

# Delivery Optimization for **Windows Autopatch**

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WSD CAT - Customer Experience Engineering



# Microsoft solutions for cloud endpoint update management



Windows E3 | E5

Windows Pro or higher

# Updates take time.

Minimize the involvement of your scarce IT resources in planning and deploying updates for Windows, Microsoft 365 Apps, Microsoft Edge, and Teams.

## You

-  Review reports, enjoy coffee
-  Define exclusive rings (optional)

## Microsoft

-  Releases updates
-  Deploys updates
-  Defines & implements default schedule
-  Monitors and alerts

# In this session

What is Delivery Optimization

How does Delivery  
Optimization work with  
Windows Autopatch

Options available for  
configuring Delivery  
Optimization

Implementation guidance  
for Delivery Optimization



# What is Delivery Optimization?

# Delivery Optimization



## Reliable and efficient content downloads

Reducing your network bandwidth consumption when downloading Windows, Driver and Office updates, and Win32 applications from Intune.



## Works with Autopatch

Windows Autopatch works with Delivery Optimization, so you can benefit from bandwidth savings when modernizing your desktop.



## Monitored and Configurable

IT admins can monitor efficiency and configure Delivery Optimization settings to ensure best performance and optimization for your specific environment.

Windows

# Default Configurations

## Peering in “LAN” mode

Devices are configured using the default LAN peering mode, meaning devices with the same external IP address are considered in the same peering group.

## Peering prioritization

Peers are identified based upon external IP address, those in the same subnet will be prioritized (based upon octets X.X.X.Y or X.X.Y.Z) to help ensure the closest peers are chosen but will not be restricted to do so by default.

## Content caching

Devices must cache content for it to be available to other peers. By default, content is cached for up to 3 days and can consume up to 20% of available disk space.

## Minimum file size

Devices will only try and source content from other peer devices if the requested content is over 50 MB.

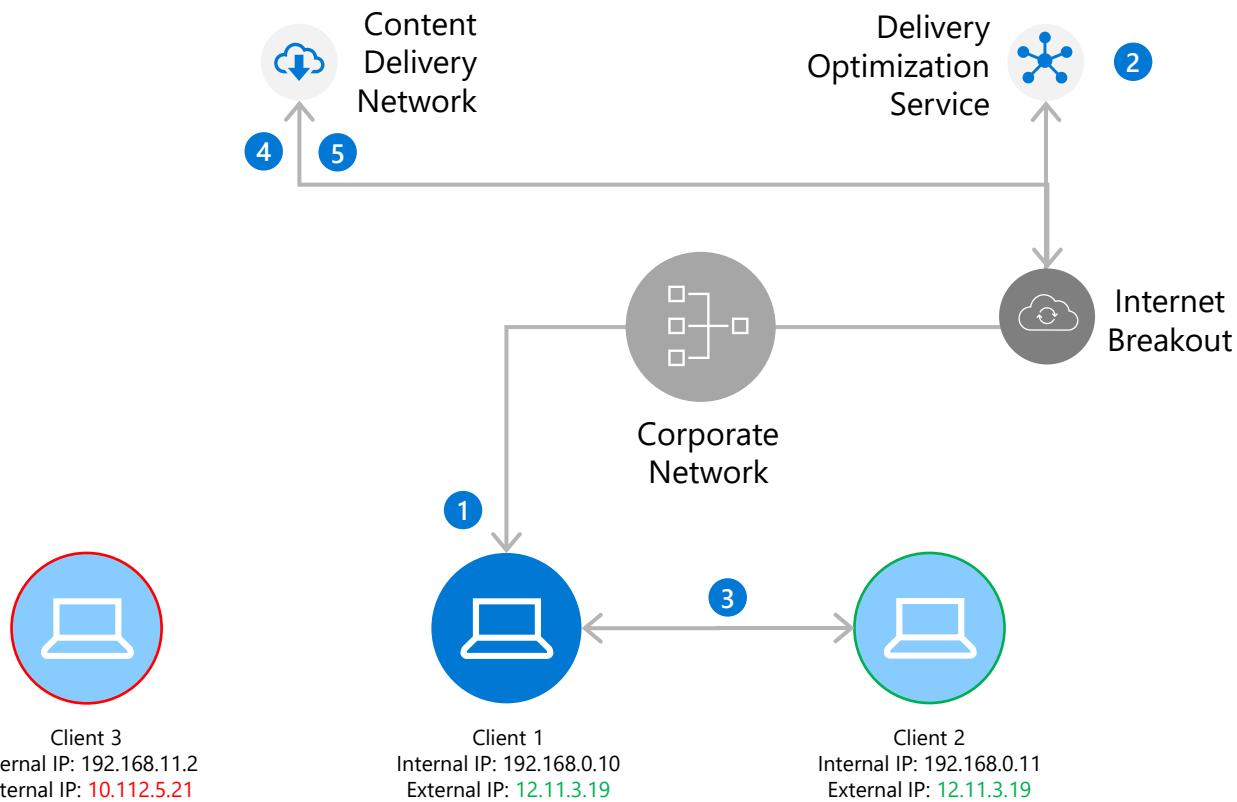
## Download behavior

Content will be downloaded in parallel from HTTP sources and up to 20 peers. Content is uploaded to up to 4 peers

## Bandwidth consumption

The Delivery Optimization client will dynamically adjust when downloading from the internet based upon frequent speed tests to source and utilize LEDBAT optimizations.

