



Thank you Sponsors

Gold









Silver



Technical Partners











Questions

Who uses WDAC in production? (not in a lab)

Who uses Applocker?

Third Party tooling for similar stuff?



Niels Kok

Consultant

Introduction to WDAC

Configuration (Demo)

Tooling (Demo)

Challenges (Demo, Kinda)

Tips & Tricks (Demo, Kinda)

Calendar

•

Introduction





App Control

Scope

EXECUTABLE FILES (.EXE, .COM)

DYNAMIC-LINK LIBRARIES (.DLL, .OCX)

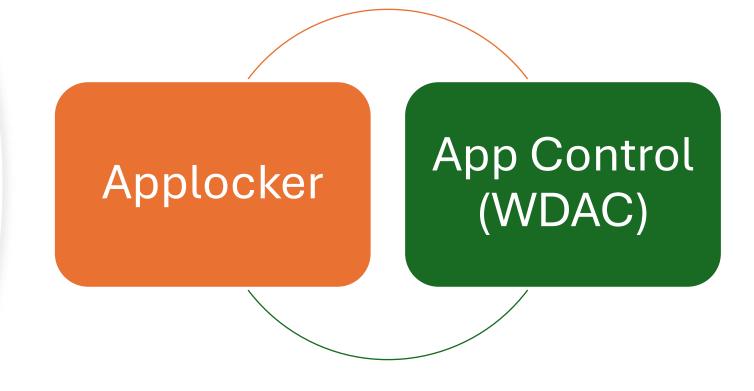
SCRIPTS (.PS1, .VBS, .JS, .CMD, .BAT)

INSTALLER FILES (.MSI, .MSP, .MST)

PACKAGES APPS (.APPX, .MSIX, .APPXBUNDLE/.MSIXBUNDLE)

DRIVERS (.SYS)

Options for App Control



+ 0

Configuration (Demo)

+

O

Demo Content

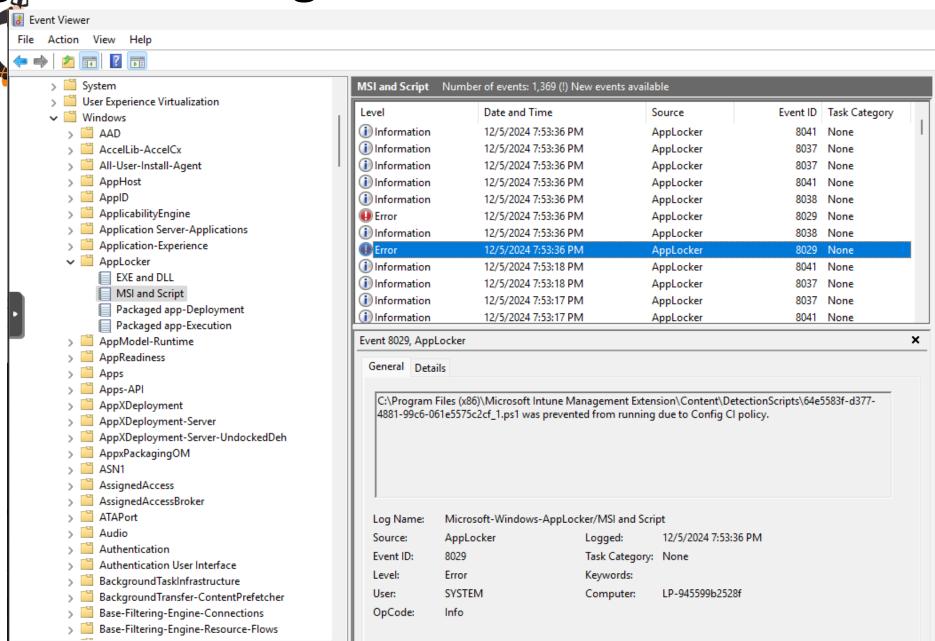
Applocker

- How to configure (via Intune)
- Updating policies

App Control (WDAC)

