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HTMD Community Conference - 2024









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ConfigMgr and UUP OnPrem Internals



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Agenda

- UUP OnPrem Overview 10 mins (UK)
- Components and Architecture 5 mins (UK)
- Scenarios 10 mins (UK)
- FAQs 10 mins (UK)
- Troubleshooting and Common issues – 10 mins (VM)



UUP Overview

UUP OnPrem is a style of patch method to simplify On Prem Feature updates to help make it easier for customers to transition to Windows 11.

- Cumulative Updates to Win11 22H2+ clients
- Feature updates to Win10, version 20H1 and later.

This brings the back power of UUP to CM/WSUS for these Technologies:

- Language Packs (LP)
- Feature on Demand (FOD)
- ACR Automatic Content Repair



Overview of UUP

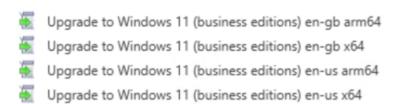
Simplifying the upgrade from Windows 10 to Windows 11

Current Challenges:

- Custom images are commonly used and deployed.
- Older Feature updates from CM/WSUS remove FODs and Language Packs
- Requires patching post-installation or deploying images with the latest patch

Benefits of UUP Feature Updates:

- Simplifies content management via servicing, instead of media-based task sequences.
- Upgrades OS to the latest security compliance level with one reboot.
- Retains installed optional (FODs) and language packs (LPs) during upgrades.
- Implement well known task sequences for other custom actions needed in your environment

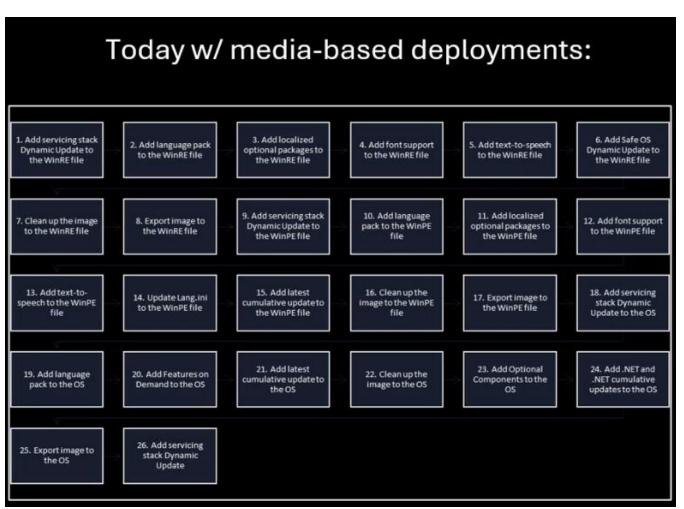




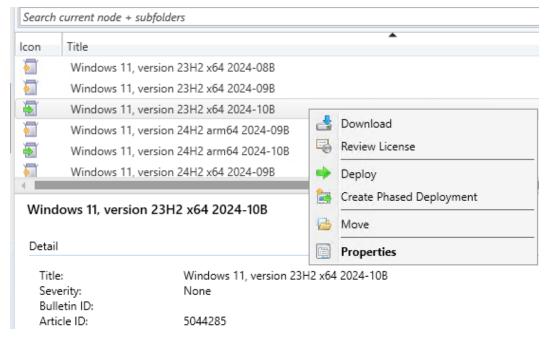


Overview of UUP

Simplify OnPrem Feature Updates

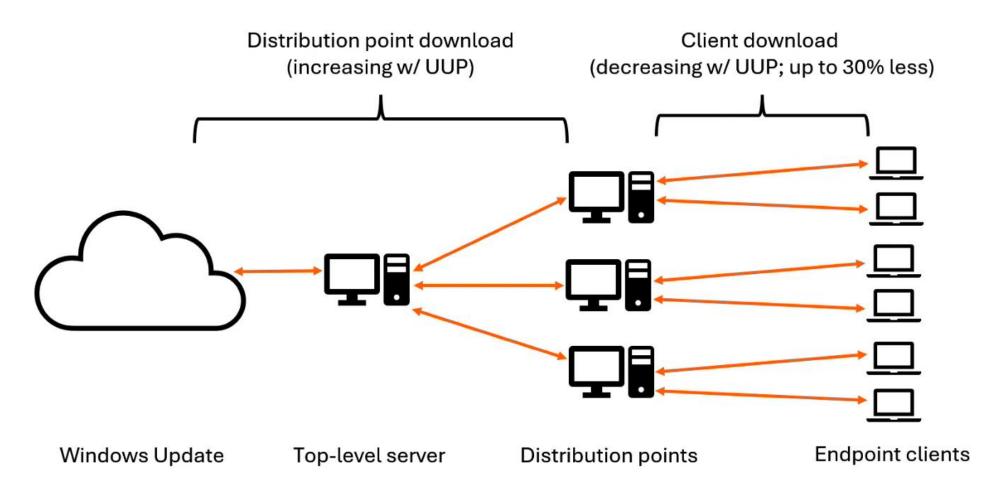


Now with UUP





Distribution point versus client downloads





Customer Scenarios

The CU and FU share the same KB number and are ~5GB difference in size

- CUs Software Library > Software Updates
- FUs Software Library > Windows Servicing

	#1 UUP QU & FU	#2 UUP QU only
Serving based upgrades (FU)		X
LP & FOD acquisition	~	
ACR support	/	
LP & FOD migration	/	X
Get current in one reboot	~	X

LPs, FOD, ACR
(~10GB)
Only downloaded to DPs
once per OS release

Quality Update

OnePackage (LCU/SSU) (~200MB/month)

Feature

Update^{*}

Base media & fixes (~5GB/release)



UUP Download size- ConfigMgr Update Package

Patchdownloader on ConfigMgr Site Server

•From the previous slide we know there is static part of bundle which is generally the biggest files in a UUP bundle. It would only make sense we have a good dedupe strategy from ConfigMgr to save disk space.