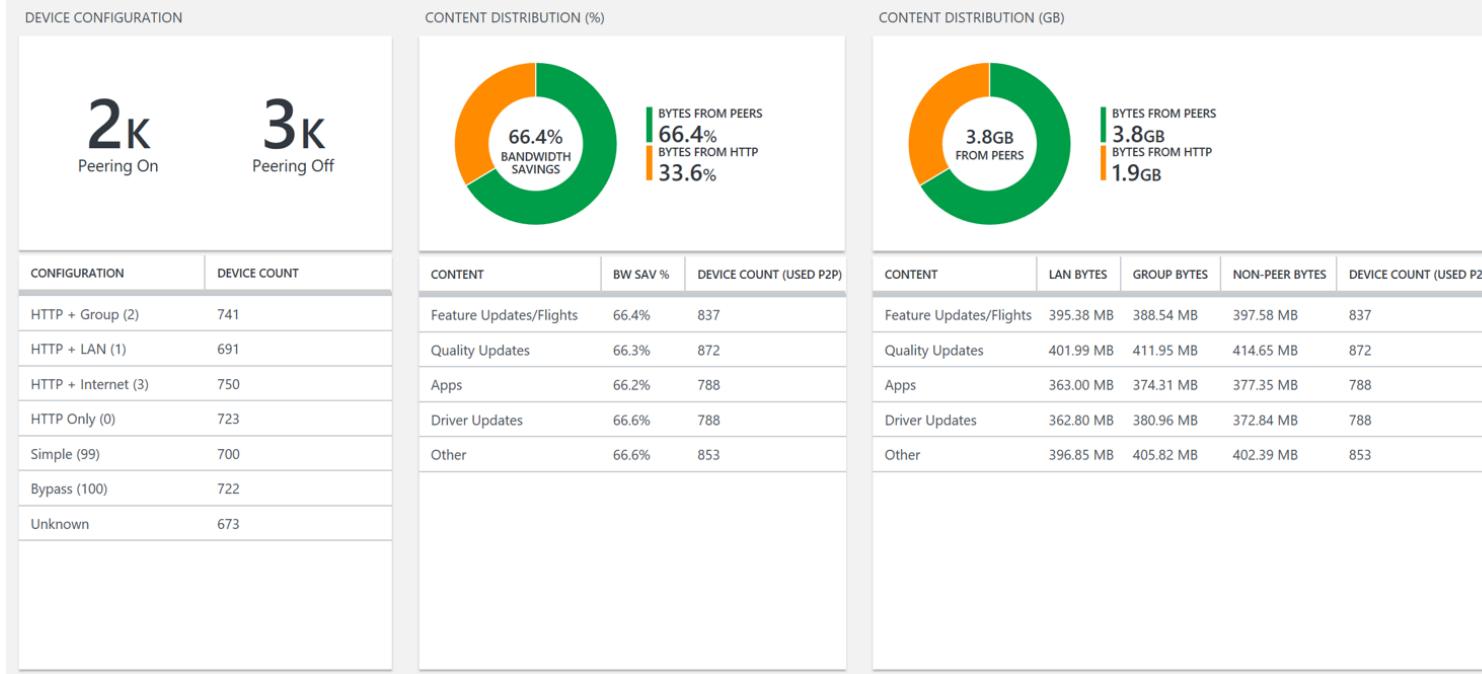
# How Delivery Optimization works



1. When content\* over 50MB needs to be downloaded, the device will request peers from the Delivery Optimization service
2. Delivery Optimization will identify peers that have a matching external IP address and prioritize those matching most closely the octets of the internal IP address.
3. The device will receive a list of peers that have the content cached and will connect to up to 20 concurrently to request and download content (peers are limited to upload content to 4 peers)
4. In parallel, delivery optimization will also download content from the Content Delivery Network across the internet, dynamically adjusting bandwidth used.
5. Content not available on local peers will be downloaded from the Content Delivery Network.

## Windows Autopatch

# How to monitor Delivery Optimization



Windows Update for Business Reports are available to all customers but is not enabled by default.

Enabling Windows Update for Business Reports requires a Log Analytics workspace be available in your tenant.

Before data will appear, the Commercial ID from the Update Compliance workspace must be configured on each Windows Autopatch device

Data can take up to 72 hours to appear in the Update Compliance workspace.



