



UNIVERSITY SYSTEM OF GEORGIA

OPEN-SOURCE TOOLS: A USG IT HANDBOOK COMPANION GUIDE

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PUBLIC

Abstract: This guideline is classified as “Public” and was developed for internal use. The purpose of the guideline is to complement the *USG IT Handbook* by providing a National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF) centered perspective concerning the mapping of open-source tools....

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INTRODUCTION

The purpose of the guideline is to complement the *USG IT Handbook* by providing a National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF) centered perspective concerning the mapping of open-source tools as illustrated in **Figure 1**.

The University System of Georgia (USG) has chosen to align with NIST standards and guidelines in the development of their cybersecurity program. This is intentional as many federal regulations map to NIST. More specifically, the U.S. Department of Education (ED) has mandated that all institutions of higher education entities (IHE) are to demonstrate Gramm-Leach-Bliley Act (GLBA) compliance through the implementation of NIST SP 800-171 Rev1. Failure to demonstrate compliance can result in IHEs losing the ability to administer federal student financial aid. Moreover, the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) has decided that GLBA compliance is to be a determining factor in accreditation. Failure to demonstrate compliance here can result in the loss of accreditation.

Technology	Identify	Technology	Protect	Technology	Detect	Technology	Respond	Technology	Recover
Asset Management	Open Source AssetTiger ERNext GPI ITSM Indot Kuwalba Rajih ResourceSpace Snipe-IT OpenAudit	Access Control	Open Source Apache Syncope FreeIPA Gluu Keycloak MidPoint-Security OpenAM OpenZiti OpenIAM Shibboleth Softrid WSO Identity Server	SEIM	Open Source Apache ELK Apache Metron DAD Domain Stats Frog Server OSSEC OSIM Prelude OSS Qradar Threat Intelligence	Incident Response	Open Source Ciphon GRR Rapid Response ParOwl ReactiveZ REMnux CyberCPR Shuffle SIFT Workstation The Hive	Backup	Open Source Areca BackupPC Bacula Baresos Clonezilla Duplicati UnBackup
	Code Analysis Scanners		Anti-Virus & Endpoint Protection		Cyber Threat Intelligence		Forensics		
Vulnerability Scanners	Flawfinder SonarLint SonaRQube VisualCodeGrepper VSSA AppTrana Arachni Gollumero Grabber Grendel-Scan Nikto OWASP Dependency-Check Ride Sec-Helpers Vegs w3af Wapiti Webcookies Wiko ZAP	API Management	Cyber Threat Hunting	DeepBlueCLI DNSpooft fiare Hunting Maturity Model Labrea.py Log Campaign Misc Powershell & VBScript PAE Updates-VMS VisualSniff VulnWhisperer WhatsMyName	Awesome-Malware-Analysis Autora IR Autopsy Awesome-Malware-Analysis b3st1ng chrome_parse.py decwindbx DEFT Zero DIPS docker_mount.py dpapilib ESE Analyst EyeCmd EZ Tools EZViewer GA-Cooler-Cruncher GA-Parser.py Get-ZimmermanTools Hidder hotoloti iisGeolocate ios_fpu_image iJCmd Jumplist Explorer KAPE kobaltusdec LECmd mac_robber.py MacOSRU Malice MFTCmd MFTExplorer onion_greeter.py parse_mftdump.py PECmd quidnoui_parser RBCmd				
	OWASP Dependency-Check Ride Sec-Helpers Vegs w3af Wapiti Webcookies Wiko ZAP	Awareness & Training	Cyber Threat Hunting	Forensics					
Vulnerability Scanners	Acheron ada-pyload Asleep Autocrack Blifit BlueCrypt BTFind CONPATRY CraclMapDec Cryptbreaker DHCPShoek Diggon Disruptive DynaStalker EAP-MDS-Crack EAPMD5Pass Emergence EmuRoot evbResourceIDGaps Gcat	Certificate Management	Deception	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot
	OWASP Dependency-Check Ride Sec-Helpers Vegs w3af Wapiti Webcookies Wiko ZAP	Data Loss Prevention	Deception	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot
Vulnerability Scanners	Acheron ada-pyload Asleep Autocrack Blifit BlueCrypt BTFind CONPATRY CraclMapDec Cryptbreaker DHCPShoek Diggon Disruptive DynaStalker EAP-MDS-Crack EAPMD5Pass Emergence EmuRoot evbResourceIDGaps Gcat	DDOS Protection	Encryption	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot
	Acheron ada-pyload Asleep Autocrack Blifit BlueCrypt BTFind CONPATRY CraclMapDec Cryptbreaker DHCPShoek Diggon Disruptive DynaStalker EAP-MDS-Crack EAPMD5Pass Emergence EmuRoot evbResourceIDGaps Gcat	Firewall	Encryption	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot	Connie DOEPT DejaVu Dionaea ElasticHoney HoneyDrive HoneyNet MongodB HomeProxy OWASP HoneyPot