Deduplication at the source in ConfigMgr: When PatchDownloader downloads a file it checks if the file exists in the same share and creates a hard link for the <u>alr</u>eady existing file instead of re-downloading it.

Scenario 1

If the files/folders for previous UUP update source package are on the same volume but different share name, we don't go into creating hard link path at all.

Scenario 2(a)

If the Package path has a common share \machine\share but different folders inside it (which is the normal case) like \machine\share\jan and \machine\share\feb we go to the hard link and create the hard link for the file with the Patchdownloader.log entry Content already downloaded. Created link for ContentID

Scenario 2(b)

Same scenario as 2(a) but the PatchDownloader here finds the same file present in a different share first apart from being present on the same share. Here the PatchDownloader doesn't go deep and check if the file is also present on the same share and fails to create the hard link. But here it doesn't download from internet again but copies the file from the other share to this share. Log entries fail to create hard link with error 17 (which is it thinks these are different drives). Could not create hard link: \\UKC-CS1SITE\UpdatesPackage\2302_Win11_21H2_UUP\b1e9d019-7dec-4eee-b7e4-9e8eae99d89b.1\19222DDC6156FBE5570C3A6DDF69759662F93AEE_FeatureOnDemand.wim -> \\ukccs1site\22-11-UUPWin11\bcb528ff-85c2-4372-8b91-20bd0c7fa1e4\19222DDC6156FBE5570C3A6DDF69759662F93AEE_FeatureOnDemand.wim. LastErr=17

Summary

It is always best to have a single share for all the UUP monthly packages \machine\UUP and then creating folders inside it for each months package \machine\share\jan and \machine\share\feb so we can get to create hard links instead of downloading the actual files again.

Note

If you actually check the properties of the folder it will still show the size of the actual file and not hard link. Use DU.exe from sysinternals suite to find the actual size of a folder

DU v1.62 - Directory disk usage reporter Copyright (C) 2005-2018 Mark Russinovich Sysinternals - www.sysinternals.com

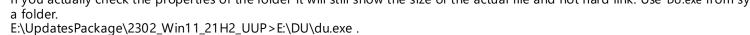
Files: 14 Directories: 2

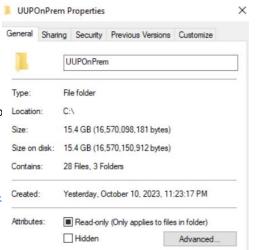
Size: 9,675,198,236 bytes

Size on disk: 9,675,227,136 bytes



To find all the hard link references to a file use the fsutil command. fsutil harlink list <full file path>





```
PS C:\> .\DU\du.exe .\UUPOnPrem

DU v1.62 - Directory disk usage reporter
Copyright (C) 2005-2018 Mark Russinovich
Sysinternals - www.sysinternals.com

Files: 24
Directories: 4
Size: 8,934,965,681 bytes
Size on disk: 8,935,022,592 bytes

PS C:\> ____
```

UUP Download size- ConfigMgr DPs

Content Library

- ConfigMgr Content Library already provides a single instance storage for a file
- DeDup strategies on Server end can reduce the size further
- The later FU/CUs will only occupy space if there is a file level change and only a few hundred MBs change every update vs GBs of change.

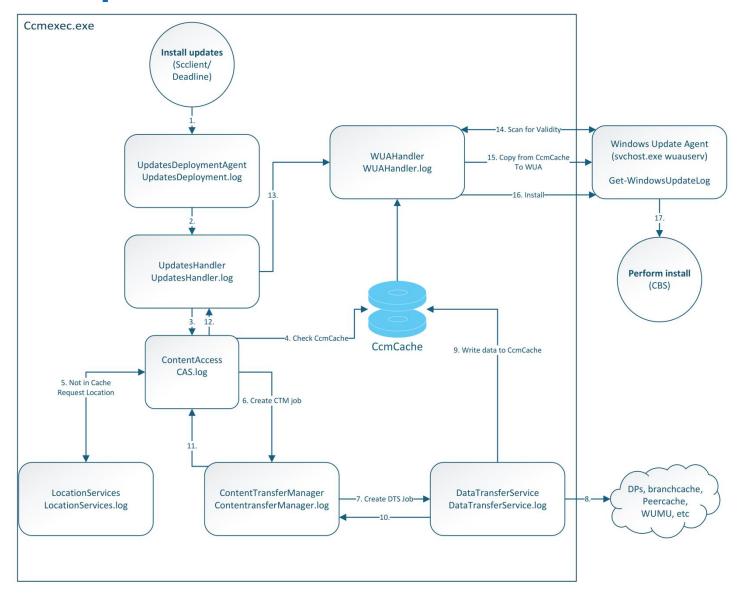


UUP Download size- Client Side

 It gets even better on the client side and DO and Delta Download code works precisely only to bring the changed file chunks will reduces the download size even further when moving from one LCU to other.

