SECURITY MONITORING MIT BORDMITTELN

Defense um € 0 Softwarekosten

ASSUME BREACH

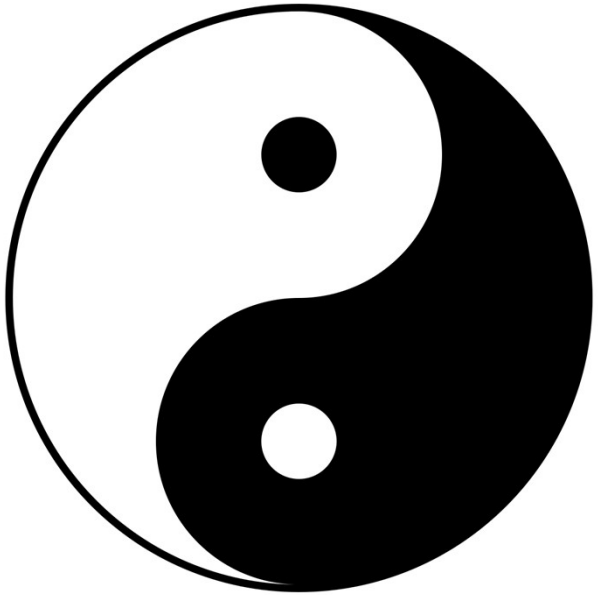
PROBLEME DER VERTEIDIGER

- Teilweise völliger Blindflug
- Zu viel Information
- Gleichzeitig zu wenig Information
- Ressourcenmangel – Zeit/Geld

