training
- Wider stakeholder and SME input
- Reflect current work environment and requirements (i.e. remote workforce)

Take-aways from pre-draft comments (cont)

- Importance of tying A&T programs together with security & privacy risk management efforts
- Metrics – what is useful, what can be measured
- Feedback mechanisms
- Post-implementation assessment steps

Today:

- Incorporating Julie Haney/Jody Jacobs research
 - Focus groups with Cybersecurity Training/Awareness Managers
- Finalizing outline
- Assigning sections to SMEs on authoring team

Next Steps: Rough Timeline

- February - Co-authors collaborate on a draft
- March - Internal review NIST and other agencies
- Late March – **publish for comments (45 days)**
- May – June: adjudicated comments/revise
- July – internal review
- August/September – final version

Questions?

NICE

NATIONAL INITIATIVE FOR **CYBERSECURITY** EDUCATION



Thank You!



Federal Information Security Educators (FISSEA) Fall Forum

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BREAK

The Forum will resume at 2:45pm ET

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Welcome Back!

Susan Hansche

FISSEA Chair

Cybersecurity & Infrastructure Security Agency

Department of Homeland Security



An Overview of SMS/Text Scams Impersonating State and Federal Agencies During the Pandemic

Mark Henderson

Online Fraud Detection and Prevention
Internal Revenue Service



An Overview of SMS/Text Scams Impersonating State and Federal Agencies During the Pandemic

Mark Henderson

Internal Revenue Service

Online Fraud Detection and Prevention

OS:CTO:C:O:OFDP

Desk: 202-556-2615

mark.w.henderson@irs.gov

Disclaimer

Any views or opinions are my own and do not necessarily reflect the official views of the U.S. Treasury.

What is SMS?

- Short Message Service (SMS)
- Message size is limited (160 characters)
- Supports multiple alphabets
- Makes use of “short codes”

Phishing lifecycle [US-CERT – ST15-001]

- **A Lure:** enticing email content
- **A Hook:** an email-based exploit
 - Email with embedded malicious content that is executed as a side effect of opening the email
 - Email with malicious attachments that are activated as a side effect of opening an attachment
 - Email with “clickable” URLs: the body of the email includes a link, which displays as a recognized, legitimate website, though the actual URL redirects the user to malicious content
- **A Catch:** a transaction conducted by an actor following a successful attempt
 - Unexplainable charges
 - Unexplainable password changes

What is smishing?

- MMS/SMS/text + social engineering (“phishing”) = “smishing”
- These text messages will typically contain a domain/URL
- This domain/URL will typically lead directly/indirectly to a phishing site (“landing page”)
- In some cases, the text message will only include a telephone number that the recipient needs to “text”, with no domain/URL to “click”

Why the uptick in SMS phishing?

- **Exploiting work-from-home (WFH)** - “It’s far easier to block email phishing on corporate-owned PCs, but today’s remote workers are now using their personal devices to access corporate apps and data.”
- **“fish in a barrel”** - “The devices are literally everywhere, providing a vast, exploitable threat landscape for hackers [2.8B devices worldwide].”
- **Higher click rates** - “Consider that 90 percent of text messages are opened and read almost immediately; meanwhile, the average open rate for email hovers around 20 percent.”
- **Lack of security protections** - “Personal devices typically lack the robust security used to protect corporate devices.”
- **Distraction** - “... we’re just not paying attention.”

[Source: “Smishing: Why Text-Based Phishing Should Be on Every CISO’s Radar”
<https://threatpost.com/smishing-text-phishing-ciso-radar/165634/>]

Smishing requires different abuse handling

- Smartphones have limited screen real-estate
- SMS messages aren't typically provided in their raw text form
- Typosquatting makes identifying the URL from a screenshot difficult
- SMS messages can be difficult to trace

Reporting smishing

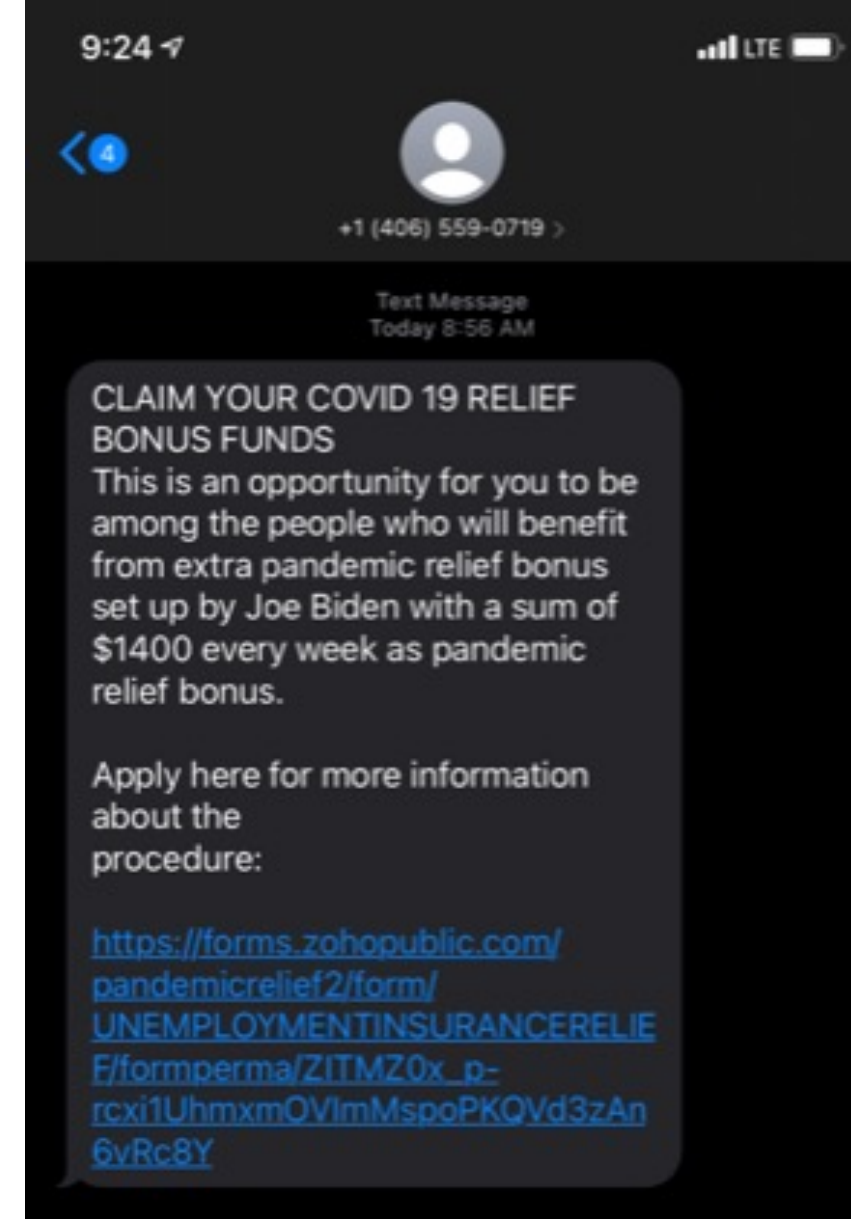
- Reporting the text of the SMS/text is best: press on a blank area of the message and select “Copy”
- IRS-related smishing can be reported:
 - via SMS using 202-552-1226 and/or email to phishing@irs.gov (e.g., plain ASCII or screenshot)
- IRS-related and non-IRS smishing can also be reported:
 - via the messaging app
 - by copying the message and sending to **7726** (SPAM)
 - to the Federal Trade Commission (FTC) at ftc.gov/complaint

Caveat about 7726

- Forwarding to 7726 does **not** remove the actual phishing content
 - 7726 provides details of the message to the telecommunications provider
- Filing a complaint with the FTC typically does **not** action the phishing content
- You will need to report the numbers and the domains/URLs separately

“Joe Biden” Pandemic smish

- “406-559-0719” = Verizon
- “forms.zohopublic.com” is a free online form builder
- Potential “man in the mailbox” phishing attempt







hxxps://forms[.]zohopublic[.]com/pandemicrelief2/form/UNEMPLOYMENTINSURANCERELIEF/formperma/ZITMZ0x_p-rcxi1UhmxmOVImMspoPKQVd3zAn6vRc8Y

“Joe Biden” Pandemic smish

- “Unemployment Insurance Relief”
- “Unemployment Insurance Application Form”

UNEMPLOYMENT INSURANCE RELIEF
DURING COVID-19 OUTBREAK

\$1,400 payments per person with more than 5 million in mixed-status families eligible		\$109B* to fight poverty including the 5.9 million Latino children newly eligible for the full Child Tax Credit	
	\$40B* to keep families in their homes including \$100 million for housing counseling, and \$10B for mortgage assistance. A relief to the 64% of Latinos worried about making their next		\$54.5B* to give people access to the health care they need with lower-cost health coverage and funding for community health centers

UNEMPLOYMENT INSURANCE APPLICATION FORM

Before filing, make sure you have the following information available:

- Social Security number
- Driver's license or State ID number

You do not need to do anything to receive your payment. It will arrive by mail in the form of a paper check or debit card or direct deposit to your bank account.

https://forms.zohopublic.com/pandemicrelief2/form/UNEMPLOYMENTINSURANCE/RELIEF/formperma/ZITMZ0x_p-rcxi1UhmxmOVImMspoPKQVd3zAn6vRc8Y

“Joe Biden” Pandemic phishing site (cont.)

