FIU Jack D. Gordon Institute for Public Policy

Cybersecurity Leadership and Strategy Professional Education Program

FIU Cybersecurity Leadership & Strategy Executive Seminar

Location

Date

CYBER SECURE FLORIDA

This program is provided at no cost to Florida public sector employees through the CyberSecureFlorida initiative funded by the Florida Legislature and led by Cyber Florida.

Mike Asencio

Program Director, Cybersecurity
Jack D. Gordon Institute for Public Policy
Florida International University

JACK D. GORDON INSTITUTE

Cyber Security Leadership & Strategy Course Sign In

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Cybersecurity Leadership and Strategy Professional Education Program

Emerging Threats & Cybersecurity Strategy

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Role of Leaders in Cybersecurity

Senior Leaders

- Identify what is important to the organization (what needs to be protected)
- Understand legislation and policies
- Choose internal policies (presented by CIO/CISO)
- Identify Ends (what do we want to do)
- Approve Ways (how are we going to do it)
- Provide Means (resources)
- Communicate to the enterprise
  - Why is cybersecurity important
  - Why everyone has to follow good practices (e.g. cyber hygiene)
  - Create a culture of cyber security
- Monitor CIO/CISO performance during planning and operations
- Ensure reporting – needs a decision!
- Strategic Communications

CIO / CISO / IT Director

- Identify legislation and policies
- Recommend policies to senior leaders
- Recommend a cybersecurity framework
- Take Ends identified by senior leaders
- Recommend Ways to senior leaders
- Manage Means provided by senior leaders
- Keep senior leadership updated

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City of Atlanta’s Cyberattack

- In **March 2018**, hackers targeted Atlanta’s computer networks.
- Demanding **$51K** in bitcoins, the cyberattack held the city hostage for nearly a week.
- Some city **services reverted to pen and paper** to continue operations.
- The **city refused to pay**: It didn’t want to reward and encourage more ransomware attacks, and there was no guarantee that systems would be restored even if it paid.
- Ultimately, the financial hit to the city was far higher than the ransom.
- Costs associated with the attack reached **$12M+**
- The episode marked an important moment of truth for the city.
- **Atlanta was unprepared** for such a major disruption, but it was clear that hackers had targeted cities before and would continue to do so for the foreseeable future.
- Atlanta’s response wasn’t just about recovering from a single incident: It was also about building a foundation for responding to future attacks.

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Lessons Learned From the City of Atlanta’s Cyberattack

- **Lack of cybersecurity strategy** for detecting, preventing and recovering from ransomware attacks
- Lack of **vulnerability patch management**
- No periodic and consistent **testing of systems’ backups**
- **Not a formal incident response plan**
- **Lack of documented** disaster recovery (DRP) and business continuity plans (BCP)
- **Security gap assessments** and **risk analysis not performed consistently**
- **Cybersecurity underfunded**

> “City of Atlanta officials highlighted the importance of protecting government data and information, and of bringing discipline to an agency’s approach to cybersecurity.”

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NIST NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
U.S. DEPARTMENT OF COMMERCE

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Cyberspace Operations Effects

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Cyberspace actions that create various direct denial effects in cyberspace and manipulation leading to denial that is hidden or manifested in physical domains

(a) **Manipulate.** To control or change the adversary's information, information systems, and/or networks in a manner that supports the commander's objectives

(b) **Deny.** To degrade, disrupt, or destroy access to, operation of, or availability of a target by a specified level for a specified time. Denial prevents adversary use of resources

1. **Degrade.** To deny access to, or operation of, a target to a level represented as a percentage of capacity
2. **Disrupt.** To completely but temporarily deny access to, or operation of, a target for a period of time
3. **Destroy.** To permanently, completely, and irreparably deny access to, or operation of, a target

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Source: Department of Defense Joint Publication 3-12 page II-7

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Types of Cyber Operations

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Event	Description	
Cyber Operations	Any action taken in cyberspace	
Information Operation	Cognition shaping, much of which happens in cyberspace	May include ransomware
Intelligence Operation	Gathering important information and analyzing it; much information gathering happens in cyberspace	Includes most ransomware
Cyber crime	Crime that occurs in cyberspace. Important and growing number of cyber operations	May include ransomware
Cyber attack	An armed attack in cyberspace. Usually requires one of these results: • Property damaged • Property destroyed • Person hurt • Person killed	Requires attribution!

Cyberspace Operation Sequence

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	Timing	Action
1	**Before Initial Entry**	Identify effect you desire Selection of target (Social Engineering) Prepare initial entry malware
2	**Initial Entry**	Phishing operation Placing software or hardware into the system
3	**Reconnaissance**	Exploring the network Identifying system administrators and leaders Assessing vulnerabilities
4	**Preparation to create effect**	Putting in backdoor Changing software to allow you to create an effect
5	**Creation of effect**	Moving money Opening dam sluice gate Denial of Service (DoS)

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Cyberspace Defense Sequence

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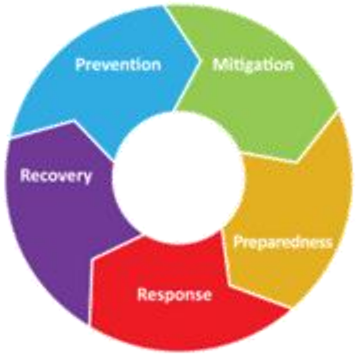
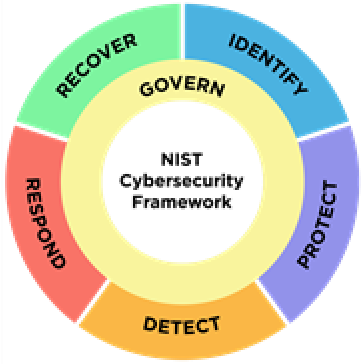
FEMA

NIST
National Institute of
Standards and Technology

FEMA	NIST		Good for
Prevent	**Identify**	**Governance**	Strategies and plans for the inevitable
Protect			Cyber hygiene to prevent 80-90%
Mitigate	**Detect**		Detect operation to catch the 10-20%
Respond			
Recover			

Governance:
"Establish and monitor the organization's cybersecurity risk management strategy, expectations, and policy"





FEMA Mission Areas and Core Capabilities & NIST Cybersecurity Framework

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Most Common Cyber Operations Techniques

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Entry Operations

- Phishing
- Spear Phishing
- Whaling
- SMShing
- Video Phishing
- Voice Phishing

Entry Operations, cont.

- Password Spraying
  Top 20 passwords:
  - password
  - 123456
  - 12345678
  - 1234
  - qwerty
  - 12345
  - dragon
  - (an inappropriate word for female genitalia)
  - baseball
  - football
  - letmein
  - monkey
  - 696969
  - abc123
  - mustang
  - michael
  - shadow
  - master
  - Jennifer
  - 111111

Injecting Malware

Money Making

- Includes ransomware

Obtaining Information

- Includes ransomware

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Most Probable Cyber Operations

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		Targets								
		States	Intl Orgs	Proxies	Terrorists	Hacktivists	Business	Criminals	Populations	Co-Opted
Actors	States	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Attack	Info Intel Attack	Info Intel Attack	Info Intel Attack (through)
	Proxies	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Crime Attack	Info Intel Crime Attack
	Terrorists	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack	Info Intel Crime Attack
	Hacktivists	Info Intel Attack	Info Intel Crime Attack	Info Intel Attack	Info Intel Attack	Info Intel Attack	Info Intel Attack	N/A	Info	Info Intel Attack
	Business	Info Intel	N/A	Info Intel	Intel Attack?	Intel	Intel Crime	Intel Attack?	Info Intel	N/A
	Criminals	Info Intel Crime	Info Intel Crime	Info Intel Crime	Info Intel Crime	Info Intel Crime	Info Intel Crime	Info Intel Crime Attack	Info Intel Crime	Info Intel Crime
	Populations	Info Intel	N/A	N/A	N/A	N/A	N/A	Info Intel	Info Intel	N/A

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Most Probable Cyber Operations Against You

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		Targets: State, Local, Tribal, Territorial			
Actors	States	Info	Intel	Crime	Attack
	Proxies	Info	Intel	Crime	Attack
	Terrorists	Info	Intel	Crime	Attack
	Hacktivists	Info	Intel		Attack
	Business	Info	Intel		
	Criminals	Info	Intel	Crime	
	Populations	Info	Intel		

