



Troubleshooting Windows 10 Upgrades

When the Wheels Fall Off...

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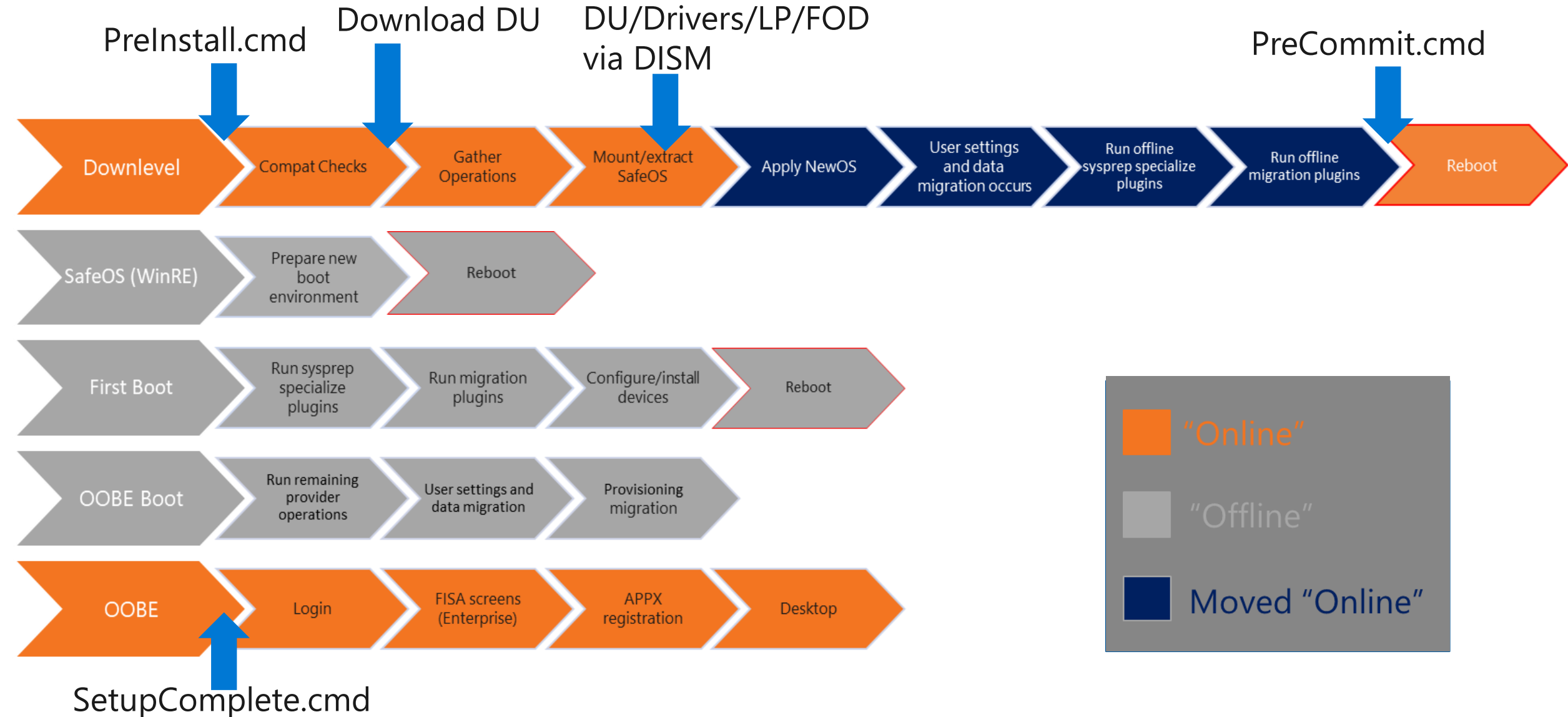
Adam Gross @AdamGrossTX

Tipped Wagon

Get the wagon upright

Get advice

Understand the Process



Downlevel Phase

- This phase runs on the source OS
- Security products are active and working
- Proxy settings are in affect
- Activities, including downloading dynamic updates are running as system





SafeOS (WinRE)

Prepare new
boot
environment

Reboot



Working on updates: 19%
Don't turn off your PC. This will take a while.

Your PC will restart several times.

SafeOS phase

Common errors in this phase are hardware issues, firmware issues, or non-microsoft disk encryption software.

Since the computer is booted into Windows PE, use similar troubleshooting techniques.

The source OS is not running

The new OS is not running



First Boot

Run sysprep
specialize
plugins

Run migration
plugins

Configure/install
devices

Reboot



Working on updates: 55%
Don't turn off your PC. This will take a while.

Your PC will restart several times.

First boot phase

Boot failures are rare

Typically caused by device drivers.

Disconnect all peripheral devices except for the mouse, keyboard, and display. Obtain and install updated device drivers, then retry the upgrade.