- How to configure (via Intune)
- Updating policies

got the managed installer



Store Applications

Block store via Intune is not enough

•

Challenges

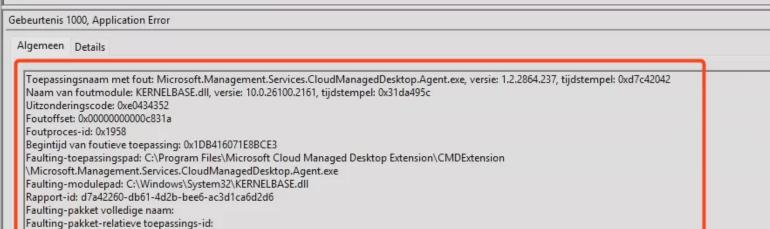
+



Windows 365

j) Informatie	28-11-2024 07:40:43	Windows Error Reporting	1001 Geen
i) Informatie	28-11-2024 07:40:44	edgeupdate	0 Geen
Fout	28-11-2024 07:40:42	Application Error	1000 Toepassingscrash-
Fout	28-11-2024 07:40:42	.NET Runtime	1026 Geen
i) Informatie	28-11-2024 07:39:56	Msilnstaller	1042 Geen
i) Informatie	28-11-2024 07:39:56	Msilnstaller	1034 Geen
Fout	28-11-2024 07:39:56	Msilnstaller	11723 Geen
i) Informatie	28-11-2024 07:39:55	Msilnstaller	1040 Geen
i) Informatie	28-11-2024 07:39:55	Msilnstaller	1042 Geen
i) Informatie	28-11-2024 07:39:55	Msilnstaller	1035 Geen
i) Informatie	28-11-2024 07:39:55	Msilnstaller	11728 Geen

×





	CO. I.I. COE LOSS. IEIEG.	concuregity	2022. 717.
🛈 Informatie	28-11-2024 09:40:48	CodeIntegrity	3089 (1)
Fout	28-11-2024 09:40:48	CodeIntegrity	3077 (18)
i) Informatie	28-11-2024 09:40:48	CodeIntegrity	3089 (1)
Fout	28-11-2024 09:40:48	CodeIntegrity	3033 (1)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3116 (21)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
1) Informatie	28-11-2024 09:40:06	CodeIntegrity	3116 (21)
1) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
1) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
🚺 Informatie	28-11-2024 09:40:06	CodeIntegrity	3116 (21)
i) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
1) Informatie	28-11-2024 09:40:06	CodeIntegrity	3116 (21)
j) Informatie	28-11-2024 09:40:06	CodeIntegrity	3099 (21)
O	20.44.2024.00.40.05		2445 /243

Gebeurtenis 3077, CodeIntegrity

×

Algemeen Details

Code Integrity determined that a process (\Device\HarddiskVolume4\Packages\Plugins\Microsoft.CPlat.Core.WindowsHibernateExtension\1.0.3\bin\AzureHibernateExtension.exe) attempted to load \Device\HarddiskVolume4\Packages\Plugins\Microsoft.CPlat.Core.WindowsHibernateExtension\1.0.3\bin\Newtonsoft.Json.dll that did not meet the Enterprise signing level requirements or violated code integrity policy (Policy ID:{115b37ee-f4e1-4734-9207-76e2f140c4f5}).



1) Informatie	28-11-2024 13:56:51	CodeIntegrity	3089 (1)
Fout	28-11-2024 13:56:51	CodeIntegrity	3077 (18)
1) Informatie	28-11-2024 13:56:51	CodeIntegrity	3089 (1)
● Fout	28-11-2024 13:56:51	CodeIntegrity	3033 (1)
 Informatie 	28-11-2024 13:56:24	CodeIntegrity	3102 (21)
Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
i) Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
1) Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
i) Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
🚺 Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
1) Informatie	28-11-2024 13:56:24	CodeIntegrity	3096 (21)
1) Informatie	28-11-2024 13:56:24	CodeIntegrity	3105 (21)
1) Informatie	28-11-2024 13:56:24	CodeIntegrity	3103 (21)
1) Informatie	28-11-2024 13:56:24	CodeIntegrity	3105 (21)