Figure 1: CSF View of Open-Source Tools

Each section in the document maps to a corresponding section within the CSF from Identify to Recover. Additionally, each section is color-coded to also correspond with the CSF. Each section has three columns of information beginning with Technology Type, followed by Tool Name, and ending on URL.

Disclaimer: As will all open-source options, the implementation of the tool comes with risks. These tools are often provided “as-is” with no guarantee, they often come with limited support (e.g., patching), and they often require significant expertise or experience to implement. Other considerations are the implementations are almost always on-premises applications, which simply means there will need to be capital expense that will need to be considered.

As with all of our documents, they are dynamic and considered works in progress. If you discover an error or have an additional tool that the community would benefit from mapping, please submit your comment to cybersecurity@usg.edu for correction or consideration.

IDENTIFY

Technology Type	Tool Name	URL
Asset Management	AssetTiger	https://www.myassettag.com/assettiger
	ERPNext	https://erpnext.com/
	GLPI ITSM	https://glpi-project.org/
	I-doit	https://www.i-doit.org/
	Kuwaiba	https://www.kuwaiba.org/
	Ralph	https://ralph-ng.readthedocs.io/en/stable/
	ResourceSpace	https://www.resourcespace.com/
	Snipe-IT	https://snipeitapp.com/
	Open-Audit	https://www.open-audit.org/
Code Analysis Scanners	Flawfinder	https://dwheeler.com/flawfinder/
	SonarLint	https://www.sonarlint.org/
	SonarQube	https://www.sonarqube.org/
	VisualCodeGrepper	https://sourceforge.net/projects/visualcodegrepp/
	YASCA	https://sourceforge.net/projects/yasca/
Vulnerability Scanners	AppTrana	https://www.indusface.com/web-application-scanning.php
	Arachni	http://www.arachni-scanner.com/
	Golismo	http://www.golismo.com/
	Grabber	http://rgaucher.info/beta/grabber/
	Grendel-Scan	https://sourceforge.net/projects/grendel/
	Nikto	http://www.cirt.net/nikto2
	OWASP Dependency-Check	https://owasp.org/www-project-dependency-check/
	Ride	https://github.com/adobe/ride/blob/develop/Usage.md#the-fuzz
	Sec-Helpers	https://pypi.org/project/sec-helpers/
	Vega	https://subgraph.com/vega/
	w3af	http://www.w3af.org/
	Wapiti	https://wapiti.sourceforge.io/
	Webcookies	https://webcookies.org/
	Wikto	https://www.sensepost.com/research/wikto/
	ZAP	https://zapproxy.org/
Penetration Testing	Acheron	https://github.com/Acheron-VAF/Acheron
	ads-payload	https://github.com/ChrisAD/ads-payload
	Asleep	https://github.com/joswr1ght/asleep
	Autocrack	https://github.com/timbo05sec/autocrack
	BitFit	https://github.com/joswr1ght/bitfit
	Bluecrypt	https://www.willhackforsushi.com/?page_id=61
	BTFind	https://github.com/joswr1ght/btfind
	CoWPAtty	https://github.com/joswr1ght/cowpatty
	CrackMapExec	https://github.com/byt3bl33d3r/CrackMapExec
	Cryptbreaker	https://www.opensecurity.io/blog/quick-password-cracks-and-audits