# Options available for configuration



Windows Autopatch

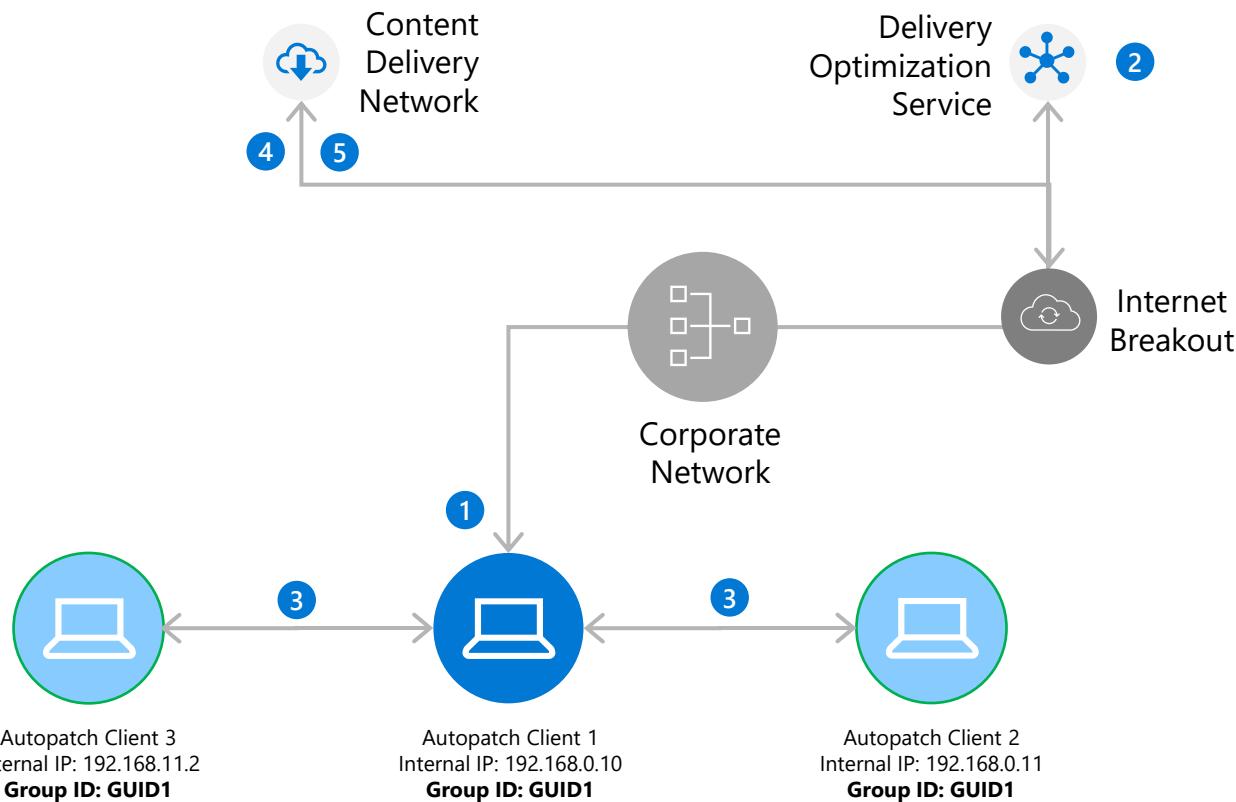
# Peering selection



## Optimizing how peers are selected

- There are two relevant options for Windows Autopatch Devices – LAN Mode (default) and Group Mode
  - **LAN** Mode – the default configuration – chooses peers based upon External IP address but optimizes based on octet matching.
  - **Group** Mode – allows you to define “groups” that will be considered for peers (such as a building, floor etc.) by configuring a common GUID on a group of devices.
- If Group Mode is chosen, there are the following valid options for grouping your Windows Autopatch devices:
  - For Azure AD Joined devices:
    - Configuring DHCP scopes (**recommended**) to deliver a GUID through option 234.
    - Configuring Group IDs via Microsoft Endpoint Manager policies and assigning each to device groups.
    - Configuring the Group ID to be the Azure Active Directory ID through a Microsoft Endpoint Manager policy.
  - For Hybrid Azure AD Joined devices using the Active Directory site may be used
  - For Microsoft Endpoint Manager-Configuration Manager managed devices, boundary groups can be used to define the Group ID
- Peering can also be restricted to devices matching the same subnet mask to instruct Delivery Optimization to only return peers that meet this condition.

