



## UNIVERSITY SYSTEM OF GEORGIA

# *OPEN-SOURCE TOOLS: A USG IT HANDBOOK COMPANION GUIDE*

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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....

## REVISION & SIGN-OFF

## Change Record

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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.

Identity		Protect		Detect		Respond		Recover	
Technology	Open Source	Technology	Open Source	Technology	Open Source	Technology	Open Source	Technology	Open Source
Asset Management	AssetTiger	Access Control	Apache Smack	SEIM	Apache ELK	Incident Response	GRR	Airc2	
	ERPNext	FreeIPA	Apache Metron		DAD		Rapid Response	BackupPC	
	GLPI ITSM	Gluu	Domain Stats		Restre2r		Patrol	Bacula	
	I-dolt	Keycloak	File Server		Box		RESTcmd	Bareos	
	KubeVirt	Middleman Security	OSSEC		CyberCP		MITMExplorer	OpenMedia	
	Ralph	OpenAM	OSSIM		Shuffle		onion_peeler.py	Duplicati	
Code Analysis Scanners	ResourceSpace	OpenAMM	Prelude OSS		SIFT Workstation		parse_mftdump.py	UrBackup	
	Snipe-IT	OpenIDB	Qradar Threat Intelligence		The Hive		quicklook_parser		
	Open-Audit	Shibboleth	Siemion		Amberminer		RCmd		
	Flawfinder	Spidn	ShredMeThePackets		binlivePE		RBcmd		
	SonarQube	WSD Identity Server	SEMSEmon		APOLLO				
Vulnerability Scanners	VisualCodeRepper	Anti-Virus & Endpoint Protection	Armadillo	Cyber Threat Intelligence	Espionage	Awesome-Malware-Analysis	Aurora IR		
	YASCA	BullGuard	ClamAV		The Pyramid of Pain		Autop		
	AppTrana	CloudWin	CloudAV		untrapScanner		AutoIt		
	Ansible	McAfee	McAfee AV		DefConLabs		AutoIt		
	Goliath	Scalze	NSIS		TNSpoof		bstrings		
	Grabber	API Umbrella	flare		Hunting		chrome_parse.py		
	Grendel-Scan	APIMAN	Hunting Maturity Model		Labrea.py		deswindix		
	Nmap	DreamFactory	Labrea		Log Campaign		DEFT		
	OWASP Dependency-Check	Fusio	Misc PowerShell & VBScript		P&E		MS		
	Ride	Gravitee	PowerShell		Update-WMs		docker_mount.py		
OWASP Dependency-Check	Sec-Helpers	Kong	RAE		VirusShare		dpla1ab		
	Vega	Tyke	PowerShell	Cyber Threat Hunting	WhatisMyName		ESE Analyst		
	w3af	Webscarab	RAE		What's My Name		EvkCmd		
	Wget	Webhooks	PowerShell		WhatisMyName		EvtLogs		
	Wiiko	Wiktoria	PowerShell		WhatisMyName		EVViewer		
	ZAP	ZAP	PowerShell		Cowrie		GA CookiCruncher		
	Athena	Goliath	DCEP		Dejavu		GA-Parser.py		
	adversary	King Phisher	DevAdv		Devatas		Get-ImminentTools		
	alexa	Phishing Frenzy	Emissaries		ElasticSearch		Hasher		
	Autocrack	Dogtag PKI	Emissaries		HoneyDrive		hotshot		
Data Loss Prevention	Bifit	EBCA	Emissaries	Deception	Honeynet	Forensics	iISGeolocate		
	Blindsight	OpenDKA	Emissaries		MongoDB HoneyProxy		ios_pru_triage		
	Bifrost	MyDLP	Emissaries		OWASP HoneyProxy		JLEcmd		
	Bifrost	OpenDLP	Emissaries		PowerShell		Jumpshot Explorer		
	CloudPatty	DDOS Deflate	Emissaries		PowerShell		KAF		
	CrackMapExec	Gatkeeper	PowerShell		PowerShell		kobackupdec		
	Cryptbreaker	BoxCryptor	PowerShell		PowerShell		LCmd		
	DHCPShock	CipherShed	PowerShell		PowerShell		mac_robber.py		
	Diogenie	Cryptometer	PowerShell		PowerShell		MachRui		
	DynaStalker	DiskCryptor	PowerShell		PowerShell		Mit		
EAP-MDS-Crack	EAP-MDS-Crack	ProtonMail	PowerShell		PowerShell		MFTCmd		
	EAPM05Pass	VeraCrypt	PowerShell		PowerShell		MFTExplorer		
	Emergency	ClearOS	PowerShell		PowerShell		onion_peeler.py		
	EmuRoot	Endian	PowerShell		PowerShell		parse_mftdump.py		
	evdResource/DGps	IPSec	PowerShell		PowerShell		rcmd		
	GCat	Untangle NG Firewall	PowerShell		PowerShell		quicklook_parser		
		OPNsense	PowerShell		PowerShell		RBcmd		
			PowerShell		PowerShell				
					PowerShell				
					PowerShell				

*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](mailto:cybersecurity@usg.edu) for correction or consideration.

