TODAY'S ELECTRONIC VOTING MACHINES

Do universal-use Ballot Marking Devices (BMDs) provide security, verifiability, and auditability for trustworthy elections?

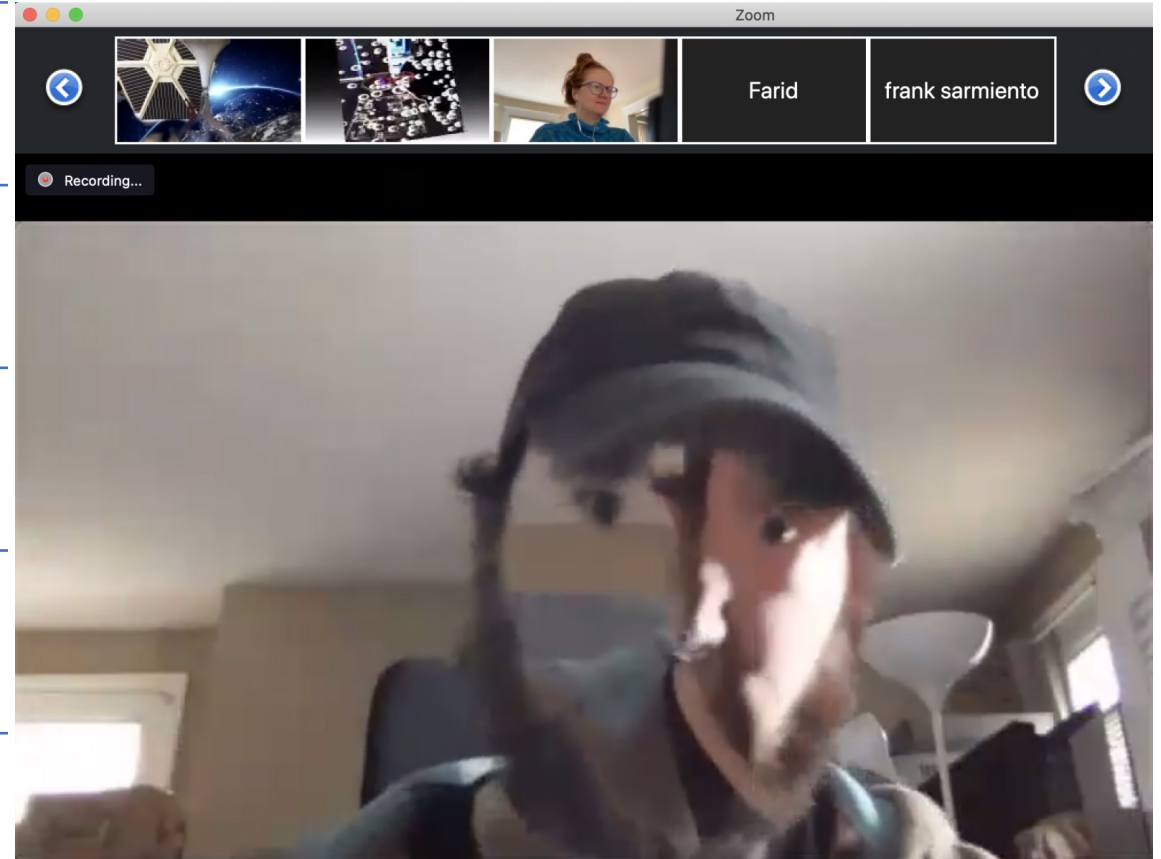Voting Computers, Not Voting Machines

Computers can be

Hacked

Misprogrammed

Misconfigured

Misused

Weaponized

Cyber one of top three global threats

Key threats of the next decade: cyberattacks, weapons of mass destruction and climate change.

The World Economic Forum Global Risk Report 2021

Incremental improvements will not give us the security we need...the Federal Government needs to make bold changes and significant investments to defend the vital institutions that underpin the American way of life.

President Biden, Executive Order, May 2021

There are more open positions globally for Cybersecurity professionals than there are Cybersecurity Professionals in the world.