- “Front of your State ID/License”
- “Back of your State ID/License”
- “Front of your SSN CARD”
- “Back of your SSN CARD”

Race - Please select all that apply:

African American/Black American

Indian/Native

As an Hawaiian/Other Pacific Islander

White

I do not wish to answer

Front of your State ID/License

[Drop & Drop for Upload File](#)

Back of your State ID/License

[Drop & Drop for Upload File](#)

Front of your SSN CARD

[Drop & Drop for Upload File](#)

Back of your SSN CARD

[Drop & Drop for Upload File](#)

[Submit](#)

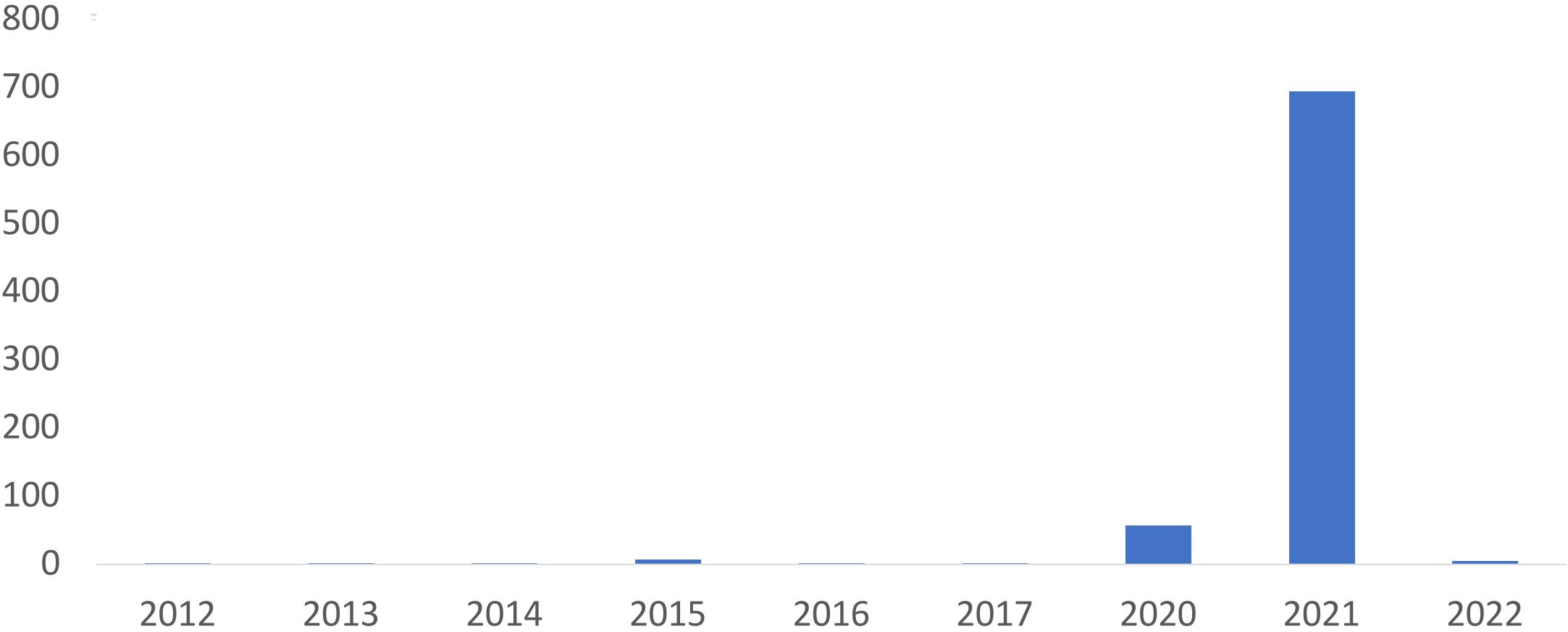
Do not submit confidential information such as credit card details, Mobile and ATM PINs, account passwords, etc. Report Abuse

Zoho Forms

smishing scams sent to phishing@irs.gov

- phishing@irs.gov receives a variety of online scams including smishing scams
- Smishing sent to phishing@irs.gov often references:
 - IRS, Treasury and/or is tax-related
 - USG programs (e.g., CARES Act)
 - One or more other USG agencies
 - State, Local, Tribal and Territorial (SLTT) (e.g., State Workforce Agencies)
 - None of the above (e.g., banks, telcos, etc.)

of reported IRS-related smishing incidents



Current as of 2022-01-24

IR-2020-167: Press release

[Home](#) / [News](#) / [IRS Tax Tips](#) / IRS warns people about a COVID-related text message scam

IRS warns people about a COVID-related text message scam

English | [Español](#) | [中文\(繁體\)](#) | [한국어](#) | [Русский](#) | [Tiếng Việt](#)

Topics in the News

News Releases

Multimedia Center

Tax Relief in Disaster Situations

Tax Reform

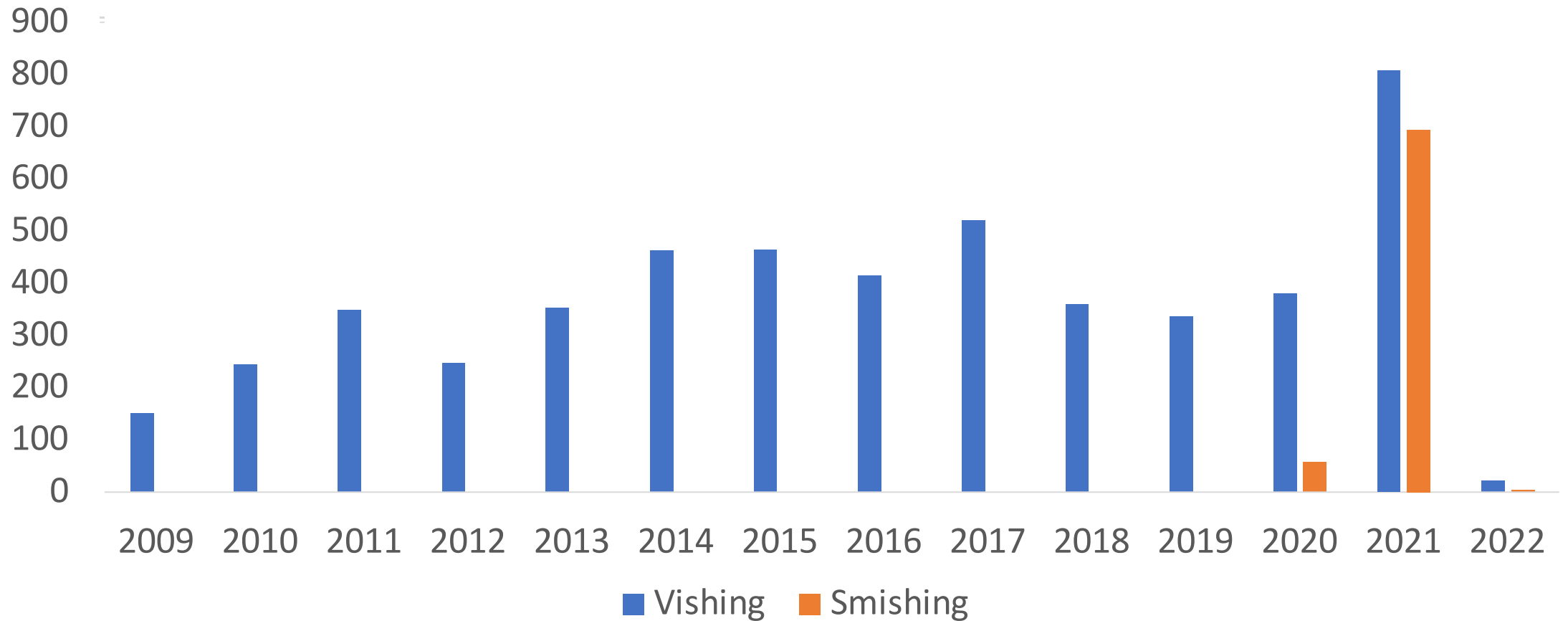
COVID Tax Tip 2020-167, December 8, 2020

The IRS and its [Security Summit](#) partners are warning people to be aware of a new text message scam. The thief's goal is to trick people into revealing bank account information under the guise of receiving the \$1,200 Economic Impact Payment.

Here's how this scam works

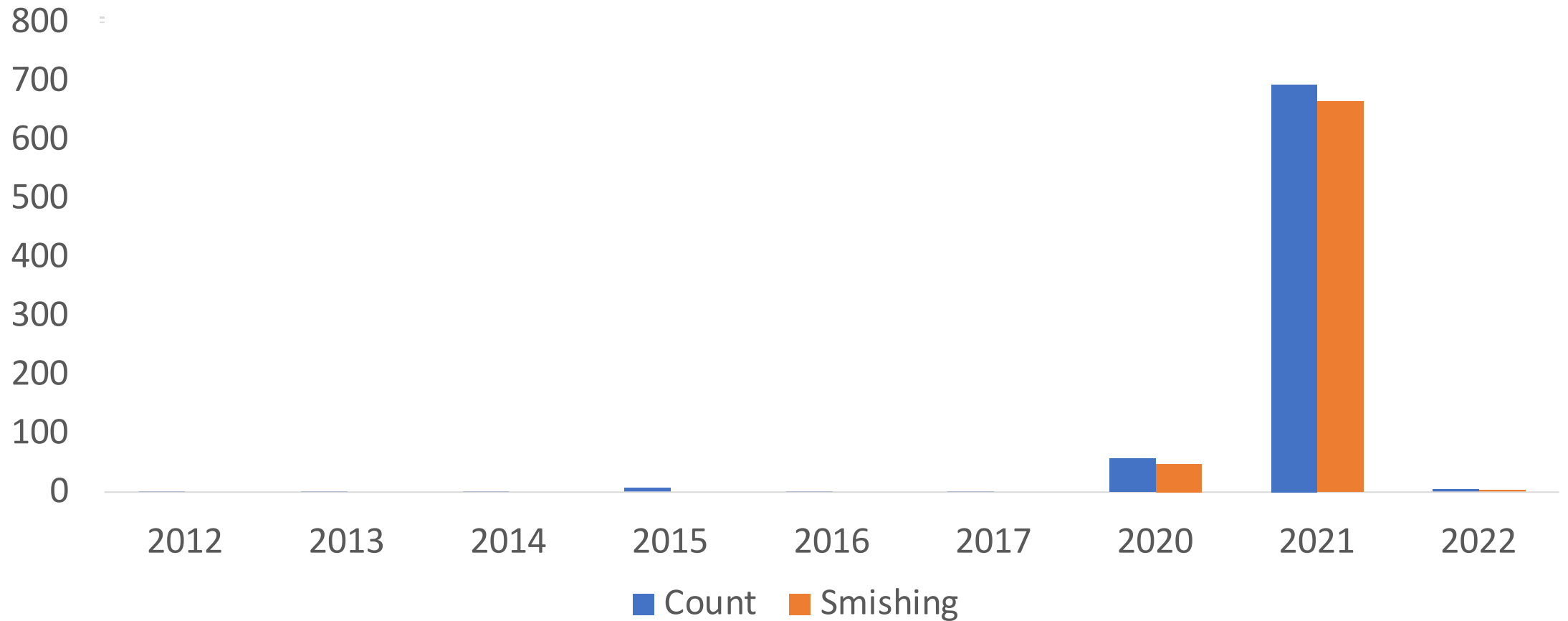
People get a text message saying they have "received a direct deposit of \$1,200 from COVID-19 TREAS FUND. Further action is required to accept this payment... Continue here to accept this payment ..." The text includes a link to a phishing web address.