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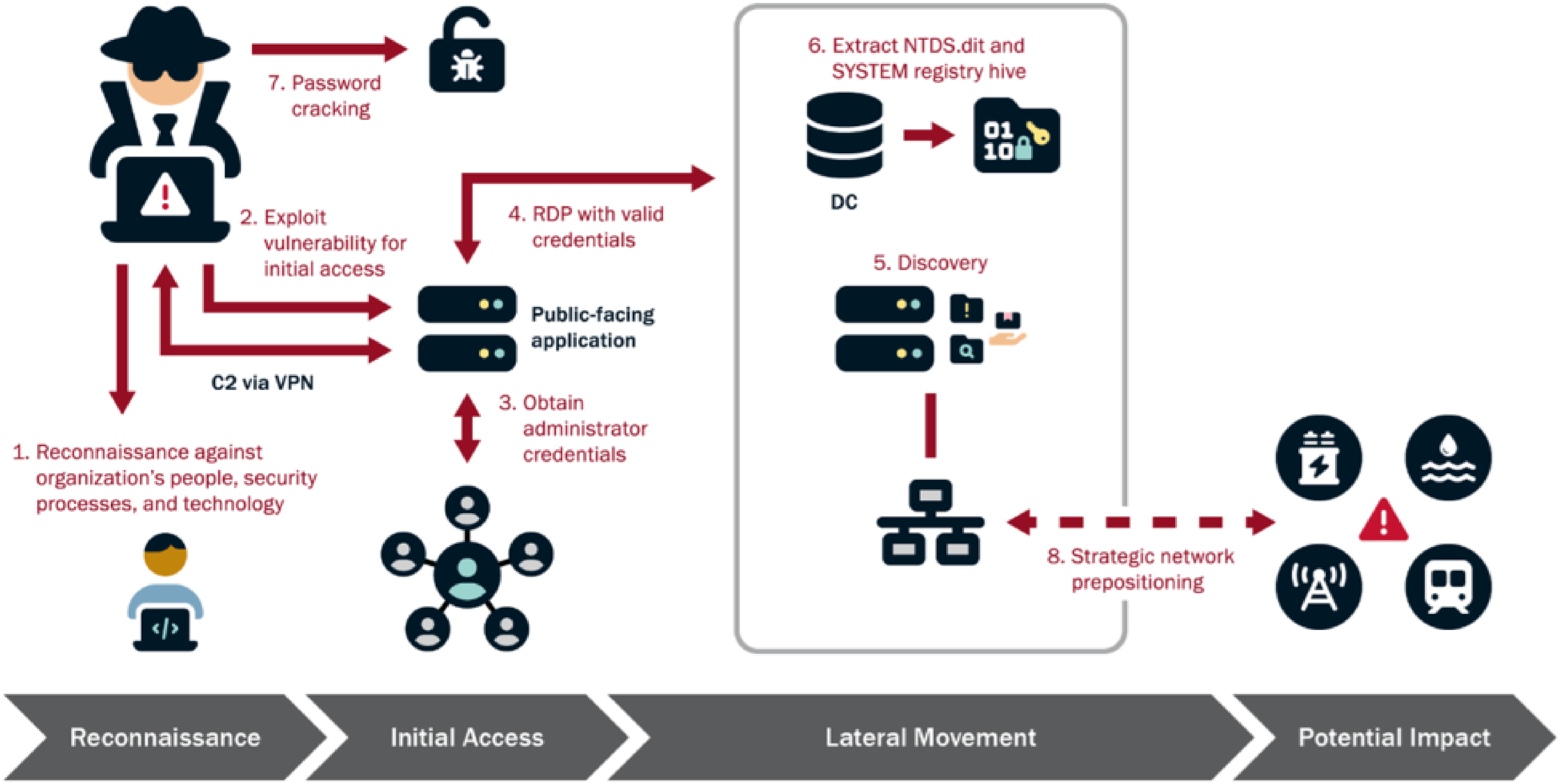
Living Off the Land (LOTL) Attacks


7. Password cracking
2. Exploit vulnerability for initial access
C2 via VPN
4. RDP with valid credentials
Public-facing application
3. Obtain administrator credentials
1. Reconnaissance against organization's people, security processes, and technology
6. Extract NTDS.dit and SYSTEM registry hive
01
10
DC
5. Discovery
8. Strategic network prepositioning
Reconnaissance
Initial Access
Lateral Movement
Potential Impact

SOURCE: PRC State-Sponsored Actors Compromise and Maintain Persistent Access to U.S. Critical Infrastructure | CISA

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Major Threats

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Individual: Smart phone

- End User Licensing Agreement (EULA)

Family: Internet of Things

- Lack of security allows access to router

Organization: Insider Threat

- People are the weak point

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What is Ransomware

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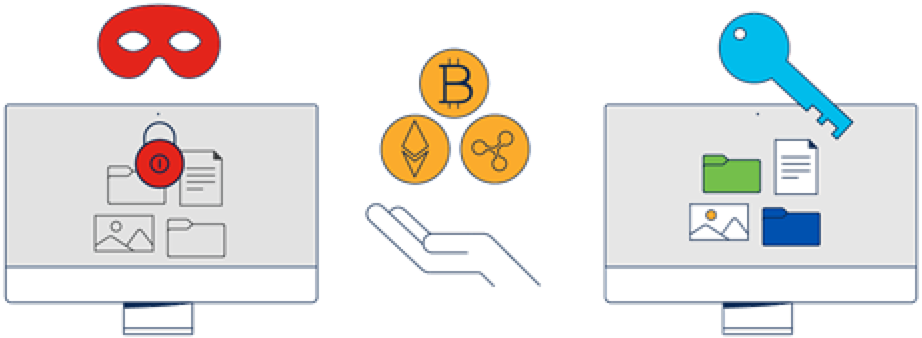
- Ransomware is a type of malicious software, or malware, that prevents you from accessing your computer files, systems, or networks and demands you pay a ransom for their return. Ransomware attacks can cause costly disruptions to operations and the loss of critical information and data.
- Ransomware on the Dark Web
- New trends
  - Ransomware as a Service (RaaS)
  - Ransomware with data extortion and posting to dark web.



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Why a focus on State & Local?

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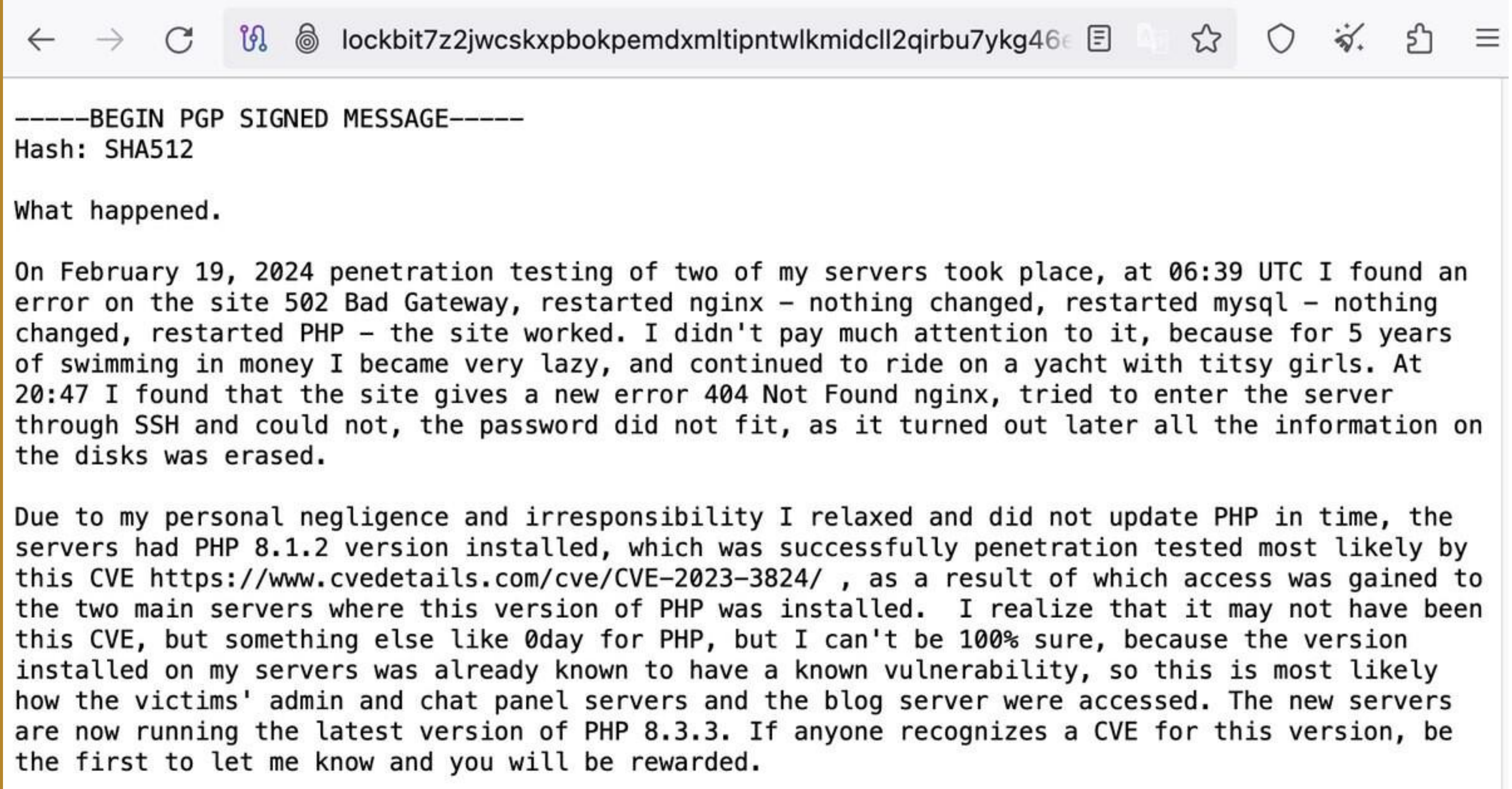
Source: https://www.fbi.gov/how-we-can-help-you/safety-resources/scams-and-safety/common-scams-and-crimes/ransomware



-----BEGIN PGP SIGNED MESSAGE-----
Hash: SHA512

What happened.

On February 19, 2024 penetration testing of two of my servers took place, at 06:39 UTC I found an error on the site 502 Bad Gateway, restarted nginx - nothing changed, restarted mysql - nothing changed, restarted PHP - the site worked. I didn't pay much attention to it, because for 5 years of swimming in money I became very lazy, and continued to ride on a yacht with titsy girls. At 20:47 I found that the site gives a new error 404 Not Found nginx, tried to enter the server through SSH and could not, the password did not fit, as it turned out later all the information on the disks was erased.

