Are You Vulnerable?

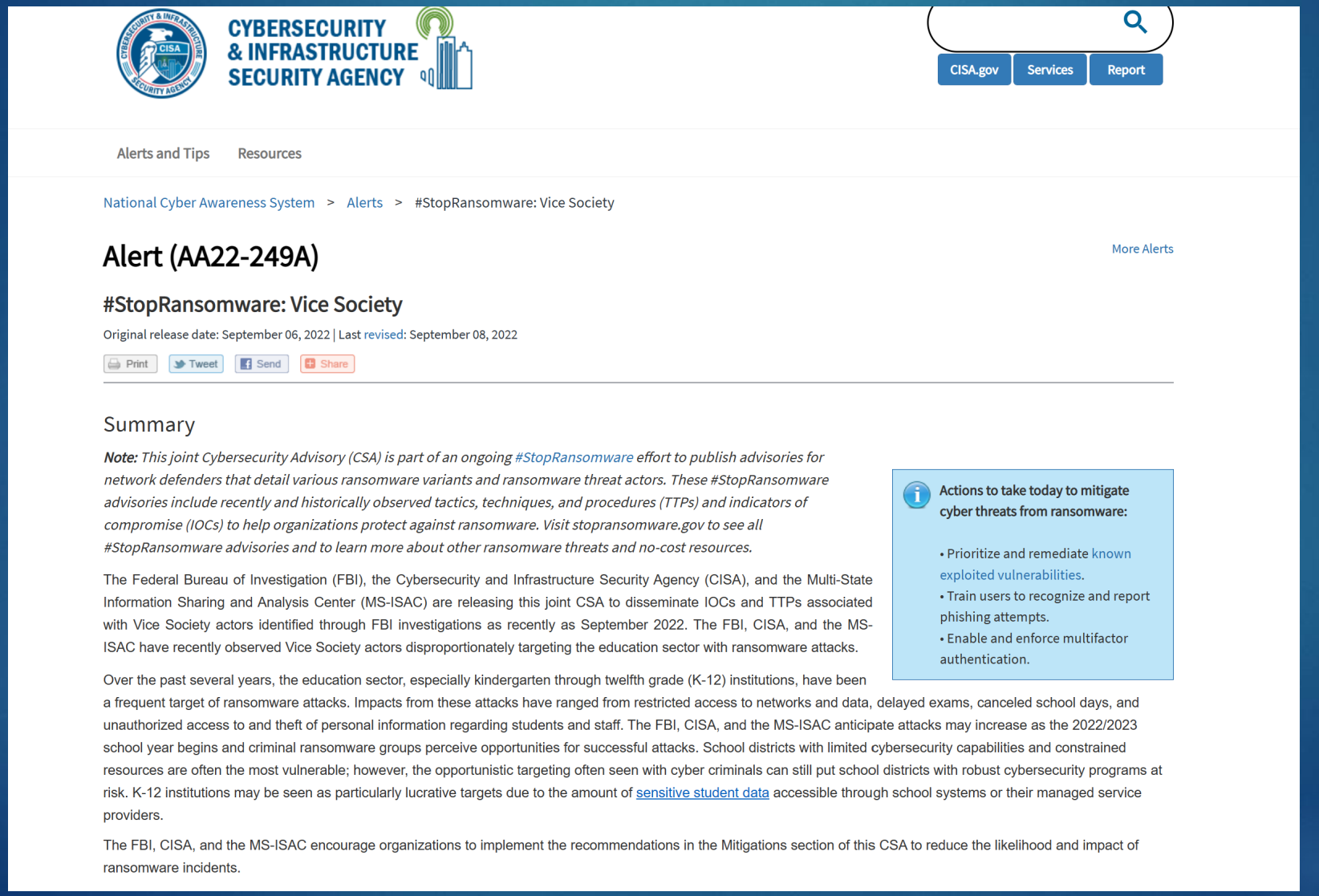
SECURING YOUR NETWORK AND DEVICES THROUGH VULNERABILITY MANAGEMENT

RAY KASE, PRINCIPAL CONSULTANT – K12 TECH SOLUTIONS, LLC

K12 TECH SOLUTIONS

You Are a Target

The Current Landscape



CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY

CISA.gov | Services | Report

Alerts and Tips | Resources

National Cyber Awareness System > Alerts > #StopRansomware: Vice Society

Alert (AA22-249A)

More Alerts

#StopRansomware: Vice Society

Original release date: September 06, 2022 | Last revised: September 08, 2022

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Summary

Note: *This joint Cybersecurity Advisory (CSA) is part of an ongoing #StopRansomware effort to publish advisories for network defenders that detail various ransomware variants and ransomware threat actors. These #StopRansomware advisories include recently and historically observed tactics, techniques, and procedures (TTPs) and indicators of compromise (IOCs) to help organizations protect against ransomware. Visit stopransomware.gov to see all #StopRansomware advisories and to learn more about other ransomware threats and no-cost resources.*

Actions to take today to mitigate cyber threats from ransomware:

- Prioritize and remediate known exploited vulnerabilities.
- Train users to recognize and report phishing attempts.
- Enable and enforce multifactor authentication.

The Federal Bureau of Investigation (FBI), the Cybersecurity and Infrastructure Security Agency (CISA), and the Multi-State Information Sharing and Analysis Center (MS-ISAC) are releasing this joint CSA to disseminate IOCs and TTPs associated with Vice Society actors identified through FBI investigations as recently as September 2022. The FBI, CISA, and the MS-ISAC have recently observed Vice Society actors disproportionately targeting the education sector with ransomware attacks.

Over the past several years, the education sector, especially kindergarten through twelfth grade (K-12) institutions, have been a frequent target of ransomware attacks. Impacts from these attacks have ranged from restricted access to networks and data, delayed exams, canceled school days, and unauthorized access to and theft of personal information regarding students and staff. The FBI, CISA, and the MS-ISAC anticipate attacks may increase as the 2022/2023 school year begins and criminal ransomware groups perceive opportunities for successful attacks. School districts with limited cybersecurity capabilities and constrained resources are often the most vulnerable; however, the opportunistic targeting often seen with cyber criminals can still put school districts with robust cybersecurity programs at risk. K-12 institutions may be seen as particularly lucrative targets due to the amount of sensitive student data accessible through school systems or their managed service providers.

The FBI, CISA, and the MS-ISAC encourage organizations to implement the recommendations in the Mitigations section of this CSA to reduce the likelihood and impact of ransomware incidents.

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Over the past several years, the education sector, especially kindergarten through twelfth grade (K-12) institutions, have been a frequent target of ransomware attacks. Impacts from these attacks have ranged from restricted access to networks and data, delayed exams, canceled school days, and unauthorized access to and theft of personal information regarding students and staff. **The FBI, CISA, and the MS-ISAC anticipate attacks may increase as the 2022/2023 school year begins and criminal ransomware groups perceive opportunities for successful attacks**. School districts with limited cybersecurity capabilities and constrained resources are often the most vulnerable; however, the opportunistic targeting often seen with cyber criminals can still put school districts with robust cybersecurity programs at risk. K-12 institutions may be seen as particularly lucrative targets due to the amount of sensitive student data accessible through school systems or their managed service providers.

providers.

The FBI, CISA, and the MS-ISAC encourage organizations to implement the recommendations in the Mitigations section of this CSA to reduce the likelihood and impact of ransomware incidents.