Cisco, CEO, Chuck
Robbins, RSA Keynote, May 2021

The Nation should set an action plan-of-attack to prepare, grow, and sustain a national cybersecurity workforce that safeguards and promotes America's national security and economic prosperity.

National Institute of Standards and Technology 2019

Top 2020 global cybersecurity attacks on most well-protected industries

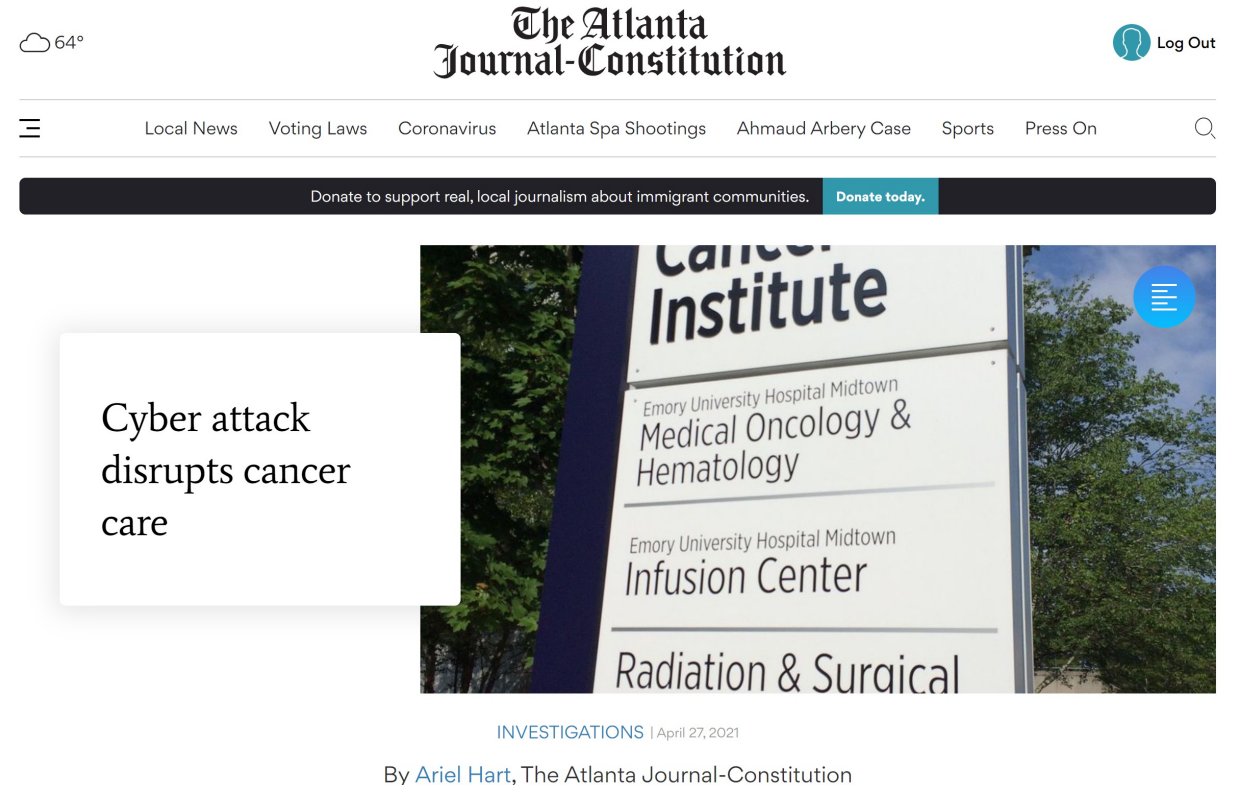# 2021 Cybersecurity Trends – CLOUD SERVICE ATTACKS

LATEST TRENDS

- Transition to the Cloud accelerated by pandemic

- More high stakes victims (e.g., Elekta clients)

- Big Game Hunting

THREATS

- Misconfiguration of the Cloud Platform is biggest vulnerability

- Insecure interfaces/API

- Unauthorized access through misuse of employee credentials and lack of proper access controls