Due to my personal negligence and irresponsibility I relaxed and did not update PHP in time, the servers had PHP 8.1.2 version installed, which was successfully penetration tested most likely by this CVE https://www.cvedetails.com/cve/CVE-2023-3824/ , as a result of which access was gained to the two main servers where this version of PHP was installed. I realize that it may not have been this CVE, but something else like 0day for PHP, but I can't be 100% sure, because the version installed on my servers was already known to have a known vulnerability, so this is most likely how the victims' admin and chat panel servers and the blog server were accessed. The new servers are now running the latest version of PHP 8.3.3. If anyone recognizes a CVE for this version, be the first to let me know and you will be rewarded.

https://www.linkedin.com/pulse/lockbit-oye-jitu-mani-das-cism-cissp--2u3mf/

$12.5 Billion

Losses in 2023

2,412

Average complaints received daily

2021
2019
2018
2017
2016

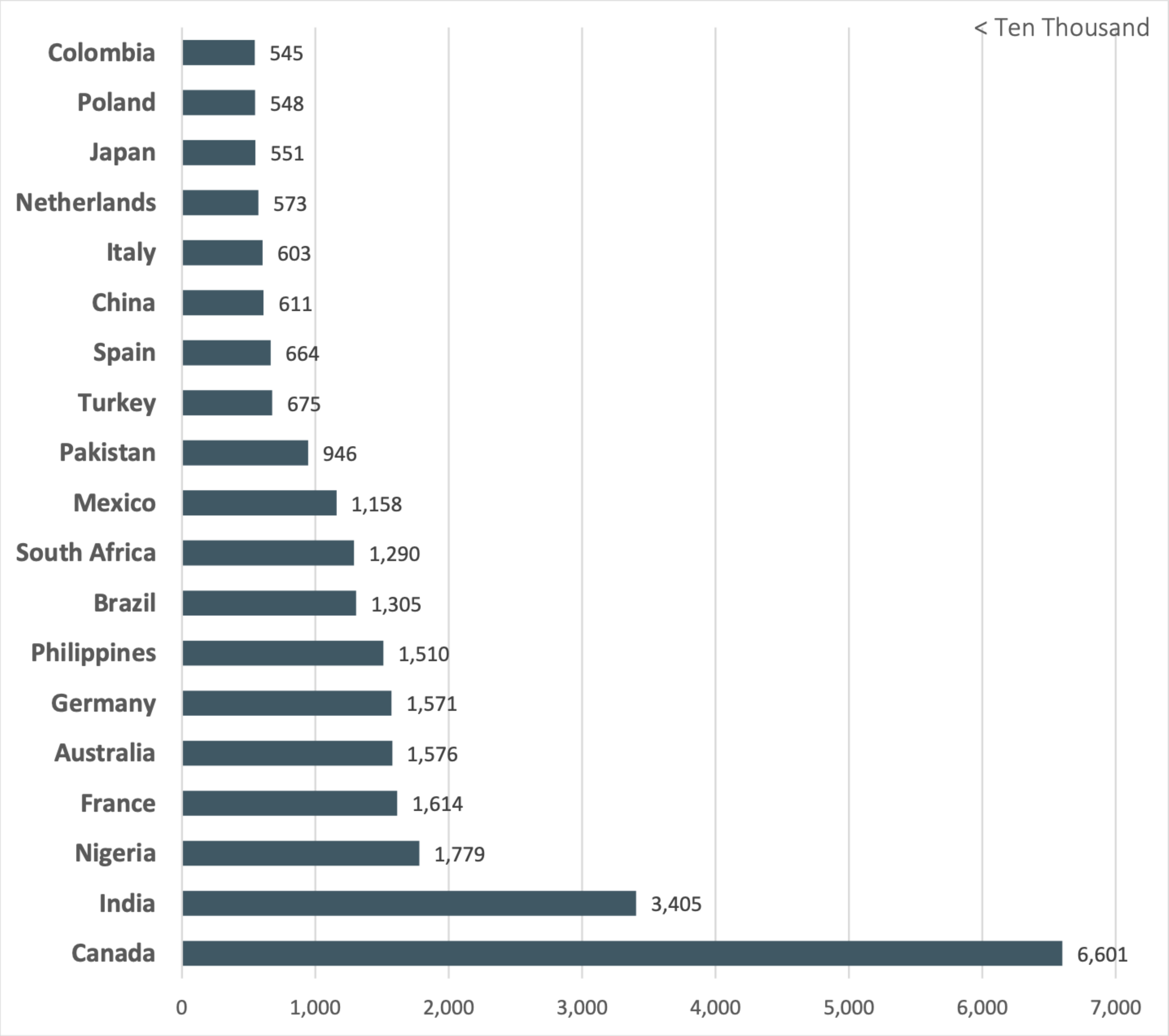
758,000+

Average complaints received per year (last 5 years)

Over 8 Million

Complaints reported since inception

Source: https://www.ic3.gov/Media/PDF/AnnualReport/2023_IC3Report.pdf


< Ten Thousand
Colombia 545
Poland 548
Japan 551
Netherlands 573
Italy 603
China 611
Spain 664
Turkey 675
Pakistan 946
Mexico 1,158
South Africa 1,290
Brazil 1,305
Philippines 1,510
Germany 1,571
Australia 1,576
France 1,614
Nigeria 1,779
India 3,405
Canada 6,601
0
1,000
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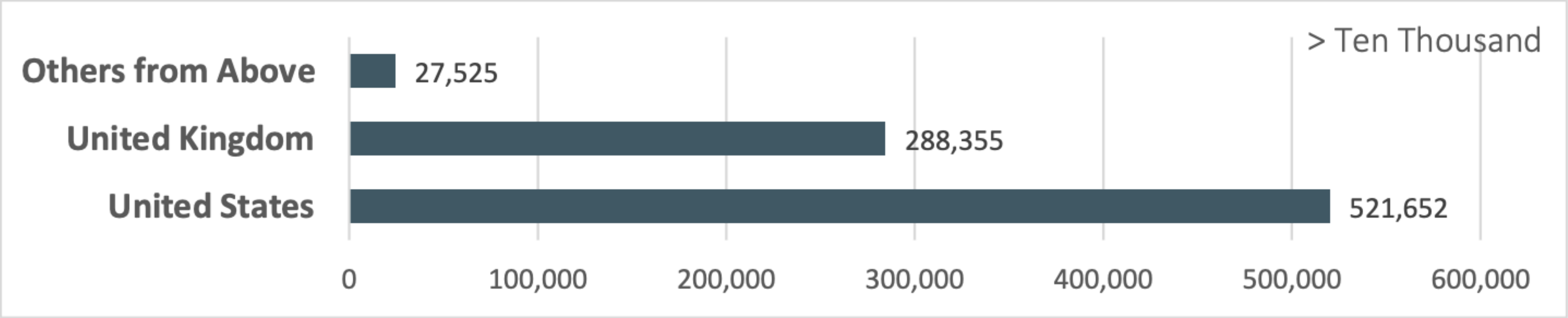
3,000
4,000
5,000
6,000
7,000



Complaints per State*

Rank	State	Complaints
1	California	77,271
2	Texas	47,305
3	Florida	41,061
4	New York	26,948
5	Ohio	17,864
6	Arizona	16,584
7	Pennsylvania	16,407
8	Illinois	15,783
9	Michigan	14,784
10	Washington	14,600

Losses by State*

Rank	State	Loss
1	California	$2,159,454,513
2	Texas	$1,021,547,286
3	Florida	$874,725,493
4	New York	$749,955,480
5	New Jersey	$441,151,263
6	Pennsylvania	$360,334,651
7	Illinois	$335,764,223
8	Arizona	$324,352,644
9	Georgia	$301,001,997
10	Washington	$288,691,091