Roadmap

- Inside Out
- Outside In
- Q & A

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570-209-9486

Intro

- About Me
  - 20 Years as Director/CIO in K-12 and Local Government
  - My Company: K12 Tech Solutions, LLC
    - E-Rate RFPs
    - On-Prem Infrastructure (Windows/AD/Hyper-V/SCCM)
    - Cloud (M365/Azure/Service Migrations/Intune/Teams)
    - Security (Vulnerability Management/L1-L3 Assessments)
    - Department Analysis (Staffing/Service Delivery)

    - ray@k12techsolutions.net / 570-209-9486 / https://k12techsolutions.net/services

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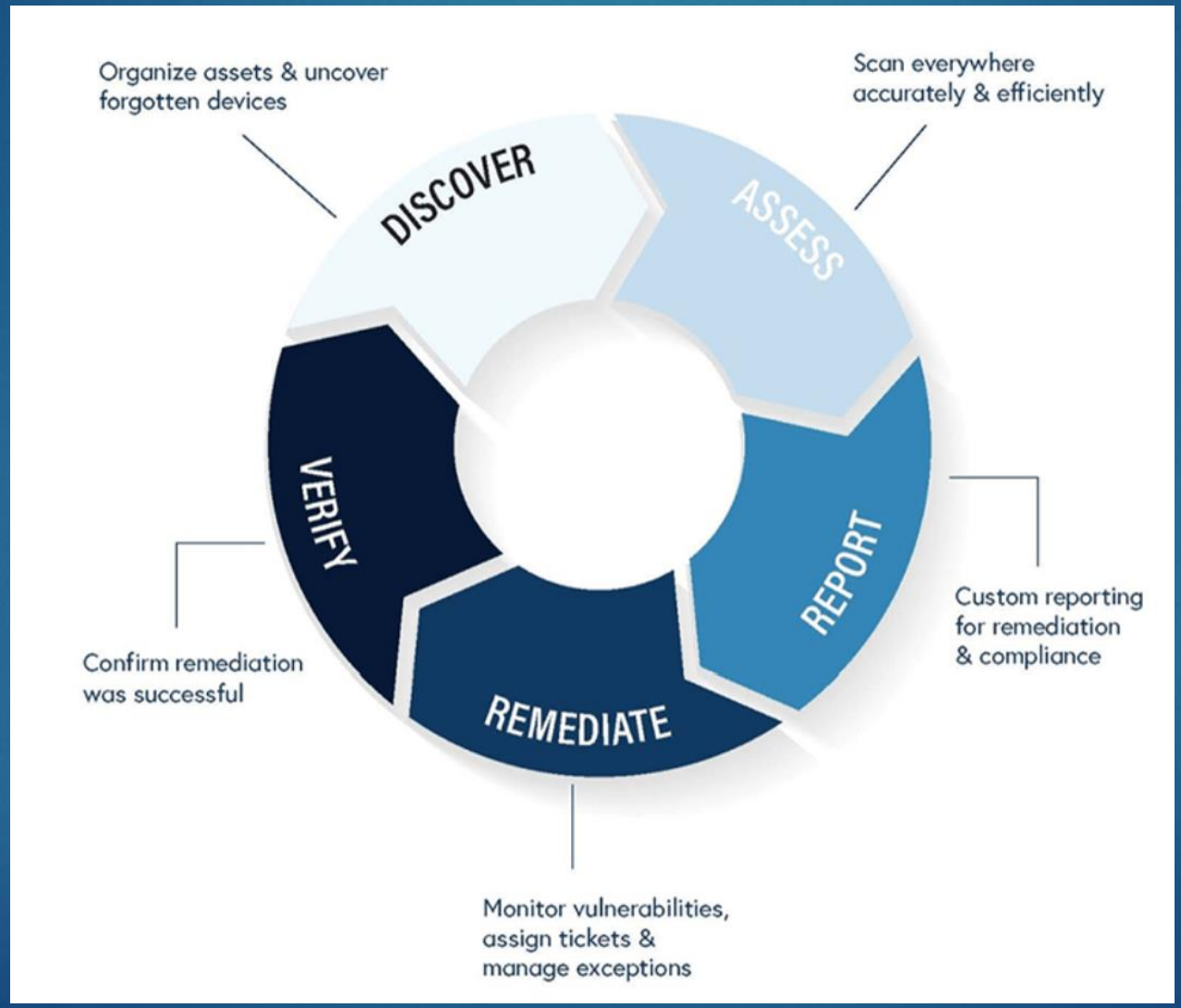
Vulnerability Management



Inside Out

- Security is at the perimeter, right?
- My firewall protects me from all vulnerabilities, right?
- I can put standard images on the network with Windows Updates and GPOs fixing everything, right?

Inside Out

- Deploying Images (Traditional Method)
  - Download Image
  - Install Image
  - Run Windows Update
  - Get GPOs When Connected to Network
  - Lather, Rinse, Repeat
- If there is an active threat on your network, your image could be compromised while connecting it to your network!

Inside Out

- Device Vulnerability Management
  - Devices
    - Pre-Deployment Image Hardening
      - Fix Known Problems BEFORE Deployment

Is Your "Golden Image" Really Golden?

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Inside Out

- Slipstreaming Your WIM or ISO
  - To slipstream means to integrate various patches and service packs into the installation files of the original software such that **installing the software also installs all updates automatically.**
    - Methods
      - Powershell
      - SCCM (MEMCM)
      - NTLite Making the Best Windows ISO – YouTube , NTLite Guide (christitus.com)
      - **Needs to be done constantly!**

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Inside Out

- DISA
  - The Defense Information Systems Agency (DISA) is part of the US Department of Defense. It is a support agency that focuses on maintaining the IT services and infrastructure of the Department of Defense Information Networks (DoDIN). DISA provides IT and communications systems to all parts of the defense network, whether for combat or non-combat operations. The DoD relies on its IT systems and networks to operate effectively. ***A major focus for DISA is making the DoD network secure and resilient against cybersecurity threats and possible risks. It achieves this aim by focusing on infrastructure and network security, and strengthening cybersecurity measures, including boundary defense and endpoint security.***

Inside Out

- NIWC
  - **Naval Information Warfare Center (NIWC) Atlantic** provides systems engineering and acquisition to deliver information warfare capabilities to the naval, joint and national warfighter through the acquisition, development, integration, production, test, deployment and sustainment of interoperable command, control, communications, computer, intelligence, surveillance and reconnaissance, cyber and information technology capabilities.

Inside Out

- Hardening Your OS Install
  - SCAP (NIWC - **Security Content Automation Protocol)**
    - SCAP - Simply put, SCAP lets security administrators scan computers, software, and other devices based on a ***predetermined security baseline***. It lets the organization know if it's using the right configuration and software patches for best security practices. SCAP's suite of specifications ***standardizes all the different terminology and formats***, taking the confusion out of keeping organizations secure.

Inside Out

- Hardening Your OS Install
  - STIGs - DISA
    - STIGs - Security Technical Implementation Guides (STIGs) are configuration standards developed by the Defense Information Systems Agency (DISA). They are designed to make device hardware and software as secure as possible, safeguarding the Department of Defense (DoD) IT network and systems. Compliance with STIGs is a requirement for DoD agencies, or any organization that is a part of the DoD information networks (DoDIN). There are hundreds of STIGs designed for specific software, routers, operating systems and devices. DoD agencies may use off-the-shelf IT products within their network and infrastructure and STIGs ensure these products are as secure as possible, in contrast to the default vendor configurations that may favor usability over security. Security Technical Implementation Guides (STIGs) – DoD Cyber Exchange

Inside Out

- Tools
  - SCAP Compliance Checker (SCC) 5.6
  - SCAP – NIWC Atlantic (navy.mil)

