

# Building Bridges

*Between Election Officials and the Information Security Communities*

*August 8, 2018 // BSides LV 2018*



**From federal data breaches to foreign governments phishing political campaigns to malware shutting down city services, our nation is under attack.**

*You can help – starting right in your own community.*

# Speakers



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**Maurice Turner**

*Senior Technologist,  
Center for Democracy &  
Technology*

**David Forscey**

*Policy Analyst,  
National Governors  
Association*

# Speakers



## Maurice Turner

*Senior Technologist,  
Center for Democracy & Technology*

At CDT, Turner focuses on the Election Security and Privacy Project identifying and updating election cybersecurity practices and infrastructure, and working through potential remedies.

- Bachelor's in political science from Cal State Fullerton
- Master's in public administration from the University of Southern California – focusing on emerging communication technologies, privacy, and civic engagement
- Graduate certificate in cybersecurity strategy from Georgetown University

Nearly a decade of municipal management experience is complemented by numerous private-sector technology positions, fellowships, and internships. As a TechCongress Congressional Innovation Fellow in 2017, he served the Republican staff of the Senate Homeland Security and Governmental Affairs Committee (reporting to Chairman Sen. Ron Johnson) supporting on cybersecurity issues. His previous employers include the City of Newport Beach, EarthLink Municipal Networks, Center for Democracy and Technology, Coro Foundation, United Medical Center Hospital, U.S. Department of Transportation, and Apple. Turner has been a technology enthusiast for over 30 years and is committed to leveraging new technologies to increase government effectiveness and community engagement.



## David Forscey

*Policy Analyst,  
National Governors Association*

David is a policy analyst with the National Governors Association's Center for Best Practices, where he helps governors' offices and state agencies craft cybersecurity policy.

Previously, he worked on surveillance reform and encryption policy as National Security Fellow at Third Way.

He has a law degree from Georgetown University Law Center and graduated magna cum laude from the University of Virginia.



# Organizations



- Preserve the unique nature of the Internet
- Enhance freedom of expression globally
- Protect our fundamental right to privacy
- Limit government surveillance
- Define the boundaries of technology in our daily lives



- Think Tank /Consultancy
- Governor/state focus
- Non-profit
- Non-partisan

# What Are We Going To Explore

- Election basics & history
- State of election security
- How you can help
- Impacting policy

# Overview of Elections in US

Article 1 Section. 4.  
The Times, Places and  
Manner of holding Elections  
for Senators and  
Representatives, shall be  
prescribed in each State by  
the Legislature thereof

