CISA CYBERSECURITY MISSION AND RESOURCE BRIEF



Ernesto Ballesteros, JD, MS, CISSP, CISA, Security+

Cyber Protective Visit: Agenda

- About CISA
- Cybersecurity Resources & Services
 - Cybersecurity State Coordinator and Cybersecurity Advisors
 - Cybersecurity Assessments, Exercises, and Workshops
- Cybersecurity Information Sharing
- Cybersecurity Education and Training
- Incident Reporting
- Next Steps: Establishing a Cybersecurity Partnership with CISA



About CISA



CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY

Cybersecurity and Infrastructure **Security Agency (CISA)**

Secure and resilient infrastructure for the American people.

CISA partners with industry and government to understand and manage risk to our Nation's critical infrastructure.



OVERALL GOALS

GOAL 1

DEFEND TODAY

Defend against urgent threats and hazards

GOAL 2

SECURE TOMORROW

Strengthen critical infrastructure and address long-term risks

CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY

We are the Nation's Risk Advisor

The Cybersecurity and Infrastructure
Security Agency (CISA) is the pinnacle
of national risk management for cyber
and physical infrastructure





Critical Infrastructure Sectors

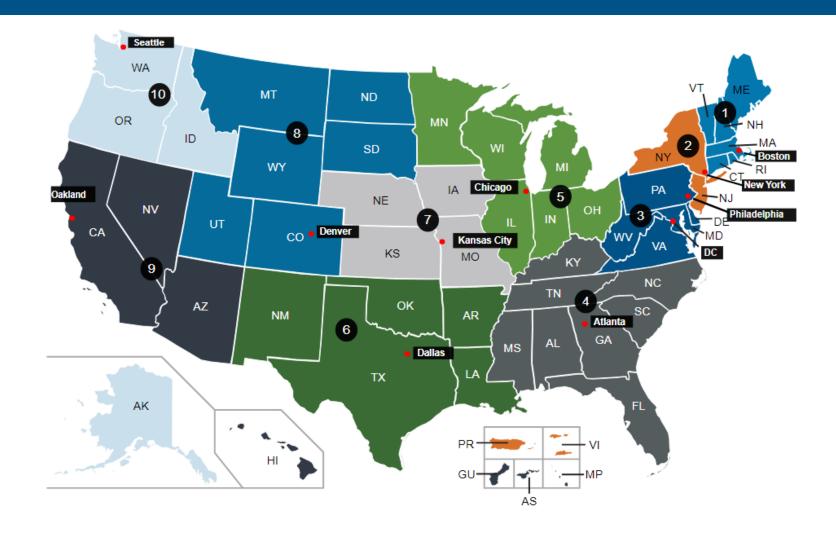
CISA assists the public and private sectors to secure their networks and focuses on organizations in the following 16 critical infrastructure sectors.





CISA Regions

Region	Location
1	Boston, MA
2	New York, NY
3	Philadelphia, PA
4	Atlanta, GA
5	Chicago, IL
6	Dallas, TX
7	Kansas City, MO
8	Denver, CO
9	Oakland, CA
10	Seattle, WA





State Cybersecurity Coordinator

The role of the State Cybersecurity Coordinator is to build strategic public and private sector relationships in Texas to facilitate the development and maintenance of secure and resilient infrastructure, pursuant to <u>6 United States Code, Section 665(c) (2021)</u>.

- Build strategic public and private sector relationships;
- Serve as the Federal cybersecurity risk advisor;
- Facilitate the sharing of cyber threat information;
- Raise awareness of cyber resources from the Federal Government to non-Federal entities;
- Support training, exercises, and planning for continuity of operations from cyber incidents;
- Serve as a principal point of contact for non-Federal entities to engage the Federal Government on preparing, managing, and responding to cyber incidents;
- Assist State, local, Tribal, and territorial governments in development of State cyber plans;
- Coordinate with appropriate officials within the Agency (CISA).

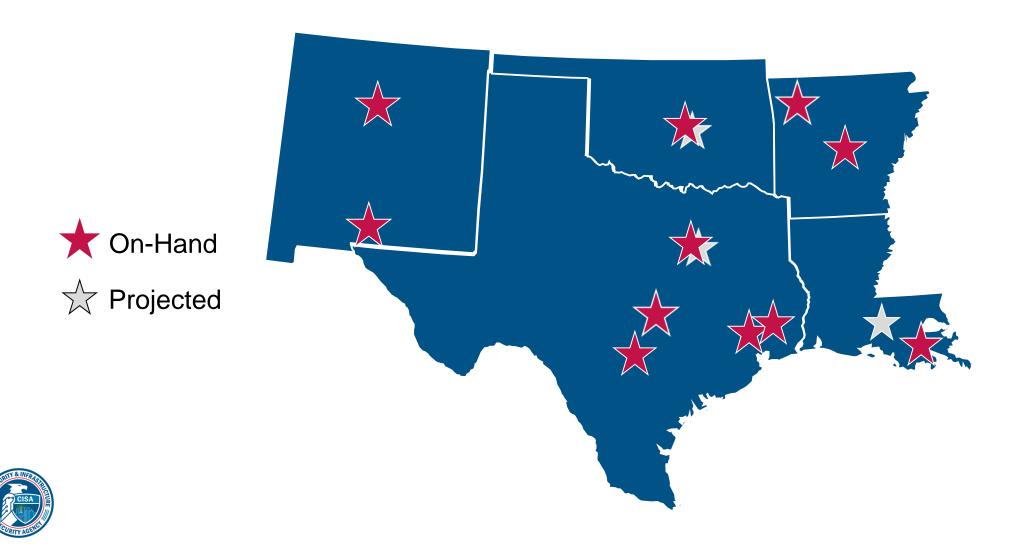
Cybersecurity Advisors (CSAs)