SCAP Compliance Checker 5.6

File Options Results Help

Scan

1. Choose a scan type

Local Scan

2. Select Content

SCAP: 2 of 9 Enabled

Show Scan Output

3. Start Scan

Start Scan

View Results

Total Sessions: 4

New Sessions: 1

View Results

Content

Install | Refresh | Show All | >>

SCAP

Stream	Version	Date	SCAP	Installed
Windows				
Adobe_Acrobat_Reader_DC_Continuous_Track_STIG	002.002	2021-06-22	1.2	2023-01-12
Microsoft_Windows_11_STIG	001.001	2022-08-31	1.2	2023-01-12
MOZ_Firefox_Windows	006.003	2022-09-09	1.2	2023-01-12
MS_Dot_Net_Framework	002.001	2020-12-11	1.2	2023-01-12
MS_Edge_STIG	001.002	2022-09-09	1.2	2023-01-12
MS_Windows_10_STIG	002.006	2022-08-29	1.2	2023-01-12
Windows_Defender_Antivirus	002.003	2022-04-08	1.2	2023-01-12
Windows_Firewall_with_Advanced_Security	002.001	2021-10-15	1.2	2023-01-12
Windows_Server_2019_STIG	002.003	2022-09-06	1.2	2023-01-12

Content Details

Title

Datastream

Profile

Release Info

Date

OVAL Version

XML Validation

Digital Signature

Platform

Publisher

Description

Notice

Prose Reports | Tailoring

Computer Status | Stream Status | Current Stream

Log

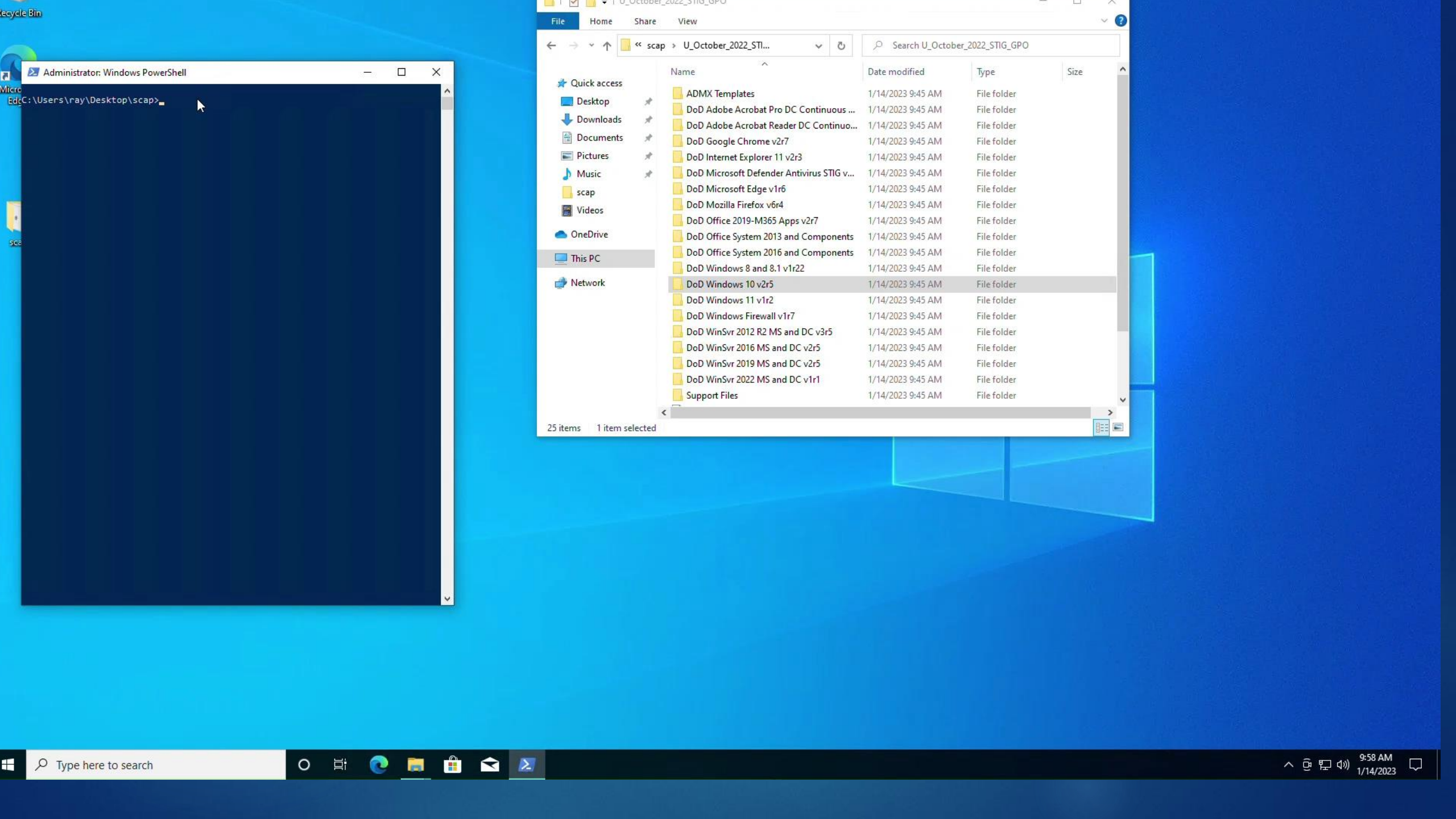
```
11:26:18: Content verification complete.
11:26:19: Checking for new/modified content, please wait...
11:26:19: Checking 0 SCAP 1.0/1.1 content streams from: C:\Program Files\SCAP Compliance Checker 5.6\Resources\Content\SCAP_Content\
11:26:19: Checking 11 SCAP 1.2 content streams from: C:\Program Files\SCAP Compliance Checker 5.6\Resources\Content\SCAP12_Content\
11:26:19: Checking 0 OVAL content files from C:\Program Files\SCAP Compliance Checker 5.6\Resources\Content\OVAL_Content\
11:26:19: Checking 0 OCIL content files from C:\Program Files\SCAP Compliance Checker 5.6\Resources\Content\OCIL_Content\
11:26:19: Content verification complete.
```

Inside Out

- OK, my image is RED. Now what?
  - You can inject GPOs into your image that will fix most of your problems.
  - These GPOs are provided by DISA for anyone to use.

