blackCatConf

github.com/f0wl/blackCatConf

f0wl

f0wl/**blackCatConf**

Configuration Extractor for BlackCat Ransomware

1 Contributor | 0 Issues | 18 Stars | 2 Forks

go report A+

blackCatConf is a static configuration extractor implemented in Golang for BlackCat Ransomware (targeting Microsoft Windows and GNU/Linux + VMware ESXi). By default the script will print the extracted information to stdout. It is also capable of dumping the malware configuration to disk as a JSON file with the `-j` flag.

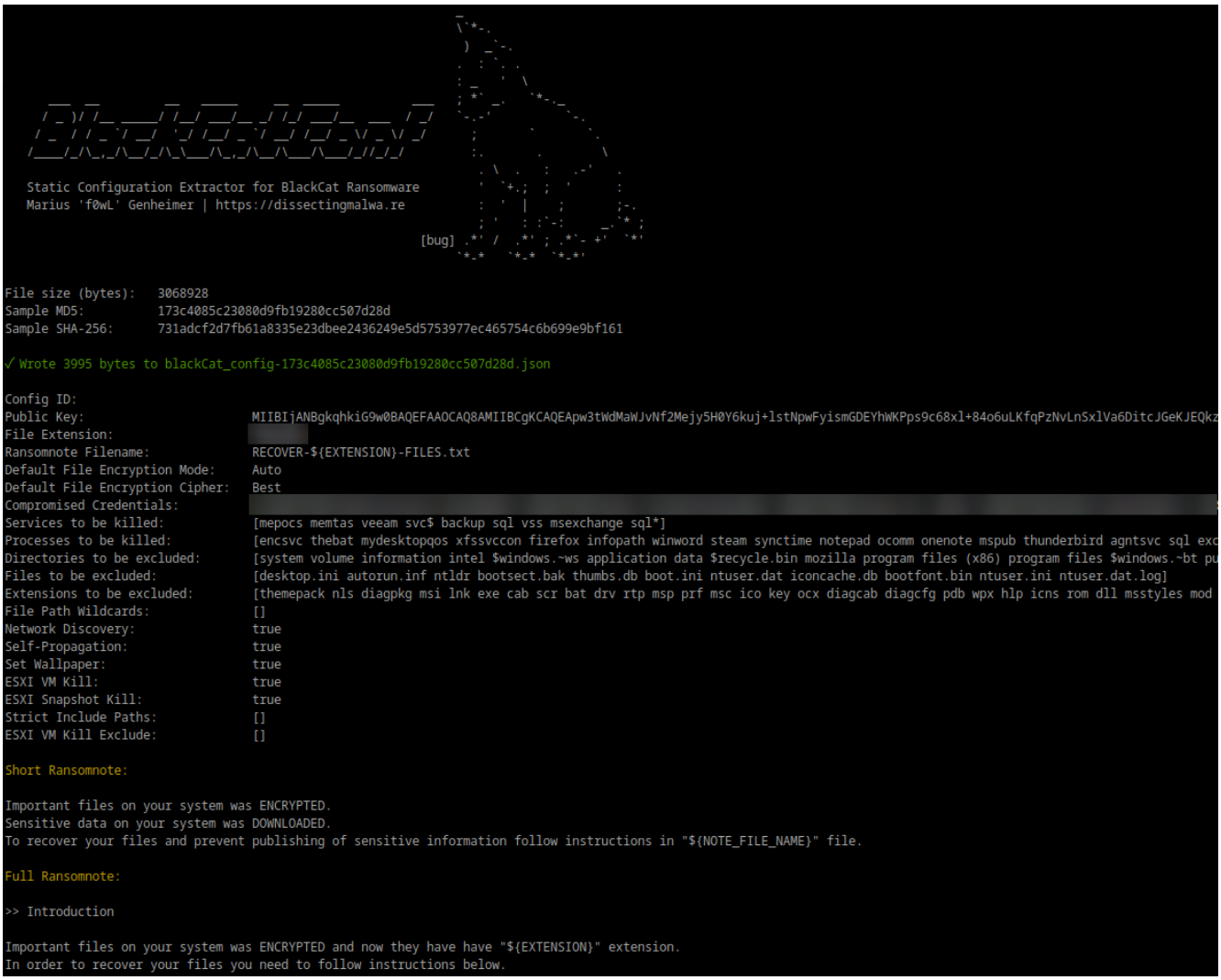
Info: This tool does currently not support the new version of BlackCat/ALPHV ransomware.

Usage

```
go run blackcatconf.go [-j] path/to/blackcat_sample.bin
```

Screenshots

Sensitive victim information in the screenshot below and the example config file has been redacted.



Configuration structure

With these novel BlackCat Ransomware samples this config extractor could easily be replaced by a bash one-liner (e.g. `strings ... | grep "{\"config_id" > config.json`), but I expect that there will be config obfuscation/encryption added in future samples of BlackCat, similar to e.g. the changes made in Darkside Ransomware over time. If this is the case here as well having a structure to unmarshal the json config into will save me some time down the road.

Speaking of Darkside/BlackMatter: The configuration structure and values of BlackCat share significant similarities with those found in BlackMatter. The Korean Threat Intelligence company S2W Lab published a thorough analysis of the similarities between these two Ransomware strains.

Key	Value / Purpose	Type
config_id	Configuration ID, empty up until now (= Victim Identifier?)	unknown
public_key	RSA Public Key (Base64 encoded)	string
extension	Extension for encrypted files	string
note_file_name	Filename of the Ransomnote	string

Key	Value / Purpose	Type
note_full_text	Long version of the Ransomnote	string
note_short_text	Short version of the Ransomnote	string
default_file_mode	File Encryption Mode (observed: "auto" and "Smartpattern")	string or []int
default_file_cipher	File Encryption Cipher (observed: "Best")	string
credentials	Array of compromised credentials for escalation and propagation	[][]string
kill_services	List of services to be terminated	[]string
kill_processes	List of processes to be terminated	[]string
exclude_directory_names	Directories that are excluded from the encryption process	[]string
exclude_file_names	Files that are excluded from the encryption process	[]string
exclude_file_extensions	File extensions that are excluded from the encryption process	[]string
exclude_file_path_wildcard	Filepaths to be excluded via wildcard	[]string (?)
enable_network_discovery	Switch to enable/disable network discovery	bool
enable_self_propagation	Switch to enable/disable self propagation	bool
enable_set_wallpaper	Switch to enable/disable wallpaper change	bool
enable_esxi_vm_kill	Switch to enable/disable VM termination on ESXi Hosts	bool
enable_esxi_vm_snapshot_kill	Switch to enable/disable Snapshot deletion on ESXi Hosts	bool
strict_include_paths	Hardcoded filepaths (likely victim-specific)	[]string (?)
esxi_vm_kill_exclude	Exclusion list for virtual machines on ESXi Hosts	[]string (?)

Testing

This configuration extractor has been tested successfully with the following samples:

SHA-256	OS	Sample
59868f4b346bd401e067380cac69080709c86e06fae219bfb5bc17605a71ab3f	Windows	Malware Bazaar
731adcf2d7fb61a8335e23dbee2436249e5d5753977ec465754c6b699e9bf161	Windows	Malware Bazaar
5121f08cf8614a65d7a86c2f462c0694c132e2877a7f54ab7fcefd7ee5235a42	Linux	VX-Underground

SHA-256	OS	Sample
f8c08d00ff6e8c6adb1a93cd133b19302d0b651afd73ccb54e3b6ac6c60d99c6	Linux	VX-Underground

If you encounter an error with blackCatConf, please file a bug report via an issue. Contributions are always welcome :)