To provide direct coordination, outreach, and regional support in order to protect cyber components essential to the sustainability, preparedness, and protection of the Nation's Critical Infrastructure and Key Resources (CIKR) and State, Local, Tribal, and Territorial (SLTT) governments.

- Assess: Evaluate critical infrastructure cyber risk.
- **Promote**: Encourage best practices and risk mitigation strategies.
- Build: Initiate, develop capacity, and support cyber communities-of-interest and working groups.
- Educate: Inform and raise awareness.
- **Listen**: Collect stakeholder requirements.
- Coordinate: Bring together incident support and lessons learned.



On-Hand / Projected Cyber Personnel



Cybersecurity Resources and Services



CISA Cybersecurity Resources Snapshot

Regional Cybersecurity Resources:

- Cybersecurity Assessments (*Performed by Cybersecurity Advisors*)
 - ➤ Introductory Level:
 - Ransomware Readiness Assessment (RRA)
 - Cybersecurity Performance Goals Assessment (CPG)
 - Intermediate Level:
 - Cyber Infrastructure Survey (CIS)
 - Advanced Level:
 - Cyber Resilience Review (CRR)
 - External Dependencies Management (EDM)
 - Incident Management Review (IMR)
- Cybersecurity Exercises and Workshops (*Performed by Cybersecurity Advisors*)
 - Cyber Resilience Workshop (CRW)
 - Incident Management Workshop (IMW)
 - Vulnerability Management Workshop (VMW)
 - Intro to Digital Forensics Workshop (DFW)
 - Facilitated Cyber Exercise (FCE)

National/Automated Cybersecurity Resources:

Vulnerability Scanning Service (CyHy)





Cybersecurity Assessments



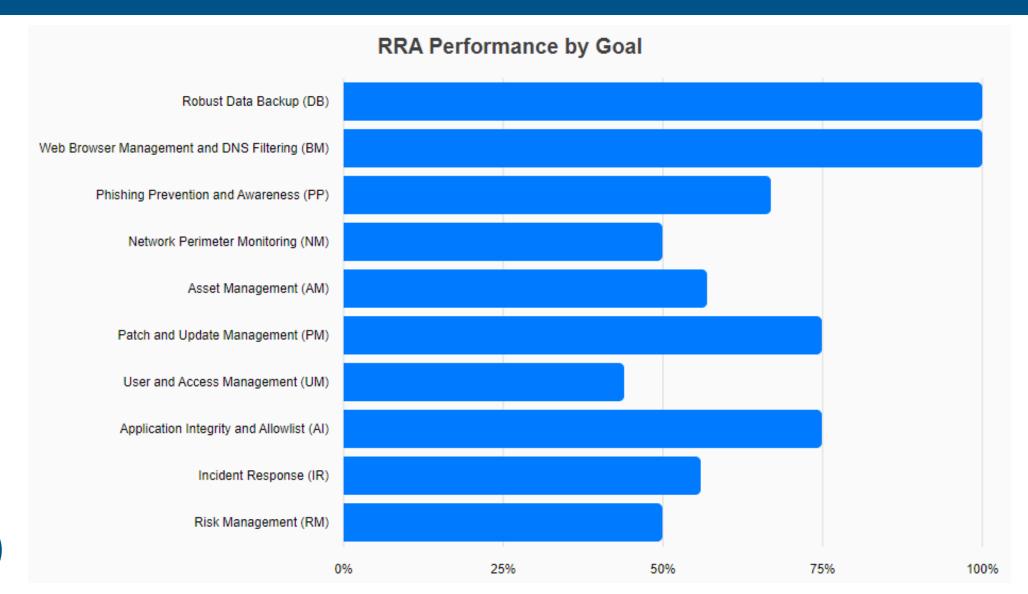
CSET Ransomware Readiness Assessment (RRA)

- Purpose: The RRA is an interview-based assessment on a tiered set of practices to help organizations better assess how well they are equipped to defend and recover from a ransomware incident.
- Time to Complete: ~2 hours
- Delivery: Facilitated by a CISA Cybersecurity Advisor (CSA)
- Benefits:
 - Helps organizations evaluate their cybersecurity posture against recognized standards and best practice.
 - Guides asset owners and operators through a systematic process to evaluate their operational technology (OT) and information technology (IT) network security practices against the ransomware threat.
 - Provides an analysis dashboard with graphs and tables that present the assessment results in both summary and detailed form.