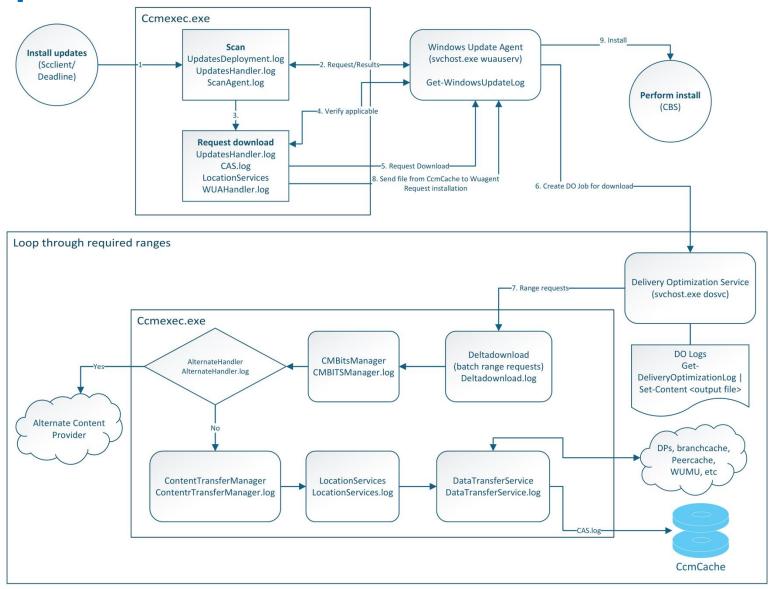


Non-UUP Component/Download Flow





UUP Component/Download Flow





UUP Component/Download Flow

- 1.ConfigMgr Client gets the software update deployment policy and UpdateDeployment evaluates the deployment.
- 2.ConfigMgr client checks the applicability of the updates and kicks of the scan check via ScanAgent by involving Windows Update Agent (WUA).
- 3.WUA completes the scan check to find the applicable updates.
- 4.WUA doesn't pass the control back to CCMEXEC CAS component for UUP updates and invokes the Windows DO client instead to do the job.
- IMPORTANT The ConfigMgr Client Setting for Delta Download OR ConfigMgr 2203+ client DeltaDownload component in general sets the local group policy Computer Configuration -> Administrative Templates -> Windows Components -> Windows Update -> Manage Updates offered from Windows Server Update Service: Specify intranet Microsoft Update service location: Set the alternate download server to http://localhost:8005 which is the Delta Download Http listener for the ConfigMgr client and 8005 is the port configured by default it is listening on which can be changed.
- 5. Windows DO client creates DO job to download the update via Range requests but since the Alternate download Server is set to the Delta Download endpoint (localhost:8005), the DO actually passes the baton to Delta Download endpoint for these requests. So this is how the control gets passed onto the ConfigMgr client again.
- 6.Delta Download receives the request from DO as ranged requests.
- 7. Delta download batches all the ranged requests.
- 8.Delta download analyzes and processes the all the ranged request separately with a different connection and request id..
- 9.Delta Download controller creates a CMBITSManager job to download the content for each ranged request.
- 10.CMBitsManager inturn creates a CTM job for the download request.
- 11.CTM creates a Location request and prioritizes the content location (includes the Branch Cache, Peer Cache).
- 12.CTM creates the DTS job for the content location it picked.
- 13.DTS downloads the content from the content source (this can include Branch cache and Peer cache sources as well).
- 14. The successful content download status then gets successfully passed on thru the ConfigMgr threads all the way to WUA DO job and then WUA takes the control back again to launch the install.



UUP Scenarios - Patches (UUP/Non-UUP) approved from WSUS (or Hybrid WSUS+ConfigMgr)

- Even though the update was not deployed thru ConfigMgr, but since there is a ConfigMgr client on the machine, the ConfigMgr agent will configure the delta download policy to point to the Delta download endpoint (http://localhost:8005) as mentioned in the PreReq section.
- ConfigMgr Delta Download endpoint will try to find content but will fail as this update was only deployed thru WSUS.
- •The ConfigMgr Delta download controller fails and returns with a FallbackToOriginalURL error to the DO Client.

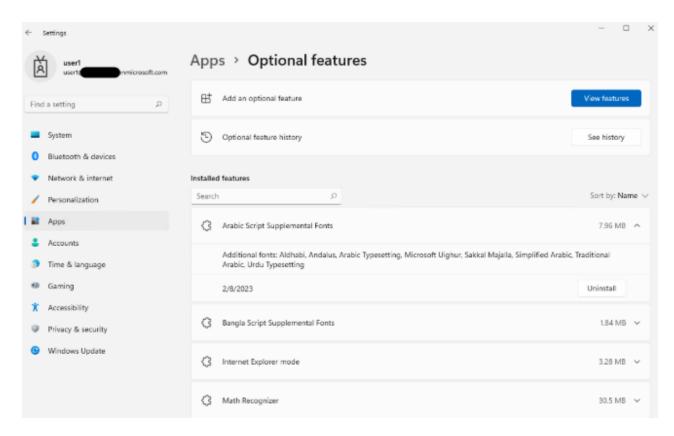
** 6. Windows Update Agent changes the URL to the local WSUS URL and resumes the DO job with that updated URL WindowsUpdate.log WU client calls back to download call {610FCA6E-D509-45EE-A5B5-547BA37DA852} with code Call progress and error 0 FAILED [80004001] Method failed [CAgentDownloadManager::CanRetryWithDifferentCDNForError:24757] DO job (065770A1-896F-43CC-9FF8-2AB70DD336B9), updateId = B3DD2994-36D6-43B1-850E-7EF6D0038EDD.200, is using the distribution server's URL and to replace with the original URL DO Job 065770A1-896F-43CC-9FF8-2AB70DD336B9 - Update B3DD2994-36D6-43B1-850E-7EF6D0038EDD.200 - Don't fill the empty content Urls when retrying with the original URL. Update the URLs for DO Job 065770A1-896F-43CC-9FF8-2AB70DD336B9 - Update B3DD2994-36D6-43B1-850E-7EF6D0038EDD.200 1 of 1 files' URLs are updated. Download job 065770A1-896F-43CC-9FF8-2AB70DD336B9 resumed. DOSVC. log (Delivery optimization log) also records the fallback and change of URL. Server: Microsoft-HTTPAPI/2.0 FallbackToOriginURL: 1 2023-01-17T22:30:22.4055508Z 4F0 23E8 Info {CConnMan::_OnCdnError} Swarm: 0e49cb3d82aba97881d5900e5d66f5ba08972286, CDN unauthorized (403), DOINC? 0 2023-01-17T22:30:22.4165906Z 4F0 23E8 Info {CSwarm:: SetContentDeliveryURL} Swarm: 0e49cb3d82aba97881d5900e5d66f5ba08972286, CDN URL (supplied): http://ukcps1site.ukcmlab.lab:8530/Content/86/0E49CB3D82ABA97881D5900E5D66F5BA08972286.exe