ASYMETRISCH

+Angreifer

+Muss nur eine Schwachstelle erfolgreich nutzen



+Verteidiger

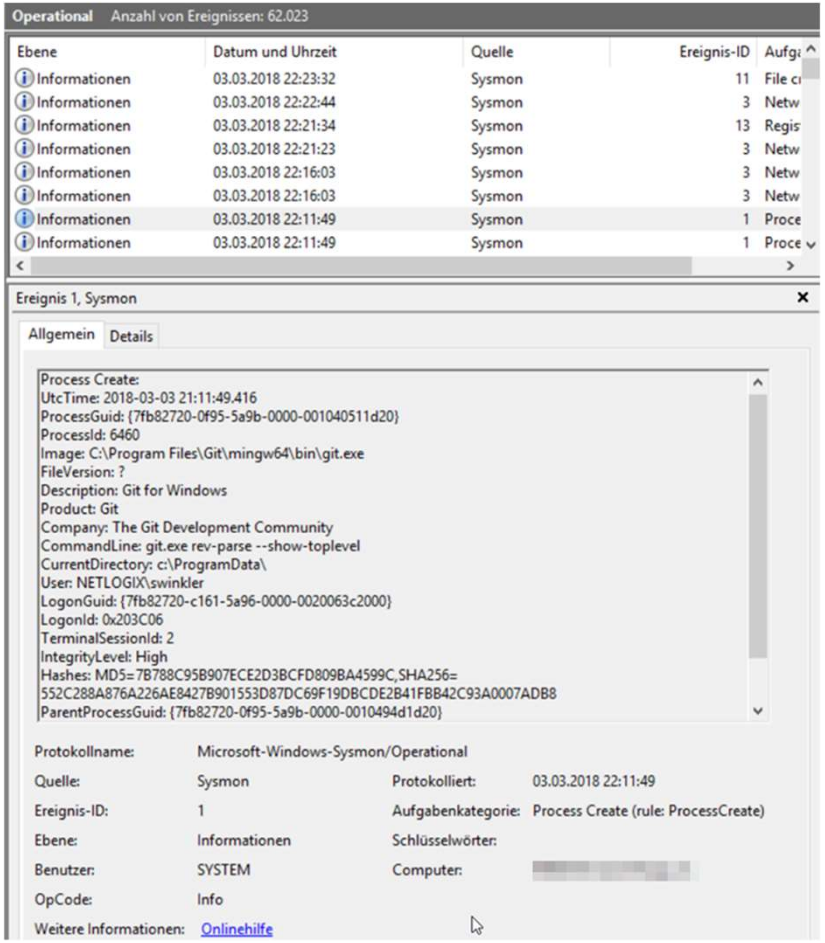
+Muss immer alles im Griff haben

+Erwischen -> Gegenmaßnahmen

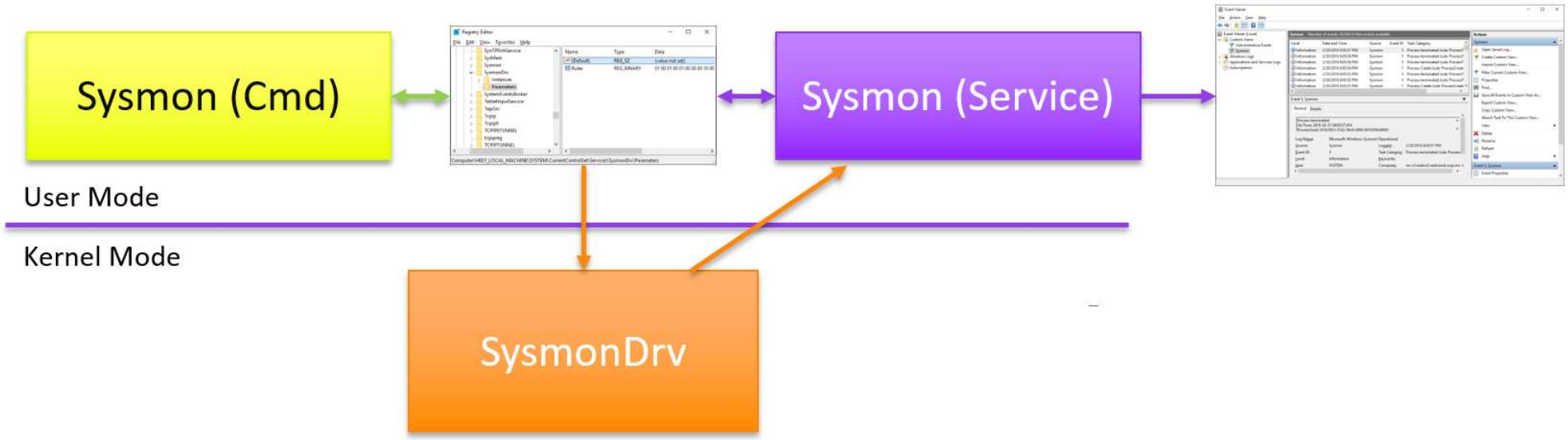
SYSINTERNALS SYSMON (SYSTEM MONITOR)

+ Monitoring Utility
  + Schreibt in Windows Eventlog
  + Ermöglicht Erkennung von Anomalien
  + Für Microsoft Coporate Network geschrieben

+ Kostenloser Download
  + https://docs.microsoft.com/en-us/sysinternals/downloads/sysmon



SYSMON ARCHITEKTUR



SYSMON EVENT ID'S

Category	Event ID
Process Create	1
File Creation Time Changed	2
Network Connection	3
Sysmon Service State Change	4