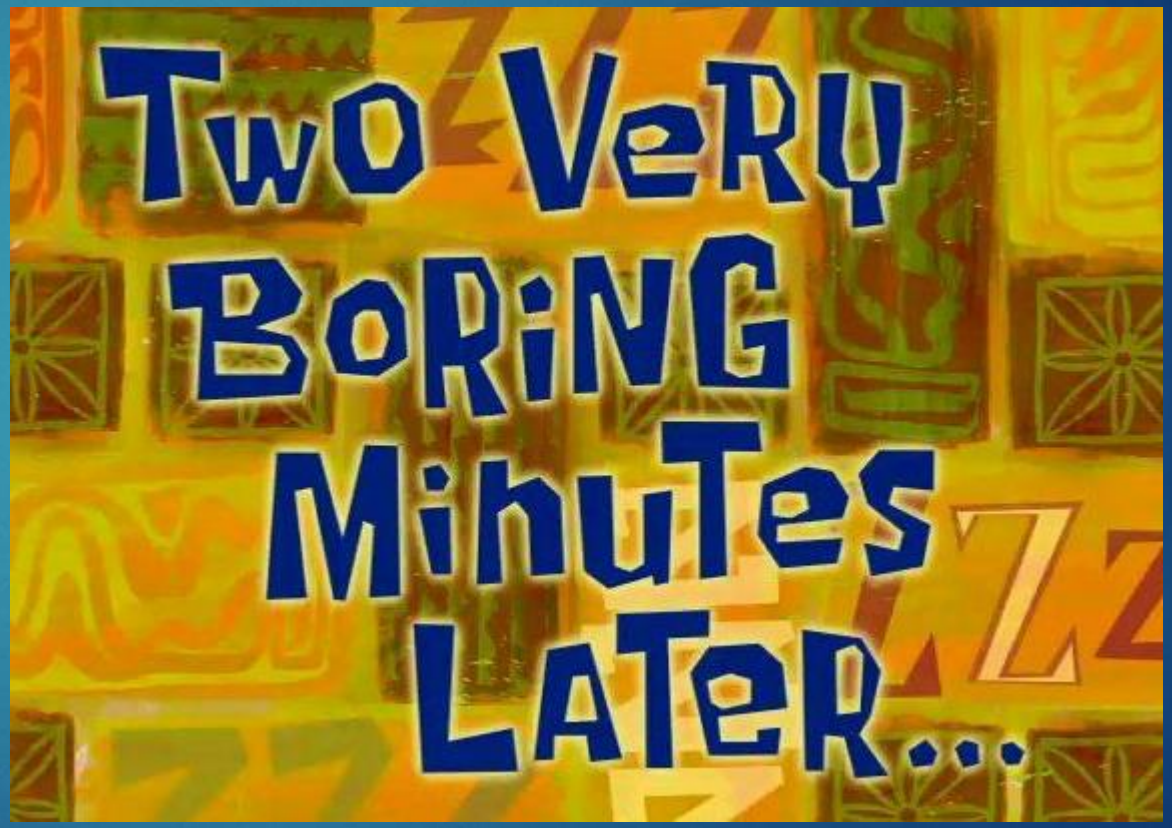
Inside Out

- Applying DISA GPOs
  - Download LGPO
    - LGPO.exe - Local Group Policy Object Utility, v1.0 - Microsoft Community Hub
- Download DISA GPOs
  - Group Policy Objects – DoD Cyber Exchange


Administrator: Windows PowerShell
C:\Users\ray\Desktop\scap>
File
Home
Share
View
scap
U_October_2022_STI...
Search U_October_2022_STIG_GPO
Quick access
Desktop
Downloads
Documents
Pictures
Music
scap
Videos
OneDrive
This PC
Network
Name
Date modified
Type
Size
ADMX Templates 1/14/2023 9:45 AM File folder
DoD Adobe Acrobat Pro DC Continuous ... 1/14/2023 9:45 AM File folder
DoD Adobe Acrobat Reader DC Continuo... 1/14/2023 9:45 AM File folder
DoD Google Chrome v2r7 1/14/2023 9:45 AM File folder
DoD Internet Explorer 11 v2r3 1/14/2023 9:45 AM File folder
DoD Microsoft Defender Antivirus STIG v... 1/14/2023 9:45 AM File folder
DoD Microsoft Edge v1r6 1/14/2023 9:45 AM File folder
DoD Mozilla Firefox v6r4 1/14/2023 9:45 AM File folder
DoD Office 2019-M365 Apps v2r7 1/14/2023 9:45 AM File folder
DoD Office System 2013 and Components 1/14/2023 9:45 AM File folder
DoD Office System 2016 and Components 1/14/2023 9:45 AM File folder
DoD Windows 8 and 8.1 v1r22 1/14/2023 9:45 AM File folder
DoD Windows 10 v2r5 1/14/2023 9:45 AM File folder
DoD Windows 11 v1r2 1/14/2023 9:45 AM File folder
DoD Windows Firewall v1r7 1/14/2023 9:45 AM File folder
DoD WinSvr 2012 R2 MS and DC v3r5 1/14/2023 9:45 AM File folder
DoD WinSvr 2016 MS and DC v2r5 1/14/2023 9:45 AM File folder
DoD WinSvr 2019 MS and DC v2r5 1/14/2023 9:45 AM File folder
DoD WinSvr 2022 MS and DC v1r1 1/14/2023 9:45 AM File folder
Support Files 1/14/2023 9:45 AM File folder
25 items
1 item selected
Type here to search
9:58 AM
1/14/2023

Inside Out

- One SCC scan later…



SCC Report Viewer [C:\Users\ray\SCC\Sessions\2023-01-14_102442\Results\SCAP\DESKTOP-Q1PNP69_SCC-5.6_2023-01-14_102442_All-Settings_Windows_10_STIG-002.005.html]

Navigation

Back | Forward | Reload

Search

find in report | < | > | Match Case | Whole Words | 0 of 0

All Settings Report - Windows_10_STIG

SCAP Compliance Checker - 5.6

Score

95.71%

Adjusted Score: 95.71%
Original Score: 95.71%
Compliance Status: GREEN

Pass:	201	Not Applicable:	0
Fail:	9	Not Checked:	0
Error:	0	Not Selected:	0
Unknown:	0	Informational:	0
Fixed:	0	Total:	210

BLUE:	Score equals 100
GREEN:	Score is greater than or equal to 90
YELLOW:	Score is greater than or equal to 80
RED:	Score is greater than or equal to 0

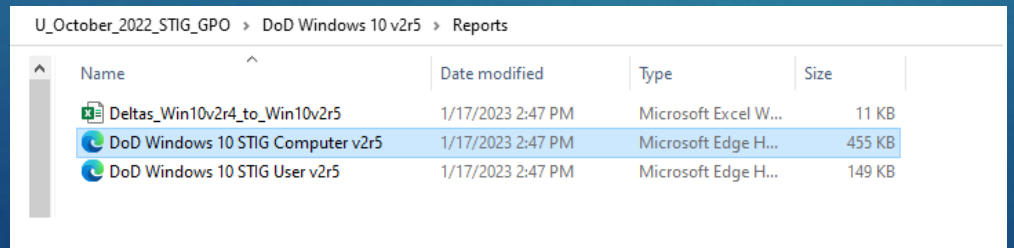
DONE!

System Information

Target Hostname:	DESKTOP-Q1PNP69
Operating System:	Microsoft Windows 10 Pro
OS Version:	21H1
Domain:	
FQDN:	DESKTOP-Q1PNP69.
Processor:	Intel(R) Xeon(R) CPU E5-2670 0 @ 2.60GHz
Processor Architecture:	Intel64 Family 6 Model 45 Stepping 7
Processor Speed:	2594 mhz
Physical Memory:	4136 mb
Manufacturer:	Microsoft Corporation
Model:	Virtual Machine
Serial Number:	3614-0863-8574-8849-6217-9738-94
BIOS Version:	Hyper-V UEFI Release v4.0

Inside Out

- You may lock yourself out of your image!
- You can reverse-engineer GPO changes with the included html report.



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Inside Out

DoD Windows 10 STIG User v2r5.htm

Inside Out

- Tools
  - A safer method…
  - STIGViewer SRG / STIG Tools – DoD Cyber Exchange

DISA STIG Viewer : 2.17 : STIG Explorer

File Export Checklist Options Help

STIG Explorer

STIGs

Filter on STIG name...