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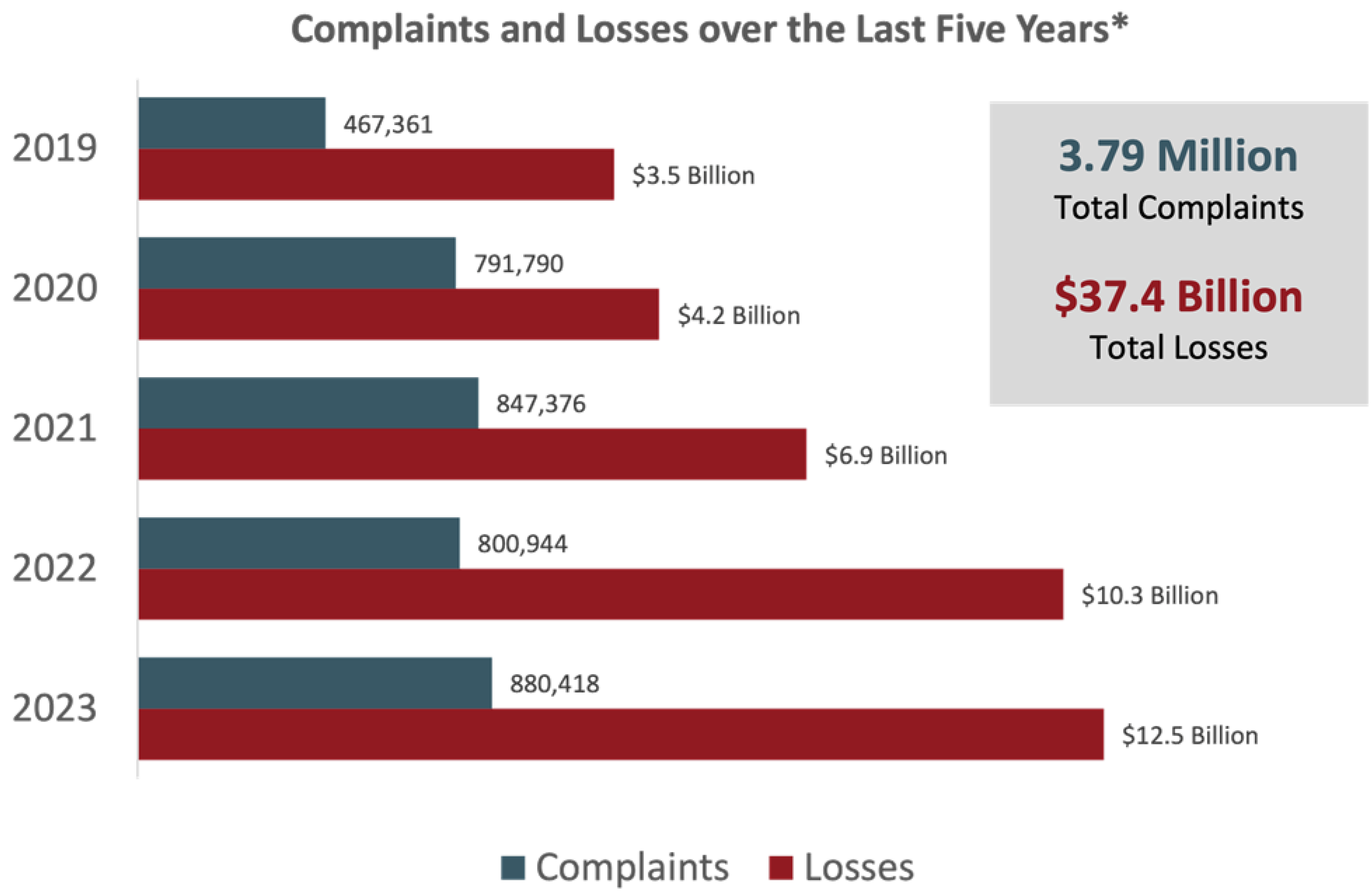
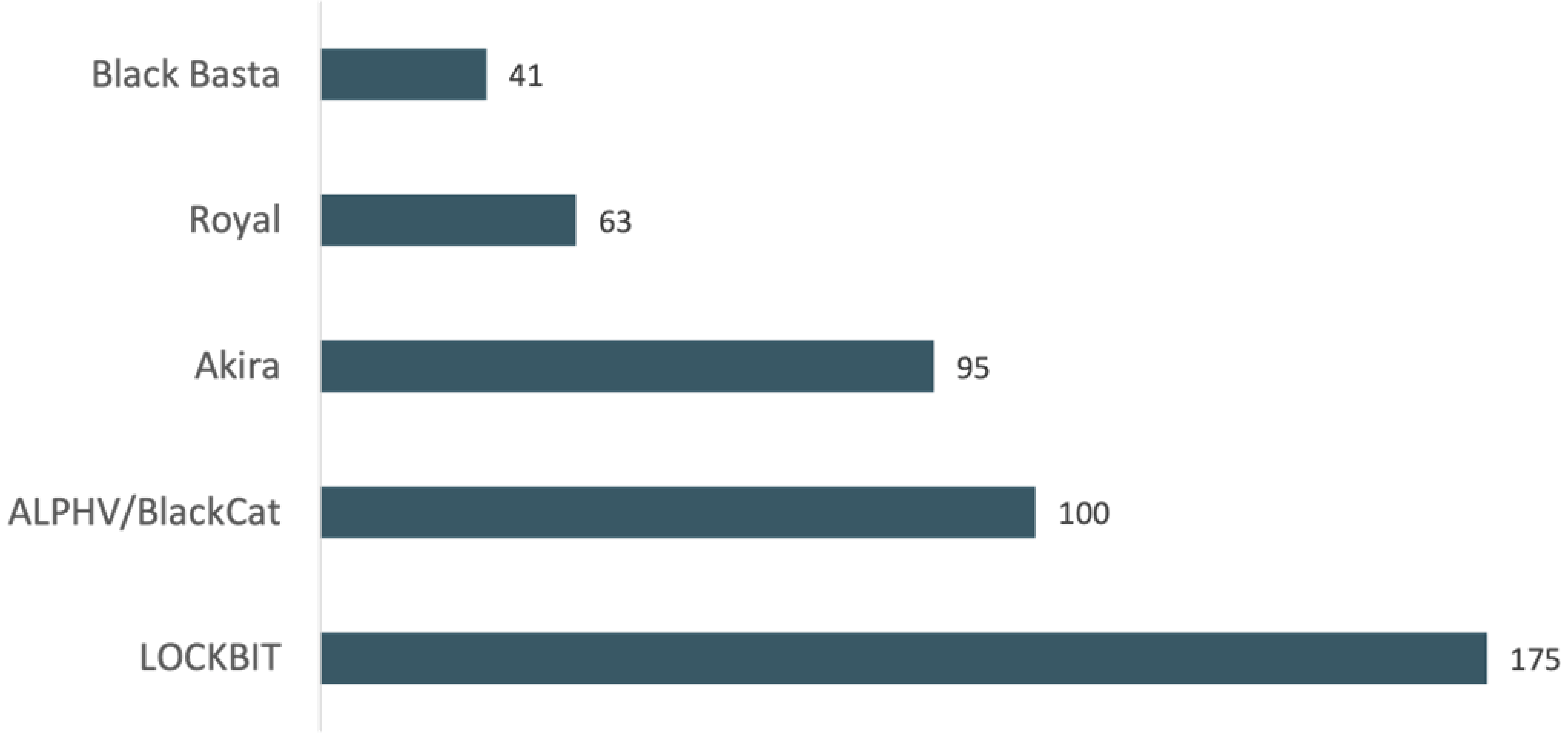


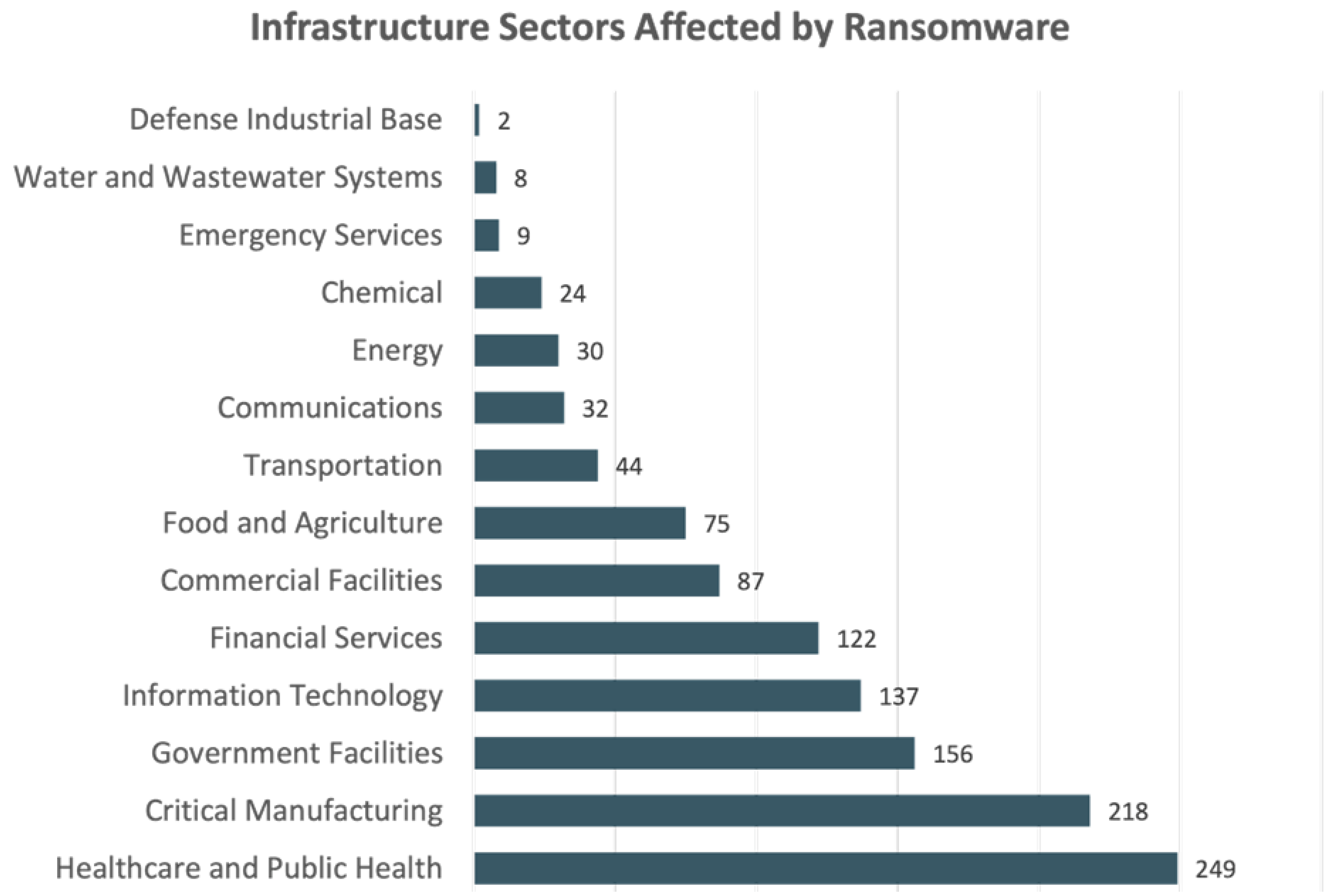
Complaints and Losses over the Last Five Years*

Source: https://www.ic3.gov/Media/PDF/AnnualReport/2023_IC3Report.pdf

Top Ransomware Variants Affecting Critical Infrastructure 2023



Source: https://www.ic3.gov/Media/PDF/AnnualReport/2023_IC3Report.pdf



Source: https://www.ic3.gov/Media/PDF/AnnualReport/2023_IC3Report.pdf

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How is ransomware different from other cyber operations?

