ANOMALI®

MITRE ATT&CK: The Play at Home Edition



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Options Injection

Indicator Blocking

SID-History

Injection

Launchctl

Discovery

Trap

Trusted Developer







Disney + Story = ?



Or...

Disney + Star Wars = ?

A long time ago in a galaxy far, far away....

APT 32

laver selection controls technique controls **A** Q =+ X Initial Access Execution Credential Access Persistence Privilege **Defense Evasion** Discovery Lateral Movement Collection **Command And** Exfiltration Impact Escalation 22 items 11 items 34 items 62 items 32 items 69 items 21 items 23 items 18 items 13 items 9 items 16 items Access Token Manipulation AppleScript ccount Discovery AppleScript Audio Capture ommonly Used Port Automated Account Access Remova Drive-by .bash_profile and Access Token Account .bashrc Manipulation Manipulation Exfiltration CMSTP nary Padding Application Window Application Automated Communication Data Destruction Exploit Public-Facing Accessibility Features Accessibility Bash History Discovery eployment Collection Through Removable ata Compresse BITS Jobs mmand-Line Application Features Media Data Encrypted for Account Manipulation Brute Force Browser Bookmark Discovery Clipboard Data ata Encrypted Impact External Remote AppCert DLLs Component Object Connection Proxy Bypass User Account Control Compiled HTML File Services AppCert DLLs edential Dumping Domain Trust Discovery Model and ata from Data Transfer Size Defacement Distributed COM Applnit DLLs Clear Command History nformation ustom Command Limits Credentials from Hardware Additions Component Object Applnit DLLs ile and Directory Discover Repositories d Control Protocol Disk Content Wipe CMSTP Exfiltration Over Model and Distributed Application Web Browsers Exploitation of Ustom Cryptographic Alternative Application Shimming Shimming Data from Local Replication Through COM etwork Service Scanning Remote Services Disk Structure Wipe Removable Media Code Signing Credentials in Files System Protocol Protocol Control Panel Items Authentication Bypass User Network Share Discovery Internal **Endpoint Denial of** Package Account Control Compile After Delivery Credentials in Spearphishing Data from Data Encoding xfiltration Over Service Ovnamic Data Attachment Registry Network Sniffing Network Shared ommand and Data Obfuscation Exchange BITS Jobs DLL Search Order Compiled HTML File Logon Scripts Drive ontrol Channe Firmware Corruption pearphishing Link Hijacking Exploitation for Password Policy Discovery execution through API Bootkit Component Firmware Credential Access iss the Hash Data from Domain Fronting Exfiltration Over Inhibit System Recovery Peripheral Device Discovery Removable Media Spearphishing via Dylib Hijacking Other Network Service Execution through **Browser Extensions** Component Object Model Forced ss the Ticket Domain Generation Medium Network Denial of Module Load Flevated Execution Hijacking Authentication Permission Groups Discovery Data Staged Algorithms Service Remote Desktop Supply Chain Change Default File with Prompt Exfiltration Over Compromise roloitation for Clien Association Connection Proxy Hooking Process Discovery Protocol **Email Collection** Fallback Channels Physical Medium Resource Hijacking cution Fmond Trusted Relationship Input Capture Component Firmware Control Panel Items uery Registry lemote File Copy Input Capture Multi-hop Proxy Scheduled Transfer Runtime Data Graphical User nloitation for Manipulation Valid Accounts Interface Component Object vilege Escalatio DCShadow Input Prompt emote System Discovery Remote Services Man in the Multi-Stage Channels Model Hijacking Browser Service Stop Deobfuscate/Decode Files or InstallUtil Extra Window Kerberoasting Security Software Discovery Replication Through Multiband Create Account Memory Injection Information Removable Media Screen Capture Communication Stored Data Launchctl Keychain Software Discovery Manipulation **DLL Search Order** File System Disabling Security Tools Shared Webroot Video Capture Multilayer Encryption Local Job Scheduling Hijacking Permissions LIMNR/NRT-NS System DLL Search Order Hijacking SSH Hijacking Weakness Poisoning and Relay Port Knocking Shutdown/Reboot LSASS Driver Dylib Hijacking Hooking LL Side-Loading Network Sniffing Taint Shared Content Remote Access Tools Transmitted Data Mshta Emond nfiguration Discovery Manipulation Image File **Execution Guardrails** Password Filter DLL Third-party Software emote File Copy owerShell External Remote Execution Options stem Network Connection Injection Exploitation for Defense Private Keys scovery indows Admin tandard Application Regsvcs/Regasm Evasion aver Protocol File System Launch Daemon Securityd Memory Regsvr32 Permissions Weakness Extra Window Memory Windows Remote Standard Injection Steal Web Session Management Cryptographic Rundll32 lidden Files and Cookie System Service Discovery Protocol Parent PID le and Directory rectories cheduled Task Spoofing missions Modification Two-Factor System Time Discovery Standard Non-Hooking Authentication Application Layer ripting Path Interception Interception Virtualization/Sandbox Protocol Hypervisor Evasion ervice Execution Plist Modification Uncommonly Used File System Logical Offsets mage File Execution Signed Binary Proxy Port Monitors Options Injection Gatekeeper Bypass Execution Web Service Kernel Modules and PowerShell Profile Group Policy Modification Extensions Process Injection dden Files and Directories Launch Agent Source cheduled Task Hidden Users Launch Daemon Space after Filename Service Registry dden Window Launchctl Permissions Weakness HISTCONTROL Third-party Software LC_LOAD_DYLIB Addition Setuid and Setgid Image File Execution Options Injection Trusted Developer Local Job Scheduling SID-History Utilities Injection Indicator Blocking Login Item Jser Execution Startup Items Indicator Removal from Tools