Goal Completion Summary Example





Cyber Performance Goals (CPG) Assessment

- Purpose: The CPG is an interview-based assessment of essential cybersecurity practices that critical infrastructure owners and operators can implement to meaningfully reduce the likelihood and impact of known risks and adversary techniques.
- Time to Complete: ~1-2 hours
- Delivery: Facilitated by a CISA Cybersecurity Advisor (CSA)
- Benefits:
 - An inventory of practices and goals that owners and operators can implement to reduce risk to their organization's critical infrastructure operations.







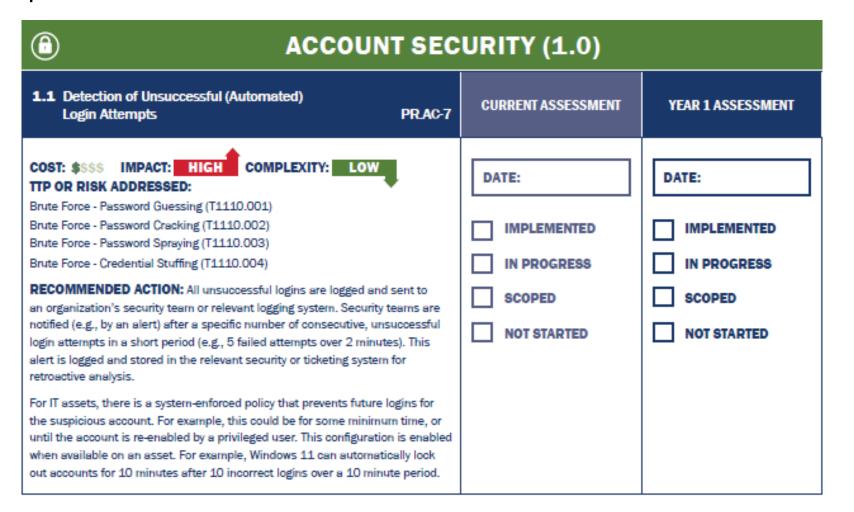
CPG Guide





Example CPG Question

This document is to be used in tandem with the CPGs to help prioritize and track your organization's implementation.





Cybersecurity Infrastructure Survey (CIS)

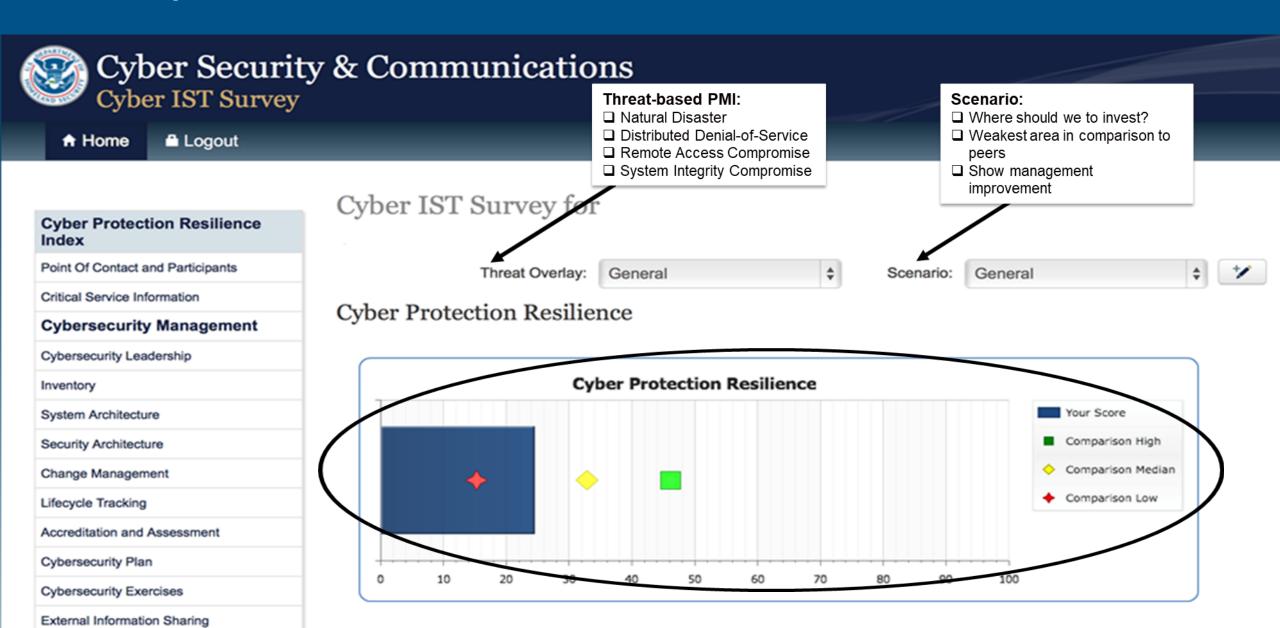
- Purpose: The CIS is an interview-based assessment of essential cybersecurity practices inplace for critical services within critical infrastructure organizations.
- Time to Complete: ~3-4 hours
- Delivery: Facilitated by a CISA Cybersecurity
- Benefits:
 - Anonymized comparative data that public and private sector partners can use to understand and measure its ability to manage cybersecurity risk, per domain.
 - An interactive data-rich dashboard, which can be used as an interactive support resource.