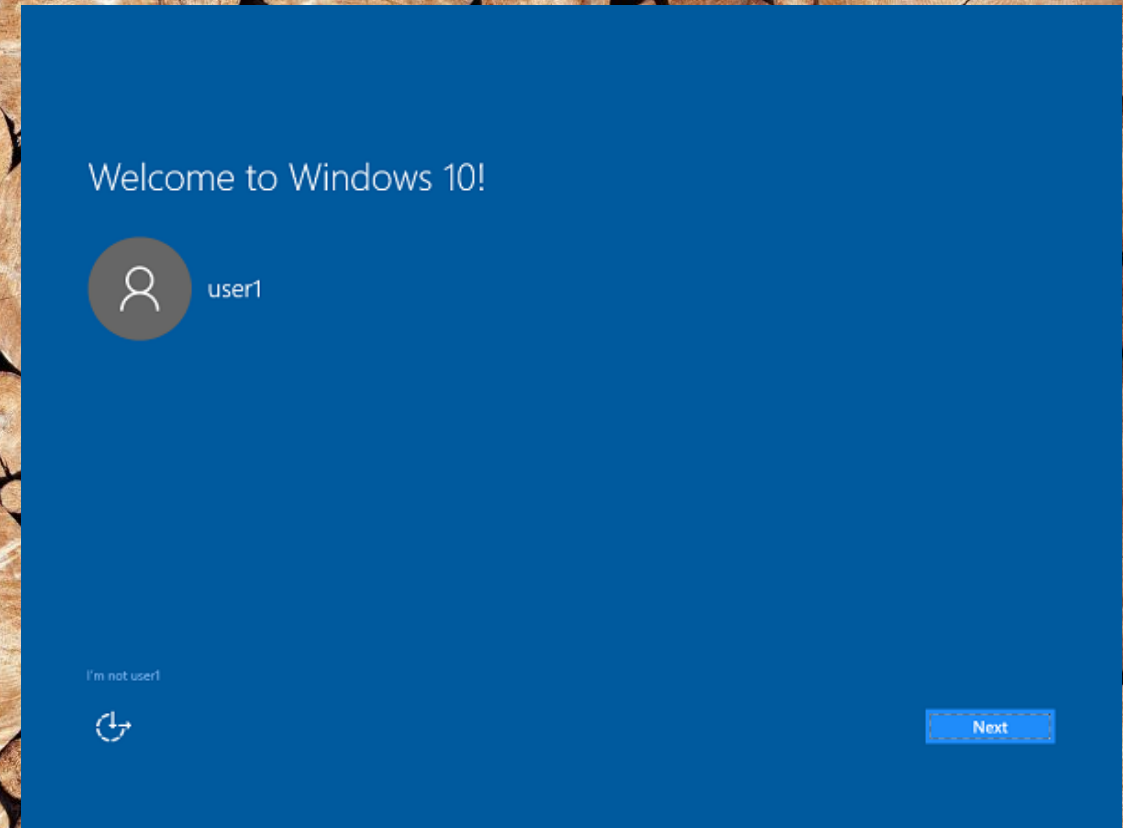
Second boot phase

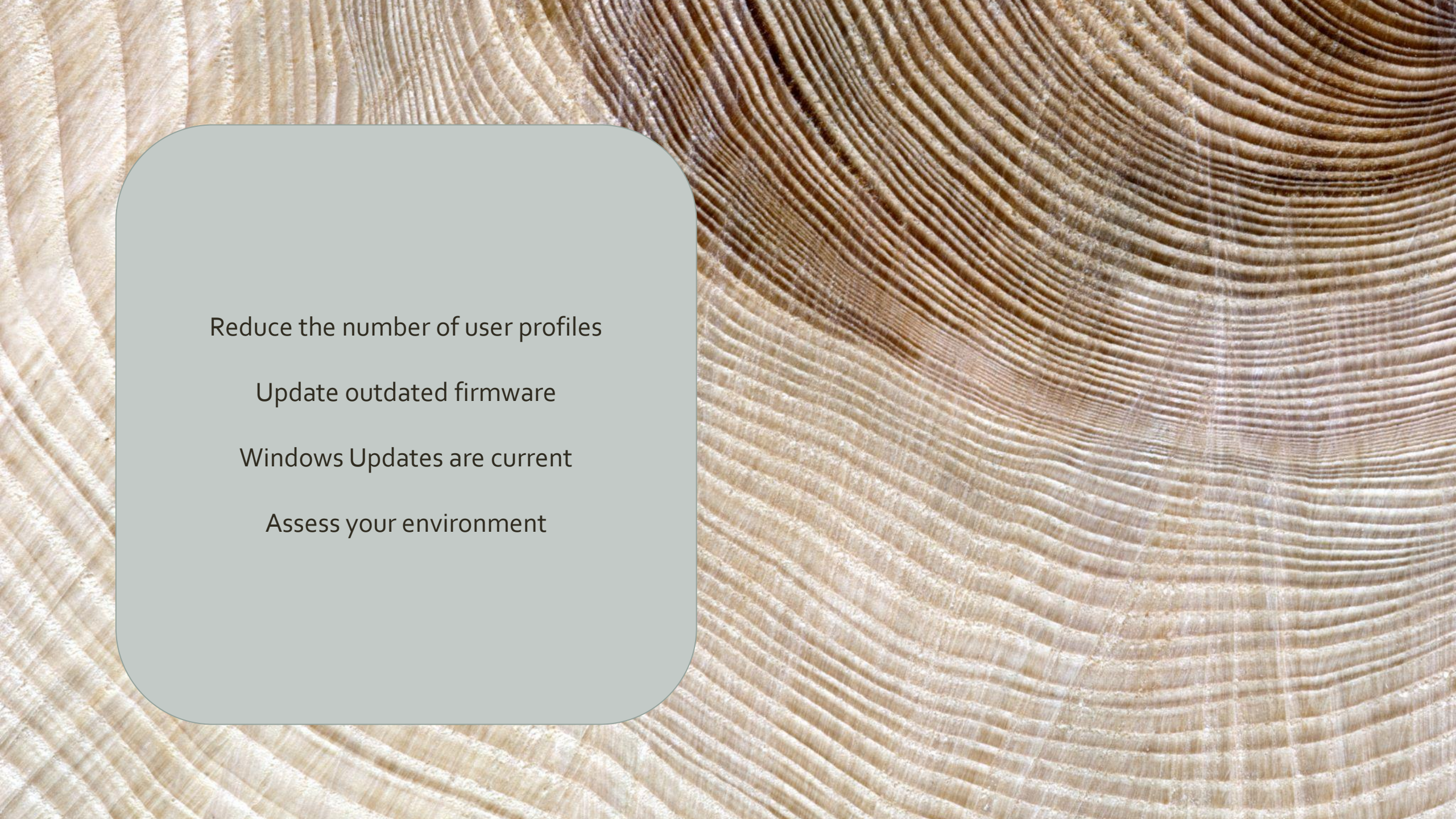
System is running under the target OS with new drivers.

Anti-virus software or filter drivers are common boot failures.

Obtain and install updated device drivers, temporarily uninstall anti-virus software, then retry the upgrade.

Disconnect all peripheral devices except for the mouse, keyboard, and display.