## IDENTIFY

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

	DHCPShock	<a href="https://github.com/byt3bl33d3r/DHCPShock">https://github.com/byt3bl33d3r/DHCPShock</a>
	Diagon	<a href="https://github.com/Project-Prismatic/Diagon">https://github.com/Project-Prismatic/Diagon</a>
	Digestive	<a href="https://github.com/eric-conrad/digestive">https://github.com/eric-conrad/digestive</a>
	DynaPstalker	<a href="https://github.com/joswr1ght/dynapstalker">https://github.com/joswr1ght/dynapstalker</a>
	EAP-MD5-Crack	<a href="https://github.com/MarkBaggett/MarkBaggett/blob/master/eapmd5crack.py">https://github.com/MarkBaggett/MarkBaggett/blob/master/eapmd5crack.py</a>
	EAPMD5Pass	<a href="https://github.com/joswr1ght/eapmd5pass">https://github.com/joswr1ght/eapmd5pass</a>
	Emergence	<a href="https://github.com/Project-Prismatic/Emergence">https://github.com/Project-Prismatic/Emergence</a>
	EmuRoot	<a href="https://github.com/airbus-seclab/android_emuroot">https://github.com/airbus-seclab/android_emuroot</a>
	evtxResourceDGaps	<a href="https://gist.github.com/joswr1ght/3d6b18b2150bd3ce1dd10d00ca2029b0">https://gist.github.com/joswr1ght/3d6b18b2150bd3ce1dd10d00ca2029b0</a>
	GCat	<a href="https://github.com/byt3bl33d3r/gcat">https://github.com/byt3bl33d3r/gcat</a>
	Gryffindor	<a href="https://github.com/Project-Prismatic/Diagon">https://github.com/Project-Prismatic/Diagon</a>
	heimdall	<a href="https://gitlab.com/r00k/heimdall">https://gitlab.com/r00k/heimdall</a>
	John the Ripper	<a href="https://www.openwall.com/john/">https://www.openwall.com/john/</a>
	Kali	<a href="https://www.kali.org/">https://www.kali.org/</a>
	Kerberoasting	<a href="https://github.com/nidem/kerberoast">https://github.com/nidem/kerberoast</a>
	KillerBee	<a href="https://github.com/riverloopsec/killerbee">https://github.com/riverloopsec/killerbee</a>
	KillerZee	<a href="https://github.com/joswr1ght/killerzee">https://github.com/joswr1ght/killerzee</a>
	Mailsniper for Gmail	<a href="https://github.com/Osm0s1z/MailSniper">https://github.com/Osm0s1z/MailSniper</a>
	Metasploit	<a href="https://www.metasploit.com/">https://www.metasploit.com/</a>
	MFSmartHack	<a href="https://github.com/joswr1ght/mfsmarthack">https://github.com/joswr1ght/mfsmarthack</a>
	MITMf	<a href="https://github.com/byt3bl33d3r/MITMf">https://github.com/byt3bl33d3r/MITMf</a>
	NM2LP	<a href="https://github.com/joswr1ght/nm2lp">https://github.com/joswr1ght/nm2lp</a>
	Oculus	<a href="https://github.com/Project-Prismatic/Oculus">https://github.com/Project-Prismatic/Oculus</a>
	OffensiveDLR	<a href="https://github.com/byt3bl33d3r/OffensiveDLR">https://github.com/byt3bl33d3r/OffensiveDLR</a>
	OWASP Zap	<a href="https://www.zaproxy.org/">https://www.zaproxy.org/</a>
	Pause-Process	<a href="https://github.com/besimorhino/Pause-Process">https://github.com/besimorhino/Pause-Process</a>
	PCAPHistogram	<a href="https://github.com/joswr1ght/pcaphistogram">https://github.com/joswr1ght/pcaphistogram</a>
	PlistSubtractor	<a href="https://github.com/joswr1ght/plistsubtractor">https://github.com/joswr1ght/plistsubtractor</a>
	powercat	<a href="https://github.com/besimorhino/powercat">https://github.com/besimorhino/powercat</a>
	PPTXIndex	<a href="https://github.com/joswr1ght/pptxindex">https://github.com/joswr1ght/pptxindex</a>
	PPTXSanity	<a href="https://github.com/joswr1ght/pptxsanity">https://github.com/joswr1ght/pptxsanity</a>
	PPTXUrls	<a href="https://github.com/joswr1ght/pptxurls">https://github.com/joswr1ght/pptxurls</a>
	Prismatic	<a href="http://prismatico.io/">http://prismatico.io/</a>
	Red Baron	<a href="https://github.com/byt3bl33d3r/Red-Baron">https://github.com/byt3bl33d3r/Red-Baron</a>
	SILENTTRINITY	<a href="https://github.com/byt3bl33d3r/SILENTTRINITY">https://github.com/byt3bl33d3r/SILENTTRINITY</a>
	Slingshot	<a href="https://www.sans.org/slingshot-vmware-linux">https://www.sans.org/slingshot-vmware-linux</a>
	SprayingToolkit	<a href="https://github.com/byt3bl33d3r/SprayingToolkit">https://github.com/byt3bl33d3r/SprayingToolkit</a>
	Subterfuge	<a href="https://github.com/Subterfuge-Framework">https://github.com/Subterfuge-Framework</a>
	The C2 Matrix	<a href="https://www.thec2matrix.com/">https://www.thec2matrix.com/</a>
	Tiberium	<a href="https://github.com/Osm0s1z/Tiberium">https://github.com/Osm0s1z/Tiberium</a>
	TIBTITLE2Pcap	<a href="https://github.com/joswr1ght/tibtitle2pcap">https://github.com/joswr1ght/tibtitle2pcap</a>

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

# PROTECT

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

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

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

## DETECT

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

## RESPOND

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

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

## RECOVER

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