AMS Cloud Service Report 2020
Info Security Magazine 2021 Top Cybersecurity Trends

☁ 64°

The Atlanta Journal-Constitution

Log Out

Local News   Voting Laws   Coronavirus   Atlanta Spa Shootings   Ahmaud Arbery Case   Sports   Press On

Donate to support real, local journalism about immigrant communities.   **Donate today.**

Cancer Institute

Emory University Hospital Midtown
Medical Oncology & Hematology

Cyber attack disrupts cancer care

Emory University Hospital Midtown
Infusion Center

Radiation & Surgical

INVESTIGATIONS | April 27, 2021

By Ariel Hart, The Atlanta Journal-Constitution

2021 Cybersecurity Trends – RANSOMWARE

LATEST TRENDS

- Double Extortion

- Ransomware as-a- service (RaaS)

- Big Game Hunting

THREATS

- Phishing

- Network Edge Vulnerability

- Remote Desktop Protocol

The Washington Post, December 7, 2020: Global Losses From Cybercrime
Bank info Security, Ransomware Average Business Payout, April 30, 2020

2021 Cybersecurity Trends – SUPPLY CHAIN ATTACKS

LATEST TREND
• Sophisticated attacks across the supply chain, i.e. Solarwinds
• Attacks that go undetected over extended periods

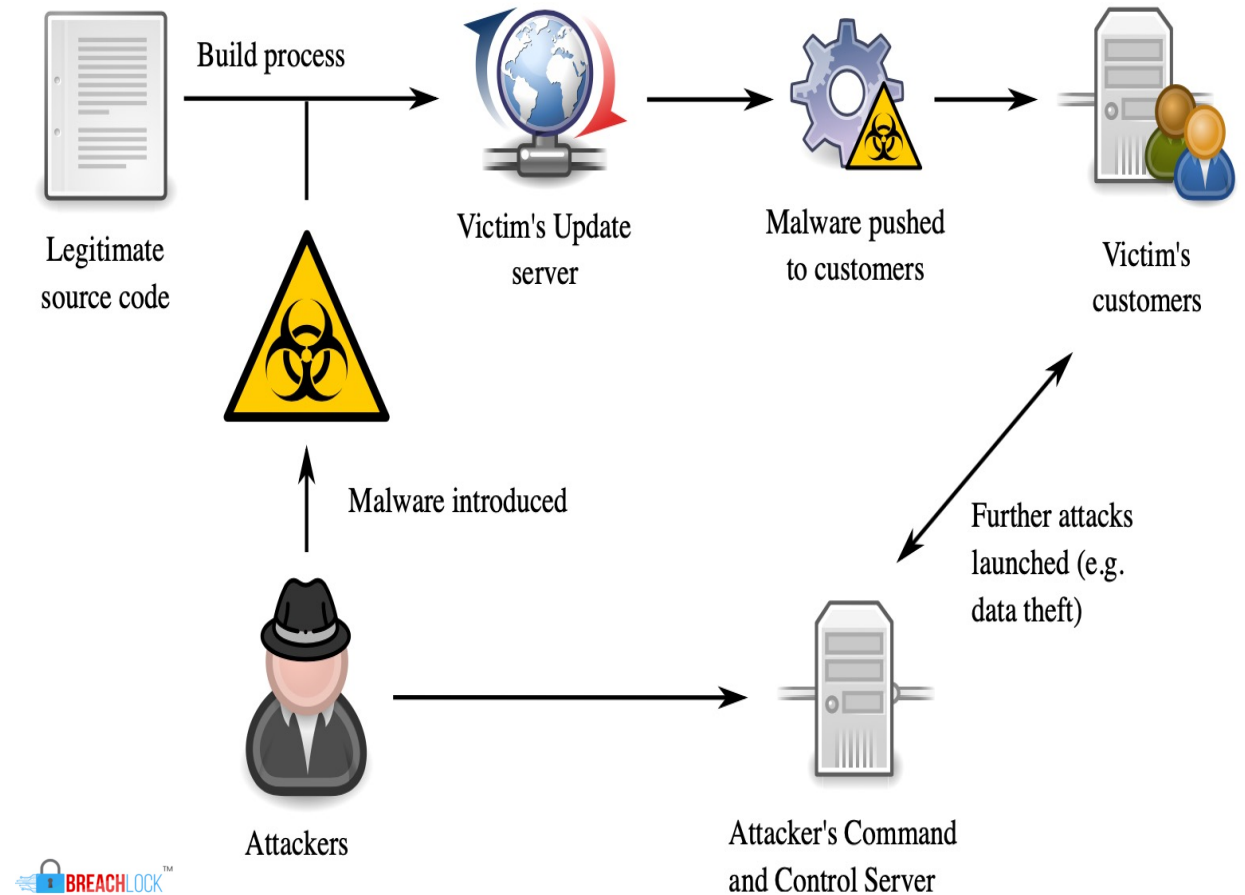| THREAT |
| --- |
| • Backdoor used to compromise up to 18k customers |
| • Access to government agencies, multinational companies, Security and IT vendors |