Content/86/0E49CB3D82ABA97881D5900E5D66F5BA08972286.exe 2023-01-17T22:30:22.4571684Z 4F0 23E8 Info {CHttpPeerConn::OnConnection::<lambda_c3b340fe4ba2af9ed49e615ff593013d>::operator ()} Swarm: 0e49cb3d82aba97881d5900e5d66f5ba08972286, HTTP connection: [192.168.1.10]:8530 7. DO job completes and the same is relayed back to WUA which then proceeds with the update install DO job {065770A1-896F-43CC-9FF8-2AB70DD336B9} completed successfully, updateId = B3DD2994-36D6-43B1-850E-7EF6D0038EDD.200 All files for update B3DD2994-36D6-43B1-850E-7EF6D0038EDD.200 were already downloaded and are valid. END Download Call Complete. Call 3 for caller MoUpdateOrchestrator has completed; signaling completion. Download call complete (succeeded = 1, succeeded with errors = 0, failed = 0, cancelled = 0, unaccounted = 0) BeginUpdateDeployment invoked for Installing the 1 updates; Caller id = MoUpdateOrchestrator



UUP Scenarios – Acquiring FODs/LPs offline

- One of the advantages of UUP On-premise is that the FOD can now be obtained offline on the clients from the local content channel without going to internet.
- Note It is required to either have a UUP Feature Update or UUP quality update installed on the client machine first to make sure the offline acquiring works.
- •As an example a user tries to install an FOD feature thru the Settings -> Apps -> Optional Features





UUP Scenarios – Acquiring FODs/LPs offline

1. The WUA Agents invoked by the TrustedInstaller FOD component of CBS to find the update.

Added update 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100 to search result Found 1 updates and 125 categories in search; evaluated appl. rules of 1003 out of 1486 deployed entities END Finding updates CallerId = TrustedInstaller FOD, Id = 2, Exit code = 0x000000000 (cV = EAYD1YqdoUmH4vS6.1.1.0.0.2) END Search ClientId = TrustedInstaller FOD, Updates found = 1, ServiceId = 3DA21691-E39D-4DA6-8A4B-B43877BCB1B7 (cV = EAYD1YqdoUmH4vS6.1.1.0.0) Validating signature for C:\Windows\Software\Distribution\Download\7a5762c5c61b7fcc1c9a3af9c574701a\DesktopDeployment.cab with dwProvFlags 0x00000080:

2. The WUA confirms the update installed and creates the download request for DO.

Updates to download = 1
Session data = {Module|D":"FOD"
Title = 2022-11 Cumulative Update for Windows 11 for x64-based Systems (KB5019157) UUP
UpdateId = 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100
DownloadManager CreateDownloadJob.
Generating download request for update BCB528FF-85C2-4372-8B91-20BD0C7FA1E4.100.
Update 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100 is UUP on Prem bundle.
DownloadManager CreateDownloadJob.
DO job initialized: JobId = {47B447B5-887E-4F74-A9E3-9CFF85987AC8}
Downloading from bitty://localboot/9005/Content/FE/19232DDC6156FBEE570C2A6DDE697E90

Downloading from http://localhost:8005/Content/EE/19222DDC6156FBE5570C3A6DDF69759662F93AEE.wim to C:\Windows\SoftwareDistribution\Download\7a5762c5c61b7fcc1c9a3af9c574701a\FeatureOnDemand.wim (1 subranges).

Created download job 47B4E7B5-887E-4F74-A9E3-9CFF85987AC8; streaming data: No

3. The control is passed to Delta Download controller which verifies if the update is present is ConfigMgr via LocationServices

DeltaDownload Update ID retrieved from header is: BCB528FF-85C2-4372-8B91-20BD0C7FA1E4 DeltaDownload GetContentIDsFromLS with Update ID BCB528FF-85C2-4372-8B91-20BD0C7FA1E4

4. Delta download controller checks the DDMCache locally and triggers download via CMBITSManager if the content is not already downloaded.

DeltaDownload DDMCache is about to execute the query: 'SELECT * FROM DDMContentsInfo WHERE FileHash = '19222DDC6156FBE5570C3A6DDF69759662F93AEE''. DeltaDownload DDMCache has no data with FileHash = '19222DDC6156FBE5570C3A6DDF69759662F93AEE'. DeltaDownload Download requested from protected DPs only

5. CMBitsManager invokes CTM and then LS and finally DTS is invokes to download the content.

Note that, we only want the FOD wim and this file was already passed to Delta download controller initially. Even though ConfigMgr checks the presence of the update it only downloads the required FOD WIM files for the app. DataTransferService DataTransferService: DTSJob({6354792A-EBE4-428D-99AF-19240CF9AF37}) - created to download from 'http://UKC-PS1DPMP1.ukcmlab.lab:80/SMS_DP_SMSPKG\$/bcb528ff-85c2-4372-8b91-20bd0c7fa1e4 ' to 'C:\Windows\ccmcache\l'.

DataTransferService BITS compatible path: http://UKC-PS1DPMP1.ukcmlab.lab:80/SMS_DP_SMSPKG\$/bcb528ff-85c2-4372-8b91-20bd0c7fa1e4/sccm?/19222DDC6156FBE5570C3A6DDF69759662F93AEE_FeatureOnDemand.wim DataTransferService BITSHelper: Full source path to be transferred = http://UKC-PS1DPMP1.ukcmlab.lab:80/SMS_DP_SMSPKG\$/bcb528ff-85c2-4372-8b91-20bd0c7fa1e4/sccm?/19222DDC6156FBE5570C3A6DDF69759662F93AEE_FeatureOnDemand.wim



UUP Scenarios – Automatic/Manual Content Repair

If the OS files get corrupted, you can invoke a OS repair from various options with one option being using the DISM tool. Like FOD/LPs, the content for the files can be also obtained offline from local sources instead of going online.