Smishing versus Vishing complaint volume



Current as of 2022-01-24

% of IRS smishing that is “stimulus”-themed



Current as of 2022-01-24

Examples of observed techniques

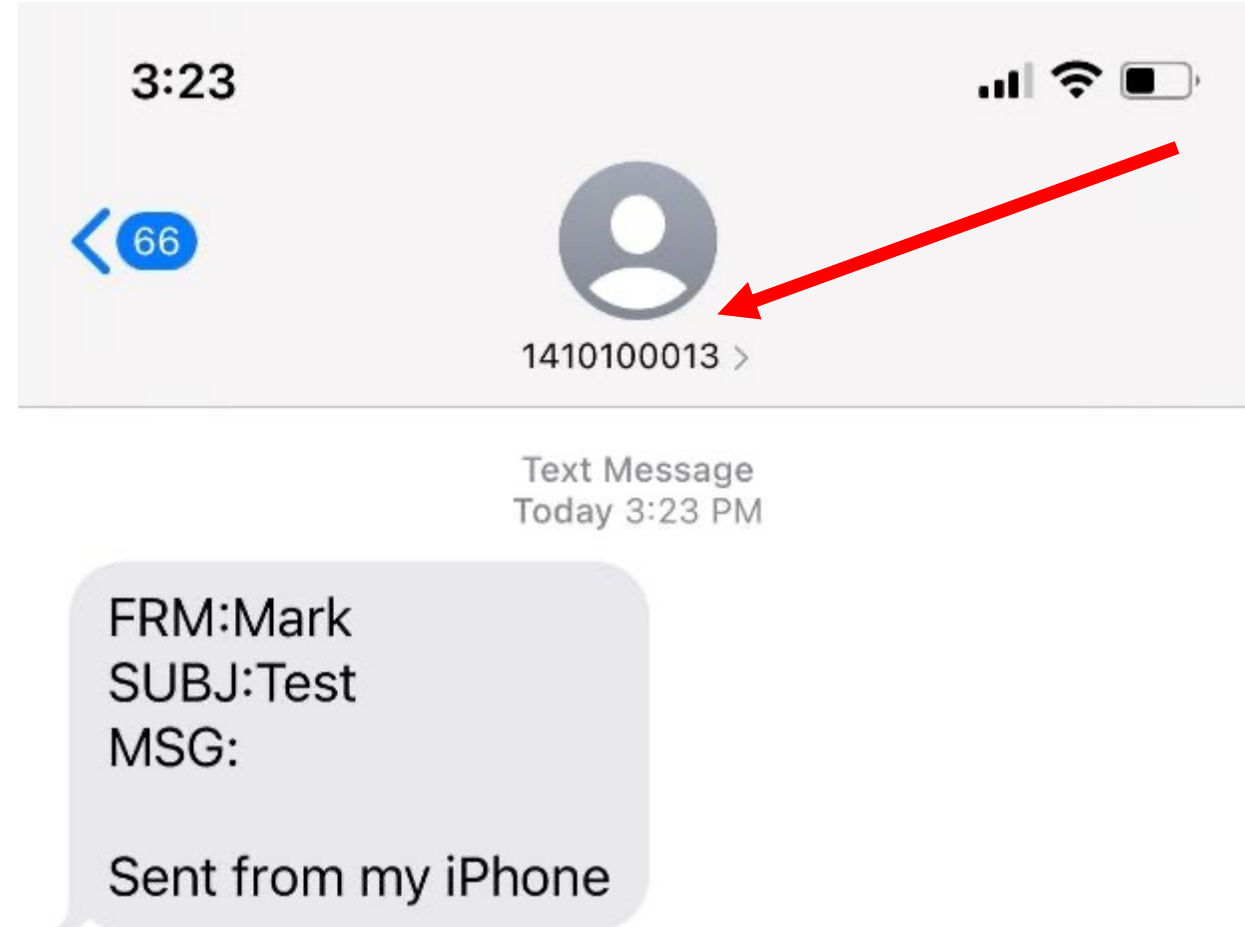
- AT&T Email to Text
- Fraudulent domains serving as a redirects
- Redirection leveraging trusted sites (i.e., legitimate URL shorteners redirecting to phishing URLs)
- “Numbers-only” smish (i.e., no URL or domain)

AT&T email-to-text

If you create an email with an AT&T telephone number as the username, you can send a text message from your email

“[1234567890]@txt.att.net”

1410100013



AT&T Smish - Fraudulent domain as redirect

- 1410100025 = AT&T email-to-text
- f2c[.]host is a fraudulent domain
- Domain redirected to a “Get My Payment” phishing site
- Phishing landing page asked for screenshot of the victim’s Driver’s License, front and back



[hxxp://www\[.\]f2c\[.\]host/?IRS10471482128](http://www.f2c.host/?IRS10471482128)

“Chaining” multiple redirects is common

```
curl -vv 'hxxp://www[.]f2c[.]host/?IRS10584232211'
```

...

```
HTTP/1.1 301 Moved Permanently
```

```
Location: hxxps://f2c[.]uno/redi/3? IRS10584232211'
```

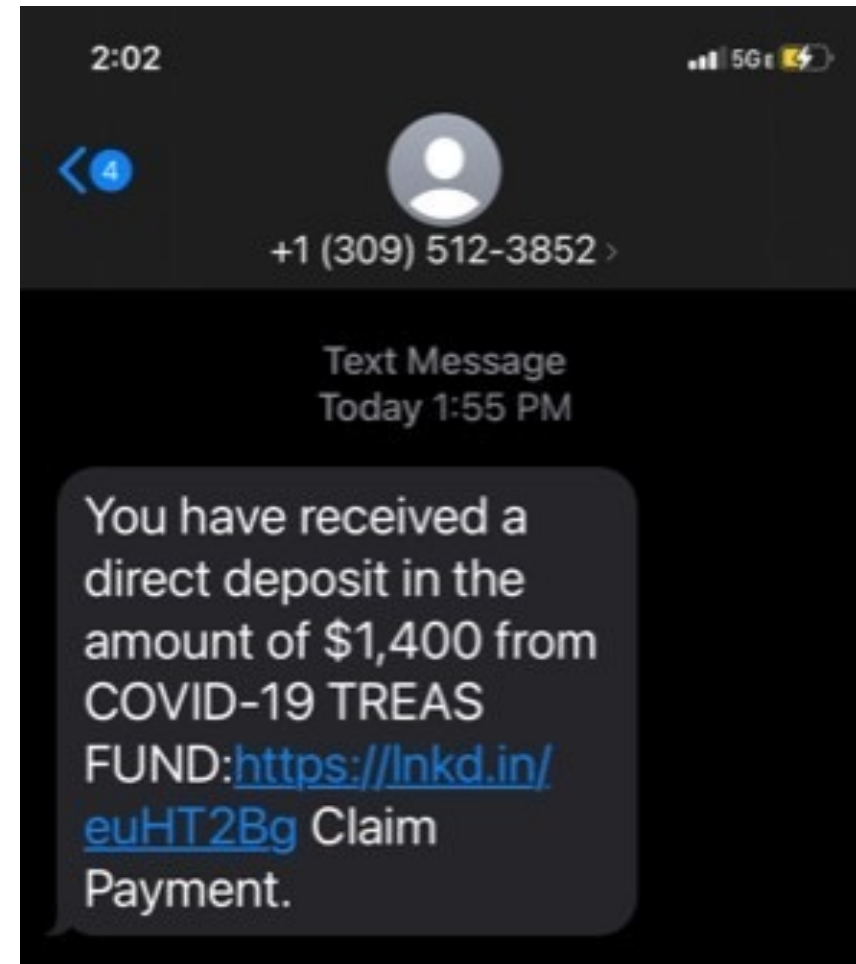
```
f2c[.]{host,uno}
```

```
Registrar: Hostinger
```

```
Creation Date: 2021-02-26
```

Leveraging Trusted Sites (e.g., Inkd.in)

- 309-512-3852 = AT&T
- Inkd[.]in is a LinkedIn URL shortener
- See the Living off Trusted Sites Project (lots-project.com)
- Redirected to a website using dynamic DNS



`hxxps://Inkd[.]in/euHT2Bg`

“Get My Payment” phishing website

The image shows a screenshot of a phishing website designed to look like the official IRS 'Get My Payment' page. The header features the IRS logo and the text 'U.S. Department of the Treasury Internal Revenue Service'. The main heading is 'Get My Payment', followed by a sub-heading 'If you need additional help, please visit our Free Online Account Center page.' and a note 'All fields marked with an asterisk are required.' The form contains the following fields:

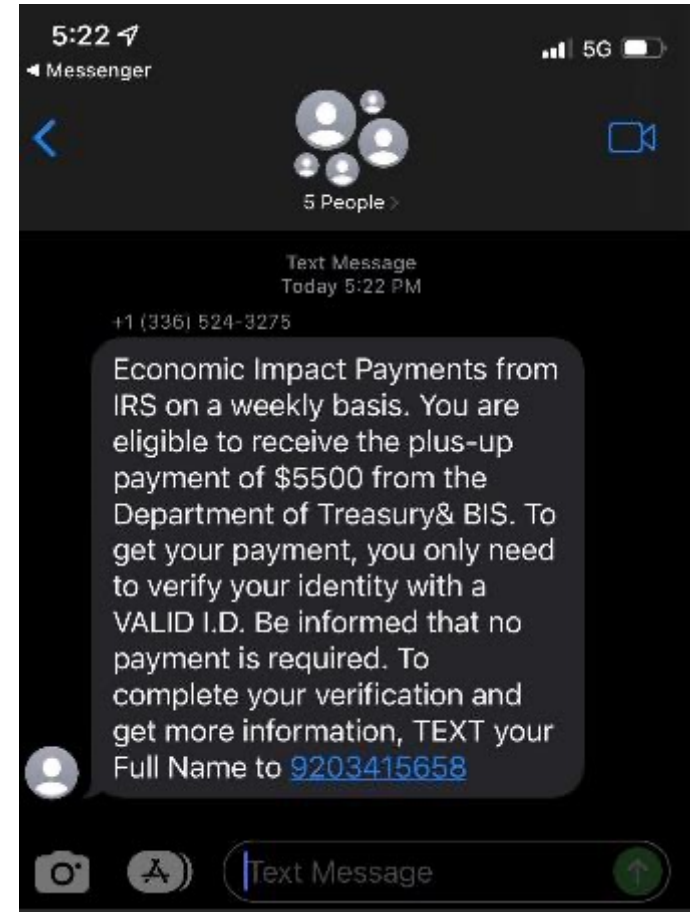
- First Name *
- M.I.
- Last Name *
- Driver's License Number *
- Expiration date *
- State issued *
- Social Security Number (SSN) or Individual Tax ID Number (ITIN) *
- Date of Birth *
- Street Address *
- ZIP or Postal Code * (Note: This is not correct for countries outside the U.S. or postal codes)
- Phone Number *
- Phone Country Code *
- Phone Country Code (Area), (NAT) *
- Mother's Maiden Name

A blue 'CONTINUE' button is located at the bottom of the form. The footer of the page includes the IRS logo and the text 'IRS Privacy Policy | Account 1 of 2'.

myaccount-gov[.]sytes[.]net/?access_protect

IRS EIP “numbers-only” smish

- 336-524-3275 = Verizon
- 920-341-5658 = Bandwidth
- No domain and/or URL in the message
- Small number of recipients



State, local, tribal and
territorial (SLTT) agencies

Overview

- Fraudsters continue to send a variety of scams to taxpayers via email, text and social media
- During the pandemic, a subset of complaints we received were from individuals reporting scams targeting various state benefits programs
- Fraudsters are creating phishing websites (e.g., fake State unemployment web portals)
- Fraudsters are collecting victim information (e.g., email credentials, driver's license, etc.)
- This information is then used to conduct different types of fraud (e.g., unemployment insurance fraud)

What States have (already) observed

- California (CA) - “DMV warning customers about a text message scam”
- Florida (FL) – “Text scammers have new ploy posing as the DMV”
- Illinois (IL) – “Illinois residents targeted by scam text messages” [“... scam text messages from the DMV”]
- New York (NY) – “New York State DMV warns of new text messaging scam”
- Texas (TX) - How to Spot the Latest Scam Texts, Emails Targeting Texans [“Texas Department of Motor Vehicles”]

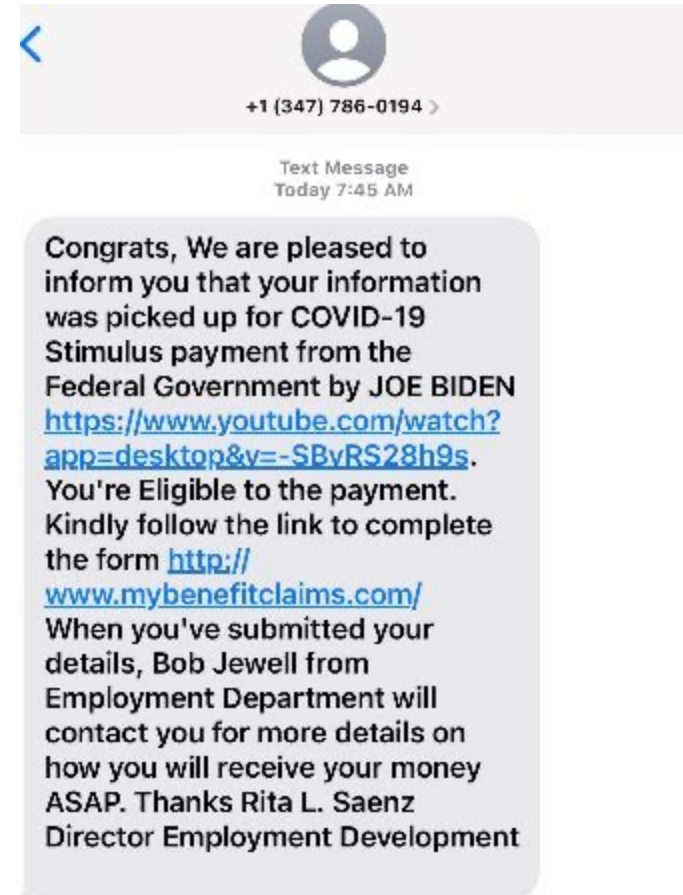
Arkansas smishing lure

“Your Arkansas Unemployment Insurance Claim account is currently on hold for verification, Please complete your verification by following the instructions in the link below: [hxxps://tinyurl\[.\]com/n5emccpf](https://tinyurl.com/n5emccpf) to reactivate your account.”

[hxxps://tinyurl\[.\]com/n5emccpf](https://tinyurl.com/n5emccpf)

California smish

- 347-785-0194 = Verizon
- mybenefitclaims[.]com:
Namecheap
- “Rita L. Saenz Director
Employment Development”



hxxp://www[.]mybenefitclaims[.]com/

Illinois smish

- t[.]co = URL shortener (Twitter)

Office secretary of state(IL):

DL Details seems to be missing or Incorrect.

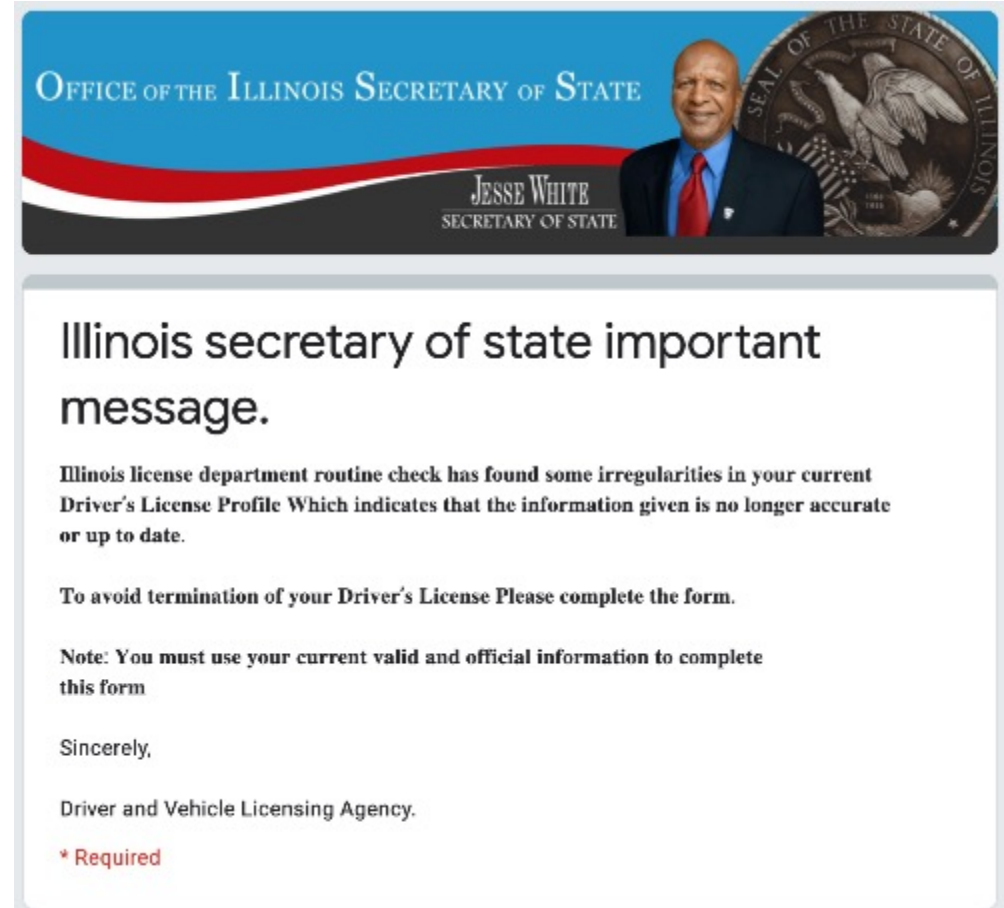
Follow

steps:hxxps://t[.]co/wMC1usiAwX

`hxxps://t[.]co/wMC1usiAwX`

Illinois smishing landing page

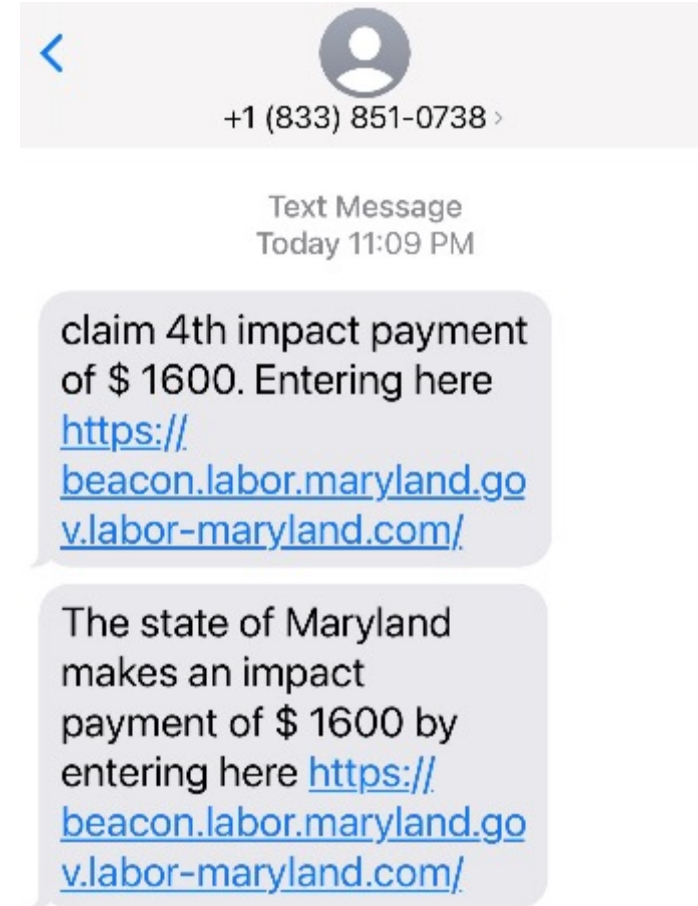
- Picture of “Jesse White”, IL Secretary of State
- “Driver’s License Number”
- “Social Security Number (000-00-000)*”
- Contact Number



