



Disabling GPU Hardware Acceleration

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Configuration Guide

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Document Purpose: Making a few simple tweaks to the registry, group policy, or ProfileUnity to turn off hardware acceleration to core applications on non vGPU virtual machines can result in a CPU reduction on your host operating system.

Background:

Many applications today offload their graphics rendering to the graphics processing unit (GPU) and this can have a significant impact on user experience. You may be thinking that you don't run any graphic intensive apps. That is simply not true. The Windows OS, web browsers, and normal MS Office applications have a lot of graphics requirements. Think about any desktop/laptop built in the last 10 years. They all have a GPU. These processors are used by the OS and applications to offload drawing of boxes, circles and other complex shapes from the main CPU and rendering them on the monitor. In a virtual machine however, even though there is no vGPU in the host, VMware tools still have a driver that looks like a GPU to the OS and the applications.

Disclaimer:

These simple application changes CAN result in a 10% CPU reduction on your host operating system. Your results will vary based on the OS, Application and Host. This can be monitored by Stratusphere

Note:

The following are all user-based policies and only apply to the currently logged on user. Be sure you are working in the "User Policy" GPO or the HKEY_CURRENT_USER of the registry.

A. Good Blogs

- [SpotCheck Methodology](#)
- [Grey Matter is Required – Automated Solutions don't work](#)
- [Monitoring vs. Diagnostics](#)

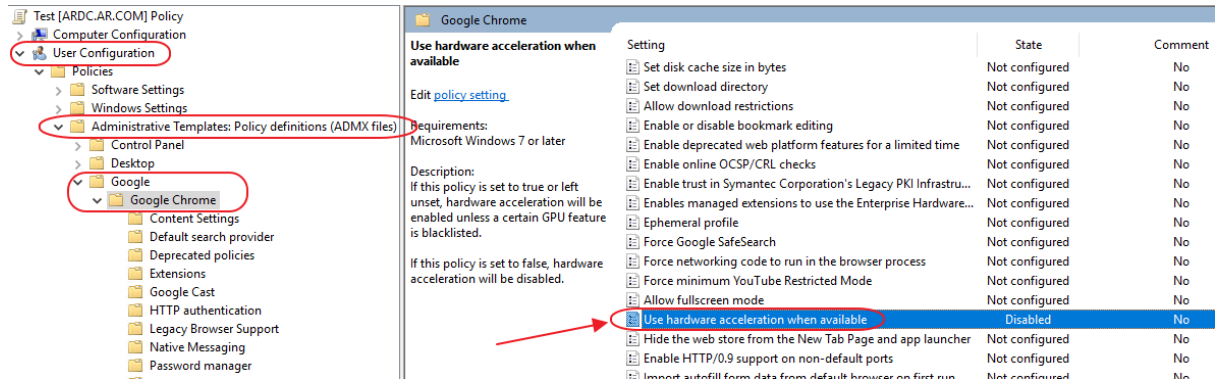
B. Liquidware Community Site and Other Important Links

- [Liquidware Community](#) - Slack, Blogs, Socials, etc...
- [Other Important Links](#) - SE Field Articles, Product Documentation, etc...

Google Chrome:

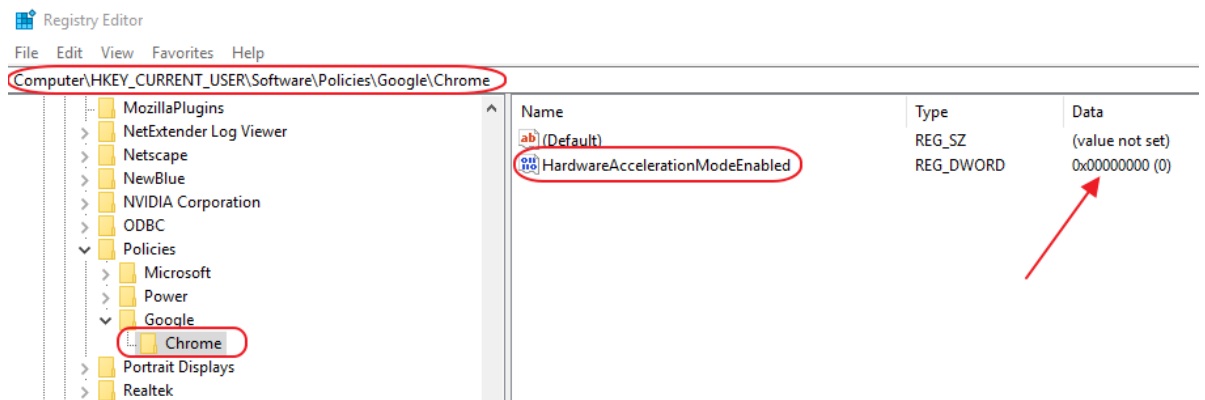
A. GPO

- ADMX download: <https://support.google.com/chrome/a/answer/187202?hl=en>
- User Configuration>Administrative Templates>Google>Google Chrome
- “Use hardware acceleration when available” = Disabled



B. Registry

- Key: `HKEY_CURRENT_USER\Software\Policies\Google\Chrome`
- Value: `HardwareAccelerationModeEnabled`
- Type: `REG_DWORD`
- Data: 0



C. ProfileUnity Registry Module

Edit Registry Setting

Filter

No Filter - Apply this to all

No filters will be applied to this item.

Description

Disable Hardware Acceleration - Chrome

Action

Add Value

☐ Process Action After Login

Hive

HKEY_CURRENT_USER

Key REQUIRED

Software\Policies\Google\Chrome

Type

REG_DWORD

Value

HardwareAccelerationModeEnabled

Data

00000000

Save

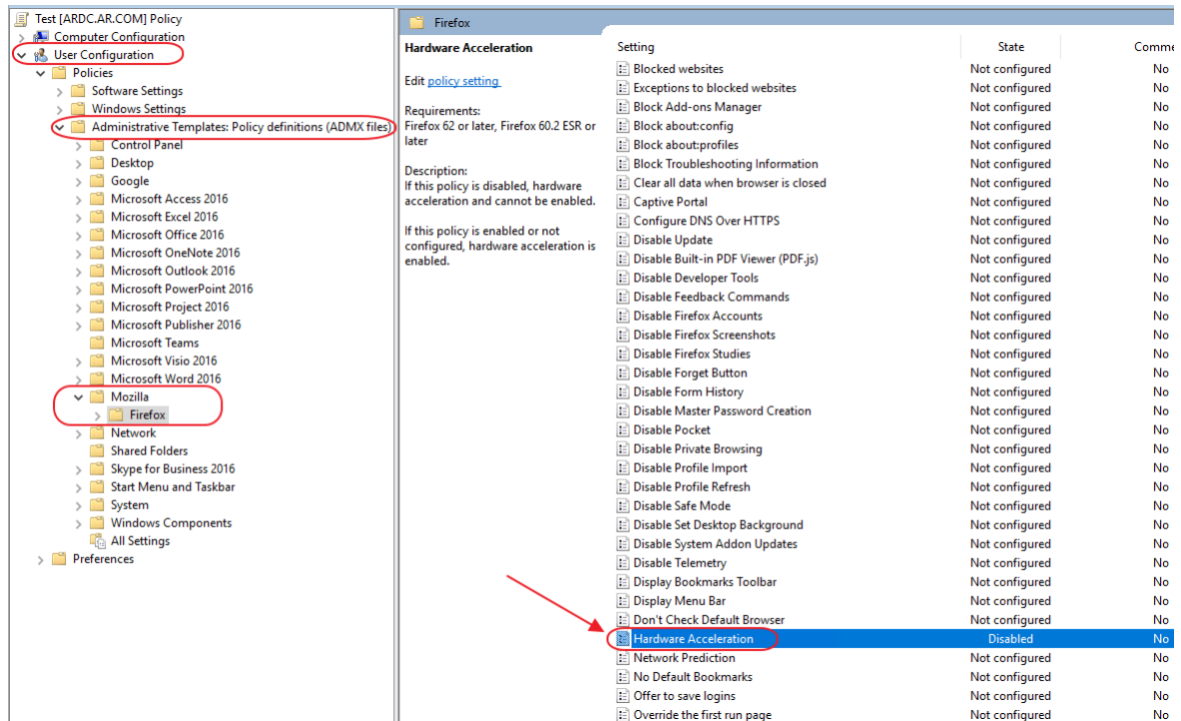
Mozilla Firefox:

A. GPO

- ADMX download: <https://github.com/mozilla/policy-templates/releases>

- User Configuration>Administrative Templates>Mozilla>Firefox

“Hardware Acceleration” = Disabled



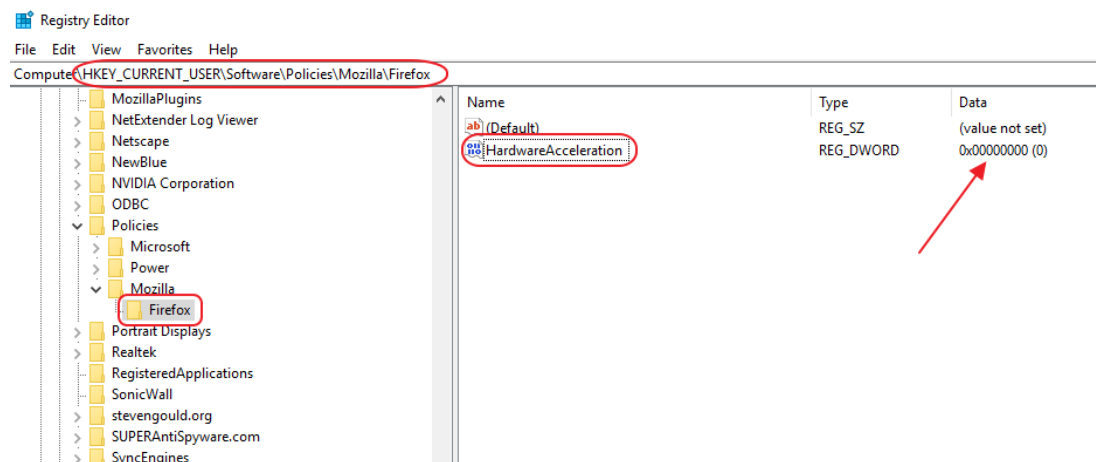
B. Registry

- Key: HKEY_CURRENT_USER\Software\Policies\Mozilla\Firefox

Value: HardwareAcceleration

Type: REG_DWORD

Data: 0



C. ProfileUnity Registry Module

Edit Registry Setting

Filter

No Filter - Apply this to all

No filters will be applied to this item.

Description

Disable Hardware Acceleration - Firefox

Action

Add Value

☐ Process Action After Login

Hive

HKEY_CURRENT_USER

Key REQUIRED

Software\Policies\Mozilla\Firefox

Type

REG_DWORD

Value

HardwareAcceleration

Data

00000000

Save

Microsoft Office:

A. GPO

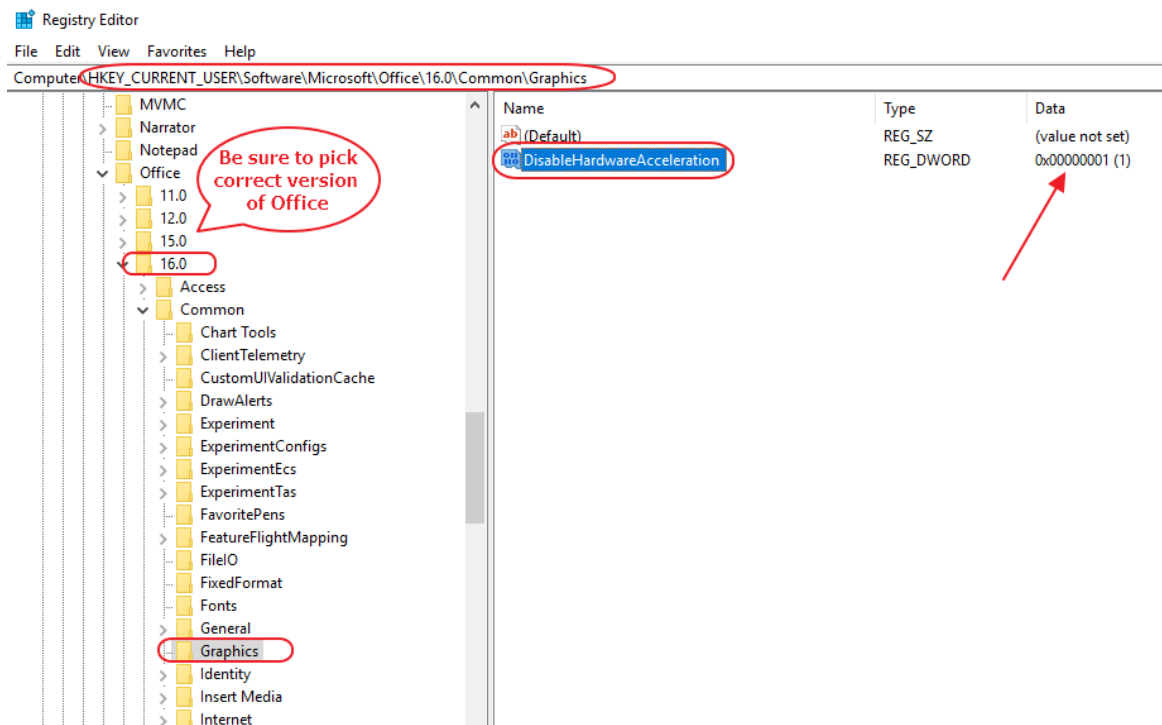
- ADMX download: <https://www.microsoft.com/en-us/download/details.aspx?id=49030>
- User Configuration>Administrative Templates>Microsoft Office (Version)>Miscellaneous
“Do not use hardware graphics acceleration” = Enabled

The screenshot shows the Windows Group Policy Editor for a user named 'Test [ARDC.AR.COM] Policy'. The left-hand navigation pane is expanded to show the hierarchy: Computer Configuration > User Configuration > Policies > Administrative Templates: Policy definitions > Microsoft Office 2016 > Miscellaneous. The 'Miscellaneous' folder is selected, and the 'Do not use hardware graphics acceleration' policy is highlighted. The right-hand pane shows the policy details, including a description and a list of settings. The 'Do not use hardware graphics acceleration' setting is highlighted in blue, and its state is 'Enabled'.

Setting	State	Comment
Workflow Cache	Not configured	No
Show LinkedIn features in Office applications	Not configured	No
Show additional sharing choices under the File tab	Not configured	No
Change destination URL for SharePoint hyperlink	Not configured	No
SharePoint Product Name	Not configured	No
Control Blogging	Not configured	No
Disable Office animations	Not configured	No
Disable Office Backgrounds	Not configured	No
Disable Clipboard Toolbar triggers	Not configured	No
Open Office file links in Office Online	Not configured	No
Disable the Office Start screen for all Office applications	Not configured	No
Turn off roaming of on-premises file names and metadata	Not configured	No
Do not automatically hyperlink screenshots	Not configured	No
Disable web view in the Office file dialog boxes	Not configured	No
Disallow Convert Document (Excel, PowerPoint, Word)	Not configured	No
Do not use hardware graphics acceleration	Enabled	No
Do not validate printers before using them	Not configured	No
Do not display paths in alerts	Not configured	No
Emulate tabs with spaces when exporting HTML	Not configured	No
Do not track document editing time	Not configured	No
Do not upload media files	Not configured	No
Enable Workflows on My Site	Not configured	No
Enable Smart Resume	Not configured	No
Graphic filter legacy mode	Not configured	No
Hide the Learn more about SharePoint Hyperlink	Not configured	No
Home Workflow Library	Not configured	No
Increase the visibility of Accessibility Checker violations	Not configured	No
Take users to a custom File menu tab	Not configured	No
Show the Custom tab as the default tab when creating a ne...	Not configured	No
Most Recently Used Template List Length	Not configured	No
Disable Microsoft Office shared drawing code for blip caching	Not configured	No
Disable Microsoft Office shared drawing code for metafile re...	Not configured	No
Hide file locations when opening or saving files	Not configured	No
Print ticket safe mode	Not configured	No
Provide feedback with sound	Not configured	No
Show Paste Options button when content is pasted	Not configured	No