Figure: Supply Chain Attacks

2021 Cybersecurity Trends - CONSUMER PRIVACY

LATEST TREND

- Increased Interest in Consumer Privacy

- Example: Parler Social Media Platform

THREATS

- Parler lacked the most basic security measures

- Enabled automated scraping of the site's data
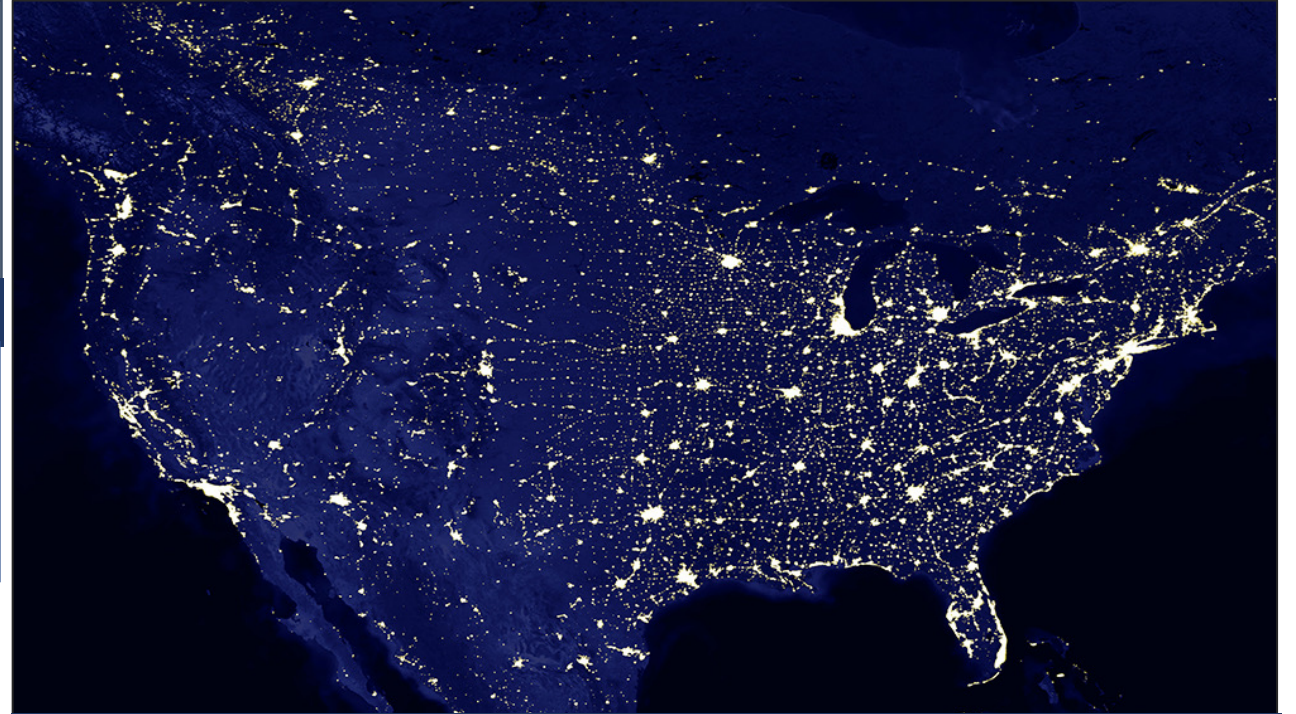
A visualization of the locations of 68,000 of the archived Parler videos, based on GPS coordinates.
*