Process Terminated	5
Driver Loaded	6
Image Loaded	7
CreateRemoteThread	8
RawAccessRead	9

Category	Event ID
Process Access	10
File Create	11
Registry Object CreateDelete	12
Registry Value Create	13
Registry Object Rename	14
File Create Stream Hash	15
Sysmon Configuration Changed	16
Pipe Created	17
Pipe Connected	18
Error	255

Neu in Sysmon 7 – WMI Events	
WmiEventFilter activity detected	19
WmiEventConsumer activity detected	20
WmiEventConsumerToFilter activity detected	21

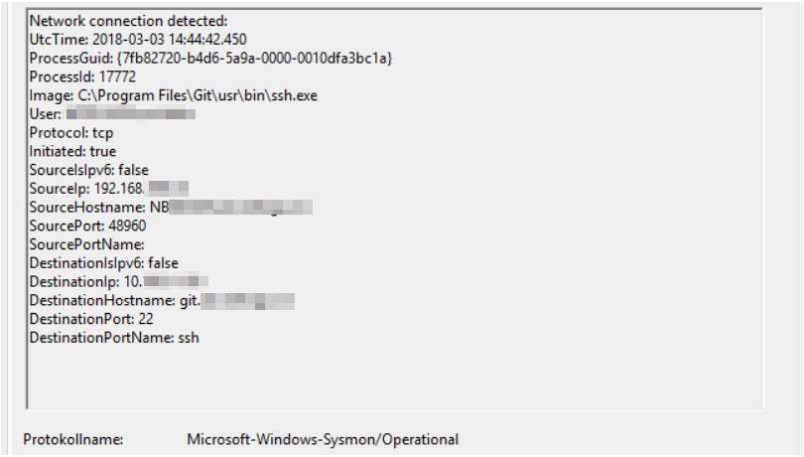
BEISPIEL – NETWORK EVENTS

+ TCP und UDP

+ DNS und Port – Namensauflösung

+ Protokollierung bei Verbindungsaufbau

+Enthält Image (powershell.exe, …)