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Timing	Action
Before Initial Entry	Identify effect you desire Selection of target (Social Engineering) Prepare initial entry malware
Initial Entry	Phishing operation Placing software or hardware into the system
Reconnaissance	Exploring the network Identifying system administrators and leaders Assessing vulnerabilities
Preparation to create effect	Putting in backdoor Changing software to allow you to create an effect
Creation of effect	Moving money Opening dam sluice gate Denial of Service (DoS)

Create ransomware software

Execute ransomware operation

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Ransomware US December 2023

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Great Valley School District in Pennsylvania
Ongoing Operations who supports ~60 credit unions in the US
US Payments Giant Tipalti
Hermon School Department Maine
Austal USA a shipbuilder for the US Navy
St Johns River Management District a regulatory agency in Florida.
Dameron Hospital in California
Taylor University in Indiana
Henry County Schools in Georgia
Sweetwater High School District in California
Stanley Steemer

Glendale Unified School District in California
Fred Hutchinson Cancer Center in Seattle
Greater Richmond Transit Company (GRTC) in Virginia
Hinsdale School District in Vermont
Washington-based drug store chain Hi-School Pharmacy
Heart of Texas Behavioral Health Network,
Americold
Campbell County Schools in Kentucky
Memorial Sloan Kettering Cancer Center in New York City
City of Defiance in Ohio
KraftHeinz food corporation

70 total; 45 US, 25 international

Source: https://www.blackfog.com/ransomware-report/

Ransomware US December 2023

Foursquare Healthcare in Texas
Hotel chain Red Roof
US Online education platform Wondrium
Petersen Health Care in Illinois
Covenant Care in the western US
Neurology Center of Nevada
Milton Town School District in Vermont
Liberty Hospital in Missouri
Clay County in Minnesota
Integris Health in Oklahoma
Cullman County Revenue Commissioner in Alabama

The Ohio Lottery
American Alarm and Communications (AAC).
New York School of Interior Design
US division of Xerox Business Solutions (XBS) of Xerox Corporation.
Newfound Area School District in Virginia
Viking Therapeutics in Vermont
VF Corporation in Colorado owners of brands like Supreme, Vans, Timberland, and The North Face
Specialty pharmacy chain BioMatrix in Florida
ESO Solutions in Texas who provides software to hospitals and EMS
Richmont Graduate University in Georgia
National Amusements in Massachusetts
US-based Ultra Intelligence and Communications

44 total; 20 Local/Regional, 19 national, 5 international

Source: https://www.blackfog.com/the-state-of-ransomware-in-2022 = 376 publicly reported Ransomware operations

Ransomware International December 2023

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UK premium independent retailer Jules B

HTC Global Services IT services and consultancy firm in India

Hangzhou Great Star Industrial Company in China

Ho Chi Minh City Energy Corporation (EVNHCMC) a subsidiary of Vietnam Energy

La Prensa a newspaper in Nicaragua

Canadian multinational retailer Aldo Shoes

Deutsche Energie-Agentur (Dena)

Munich-based games developer Travian Games

UK travel company Hotelplan UK

Decina, an Australian bathroom product manufacturer

Sony-owned game developer Insomniac Games

Blue Waters Products Ltd in Trinidad

GOLFZON a world-renowned golf simulator manufacturer in Korea

AMCO Proteins in the UK

One of the world’s largest law firms CMS in Europe

University of Buenos Aires

Indian IT company HCL Technologies

UK accountancy firm Xeinadin,

Abdali Hospital in Jordan,

German hospital network, Katholische Hospitalvereinigung Ostwestfalen (KHO),

Israel Electric Corporation.

National Insurance Board of Trinidad and Tobago (NIBTT),

Japanese car manufacturer Nissan

Yakult Australia

Elektroprivreda Srbije (EPS) in Serbia

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FL Cybersecurity Advisory Council on Cyber Hygiene

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- **Count** - Know what's connected to your network
- **Configure** - Implement key security settings to help protect your system
- **Control** - Limit and manage those who have administrative privileges to change, bypass, or override your security settings
- **Patch** - Regularly update all applications, software, and operating systems
- **Repeat** - Regularize to form a solid foundation of cyber security for your organization

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Source: https://www.dms.myflorida.com/other_programs/cybersecurity_advisory_council/cybersecurity_resources

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Linkages & Flows

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Linkages & Flows

- Legislation
  - federal & state
- Policy
  - federal, state, county
- Strategy
  - for your organization; what are we going to do
- Plans
  - how you execute your strategy
- Operations
  - day to day activities delivering on your plans

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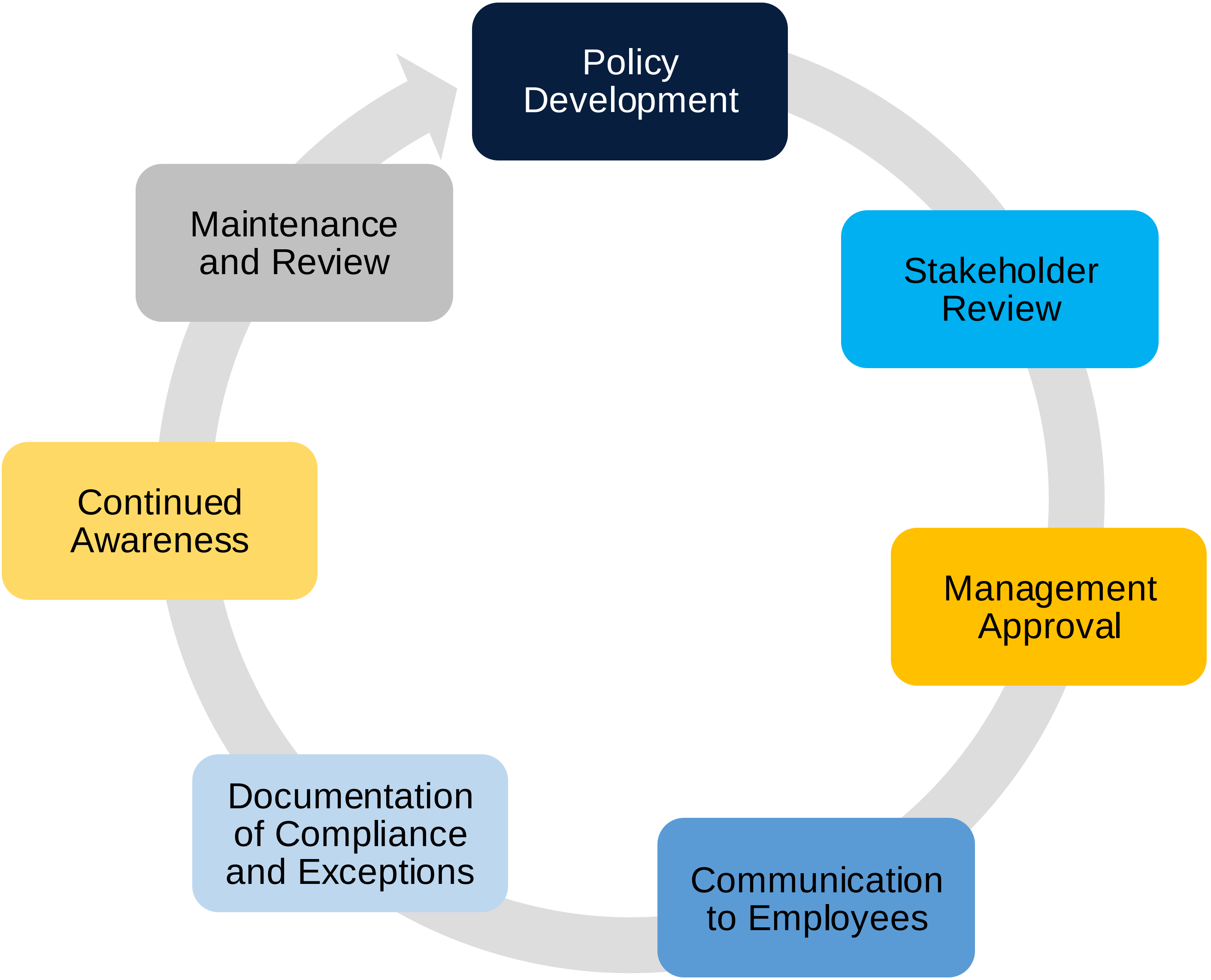
Policy Development Process



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Strategy Development

- General plan to achieve one or more long-term or overall goals under conditions of uncertainty
- Identifies Ends, Ways & Means
  - **Ends:** What do you want to do?
    - What do you need to secure?
    - Who is operating against you
    - What type of operations are they performing?
  - **Ways:** How do you want to do it?
    - Choose a cybersecurity framework
    - Organize yourself
  - **Means:** Resources
    - Hardware
    - Software
    - Wetware (Human)
    - Money

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Defensible Cyber Security Strategy

- Governance
- Policies and Procedures
- Infrastructures and Standards
- People and Training
- Relationships

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Ten Steps To Develop a Cybersecurity Strategy

Task	Resources
Step 1. Understand your cyber threat landscape.	Industry reports: CISA, Verizon DBIR, etc.
Step 2. Assess your cybersecurity maturity level.	NIST CSF / Third Party Maturity Assessment.
Step 3. Improve cybersecurity program (People, Processes, and Technologies)	NIST Framework (SP-800-53 and CSF)
Step 4. Establish a risk management framework to apply resources that are informed by an assessment of cybersecurity vulnerabilities and cybersecurity threats.	NIST 800-37 - Risk Management Framework for Information Systems and Organizations
Step 5. Prioritize cybersecurity risk management in accordance with the risk level to the organization.	Risk assessment reports, internal audit reports, incident reports, etc.
Step 6. Identify cybersecurity gaps and develop mitigation strategies.	Evaluate current state, i.e., gap assessments, maturity assessments, industry standards, etc.)
Step 7. Define cybersecurity controls that are reasonable and appropriate.	NIST 800-53 and NIST CSF
Step 8. Develop proactive monitoring of security events, continuous monitoring and escalation process.	Ongoing assessments of control effectiveness are conducted in accordance with the continuous monitoring strategy
Step 9. Develop a cybersecurity incident response plan.	CISA IR Playbooks, NIST SP-800-61, IR partner.
Step 10. Build a continuous user awareness education.	NIST SP-800-50, NIST SP-800-181, SANS

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Cybersecurity Strategy Goals

- Define the desired state
- Determine the current state
- Gap analysis – current versus desired states
- Identify threats
- Identify the “how” – set up for a plan
- Design monitoring and metrics
- Determine resources required

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NIST

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Why NIST for local governments?