DHCPShock	https://github.com/byt3bl33d3r/DHCPShock
Diagon	https://github.com/Project-Prismatica/Diagon
Digestive	https://github.com/eric-conrad/digestive
DynaPstalker	https://github.com/joswr1ght/dynapstalker
EAP-MD5-Crack	https://github.com/MarkBaggett/MarkBaggett/blob/master/eapmd5crack.py
EAPMD5Pass	https://github.com/joswr1ght/eapmd5pass
Emergence	https://github.com/Project-Prismatica/Emergence
EmuRoot	https://github.com/airbus-seclab/android_emuroot
evtxResourceIDGaps	https://gist.github.com/joswr1ght/3d6b18b2150bd3ce1dd10d00ca2029b0
GCat	https://github.com/byt3bl33d3r/gcat
Gryffindor	https://github.com/Project-Prismatica/Diagon
heimdall	https://gitlab.com/r00k/heimdall
John the Ripper	https://www.openwall.com/john/
Kali	https://www.kali.org/
Kerberoasting	https://github.com/nidem/kerberoast
KillerBee	https://github.com/riverloopsec/killerbee
KillerZee	https://github.com/joswr1ght/killerzee
Mailsniper for Gmail	https://github.com/Osm0s1z/MailSniper
Metasploit	https://www.metasploit.com/
MFSmartHack	https://github.com/joswr1ght/mfsmarthack
MITMf	https://github.com/byt3bl33d3r/MITMf
NM2LP	https://github.com/joswr1ght/nm2lp
Oculus	https://github.com/Project-Prismatica/Oculus
OffensiveDLR	https://github.com/byt3bl33d3r/OffensiveDLR
OWASP Zap	https://www.zaproxy.org/
Pause-Process	https://github.com/besimorhino/Pause-Process
PCAPHistogram	https://github.com/joswr1ght/pcaphistogram
PlistSubtractor	https://github.com/joswr1ght/plistsubtractor
powercat	https://github.com/besimorhino/powercat
PPTXIndex	https://github.com/joswr1ght/pptxindex
PPTXSanity	https://github.com/joswr1ght/pptxsanity
PPTXUrls	https://github.com/joswr1ght/pptxurls
Prismatica	http://prismatica.io/
Red Baron	https://github.com/byt3bl33d3r/Red-Baron
SILENTRINITY	https://github.com/byt3bl33d3r/SILENTRINITY
Slingshot	https://www.sans.org/slingshot-vmware-linux
SprayingToolkit	https://github.com/byt3bl33d3r/SprayingToolkit
Subterfuge	https://github.com/Subterfuge-Framework
The C2 Matrix	https://www.thec2matrix.com/
Tiberium	https://github.com/Osm0s1z/Tiberium
TIBTLE2Pcap	https://github.com/joswr1ght/tibtlet2pcap

	VoIP Hopper Voltaire W3af Wapiti Wfuzz wiki-dictionary-creator WitnessMe	https://github.com/iknowjason/voiphopper https://voltaire.publickey.io/ http://w3af.org/ https://wapiti.sourceforge.io/ https://tools.kali.org/web-applications/wfuzz https://github.com/ChrisAD/wiki-dictionary-creator https://github.com/byt3bl33d3r/WitnessMe
Risk Assessment	Eramba Grabber Nikto2 OpenVAS SimpleRisk Vega	https://www.eramba.org/ https://tools.kali.org/web-applications/grabber https://cirt.net/Nikto2 https://www.openvas.org/ https://www.simplerisk.com/ https://subgraph.com/vega/

PROTECT

Technology Type	Tool Name	URL
Access Control	Apache Syncope	https://syncope.apache.org/
	FreeIPA	https://www.freeipa.org/page/FreeIPAv2:Access_Control
	Gluu	https://www.gluu.org/
	Keycloak	https://www.keycloak.org/
	MidPoint-Security	https://www.midpoint-security.com/
	OpenAM	https://github.com/OpenIdentityPlatform/OpenAM
	OpenDJ	https://github.com/OpenIdentityPlatform/OpenDJ
	OpenIAM	https://www.openiam.com/products/access-manager/
	Shibboleth	https://www.shibboleth.net/
	Soffid	https://www soffid.com/soffid/
WSO Identity Server	https://wso2.com/identity-and-access-management/	
Anti-Virus & Endpoint Protection	Armadito	https://www.armadito.com/
	Bullguard	https://www.bullguard.com/products/bullguard-antivirus.aspx
	ClamAV	https://www.clamav.net/
	ClamWin	http://www.clamwin.com/
	Moon Secure AV	https://sourceforge.net/projects/moonav/
API Management	3Scale	https://www.3scale.net/
	API Umbrella	https://apiumbrella.io/
	APIMAN	https://www.apiman.io/latest/
	DreamFactory	https://www.dreamfactory.com/
	Fusio	https://www.fusio-project.org/
	Gravitee	https://www.gravitee.io/
	Kong	https://konghq.com/
	Tyk	https://tyk.io/
	WSO2 API Manager	https://wso2.com/api-management/
Awareness & Training	Gophish	https://getgophish.com/
	King Phisher	https://github.com/rsmusllp/king-phisher
	Phishing Frenzy	https://www.phishingfrenzy.com/
Certificate Management	Dogtag PKI	https://www.dogtagpki.org/wiki/PKI_Main_Page
	EJBCA	https://www.ejbca.org/
	OpenCA	https://www.openca.org/
Data Loss Prevention	MyDLP	https://mydlp.com/
	OpenDLP	https://github.com/ezarko/opendlp
DDOS Protection	DDOS Deflate	https://github.com/jgmdev/ddos-deflate
	Gatekeeper	https://github.com/AltraMayor/gatekeeper
	Roboo	https://github.com/yuri-gushin/Roboo
Encryption	AESCrypt	https://www.aescrypt.com/
	AxCrypt	https://axcrypt.net/