×

Gebeurtenis 3077, CodeIntegrity

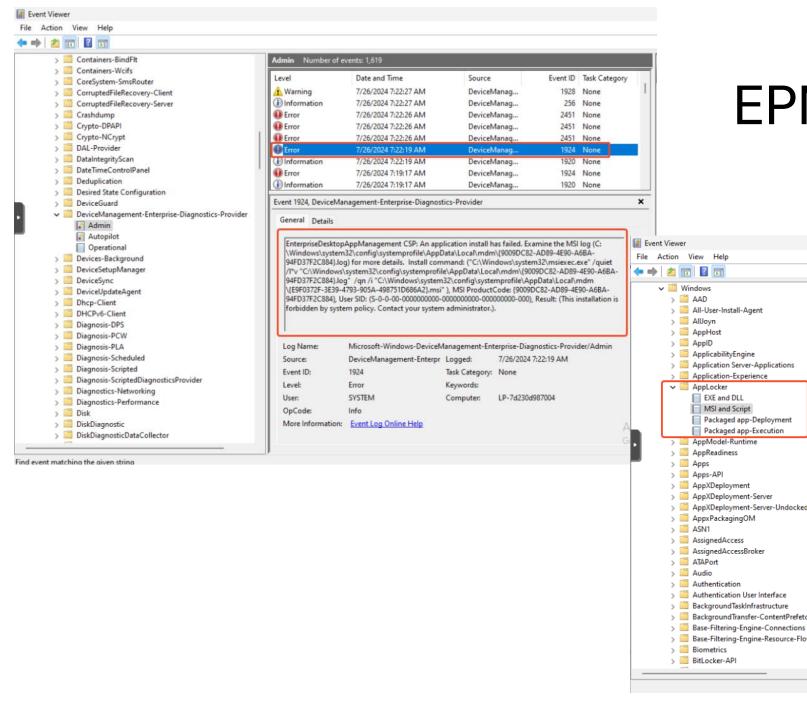
Algemeen Details

Code Integrity determined that a process (\Device\HarddiskVolume4\Program Files\Microsoft Cloud Managed Desktop Extension\CMDExtension \Microsoft.Management.Services.CloudManagedDesktop.Agent.exe) attempted to load \Device\HarddiskVolume4\Program Files\Microsoft Cloud Managed Desktop Extension\CMDExtension\Microsoft.Management.Services.CloudManagement.DeviceDataContract.dll that did not meet the Enterprise signing level requirements or violated code integrity policy (Policy ID:{115b37ee-f4e1-4734-9207-76e2f140c4f5}).