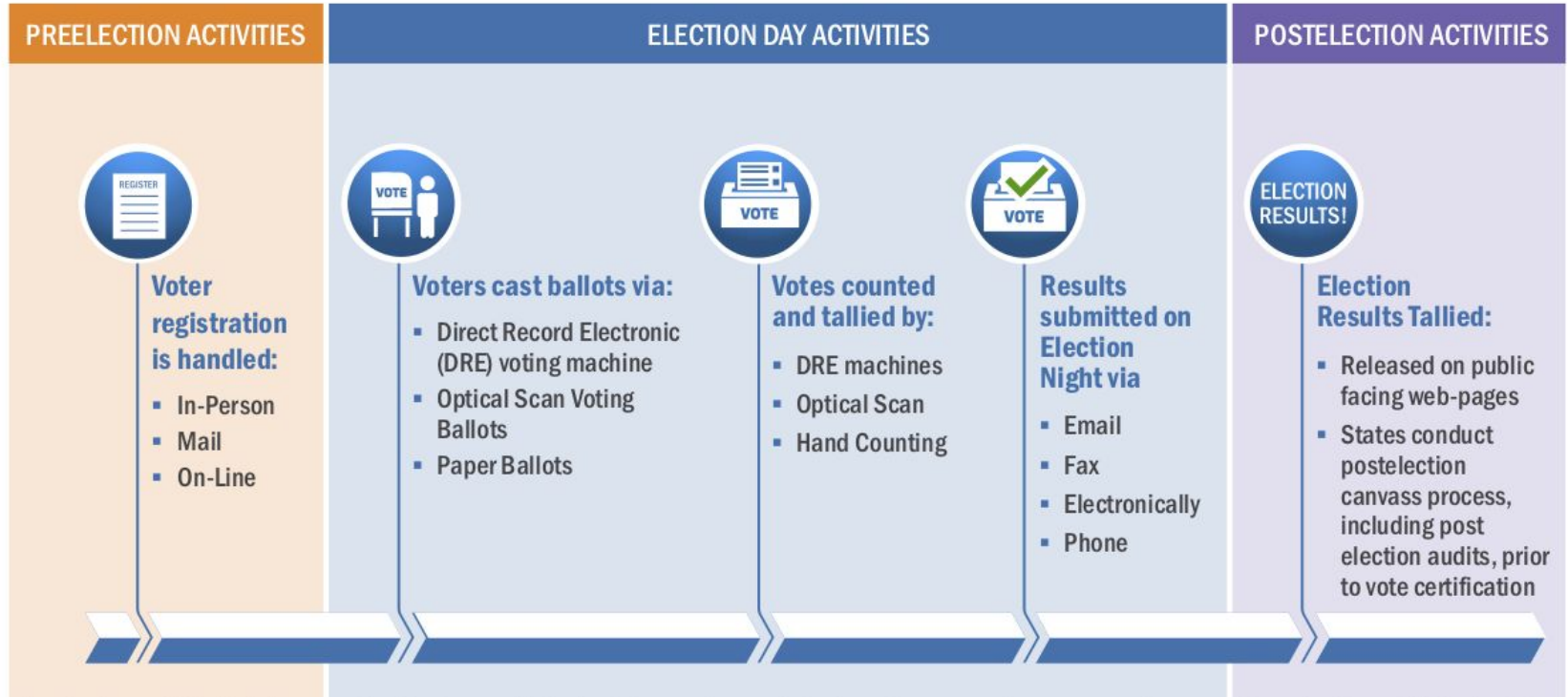




# Unique Aspects of Elections in US



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# Unique Aspects of Elections in US



Fancy Bear

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> *From:* Google <no-reply@accounts.googlemail.com>
> *Date:* March 19, 2016 at 4:34:30 AM EDT
> *To:* [REDACTED]@gmail.com
> *Subject:* *Someone has your password*
>
> Someone has your password
> Hi John
>
> Someone just used your password to try to sign in to your Google
> [REDACTED]@gmail.com.
>
> Details:
> Saturday, 19 March, 8:34:30 UTC
> IP Address: 134.249.139.239
> Location: Ukraine
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**\$380  
million**



# Current State of Security of Election Systems



## **Warning: Critical Infrastructure**

Coordinated national effort to manage risks...  
and enhance the security and resilience