Sample command line:

dism /online /cleanup-image /restorehealth

```
PS C:\Windows\system32> dism /online /cleanup-image /restorehealth
Deployment Image Servicing and Management tool
Version: 10.0.22000.653
Image Version: 10.0.22000.1281
     -----] The restore operation completed successfully.
```

1. The CBS (MCR TI) runs the check to find the corrupt files and calls into WUA

Exec: Download qualification evaluation, business scenario: Manual Corruption Repair

Exec: Clients specified using Windows Update.

Repr: Add missing package manifest/cat for package:Containers-Client-Guest-Package~31bf3856ad364e35~amd64~10.0.22000.1281
Repr: Add missing component manifest:wow64_microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1165_none_5fb3026ce010de55.manifest
Repr: Add missing component manifest:wow64_microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1281_none_5faa8e34e016c670.manifest
Repr: Add missing package manifest/cat for package:Containers-Client-Guest-Package~31bf3856ad364e35~amd64~10.0.22000.1281
Repr: Add missing component manifest:wow64_microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1165_none_5fb3026ce010de55.manifest
Repr: Add missing component manifest:wow64_microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1281_none_5faa8e34e016c670.manifest

FC: Calling Download on WUClient Acquirer

FC: FCAcquirerWUClient: Calling WindowsUpdateDownloadFromUUP FC: FCAcquirerWUClient: WULib Mode Complete: [0]

WU creates the package, AppID:TrustedInstaller MCR, UpdateID:{7FDAF125-AF0E-49BD-A3EC-394827ECEF84}, revision: 204

2. The WUA Agents invoked by the MCR TI component of CBS tries to find the update.

Added update 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100 to search result Found 1 updates and 125 categories in search; evaluated appl. rules of 1016 out of 1507 deployed entities

END Finding updates CallerId = TrustedInstaller MCR, Id = 2, Exit code = 0x000000000 (cV = cac5Ykp9PUK+SpVH.1.1.0.0.2)

UpdateId=48DE12F1-158B-4136-8E2D-724CDEF81E8D.100, DeploymentID=367771, ClientMetadata: audience=(null), admin=(null), update=(null)

END Search ClientId = TrustedInstaller MCR, Updates found = 1, ServiceId = 3DA21691-E39D-4DA6-8A4B-B43877BCB1B7 (cV = cac5Ykp9PUK+SpVH.1.1.0.0) END All federated searches have completed. Jobs = 1, Succeeded = 1, ClientId = TrustedInstaller MCR (cV = cac5Ykp9PUK+SpVH.1.1.1)



UUP Scenarios – Automatic/Manual Content Repair

3. The WUA confirms the update installed and creates the download request for DO.

START * Federated Download ClientId = TrustedInstaller MCR (cV = cac5Ykp9PUK+SpVH.1.1.0)
SessionData = (ModuleID": "Repair"
Federated Download: Starting download for 1 service(s) (cV = cac5Ykp9PUK+SpVH.1.1.0)
START * Download ClientId = TrustedInstaller MCR
Updates in request: 1
ServiceID = (3DA21691-E39D-4DA6-8A4B-B43877BCB1B7) Managed
START * Begin Downloading Updates [CallerId = TrustedInstaller MCR] [Call ID = (6BCC5FE2-F845-4C7B-A19D-030154BA58BD)]
Updates to download = 1
Session data = (ModuleID": "Repair"
Title = 2022-11 Cumulative Update for Windows 11 for x64-based Systems (KB5019157) UUP
UpdateId = 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100
Bundles 1 updates:
BCB528FF-85c2-4372-8B91-20BD0C7FA1E4.100
Update 48DE12F1-158B-4136-8E2D-724CDEF81E8D.100 is UUP on Prem bundle.
DownloadManager Create DownloadJob.
DO job initialized: Jobid = (881BFA43-C332-4DC4-8E54-523F05AB85B9)
DOwnloadIng from http://localhost:8005/Content/C4/D8016888A453FA5A9CF4257E4FE21F193AF9AEC4.wim to C:\Windows\SoftwareDistribution\Download\635232b978682cad9c3d6e84632137c4\Edition.wim (24 subranges).

4. The control is passed to Delta Download controller which verifies if the update is present in ConfigMgr via LocationServices

Update ID retrieved from header is: BCB528FF-85C2-4372-8B91-20BD0C7FA1E4 GetContentIDsFromLS with Update ID BCB528FF-85C2-4372-8B91-20BD0C7FA1E4

5. Delta download controller checks the DDMCache locally and triggers download via CMBITSManager if the content is not already downloaded.

DDMCache is about to execute the query: 'SELECT * FROM DDMContentsInfo WHERE FileHash = '19222DDC6156FBE5570C3A6DDF69759662F93AEE''. CMBitsJob with sBITSJobGuid = {FA1CC4D2-2252-4B16-8F29-37F34F135C9F} created

6. CMBitsManager invokes CTM and then LS and finally DTS is invokes to download the content.

BITS compatible path: http://UKC-PS1DPMP1.ukcmlab.lab:80/SMS_DP_SMSPKG\$/bcb528ff-85c2-4372-8b91-20bd0c7fa1e4/sccm?/D8016B88A453FA5A9CF4257E4FE21F193AF9AEC4_Edition.wim BITSHelper: Full source path to be transferred = http://UKC-PS1DPMP1.ukcmlab.lab:80/SMS_DP_SMSPKG\$/bcb528ff-85c2-4372-8b91-20bd0c7fa1e4/sccm?/D8016B88A453FA5A9CF4257E4FE21F193AF9AEC4_Edition.wim

7. CBS then does the repair and repair summary is recorded in CBS.log

(p) CBS Catalog Corrupt (w) (Fixed) Containers-Client-Guest-Package~31bf3856ad364e35~amd64~~10.0.22000.1281 (p) CSI Manifest Corrupt (n) wow64_microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1165_none_5fb3026ce010de55 Repair failed: Missing replacement manifest. (p) CSI Manifest Corrupt (w) (Fixed) wow64 microsoft-windows-cdp-api_31bf3856ad364e35_10.0.22000.1281_none_5faa8e34e016c670

The (w) here signifies that the files was repaired from WU meaning after going to WUA. If you see a (b) here it means it was restored from the backup.