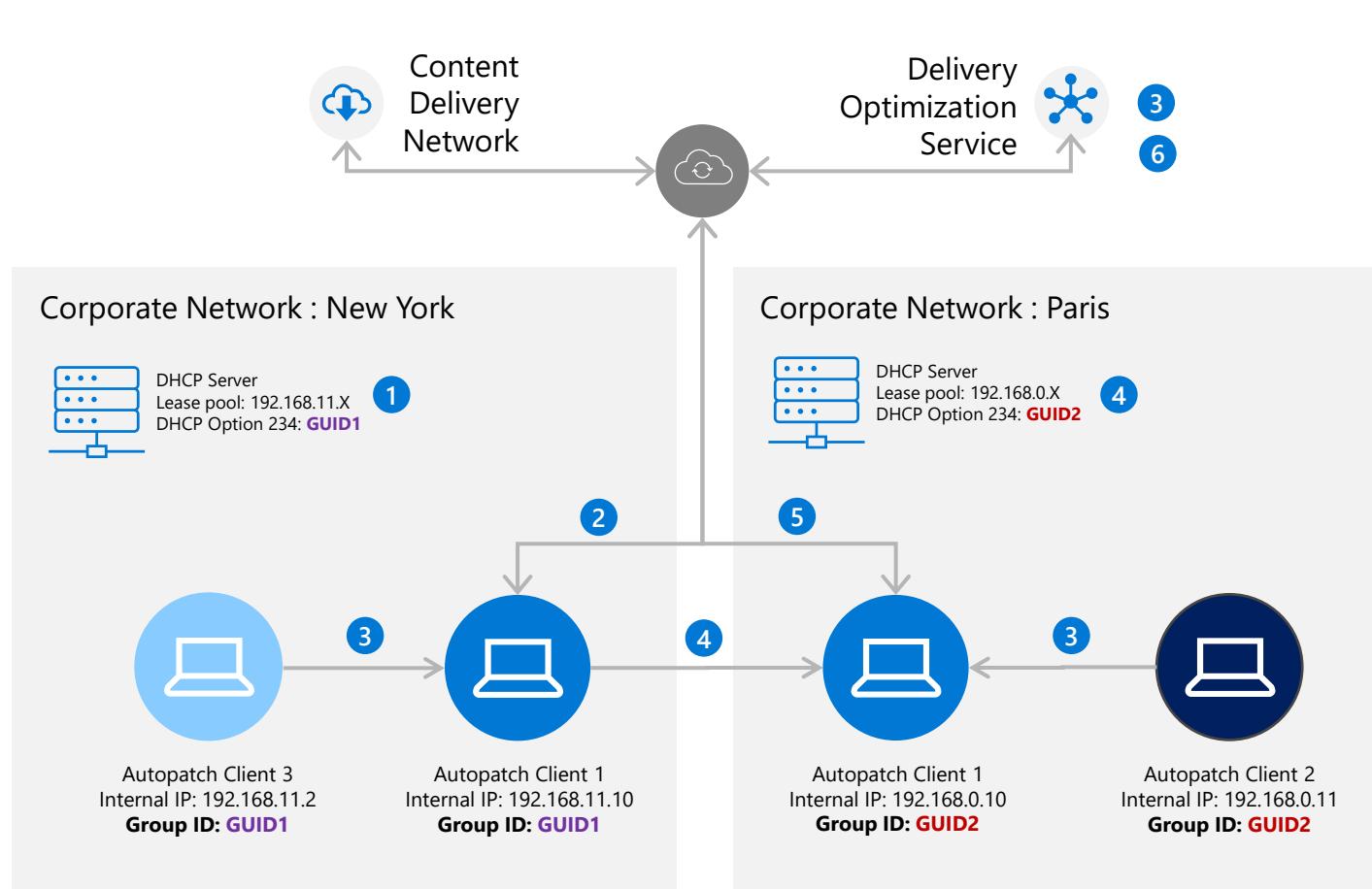
# How Group mode works with Delivery Optimization



1. When content\* over 50MB needs to be download, the device will request peers from the Delivery Optimization service
2. Delivery Optimization will identify peers that have a matching external IP address and prioritize those matching most closely the octets of the internal IP address.
3. The device will receive a list of peers that have the content cached and will connect to up to 20 concurrently to request and download content
4. In parallel, delivery optimization will also download content from the Content Delivery Network across the internet, dynamically adjusting bandwidth used.
5. Content not available on local peers will be downloaded from the Content Delivery Network.

## Windows Autopatch

# Using Group mode for location-based grouping



1. Client 1 works in New York and as part of the DHCP lease, is configured with **GUID1**.
2. Client 1 requests peers for a content download from the Delivery Optimization Service
3. The Delivery Optimization service returns peers with a matching **GUID** (Autopatch Client 2) and can attempt to get content from those peers
4. Client 1 'travels' to Paris, as part of the DHCP lease, is configured with **GUID2**
5. Client 1 requests peers for a content download from the Delivery Optimization Service
6. The Delivery Optimization service returns peers with a matching **GUID** (Autopatch Client 2) and can attempt to get content from those peers