Data Artist Kyle McDonald

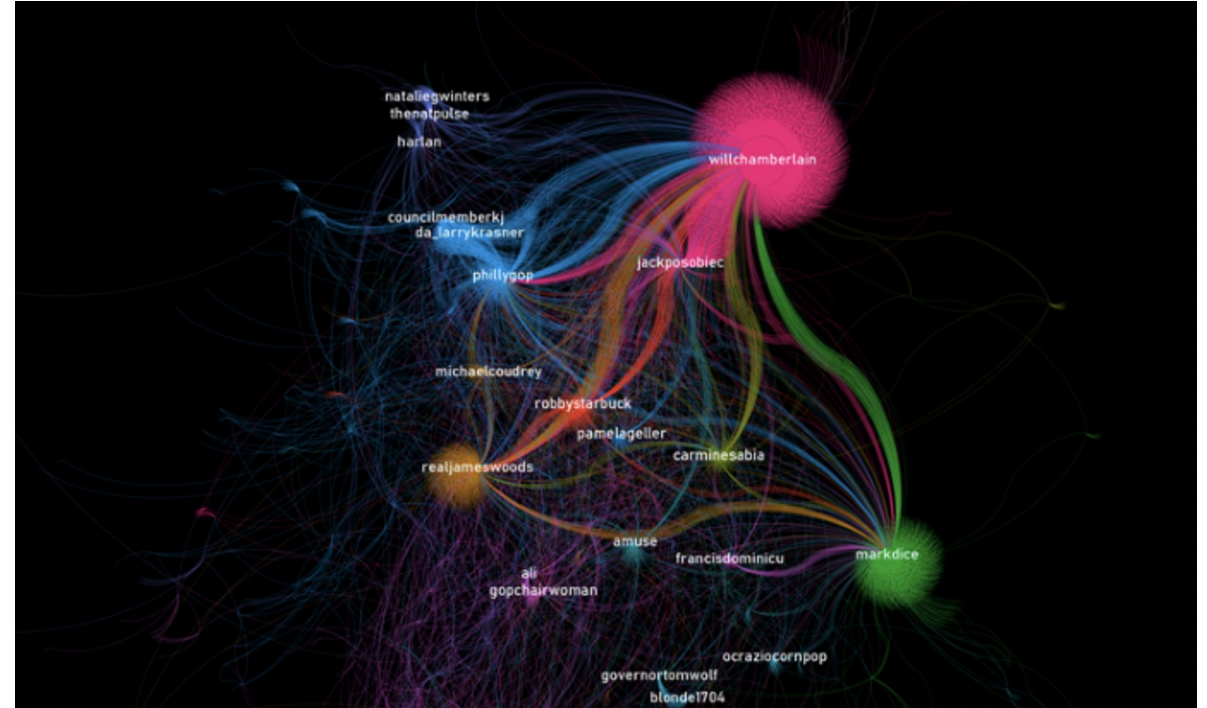Info Security Magazine 2021 Top Trends
WIRED January 12, 2021

2021 Cybersecurity Trends – SOWING DOUBT/CHAOS

LATEST TREND
• Weaponizing disinformation
• Social media as tactical platform
• Exploiting public awareness of vulnerabilities

THREATS
• Undermine confidence in institutions and processes
• Cloud of confusion surrounding baseless claims and facts