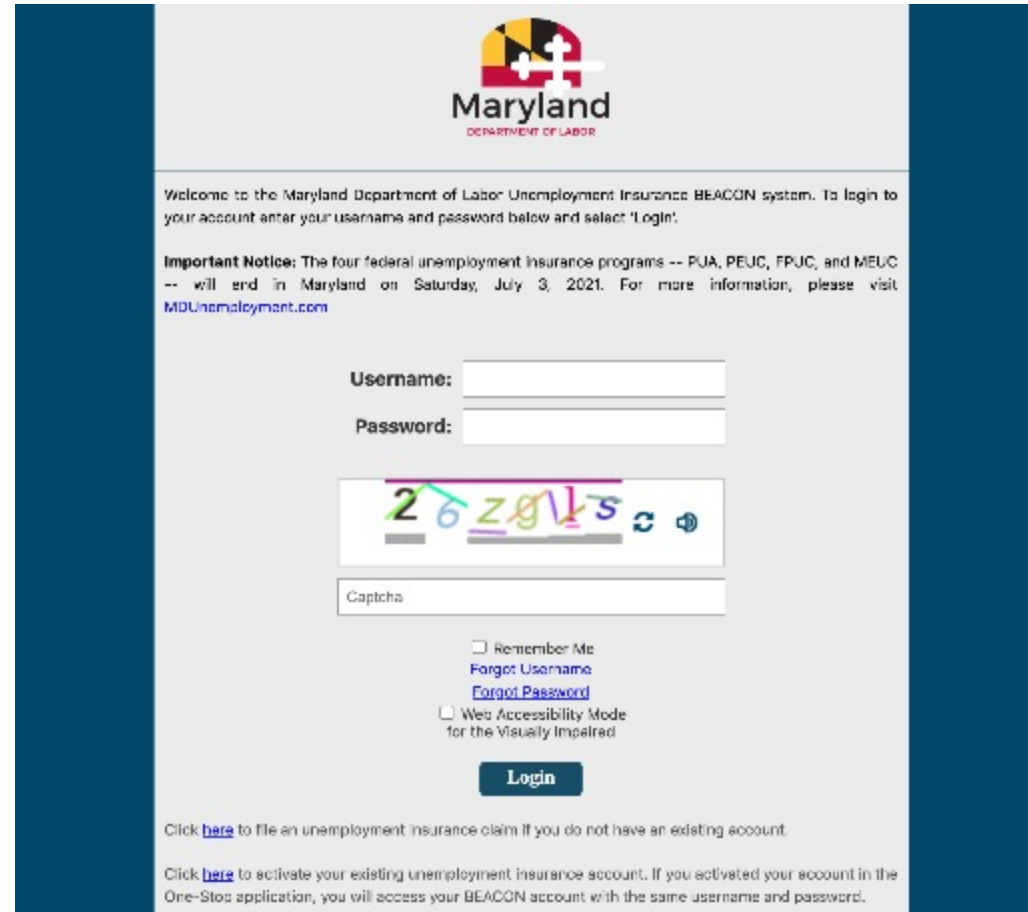
<https://docs.google.com/forms/d/e/1FAIpQLSe88iCqdgV0FW5PYB03NQRqjC4lq7-WOb-1AVff48kwU3ow0g/viewform>


Maryland smish

- 833-851-0738 = Vonage
- “beacon.labor.maryland.gov” is the sub-domain but not the actual domain
- labor-maryland[.]com = Tucows



Maryland smishing landing page





Maryland
DEPARTMENT OF LABOR

Welcome to the Maryland Department of Labor Unemployment Insurance BEACON system. To login to your account enter your username and password below and select 'Login'.

Important Notice: The four federal unemployment insurance programs -- PUA, PEUC, FPUC, and MEUC -- will end in Maryland on Saturday, July 3, 2021. For more information, please visit MDUnemployment.com

Username:

Password:



Captcha

Remember Me
[Forgot Username](#)
[Forgot Password](#)

Web Accessibility Mode
for the Visually Impaired

[Login](#)

Click [here](#) to file an unemployment insurance claim if you do not have an existing account.

Click [here](#) to activate your existing unemployment insurance account. If you activated your account in the One-Stop application, you will access your BEACON account with the same username and password.

hxxps://beacon.labor.maryland.gov.labor-maryland[.]com/

Resources

- CISA ([“Avoiding Social Engineering and Phishing Attacks”](#))
- FCC ([“Consumer Tips to Stop Unwanted Robocalls and Avoid Phone Scams”](#))
- FCC ([“FCC Smartphone Security Checker”](#))
- FTC ([“How To Recognize and Report Spam Text Messages”](#))
- IRS ([“Here's How To Avoid IRS Text Message Scams”](#))

What can your organization do about it?

- Recognize fraudulent components of common scams (e.g., domains, emails, URLs, numbers, social media profiles/sites, etc.)
- Establish workflows to record/report abuse to the appropriate service providers
- Provide an email alias and/or online form to report scams to your organization
- Provide victims with additional resources for reporting (e.g., IC3.gov) on your website and/or in your auto-reply
- Identify victim information if possible and then share with appropriate groups
- Share lessons learned with others

Questions?

mark.w.henderson@irs.gov

Showcasing the Use of a Cyber Range for the President's Cup Competition

Michael Harpin

Cybersecurity and Infrastructure Security Agency
Department of Homeland Security





PRESIDENT'S CUP

CYBERSECURITY COMPETITION





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CYBERSECURITY COMPETITION

President's Cup Cybersecurity Competition

Building a Competition Across the Federal Workforce



What is the President's Cup Cybersecurity Competition?



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CYBERSECURITY COMPETITION

- America's Cybersecurity Workforce E.O. 13870 mandates DHS to hold the competition annually.
- The goal of the competition is to identify and reward the top cybersecurity talent in the federal workforce.
- Any federal executive department or agency employee can participate, including uniformed service members.
- Participants can compete as an Individual, on a Team of up to five members, or both.

2021 Winners

Individual Track A USMC	Individual Track B USAF	Team 780th Military Intelligence Brigade
-------------------------------	-------------------------------	--



Considerations for President's Cup Platform



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PRESIDENT'S CUP
CYBERSECURITY COMPETITION

- **Accessible anywhere from a standard web browser**
 - Minimum Hardware/Software requirements for end users
- **Scalable to support potentially thousands of concurrent participants across the federal .gov/.mil**
- **Open-Source Resources**
 - TopoMojo - <https://github.com/cmu-sei/TopoMojo>
 - Gameboard - <https://github.com/cmu-sei/Gameboard>
 - Identity - <https://github.com/cmu-sei/Identity>



President's Cup Challenge Development



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CYBERSECURITY COMPETITION

- Each challenge is tied to a NICE Work Role
- Built within TopoMojo
 - Multiple variants of each challenge created and deployed at random
 - “Infinity challenges” – variants within challenge randomized by TopoMojo
- Quality Assurance for each challenge
 - Playtesting conducted by National Labs with support of DOE
- Session timer
 - Influences challenge development and competitor strategy

Where's the site?

There was an update to a mission critical website, but we don't know where the new site is. Can you help?

NICE Work Roles:

Exploitation Analyst

NICE Tasks:

- T0266 - Perform analysis for target infrastructure exploitation activities.



Accessing the Challenges



Status

Game window closes in 325d

Space Pirate

Rank	Score	Cumulative Time	Completes	Partials
0	0	00:00:00	0	0

After starting the session, the dock expires after 60 minutes.

Service Forecast
Shows when services become available. (Green means available)

13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00

[Start Session](#)

Analyze This!

Analyze a Packet Capture (pcap) file.

NICE Work Note:
Cyber Defense Analyst

NICE Task:

- T0025** - Characterize and analyze network traffic to identify anomalous activity and potential threats to network resources.

Background
We recently captured this pcap file and we need you to answer some questions about it!

Getting Started
Using the provided workstation, visit <http://2018f.cyber.gov> to download the pcap file. You can analyze the pcap any way you'd like in order to answer the questions.

Submission Format
There are four (4) questions for this challenge. Enter the IP address that answers each question correctly below.

Note
Attacking or unethical access to challenges (10555) is forbidden. You may only use the provided web page to view challenge progress and download any challenge artifacts that are provided.

System Credentials

system	username	password
lab-workstation	user	!artuna
win10-workstation	user	!artuna

Gamespace Resources

[lab-workstation](#) [win10-workstation](#) [Getting](#)

Challenge Questions

- (30) Which IP address received the most packets?
- (20) Which IP address sent the least packets?
- (40) Which IP address sent the most bytes?