Fla. Sta. 282.3185(4)(1):

> Each local government shall adopt cybersecurity standards that safeguard its data, information technology, and information technology resources to ensure availability, confidentiality, and integrity. The cybersecurity standards must be consistent with generally accepted best practices for cybersecurity, including the ***National Institute of Standards and Technology Cybersecurity Framework.***

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NIST Cybersecurity Framework

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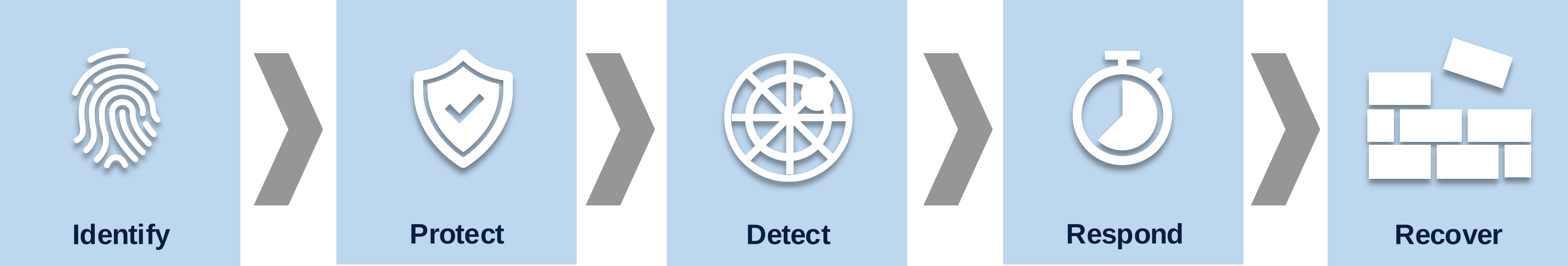
- **New with NIST 2.0: Governance - Establish and monitor the organization’s cybersecurity risk management strategy, expectations, and policy**
- 5 Key Pillars – Holistic and successful program
- Highest level of abstraction – Minimum standards
- Lexicon for management to express their cybersecurity management



Identify

- Asset Management
- Business Environment
- Governance
- Risk Assessment
- Risk Management Strategy
- Supply Chain Risk Management

Protect

- Identity Management, Authentication & Access Control
- Awareness & Training
- Data Security
- Information Protection Processes & Procedures
- Maintenance
- Protective Technology

Detect

- Anomalies & Events
- Security Continuous Monitoring
- Detection Processes

Respond

- Response Planning
- Communications
- Analysis
- Mitigation
- Improvements

Recover

- Recovery Planning
- Improvements
- Communications

Source: NIST Cybersecurity Framework

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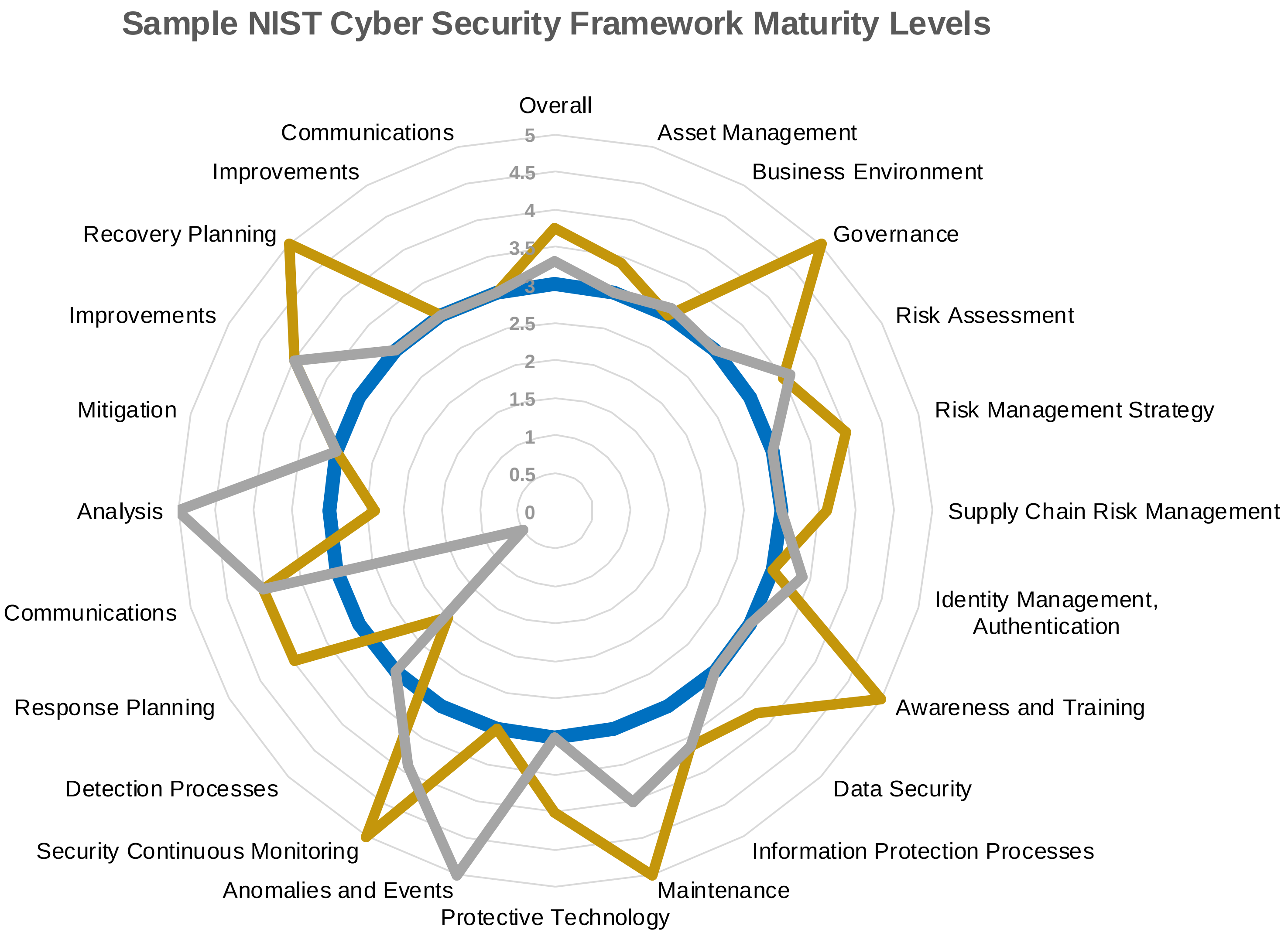
Maturity Assessment

Very difficult (but important) to perform!



5 Optimal
4 Managed
3 Defined
2 Acknowledged
1 Initial
0 Non-existent

—Target Score
—Policy Score
—Practice Score

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Source: https://www.nist.gov/cyberframework/online-learning/cybersecurity-framework-components

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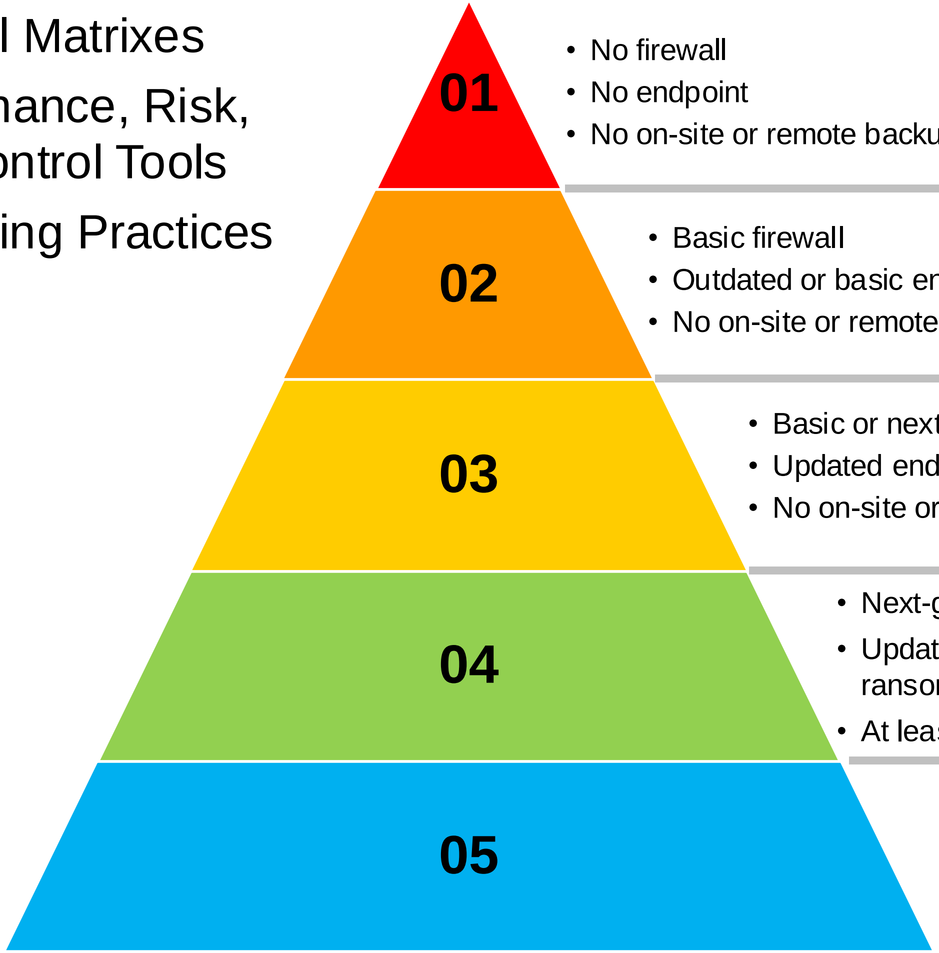
Cybersecurity Risk Management (P)