Reduce the number of user profiles

Update outdated firmware

Windows Updates are current

Assess your environment



Engage with your security teams



Talk to the security product vendors for their recommended settings

Recommended Exclusions

Executable	Path
Setup.exe	C:\\$WINDOWS.~BT\Sources
SetupHost.exe	C:\\$WINDOWS.~BT\Sources
Dismhost.exe	%system%\Dism
SetupPlatform.exe	C:\\$WINDOWS.~BT\Sources\
dism.exe	c:\windows\system32
TrustedInstaller.exe	C:\Windows\servicing
CcmExec.exe	C:\WINDOWS\CCM
TSManger.exe	C:\WINDOWS\CCM
Windeploy.exe	%System%\oobe
Msoobe.exe	%System%\oobe
Oobeldr.exe	%System%\oobe

- \ \$Windows~.BT*.*
- \ \$Windows~.LS*.*
- \Windows\CCM

Be aware! Security software is active during the upgrade process

The background of the image is a close-up, top-down view of a large pile of cut logs. The logs are of various diameters and are stacked in a somewhat haphazard manner. The wood is a light tan or yellowish-brown color, showing natural grain patterns and some minor cracks or imperfections. A semi-transparent, olive-green rectangular overlay covers the central portion of the image, providing a background for the text.

The answer is in the logs

SetupDiag

Useful switches

<https://docs.microsoft.com/en-us/windows/deployment/upgrade/setupdiag>

<code>/Verbose</code>	This optional parameter will output much more data to a log file. By default, SetupDiag will only produce a log file entry for serious errors. Using /Verbose will cause SetupDiag to always produce an additional log file with debugging details. These details can be useful when reporting a problem with SetupDiag.
<code>/Output:<path to results file></code>	This optional parameter enables you to specify the output file for results. This is where you will find what SetupDiag was able to determine. Only text format output is supported. UNC paths will work, provided the context under which SetupDiag runs has access to the UNC path. If the path has a space in it, you must enclose the entire path in double quotes Default: If not specified, SetupDiag will create the file SetupDiagResults.log in the same directory where SetupDiag.exe is run.
<code>/AddReg</code>	This optional parameter instructs SetupDiag.exe to add failure information to the registry in offline mode. By default, SetupDiag will add failure information to the registry in online mode only. Registry data is added to the following location on the system where SetupDiag is run: HKLM\SYSTEM\Setup\MoSetup\Volatile\SetupDiag .

Logs to Analyze

Tip – Don't use CMTrace

Notepad works well or another log reader that can take large log files

setupact.log*	Contains information about setup upgrade process during the installation.
setuperr.log*	Contains information about setup errors during the installation.
miglog.xml	Contains information about what was migrated during the installation.
BlueBox.log	Contains information communication between setup.exe and Windows Update.
Supplemental rollback logs:	Additional logs collected during rollback.
Setupmem.dmp	If OS bug checks during upgrade, setup will attempt to extract a mini-dump.
setupapi.dev.log	Device install issues - 0x30018
Event logs (*.evt)	Generic rollbacks (0xC1900101) or unexpected reboots.

* Logs collected automatically by SetupDiag

Additional Logs to Use

System Event Log

Application Event Log

Windows Update Log

Any security product logging

CompatData_*

These are captured by
SetupDiag and are useless
for troubleshooting!


<input type="checkbox"/>	Name	Type	Size	Status	
<input type="checkbox"/>	CompatData_2020_06_09_16_50_00000021.xml	XML Document	1 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_51_00000021.xml	XML Document	2 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_55_00000140.xml	XML Document	1 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_50_006f0018.xml	XML Document	2 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_17_29_006f0018.xml	XML Document	4 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_35_00000021.xml	XML Document	1 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_43_00000021.xml	XML Document	2 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_47_00000140.xml	XML Document	1 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_16_52_006f0018.xml	XML Document	2 KB	✓	
<input type="checkbox"/>	CompatData_2020_06_09_17_33_006f0018.xml	XML Document	4 KB	✓	
<input type="checkbox"/>	ScanResult.xml	XML Document	4 KB	✓	
	setupact.log	LOG File	126,487 KB	✓	
	setupact.rollback.log	LOG File	1,585 KB	✓	
	setupapi.dev.log	LOG File	42 KB	✓	6/7/2020 1:07 AM
	setupapi.offline.20180915_003333.log	LOG File	5,748 KB	✓	9/15/2018 3:33 AM
	setupapi.offline.log	LOG File	582 KB	✓	6/7/2020 12:42 AM
	setupapi.setup.log	LOG File	997 KB	✓	6/7/2020 12:48 AM
	setupapi.upgrade.log	LOG File	4,785 KB	✓	6/7/2020 12:28 AM
	SetupDiagResults.log	LOG File	20 KB	✓	6/10/2020 8:32 AM



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The background of the slide features a close-up, high-resolution image of wood grain. The grain lines are wavy and run diagonally across the frame. A semi-transparent green rectangular overlay covers the left and center portions of the image. On the right side, there is a circular inset showing a cross-section of a tree trunk, revealing concentric growth rings and a central pith.

SetupDiag Logs Demo

The background of the slide is a close-up photograph of a wood surface, showing concentric growth rings. A semi-transparent green rectangular box is positioned on the left side of the image, serving as a backdrop for the text.

