

Notification

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Summary

Description

This Malware Analysis Report (MAR) is the result of analytic efforts by the Cybersecurity and Infrastructure Security Agency (CISA). CISA processed three (3) files associated with a variant of DarkSide ransomware. NOTE: CISA has no evidence that this variant is related to the pipeline incident, referred to in Joint Cybersecurity Advisory AA21-131A: DarkSide Ransomware: Best Practices for Preventing Business Disruption from Ransomware Attacks.

Ransomware is designed to encrypt the victim's files to extort and ransom for their recovery. DarkSide is a ransomware-as-a-service (RaaS)—the developers of the ransomware received a share of the proceeds from the cybercriminal actors who deploy it, known as "affiliates." This DarkSide ransomware variant executes a dynamic-link library (DLL) program used to delete Volume Shadow copies available on the system. The malware collects, encrypts, and send system information to the threat actor's command and control (C2) domains and generates a ransom note to the victim.

CISA is distributing this MAR, which includes suggested response actions and recommended mitigation techniques, to help network defenders identify and mitigate risks.

For a downloadable copy of IOCs, see: MAR-10337802-1.v1.WHITE.stix.

Submitted Files (3)

156335b95ba216456f1ac0894b7b9d6ad95404ac7df447940f21646ca0090673 (156335b95ba216456f1ac0894b7b9d...)
3ba456cafcb31e0710626170c3565aae305bc7c32a948a54f0331d0939e0fe8a (045621d9.BMP)
f6fba207c71d1f53f82d96a87c25c4fa3c020dca58d9b8a266137f33597a0b0e (README.045621d9.TXT)

Domains (2)

baroquetees.com rumahsia.com

IPs (2)

176.103.62.217 99.83.154.118

Findings

156335b95ba216456f1ac0894b7b9d6ad95404ac7df447940f21646ca0090673



Tags

downloader loader ransomware trojan

Details

Name 156335b95ba216456f1ac0894b7b9d6ad95404ac7df447940f21646ca0090673.dll

Size 55810 bytes

Type PE32 executable (DLL) (GUI) Intel 80386, for MS Windows

MD5 f587adbd83ff3f4d2985453cd45c7ab1

SHA1 2715340f82426f840cf7e460f53a36fc3aad52aa

SHA256 156335b95ba216456f1ac0894b7b9d6ad95404ac7df447940f21646ca0090673

SHA512 37acf3c7a0b52421b4b33b14e5707497cfc52e57322ad9ffac87d0551220afc202d4c0987460d295077b9ee681fac2

021bbfdebdc52c829b5f998ce7ac2d1efe

ssdeep 768:u2v9lj6f3J80T1PMK30DbQDH2doyomHRL83M4/NShWxEs0I29SFd2Xyj09rLd:fmET1PMK3qbpHY3M4wWmXgSFTSr

Ld

Entropy 6.789366

Antivirus

Ahnlab Ransomware/Win.DarkSide

Antiy Trojan[Ransom]/Win32.DarkSide.gen

Avira TR/AD.DarkSideRansom.muasl

BitDefender Trojan.GenericKD.46189032

ClamAV Win.Packed.DarkSide-9262656-0

Comodo Malware

Cyren W32/Trojan.HLZV-8042

ESET a variant of Win32/Filecoder.DarkSide.B trojan

Emsisoft Trojan.GenericKD.46189032 (B)

Ikarus Trojan-Ransom.DarkSide

K7 Trojan (005795061)

Lavasoft Trojan.GenericKD.46189032

McAfee GenericRXOX-NH!F587ADBD83FF

NANOAV Trojan.Win32.Encoder.iuukal

Quick Heal | Trojanransom.Encoder

Symantec | Downloader

Systweak trojan-ransom.darkside

TACHYON Ransom/W32.DarkSide.55810

TrendMicro Ransom.17F5A898
TrendMicro House Call Ransom.17F5A898

VirusBlokAda | BScope.TrojanRansom.Convagent

Zillya! Trojan.Encoder.Win32.2315

YARA Rules

No matches found.

ssdeep Matches

No matches found.