Network Connection Detected	
UtcTime	DestinationIsIpv6
ProcessGuid	DestinationIp
ProcessId	DestinationHostName
Image	DesinationPort
User	DesinationPortName
Protocol	
Initiated	
SourceIsIpv6	
SourceIp	
SourceHostName	
SourcePort	
SourcePortName	

SYSMON KONFIGURATION

+ Konfiguration via XML-File

+ Granulare Filter

install: sysmon -i -accepteula c:\SysmonConfig.xml
update: sysmon -c c:\SysmonConfig.xml

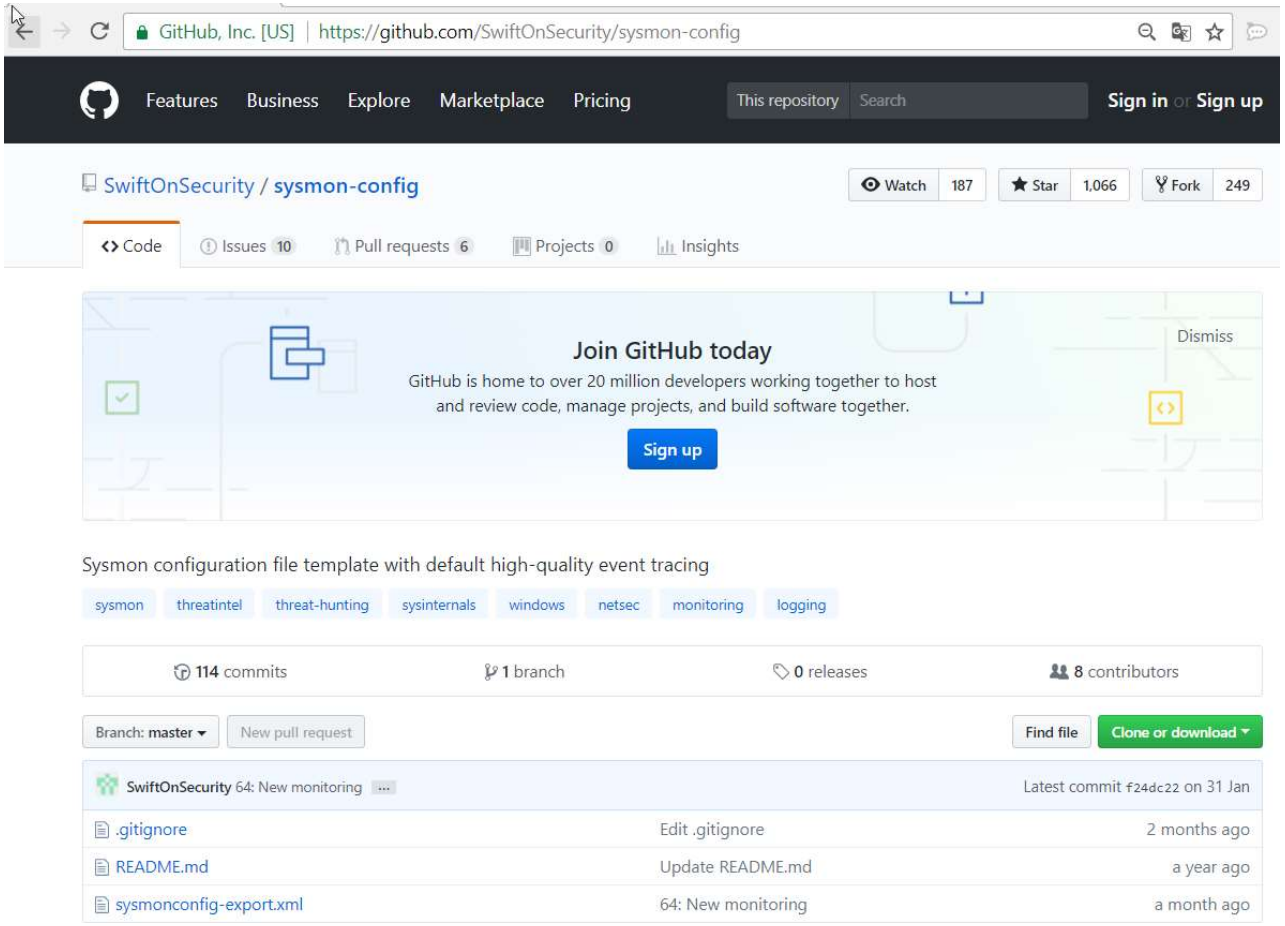
```
<!--SYSMON EVENT ID 1 : PROCESS CREATION [ProcessCreate]-->
    <!--COMMENT:    All process launched will be included, except for what matches a rule below. It's best to be as specific as possible, to
        avoid user-mode executables imitating other process names to avoid logging, or if malware drops files in an existing directory.
        Ultimately, you must weigh CPU time checking many detailed rules, against the risk of malware exploiting the blindness created.
        Beware of Masquerading, where attackers imitate the names and paths of legitimate tools. Ideally, you'd use both file path and
        code signatures to validate, but Sysmon does not support that. Look into Windows Device Guard for whitelisting support. -->

    <!--DATA: UtcTime, ProcessGuid, ProcessID, Image, FileVersion, Description, Product, Company, CommandLine, CurrentDirectory, User, LogonGuid, LogonId,
    <ProcessCreate onmatch="exclude">
        <!--SECTION: Microsoft Windows-->
        <CommandLine condition="begin with">C:\Windows\system32\DllHost.exe /Processid</CommandLine> <!--Microsoft:Windows-->
        <CommandLine condition="is">C:\Windows\system32\SearchIndexer.exe /Embedding</CommandLine> <!--Microsoft:Windows: Search Indexer-->
        <Image condition="is">C:\Windows\system32\CompatTelRunner.exe</Image> <!--Microsoft:Windows: Customer Experience Improvement-->
        <Image condition="is">C:\Windows\system32\audiodg.exe</Image> <!--Microsoft:Windows: Launched constantly-->
        <Image condition="is">C:\Windows\system32\conhost.exe</Image> <!--Microsoft:Windows: Command line interface host process-->
        <Image condition="is">C:\Windows\system32\musNotification.exe</Image> <!--Microsoft:Windows: Update pop-ups-->
```