B. Registry

- For Office 2010: `HKCU\Software\Microsoft\Office\14.0\Gfx`
Value: `DisableHardware`
Type: `REG_DWORD`
Data: `1`
- For Office 2013: `HKCU\Software\Microsoft\Office\15.0\Common\Graphics`
- For Office 2016: `HKCU\Software\Microsoft\Office\16.0\Common\Graphics`
- For Office 2019: `HKCU\Software\Microsoft\Office\18.0\Common\Graphics`
Value: `DisableHardwareAcceleration`
Type: `REG_DWORD`
Data: `1`



C. ProfileUnity Registry Module

- Office 2010

Edit Registry Setting ? X

Filter

No Filter - Apply this to all

No filters will be applied to this item.

Description

Disable Hardware Acceleration - Office 2010

Action

Add Value

☐ Process Action After Login

Hive

HKEY_CURRENT_USER

Key REQUIRED

Software\Microsoft\Office\14.0\Gfx

Type

REG_DWORD

Value

DisableHardware

Data

00000001

Save

- Office 2013 – 2019

Edit Registry Setting ? x

Filter
No Filter - Apply this to all
No filters will be applied to this item.

Description
Disable Hardware Acceleration - Office 2016

Action
Add Value
☐ Process Action After Login

Hive
HKEY_CURRENT_USER

Key REQUIRED
Software\Microsoft\Office\16.0\Common\Graphics

Type
REG_DWORD

Value
DisableHardwareAcceleration

Data
00000001

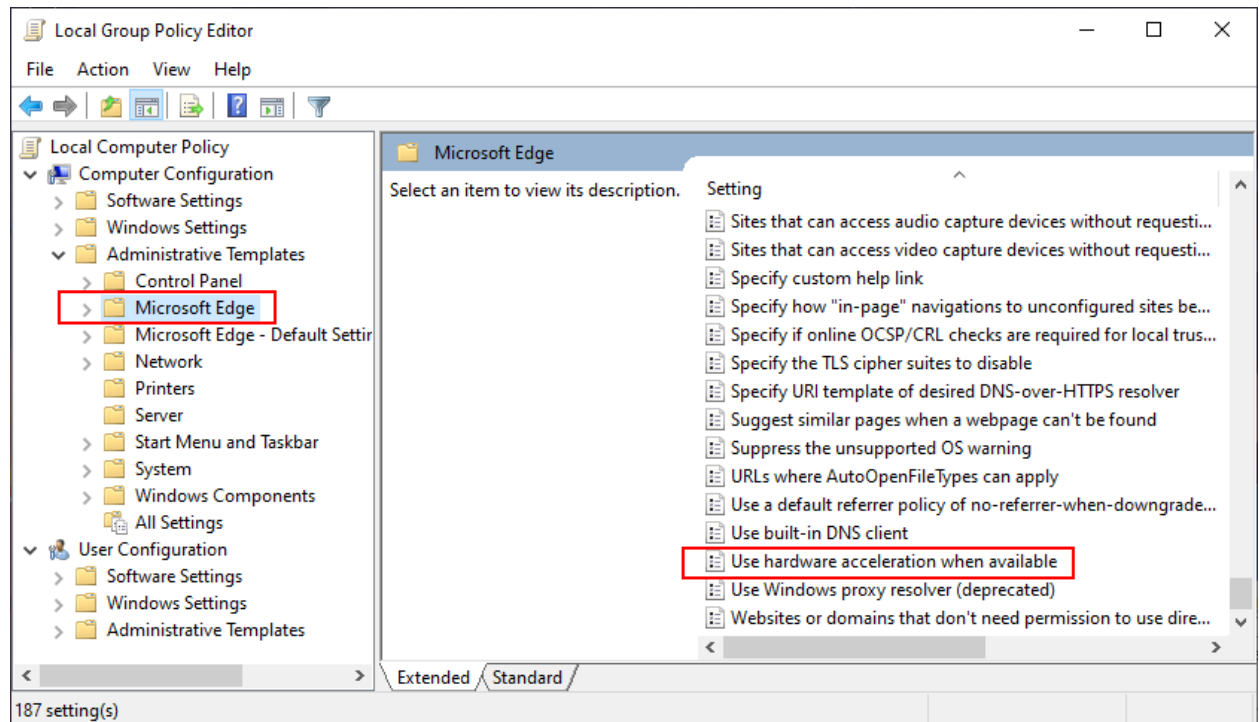
Save

Edit for correct version

Microsoft Edge:

A. GPO

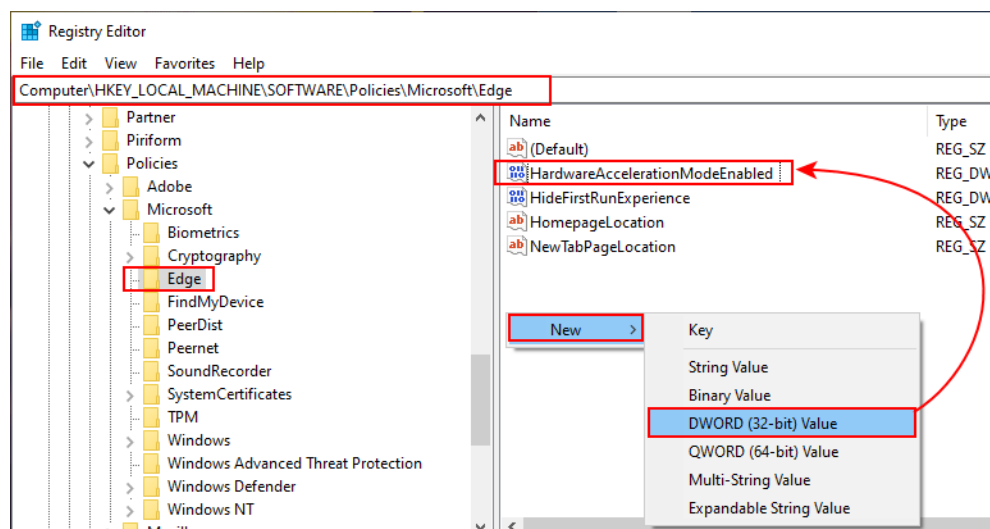
- ADMX download: <https://www.microsoft.com/en-us/download/101445> (Most recent policies from MSFT)
- Computer Configuration>Administrative Templates>Microsoft Edge>Miscellaneous
“Use hardware acceleration when available” = Disabled



B. Registry

- For Office 2010: `HKCU\Software\Microsoft\Office\14.0\Gfx`
Value: `DisableHardware`
Type: `REG_DWORD`

Data: 1



C. ProfileUnity Registry Module

Edit Registry Setting ? x

Filter

No Filter - Apply this to all

No filters will be applied to this item.

Description

Disable Hardware Acceleration - Microsoft Edge

Action

Add Value

☐ Process Action After Login

Hive

HKEY_LOCAL_MACHINE

Key REQUIRED

Software\Policies\Microsoft\Edge

Type

REG_DWORD

Value

HardwareAccelerationModeEnabled

Data

00000000

Save