Microsoft Certificates

- Microsoft Azure 3rd Party code sign
- Microsoft Azure code sign



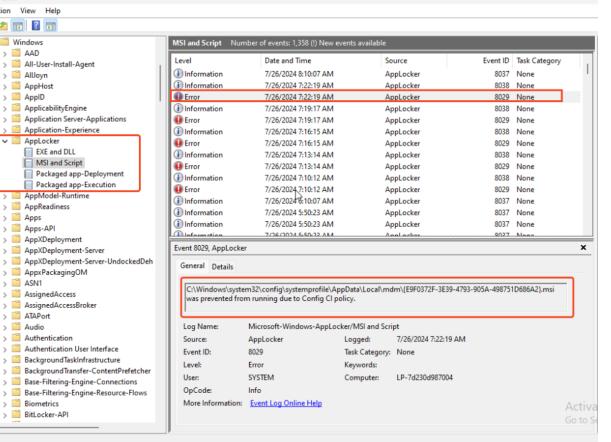
EPM

EXE and DLL

MSI and Script

Packaged app-Deployment

Packaged app-Execution

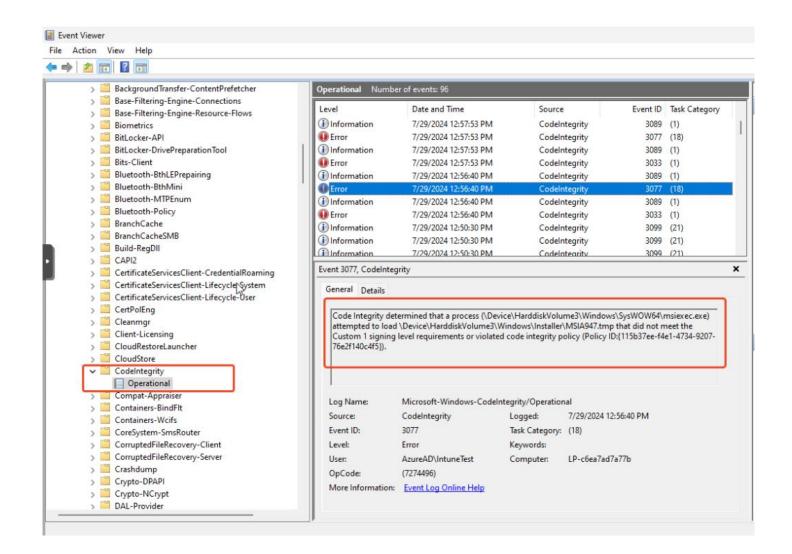




```
11
           </Rule>
12
         </Rules>
13
         <!--EKUS-->
         <EKUs />
14
         <!--File Rules-->
15
         <FileRules />
16
         <!--Signers-->
17
18
         <Signers>
           <Signer ID="ID_SIGNER_A_52B9BEC54643470999EE4163CEFD367D_1" Name=".NET Foundation Projects Code Signing CA">
19
             <CertRoot Type="TBS" Value="B6D27A37A95C0A174C66496B3225B11A6250846BBC31FCA10D69D61F92DF5084" />
20
21
             <CertPublisher Value="WiX Toolset (.NET Foundation)" />
22
           </Signer>
           <Signer ID="ID_SIGNER_B_F7EA725C0DB04E40806CAC8DF84D02D7_1" Name="Microsoft Code Signing PCA 2011">
23
24
             <CertRoot Type="TBS" Value="F6F717A43AD9ABDDC8CEFDDE1C505462535E7D1307E630F9544A2D14FE8BF26E" />
25
             <CertPublisher Value="Microsoft Corporation" />
           </Signer>
26
27
         </Signers>
28
         <!--Driver Signing Scenarios-->
         <SigningScenarios>
29
           <SigningScenario Value="131" ID="ID_SIGNINGSCENARIO_DRIVERS_1" FriendlyName="Auto generated policy on 07-29-2024">
30
             <ProductSigners />
31
           </SigningScenario>
32
           <SigningScenario Value="12" ID="ID_SIGNINGSCENARIO_WINDOWS" FriendlyName="Auto generated policy on 07-29-2024">
33
             <ProductSigners>
34
35
               <AllowedSigners>
```



Teams Meeting Add-in





Blogpost QR codes







W365 blog

Teams Meeting Add-in

EPM













Cloud Managed Desktop Agent (Windows 365)

■ BranchCache BranchCacheSMB	(i) Informatie	31-1-2025 08:19:00	CodeIntegrity	3089 (1)
Build-RegDII	(i) Fout	31-1-2025 08:19:00	CodeIntegrity	3077 (18)
CAPI2	(i) Informatie	31-1-2025 08:19:00	CodeIntegrity	3089 (1)
CertificateServicesClient-CredentialRoaming	Fout	31-1-2025 08:19:00	CodeIntegrity	3033 (1)
CertificateServicesClient-Lifecycle-System	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
CertificateServicesClient-Lifecycle-User	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
CertPolEng	i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
Cleanmgr	i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
Client-Licensing	i) Informatie	31-1-2025 08:16:10	CodeIntegrity	
CloudFiles-Filter	i) Informatie	31-1-2025 08:16:10		3099 (21)
CloudRestoreLauncher			CodeIntegrity	3099 (21)
CloudStore	informatie	31-1-2025 08:16:10	CodeIntegrity	3116 (21)
CodeIntegrity	informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
Operational	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3116 (21)
Compat-Appraiser	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
Containers-BindFlt	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3116 (21)
Containers-Wcifs	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
CoreSystem-SmsRouter	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3099 (21)
CorruptedFileRecovery-Client	(i) Informatie	31-1-2025 08:16:10	CodeIntegrity	3084 (20)
CorruptedFileRecovery-Server	(i) Informatie	30-1-2025 16:55:24	CodeIntegrity	3089 (1)
Crashdump	● Fout	30-1-2025 16:55:24	CodeIntegrity	3077 (18)
Crypto-DPAPI	(i) Informatie	30-1-2025 16:55:24	CodeIntegrity	3089 (1)
Crypto-NCrypt	● Fout	30-1-2025 16:55:24	CodeIntegrity	3033 (1)
DAL-Provider	(i) Informatie	30-1-2025 16:28:21	CodeIntegrity	3089 (1)
DataIntegrityScan	⊕ Fout	30-1-2025 16:28:21	CodeIntegrity	3077 (18)
DateTimeControlPanel	(i) Informatie	30-1-2025 16:28:21	CodeIntegrity	3089 (1)
Deduplication	Fout	30-1-2025 16:28:21	CodeIntegrity	3033 (1)
Desired State Configuration	(i) Informatie	30-1-2025 16:06:17	Codelatearity	3089 (1)
DeviceGuard	Gebeurtenis 3033, Codeln	tegrity		
DeviceManagement-Enterprise-Diagnostics-				
Devices-Background	Algemeen Details			
DeviceSetupManager				
DeviceSync			e4\Program Files\Microsoft Cloud Managed Do	
DeviceUpdateAgent			xe) attempted to load \Device\HarddiskVolume	4\Program Files\Microsoft Cloud Managed
Dhcp-Client	Desktop Extension\Cl	MDExtension\Polly.dll that did not meet the E	nterprise signing level requirements.	
DHCPv6-Client				
Diagnosis-DPS				
Diagnosis-PCW				