[Submit](#) 1 of 3 (Session ends in 58m) Score: 0 of 100

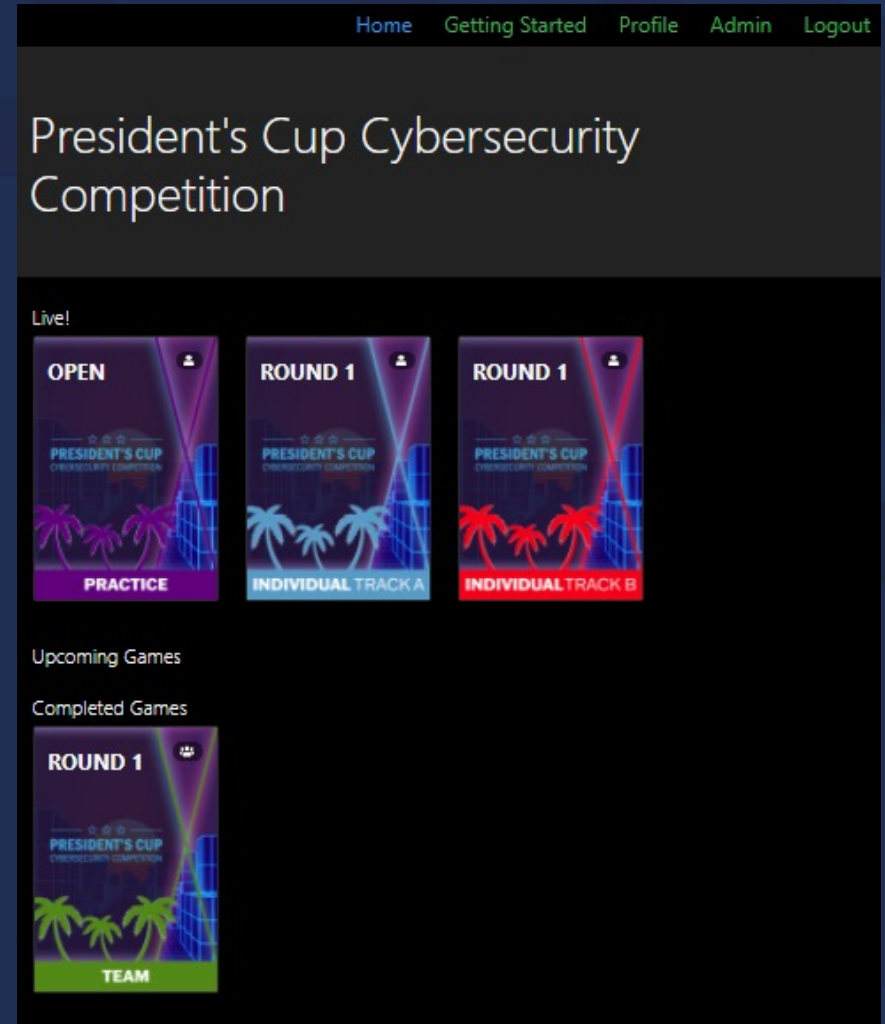
Support Code: eb85709f-d302



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PRESIDENT'S CUP
CYBERSECURITY COMPETITION

Gameboard Updates in 2021

- Consolidated Gameboards into a single application
- Integrated challenge metadata
- Migrated email functionality away from Gameboard
 - PII protections



Foundry Appliance

- Pre-configured VM that packages President's Cup applications
- Single-host Kubernetes cluster to replicate production deployment
- Uses VMware ESXi to serve virtual challenge environments
- <https://github.com/cmu-sei/foundry-appliance>



Carnegie Mellon University
Software Engineering Institute

Foundry Appliance v0.4.0

Welcome to the Foundry Appliance. This virtual machine hosts workforce development apps from the [Software Engineering Institute at Carnegie Mellon University](#).

Getting Started

The appliance advertises the `foundry.local` domain via mDNS. All apps are served as directories under this domain.

To get started using the virtual appliance:

1. Download `root-ca.crt` and trust it in your keychain/certificate store. This removes browser certificate warnings.
2. Navigate to any of the apps in the following two sections.
3. Unless otherwise noted, the default credentials are:
`user: administrator@foundry.local`
`pass: foundry`
`code: 123456`

Foundry Apps

The following Foundry applications are loaded on this appliance:

Outlook for President's Cup System



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CYBERSECURITY COMPETITION

- Moving system to DHS cloud environment.
 - Potential for additional competitions and challenge developers.
- Standing up archive site.
- Releasing source code of challenges to public after each competition.
- Continued development of Foundry Appliance



PCCC Practice Area

Practice demo challenges and content from past President's Cup competitions

2021 Practice

Gameboard

Challenge Archive

Gameboard

Open Source Challenges

GitHub

Walkthrough Videos

YouTube





PRESIDENT'S CUP
CYBERSECURITY COMPETITION

President's Cup Format



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CYBERSECURITY COMPETITION

- The competition has three rounds – two Qualifying Rounds and Finals.
- Qualifying Rounds
 - Must succeed in first qualifying round to participate in second round
 - Teams – best team from each Department, plus top 20% based on score
 - Individuals – Top 100
- Final Round
 - Top 5 Teams and Top 10 Individuals in Tracks A/B
 - Day 2 of Teams Finals Livestreamed via YouTube



Insider Threat Program Training: Gaining Management Awareness and Support



Rebekah Ibarra

Insider Threat Program Manager
Social Security Administration



Joe Hoofnagle

Senior Advisor Cybersecurity & Intelligence
Social Security Administration

Insider Threat Program Training

Gaining Management Awareness and Support

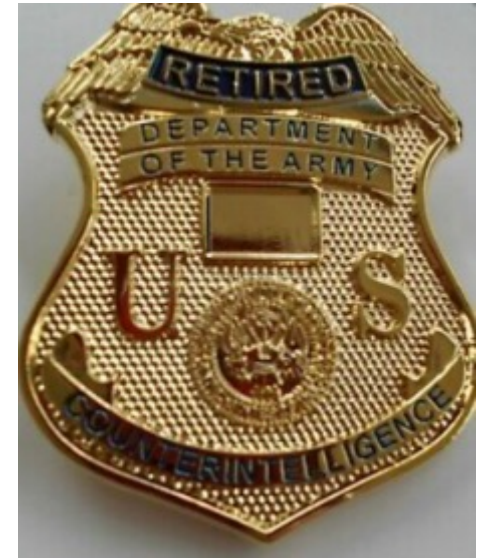
February 15, 2022

Rebekah Ibarra
Insider Threat & Intelligence

Joe Hoofnagle
Insider Threat & Intelligence

Managing the Effort: Insider Threat Program Manager

- Over 23 years working with the US Army as an active duty and civilian counterintelligence (CI) special agent and as intelligence professional and manager.
- Experience with countless CI and Insider Threat inquiries and investigations for the DoD in the US, Europe and deployed in multiple combat zones in support of US contingency operations.
- Selected as the Program Manager for the Insider Threat Program due to background, training and experience.



Managing the Cyber Effort: Senior Subject Matter Expert

- Over 25 years of experience assessing and building programs and expert teams (Fortune 10 through 500 and Gov).
- Experience with handling hundreds of insider threat inquiries; intellectual property theft, economic espionage, PII/PHI theft, insider trading.
- Testified before the U.S. House Committee on Oversight and Government Reform on insider threat and intellectual property theft.
- Senior consultant to public and private sectors.

The screenshot shows the FBI Washington Field Office website. At the top, there is a navigation bar with the FBI logo, "FEDERAL BUREAU OF INVESTIGATION", and a search bar. Below the navigation bar, there are links for "CONTACT US", "ABOUT US", "MOST WANTED", "NEWS", "STATS & SERVICES", "SCAMS & SAFETY", "JOBS", and "FUN & GAMES". The main content area features a press release titled "Former FDA Chemist Sentenced to 60 Months in Prison for Insider Trading". The release is dated March 05, 2012, and is attributed to the U.S. Department of Justice, Office of Public Affairs. The text of the release states: "WASHINGTON—Cheng Yi Liang, a former Food and Drug Administration (FDA) chemist from Gaithersburg, Maryland, was sentenced today to 60 months in prison for engaging in insider trading on multiple occasions based on material, non-public information he obtained in his capacity as an FDA scientist. Liang was previously ordered to forfeit \$3.7 million representing the proceeds of the insider trading scheme." The release also mentions that the sentence was announced by Assistant Attorney General Lanny A. Breuer, U.S. Attorney for the District of Maryland Rod J. Rosenstein, James W. McJunkin, and Elton Malone. On the right side of the page, there is a "Washington Field Office Links" section with links to "WFO Home", "Contact Us", "News and Outreach", "About Us", and "Wanted by the FBI - WFO".

THE FBI FEDERAL BUREAU OF INVESTIGATION

REPORT THREATS • A-Z INDEX • SITE MAP

Search Site SEARCH

CONTACT US ABOUT US MOST WANTED NEWS STATS & SERVICES SCAMS & SAFETY JOBS FUN & GAMES

Washington Field Office (WFO)

Select Language Get FBI Updates

Home • Washington • Press Releases • 2012 • Former FDA Chemist Sentenced to 60 Months in Prison for Insider Trading

Twitter (4) Facebook (11) Share

Former FDA Chemist Sentenced to 60 Months in Prison for Insider Trading

U.S. Department of Justice Office of Public Affairs
March 05, 2012 (202) 514-2007 / (202) 514-1888

WASHINGTON—Cheng Yi Liang, a former Food and Drug Administration (FDA) chemist from Gaithersburg, Maryland, was sentenced today to 60 months in prison for engaging in insider trading on multiple occasions based on material, non-public information he obtained in his capacity as an FDA scientist. Liang was previously ordered to forfeit \$3.7 million representing the proceeds of the insider trading scheme.

The sentence was announced today by Assistant Attorney General Lanny A. Breuer of the Criminal Division; U.S. Attorney for the District of Maryland Rod J. Rosenstein; James W. McJunkin, assistant director in charge of the FBI's Washington Field Office; and Elton Malone, special agent in charge, Department of Health and Human Services, Office of the Inspector General (HHS-OIG), Office of Investigations, Specials Investigations Branch.

Washington Field Office Links

WFO Home

Contact Us
- Overview
- Territory/Jurisdiction

News and Outreach
- Press Room | Stories
- In Your Community

About Us
- Our People & Capabilities
- What We Investigate
- Our Partnerships
- WFO History

Wanted by the FBI - WFO

FBI Jobs

Typical Insider Threat Program

Per Executive Order 13587, October 2011, Structural Reforms to Improve the Security of Classified Networks and the Responsible Sharing and Safeguarding of Classified Information required to:

- Establish an Insider Threat Program and HUB
- Appoint an Insider Threat Senior Official
- Establish an Information Sharing and Safeguarding Program
- Appoint an Information Sharing and Safeguarding Senior Official
- Appoint a Federal Senior Intelligence Coordinator



Why Should Everyone be included

The more employees know and understand their organization has a mature insider threat program and their role in the program the more empowered they feel to contribute by:

- Having more awareness of their importance in spite they may perceive it a small piece
- Understanding what/why certain indicators and outliers could be a potential insider
- Knowing that external adversaries will attempt to elicit information from them no matter how seemingly insignificant, and
- Where and when to report suspected activities.