Leverage
SetupAct log

Finding Clues in Setupact.log

This log is collected by SetupDiag and will be inside Logs.zip

Search string = Operations
Recap

Tips –

Open in Notepad without Word Wrap

Search from end of file upwards

```
epad
View Help
33:49, Info SP Operations recap:
33:49, Info SP =====
33:49, Info SP Phase: Downlevel
33:49, Info SP ID Name Executed Start Time End Time Elapsed Disk s
33:49, Info SP ---
33:49, Info SP 5|Copy extra migration XMLs Yes 2019-09-26 12:15:15 2019-09-26 12:15:16 00:00:00
33:49, Info SP 3|Dump source WIM info for PathForNewOSFile, index 6 Yes 2019-09-26 12:03:43 2019-09-26 12:03:43 00:00:00
33:49, Info SP 38|Extract files from WIM file PathForNewOSFile, index 6 to C:\$WINDOWS.~BT\Sources Yes 2019-09-26 12:03:44 2019-09-26 12:03:52 00:00:08
33:49, Info SP 34|Apply WIM file PathForNewOSFile (compact), index 6 to C:\$WINDOWS.~BT\NewOS Yes 2019-09-26 12:03:52 2019-09-26 12:14:09 00:10:16
33:49, Info SP 113|Enable telemetry for C:\$WINDOWS.~BT\NewOS Yes 2019-09-26 12:14:09 2019-09-26 12:14:09 00:00:00
33:49, Info SP 30|Gather Optional Component status Yes 2019-09-26 12:15:16 2019-09-26 12:15:20 00:00:03
33:49, Info SP 42|Gather data, scope: EVERYTHING Yes 2019-09-26 12:15:25 2019-09-26 12:21:06 00:05:41
33:49, Info SP 73|Register sync process: SetupHost.Exe with args /Success /Update /ClientId e510c6 Yes 2019-09-26 12:21:28 2019-09-26 12:21:28 00:00:00
33:49, Info SP 73|Register sync process: SetupHost.Exe with args /RollbackSys /Update /ClientId e5 Yes 2019-09-26 12:21:28 2019-09-26 12:21:28 00:00:00
33:49, Info SP 47|Set product key Yes 2019-09-26 12:21:06 2019-09-26 12:21:12 00:00:05
33:49, Info SP 51|Set boot command %SYSTEMDRIVE%\$WINDOWS.~BT\Sources\SetupPlatform.exe /posttoobe Yes 2019-09-26 12:14:10 2019-09-26 12:14:24 00:00:14
33:49, Info SP 48|Set boot command %SYSTEMDRIVE%\$WINDOWS.~BT\Sources\SetupPlatform.exe /presyspre Yes 2019-09-26 12:14:24 2019-09-26 12:14:29 00:00:04
33:49, Info SP 49|Set boot command %SYSTEMDRIVE%\$WINDOWS.~BT\Sources\SetupPlatform.exe /postsyspr Yes 2019-09-26 12:14:29 2019-09-26 12:14:34 00:00:04
33:49, Info SP 50|Set boot command %SYSTEMDRIVE%\$WINDOWS.~BT\Sources\SetupPlatform.exe /preoobe f Yes 2019-09-26 12:14:34 2019-09-26 12:14:38 00:00:04
33:49, Info SP 52|Set boot command %SYSTEMDRIVE%\$WINDOWS.~BT\Sources\SetupPlatform.exe /onerror f Yes 2019-09-26 12:14:38 2019-09-26 12:14:43 00:00:04
33:49, Info SP 65|Set entropy for C:\$WINDOWS.~BT\NewOS Yes 2019-09-26 12:14:43 2019-09-26 12:14:43 00:00:00
33:49, Info SP 78|Set safe OS boot command Yes 2019-09-26 12:14:43 2019-09-26 12:14:43 00:00:00
33:49, Info SP 80|Save config data Yes 2019-09-26 12:14:43 2019-09-26 12:14:56 00:00:12
33:49, Info SP 87|Save boot entries for the old OS Yes 2019-09-26 12:14:56 2019-09-26 12:14:56 00:00:00
33:49, Info SP 111|Install Eula Yes 2019-09-26 12:21:12 2019-09-26 12:21:13 00:00:00
33:49, Info SP 116|Execute PnP offline migration Yes 2019-09-26 12:21:13 2019-09-26 12:21:13 00:00:00
33:49, Info SP -----
33:49, Info SP Phase: Pre-Finalize
33:49, Info SP ID Name Executed Start Time End Time Elapsed Disk s
33:49, Info SP ---
33:49, Info SP 108|Backup the recovery partition to C:\$WINDOWS.~BT\Sources\RecoveryPartitionBackup Yes 2019-09-26 12:21:28 2019-09-26 12:21:31 00:00:03
33:49, Info SP 39|Mount WIM file C:\$WINDOWS.~BT\Sources\SafeOS\winre.wim, index 1 to C:\$WINDOWS. Yes 2019-09-26 12:21:31 2019-09-26 12:22:53 00:01:21
33:49, Info SP 112|Enable telemetry for C:\$WINDOWS.~BT\Sources\SafeOS\SafeOS.Mount Yes 2019-09-26 12:22:53 2019-09-26 12:22:54 00:00:00
33:49, Info SP 31|Process Drivers for Migration Yes 2019-09-26 12:22:54 2019-09-26 12:24:59 00:02:05
33:49, Info SP 32|Process External Drivers Yes 2019-09-26 12:24:59 2019-09-26 12:24:59 00:00:00
33:49, Info SP 24|Remove FeaturesOnDemand Yes 2019-09-26 12:24:59 2019-09-26 12:26:02 00:01:03
33:49, Info SP 25|Apply Optional Component status Yes 2019-09-26 12:26:02 2019-09-26 12:28:28 00:02:25
33:49, Info SP 26|Add [1] package C:\$WINDOWS.~BT\LangPacks\User\Microsoft-Windows-Client-Language Yes 2019-09-26 12:28:28 2019-09-26 12:31:26 00:02:57
33:49, Info SP 43|Migrate framework (Full) Yes 2019-09-26 12:31:26 2019-09-26 12:33:28 00:02:02
33:49, Info SP 45|Run sysprep specialization offline on C:\$WINDOWS.~BT\NewOS Yes 2019-09-26 12:33:28 2019-09-26 12:33:41 00:00:12
33:49, Info SP 46|Offline portion of first and oobe boot apply operations Yes 2019-09-26 12:33:41 2019-09-26 12:44:33 00:10:51
33:49, Info SP 33|Apply Drivers Yes 2019-09-26 12:44:33 2019-09-26 12:47:49 00:03:16
33:49, Info SP 33|Apply Drivers Yes 2019-09-26 12:47:49 2019-09-26 12:47:49 00:00:00
33:49, Info SP 40|Unmount the image C:\$WINDOWS.~BT\Sources\SafeOS\SafeOS.Mount Yes 2019-09-26 12:47:49 2019-09-26 12:51:33 00:03:43
33:49, Info SP 109|Prepare the recovery image Yes 2019-09-26 12:51:33 2019-09-26 13:03:02 00:11:29
33:49, Info SP 94|Prepare the new OS for first boot Yes 2019-09-26 13:03:02 2019-09-26 13:03:03 00:00:00
33:49, Info SP 132|Stop suspended services Yes 2019-09-26 13:03:03 2019-09-26 13:03:03 00:00:00
33:49, Info SP -----
33:49, Info SP Phase: Finalize
33:49, Info SP ID Name Executed Start Time End Time Elapsed Disk s
33:49, Info SP ---
33:49, Info SP 60|Cleanup external drivers after installation No
33:49, Info SP 117|Create file C:\$WINDOWS.~BT\NewOS\Windows\Setup\LatentAcquisition\ActionList.xml No
33:49, Info SP 117|Create file C:\$WINDOWS.~BT\NewOS\ProgramData\Microsoft\Windows\CliPSVC\GenuineT No
```