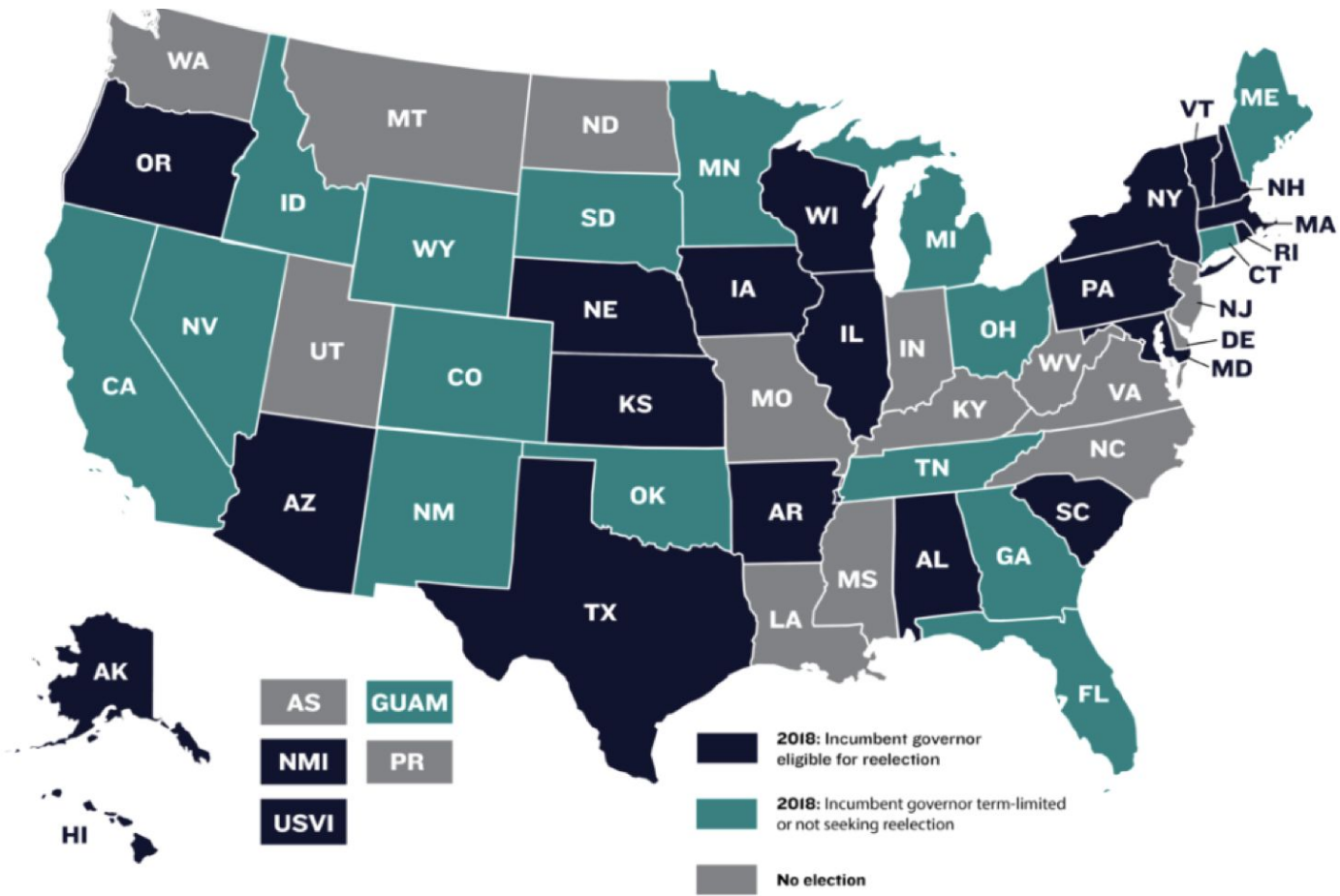
# States Are The Keystone In Cybersecurity

- The Consequence Managers
- Local <-> State <-> Federal
- Much more than elections...
  - PII & critical services
  - Regulation
  - Education/workforce

# NGA Cybersecurity Program

- Governance, strategy, & people
- On-the-ground assistance
- Building bridges between experts

# 2018 Transition = Opportunity!



**THREATS TO  
ELECTION  
SYSTEMS**

# The Need for Help

**MISINFORMATION**



# The Need for Help

MISINFORMATION

**DISRUPTION**

# The Need for Help

MISINFORMATION

DISRUPTION

**CHANGING VOTES**

# Who Wants to Interfere with Elections

?????

# Who Wants to Interfere with Elections



**Foreign Actors**

# Who Wants to Interfere with Elections



**Foreign  
Actors**



**Organized  
Criminal  
Groups**

# Who Wants to Interfere with Elections



**Foreign  
Actors**



**Organized  
Criminal  
Groups**



**Pranksters**

# Who Wants to Interfere with Elections



**Foreign  
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**Political  
Activists**



**Pranksters**

# Who Wants to Interfere with Elections



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**Unintentional  
Disruptors**