CIS Survey Question Domains

CIS Domains Cybersecurity Forces Cybersecurity Management Personnel Cybersecurity Leadership Cybersecurity Training Cyber Service Architecture Change Management **Cybersecurity Controls** Lifecycle Tracking Authentication and Authorization Controls Assessment and Evaluation Access Controls Cybersecurity Plan Cybersecurity Measures Cybersecurity Exercises Information Protection Information Sharing User Training Dependencies Defense Sophistication and Data at Rest Compensating Controls Data in Motion Incident Response Data in Process Incident Response Measures **End Point Systems** Alternate Site and Disaster Recovery

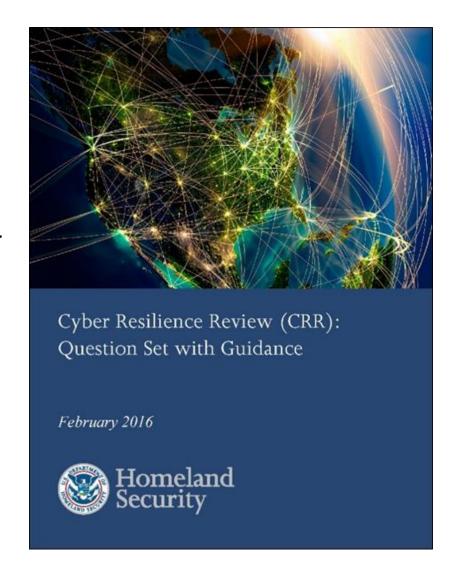


Example CIS Dashboard



Cyber Resilience Review (CRR)

- Purpose: The CRR is an assessment intended to evaluate an organization's operational resilience and cybersecurity practices of its critical services
- Time to Complete: ~6-8 hours
- Delivery: Facilitated by a CISA Cybersecurity Advisor (CSA)
- Goal: Helps partners understand and measure cyber security capabilities as they relate to operational resilience and cyber risk
 - Evaluates the maturity of an organization's capacities and capabilities in performing, planning, managing, measuring, and defining cybersecurity capabilities
 - Based on the CERT ® Resilience Management Model (CERT® RMM)



Cyber Resilience Review (CRR) | Domains

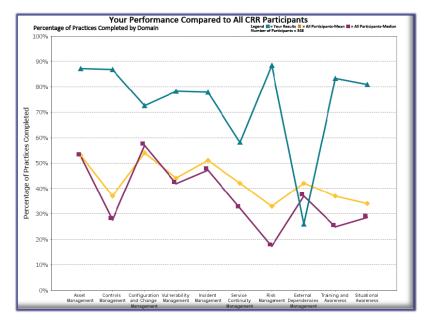
These represent key areas that typically contribute to an organization's cyber resilience— each domain focuses on:

- Documentation in place, and periodically reviewed & updated
- Communication and notification to all those who need to know
- Execution/Implementation & analysis in a consistent, repeatable manner
- Alignment of goals and practices within and across CRR domains

AM	Asset Management identify, document, and manage assets during their life cycle		Service Continuity Management ensure continuity of IT operations in the event of disruptions	
CCM	Configuration and Change Management ensure the integrity of IT systems and networks		Risk Management identify, analyze, and mitigate risks to services and IT assets	
CNTL	Controls Management identify, analyze, and manage IT and security controls	EXD	External Dependency Management manage IT, security, contractual, and organizational controls that are dependent on the actions of external entities	
NM	Vulnerability Management identify, analyze, and manage vulnerabilities		Training and Awareness promote awareness and develop skills and knowledge	
IM	Incident Management identify and analyze IT events, detect cyber security incidents, and determine an organizational response	SA	Situational Awareness actively discover and analyze information related to immediate operational stability and security	



Benefits of CRR

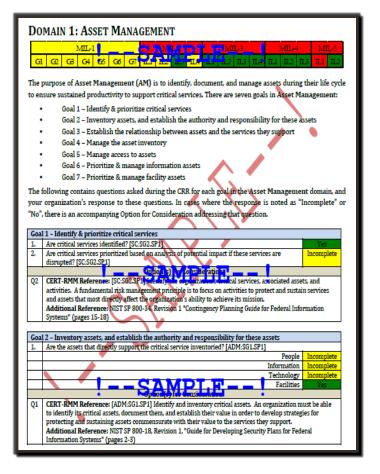


Comparison data with other CRR participants



A summary "snapshot" graphic, related to the **NIST Cyber Security Framework**.