- Maturity Models
- Control Matrixes
- Governance, Risk, and Control Tools
- Reporting Practices

Sample Cybersecurity Maturity Model



01
- No firewall
- No endpoint
- No on-site or remote backup
- No incident response plan
- No or poor network segmentation
- No vulnerability awareness

02
- Basic firewall
- Outdated or basic endpoint
- No on-site or remote backup
- No incident response plan
- No or limited network segmentation
- No vulnerability awareness

03
- Basic or next-gen firewall
- Updated endpoint
- No on-site or remote backup
- No or basic incident response plan
- Basic network segmentation
- Limited vulnerability awareness

04
- Next-gen firewall
- Updated next-gen endpoint with ransomware protection
- At least on-site backup
- Basic incident response plan
- Basic or advanced network segmentation
- Vulnerability awareness

05
- Next-gen firewall
- Updated next-gen endpoint with ransomware protection
- On-site and remote backup
- Incident response plan
- Advanced network segmentation
- Vulnerability management
- Advanced threat detection
- Intrusion detection system
- 24/7 monitoring and response
- Employee awareness and training

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Reporting Requirements

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Level of Severity of the Cybersecurity Incident

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- **Level 1** is a low-level incident that is unlikely to impact public health or safety; national, state, or local security; economic security; civil liberties; or public confidence
- **Level 2** is a medium-level incident that may impact public health or safety; national, state, or local security; economic security; civil liberties; or public confidence.
- **Level 3** is a high-level incident that is likely to result in a demonstrable impact in the affected jurisdiction to public health or safety; national, state, or local security; economic security; civil liberties; or public confidence.
- **Level 4** is a severe-level incident that is likely to result in a significant impact in the affected jurisdiction to public health or safety; national, state, or local security; economic security; or civil liberties.
- **Level 5** is an emergency-level incident within the specified jurisdiction that poses an imminent threat to the provision of wide-scale critical infrastructure services; national, state, or local government security; or the lives of the countries', states', or local government's residents.

Must be reported!

As defined by the National Cyber Incident Response Plan of the United States Department of Homeland Security

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Reporting Requirements
Florida

A state agency or local government shall report all ransomware incidents and any cybersecurity incident determined by the state agency to be of severity level 3, 4, or 5 to the Cybersecurity Operations Center and the Cybercrime Office of the Department of Law Enforcement as soon as possible but **no later than 48 hours after discovery of the cybersecurity incident and no later than 12 hours after discovery of the ransomware incident** (i.e. when you receive a ransom demand)

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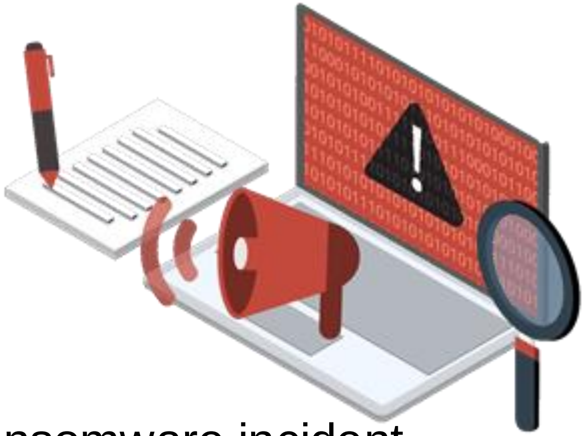
Reporting Requirements
Local Government



In addition to the previous reporting requirements,

- A local government shall provide notification of a cybersecurity incident or ransomware incident to the Cybersecurity Operations Center, Cybercrime Office of the Department of Law Enforcement, **and Sheriff who has jurisdiction over the local government**

They also must add the following:

- A **statement requesting or declining assistance** from the Cybersecurity Operations Center, the Cybercrime Office of the Department of Law Enforcement, or the sheriff who has jurisdiction over the local government
- A local government must submit to the Florida Digital Service, within **1 week** after the remediation of a cybersecurity incident or ransomware incident, **an after-action report that summarizes the incident, the incident's resolution, and any insights gained as a result of the incident**.

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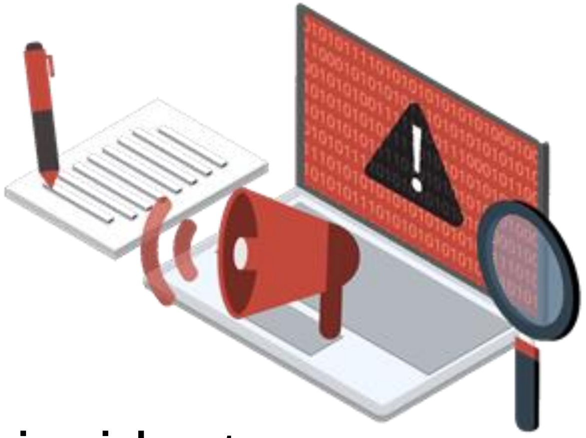
Reporting Requirements Details



The report must contain the following information:

- A **summary of the facts** surrounding the cybersecurity incident or ransomware incident
- The **date** on which the state agency **most recently backed up its data**; the **physical location of the backup**, if the backup was affected and if the backup was created using cloud computing
- The **types of data compromised** by the cybersecurity incident or ransomware incident
- The **estimated fiscal impact** of the cybersecurity incident or ransomware incident
- In the case of a ransomware incident, the details of the ransom demanded

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Florida Legislation:
Statutes 282.318, 282.3185, 282.3186

- Florida State Cybersecurity Act, Local Government Cybersecurity Act, and Ransomware Incident Compliance
- Identifies levels of severity of the cybersecurity incident (based on national standards)
- Identifies Florida Digital Service as the state lead
- Requires State Cybersecurity Operations Center (CSOC)
- Victims **may not pay or otherwise comply with** a ransom demand
- Identifies reporting requirements
  - Identifies required content of report
  - When to report
    - No later than **48 hours** after discovery of the cybersecurity incident
    - No later than **12 hours** after discovery of the ransomware incident
  - Who to report to:
    - State Cybersecurity Operations Center
    - Cybercrime Office of the Department of Law Enforcement
    - Local Sheriff

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Reporting Cyber Incidents In Florida

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- Codified in the “State Cybersecurity Act, Local Government Cybersecurity Act, and Ransomware Incident Compliance”
- Report to:
  - Florida State Cybersecurity Operations Center: IR.Digital.FL.gov
  - Cybercrime office at the Department of Law Enforcement (FC3)
  - FL Department of Legal Affairs (if breach affects 500+ individuals) F.S. 501.171(3)

- FDLE/FC3:
  - FDLE Computer Crime Center: https://www.fdle.state.fl.us/FCCC
  - Report a Computer Crime: https://www.fdle.state.fl.us/FCCC/Report-a-Computer-Crime.aspx
  - FC3 Email address: FDLECyber@fdle.state.fl.us