CK	Name
☑	Microsoft Windows 10 Security Technical Implementation Guide

Profile: No Profile

Filter Panel

Must match: All Any

Keyword | Enter filter keyword | Add

Inclusive (+) Filter Exclusive (-) Filter

+ / -	Keyword	Filter

No content in table

Remove Filter(s) Remove All Filters

Vul ID	Rule ID	Rule Name
V-220697	SV-220697r5691...	SRG-OS-000480-...
V-220698	SV-220698r5691...	SRG-OS-000480-...
V-220699	SV-220699r5691...	SRG-OS-000480-...
V-220700	SV-220700r5691...	SRG-OS-000480-...
V-220701	SV-220701r7931...	SRG-OS-000191-...
V-220702	SV-220702r8196...	SRG-OS-000185-...
V-220703	SV-220703r8196...	SRG-OS-000185-...
V-220704	SV-220704r8196...	SRG-OS-000185-...
V-220705	SV-220705r5691...	SRG-OS-000370-...
V-220706	SV-220706r8231...	SRG-OS-000480-...
V-220707	SV-220707r7931...	SRG-OS-000480-...
V-220708	SV-220708r5691...	SRG-OS-000080-...
V-220709	SV-220709r5691...	SRG-OS-000480-...
V-220710	SV-220710r5691...	SRG-OS-000138-...
V-220711	SV-220711r5691...	SRG-OS-000118-...
V-220712	SV-220712r5691...	SRG-OS-000324-...
V-220713	SV-220713r5691...	SRG-OS-000480-...
V-220714	SV-220714r5691...	SRG-OS-000095-...
V-220715	SV-220715r5691...	SRG-OS-000480-...
V-220716	SV-220716r5691...	SRG-OS-000076-...
V-220717	SV-220717r5691...	SRG-OS-000312-...
V-220718	SV-220718r5691...	SRG-OS-000095-...
V-220719	SV-220719r5691...	SRG-OS-000096-...
V-220720	SV-220720r5691...	SRG-OS-000095-...
V-220721	SV-220721r5691...	SRG-OS-000096-...
V-220722	SV-220722r5691...	SRG-OS-000096-...
V-220723	SV-220723r5691...	SRG-OS-000480-...
V-220724	SV-220724r5691...	SRG-OS-000480-...
V-220725	SV-220725r5691...	SRG-OS-000480-...
V-220726	SV-220726r5691...	SRG-OS-000433-...
V-220727	SV-220727r5691...	SRG-OS-000433-...
V-220728	SV-220728r5691...	SRG-OS-000095-...
V-220729	SV-220729r7931...	SRG-OS-000095-...
V-220730	SV-220730r7931...	SRG-OS-000095-...
V-220731	SV-220731r7931...	SRG-OS-000095-...

Showing rule 10 out of 257

Microsoft Windows 10 Security Technical Implementation Guide :: Version 2, Release: 4 Benchmark Date: 31 May 2022

Vul ID: V-220706 **Rule ID**: SV-220706r823104_rule **STIG ID**: WN10-00-000040

Severity: CAT I **Classification**: Unclass **Legacy IDs**: V-63349; SV-77839

Group Title: SRG-OS-000480-GPOS-00227

Rule Title: Windows 10 systems must be maintained at a supported servicing level.

Discussion: Windows 10 is maintained by Microsoft at servicing levels for specific periods of time to support Windows as a Service. Systems at unsupported servicing levels or releases will not receive security updates for new vulnerabilities, which leaves them subject to exploitation.

New versions with feature updates are planned to be released on a semi-annual basis with an estimated support timeframe of 18 to 30 months depending on the release. Support for previously released versions has been extended for Enterprise editions.

A separate servicing branch intended for special purpose systems is the Long-Term Servicing Channel (LTSC, formerly Branch - LTSB), which will receive security updates for 10 years but excludes feature updates.

Check Text: Run "winver.exe".

If the "About Windows" dialog box does not display the following or greater, this is a finding:

"Microsoft Windows Version 20H2 (OS Build 190xx.x)"

Note: Microsoft has extended support for previous versions, providing critical and important updates for Windows 10 Enterprise.

Microsoft scheduled end of support dates for current Semi-Annual Channel versions:

v1909 - 10 May 2022
v2004 - 14 December 2021
v20H2 – 9 May 2023
v21H1 -13 Dec 2022
v21H2 - 11 June 2024

No preview versions will be used in a production environment.

Special-purpose systems using the Long-Term Servicing Branch\Channel (LTSC\B) may be at the following versions, which is not a finding:

v1507 (Build 10240)
v1607 (Build 14393)
v1809 (Build 17763)
v21H2 (Build 19044)

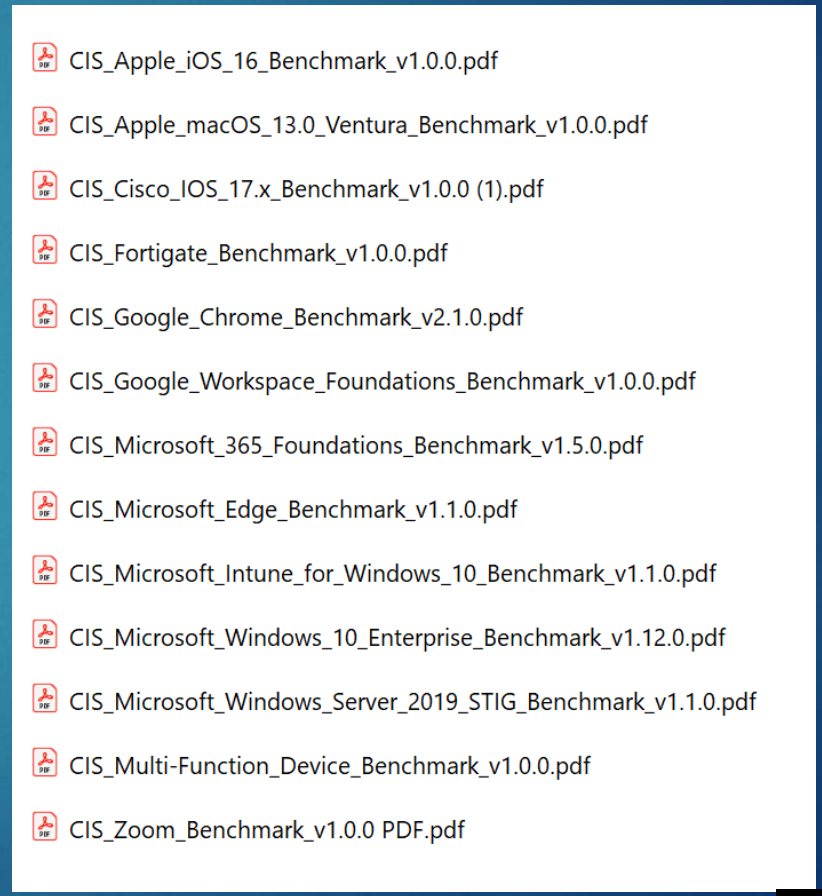
Fix Text: Update systems on the Semi-Annual Channel to "Microsoft Windows Version 20H2 (OS Build 190xx.x)" or greater.

Type here to search

ENG 2:19 PM 1/19/2023

Inside Out

- CIS Benchmarks
  - CIS Benchmarks (cisecurity.org)
  - FREE
  - Available for many devices and systems



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1.1.7 (L1) Ensure 'Store passwords using reversible encryption' is set to 'Disabled' (Automated)

Profile Applicability:

- Level 1 (L1) - Corporate/Enterprise Environment (general use)

Description:

This policy setting determines whether the operating system stores passwords in a way that uses reversible encryption, which provides support for application protocols that require knowledge of the user's password for authentication purposes. Passwords that are stored with reversible encryption are essentially the same as plaintext versions of the passwords.

The recommended state for this setting is: `Disabled`.

Note: Password Policy settings (section 1.1) and Account Lockout Policy settings (section 1.2) must be applied via the **Default Domain Policy** GPO in order to be globally in effect on **domain** user accounts as their default behavior. If these settings are configured in another GPO, they will only affect **local** user accounts on the computers that receive the GPO. However, custom exceptions to the default password policy and account lockout policy rules for specific domain users and/or groups can be defined using Password Settings Objects (PSOs), which are completely separate from Group Policy and most easily configured using Active Directory Administrative Center.

Rationale:

Enabling this policy setting allows the operating system to store passwords in a weaker format that is much more susceptible to compromise and weakens your system security.

Impact:

If your organization uses either the CHAP authentication protocol through remote access or IAS services or Digest Authentication in IIS, you must configure this policy setting to Enabled. This setting is extremely dangerous to apply through Group Policy on a user-by-user basis, because it requires the appropriate user account object to be opened in Active Directory Users and Computers.

Audit:

Navigate to the UI Path articulated in the Remediation section and confirm it is set as prescribed.