Domain performance of existing cybersecurity capability and options for consideration for all responses





CRR Mappings to Other Frameworks

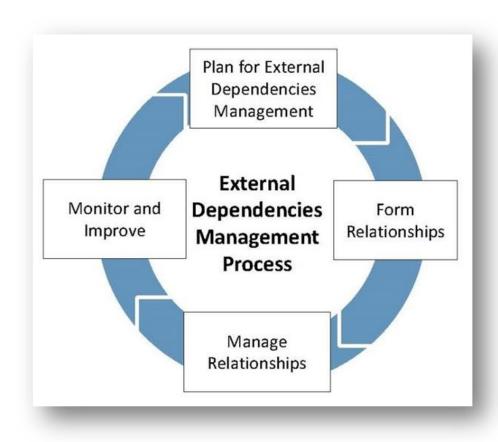
The Cyber Resilience Review has been mapped to:

- NIST Cybersecurity Framework (CSF)
- Health Insurance Portability and Accountability Act (HIPAA) Security Rule
- Federal Financial Institutions Examination Council's (FFIEC) Cybersecurity Assessment Tool (CAT)
- NIST Special Pub 800-53 rev 4 (This mapping has not yet been published)

Most Cybersecurity Frameworks are being mapped to the NIST Cybersecurity Framework as a result that mapping can be used to indirectly map them to the CRR



External Dependency Management (EDM)



EDM process outlined in the External Dependencies Management Resource Guide



- **Purpose**: The EDM is an interview-based assessment of the management activities and practices utilized to identify, analyze, and reduce risks arising from third parties.
- **Time to Complete**: ~3-4 hours
- Delivery: Facilitated by a CISA Cybersecurity Advisor (CSA)
- Benefits:
 - essential external dependency cybersecurity capabilities and behaviors to provide meaningful indicators of an organization's resilience during normal operations and during times of operational stress.
 - Provides comparative data across each domain.

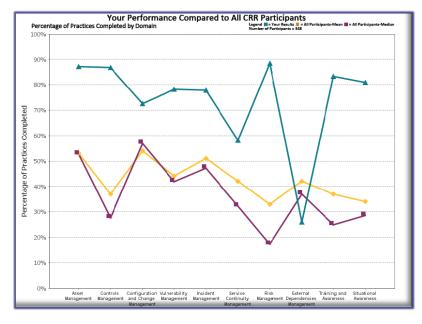
External Dependency Management (EDM)

To provide the organization with an understandable and useful structure for the evaluation, the EDM Assessment is divided into three distinct areas (domains):

- 1. RELATIONSHIP FORMATION how the organization considers third party risks, selects external entities, and forms relationships with them so that risk is managed from the start
- 2. RELATIONSHIP MANAGEMENT AND GOVERNANCE how the organization manages ongoing relationships with external entities to support and strengthen its critical services at a managed level of risk and cost
- 3. SERVICE PROTECTION AND SUSTAINMENT how the organization plans for, anticipates, and manages disruption or incidents related to external entities



Benefits of EDM

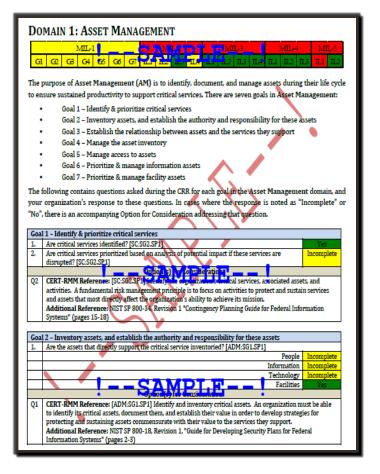


Comparison data with other EDM participants



A summary "snapshot" graphic, related to the **NIST Cyber Security Framework**.

Domain performance of existing cybersecurity capability and options for consideration for all responses





Cybersecurity Workshops & Exercises



Cyber Resilience Workshop (CRW)

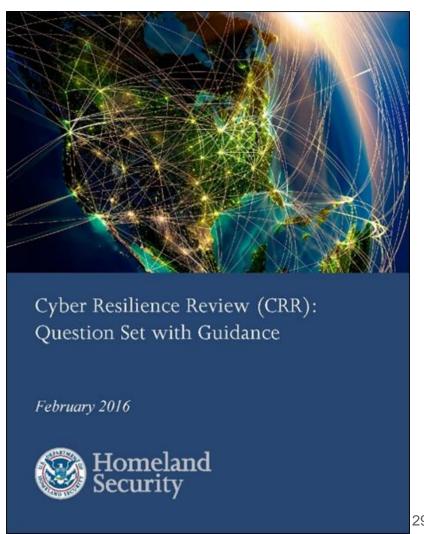
Description: A 2-hour or 4-hour non-technical and informative session designed to help organizations understand cyber resilience concepts and ways to improve management of cyber resilience.