PE Metadata

Compile Date 2021-04-05 18:09:20-04:00

Import Hash 6c8408bb5d7d5a5b75b9314f94e68763

PE Sections

MD5 Name Raw Size Entropy



db99af79840cc24e4a2bc8920af97c4d	header	1024	1.699168
6738c20d4ea897835026864651841fca	.text	37376	6.090461
4e6ca671cfd10e3aa0e2dcd99bc287b6	.text1	1024	5.130274
c0265513cd36f1d659cc71bd70bfef58	.rdata	512	3.215043
3853bbcd5344aff518bb2f1ccbd05bdd	.data	12288	7.713634
4d2b117a0087a34a0cb8575f34413c47	.ndata	3584	7.935769

Packers/Compilers/Cryptors

Borland Delphi 3.0 (???)

Relationships		
156335b95b	Connected_To	baroquetees.com
156335b95b	Connected_To	rumahsia.com
156335b95b	Dropped	3ba456cafcb31e0710626170c3565aae305bc 7c32a948a54f0331d0939e0fe8a
156335b95b	Dropped	f6fba207c71d1f53f82d96a87c25c4fa3c020dc a58d9b8a266137f33597a0b0e

Description

This artifact is a 32-bit DLL that is a Darkside ransomware variant. The program is called 'encryptor2.dll'. When it is executed, it will invoke the Volume Shadow service (vssvc.exe) to delete any Volume Shadow copies available on the system.

The malware collects information on the system to include the operating system, default language, username, hostname, domain, and operating system (OS) architecture. This information is encrypted and sent to one of the following command-and-control (C2) domains:

-Begin C2 Domainsbaroquetees[.]com rumahsia[.]com -End C2 Domains-

The malware reads the system GUID and uses the value to generate a unique eight character hexadecimal extension that it appends to the encrypted files. This extension is also used as the name of the running service the program uses to encrypt the user's data.

-Begin Service ExampleHKLM\System\CurrentControlSet\services\.045621d9
HKLM\System\CurrentControlSet\services\.045621d9\DisplayName Data: ".045621d9"
HKLM\System\CurrentControlSet\services\.045621d9\ObjectName Data: "LocalSystem"
HKLM\System\CurrentControlSet\services\.045621d9\ImagePath Data: <Path to the DLL>
-End Service Example-

This variant of the malware contains a hard-coded key '_M8607761bf3212d6' that it uses to decrypt an embedded base64 encoded configuration that runs the ransomware program. The program is configured to avoid encrypting any files located in directories that contain the following strings:

-Begin Avoided Directories-\$recycle.bin config.msi \$windows.~bt \$windows.~ws windows appdata application data boot google mozilla program files program files (x86) programdata system volume information tor browser



TLP: WHITE

windows.old

```
intel
msocache
perflogs
x64dbg
public
all users
default
-End Avoided Directories-
Any files with the following extensions will not be encrypted:
-Begin File Extensions-
.386
.adv
.ani
.bat
.bin
.cab
.cmd
.com
.cpl
.cur
.deskthemepack
.diagcab
.diagcfg
.diagpkg
.dll
.drv
.exe
.hlp
.icl
.icns
.ico
.ics
.idx
.ldf
.lnk
.mod
.mpa
.msc
.msp
.msstyles
.msu
.nls
.nomedia
.ocx
.prf
.ps1
.rom
.rtp
.scr
.shs
.spl
.sys
.theme
.themepack
.wpx
.lock
.key
.hta
.msi
.pdb
.sql
-- End File Extensions--
```



Before the encryption routine starts, the program will check to determine if any of the following processes are running, and shut them down:

—Begin Running Processes oracle ocssd dbsnmp synctime agntsvc isqlplussvc xfssvccon mydesktopservice ocautoupds encsvc firefox tbirdconfig mydesktopgos ocomm dbeng50 sqbcoreservice excel infopath msaccess mspub onenote outlook powerpnt steam thebat thunderbird visio winword