	<p>BoxCryptor Ciphershed Cryptomator DiskCryptor ProtonMail VeraCrypt</p>	<p>https://www.boxcryptor.com/en/ https://www.ciphershed.org/ https://cryptomator.org/ https://sourceforge.net/projects/diskcryptor/ https://protonmail.com/ https://www.veracrypt.fr/code/VeraCrypt/</p>
Firewall	<p>ClearOS Endian IPFire Untangle NG Firewall OPNsense pfSense Shorewall Smoothwall VyOS</p>	<p>https://www.clearos.com/marketplace/network/Firewall https://www.endian.com/ https://www.ipfire.org/ https://www.untangle.com/untangle-ng-firewall/ https://opnsense.org/ https://www.pfsense.org/ https://shorewall.org/ https://www.smoothwall.com/ https://docs.vyos.io/en/latest/firewall.html</p>
IDS/IPS	<p>OpenWIPS OSSEC Snort Suricata Zeek (BRO)</p>	<p>https://openwips-ng.org/ https://www.ossec.net/ https://www.snort.org/ https://suricata-ids.org/ https://zeek.org/</p>
Secrets Management	<p>Confidant Conjur HashiCorp Vault Kbsecret Keywhiz</p>	<p>https://lyft.github.io/confidant/ https://www.conjur.org/ https://www.hashicorp.com/products/vault https://kbsecret.github.io/#/intro/ https://square.github.io/keywhiz/</p>
Mail Protection	<p>MailCleaner MailScanner OrangeAssassin Proxmox ScrolloutF1</p>	<p>https://www.mailcleaner.net/ https://www.mailscanner.info/ https://github.com/SpamExperts/OrangeAssassin https://www.proxmox.com/en/proxmox-mail-gateway http://www.scrolloutf1.com/</p>
MFA	<p>FreeOTP LinOTP MultiOTP PrivacyIDEA</p>	<p>https://freeotp.github.io/ https://www.linotp.org/ https://github.com/multiOTP/multiotp/wiki https://www.privacyidea.org/</p>
Network Access Control	<p>FreeNAC openNAC PacketFence</p>	<p>https://github.com/Boran/freenac http://opennac.org/opennac/en.html https://packetfence.org/</p>
Sandbox	<p>Cuckoo Sandbox Sandboxie</p>	<p>https://cuckoosandbox.org/ https://www.sandboxie.com/</p>
VPN	<p>Algo Freelan</p>	<p>https://github.com/trailofbits/algo https://www.freelan.org/</p>

	OpenVPN Outline VPN Pritunl SoftEther Streisand StrongSwan WireGuard	https://openvpn.net/ https://getoutline.org/en/home https://pritunl.com/ https://www.softether.org/ https://github.com/StreisandEffect/streisand https://www.strongswan.org/ https://www.wireguard.com/
WAF	IronBee ModSecurity NAXSI Raptor Shadow Daemon Vulture WebKnight	https://sourceforge.net/projects/ironbee/ https://modsecurity.org/ https://github.com/nbs-system/naxsi https://securityonline.info/raptor-waf-web-application-firewall/ https://shadowd.zecure.org/overview/introduction/ https://www.vultureproject.org/ https://www.aqtronix.com/?PageID=99
Web/URL Filtering	E2Guardian GoGuardian MitmProxy ufdbGuard	http://e2guardian.org/cms/index.php https://www.goguardian.com/ https://mitmproxy.org/ https://www.urlfilterdb.com/products/ufdbguard.html