Finding Clues in Setupact.log

This log is collected by SetupDiag and will be inside Logs.zip

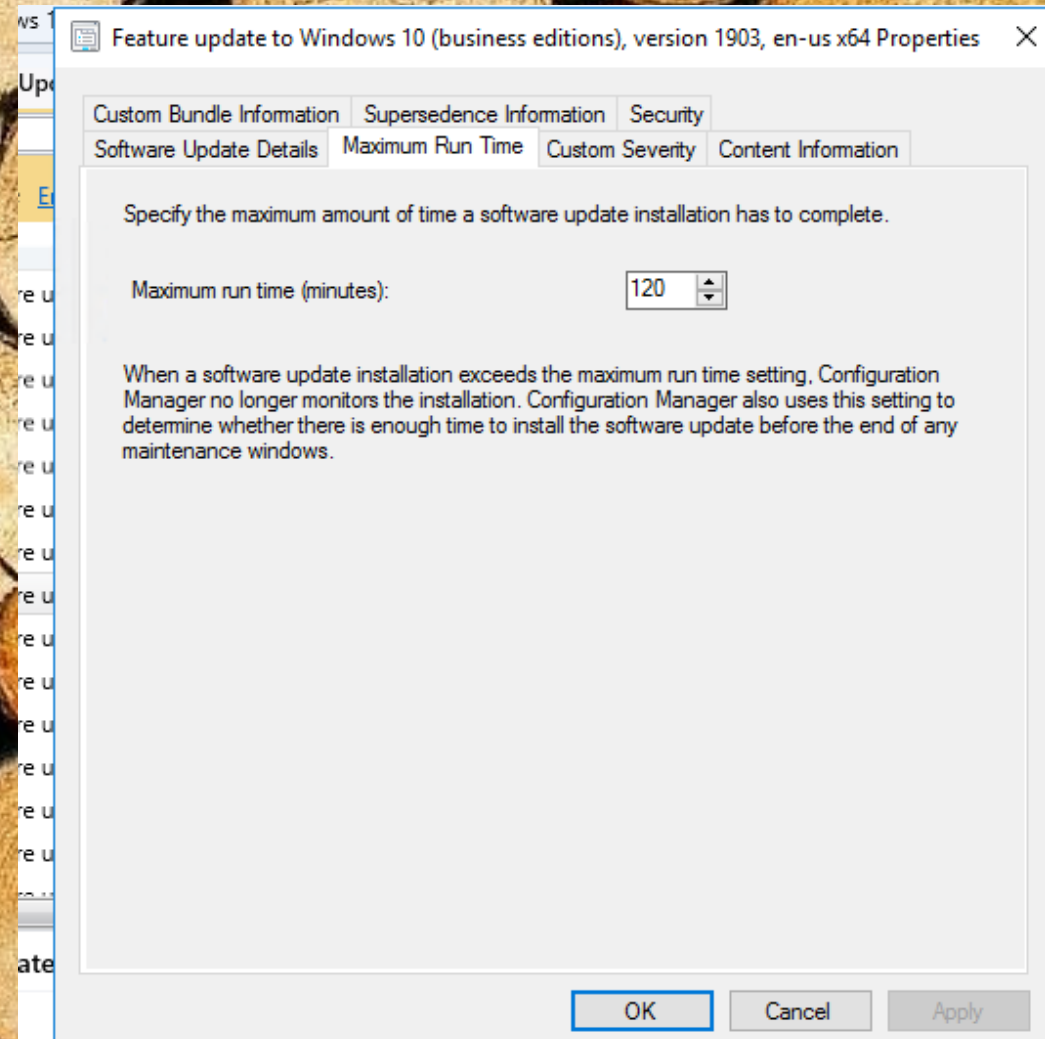
Search String	Notes	Example
SetupHost::Initialize: CmdLine	<p>Full command line passed with setup.exe</p> <p>There will be multiple cmd lines throughout the log</p>	<pre>SetupHost::Initialize: CmdLine = [/Install /Update /Quiet /InstallFile "C:\\$WINDOWS.~BT\Sources\Install.esd" /progressCLSID df46cc43-1efc-401a-a293-625b332f17d6 /ReportId {8CBEAC10-A818-4C54-B461-A2EAFAD7F592}.200 "/ClientId" "a2a673da-9d62-4bf4-9514-2406b392fb5a" "/CorrelationVector" "ly8ycY7oiU+f2stz.17.0.0.3" /WUCachedFileName "18363.418.191007-0143.19h2_release_svc_refresh_CLIENTBUSINESS_VOL_x64FRE_en-us.esd" /BitLocker AlwaysSuspend /Compat IgnoreWarning /Priority Normal /DynamicUpdate Enable /ShowOOBE None /Telemetry Enable /DiagnosticPrompt Enable /PostOOBE C:\~FeatureUpdateTemp\Scripts\SetupComplete.cmd /CopyLogs \\\xxxxxx\xxxxxx</pre>
Processing profile	<p>Shows how many profiles on machine</p> <p>The more profiles, the longer the upgrade</p>	<pre>08-25-2020 16:16:37.000 Processing profile: C:\WINDOWS\ServiceProfiles\LocalService 08-25-2020 16:16:37.000 Processing profile: C:\WINDOWS\ServiceProfiles\NetworkService 08-25-2020 16:16:37.000 Processing profile: C:\Users\mXXXXX 08-25-2020 16:16:37.000 Processing profile: C:\Users\ad-XXXXX 08-25-2020 16:16:37.000 Processing profile: C:\Users\ad-YYYYYY 08-25-2020 16:16:37.000 Processing profile: C:\WINDOWS\ServiceProfiles\HiveStreamingService 08-25-2020 16:16:37.000 Processing profile: C:\WINDOWS\system32\config\systemprofile</pre>
MoSetupPlatform: Package	Filter to see size of downloads if DU is used	<pre>MoSetupPlatform: Package [Windows10.0-KB4569073-x64.cab] -> install size [52784902] MoSetupPlatform: Package [Windows10.0-KB4565351-x64.cab] -> install size [4217585374] MoSetupPlatform: Package [Windows10.0-KB4513661-x64.cab] -> install size [134358200] MoSetupPlatform: Package [Windows10.0-KB4569073-x64.cab] -> install size [52784902] MoSetupPlatform: Package [Microsoft-Windows-NetFx3-OnDemand-Package~31bf3856ad364e35~amd64~~.cab] -> install size [247885750]</pre>
TargetLanguageIsCompatibleForUpgrade	Can ID multiple language conflicts	<pre>08-25-2020 15:45:10.000 CONX ConX::Compatibility::CSystemAbstraction::TargetLanguageIsCompatibleForUpgrade: Target language en-US is compatible with the host language (lang.ini path: C:\\$WINDOWS.~BT\Sources\lang.ini).</pre>
Last boot time:	This machine had both expected reboots	<pre>08-02-2020 08:27:42.000 CBS TI: Last boot time: 2020-08-02 08:26:58.500 08-02-2020 08:29:45.000 CBS TI: Last boot time: 2020-08-02 08:29:28.500</pre>