Note In our case above we can see that an old file failed to repair. The reason is that from a servicing stack perspective a newer version of that file/manifest/etc. is installed. A current version scan can find superseded bundles, but, by definition, it only returns the bundle that corresponds to the currently installed LCU (current version) of the host asking for the content. Because LCUs are cumulative, this can include content that was introduced in a prior month and did not change again this month, but a given LCU bundle will only include RTM + the latest version of files as of that LCU's publishing. So, if you have a non-RTM superseded file that was updated by a more recently installed LCU on your system, that file is not repairable. In the majority of cases, this isn't going to be a problem unless they try to uninstall the current LCU and go back to that now-corrupt version. If they still want to repair it, they can follow public guidance to use dism and point to a local repair source with the appropriate version of the file available. Here's the documentation.



UUP FAQs - Update Supersedence changing to 6 months default for new installs. How does update supersedence affect UUP scenarios ?

The default for expiring updates which are superseded will only change for the new installations and the existing ones will not be altered from whatever the current setting is.

The question does arise as to why all of a sudden there is a need to keep updates for this long when there is a chance of this causing WSUS perf issues; The reply to that is there is no dependency or any need of this setting for the UUP scenarios to work except that the scenarios of getting the content of the update offline for FOD,LPs and Content repair for images will not be able to find the current installed version if the updates are expired and removed. So if the customer doesn't wish to use those scenarios OR they keep the images current wrt to the configured setting of updates expiry (meaning their clients versions always are >= months configured in expiry of superseded update) then they don't have to worry about this.

The other critical question with updates getting removed is if the first RTM updates gets removed then the next UUP quality update will result in full download of update on the server side and also around 10GB on bandwidth to DPs again for distribution; The reply here is that if the next month UUP updates are downloaded then there would be a hard link to the old update which should prevent its removal. In any case even if the files if supposedly were not hard linked and get removed it should cause a full download and not delta download on server side and DP distribution bandwidth, but clients should likely still be asking the delta content.

Note

If the Admins do not download the next UUP quality updates until the time windows configured for updates supersedence then likely the main update would get deleted and the next UUP quality update would cause a full download.

For. E.g. The expiry for superseded updates is configured for 3 months then suppose if the admin doesn't download any updates in the 4th month, then likely the old update would get expired and deleted and the next UUP QU download will result in all files to be downloaded again instead of using hard links from old updates as they are lost.

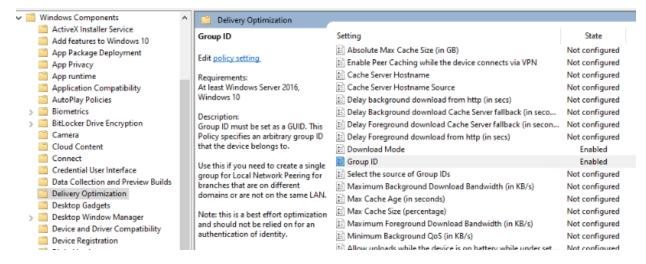


UUP FAQs – UUP uses DO does that mean we are using Internet?

Delivery Optimization a Windows technology to deliver content in a smart way reducing internet bandwidth owned by the Windows team and Delta Download is a component or thread which is an http listener for requests owned by the ConfigMgr team.

ConfigMgr requires the DO client for Delta download to succeed. Hence even if we don't enable DO ConfigMgr would automatically enable DO by setting these two policies. This is visible in the UpdateDOGPO.log

SetDOGPOSettings: Set Windows DO group policy to DOGroupId = DeliveryMode = group



So we should not by any chance go ahead and manually create a GPO to disable these policies OR Edit the registry to disable the DOSVC service or from services console.



Be aware that this is just DO Client and does not define we are talking to a DO Cloud service. We set the download mode as 1 by default which is LAN and 2 when we explicitly define the DO policy in client settings which means GROUP which gets configured as a GUID as per Boundary group and content download is only http from peer/alternate sources and not from internet.