The following services will also be terminated:

-Begin Terminated Services-

—End Running Processes—

.VSS

.sql

svc\$

memtas

wordpad notepad

mepocs

sophos veeam

backup

GxVss

GxBlr GxFWD

GxCVD

GxCIMgr

-End Terminated Services-

After the encryption routine runs, a bitmap image file is created in the path C:\ProgramData with the same name as the encryption extension, e.g. '045621d9.BMP'. The following registry keys are created that generate a ransom note wallpaper on the user's desktop:

—Begin Wallpaper Registry Keys—
HKU\DEFAULT\ControlPanel\Desktop\Wallpaper Data: <Path to .BMP file>
HKCU\ControlPanel\Desktop\Wallpaper Data: <Path to .BMP file>
—End Wallpaper Registry Keys—

The .BMP file contains instructions to the victim for recovering data (Figure 1).

In each directory that the program has encrypted files, a ransom note is dropped with the naming format 'README.<UniqueID>.TXT'.



The file contains instructions for the victim to follow to recover files. The following is an example of the recovery instructions: -Begin Recovery Instructions-· [Welcome to DarkSide] ----What happend? Your computers and servers are encrypted, backups are deleted. We use strong encryption algorithms, so you cannot decrypt your data. But you can restore everything by purchasing a special program from us - universal decryptor. This program will restore all your network. Follow our instructions below and you will recover all your data. What guarantees? We value our reputation. If we do not do our work and liabilities, nobody will pay us. This is not in our interests. All our decryption software is perfectly tested and will decrypt your data. We will also provide support in case of problems. We guarantee to decrypt one file for free. Go to the site and contact us. How to get access on website? Using a TOR browser: 1) Download and install TOR browser from this site: hxxps[:]//torproject.org/ 2) Open our website: hxxp[:]//dark24zz36xm4y2phwe7yvnkkkkhxionhfrwp67awpb3r3bdcneivoqd.onion /ZWQHXVE7MW9JXE5N1EGIP6IMEFAGC7LNN6WJCBVKJFKB5QXP6LUZV654ASG7977V When you open our website, put the following data in the input form: Key: lmrlfxpjZBun4Eqc4Xd4XLJxEOL5JTOTLtwCOqxqxtFfu14zvKMrLMUiGV36bhzV5nfRPSSvroQiL6t36hV87qDIDlub946I5ud5QQIZC3EEzHaly 04dBugzgWIBf009Hkb5C7IdIYdEb5wH80HMVhurYzet587o6GinzDB0ip4Bz7JIznXkqxIEHUN77hsUM8pMyH8twWettemxqB3PI0Mvr7Ao g9All1QhCYXC1HX97G5tp7OTlUfQOwtZZt5gvtMkOJ9UwgXZrRSDRc8pcCgmFZhGsCalBmlC08HCA40P7r5pcEn2PdBA6tt5oHma19OMBr a3NwlkZVUVflql643VPuvDLNiDtdR1EZhP1vb2t2HsKlGOffG7ql9Y2JWcu2uwjqwVdSzQtlXWM6mEy3xdm3lcJnztQ5Nh7jJ7bYgAb1h0DbN 9UektcOzYC0e0ZqjPVLY3opxNvYgCk8Bz9clmNXqsvMjBQXJQVb8o0IPMcDjYyhJuG0EevGIAWVq8WGS7JraW22zvlz8SQ4HdgUEJR0Vbrsit XqlbIF9S2XGZmtxEsRStAey !!! DANGER !!! DO NOT MODIFY or try to RECOVER any files yourself. We WILL NOT be able to RESTORE them. !!! DANGER !!! -End Recovery Instructions-**Screenshots** Welcome to DarkSide! All Your Files Are Encrypted!

Find README.045621d9.TXT And Follow Instructions!