What Does Training Entail?

Although in this training example we chose elicitation as the subject for this exercise, there are certainly more topics that will provide the right message to the working staffs to include but not limited to:

- Where and when to recognize when a fellow employee may be on the wrong track.
- Knowing the signs of employee(s) behavior that may escalate into potential workplace violence.
- Observing potential systems misuse that could be interpreted as destructive or malicious



Onto the Training!



What is an “Insider Threat”?



The stakes are simply too high **NOT** to report incidents of possible insider threat as soon as they occur.

Insider: Any person with authorized access to any government or contract resource to include personnel, facilities, information, equipment, networks, or systems. This can include employees, former employees, consultants, and anyone with access.

The National Insider Threat Task Force (NITTF) defines an “insider threat” as:

The threat that an insider will use his or her authorized access wittingly or unwittingly, to do harm to the security of the United States. This threat can include damage through espionage, terrorism, unauthorized disclosure of national security information, or through the loss or degradation of department resources or capabilities.

NITTF Categories of Insider Threat

LEAKS



SPILLS



ESPIONAGE



SABOTAGE



TARGETED
VIOLENCE



Possible Indicators of Insider Threat

Vulnerabilities

Examples of vulnerabilities include:

- Financial stress
- Exploitable promiscuity
- Addictive behaviors (e.g., drug/alcohol abuse, gambling, pornography)
- Loneliness
- Disgruntlement

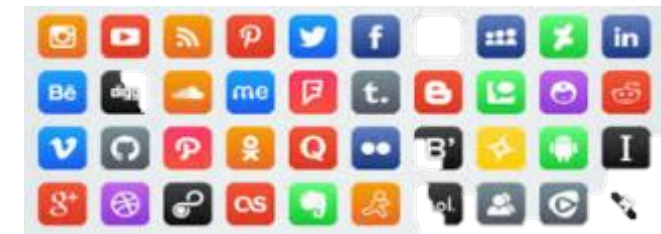


Elicitation Methods – as an example

Why Elicitation Works

A trained elicitor understands certain human or cultural predispositions and uses techniques to exploit them. Natural tendencies an elicitor may try to exploit include:

- A desire to be polite and helpful, even to strangers
- A desire to appear well-informed
- A desire to feel appreciated and believe we are contributing something important
- A tendency to expand on a topic when given praise or encouragement; to show off
- A tendency to gossip
- A tendency to correct others
- A tendency to underestimate the value of the information being sought or given, especially if we are unfamiliar with how else that information could be used
- A tendency to believe others are honest; a disinclination to be suspicious of others
- A tendency to answer truthfully when asked an "honest" question
- A desire to convert someone to our opinion



Elicitation Methods

Do These Techniques Work?

Since the end of the Cold War (1991):

- 67% of spies have been civilians
- 37% had no security clearance
- 84% of spies were successful
- 40% were caught immediately or in less than one year
- 19% were active for five or more years
- 67% volunteered to commit espionage
- 81% received no money for their services
- 94% went to prison

Source: Raytheon's pamphlet "What Employees Should Know About Elicitation and Foreign Intelligence Approaches"

\$300,000,000,000 worth of American intellectual property and business intelligence are annually stolen by China, Russia, Iran, and others.

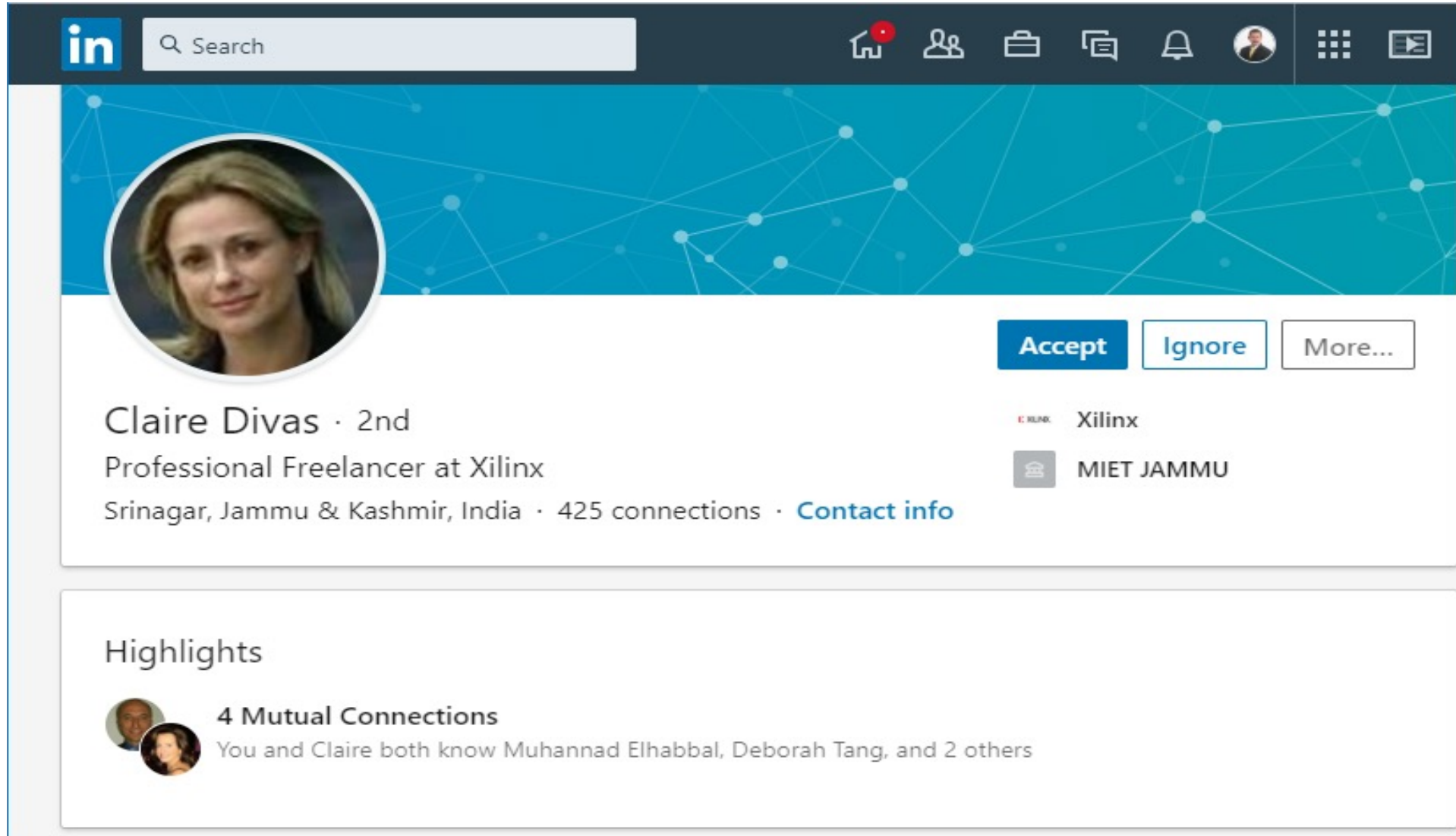


Catch Me if You Can!

- Nefarious activity associated with trans-national criminal groups, nation-state, and fraudster types has surged over the last 5 years.
- With the advent of social media and the like it's become very easy to connect with people of similar interests. The groups listed above are taking advantage of social media and the cooperative nature of today's connected society.
- Many recent examples are readily available on the Internet of individuals who have been caught posing as someone else in order to gain something illegally.



Seems Legit!



The image shows a LinkedIn profile for Claire Divas. The profile header includes the LinkedIn logo, a search bar, and navigation icons for home, network, jobs, messages, notifications, and profile. The profile picture is a circular portrait of a woman with blonde hair. The background banner is blue with a white network graph pattern. The profile name is 'Claire Divas · 2nd', followed by 'Professional Freelancer at Xilinx' and 'Srinagar, Jammu & Kashmir, India · 425 connections · [Contact info](#)'. To the right of the profile picture are three buttons: 'Accept', 'Ignore', and 'More...'. Below the profile information are two affiliation cards: 'Xilinx' and 'MIET JAMMU'. The 'Highlights' section is titled 'Highlights' and shows '4 Mutual Connections' with a list of profile pictures and the text 'You and Claire both know Muhannad Elhabbal, Deborah Tang, and 2 others'.

Accept **Ignore** **More...**

Claire Divas · 2nd
Professional Freelancer at Xilinx
Srinagar, Jammu & Kashmir, India · 425 connections · [Contact info](#)