Remediation:

To establish the recommended configuration via GP, set the following UI path to `Disabled`:

```
Computer Configuration\Policies\Windows Settings\Security Settings\Account Policies\Password Policy\Store passwords using reversible encryption
```

Default Value:

Disabled.

References:

1. https://www.cisecurity.org/white-papers/cis-password-policy-guide/

CIS Controls:

Controls Version	Control	IG 1	IG 2	IG 3
v8	3.11 Encrypt Sensitive Data at Rest Encrypt sensitive data at rest on servers, applications, and databases containing sensitive data. Storage-layer encryption, also known as server-side encryption, meets the minimum requirement of this Safeguard. Additional encryption methods may include application-layer encryption, also known as client-side encryption, where access to the data storage device(s) does not permit access to the plain-text data.		●	●
v7	16.4 Encrypt or Hash all Authentication Credentials Encrypt or hash with a salt all authentication credentials when stored.		●	●

1.3.2 Set the 'banner-text' for 'banner login' (Automated)

Profile Applicability:

- Level 1

Description:

Follow the banner login command with one or more blank spaces and a delimiting character of your choice. Then enter one or more lines of text, terminating the message with the second occurrence of the delimiting character.

When a user connects to the router, the message-of-the-day (MOTD) banner (if configured) appears first, followed by the login banner and prompts. After the user successfully logs in to the router, the EXEC banner or incoming banner will be displayed, depending on the type of connection. For a reverse Telnet login, the incoming banner will be displayed. For all other connections, the router will display the EXEC banner.

Rationale:

"Network banners are electronic messages that provide notice of legal rights to users of computer networks. From a legal standpoint, banners have four primary functions.

- First, banners may be used to generate consent to real-time monitoring under Title III.
- Second, banners may be used to generate consent to the retrieval of stored files and records pursuant to ECPA.
- Third, in the case of government networks, banners may eliminate any Fourth Amendment "reasonable expectation of privacy" that government employees or other users might otherwise retain in their use of the government's network under O'Connor v. Ortega, 480 U.S. 709 (1987).
- Fourth, in the case of a non-government network, banners may establish a system administrator's "common authority" to consent to a law enforcement search pursuant to United States v. Matlock, 415 U.S. 164 (1974)." (US Department of Justice APPENDIX A: Sample Network Banner Language)

Impact:

Organizations provide appropriate legal notice(s) and warning(s) to persons accessing their networks by using a 'banner-text' for the banner login command.

Audit:

Perform the following to determine if the login banner is set:

```
hostname#show running-config | beg banner login
```

If the command does not return a result, the banner is not enabled.

Remediation:

Configure the device so a login banner presented to a user attempting to access the device.

```
hostname(config)#banner login c
Enter TEXT message. End with the character 'c'.
<banner-text>
c
```

Default Value:

No banner is set by default

References:

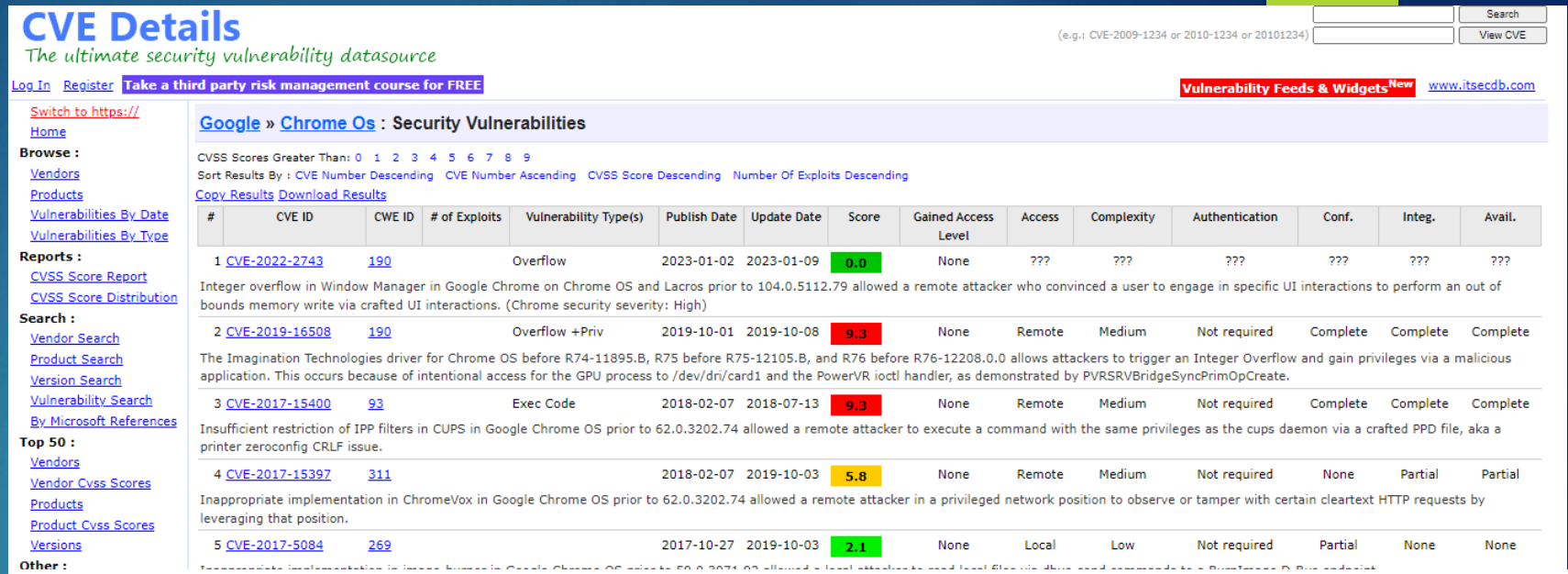
1. http://www.cisco.com/en/US/docs/ios-xml/ios/fundamentals/command/A_through_B.html#GUID-FF0B6890-85B8-4B6A-90DD-1B7140C5D22F

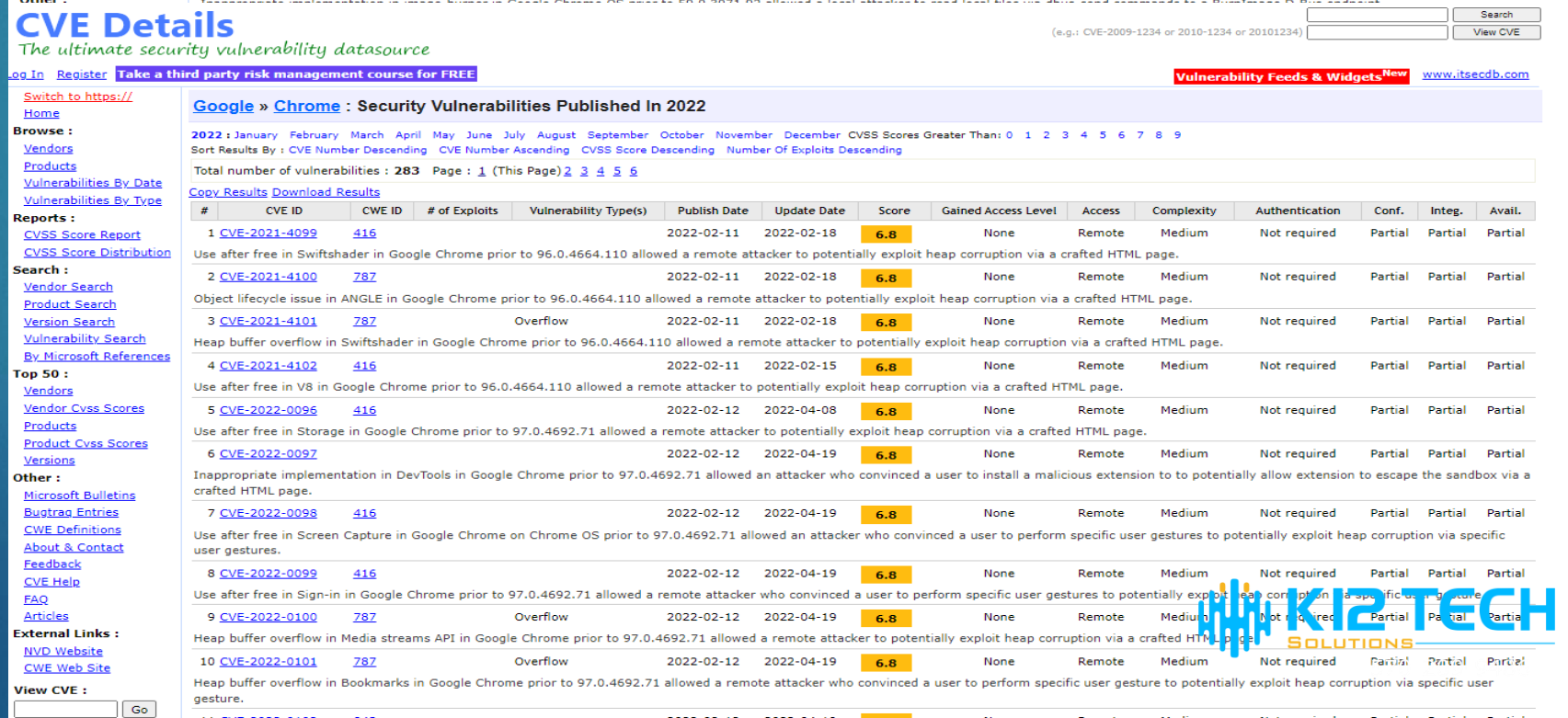
CIS Controls:

Controls Version	Control	IG 1	IG 2	IG 3
v8	14.1 Establish and Maintain a Security Awareness Program Establish and maintain a security awareness program. The purpose of a security awareness program is to educate the enterprise's workforce on how to interact with enterprise assets and data in a secure manner. Conduct training at hire and, at a minimum, annually. Review and update content annually, or when significant enterprise changes occur that could impact this Safeguard.	●	●	●
v7	17 Implement a Security Awareness and Training Program Implement a Security Awareness and Training Program			

Inside Out

- I have Chromebooks, so I don't have to worry about this stuff, right?
  - ***Wrong!***





Inside Out

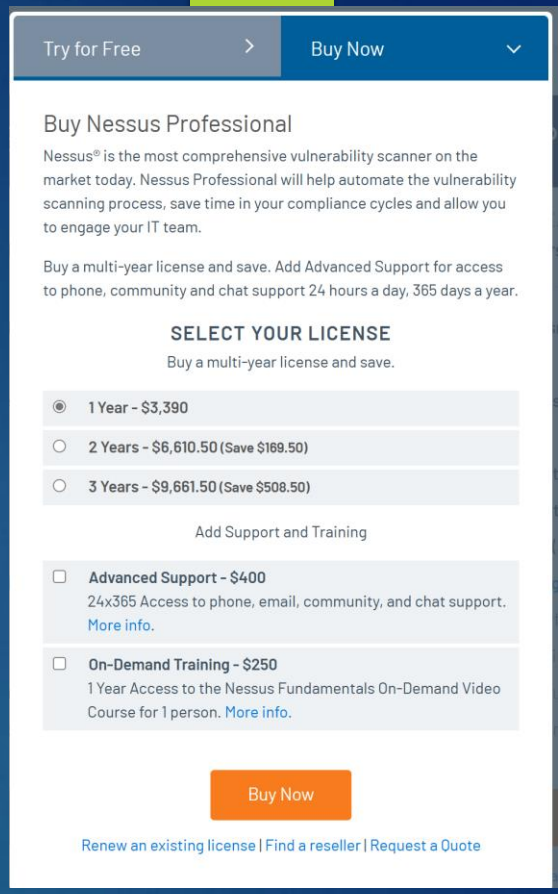
- Nessus Nessus
  - Free Community Version Limited to 16 IPs (good for POC)

Nessus Professional

IDEAL FOR

Consultants, Pen Testers and Security Practitioners

- ✓ **Unlimited IT assessments**
- ✓ **Use anywhere**
- ✓ **Configuration assessment**
- ✓ **Live results**
- ✓ **Configurable reports**
- ✓ **Community support**
- ✓ **Advanced support (available as an option)**
- ✓ **On-demand training available**



Scan Templates

‹ Back to Scans

Scanner

Search Library

DISCOVERY

Host Discovery
A simple scan to discover live hosts and open ports.

VULNERABILITIES

Basic Network Scan
A full system scan suitable for any host.

Advanced Scan
Configure a scan without using any recommendations.

Advanced Dynamic Scan
Configure a dynamic plugin scan without recommendations.

Malware Scan
Scan for malware on Windows and Unix systems.

UPGRADE
Mobile Device Scan
Assess mobile devices via Microsoft Exchange or an MDM.

Web Application Tests
Scan for published and unknown web vulnerabilities using Nessus Scanner.

Credentialed Patch Audit
Authenticate to hosts and enumerate missing updates.

Intel AMT Security Bypass
Remote and local checks for CVE-2017-5689.

Spectre and Meltdown
Remote and local checks for CVE-2017-5753, CVE-2017-5715, and CVE-2017-5754

WannaCry Ransomware
Remote and local checks for MS17-010.

Ripple20 Remote Scan
A remote scan to fingerprint hosts potentially running the Treck stack in the network.

Zerologon Remote Scan
A remote scan to detect Microsoft Netlogon Elevation of Privilege (Zerologon).

Solorigate
Remote and local checks to detect SolarWinds Solorigate vulnerabilities.

ProxyLogon : MS Exchange
Remote and local checks to detect Exchange vulnerabilities targeted by HAFNIUM.

PrintNightmare
Local checks to detect the PrintNightmare Vulnerability in Windows Print Spooler.

Active Directory Starter Scan
Look for misconfigurations in Active Directory.

Log4Shell
Detection of Apache Log4j CVE-2021-44228

Log4Shell Remote Checks
Detection of Apache Log4j CVE-2021-44228 via Remote Direct Checks

Log4Shell Vulnerability Ecosystem
Detection of Log4Shell Vulnerabilities

2021 Threat Landscape Retrospective (TLR)
A scan to detect vulnerabilities featured in our End of Year report.

CISA Alerts AA22-011A and AA22-047A
Detection of vulnerabilities from recent CISA alerts.

ContiLeaks
Detection of vulnerabilities revealed in the ContiLeaks chats.

Ransomware Ecosystem
Vulnerabilities used by ransomware groups and affiliates.

COMPLIANCE

UPGRADE
Audit Cloud Infrastructure
Audit the configuration of third-party cloud services.

UPGRADE
Internal PCI Network Scan
Perform an internal PCI DSS (11.2.1) vulnerability scan.

UPGRADE
MDM Config Audit
Audit the configuration of mobile device managers.

UPGRADE
Offline Config Audit
Audit the configuration of network devices.

UPGRADE
PCI Quarterly External Scan
Approved for quarterly external scanning as required by PCI.

UPGRADE
Policy Compliance Auditing
Audit system configurations against a known baseline.

UPGRADE
SCAP and OVAL Auditing
Audit systems using SCAP and OVAL definitions.