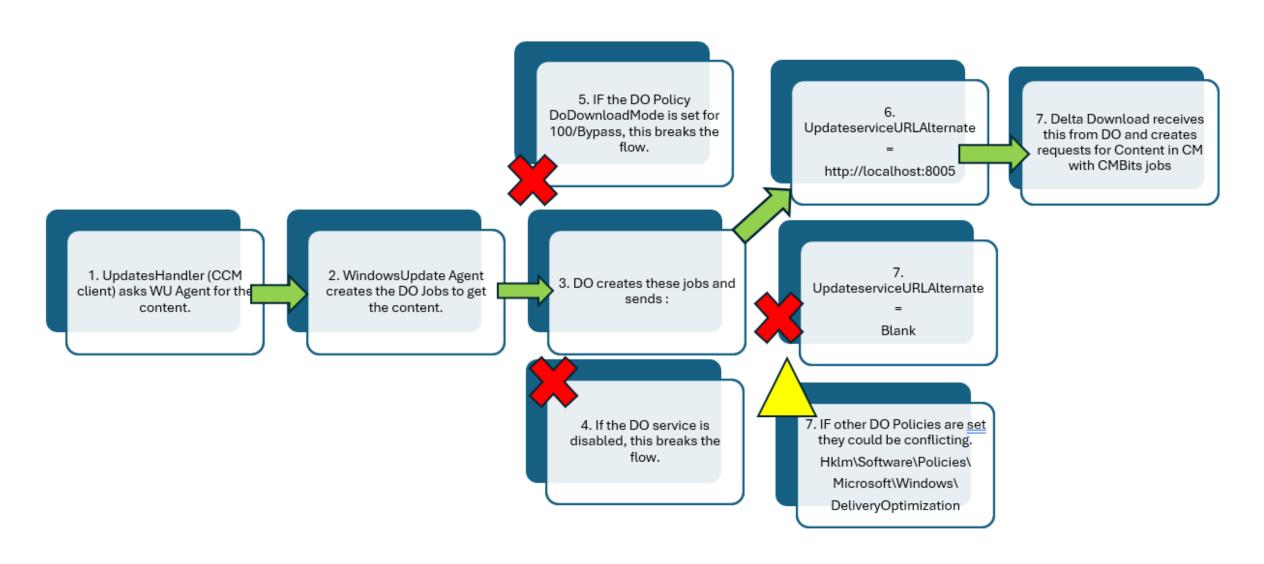
UUP FAQs - Why does ConfigMgr UUP On-Prem seemingly download a 3-5 GB wim when I want to install a very small FOD/LP package?

•This is an issue with the size attribute on the file as we don't download the full file for FOD/LP but only the needed byte ranges. Since we download the needed byte ranges only, the size that gets displayed for the file is the cumulative size of the file till that range. Meaning if the small FOD package is around 3035627519 of the byte range in the file, we will display the size of the file as around 2.82 GB. While in actuality we only downloaded the file ranges between 3034578944-3035627519 for the 1 MB FOD package. To confirm the actual size of the file on disk you can check the properties of the file and verify the "Size on disk".

	76da837b21943dc160faaa_featureondemand.wi		
Type of file:	WIM File (.wim)		
Opens with:	Pick an app	Change	
ocation:	C:\Windows\comcache\18	_	
Size:	2.82 GB (3,033,530,368 bytes).	
Size on disk:	1.00 MB (1,048,576 bytes)		
Created:	Tuesday, September 26, 2023, 3:42:24 PM		
Modified:	Tuesday, September 26, 2023	, 3:42:24 PM	
Accessed:	Yesterday, September 26, 202	3, 4:57:39 PM	
Attributes:	Read-only Hidden	Advanced	

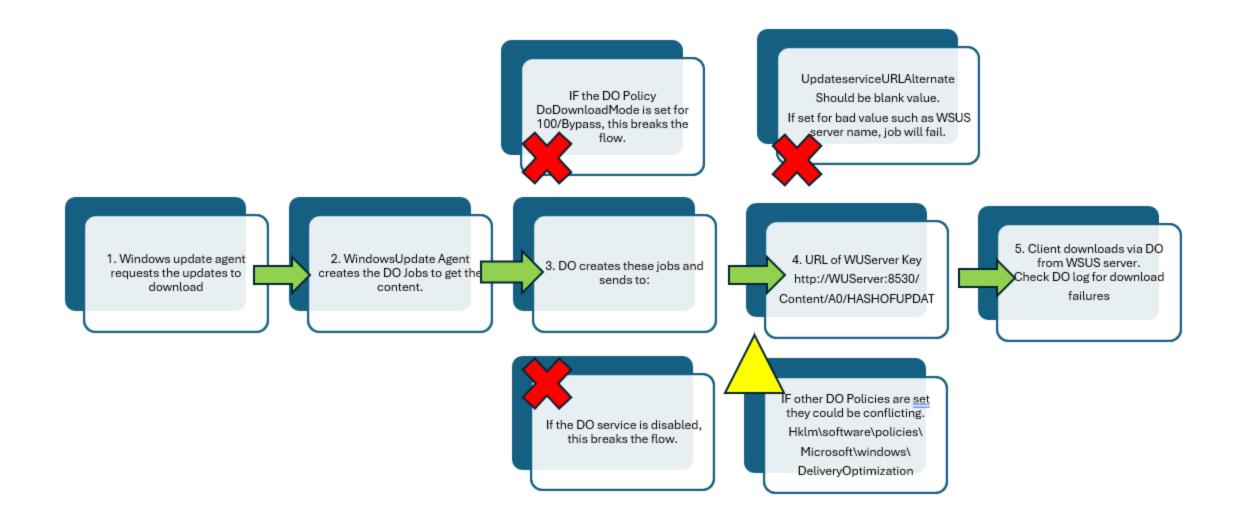


UUP Troubleshooting and Common Issues – UUP with ConfigMgr





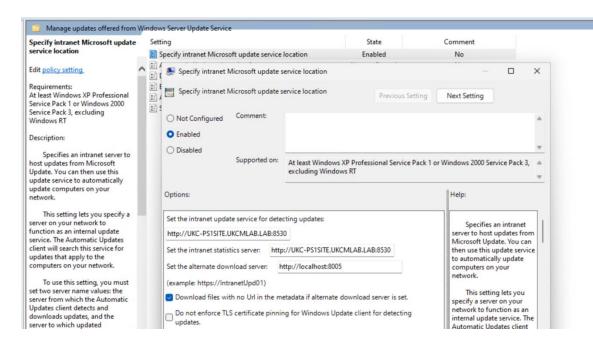
UUP Troubleshooting and Common Issues – UUP with Standalone WSUS

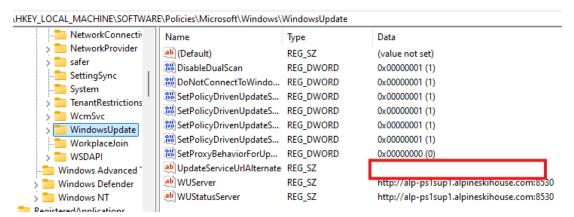


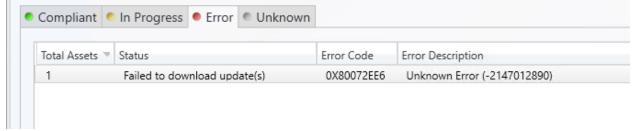


UUP Troubleshooting and Common Issues – The case of missing Alternate Download URL

- UpdateServiceUrlAlternate is blank
- Error: 0x80072EE6
- If UpdateserviceUrlAlternate is blank then DO cannot send the download request to the CCM client.
- UpdateserivceURLAlternate is the connection from DO to our Deltadownload.