Xilinx
MIET JAMMU

Highlights

4 Mutual Connections
You and Claire both know Muhannad Elhabbal, Deborah Tang, and 2 others

Not So Fast – Another Case Revealed

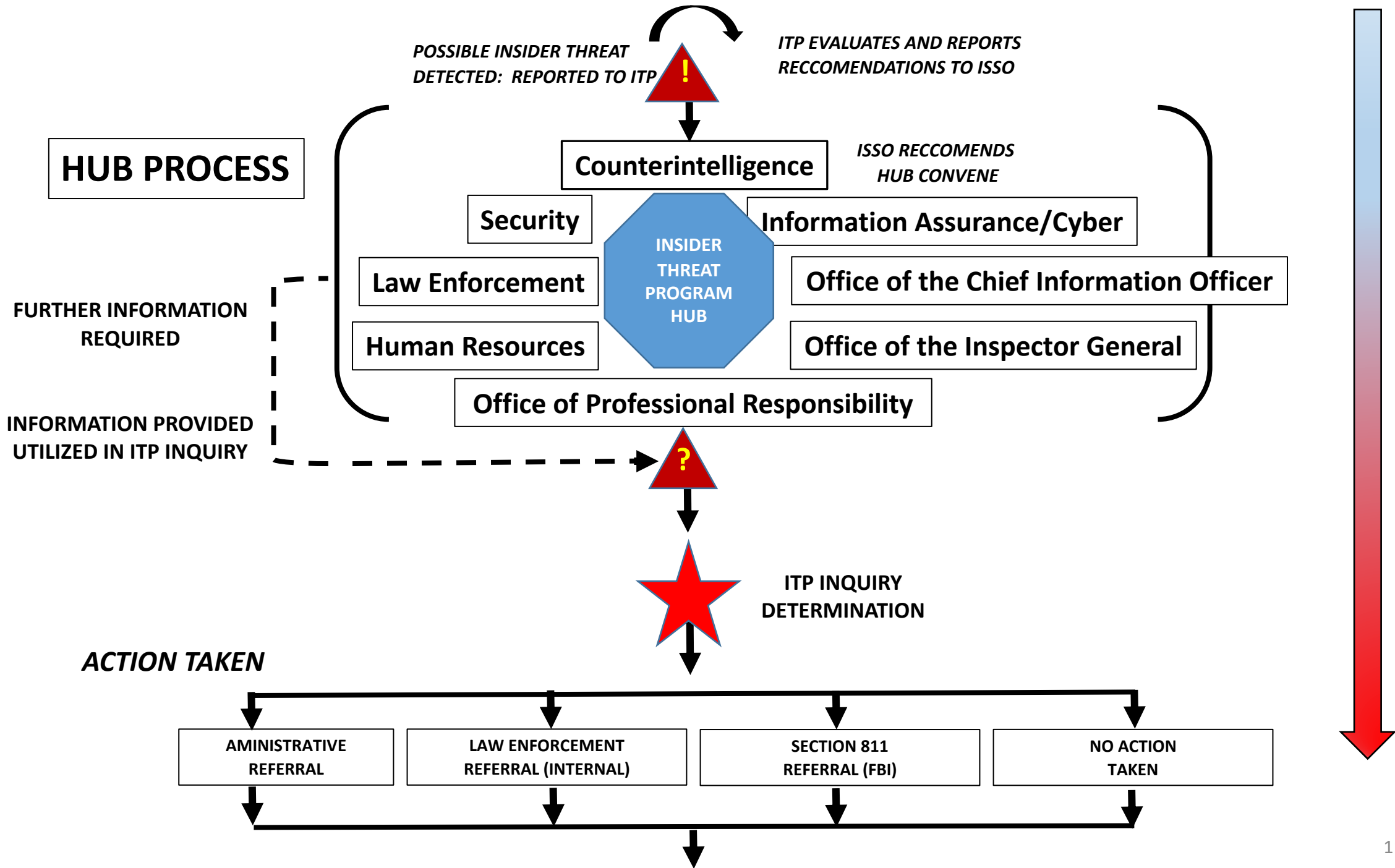
Experts: Spy used AI-generated face to connect with targets

By RAPHAEL SATTER June 13, 2019

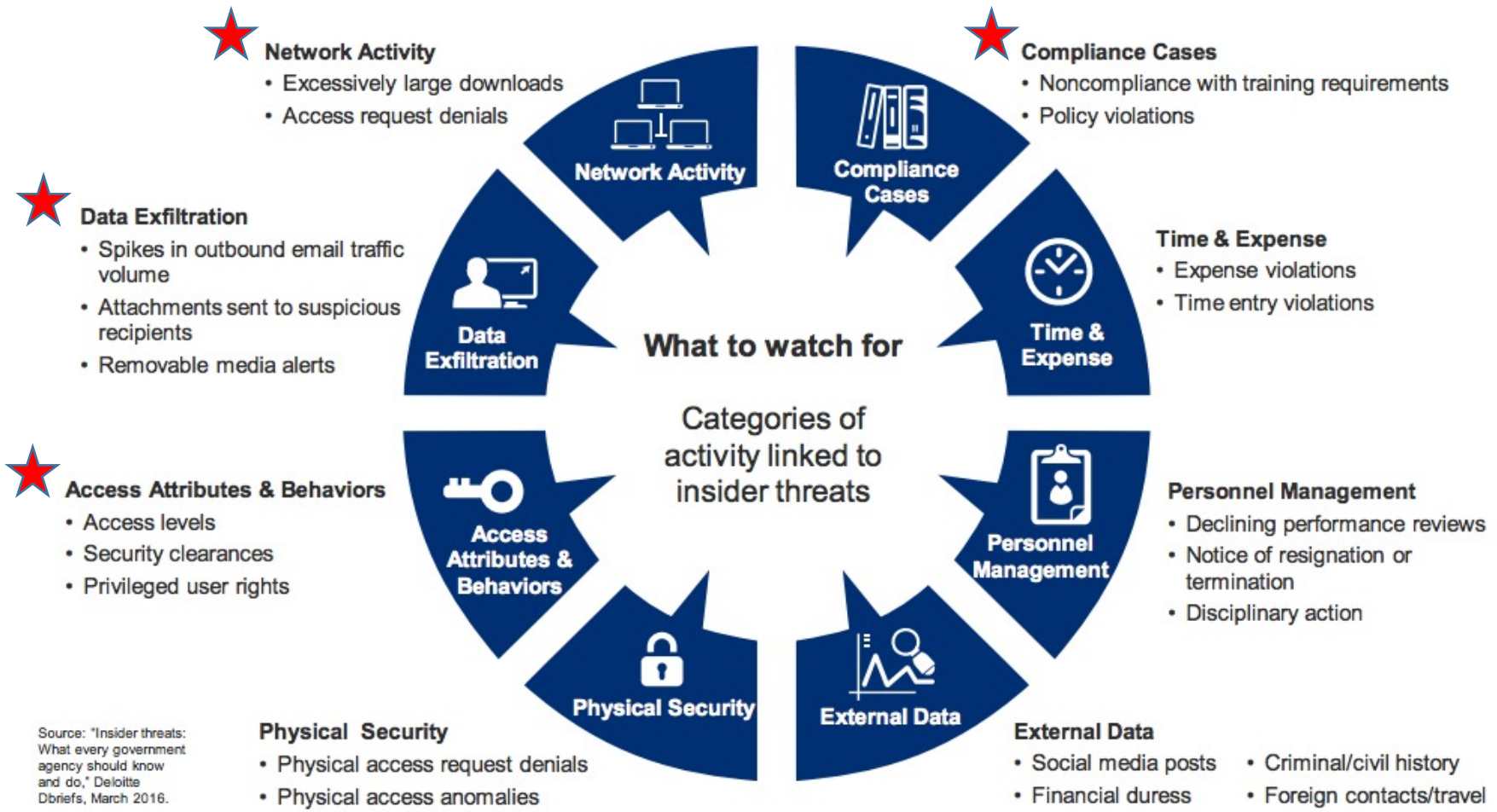
LONDON (AP) — Katie Jones sure seemed plugged into Washington’s political scene. The 30-something redhead boasted a job at a top think tank and a who’s-who network of pundits and experts, from the centrist Brookings Institution to the right-wing Heritage Foundation. **She was connected to a deputy assistant secretary of state, a senior aide to a senator and the economist Paul Winfree, who is being considered for a seat on the Federal Reserve.**

But Katie Jones doesn’t exist, The Associated Press has determined. Instead, the persona was part of a vast army of phantom profiles lurking on the professional networking site LinkedIn. And several experts contacted by the AP said Jones’ profile picture appeared to have been created by a computer program.

“I’m convinced that it’s a fake face,” said Mario Klingemann, a German artist who has been experimenting for years with artificially generated portraits and says he has reviewed tens of thousands of such images. “It has all the hallmarks.”



Insider Threat – Mature Program



Source: "Insider threats: What every government agency should know and do," Deloitte Dbriefs, March 2016.

★ = Cyber Area of Responsibility

Typical Cyber Intelligence

- Created processes to better identify and respond to risks and threats.
- Comprised of:
 - Open source (OSINT)
 - Dark web
 - Cyber
 - Insider threat
 - Supply chain risk
- Activities:
 - Cultivate threat intelligence sources
 - Identify & recommend threat intelligence distribution channels and processes
 - Analyze enterprise for newly identified indicators of compromise

Resources: NITTF

- The National Threat Task Force (NITTF) released the [Insider Threat Program Maturity Framework](#) on November 1, 2018. The Framework is an aid for advancing federal agencies' programs beyond the Minimum Standards, and builds upon best practices found in the [2017 NITTF Insider Threat Guide](#). The goal is to help programs become more proactive, comprehensive, and better postured to deter, detect, and mitigate insider threat risk.
- NITTF has developed technical bulletins to provide additional information to the insider threat community on technical topics existing within the Insider Threat community. Please review the [NITTF Technical Page](#) to view these bulletins.
- NITTF has added additional resources to the NITTF Resource Library in the [Additional Insider Threat Resources](#) section (formerly known as Briefings to the Insider Threat Community section). Please take some time to review these resources provided by members of the Insider Threat Community.



Resources: Center for the Development of Security Excellence

1. [National Insider Threat Awareness Month \(NITAM\) 2021](#)
2. [2021 Insider Threat Virtual Conference](#)
3. [Insider Threat Awareness](#) INT101.16
4. [Establishing an Insider Threat Program](#) INT122.16
5. [Insider Threat Toolkit](#)
6. <https://www.cdse.edu/Training/Insider-Threat/>

CASE STUDIES	
CERTIFICATIONS	▼
CURRICULA	▼
ELEARNING COURSES	▼
JOB AIDS	▼
SECURITY AWARENESS GAMES	▼
SECURITY POSTERS	▼
SECURITY SHORTS	▼
SECURITY TRAINING VIDEOS	▼
TOOLKITS	▼
WEBINARS	▼

Closing Remarks from FISSEA Chair

Susan Hansche

FISSEA Chair

Cybersecurity & Infrastructure Security Agency

Department of Homeland Security





<https://www.surveymonkey.com/r/FISSEAWinterForum2022>

Get Involved



Subscribe to the FISSEA Mailing List
FISSEAUpdates@list.nist.gov



Volunteer for the Planning Committee



Serve on the Contest or Award Committees for 2022
Email fissea@nist.gov

FISSEA Call for Proposals



OPEN year-round



March 18, 2022 – deadline for FISSEA
Spring Forum priority consideration

Submit proposals at:

<https://www.surveymonkey.com/r/fisseacallforpresentations>

REGISTER TODAY

**STRONGER
TOGETHER**

Federal Information Security
Educators (FISSEA) Spring Forum

May 17, 2022

1:00pm – 4:00pm ET

#FISSEA2022 | nist.gov/fissea