**Pranksters**



**Political  
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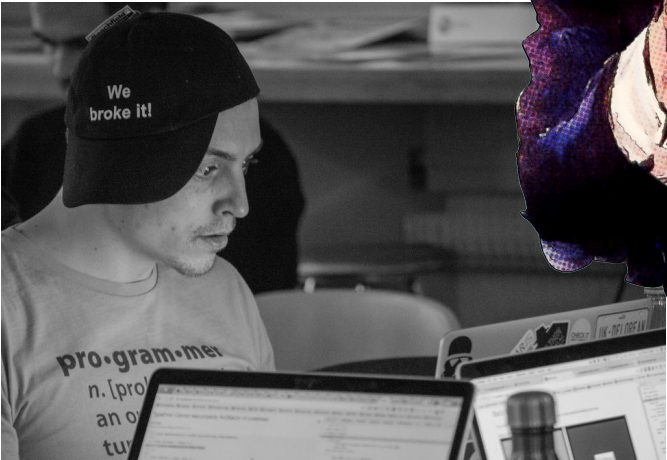


**Political  
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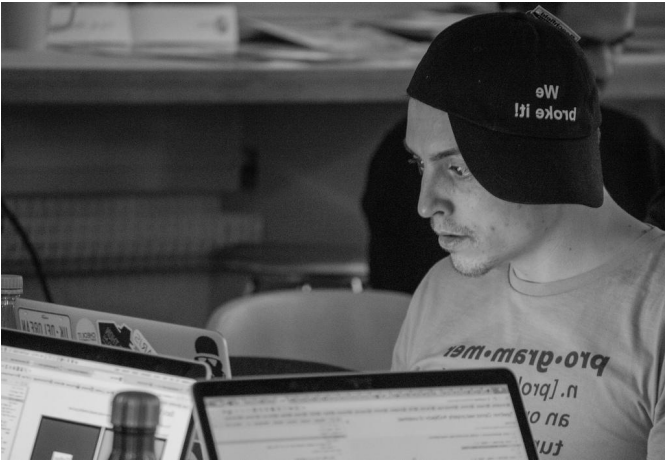


**Unintentional  
Disruptors**

# How YOU can Help



# How YOU can Help



# States And Localities Need Help

- They can't find the talent
- Constant firefighting undermines planning
- No one is ready for the worst

# How Can Volunteers Get Involved?

- Delaware Vulnerability Disclosure Policy
- California GOVOPS Civic Advisory Council
- Michigan Civilian Cyber Corps
- Wisconsin Cyber Response Teams

# What Do State Leaders Think?

- They need background checks
- Touchy about highly regulated data
- Most states lack active programs

**BUT THE INTEREST IS THERE**

# Scenarios - Think Like an Adversary

Online state voter registration database linked to all counties:

**VERMONT** Secretary of State

**Online Voter Registration System**

Vermont Secretary of State  
**JIM CONDOS**

**1**  
Eligibility

**2**  
Voter Information

**3**  
Address

**4**  
Previous Info

**5**  
Review & Affirm

**6**  
Summary

## Register to Vote - Eligibility

By checking the boxes below, I swear or affirm that these are true statements.

I am a citizen of the United States of America.

I will be 18 years of age or older on or before the next Election.

I am a resident of Vermont.

**DO NOT continue if you cannot swear or affirm to all three of the questions above. You are not qualified to vote in Vermont.**

**← BACK** or **▶ CONTINUE TO VOTER REGISTRATION**

Once complete, you may print a copy of your application for your records.  
If, however, you prefer to mail-in your application, print a blank registration form [HERE](#).

# Scenarios - Think Like an Defender

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# Scenarios - Think Like an Adversary

## Online voter registration database:

Register to vote, it's easy to apply!

Check eligibility → Enter Voter info → Review & apply

Upcoming election November 6, 2018: Deadline to register is October 9, 2018.

What you need to register:  
1. Make a valid Indiana Online or In-person or Indiana State Identification Card

**VERMONT** Secretary of State  
Online Voter Registration System

- 1 Eligibility
- 2 Voter Information
- 3 Address
- 4 Previous Info
- 5 Review & Affirm
- 6 Summary

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**OLVR**

ONLINE VOTER REGISTRATION  
STATE OF ALASKA DIVISION OF ELECTIONS

Register to Vote

Step 1 Step 2 Step 3 Step 4 Step 5

**Enter Personal Information**

Last Name:\*

First Name:\*

Middle Initial:

Suffix:

Last 4 SSN:\*

Date of Birth:\*

AK DL #/State ID #:\*

[Back](#) [Next](#)

**Register to Vote - Voter Information**

NEW VOTER REGISTRATION

\* Select Town Of Residence:

PERSONAL INFORMATION

\* First Name:

Middle / Maiden Name:

\* Last Name:

Suffix:

\* Date of Birth:

Place of Birth:

\* Vermont Driver's License/Photo/ID#:

Email Address:

Telephone Number:

May we contact you about working as an Election Official at the polls?  Yes  No

[BACK](#) or [CONTINUE](#)

**My Vote**

Identification


Please enter identification information (all fields are required).

Oregon DMV Number   I do not have an Oregon DMV number.