Figure 1. -

baroquetees.com

Tags



command-and-control

Ports

443 TCP

Whois

Domain Name: BAROQUETEES.COM

Registry Domain ID: 2536327775_DOMAIN_COM-VRSN Registrar WHOIS Server: whois.namecheap.com Registrar URL: http://www.namecheap.com Updated Date: 2021-02-27T09:49:39Z Creation Date: 2020-06-11T14:12:08Z Registry Expiry Date: 2021-06-11T14:12:08Z

Registrar: NameCheap, Inc. Registrar IANA ID: 1068

Registrar Abuse Contact Email: abuse@namecheap.com Registrar Abuse Contact Phone: +1.6613102107

Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited

Name Server: DNS1.REGISTRAR-SERVERS.COM Name Server: DNS2.REGISTRAR-SERVERS.COM

DNSSEC: unsigned

Domain name: baroquetees.com

Registry Domain ID: 2536327775_DOMAIN_COM-VRSN
Registrar WHOIS Server: whois.namecheap.com
Registrar URL: http://www.namecheap.com

Updated Date: 0001-01-01T00:00:00.00Z Creation Date: 2020-06-11T14:12:08.00Z

Registrar Registration Expiration Date: 2021-06-11T14:12:08.00Z

Registrar: NAMECHEAP INC Registrar IANA ID: 1068

Registrar Abuse Contact Email: abuse@namecheap.com Registrar Abuse Contact Phone: +1.6613102107

Reseller: NAMECHEAP INC

Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited

Registrant Name: Withheld for Privacy Purposes

Registrant Organization: Privacy service provided by Withheld for Privacy ehf

Registrant Street: Kalkofnsvegur 2

Registrant City: Reykjavik

Registrant State/Province: Capital Region

Registrant Postal Code: 101
Registrant Country: IS

Registrant Phone: +354.4212434

Registrant Email: b261116753cd4019a6d879fad2cd43ca.protect@withheldforprivacy.com

Admin Name: Withheld for Privacy Purposes

Admin Organization: Privacy service provided by Withheld for Privacy ehf

Admin Street: Kalkofnsvegur 2

Admin City: Reykjavik

Admin State/Province: Capital Region

Admin Postal Code: 101
Admin Country: IS

Admin Phone: +354.4212434

Admin Email: b261116753cd4019a6d879fad2cd43ca.protect@withheldforprivacy.com

Tech Name: Withheld for Privacy Purposes

Tech Organization: Privacy service provided by Withheld for Privacy ehf

Tech Street: Kalkofnsvegur 2

Tech City: Reykjavik

Tech State/Province: Capital Region

Tech Postal Code: 101
Tech Country: IS

Tech Phone: +354.4212434

 $Tech\ Email:\ b261116753cd4019a6d879fad2cd43ca. protect@withheldforprivacy.com$

Name Server: dns1.registrar-servers.com Name Server: dns2.registrar-servers.com



DNSSEC: unsigned

Relationships

baroquetees.com Resolved_To 176.103.62.217

04ac7df447940f21646ca0090673

Description

The ransomware collects system information and sends it to this domain.

176.103.62.217

Tags

command-and-control

Relationships

176.103.62.217 Resolved_To baroquetees.com

Description

At the time of analysis the domain baroquetees[.]com resolved to this Internet protocol (IP) address.

rumahsia.com

Tags

command-and-control

Whois

Domain Name: RUMAHSIA.COM

Registry Domain ID: 2519337945_DOMAIN_COM-VRSN Registrar WHOIS Server: whois.namecheap.com Registrar URL: http://www.namecheap.com

Updated Date: 2021-04-28T07:21:46Z
Creation Date: 2020-04-27T16:07:26Z
Registry Expiry Date: 2022-04-27T16:07:26Z

Registrar: NameCheap, Inc. Registrar IANA ID: 1068

Registrar Abuse Contact Email: abuse@namecheap.com Registrar Abuse Contact Phone: +1.6613102107

Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited

Name Server: DNS101.REGISTRAR-SERVERS.COM Name Server: DNS102.REGISTRAR-SERVERS.COM