Logon Scripts

Sudo

dicator Removal on Host

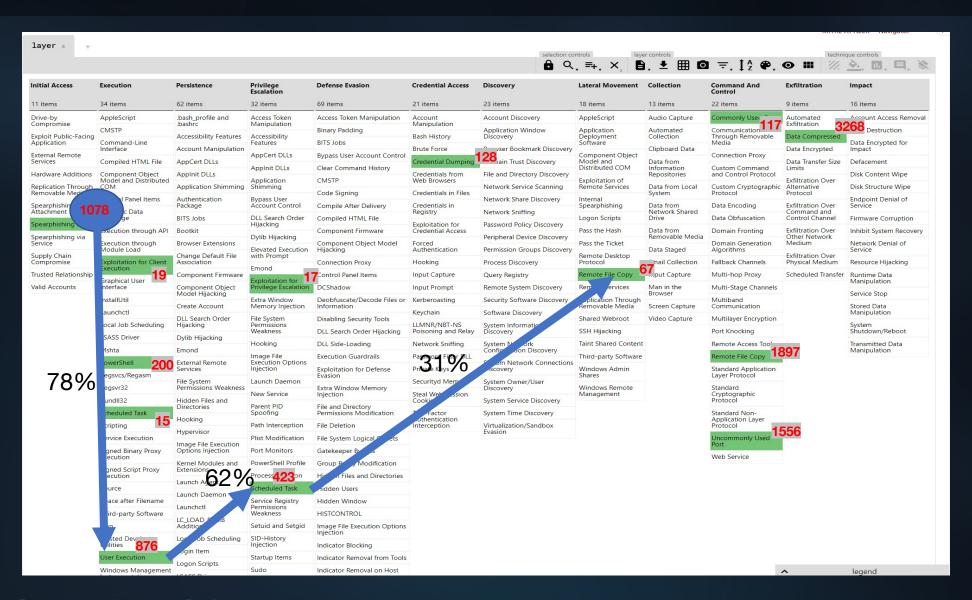
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APT 33