Goal: The goal of the workshop is to provide your organization with tangible takeaway information related to risk-based decision making and security planning for critical services.

Audience: Organizations that want to learn about an approach to developing repeatable cybersecurity capabilities and practices to protect and sustain their organization's operating environment.

Format:





Incident Management Workshop (IMW)

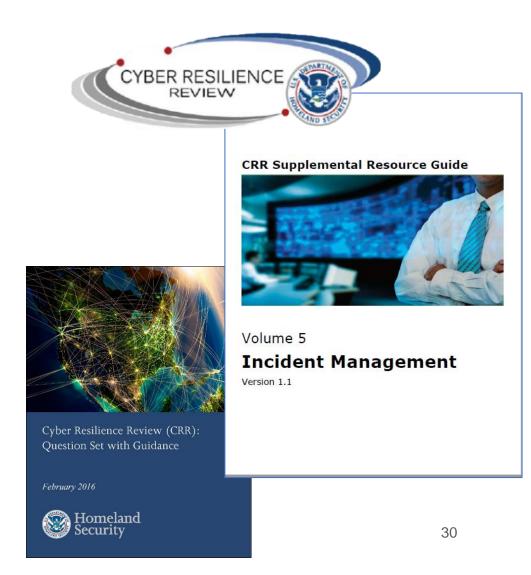
Description: A 2-hour non-technical and informative session designed to help organizations understand incident management concepts, key elements, planning and implementation.

Goal: The goal of the workshop is to provide organizations with tangible, useful takeaway information on how to manage cybersecurity incidents effectively and, ultimately, achieve operational resilience.

Audience: Organizations that want to learn about an approach to developing a cyber incident management capability.

Format:





Vulnerability Management Workshop (VMW)

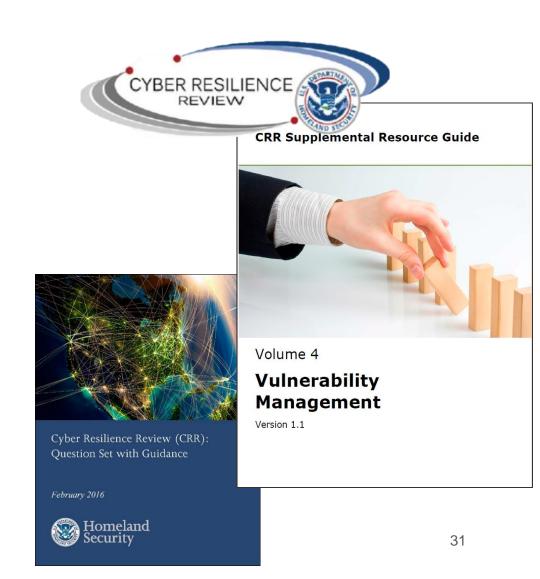
Description: A 2-hour non-technical and informative session designed to help organizations understand vulnerability management concepts, key elements, planning and implementation.

Goal: The goal of the workshop is to provide your organization with tangible takeaway information on how to manage cybersecurity vulnerabilities effectively and ultimately achieve operational resilience.

Audience: Organizations that want to learn about an approach to developing a cyber vulnerability management program to identify, analyze, and manage vulnerabilities in their operating environment.

Format:





Facilitated Cyber Exercise (FCE)

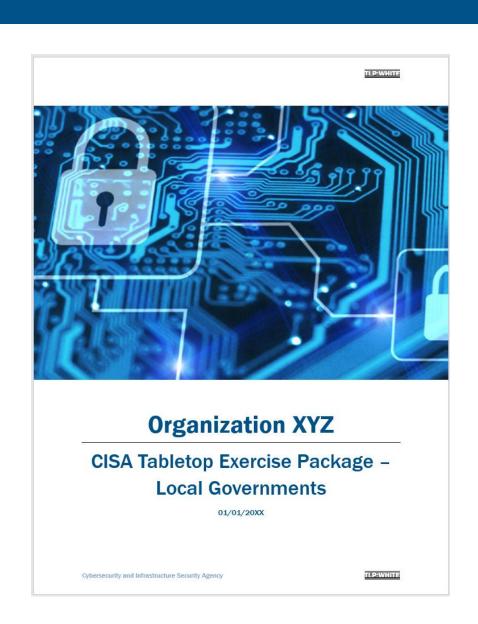
Description: A 2-hour or 4-hour non-technical facilitated cybersecurity tabletop exercise, where organizations are presented with a cyber threat-based scenario and are challenged to consider how their organization would respond, based on existing incident response plans.

Goal: The goal of the workshop is to provide organizations an opportunity to assess their level of readiness to respond to and recover from a cybersecurity incident impacting their operating environment.

Audience: Organizations that want to assess their level of readiness to respond to and recover from a cybersecurity incident.