DEMO TIME


http://PowerShellMagazine.com
I just heard a double-click. Somebody must be in trouble!

SYSMON-CONFIG



CHOCOLATEY

+Paketmanager

  +*apt-get/yum/dnf/pacman* für Windows

+Powershell

+https://chocolatey.org/

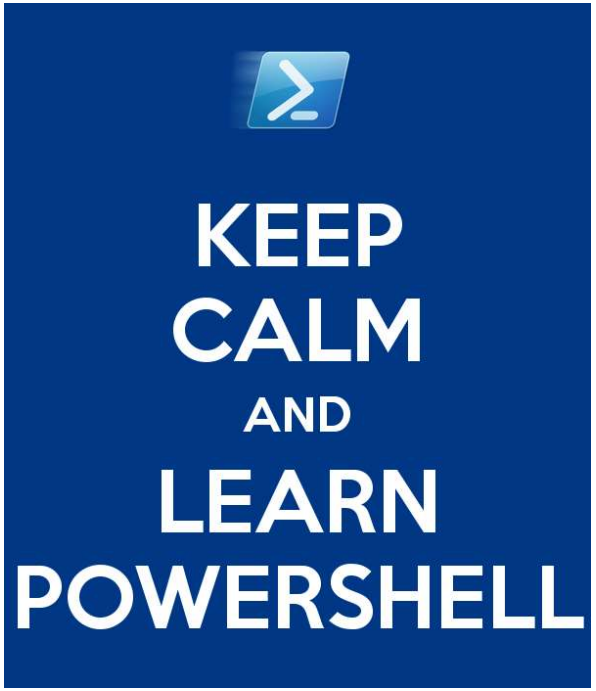
POWERSHELL REPORTING

+Nach interessanten Logeinträgen suchen

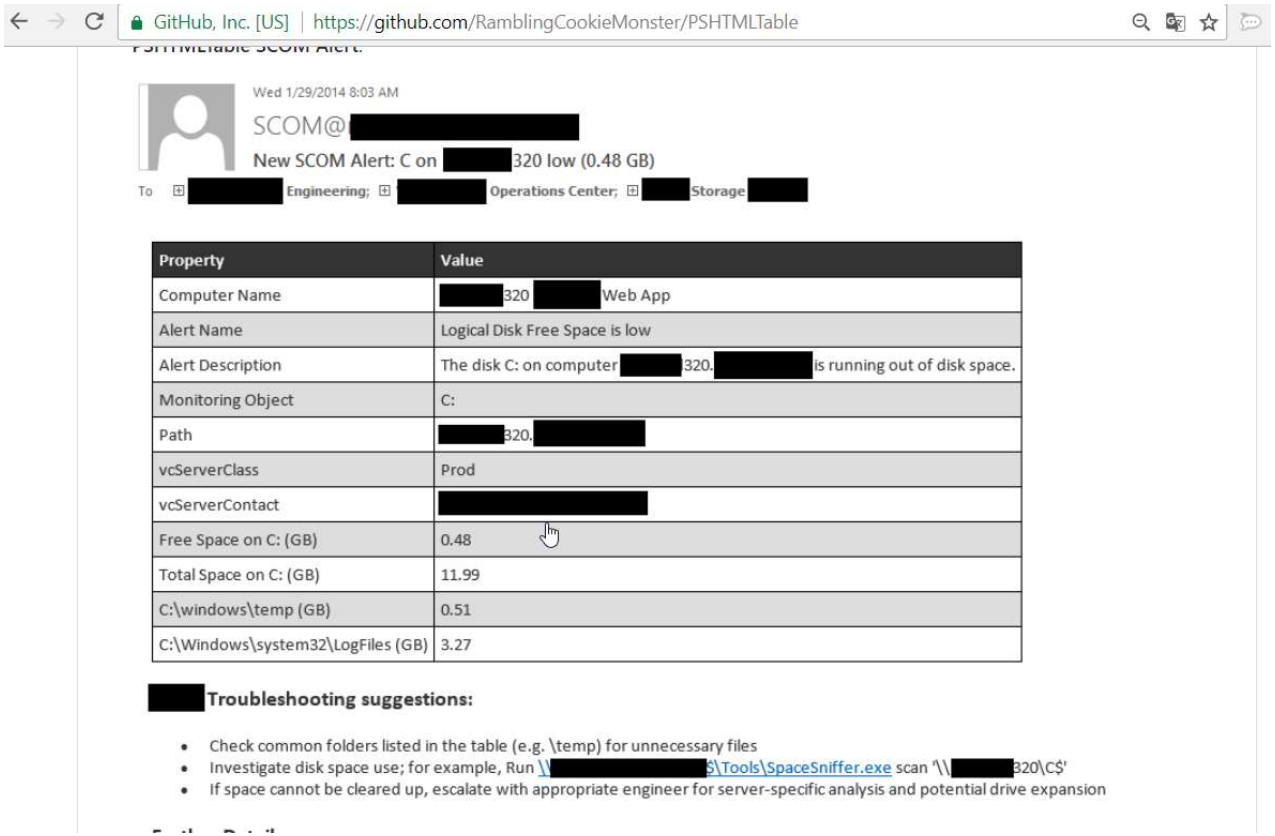
+Daten verdichten

+Report erstellen

+Als Mail versenden



HTML REPORT


GitHub, Inc. [US] | https://github.com/RamblingCookieMonster/PSHTMLTable
Wed 1/29/2014 8:03 AM
SCOM@[redacted]
New SCOM Alert: C on [redacted]320 low (0.48 GB)
To [redacted] Engineering; [redacted] Operations Center; [redacted] Storage [redacted]
Property
Value
Computer Name
[redacted]320 [redacted] Web App
Alert Name
Logical Disk Free Space is low
Alert Description
The disk C: on computer [redacted] 320.[redacted] is running out of disk space.
Monitoring Object
C:
Path
[redacted]320.[redacted]
vcServerClass
Prod
vcServerContact
[redacted]
Free Space on C: (GB)
0.48
Total Space on C: (GB)
11.99
C:\windows\temp (GB)
0.51
C:\Windows\system32\LogFiles (GB)
3.27
[redacted] Troubleshooting suggestions:
Check common folders listed in the table (e.g. \temp) for unnecessary files
Investigate disk space use; for example, Run \\[redacted]$\Tools\SpaceSniffer.exe scan '\\[redacted]320\C$'
If space cannot be cleared up, escalate with appropriate engineer for server-specific analysis and potential drive expansion

LOGS ZENTRALISIEREN

ANTARES NETLOGIX

+Windows Event Forwarding (Windows Bordmittel)

  +https://aka.ms/WEF

+Open Source

  +https://cyberwardog.blogspot.co.at/2017/03/building-sysmon-dashboard-with-elk-stack.html

+Kommerzielles SIEM

  +z.B. Made in Austria: https://www.iqsol.biz/produkte/logapp/

LINKS

+https://github.com/anlx-sw/sysmon-report

+https://github.com/MHaggis/sysmon-dfir

+https://github.com/SwiftOnSecurity/sysmon-config

Danke!

Fragen?

ANTARES
NETLOGIX
www.netlogix.at