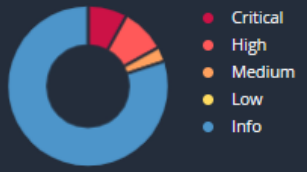
Vulnerabilities 79

Filter | Search Vulnerabilities | 79 Vulnerabilities

Sev	Score	Name	Family	Count
MIXED	...	Oracle JRE (Multiple Issues)	Windows	34
MIXED	...	Zoom (Multiple Issues)	Misc.	12
MIXED	...	Zoom (Multiple Issues)	Windows	7
MIXED	...	Google Chrome (Multiple Issues)	Windows	4
MIXED	...	Microsoft Internet Explorer (Multiple Issues)	Windows	3
MIXED	...	Mozilla Firefox (Multiple Issues)	Windows	2
HIGH	7.8	Security Updates for Sysinternals Sysmon (December 2022)	Windows : Microsoft Bulletins	1
HIGH	7.4	WinVerifyTrust Signature Validation CVE-2013-3900 Mitigation (EnableCertPaddingCheck)	Windows : Microsoft Bulletins	1
MIXED	...	Microsoft Windows (Multiple Issues)	Windows	106
MIXED	...	SSL (Multiple Issues)	General	11
MIXED	...	Wireshark (Multiple Issues)	Windows	8
HIGH	...	Microsoft .NET Core (Multiple Issues)	Windows : Microsoft Bulletins	3
MIXED	...	Microsoft Sysinternals Sysmon (Multiple Issues)	Windows	2
MEDIUM	5.3	SMB Signing not required	Misc.	1
MIXED	...	TLS (Multiple Issues)	Service detection	6
INFO	...	SMB (Multiple Issues)	Windows	18

OS: Microsoft Windows 10 Pro
Start: Today at 3:11 PM
End: Today at 3:45 PM
Elapsed: 34 minutes
KB: Download

Vulnerabilities



Inside Out

- Topics Not Covered
  - Active Directory Hardening and Monitoring
  - Cloud Service Hardening
  - Endpoint Protection (Virus)

Outside In

- Who's watching the front door?

Outside In

- Firewall(s) and Critical Devices
  - SIEM

    SIEM, pronounced “sim”, or “seem” combines both security information management (SIM) and security event management (SEM) into one security management system. SIEM technology collects event log data from a range of sources, identifies activity that deviates from the norm with real-time analysis, and takes appropriate action. In short, SIEM gives organizations visibility into activity within their network so they can respond swiftly to potential cyberattacks and meet compliance requirements.

Outside In

- SIEMonster
  - SIEMonster | Affordable Security Monitoring Software Solution
  - $584/month for up to 200 endpoints
  - FREE Community Version
- UTMStack
  - UTMStack | Next-Generation SIEM & Compliance Platform
- **Wazuh – FREE Platform**
  - **Open Source XDR + SIEM**
    - Wazuh · The Open Source Security Platform
      - **SCAP Integration**

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Outside In

- SOCaaS (Security Operations Center as a Service)

SOCaaS - Like a traditional, on-premises SOC, SOCaaS includes 24/7 monitoring, threat detection, prevention and analysis of your attack surface, including internet traffic, corporate networks, desktops, servers, endpoint devices, databases, applications, cloud infrastructure, firewalls, threat intelligence, intrusion prevention, and security information and event management (SIEM) systems.

Cyberthreats include ransomware, **denial of service** (DoS), **distributed denial of service** (DDoS), malware, **phishing**, **smishing**, insider threats, credential theft, zero days and more.

Outside In

- SOCaaS
  - MDR/EDR – Managed Detection and Response/Endpoint Detection and Response
    - MDR remotely monitors, detects, and responds to threats detected within your organization. An endpoint detection and response (EDR) tool typically provides the necessary visibility into security events on the endpoint.
    - Relevant threat intelligence, advanced analytics, and forensic data are passed to human analysts, who perform triage on alerts and determine the appropriate response to reduce the impact and risk of positive incidents. Finally, through a combination of human and machine capabilities, the threat is removed and the affected endpoint is restored to its pre-infected state.

- SOC-as-a-Service - Arctic Wolf
- SOC as a Service (SOCaaS) - Detect & Respond to Cyber Threats (clearnetwork.com)

Inside Out

- Vulnerability Assessment
  - Pennsylvania National Guard Defensive Cyber Operations Element (DCOE)
    - FREE Assessments available for Government and K-12
    - 5 day event
    - Long waiting list
    - Outstanding data to correct vulnerabilities
    - Uses many of the same tools that we are looking at today

PA Army National Guard | Defensive Cyber Operations Element

Protect & Defend · Detect & Analyze · Respond · Train · Partnerships & Integration

Who We Are

The DCOE is a Pennsylvania State first response asset. We provide surge capacity to national capabilities and focus on domestic cyber operations. We partner with local, state, and federal government organizations as well as academia, private industry, and international partners.

Our Mission

To conduct Defensive Cyberspace Operations – Internal defensive measures to secure the Department of Defense Information Network in Pennsylvania. On order, DCO-E's protect critical infrastructure and respond to State cyberspace emergencies as directed by The Adjutant General or Governor.

Our Team

DCO-E members are highly trained and technically qualified, possessing the skills and knowledge required by today's defensively-oriented cyber forces.

Mission Command

Team Chief

Deputy

Information Protection Leads

Sr. Protection Lead

Protection Lead

Information Systems Specialists

Systems Lead

Sr. Specialist

Sr. Specialist

Sr. Analyst

Jr. Specialist

Jr. Analyst

Services We Provide

Vulnerability Assessments

- ☑ *Network-based*
- ☑ *Host-based*
- ☑ *Wired & Wireless*
- ☑ *Application Scans*
- ☑ *Cloud & Vendor Services*
- ☑ *Mobile Devices & Apps*

Penetration Testing

- ☑ *External*
- ☑ *Internal*
- ☑ *Web Application*
- ☑ *Social Engineering*
- ☑ *Physical Security*
- ☑ *Mobile Devices & Apps*

Vulnerability Remediation Assistance

- ☑ *System STIG/SCAP Advisory*
- ☑ *Vulnerability Prioritization*
- ☑ *Key Vulnerability Patching*

Cyber Incident Response

- ☑ *Critical Service Restoration*
- ☑ *Digital Forensics*
- ☑ *Data Recovery*
- ☑ *Infrastructure Recovery*
- ☑ *Malware Advisory*
- ☑ *IDS Threat Monitoring*

General Cybersecurity Support

- ☑ *Defend the DODIN*
- ☑ *Election Support*
- ☑ *Cyber Exercise Development*
- ☑ *Cyber Community Outreach*
- ☑ *State Cyber Workgroups*
- ☑ *Miscellaneous SME Support*

Training Opportunities

- ☑ *Cybersecurity Awareness Training*
- ☑ *Cyber Exercise & Mission Partners*
- ☑ *Joint Cyber Training Facility at Fort Indiantown Gap*
- ☑ *Mobile Cyber Training Team*
- ☑ *Cyber Wi-Fighter Challenges*
- ☑ *SPP Missions*

Contact Us

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Links

- Slipstreaming Making the Best Windows ISO – YouTube , NTLite Guide (christitus.com)
- SCC 5.6 (SCAP Compliance Checker) SCAP – NIWC Atlantic (navy.mil)
- STIGViewer SRG / STIG Tools – DoD Cyber Exchange
- LGPO LGPO.exe - Local Group Policy Object Utility, v1.0 - Microsoft Community Hub
- DISA STIG GPOs Group Policy Objects – DoD Cyber Exchange
- CIS Benchmarks CIS Benchmarks (cisecurity.org)
- Nessus Nessus
- SIEM SIEMonster | Affordable Security Monitoring Software Solution, UTMStack | Next-Generation SIEM & Compliance Platform, Wazuh · The Open Source Security Platform
- SOCaaS SOC-as-a-Service - Arctic Wolf, SOC as a Service (SOCaaS) - Detect & Respond to Cyber Threats (clearnetwork.com)

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Thanks for coming. Please ask me anything!

You can get a copy of this presentation at:

https://k12techsolutions.net/contact-us

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