Format:





National Resources



Cyber Hygiene Services



Vulnerability Scanning Service (CyHy)

Assess Internet accessible systems for known vulnerabilities and configuration errors

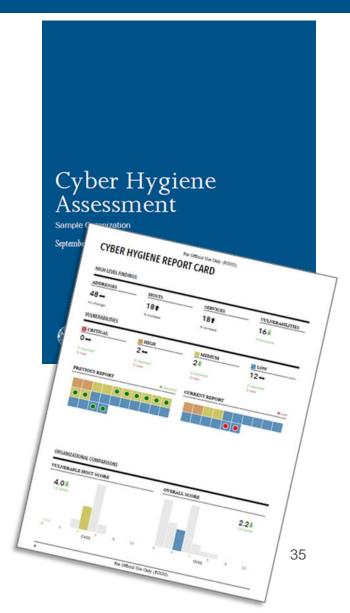
Work with organization to proactively mitigate threats and risks to systems

Activities include:

- Network Mapping
 - Identify public IP address space
 - Identify hosts that are active on IP address space
 - Determine the O/S and Services running
 - Re-run scans to determine any changes
 - Graphically represent address space on a map
- Network Vulnerability & Configuration Scanning
 - Identify network vulnerabilities and weakness



Contact <u>vulnerability@cisa.dhs.gov</u> to get started.



Known Exploited Vulnerabilities Catalog

Show 10	∨ entries					Search	h:
CVE \$	Vendor/Project 🏺	Product \$	Vulnerability Name	Date Added to Catalog	Short Description	Action	Due Potes Date
CVE- 2022- 0847	Linux	Kernel	Linux Kernel Privilege Escalation Vulnerability	2022-04-25	Linux kernel contains an improper initialization vulnerability where an unprivileged local user could escalate their privileges on the system. This vulnerability has the moniker of "Dirty Pipe."	Apply updates per vendor instructions.	2022-05-16
CVE- 2021- 41357	Microsoft	Win32k	Microsoft Win32k Privilege Escalation Vulnerability	2022-04-25	Microsoft Win32k contains an unspecified vulnerability that allows for privilege escalation.	Apply updates per vendor instructions.	2022-05-16
CVE- 2021- 40450	Microsoft	Win32k	Microsoft Win32k Privilege Escalation Vulnerability	2022-04-25	Microsoft Win32k contains an unspecified vulnerability that allows for privilege escalation.	Apply updates per vendor instructions.	2022-05-16
CVE- 2019- 1003029	Jenkins	Script Security Plugin	Jenkins Script Security Plugin Sandbox Bypass Vulnerability	2022-04-25	Jenkins Script Security Plugin contains a protection mechanism failure, allowing an attacker to bypass the sandbox.	Apply updates per vendor instructions.	2022-05-16



Information Sharing



Automated Indicator Sharing (AIS)

- Automated Indicator Sharing (AIS): Rapid and wide sharing of machine-readable cyber threat indicators and defensive measures at machine-speed for network defense purposes
- AIS is about volume and velocity of sharing indicators, not human validation.





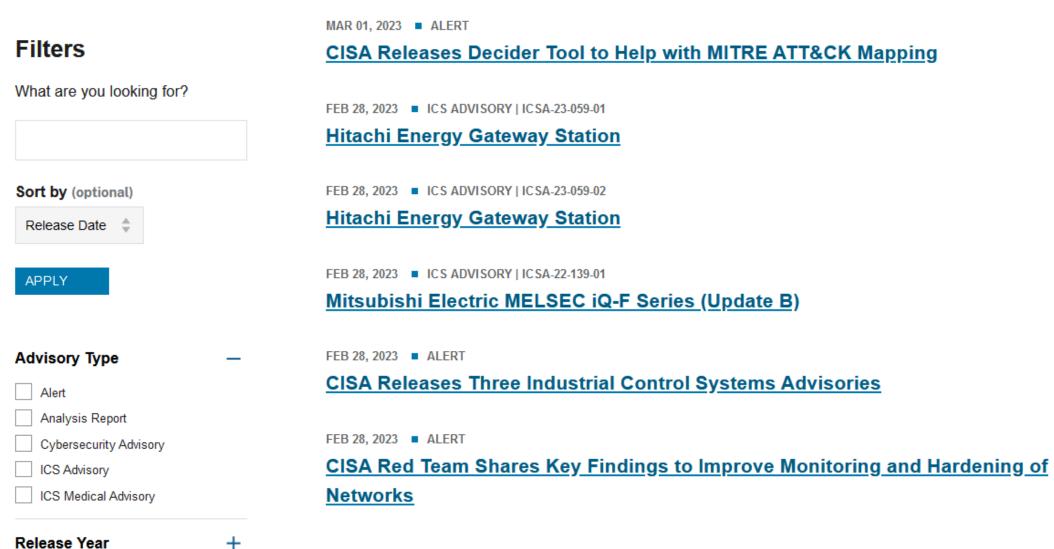
Multi-State ISAC



- The MS-ISAC is designated by the U.S. Department of Homeland Security as the focal point for cyber threat prevention, protection, response and recovery for the nation's state, local, tribal and territorial (SLTT) governments including chief information security officers, homeland security advisors and fusion centers.
- Includes representatives from all 50 states, U.S. territories, hundreds of local governments (including all 50 state capital cities), and tribal governments.
- Operates a 24-hour Integrated Intelligence Center that provides real-time network monitoring, early cyber threat warnings and advisories, vulnerability identification and mitigation and incident response for the nation's SLTT governments.