DNSSEC: unsigned

Domain name: rumahsia.com

Registry Domain ID: 2519337945_DOMAIN_COM-VRSN Registrar WHOIS Server: whois.namecheap.com Registrar URL: http://www.namecheap.com

Registrar URL: http://www.namecheap.com Updated Date: 0001-01-01T00:00:00.00Z Creation Date: 2020-04-27T16:07:26.00Z

Registrar Registration Expiration Date: 2021-04-27T16:07:26.00Z

Registrar: NAMECHEAP INC Registrar IANA ID: 1068

Registrar Abuse Contact Email: abuse@namecheap.com Registrar Abuse Contact Phone: +1.6613102107

Reseller: NAMECHEAP INC

Domain Status: clientTransferProhibited https://icann.org/epp#clientTransferProhibited

Registrant Name: REACTIVATION PERIOD

Registrant Organization: Withheld for Privacy Purposes

Registrant Street: Kalkofnsvegur 2



Registrant City: Reykjavik

Registrant State/Province: Capital Region

Registrant Postal Code: 101
Registrant Country: IS

Registrant Phone: +354.4212434

Registrant Email: reactivation-pending@mail.withheldforprivacy.com

Admin Name: REACTIVATION PERIOD

Admin Organization: Withheld for Privacy Purposes

Admin Street: Kalkofnsvegur 2

Admin City: Reykjavik

Admin State/Province: Capital Region

Admin Postal Code: 101
Admin Country: IS

Admin Phone: +354.4212434

Admin Email: reactivation-pending@mail.withheldforprivacy.com

Tech Name: REACTIVATION PERIOD

Tech Organization: Withheld for Privacy Purposes

Tech Street: Kalkofnsvegur 2

Tech City: Reykjavik

Tech State/Province: Capital Region

Tech Postal Code: 101
Tech Country: IS

Tech Phone: +354.4212434

Tech Email: reactivation-pending@mail.withheldforprivacy.com

Name Server: dns101.registrar-servers.com Name Server: dns102.registrar-servers.com

DNSSEC: unsigned

Relationships

rumahsia.com Resolved_To 99.83.154.118

rumahsia.com Connected_From 156335b95ba216456f1ac0894b7b9d6ad954

04ac7df447940f21646ca0090673

Description

The ransomware collects system information and sends it to this domain.

99.83.154.118

Tags

command-and-control

Relationships

99.83.154.118 Resolved_To rumahsia.com

Description

At the time of analysis the domain rumahsia[.]com resolved to this IP address.

3ba456cafcb31e0710626170c3565aae305bc7c32a948a54f0331d0939e0fe8a

Tags

ransomware

Details

Name 045621d9.BMP Size 4339094 bytes

Type PC bitmap, Windows 3.x format, 2308 x 940 x 16, image size 4339040, cbSize 4339094, bits offset 54

MD5 2e5dee7e7d8aa32b5a638cd619eb67b3

SHA1 1cbb4aa1dd284d62f4eb1833b6fe1290c122ccf7



SHA256 3ba456cafcb31e0710626170c3565aae305bc7c32a948a54f0331d0939e0fe8a

7f731e2fa892082a5f2c3e4865eaeab9b3f03ae26ce4fe545a46de5002130b1374b941fc3cb3bf0204d036b2233023 **SHA512**

658869bf22b626bf947627e03031b89276

ssdeep 12:RLp5BJxhfVfPNpNhdhhxvn9RBxJRRPHJvPZBJxhf55vPpZ5B1ZJZxNBJv5B15Bpx:R

0.155294 **Entropy** C:\ProgramData Path

Antivirus

No matches found.

YARA Rules

No matches found.

ssdeep Matches

No matches found.

Relationships

156335b95ba216456f1ac0894b7b9d6ad954 Dropped_By 3ba456cafc...