Windows Autopatch

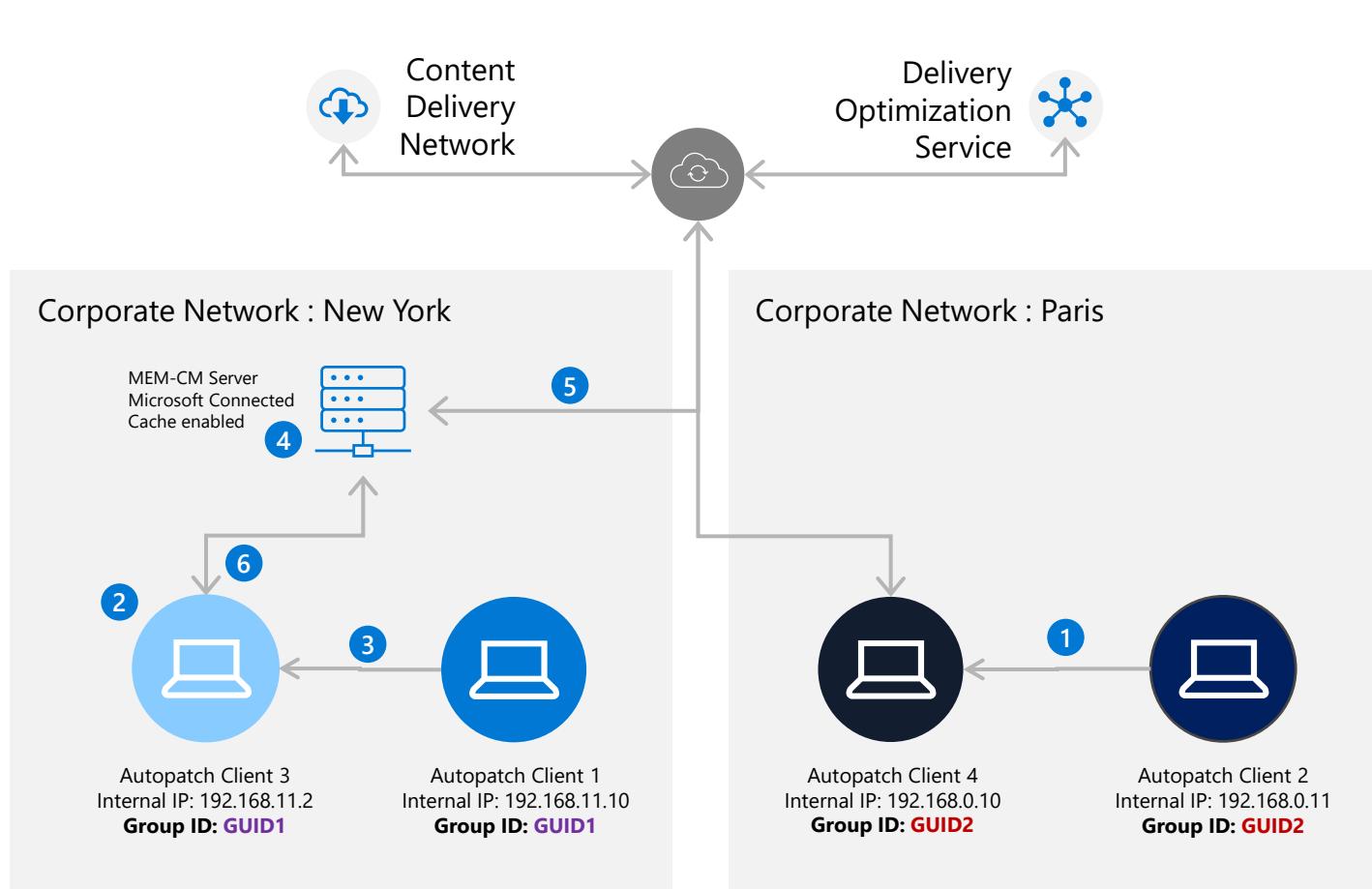
# Caching behaviour



## Optimizing how content is cached

- There are three options that allow you to configure how much content is cached on each Windows Autopatch device and for how long:
  - Cache Age – enabled by default as 3 days.
  - Cache Size – enabled by default as 20% of available disk space
  - Absolute Maximum Cache Size – not configured, can be set to an absolute value instead of using the cache size option.
- You can also configure the minimum file size used for caching (and therefore available for sharing amongst peers):
  - Minimum peer caching size – enabled by default at 50 MB
- If you will be maintaining a Microsoft Endpoint Managed Configuration Manager (MEM-CM) infrastructure for other purposes, you may also choose to leverage the Microsoft Connected Cache option:
  - Enables a component of Delivery Optimization on a MEM-CM distribution point
  - Caches and serves content on-demand
  - Can be used so that clients request content from an on-premises server
  - Can be used to reduce content from internet sources

# Using Microsoft Connected Cache



- Client 4 on a non-Microsoft Connected Cache site uses Client 2 as a peer while also downloading content from the Content Delivery Network
- Client 3 is downloading content on a Microsoft Connected Cache enabled site and is configured with the Microsoft Connected Cache hostname
- Client 3 continues to download content from peers
- Rather than downloading content from the Content Delivery Network in parallel, will request content from the Microsoft Connected Cache server
- If the Microsoft Connected Cache server does not already have the content, it will download it from the Content Delivery Network and cache it for future clients
- Client 3 will receive the content from the Microsoft Connected Cache server.