Cybersecurity Alerts & Advisories



Cybersecurity Education & Training Resources



Federal Virtual Training Environment (FedVTE)

Cyber professionals can continue to improve their skills through hands-on training opportunities.

FedVTE is an online, on-demand training center that provides free cybersecurity training for federal, state, local, tribal, and territorial government employees and to U.S. veterans.

Example Content:

- Cloud Computing Security
- Cloud Security What Leaders Need to Know
- Cryptocurrency for Law Enforcement for the Public
- Cyber Supply Chain Risk Management for the Public
- Cyber-essentials
- Understanding DNS Attack
- Understanding Web and Email Server Security

- Don't Wake Up to a Ransomware Attack
- Foundations of Cybersecurity for Managers
- Fundamentals of Cyber Risk Management
- Introduction to Cyber Intelligence
- Securing Internet-Accessible Systems
- 101 Coding for the Public
- 101 Reverse Engineering for the Public





ICS Training Opportunities

ICS-CERT Virtual Learning Portal (VLP)

Virtual & Instructor Led Training; No Cost

Courses:

- Introduction to Control Systems Cybersecurity (101) 8 hrs
- Intermediate Cybersecurity for Industrial Control Systems (201) 8 hrs
- Intermediate Cybersecurity for Industrial Control Systems (202) 8 hrs
- ICS Cybersecurity (301V) 12 hrs
- ICS Cybersecurity (301L) 5 days
- ICS Cybersecurity (401) 5 days





IMR Training Series

The Identify, Mitigate, and Recover (IMR) incident response curriculum provides a range of training offerings encompassing cybersecurity awareness and best practices for organizations, live red/blue team network defense demonstrations emulating real-time incident response scenarios, and hands-on cyber range training courses for incident response practitioners.



Topics for Awareness Webinars & Cyber Range Training:

- Ransomware
- Cloud Security
- Business Email Compromise
- Vulnerabilities of Internet-Accessible Systems
- Web and Email Server Attacks
- DNS Infrastructure Attacks
- High Value Assets/Critical Assets
- Indicators of Compromise
- Incident Analysis with tool demo
- Investigating logs for incidents

Topics for Cyber Range Challenges & Observe the Attack Series:

- Ransomware
- Cloud Security
- Business Email Compromise

For more info: education@cisa.dhs.gov
Or visit: https://www.cisa.gov/incident-response-training

Cybersecurity Incident Reporting



Phishing and Incident Reporting / Malware Analysis

24x7 contact number: 888-282-0870 | central@cisa.dhs.gov

Report Phishing to: phishing-report@us-cert.gov

CISA partners with the Anti-Phishing Working Group (APWG) to collect phishing email messages and website locations to help people avoid becoming victims of phishing scams.

Where/How/When to Report Incidents: https://www.cisa.gov/forms/report

If there is a suspected or confirmed cyber attack or incident that affects core government or critical infrastructure functions and/or results in the loss of data, system availability or control of systems.

Advanced Malware Analysis Center: https://malware.us-cert.gov

Provides 24x7 dynamic analyses of malicious code. Stakeholders submit samples via an online website and receive a technical document outlining the results of the analysis. Experts will detail recommendations for malware removal and recovery activities.



Next Steps: Cybersecurity Partnership Formation



Next Steps: Cybersecurity Partnership Formation

Would you like to partners with CISA and leverage our no-cost cybersecurity assessments, workshops, education, training, and information sharing resources?

Next Steps:

- 1. Visit https://www.cisa.gov/cisa-regions;
- 2. Identify your region (Texas is in Region 6); and
- Request to speak/meet with your Cybersecurity State
 Coordinator (CSC) or Cybersecurity Advisor (CSA) to discuss
 cybersecurity partnership opportunities.





Region 6 Office: CISARegion 6 @hq.dhs.gov

Cybersecurity State Coordinator of Texas: ernesto.ballesteros@cisa.dhs.gov



CISA REGION 6

Ernesto Ballesteros, JD, MS, CISSP, CISA, Security+

Cybersecurity State Coordinator of Texas (Region 6)
Cybersecurity & Infrastructure Security Agency

EMAIL: <u>ernesto.ballesteros@cisa.dhs.gov</u>

CELL: (210) 202-6646

CISA Region 6 Offices

Central@cisa.dhs.gov

CISA CENTRAL - 24/7 Watch

(888) 282-0870; Central@cisa.dhs.gov

FBI's 24/7 Cyber Watch (CyWatch)

(855) 292-3937; CyWatch@fbi.gov