Probably EPM agent

> =	CloudRestoreLauncher
> 🖺	CloudStore
v 👸	CodeIntegrity
	Operational
> 🖺	Compat-Appraiser
>	Containers-BindFlt
> 🖺	Containers-Wcifs
> 🖺	CoreSystem-SmsRouter
> "	CorruptedFileRecovery-Client
> 1	CorruptedFileRecovery-Server
> 🖺	Crashdump
> "	Crypto-DPAPI
> "	Crypto-NCrypt
>	DAL-Provider
> 🖺	DataIntegrityScan
> 🖺	DateTimeControlPanel
> 🖺	Deduplication
>	Desired State Configuration
> 🖺	DeviceGuard
> 🖺	DeviceManagement-Enterprise-Diagnostics-
> 🖺	Devices-Background
>	DeviceSetupManager
> 🖺	DeviceSync
> 🖺	DeviceUpdateAgent
> 🖺	Dhcp-Client
>	DHCPv6-Client
> 🖺	Diagnosis-DPS
> =	Diagnosis-PCW
> 🖺	Diagnosis-PLA

Algemeen Details

Gebeurtenis 3033, Codelni	tegrity		×
1 Informatie	30-1-2025 14-27-51	CodeIntegrity	3099 (21)
Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
i) Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
1) Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
🕕 Fout	30-1-2025 14:30:04	CodeIntegrity	3033 (1)
1) Informatie	30-1-2025 14:30:04	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 14:30:04	CodeIntegrity	3077 (18)
i) Informatie	30-1-2025 14:30:04	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 14:34:32	CodeIntegrity	3033 (1)
i) Informatie	30-1-2025 14:34:32	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 14:34:32	CodeIntegrity	3077 (18)
1) Informatie	30-1-2025 14:34:32	CodeIntegrity	3089 (1)
Fout	30-1-2025 14:34:38	CodeIntegrity	3033 (1)
1) Informatie	30-1-2025 14:34:38	CodeIntegrity	3089 (1)
● Fout	30-1-2025 14:34:38	CodeIntegrity	3077 (18)
i) Informatie	30-1-2025 14:34:38	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 15:02:09	CodeIntegrity	3033 (1)
J) Informatie	30-1-2025 15:02:09	CodeIntegrity	3089 (1)

Code Integrity determined that a process (\Device\HarddiskVolume4\Windows\System32\rundll32.exe) attempted to load \Device\HarddiskVolume4\Windows \Installer\MSI12A1.tmp-\WixToolset.Dtf.WindowsInstaller.dll that did not meet the Enterprise signing level requirements.



> =	CertificateServicesClient-Lifecycle-User
> 🖺	CertPolEng
> [Cleanmgr
> [Client-Licensing
> 🖺	CloudFiles-Filter
> =	CloudRestoreLauncher
> 🖺	CloudStore
v 🖺	CodeIntegrity
	Operational
> =	Compat-Appraiser
> [Containers-BindFlt
> =	Containers-Wcifs
>	CoreSystem-SmsRouter
> =	CorruptedFileRecovery-Client
> 🖺	CorruptedFileRecovery-Server
>	Crashdump
>	Crypto-DPAPI
> =	Crypto-NCrypt
> 🖺	DAL-Provider
> 🖺	DataIntegrityScan
>	DateTimeControlPanel
> 🖺	Deduplication
> 🖺	Desired State Configuration
>	DeviceGuard
>	DeviceManagement-Enterprise-Diagnostics-