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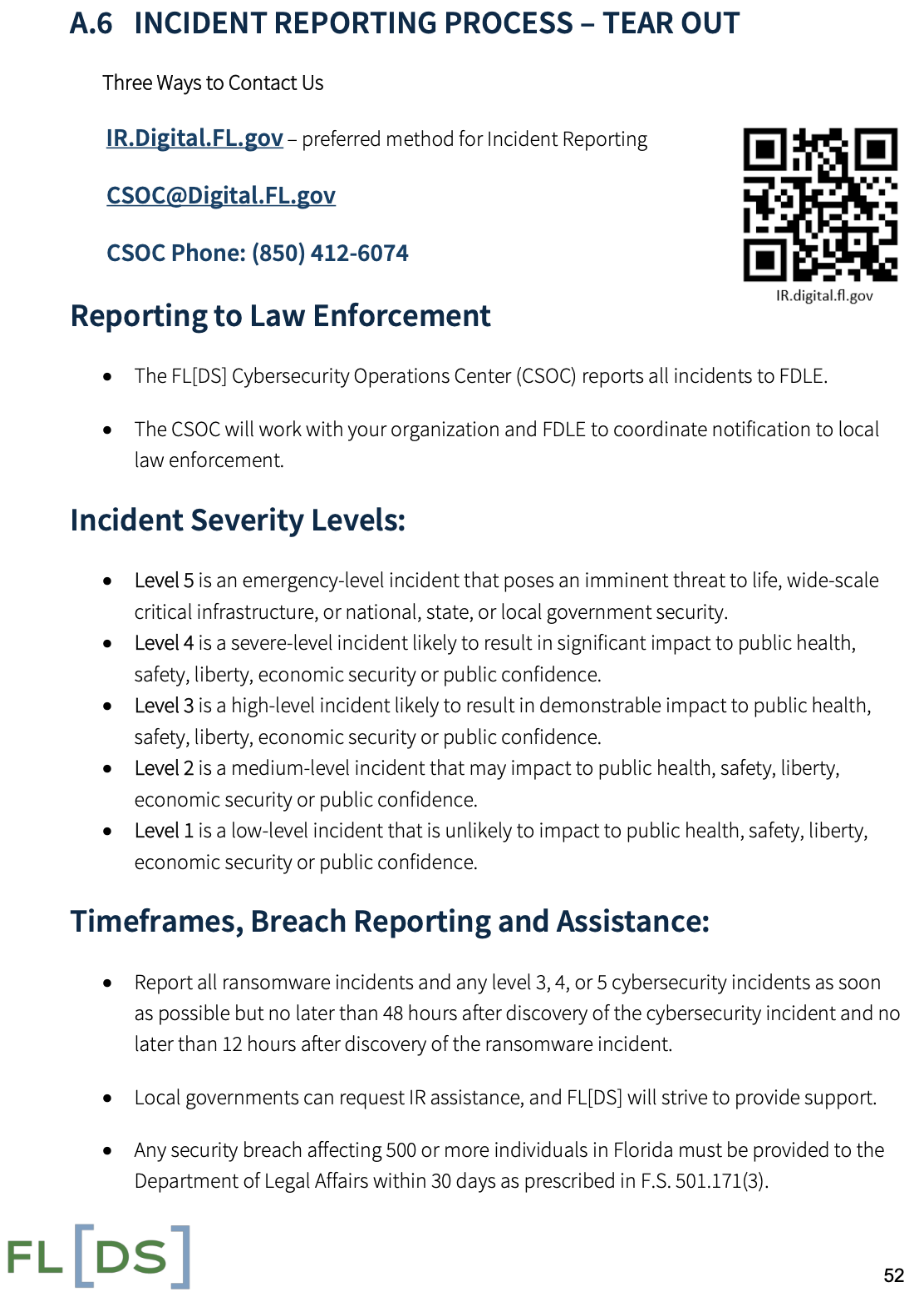
Reporting Cyber Incidents In Florida

https://digital.fl.gov/wp-content/uploads/Locals-Resource-Packet-2023v1.1.pdf



A.6 INCIDENT REPORTING PROCESS – TEAR OUT

Three Ways to Contact Us

IR.Digital.FL.gov – preferred method for Incident Reporting

CSOC@Digital.FL.gov

CSOC Phone: (850) 412-6074

IR.digital.fl.gov

Reporting to Law Enforcement

- The FL[DS] Cybersecurity Operations Center (CSOC) reports all incidents to FDLE.
- The CSOC will work with your organization and FDLE to coordinate notification to local law enforcement.

Incident Severity Levels:

- Level 5 is an emergency-level incident that poses an imminent threat to life, wide-scale critical infrastructure, or national, state, or local government security.
- Level 4 is a severe-level incident likely to result in significant impact to public health, safety, liberty, economic security or public confidence.
- Level 3 is a high-level incident likely to result in demonstrable impact to public health, safety, liberty, economic security or public confidence.
- Level 2 is a medium-level incident that may impact to public health, safety, liberty, economic security or public confidence.
- Level 1 is a low-level incident that is unlikely to impact to public health, safety, liberty, economic security or public confidence.

Timeframes, Breach Reporting and Assistance:

- Report all ransomware incidents and any level 3, 4, or 5 cybersecurity incidents as soon as possible but no later than 48 hours after discovery of the cybersecurity incident and no later than 12 hours after discovery of the ransomware incident.
- Local governments can request IR assistance, and FL[DS] will strive to provide support.
- Any security breach affecting 500 or more individuals in Florida must be provided to the Department of Legal Affairs within 30 days as prescribed in F.S. 501.171(3).

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The Reality

- Attacks are more frequent and more sophisticated
- Organizations are struggling to manage their enterprise cybersecurity initiatives
- In many organizations **Cybersecurity is not a strategic priority**
- The urgency to prepare and invest in incident response usually occurs **only after an event with a significant impact**
- Qualified resources (**Cyber talent**) is becoming a **critical issue**
- Legal, compliance and security **complexities managing Third Party Vendors**
- Automated attacks require automated defenses (challenges identifying the right solutions)

Cybersecurity strategy will help shift from a ***reactive*** approach to a ***proactive*** posture.

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Post Course Survey

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Cybersecurity Leadership and Strategy Professional Education Program

Thank You!

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Resources (P)

NIST Cybersecurity Framework (Critical Infrastructure), Version 1.1

NIST Cybersecurity Framework Core (xls)

NIST SP 800-53, Revision 4 [Summary]

NIST Special Publication 800-171
- NIST SP 800-171 Revision 2 [Summary]

CSA Cloud Controls Matrix
- Cloud Controls Matrix v3.0.1 [Summary]

CIS Critical Security Controls
- Critical Security Controls v7.1 [Summary]
- Critical Security Controls v8 [Summary]

NIST SP 800-53, Revision 5 [Summary]
- AC: Access Control
- AT: Awareness and Training
- AU: Audit and Accountability
- CA: Assessment, Authorization, and Monitoring
- CM: Configuration Management
- CP: Contingency Planning
- IA: Identification and Authentication
- IR: Incident Response
- MA: Maintenance
- MP: Media Protection
- PE: Physical and Environmental Protection
- PL: Planning

NIST SP 800-53, Revision 5 (cont.)
- PM: Program Management
  - PM-1: Information Security Program Plan
  - PM-2: Information Security Program Leadership Role
  - PM-3: Information Security and Privacy Resources
  - PM-4: Plan of Action and Milestones Process
  - PM-5: System Inventory
  - **PM-6: Measures of Performance**
  - PM-7: Enterprise Architecture
  - PM-8: Critical Infrastructure Plan
  - PM-9: Risk Management Strategy
  - PM-10: Authorization Process
  - PM-11: Mission and Business Process Definition
  - PM-12: Insider Threat Program
  - PM-13: Security and Privacy Workforce
  - PM-14: Testing, Training, and Monitoring
  - PM-15: Security and Privacy Groups and Associations
  - PM-16: Threat Awareness Program
  - PM-17: Protecting Controlled Unclassified Information on External Systems
  - PM-18: Privacy Program Plan
  - PM-19: Privacy Program Leadership Role
  - PM-20: Dissemination of Privacy Program Information
  - PM-21: Accounting of Disclosures
  - PM-22: Personally Identifiable Information Quality Management
  - PM-23: Data Governance Body
  - PM-24: Data Integrity Board

NIST SP 800-53, Revision 5 (cont.)
- PM: Program Management (cont.)
  - PM-25: Minimization of Personally Identifiable Information Used in Testing, Training, and Research
  - PM-26: Complaint Management
  - PM-27: Privacy Reporting
  - PM-28: Risk Framing
  - PM-29: Risk Management Program Leadership Roles
  - PM-30: Supply Chain Risk Management Strategy
  - PM-31: Continuous Monitoring Strategy
  - PM-32: Purposing
- PS: Personnel Security
- PT: Personally Identifiable Information Processing and Transparency
- RA: Risk Assessment
- SA: System and Services Acquisition
- SC: System and Communications Protection
- SI: System and Information Integrity
- SR: Supply Chain Risk Management

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Resources

- Security Policy Templates
  Source: https://www.sans.org/information-security-policy/
- The state of ransomware in state and local government
  Source: https://www.scmagazine.com/resource/ransomware/the-state-of-ransomware-in-state-and-local-government#
- State and Local Government Cyberattacks Timeline
  Source: https://securityintelligence.com/timeline/state-local-government-cyberattacks/year-by-year
- Examining the Impact of Reactive and Proactive Investments in Cybersecurity
  Source: https://www.healthtechmagazines.com/examining-the-impact-of-reactive-and-proactive-investments-in-cybersecurity/
- Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Best Practices for Smart Cities
  Source: https://www.cisa.gov/sites/default/files/2023-04/cybersecurity-best-practices-for-smart-cities_508.pdf
- FL Cybersecurity Act, Local Government Cybersecurity Act, and Ransomware Incident Compliance
  Source: Florida Statutes 218.318 Cybersecurity https://www.flsenate.gov/laws/statutes/2021/282.318
- Florida CS/HB 7055 — Cybersecurity
  Source: https://www.flsenate.gov/PublishedContent/Session/2022/BillSummary/Military_MS7055ms_07055.pdf
- Sophos: The State of Ransomware in State and Local Government 2022.
  Source: https://assets.sophos.com/X24WTUEQ/at/9brgj5n44hqvgsp5f5bqcps/sophos-state-of-ransomware-2024-wp.p

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Resources

- The state of ransomware in state and local government
  Source https://www.scmagazine.com/resource/ransomware/the-state-of-ransomware-in-state-and-local-government
- Examining the Impact of Reactive and Proactive Investments in Cybersecurity
  Source https://www.healthtechmagazines.com/examining-the-impact-of-reactive-and-proactive-investments-in-cybersecurity
- Cybersecurity Best Practices for Smart Cities
  Source Cybersecurity-best-practices-for-smart-cities_508.pdf
- FL Cybersecurity Act, Local Government Cybersecurity Act, and Ransomware Incident Compliance
  Source FL Statutes 218.318 Cybersecurity https://www.flsenate.gov/laws/statutes/2021/282.318
- Florida CS/HB 7055 — Cybersecurity
  Source https://www.flsenate.gov/PublishedContent/Session/2022/BillSummary/Military_MS7055ms_07055.pdf

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