First Name

Last Name

Date of Birth (mm/dd/yyyy)

I'm not a robot 

[Continue](#) [Cancel](#)

**Washington State Identification**

Your name, date of birth, and issue date must match your Washington State driver license or ID card.

To continue, enter your name, birth date, and issue date as they appear on your driver license or ID card.

title (optional)

first name

middle name

last name

suffix (optional)

gender

date of birth

driver license/ID # what is this?

issue date of driver license/ID what is this?

[BACK](#) or [CONTINUE](#)

**security check**

I'm not a robot 

# Scenarios - Think Like an Adversary

## Online voter registration database:

## OTHER OPTIONS

**Online Voter Registration**  
Kansas  
Secretary of State's Office

**STEP 1 OF 4) VERIFY YOUR VOTING ELIGIBILITY**

1. Are you a citizen of the United States of America?  Yes  No

2. Will you be 18 years of age on or before election day?  Yes  No

3. Are you a resident of Kansas?  Yes  No

**IN.gov** Voter Portal

Voter Portal Current Total of Registered Indiana Voters: 4,473,024 [2018 Primary Election Results](#)

**REGISTER TO VOTE**  
Apply Now

**CHECK VOTING STATUS**

## REGISTER TO VOTE OR UPDATE YOUR VOTER REGISTRATION INFORMATION

**Welcome**

**WELCOME TO OHIO'S ONLINE VOTER REGISTRATION SYSTEM**

This system provides a convenient and secure way to:

- Register to vote in Ohio
- Update your voter registration address

**WHAT YOU NEED**

To register online you will need to provide the following:

- Ohio driver's license or Ohio identification card number
- Name
- Date of Birth
- Address
- Last four digits of your Social Security number

If you do not have any portion of the required information, [follow this link to update your voting address using our paper form \(PDE\)](#). Once you complete this form, you must sign and send it to your county board of elections.

If you are a Safe at Home participant, before you proceed, please call the Safe at Home office at 614-995-2255.

**REGISTRATION DEADLINES**

You must register or update your voter registration no later than 30 days prior to an election. Upcoming voter registration deadlines:

- July 9, 2018** for the August 7, 2018 Special and Special Congressional General (12th Congressional District) Election
- October 9, 2018** for the November 6, 2018 General Election

If you register or update your information after the deadline, the change will apply for the next election.

## Registration

### Register to Vote: Your Vote is Your Voice!

[Register to Vote Online](#)

[Vermont Voter Application](#) (pdf copy for submission to Town or City Clerk)

Beginning January 1, 2017, eligible persons may register to vote on any day up to and including the day of the election.

Registration is available during all normal business hours of your town or city clerk's office on days preceding the election and during polling hours on Election Day. 17 V.S.A. § 2144

You may also register to vote online.

The Elections Division will forward applications (and early or absentee ballot requests) to the appropriate town or city clerk for action, but we recommend submitting applications directly to your town or city clerk.

For contact information for your town clerk, view our [Guide to Vermont's Town Clerks, Treasurers & County Clerks](#).

# Scenarios - Think Like an Adversary

Uploading DRE configurations via Wi-Fi:





# Scenarios - Think Like an Defender

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# Scenarios - Think Like an Adversary

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# Scenarios - Think Like an Adversary

## Self-hosted reporting website that auto-tweets results:

2016 Presidential General Election  
November 8, 2016

### Official Results for Election

#### List of Contests:

- Registration and Turnout
- PRESIDENT AND VICE PRESIDENT
- UNITED STATES SENATOR
- UNITED STATES REPRESENTATIVE 38th District
- UNITED STATES REPRESENTATIVE 39th District
- UNITED STATES REPRESENTATIVE 45th District
- UNITED STATES REPRESENTATIVE 46th District
- UNITED STATES REPRESENTATIVE 47th District
- UNITED STATES REPRESENTATIVE 48th District
- UNITED STATES REPRESENTATIVE 49th District
- STATE SENATOR 20th District

#### Registration and Turnout

Completed Precincts: 1668 of 1668

	Reg/Turnout	Percentage
Total Registered Voters	1,535,967	
Precinct Registration	1,535,967	
Precinct Ballots Cast	516,801	33.6%
Early Ballots Cast	27,554	1.8%
Vote-by-Mail Ballots Cast	695,050	45.3%
Total Ballots Cast	1,239,405	80.7%