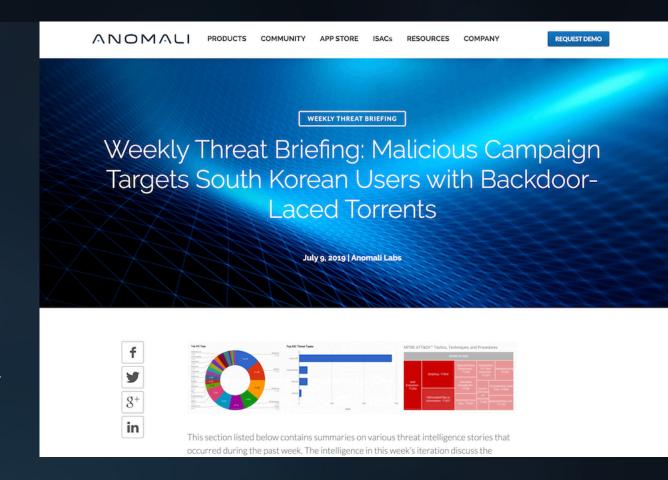
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Initial Access	Execution	Persistence	Privilege Escalation	Defense Evasion	Credential Access	Discovery	Lateral Movement	Collection	Command And Control	Exfiltration	Impact
11 items	34 items	62 items	32 items	69 items	21 items	23 items	18 items	13 items	22 items	9 items	16 items
Drive-by Compromise	AppleScript	.bash_profile and .bashrc	Access Token Manipulation	Access Token Manipulation	Account Manipulation	Account Discovery	AppleScript	Audio Capture	Commonly Used Port	Automated Exfiltration	Account Access Removal
Exploit Public-Facing Application	CMSTP Command-Line Interface	Accessibility Features Account Manipulation	Accessibility Features	Binary Padding BITS Jobs	Bash History Brute Force	Application Window Discovery Browser Bookmark Discovery	Application Deployment Software	Automated Collection Clipboard Data	Communication Through Removable Media	Data Compressed	Data Destruction Data Encrypted for
External Remote Services		AppCert DLLs	AppCert DLLs	Bypass User Account Control	Credential Dumping	Domain Trust Discovery	Component Object Model and	Data from	Connection Proxy	Data Encrypted Data Transfer Size	Impact Defacement
Replication Through Removable Media	Component Object Model and Distributed COM	Applnit DLLs	Applnit DLLs	Clear Command History	Credentials from	File and Directory Discovery	Distributed COM Information Repositories Exploitation of Remote Services Internal Spearphishing Spearphishing Logon Scripts Data from Network Shared Drive	Custom Command and Control Protocol	Limits	Disk Content Wipe	
		Application Shimming	Application Shimming	CMSTP	Web Browsers	Network Service Scanning			Custom Cryptographic	Exfiltration Over Alternative	Disk Structure Wipe
	Dynamic Data	Authentication Package	Bypass User Account Control DLL Search Order	Code Signing Compile After Delivery	Credentials in Files Credentials in Registry	Network Share Discovery		System	Protocol Data Encoding	Protocol Exfiltration Over Command and	Endpoint Denial of Service
Attachment		BITS Jobs		Compiled HTML File		Network Sniffing			Data Obfuscation		Firmware Corruption
Spearphishing Link Spearphishing via	Execution through API	Bootkit	Hijacking Dylib Hijacking	Component Firmware	Exploitation for Credential Access	Password Policy Discovery Peripheral Device Discovery	Pass the Hash	Data from Removable Media	Domain Fronting	Exfiltration Over Other Network	Inhibit System Recovery
Service	Execution through Module Load	Browser Extensions	Elevated Execution	Component Object Model Hijacking	Forced Authentication	Permission Groups Discovery	Pass the Ticket	Data Staged	Domain Generation Algorithms	Medium	Network Denial of Service
Supply Chain Compromise	Exploitation for Client Execution	Change Default File Association	with Prompt Emond	Connection Proxy	Hooking	Process Discovery	Remote Desktop Protocol	Email Collection	Fallback Channels	Exfiltration Over Physical Medium	Resource Hijacking
	Graphical User Interface	Component Firmware	Exploitation for	Control Panel Items DCShadow	Input Capture	Query Registry	Remote File Copy Remote Services	Input Capture Man in the	Multi-hop Proxy	Scheduled Transfer	Runtime Data Manipulation
		Component Object Model Hijacking	Privilege Escalation Extra Window	Deobfuscate/Decode Files or	Input Prompt	Remote System Discovery		Browser	Multi-Stage Channels Multiband		Service Stop
		Create Account	Memory Injection	Information	Kerberoasting	Security Software Discovery	Replication Through Removable Media	Screen Capture	Communication		Stored Data
		DLL Search Order Hijacking	File System Permissions	Disabling Security Tools	Keychain LLMNR/NBT-NS	System Information	Shared Webroot	Video Capture	Multilayer Encryption		Manipulation System
	LSASS Driver	Dylib Hijacking	Weakness	DLL Search Order Hijacking		Discovery	SSH Hijacking		Port Knocking		Shutdown/Reboot
	Mshta	Emond	Hooking	DLL Side-Loading	Network Sniffing	System Network Configuration Discovery	Taint Shared Content		Remote Access Tools		Transmitted Data Manipulation
	PowerShell	External Remote Services	Image File Execution Options Injection	Execution Guardrails Exploitation for Defense	Password Filter DLL Sy: Private Keys Dis	System Network Connections Discovery	Third-party Software Windows Admin		Remote File Copy Standard Application		
	Regsvcs/Regasm Regsvr32	File System Permissions Weakness	Launch Daemon	Evasion Extra Window Memory	Securityd Memory	System Owner/User Discovery	Shares Windows Remote		Layer Protocol Standard		
		Hidden Files and Directories	New Service Parent PID	Injection File and Directory	Steal Web Session Cookie Two-Factor Authentication Interception V	System Service Discovery	Management		Cryptographic Protocol	ryptographic otocol andard Non- pplication Layer rotocol ncommonly Used	
	Scheduled Task	Hooking	Spoofing	Permissions Modification		System Time Discovery			Standard Non-		
	Scripting	Hypervisor	Path Interception	File Deletion		Virtualization/Sandbox Evasion			Protocol		
	Service Execution Signed Binary Proxy Execution	Image File Execution	Plist Modification	File System Logical Offsets		2,43,511			Uncommonly Used Port		
		Options Injection	Port Monitors	Gatekeeper Bypass					Web Service		
	Signed Script Proxy Execution	Kernel Modules and Extensions	PowerShell Profile Process Injection	Group Policy Modification Hidden Files and Directories							
	Source	Launch Agent	Scheduled Task	Hidden Users							
	Space after Filename	Launch Daemon	Service Registry	Hidden Window							
	Third-party Software	Launchctl	Permissions Weakness	HISTCONTROL							
		LC_LOAD_DYLIB Addition	Setuid and Setgid	Image File Execution Options Injection							
	Trusted Developer Utilities	Local Job Scheduling	SID-History Injection	Indicator Blocking							
	User Execution	Login Item	Startup Items	Indicator Removal from Tools							
	Windows Management	Logon Scripts	Sudo	Indicator Removal on Host						^	legend