Finding Clues in Setupact.log

This log is collected by SetupDiag and will be inside Logs.zip

Cancel of current task requested...

When you find this in log, SCCM canceled the operation. Most often the upgrade exceeded the maximum run time.



Deployment Monitoring



Deployment Status

Software Update: Windows 10 1909
Collection: Windows 10 Servicing - Ring 4a

☒ Compliant ☐ In Progress ☐ Error ☐ Unknown

Total Assets	Status	Error Code	Error Description	Last Status Time
5	Failed to install update(s)	0X00000000	Success	8/27/2020 3:38 PM
5	Failed to install update(s)	0X87D00664	Updates handler job was cancelled	8/26/2020 8:56 AM
4	Failed to install update(s)	0X80D02002	Delivery Optimization: Download of a file saw no progress within the defined period.	8/23/2020 11:55 PM
2	Failed to install update(s)	0X80240020	Operation did not complete because there is no logged-on interactive user.	8/27/2020 8:13 PM
2	Failed to install update(s)	0X80D03805	Unknown Error (-2133837819)	8/27/2020 9:02 AM
2	Failed to download update(s)	0X80D03805	Unknown Error (-2133837819)	8/13/2020 9:45 AM
1	Failed to install update(s)	0X80004005	Unspecified error	8/26/2020 11:54 AM
1	Failed to install update(s)	0X80070070	There is not enough space on the disk.	8/26/2020 11:08 PM
1	Failed to install update(s)	0XC190020C	Unknown Error (-1047526900)	8/27/2020 5:32 PM
1	Failed to install update(s)	0XC190020E	Unknown Error (-1047526898)	8/27/2020 3:33 AM

Asset Details

Filter

Device	Last Logged On User	Last Enforcement State	Last Enforcement Message Time	Last Enforcement Error Code
F	(SYSTEM)	Failed to install update(s)	8/27/2020 5:32 PM	0XC190020C