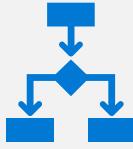
Windows Autopatch

# Bandwidth controls



## Optimizing how the network bandwidth is used

- Delivery Optimization will frequently measure speed to source for both HTTP and GROUP connections and dynamically adjust download throughput based on available bandwidth.
  - Delivery Optimization distinguishes between user-initiated downloads (such as request an app via Company Portal) – known as Foreground downloads and system-initiated downloads (such as Windows updates) – known as background downloads.
- There are a rich set of controls available to choose from:
  - **Maximum Foreground** and **Maximum Background download bandwidth** – set to dynamically adjust by default but can be configured to a value in KB/s.
  - **% of Available Foreground** and **Available Background bandwidth** – set to dynamically adjust by default but can be configured to a % value.
  - **Delay Foreground** and **Delay Background download from HTTP** – which controls a time delay before downloads will use the Content Delivery Network – set to 0 seconds by default but can be configured with a value in seconds.
  - **Delay Foreground** and **Delay Background download from Caching Server** – which controls a time delay before downloads will use the Microsoft Connected Cache – set to 0 seconds by default but can be configured to use a value in seconds.
  - **Set business hours to limit background** and **foreground download bandwidth** – which allows a defined business hours range, and a % value to be set for in and outside of business hours for foreground and background bandwidth used.



Windows Autopatch

# Peering conditions



## Optimizing when peering is used

- Configures when Delivery Optimization will allow peering activity to happen on a given machine.
- Delivery Optimization provides three core controls:
  - A **minimum amount of RAM** required before peering can occur – set to 4 GB by default and can be adjusted to a GB value.
  - A **minimum disk size** required before peering can occur – set to 32 GB by default and can be adjusted to a GB value.
  - A **minimum battery percentage** required to serve content as a peer – by default, no devices can act as peers when operating on battery but can be set to a % value.
- Delivery Optimization also allows you to control if Delivery Optimization can take place **when a device is operating over a VPN** connection.
  - By default, this capability is disabled, meaning devices will not act or benefit from peering when it is connected to the corporate network over a VPN.



# Implementation guidance for Windows Autopatch

[Example for Azure AD Joined device environments](#)



Windows Autopatch

## Implementation Recommendations

### ① Increasing local peering probability

- Recommended for customers who are not obtaining a high enough percentage of content from peers and want to increase the probability of content being obtained from local peers
- Uses three core controls to adjust the default behavior:
  - **Adjust caching age** to store cached content for longer
    - Setting: [DO Max Cache Age : As preferred.](#)
    - Increasing this value from 3 days to a higher values may help increase peering.
    - For example, 90 days for Test and First devices, 60 days for Fast devices and 30 days for broad devices.
  - **Restrict peer selection** to just subnet mask matched devices –
    - Setting: [DO Restrict Peer Selection By : Subnet Mask](#)
    - Ensures devices only on the local subnet would act as peers – this avoids potential scenarios where devices from other geographical locations could be returned as peers.
  - **Reduce minimum peer caching size** to increase likelihood of content being sourced from peers
    - Setting: [DO Min File Size To Cache : 10](#)
    - Decreasing this value from 50 MB so that content of 10 MB or larger will also be sourced from peering.



Windows Autopatch

## Implementation Recommendations

### ② Implement peering control

- Recommended for customers who need to exercise greater control over which peers are considered in the same peering group.
- Uses three core controls to adjust the default behavior:
  - **Adjust Download Mode** to use Group Mode for peers
    - Setting: [DO Download Mode : Mode 2](#)
    - Sets peering to use Group Mode.
  - **Change Group Mode** to use Group ID based upon DHCP scopes:
    - Setting: [DO Group ID Source : DHCP User Option](#)
    - Configures devices to leverage DHCP scope option 234 to determine group ID. Requires you to configure DHCP scopes with a relevant GUID in Option 234.
  - **Remove subnet mask restrictions** to increase likelihood of content being sourced from Group peers
    - Setting: [DO Restrict Peer Selection By : None](#)
    - Ensures devices in a Group ID defined group are not limited to just devices matching the same subnet mask.