Do the Groups Matter?

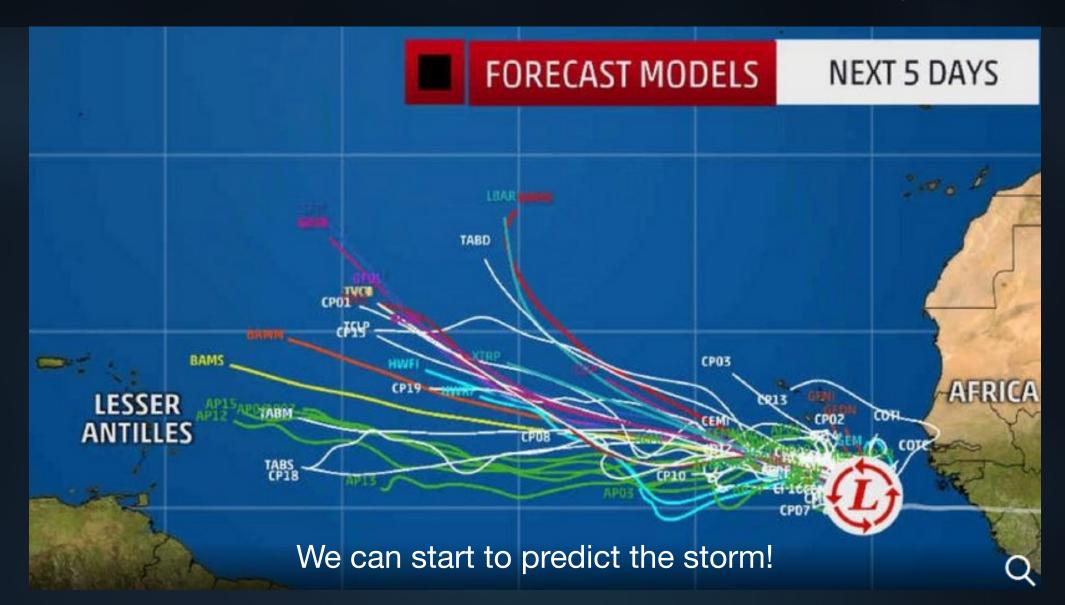


Key Takeaways

- Statistical based historical knowledge (Cyber Threat Data) of advisory's tactics will tell a story
- Everyone in the community needs help contribute to the story by associating tactics and techniques to current events
- We need to start using threat intel data to actually produce intelligence



Once We Understand the Story



How Does a Good Disney Story End?





Questions?