SetupDiag Reporting

Assignment Name: All ResourceID: All Profile Name: All

6336 53
SetupDiag Success SetupDiag Failures

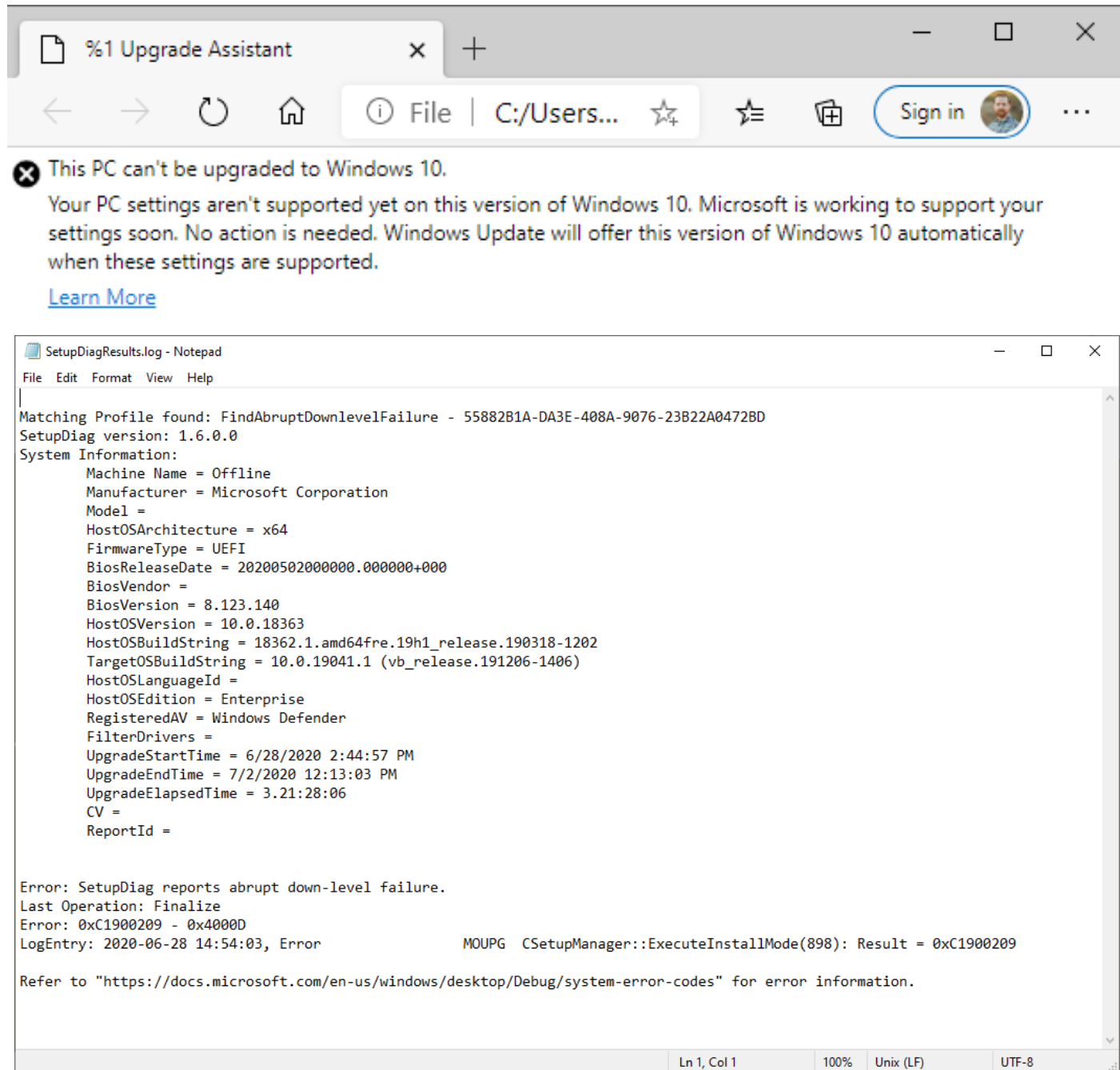
Failure Count	Failure Profile	Failure Details	Custom SetupDiag Result	ResourceID	Error	Extend Code	Log Entry Date
1	DiskSpaceBlockInDownLevel, FindAbruptDownlevelFailure	DiskSpace = 10151, ErrorCode = 0xC190020E, ExCode = 0x4001E, Oper = Finalize	Failed	16839767	0xC190020E	0x4001E	2020-08-27 16:33:36
1	DiskSpaceBlockInDownLevel, FindAbruptDownlevelFailure	DiskSpace = 8065, ErrorCode = 0xC190020E, ExCode = 0x4001E, Oper = Finalize	Failed	16829144	0xC190020E	0x4001E	2020-08-27 21:26:58
1	DiskSpaceBlockInDownLevel, FindAbruptDownlevelFailure	DiskSpace = 9437, ErrorCode = 0xC190020E, ExCode = 0x4001E, Oper = Finalize	Failed	16839556	0xC190020E	0x4001E	2020-07-26 12:38:18
1	DISMImageSessionFailure	ErrorString = Failed to get the IDismImage instance from the image session, Function = CDISMManager::CloseImageSession, Error = 0x800401fd, LastOperation = Start suspended services, LastPhase = End	Failed	16817474			
1	DISMImageSessionFailure	ErrorString = Failure occurred during shutdown of the Image Session., Function = CDISMManager::CloseImageSession, Error = 0x80070005, LastOperation = Start suspended services, LastPhase = End	Failed	16847108			

54

ResourceID	Assignment Name	Status Error Code	Status Description	Hex Error Code
16838963	Windows 10 1909 - Ring 4a	-2147467259	Failed to install update(s)	80004005
16843980	Windows 10 1909 - Ring 4a	-2147024784	Failed to install update(s)	80070070
16821138	Windows 10 1909 - Ring 1	-2145124320	Failed to install update(s)	80240020
16851388	Windows 10 1909 - Ring 4a	-2145124320	Failed to install update(s)	80240020
16846121	Windows 10 1909 - Ring 3	-2145123262	Failed to install update(s)	80240442
16829508	Windows 10 1909 - Ring 4a	-2133843966	Failed to install update(s)	80D02002
16830161	Windows 10 1909 - Ring 4a	-2133843966	Failed to install update(s)	80D02002
16843862	Windows 10 1909 - Ring 4a	-2133843966	Failed to install update(s)	80D02002
16847374	Windows 10 1909 - Ring 4a	-2133843966	Failed to install update(s)	80D02002
16842179	Windows 10 1909 - Ring 4a	-2133837819	Failed to install update(s)	80D03805
16842184	Windows 10 1909 - Ring 4a	-2133837819	Failed to install update(s)	80D03805
16848738	Windows 10 1909 - Ring 4a	-2133837819	Failed to download update(s)	80D03805
16853416	Windows 10 1909 - Ring 4a	-2133837819	Failed to download update(s)	80D03805
16847802	Windows 10 1909 - Ring 2	-2016410112	Failed to install update(s)	87D00000

ProfileName0	Count of ResourceID
FindSuccessfulUpgrade	5839
	620
BareMetal	457
CompatBlockedApplicationDismissable, FindSuccessfulUpgrade	40
NoMatchFound	33
FindAbruptDownlevelFailure	12
DISMImageSessionFailure	5
DiskSpaceBlockInDownLevel, FindAbruptDownlevelFailure	3
CompatBlockedApplicationDismissable	2
FindFatalPluginFailure	1
Total	7030

Finding the Source of Hard Blocks



The image shows two overlapping windows from a Windows 10 system. The top window is the 'Upgrade Assistant' for Windows 10, which displays a message stating that the PC cannot be upgraded because its settings are not yet supported. It mentions that Microsoft is working on support and that Windows Update will offer the upgrade automatically once supported. A 'Learn More' link is provided.

The bottom window is a Notepad application titled 'SetupDiagResults.log - Notepad', displaying the output of the Windows Setup Diagnostic tool. The log shows system information and an error message indicating an abrupt down-level failure.