DETECT

Technology Type	Tool Name	URL
SEIM	Apache ELK	https://www.elastic.co/what-is/elk-stack
	Apache Metron	https://metron.apache.org/
	DAD	https://github.com/dhoelzer/DAD
	Domain Stats	http://github.com/markbaggett/domainstats
	Freq Server	http://github.com/markbaggett/freq
	OSSEC	https://www.ossec.net/
	OSSIM	https://sourceforge.net/projects/os-sim/
	Prelude OSS	https://www.prelude-siem.org/
	Qradar Threat Intelligence	https://github.com/SecurityNik/QRadar---Threat-Intelligence-On-The-Cheap
	SecurityOnion	https://securityonion.net/
	ShowMeThePackets	https://github.com/dhoelzer/ShowMeThePackets
SIEMonster	https://siemonster.com/	
Cyber Threat Intelligence	Espial	https://www.spydersec.com/Espial
	The Pyramid of Pain	https://bit.ly/PyramidOfPain
	untappdScraper	https://github.com/WebBreacher/untappdScraper
Cyber Threat Hunting	DeepBlueCLI	https://github.com/sans-blue-team/DeepBlueCLI https://drive.google.com/file/d/0B0qDfJ30s2I9bXVwX3VXNzBOMzA/edit
	DNSSpooF	
	flare	https://github.com/HASecuritySolutions/flare
	Hunting Maturity Model	https://bit.ly/HuntingMaturityModel
	LaBrea.py	https://github.com/dhoelzer/ShowMeThePackets/blob/master/Scapy/LaBrea.py
	Log Campaign	https://github.com/HASecuritySolutions/LogCampaign
	Misc Powershell & VBScript	https://github.com/EnclaveConsulting
	PAE	https://github.com/dhoelzer/ShowMeThePackets/tree/master/PAE
	Update-VMs	https://github.com/HASecuritySolutions/Update-VMs
	VisualSniff	https://github.com/dhoelzer/VisualSniff
	VulnWhisperer	https://github.com/HASecuritySolutions/VulnWhisperer
WhatsMy Name	https://github.com/WebBreacher/WhatsMyName	
Deception	Cowrie	https://github.com/cowrie/cowrie
	DCEPT	https://github.com/secureworks/dcept
	DejaVu	https://github.com/bhdresh/Dejavu
	Dionaea	https://github.com/DinoTools/dionaea
	ElasticHoney	https://github.com/jordan-wright/elastic_honey
	HoneyDrive	https://sourceforge.net/projects/honeydrive/
	Honeynet	https://www.honeynet.org/
	MongoDB HoneyProxy	https://github.com/Plazmaz/MongoDB-HoneyProxy
	OWASP HoneyPot	https://owasp.org/www-project-honeypot/

RESPOND

Technology Type	Tool Name	URL
Incident Response	Cyphon	https://www.cyphon.io/
	GRR Rapid Response	https://grr-doc.readthedocs.io/en/latest/
	PatrOwl	https://www.patrowl.io/home
	Rastrea2r	https://github.com/rastrea2r/rastrea2r
	REMnux	https://remnux.org/
	CyberCPR	https://www.cybercpr.com/
	Shuffle	https://shuffler.io/
	SIFT Workstation	https://digital-forensics.sans.org/community/downloads
	The Hive	https://thehive-project.org/
Forensics	AmcacheParser	https://f001.backblazeb2.com/file/EricZimmermanTools/AmcacheParser.zip
	analyzeEXT	file:///C:/Users/kmarshall/Documents/Curriculum Overall/Free/github.com/halpomeranz
	APOLLO	https://github.com/mac4n6/APOLLO
	AppCompatCacheParser	https://f001.backblazeb2.com/file/EricZimmermanTools/AppCompatCacheParser.zip
	Aurora IR	https://www.cyberfox.blog/aurora-incident-response/
	Autopsy	https://www.autopsy.com/
	Awesome-Malware-Analysis	https://www.openhub.net/p/awesome-malware-analysis
	bstrings	https://f001.backblazeb2.com/file/EricZimmermanTools/bstrings.zip
	chrome_parse.py	https://github.com/mdegrazia/Chrome-Parse
	decwindbx	https://github.com/dfirfpi/decwindbx
	DEFT Zero	https://distrowatch.com/table.php?distribution=deft
	DFIS	https://github.com/halpomeranz/dfis
	docker_mount.py	https://github.com/att/docker-forensics/blob/master/docker-mount.py
	dpapilab	https://github.com/dfirfpi/dpapilab
	ESE Analyst	http://github.com/markbaggett/ese-analyst
	EvtxECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/EvtxExplorer.zip
	EZ Tools	https://digital-forensics.sans.org/community/downloads/digital-forensics-tools
	EZViewer	https://f001.backblazeb2.com/file/EricZimmermanTools/EZViewer.zip
	GA Cooki Cruncher	https://github.com/mdegrazia/Google-Analytic-Cookie-Cruncher
	GA-Parser.py	https://github.com/mdegrazia/Google-Analytic-Parser
	Get-ZimmermanTools	https://f001.backblazeb2.com/file/EricZimmermanTools/Get-ZimmermanTools.zip
	Hasher	https://f001.backblazeb2.com/file/EricZimmermanTools/hasher.zip
	hotoloti	https://github.com/RealityNet/hotoloti
	iisGeoLocate	https://f001.backblazeb2.com/file/EricZimmermanTools/iisGeolocate.zip
	ios_bfu_triage	https://github.com/RealityNet/ios_bfu_triage
	JLECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/JLECmd.zip
	JumpList Explorer	https://f001.backblazeb2.com/file/EricZimmermanTools/JumpListExplorer.zip https://www.kroll.com/en/services/cyber-risk/incident-response-litigation-support/kroll-artifact-parser-extractor-kape
KAPE	https://www.kroll.com/en/services/cyber-risk/incident-response-litigation-support/kroll-artifact-parser-extractor-kape	
kobackupdec	https://github.com/RealityNet/kobackupdec	

	LECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/LECmd.zip
	mac_robber.py	https://github.com/att/docker-forensics/blob/master/mac-robber.py
	MacMRU	https://github.com/mac4n6/macMRU-Parser
	Malice	https://github.com/maliceio/malice
	MFTECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/MFTECmd.zip
	MFTEExplorer	https://f001.backblazeb2.com/file/EricZimmermanTools/MFTEExplorer.zip
	onion_peeler.py	https://github.com/mdegrazia/OnionPeeler
	parse_mftdump.py	https://github.com/mdegrazia/mft-parse
	PECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/PECmd.zip
	quicklook_parser	https://github.com/mdegrazia/OSX-QuickLook-Parser
	RBCmd	https://f001.backblazeb2.com/file/EricZimmermanTools/RBCmd.zip
	RecentFileCacheParser	https://f001.backblazeb2.com/file/EricZimmermanTools/RecentFileCacheParser.zip
	RECmd	https://f001.backblazeb2.com/file/EricZimmermanTools/RegistryExplorer_RECmd.zip
	Registry Explorer	https://f001.backblazeb2.com/file/EricZimmermanTools/RegistryExplorer_RECmd.zip
	safari_parser.py	https://github.com/mdegrazia/Safari-Internet-History-Parser
	SDB Explorer	https://f001.backblazeb2.com/file/EricZimmermanTools/SDBExplorer.zip
	ShellBags Explorer	https://f001.backblazeb2.com/file/EricZimmermanTools/ShellBagsExplorer.zip
	sigs.py	https://github.com/clausing/scripts/blob/master/sigs.py
	SOF-ELK	https://github.com/philhagen/sof-elk
	sqlparse.py	https://github.com/mdegrazia/SQLite-Deleted-Records-Parser
	SRUM-DUMP	http://github.com/markbaggett/srum-dump
	thunderbird_parser.py	https://github.com/mdegrazia/Thunderbird-Email-Parser
	TimeApp	https://f001.backblazeb2.com/file/EricZimmermanTools/TimeApp.zip
	Timeline Explorer	https://f001.backblazeb2.com/file/EricZimmermanTools/TimelineExplorer.zip
	tln_parse.py	https://github.com/clausing/scripts/blob/master/tln_parse.py
	unssz	https://gist.github.com/dfirfpi/2602b726af1b944efa723d34b624ad88
	VSCMount	https://f001.backblazeb2.com/file/EricZimmermanTools/VSCMount.zip
	w10pfdecomp	https://gist.github.com/dfirfpi/113ff71274a97b489dfd
	Werejugo	http://github.com/markbaggett/werejugo
	WxTCmd	https://f001.backblazeb2.com/file/EricZimmermanTools/WxTCmd.zip
	XWFIM	https://f001.backblazeb2.com/file/EricZimmermanTools/XWFIM.zip

RECOVER

Technology Type	Tool Name	URL
Backup	Areca	https://www.areca.com.tw/
	BackupPC	https://backuppc.github.io/backuppc/
	Bacula	https://www.bacula.org/
	Bareos	https://www.bareos.org/en/
	Clonezilla	https://clonezilla.org/
	Duplicati	https://www.duplicati.com/
	Urbackup	https://www.urbackup.org/