DFRLab analysis of tweets from 9pm Nov 2 to 5am Nov 4 using #StopTheSteal to identify top promoters
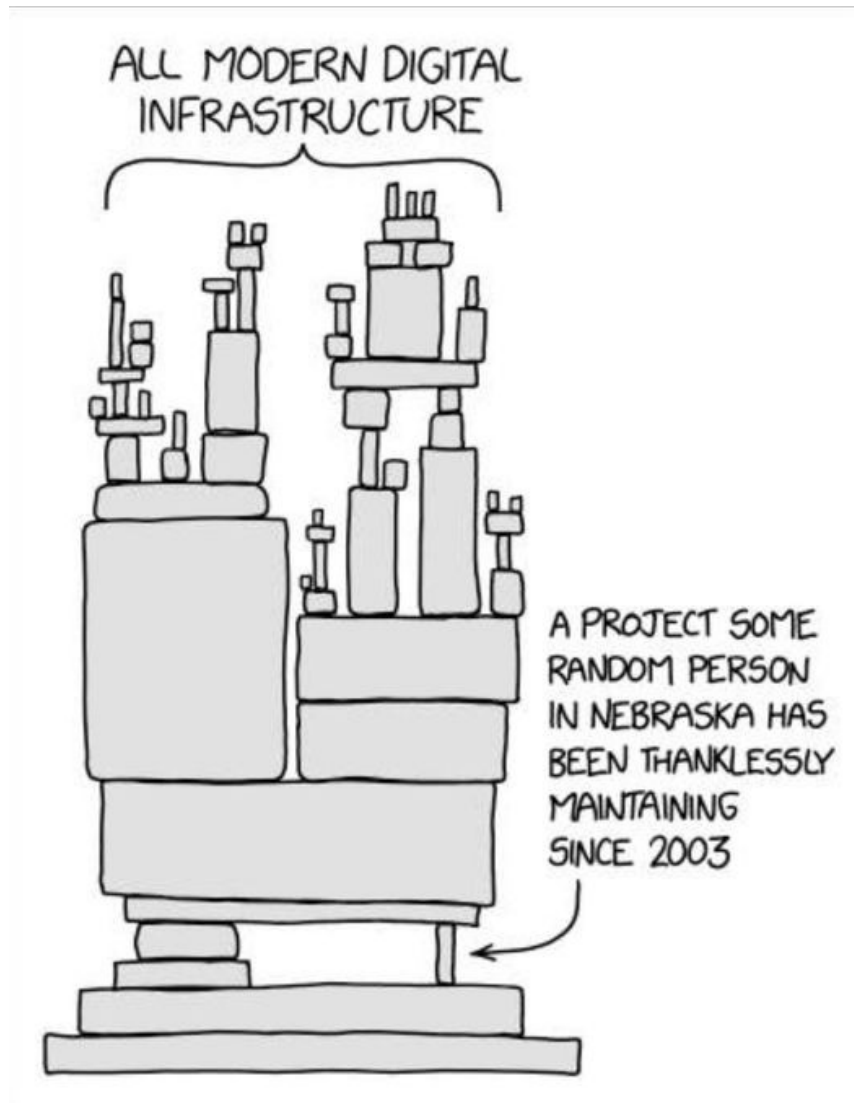
Source: Jean Le Roux/DFRLab
Just Security Feb 10, 2021
Timeline of Social Media and Extremist Activities Leadign to 1/6 Insurrection
Atlantic Council, DFRLab

Cybersecurity in 2021

- Threats
- Vulnerabilities
- Risks
- Malware industry
- Public understanding
- Zero trust
- Digital infrastructure
- Resilience

Myths of Election Cybersecurity

- "Not connected to the Internet"
- "BMDs print receipts that prove how I voted"
- "I'm not affected if my lazy neighbor doesn't check her ballot"
- "Election security? That's conspiracy theory talk!"
- "Audits prove security"
- "Logic and accuracy testing catches bugs"
- "EAC would not certify untrustworthy systems"
- "Too small to be a target"
- "As long as I trust…I'm ok"
- "I can outsmart a trillion dollar industry"
- "People will not trust the system if I admit it has vulnerabilities…"

Universal-Use

Today's panel

J. Alex Halderman, University of Michigan

Harri Hursti, Election Integrity Foundation

Dima Nazzal, Georgia Tech

Kevin Skoglund, Citizens for Better Elections

Philip Stark, University of California, Berkeley