Upgrade Assistant Message:

✖ This PC can't be upgraded to Windows 10.
Your PC settings aren't supported yet on this version of Windows 10. Microsoft is working to support your settings soon. No action is needed. Windows Update will offer this version of Windows 10 automatically when these settings are supported.
[Learn More](#)

SetupDiagResults.log - Notepad:

```
Matching Profile found: FindAbruptDownlevelFailure - 55882B1A-DA3E-408A-9076-23B22A0472BD
SetupDiag version: 1.6.0.0
System Information:
  Machine Name = Offline
  Manufacturer = Microsoft Corporation
  Model =
  HostOSArchitecture = x64
  FirmwareType = UEFI
  BiosReleaseDate = 20200502000000.000000+000
  BiosVendor =
  BiosVersion = 8.123.140
  HostOSVersion = 10.0.18363
  HostOSBuildString = 18362.1.amd64fre.19h1_release.190318-1202
  TargetOSBuildString = 10.0.19041.1 (vb_release.191206-1406)
  HostOSLanguageId =
  HostOSEdition = Enterprise
  RegisteredAV = Windows Defender
  FilterDrivers =
  UpgradeStartTime = 6/28/2020 2:44:57 PM
  UpgradeEndTime = 7/2/2020 12:13:03 PM
  UpgradeElapsedTime = 3.21:28:06
  CV =
  ReportId =

Error: SetupDiag reports abrupt down-level failure.
Last Operation: Finalize
Error: 0xC1900209 - 0x4000D
LogEntry: 2020-06-28 14:54:03, Error MOUPG CSetupManager::ExecuteInstallMode(898): Result = 0xC1900209

Refer to "https://docs.microsoft.com/en-us/windows/desktop/Debug/system-error-codes" for error information.
```


Demo

FU.WhyAmIBlocked

```
\Output_20200828_010313\Bin\
++ copying C:\Users\grossac\OneDrive - A Square Dozen\Shared\Microsoft\Suda\%$WINDOWS.~BT%\$WINDOWS.~BT\Sources\Panther\P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingAppUninteresti
ks\Output_20200828_010313\Bin\
++ copying C:\Users\grossac\OneDrive - A Square Dozen\Shared\Microsoft\Suda\%$WINDOWS.~BT%\$WINDOWS.~BT\Sources\Panther\P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevInteresting
\Output_20200828_010313\Bin\
++ copying C:\Users\grossac\OneDrive - A Square Dozen\Shared\Microsoft\Suda\%$WINDOWS.~BT%\$WINDOWS.~BT\Sources\Panther\P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevUninteresti
ks\Output_20200828_010313\Bin\
+ Converting C:\FeatureUpdateBlocks\Output_20200828_010313\Bin\AltSrc_P6MUwe3Hb0aa0MLV.9.4.0.0_APPRAISER_EverythingSys.bin to .xml .. ✓
+ Converting C:\FeatureUpdateBlocks\Output_20200828_010313\Bin\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingAppInteresting.bin to .xml .. ✓
+ Converting C:\FeatureUpdateBlocks\Output_20200828_010313\Bin\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingAppUninteresting.bin to .xml .. ✓
+ Converting C:\FeatureUpdateBlocks\Output_20200828_010313\Bin\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevInteresting.bin to .xml .. ✓
+ Converting C:\FeatureUpdateBlocks\Output_20200828_010313\Bin\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevUninteresting.bin to .xml .. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.4.0.0_APPRAISER_EverythingSys.bin_HUMANREADABLE.XML files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.4.0.0_APPRAISER_HumanReadable.xml files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingAppInteresting.bin_HUMANREADABLE.XML files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingAppUninteresting.bin_HUMANREADABLE.XML files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevInteresting.bin_HUMANREADABLE.XML files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_EverythingDevUninteresting.bin_HUMANREADABLE.XML files.. ✓
+ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\XML\AltSrc_P6MUwe3Hb0aa0MLV.9.8.0.0_APPRAISER_HumanReadable.xml files.. ✓
+ Results output to C:\FeatureUpdateBlocks\Output_20200828_010313\Results.txt.. ✓
+ Extracting C:\FeatureUpdateBlocks\Output_20200828_010313\CABs\AltSrc_AltData.cab.. ✓
+ Finding .sdb files.. ✓
+ Expanding C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData\AltSrc_AltData\appraiser.sdb to C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData\AltSrc_AltDat
416.sdb.. ✓
+ Converting sdb to xml.. ✓
✓
+ Expanding C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData\AltSrc_appraiser.sdb to C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData\AltSrc_appraiser.sdb_
+ Converting sdb to xml.. ✓
+ Finding block entries in Appraiser database..
++ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\AltSrc_AltData_appraiser.sdb_ver_2416.XML..
✓
++ Matches output to C:\FeatureUpdateBlocks\Output_20200828_010313\AltSrc_AltData_appraiser.sdb_ver_2416_Matches.txt..
++ Finding block entries in C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData_AltSrc_appraiser.sdb_ver_unknown.XML..
✓
++ Matches output to C:\FeatureUpdateBlocks\Output_20200828_010313\AppraiserData_AltSrc_appraiser.sdb_ver_unknown_Matches.txt..
+ Finding and exporting block bypass.. ✓
```

<https://www.powershellgallery.com/packages/FU.WhyAmIBlocked/1.0.0.8>

Resources

- 100 Level
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/quick-fixes>
 - <https://support.microsoft.com/en-us/help/928901/log-files-that-are-created-when-you-upgrade-to-a-new-version-of-window>
- 200 Level
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/resolution-procedures>
- 300 Level
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/troubleshoot-upgrade-errors>
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/windows-error-reporting>
- 400 Level
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/upgrade-error-codes>
 - <https://docs.microsoft.com/en-us/windows/deployment/upgrade/log-files>

Links to Adam's Stuff

- <https://www.asquaredozen.com/2020/07/26/demystifying-windows-10-feature-update-blocks/>
- <https://www.asquaredozen.com/2019/10/05/windows-10-feature-updates-the-challenge-of-servicing-in-the-enterprise/>
- <https://www.asquaredozen.com/2019/08/25/windows-10-feature-updates-using-setupconfig-ini-to-manage-feature-updates-in-the-enterprise/>
- <https://www.asquaredozen.com/2019/08/25/windows-10-feature-updates-using-custom-action-scripts/>
- <https://www.asquaredozen.com/2019/08/22/windows-10-feature-updates-leveraging-setupdiag-for-better-reporting/>
- <https://github.com/AdamGrossTX/Windows10FeatureUpdates>
- <https://youtu.be/B8pLD337fbE?t=3484>