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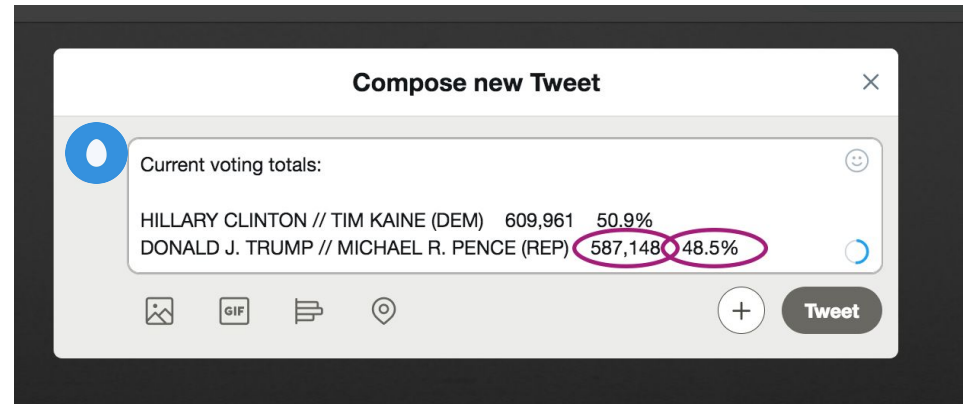
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DONALD J. TRUMP MICHAEL R. PENCE (REP)	507,148	42.3%
GARY JOHNSON BILL WELD (LIB)	46,128	3.9%
JILL STEIN AJAMU BARAKA (GRN)	18,068	1.5%
BERNARD "BERNIE" SANDERS (W)	6,239	0.5%
EVAN MCMULLIN (W)	4,917	0.4%
GLORIA ESTELA LA RIVA DENNIS J. BANKS (P-F)	4,898	0.4%
MIKE MATUREN (W)	131	0.0%
LAURENCE KOTLIKOFF (W)	27	0.0%
JERRY WHITE (W)	4	0.0%

\* Indicates Incumbent Candidate, if any

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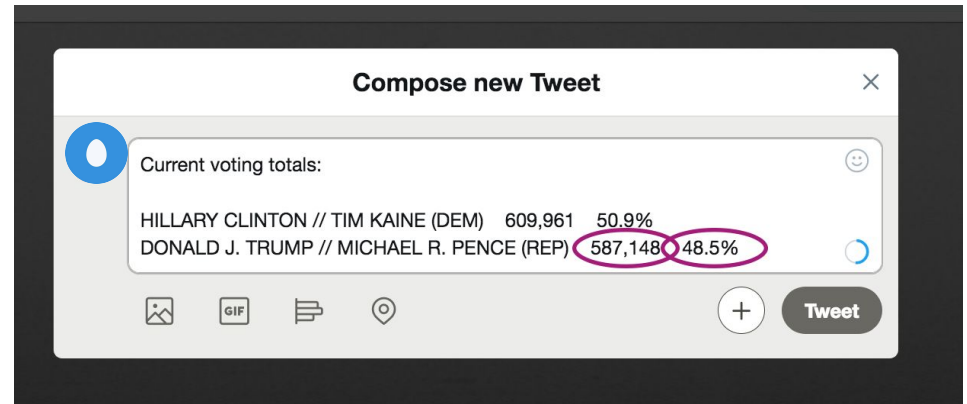
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# Benefits of Volunteering

- Build sense of civic engagement
- Ensure smooth operation of election process
- Build your network of local, state, federal infosec community members



# Next Steps

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## **InfoSec:**

- Reach-out to local election officials to volunteer on election day
- Learn about how elections are conducted in your jurisdiction
- Be upfront about how your skills can be used to help secure elections before election day such as assisting with security audits, testing

# Next Steps

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## **State/local officials:**

- Identify local infosec community through associations, schools, companies
- Develop a framework for vetting and on-boarding technical volunteers

# Impacting Policy Lessons

- Logan Lamb → Major shakeup in Georgia
- Mudge → Politics happens

# We're Here To Help



# My questions for you:

- Are you interested?
- How ambitious can we be?
- What are the risks?

THANK YOU | CDT.ORG