04ac7df447940f21646ca0090673

Description

This bitmap image is the wallpaper used by the ransomware.

f6fba207c71d1f53f82d96a87c25c4fa3c020dca58d9b8a266137f33597a0b0e

Tags

ransomware trojan

Details

README.045621d9.TXT Name

Size 2009 bytes

ASCII text, with very long lines, with CRLF line terminators Type

MD5 135d0337c142e73417030daf30d835ac

SHA1 4d03e3db39adaf57df53181429706aa854878026

SHA256 f6fba207c71d1f53f82d96a87c25c4fa3c020dca58d9b8a266137f33597a0b0e

b07fefbceeba5eddac04ecf011f347fd3879b77330d4db6178dd1daa54dbed956f90e28ecf93404e8c98f9683aac0fd2 SHA512

38133d6188f2926475204556fc6a1403

48:L7EZWC0qZGgQx8N3NbS/3TXWAxdHyJWtbXi5RLNRVtRGHE:LAMCMxq3NbS/rrn9d2RL/VH7 ssdeep

Entropy 5.517181

Antivirus

Win32/Filecoder.DarkSide trojan **ESET**

TrendMicro Ransom.B01C9038 Ransom.B01C9038

TrendMicro House Call

YARA Rules

No matches found.

ssdeep Matches

No matches found.

Relationships

156335b95ba216456f1ac0894b7b9d6ad954 f6fba207c7...

Dropped_By 04ac7df447940f21646ca0090673

Description



This is the ransom note created by the Darkside ransomware variant. The note contains the .onion address and the preshared key to be sent to decrypt one file for free.

Screenshots

```
What happend?

Your computers and servers are encrypted, backups are deleted. We use strong encryption algorithms, so you cannot decrypt your data.

But you can restore everything by purchasing a special program from us - universal decryptor. This program will restore all your network.
Follow our instructions below and you will recover all your data.

What guarantees?

Me value our reputation. If we do not do our work and liabilities, nobody will pay us. This is not in our interests.
All our decryption software is perfectly tested and will decrypt your data. Me will also provide support in case of problems.
Me guarantee to decrypt one file for free. Go to the site and contact us.

How to get access on website?

Using a TOR browser:
1) Download and install TOR browser from this site: https://torproject.org/
2) Open our website: http://dark24zz36xm4y2phw27ynkkkkhxionhfrwp67awpb3r3bdcneivoqd.onion/
ZWOHXCF7MM9JXESN1EGIP6IMERAGC7LNNGWJCBWXJFK85QXP6LUZV654ASG7977V

When you open our website, put the following data in the input form:
Key:

lmrlfxpj/2Bun4Eqc4Xd4XLJxEOL5JTOTLtwCQqxqxtFfu14zxMrtMtUiGV36bhzV5nfRPSSvroQiL6t36hV87qDIDlub946ISudSQQIZC3EEzHaIy94dBugzgWIBfe09
Hkb5C7IdJYdED5wH88HWVhurYzet587o6GinzDB0ip4Bz7JIznXkqxIEHNY7hsUM8pMyH8twMettemxqB3PIOMvr7Aog9AIIq0hCYXC1MX97G5tp70Tluf0owtZzt5g
vtMk0J9UwgXZrRSDRCBpcCgmFZh6ScalBaIC@BHCA4PP7SpcEn2PdBA6tt5oHma190MBra3NwlkZVUVYfql643VDvwDLNiDtGRIEZhPIvbZtZHsKIGOffG7ql9Y2Jwc
uzwigwdXSgd1tXMM6mEgSydxmalCJnzrCDNA7jJ7bvpAbInDObMYDUektcQYC@e0ZqjPVLY3opxNvYgCk8Bz9clmNXqsvMjBQXJQVb8o0IPMcDjYyhJuG@EevGlAWQ8
WGS7JraW22zvlz8SQ4HdgUeJR8VbrsitXqIbIF9SZXGZmtxEsRStaey
!!! DANGER !!!

DANGER !!!

DANGER !!!

DANGER !!!
```