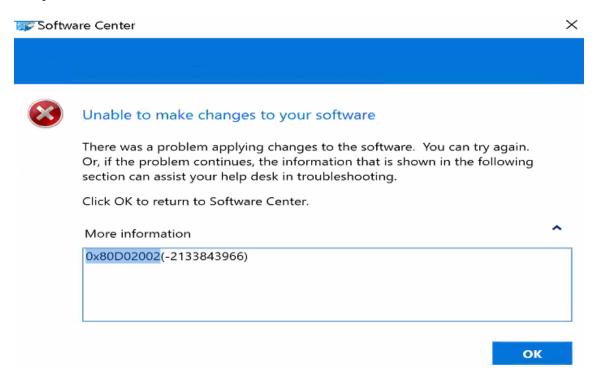






UUP Troubleshooting and Common Issues – The case of DO Services being disabled

- DO service is disabled in Services.msc Error: 0x80D02002
- This service needs to be running.
- If the DO service is disabled the WU agent is unable to pass the job to DO.





UUP Troubleshooting and Common Issues – The case of DO Services being disabled

- DO service is disabled in Services.msc
- Update is stuck on 0% downloading.
- DO fails to download from the WSUS Server.
- Check the DO log to see why it's failing.

Get-deliveryoptimizationLog | Set-content

"c:\temp\Dosvc.log"

Example, 401, 503 in the DO log

be 18977373b54a47ff109d822ccd734a1, DownloadMode_Simple for URL: http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE18977373B54A47FF109D822CCD734A1.cab

llations::dambda_2b214b0d72b8140e3a917399bfdeb994>::operator ()} Client file opened: C:\Windows\SoftwareDistribution\Download\eb8857c0a05561e1d2792fb15dd069b7\Windows10.0-KB5044281-x64.cab (hr:0)

m: b38e5d7be18977373b54a47ff109d822ccd734a1, CDN URL (supplied): http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE18977373B54A47FF109D822CCD734A1.cab

cted to http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE18977373B54A47FF109D822CCD734A1.cab (http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE18977373B54A47FF109D822CCD734A1.cab (http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE18977373B54A47FF109D822CCD734A1.cab

038e5d7be18977373b54a47ff109d822ccd734a1, HTTP request B(285, 0, 1048576) failed: 801901f<mark> 7, status code: 503, r</mark>equestOffset: 298844160, requestSize: 1048576, responseSize: 0, IP: [10.0.1.20]:8530 hr: 801901f7, httpCode: 503, errorCount: 1, fileld: b38e5d7be18977373b54a47ff109d822ccd734a1, sessionId: 99019c35-5239-4e49-bb00-2344dd09476f, rd: http://SCCM02.contoso.org:8530/Content/A1/B38E5D7BE1...

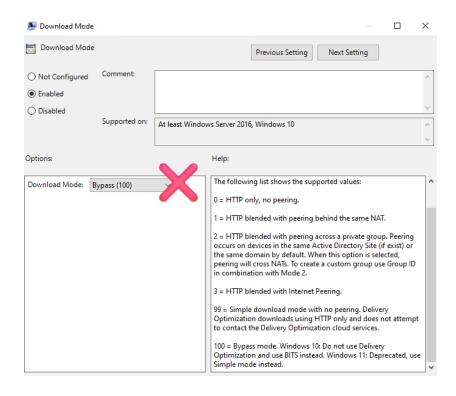
1901f7, httpCode: 503, errorCount: 1, fileId: b38e5d7be18977373b54a47ff109d822ccd734a1, sessionId: 99019c35-5239-4e49-bb00-2344dd09476f, url: 5D7BE18977373B54A47FF109D822CCD734A1.cab, isHeadRequest: 0, requestOffset: 298844160, requestSize: 1048576, responseSize: 0, serverlp: [10.0.1.20]:8530;, headers: HTTP/1.1 503 Service Unavailable

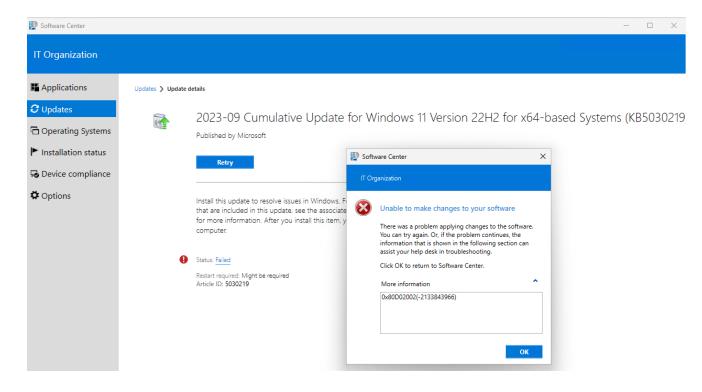


UUP Troubleshooting and Common Issues – The case of DO GPOs configured incorrectly

Does UUP OnPrem download if we have DO GPO set to 100 (bypass)? NO

It's recommended to not have GPOs setting DO. 100 bypass is deprecated in Win11







Questions