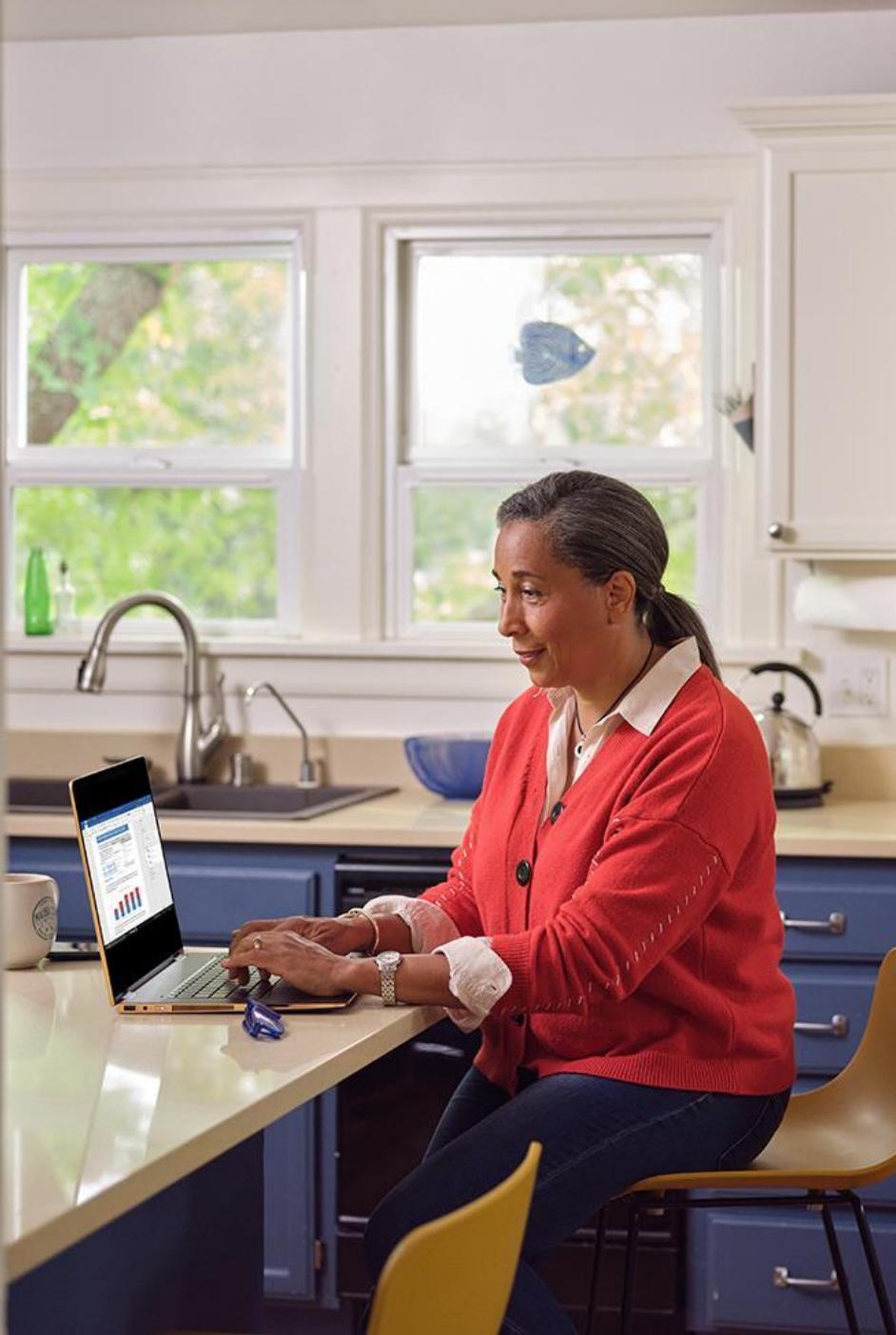


Windows Autopatch

## Implementation Recommendations

### ③ Implement bandwidth control

- Recommended for customers who need to reduce network congestion and beyond what Delivery Optimization does by default.
- Uses three core controls to adjust the default behavior:
  - **Delay HTTP access for background downloads** to increase chances content will come from peers:
    - Setting: [DO Delay Background Download from HTTP : 300](#)
    - Configures a 5-minute delay before devices attempt to use the Internet to source content.
  - **Allow Uploads on Battery** to increase the chances of peers being available:
    - Setting: [DO Min Battery Percentage Allowed To Upload : 60](#)
    - Configures devices so that they can act as peers provided that they have 60% or more battery.
  - Implement a specific **background bandwidth control**:
    - Setting: [Set Business Hours to Limit Background Download Bandwidth : As Preferred](#)
    - Configures a start and finish time for business hours, and a maximum % download limit to use both inside and outside of business hours.
    - Note: As an alternative the [DO Max Download Bandwidth](#) setting can be used.



## Additional Resources



Windows Autopatch

# Delivery Optimization Resources

- Delivery Optimization Reference:  
<https://docs.microsoft.com/en-us/windows/deployment/update/waas-delivery-optimization-reference>
- Delivery Optimization Settings for Windows 10 devices in Intune:  
<https://docs.microsoft.com/en-us/mem/intune/configuration/delivery-optimization-settings>
- Delivery Optimization Configuration Service Provider reference:  
<https://docs.microsoft.com/en-us/windows/client-management/mdm/policy-csp-deliveryoptimization>



How do you DO?

## Chris Handy Specifics

### Testing Methodology

- Documented Requirements. How much content should peer? How much available bandwidth should devices consume?
  - Based on each CSP that DO provides
- Ensure SOE devices respect settings – eg ensure DO is disabled or similar based on the existing desired state
- Ensure Devices can access DO cloud service URL's from Corpnet (netmon/psping or similar)
- Ensure Network Infrastructure allows for DO
  - Can peers talk to each other on Wifi?
  - Do devices need to be grouped in DO differently to respect corp infrastructure architecture
  - [PowerShell Gallery | DeliveryOptimizationTroubleshooter 1.0.0](#)
- Setup Update Analytics Workspace (if not in place already) to test, monitor, report and tune peering on top of AP recommendations to customer requirements
- Test on a small number of devices - [Testing Delivery Optimization - Windows Deployment | Microsoft Learn](#)
- Execute Test Plan against documented requirements. Assess peering content download vs internet content download
- Configure, Deploy and use Connected Cache on specific subnets
  - Only if required, based on data from the above assessment



How do you DO?