> Devices-Background

> DeviceSetupManager

> DeviceUpdateAgent Dhcp-Client > DHCPv6-Client > Diagnosis-DPS

> DeviceSync

 Informatie 	30-1-2025 15:38:13	CodeIntegrity	3089 (1)
Fout	30-1-2025 15:38:13	CodeIntegrity	3033 (1)
Informatie	30-1-2025 15:02:09	CodeIntegrity	3089 (1)
Fout	30-1-2025 15:02:09	CodeIntegrity	3077 (18)
Informatie	30-1-2025 15:02:09	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 15:02:09	CodeIntegrity	3033 (1)
i) Informatie	30-1-2025 14:34:38	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 14:34:38	CodeIntegrity	3077 (18)
Informatie	30-1-2025 14:34:38	CodeIntegrity	3089 (1)
Fout	30-1-2025 14:34:38	CodeIntegrity	3033 (1)
Informatie	30-1-2025 14:34:32	CodeIntegrity	3089 (1)
Fout	30-1-2025 14:34:32	CodeIntegrity	3077 (18)
 Informatie 	30-1-2025 14:34:32	CodeIntegrity	3089 (1)
Fout	30-1-2025 14:34:32	CodeIntegrity	3033 (1)
Informatie	30-1-2025 14:30:04	CodeIntegrity	3089 (1)
🕕 Fout	30-1-2025 14:30:04	CodeIntegrity	3077 (18)
Informatie	30-1-2025 14:30:04	CodeIntegrity	3089 (1)
Fout	30-1-2025 14:30:04	CodeIntegrity	3033 (1)
Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
1) Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
1) Informatie	30-1-2025 14:27:51	CodeIntegrity	3099 (21)
1) Informatie	30-1-2025 14-27-51	CodeIntegrity	3099 (21)
Gebeurtenis 3033, Codelnt	egrity	- L L	×

Algemeen Details

Code Integrity determined that a process (\Device\HarddiskVolume4\Windows\System32\rundll32.exe) attempted to load \Device\HarddiskVolume4\Windows \Installer\MSI5C90.tmp-0\Microsoft.Deployment.WindowsInstaller.dll that did not meet the Enterprise signing level requirements.





+

Tools

+



Tools

- App Control Wizard
- App Control Manager
- Aaronlocker

+ 0

Tips & Tricks

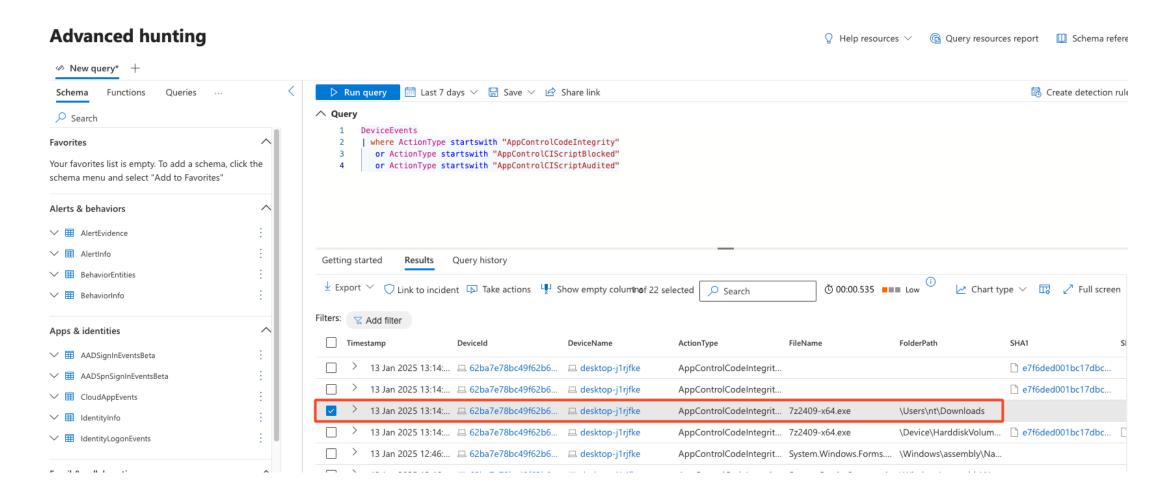


EventLogs

- Applications and Services logs Microsoft Windows CodeIntegrity Verbose
- Applications and Services logs Microsoft Windows AppLocker EXE and DLL
- Applications and Services logs Microsoft Windows AppLocker Packaged app-Deployment
- Applications and Services logs Microsoft Windows AppLocker Packaged app-Execution
- Applications and Services logs Microsoft Windows ApplD Operational
- Applications and Services logs Microsoft Windows CAPI2 Operational
- Applications and Services logs Microsoft Windows DeviceGuard Operational
- Applications and Services logs Microsoft Windows PowerShell *
- Windows Application
- Windows System



Defender for Endpoint





ManagedInstaller on AVD



Driver blocklist failes – Blocklist Microsoft

Dell drivers

* Conclusion/Questions