Figure 2. -

Relationship Summary

156335b95b	Connected_To	baroquetees.com
156335b95b	Connected_To	rumahsia.com
156335b95b	Dropped	3ba456cafcb31e0710626170c3565aae305bc 7c32a948a54f0331d0939e0fe8a
156335b95b	Dropped	f6fba207c71d1f53f82d96a87c25c4fa3c020dc a58d9b8a266137f33597a0b0e
baroquetees.com	Resolved_To	176.103.62.217
baroquetees.com	Connected_From	156335b95ba216456f1ac0894b7b9d6ad954 04ac7df447940f21646ca0090673
176.103.62.217	Resolved_To	baroquetees.com
rumahsia.com	Resolved_To	99.83.154.118
rumahsia.com	Connected_From	156335b95ba216456f1ac0894b7b9d6ad954 04ac7df447940f21646ca0090673
99.83.154.118	Resolved_To	rumahsia.com
3ba456cafc	Dropped_By	156335b95ba216456f1ac0894b7b9d6ad954 04ac7df447940f21646ca0090673
f6fba207c7	Dropped_By	156335b95ba216456f1ac0894b7b9d6ad954 04ac7df447940f21646ca0090673

Recommendations

CISA recommends that users and administrators consider using the following best practices to strengthen the security posture of their organization's systems. Any configuration changes should be reviewed by system owners and administrators prior to implementation to avoid unwanted impacts.

- Maintain up-to-date antivirus signatures and engines.
- . Keep operating system patches up-to-date.
- Disable File and Printer sharing services. If these services are required, use strong passwords or Active Directory authentication.
- Restrict users' ability (permissions) to install and run unwanted software applications. Do not add users to the local administrators group unless required.



- Enforce a strong password policy and implement regular password changes.
- . Exercise caution when opening e-mail attachments even if the attachment is expected and the sender appears to be known.
- Enable a personal firewall on agency workstations, configured to deny unsolicited connection requests.
- Disable unnecessary services on agency workstations and servers.
- Scan for and remove suspicious e-mail attachments; ensure the scanned attachment is its "true file type" (i.e., the extension matches the file header).
- . Monitor users' web browsing habits; restrict access to sites with unfavorable content.
- Exercise caution when using removable media (e.g., USB thumb drives, external drives, CDs, etc.).
- Scan all software downloaded from the Internet prior to executing.
- Maintain situational awareness of the latest threats and implement appropriate Access Control Lists (ACLs).

Additional information on malware incident prevention and handling can be found in National Institute of Standards and Technology (NIST) Special Publication 800-83, "Guide to Malware Incident Prevention & Handling for Desktops and Laptops".

Contact Information

- 1-888-282-0870
- CISA Service Desk (UNCLASS)
- CISA SIPR (SIPRNET)
- CISA IC (JWICS)

CISA continuously strives to improve its products and services. You can help by answering a very short series of questions about this product at the following URL: https://us-cert.cisa.gov/forms/feedback/

Document FAQ

What is a MIFR? A Malware Initial Findings Report (MIFR) is intended to provide organizations with malware analysis in a timely manner. In most instances this report will provide initial indicators for computer and network defense. To request additional analysis, please contact CISA and provide information regarding the level of desired analysis.

What is a MAR? A Malware Analysis Report (MAR) is intended to provide organizations with more detailed malware analysis acquired via manual reverse engineering. To request additional analysis, please contact CISA and provide information regarding the level of desired analysis.

Can I edit this document? This document is not to be edited in any way by recipients. All comments or questions related to this document should be directed to the CISA at 1-888-282-0870 or CISA Service Desk.

Can I submit malware to CISA? Malware samples can be submitted via three methods:

- Web: https://malware.us-cert.gov
- E-Mail: submit@malware.us-cert.gov
- FTP: ftp.malware.us-cert.gov (anonymous)

CISA encourages you to report any suspicious activity, including cybersecurity incidents, possible malicious code, software vulnerabilities, and phishing-related scams. Reporting forms can be found on CISA's homepage at www.cisa.gov.