## Chris Handy Troubleshooting

### Testing Methodology

- If DO does not share content or efficacy is low - it's likely something network or Firewall/AV/EDR related is getting in the way
- Have the devices from this scenario ready - [Testing Delivery Optimization - Windows Deployment | Microsoft Learn](#)
- Enable verbose logging
- Clear the log
- Repro the download or upload scenario of concern
- Export Log
- Disable logging
- Open log in Cmtrace or similar tool – note log could be a few hundred mb

CATMMD-Demo2 on CS-LAB1 - Virtual Machine Connection

File Action Media Clipboard View Help

Company Portal

Downloading [SWEENEY]

Chris Sweeney  
Other Apps

Install

Overview Additional information

Chris Sweeney Test App for Customer Rep

Version

Date Published

Type here to search

Status: Running

Task Manager

Processes Performance App history Startup Users Details Services

Ethernet Microsoft Hyper-V Network Adapter

Throughput

60 seconds

Send: 80.0 Kbps Adapter name: Ethernet

Receive: 6.5 Mbps Connection type: Ethernet

IPv4 address: 192.168.101.118 IPv6 address: fe80::dc22:3ba9:ed76:9c22%6

Fewer details | Open Resource Monitor

Fudgelab3CM on CS-LAB1 - Virtual Machine Connection

File Action Media Clipboard View Help

679efcab-dacd-4c30-b50c-84595ae8780c

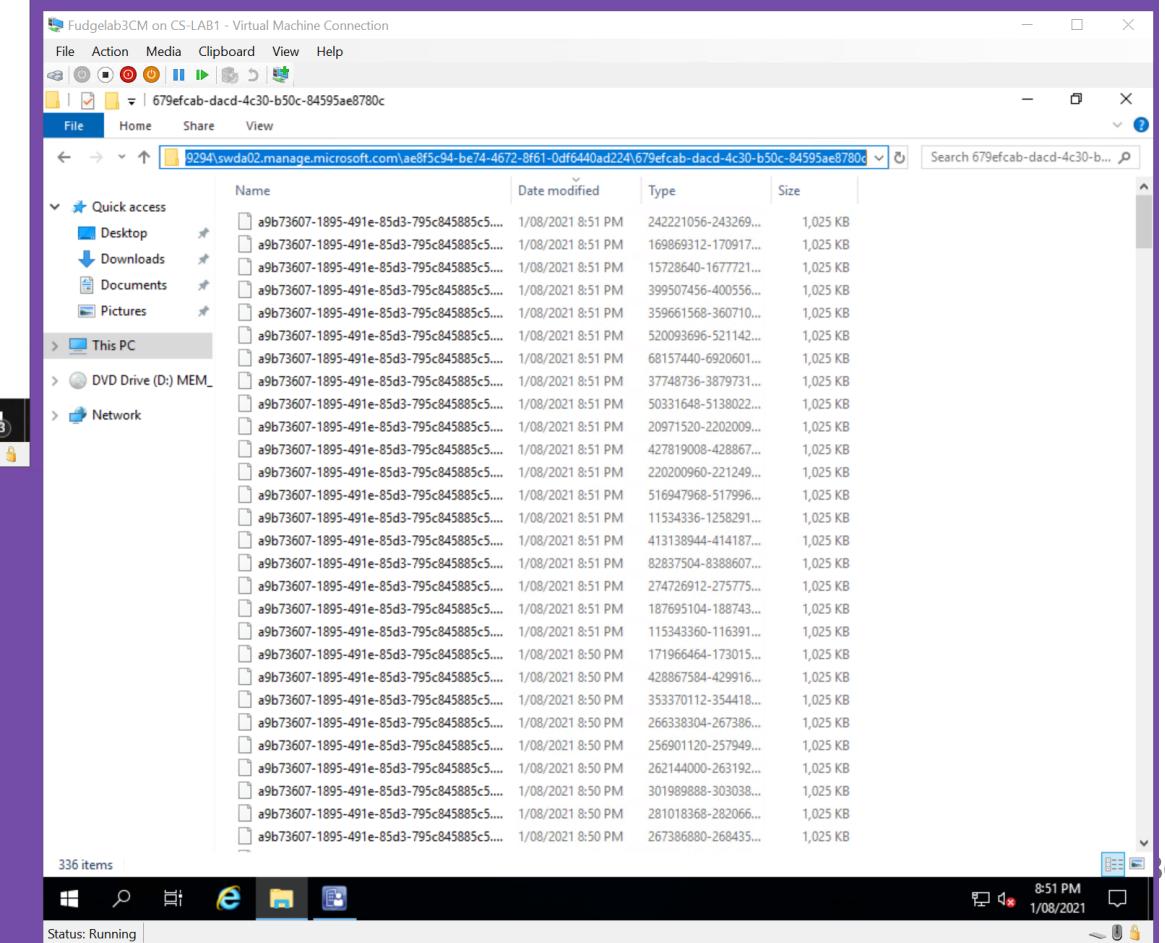
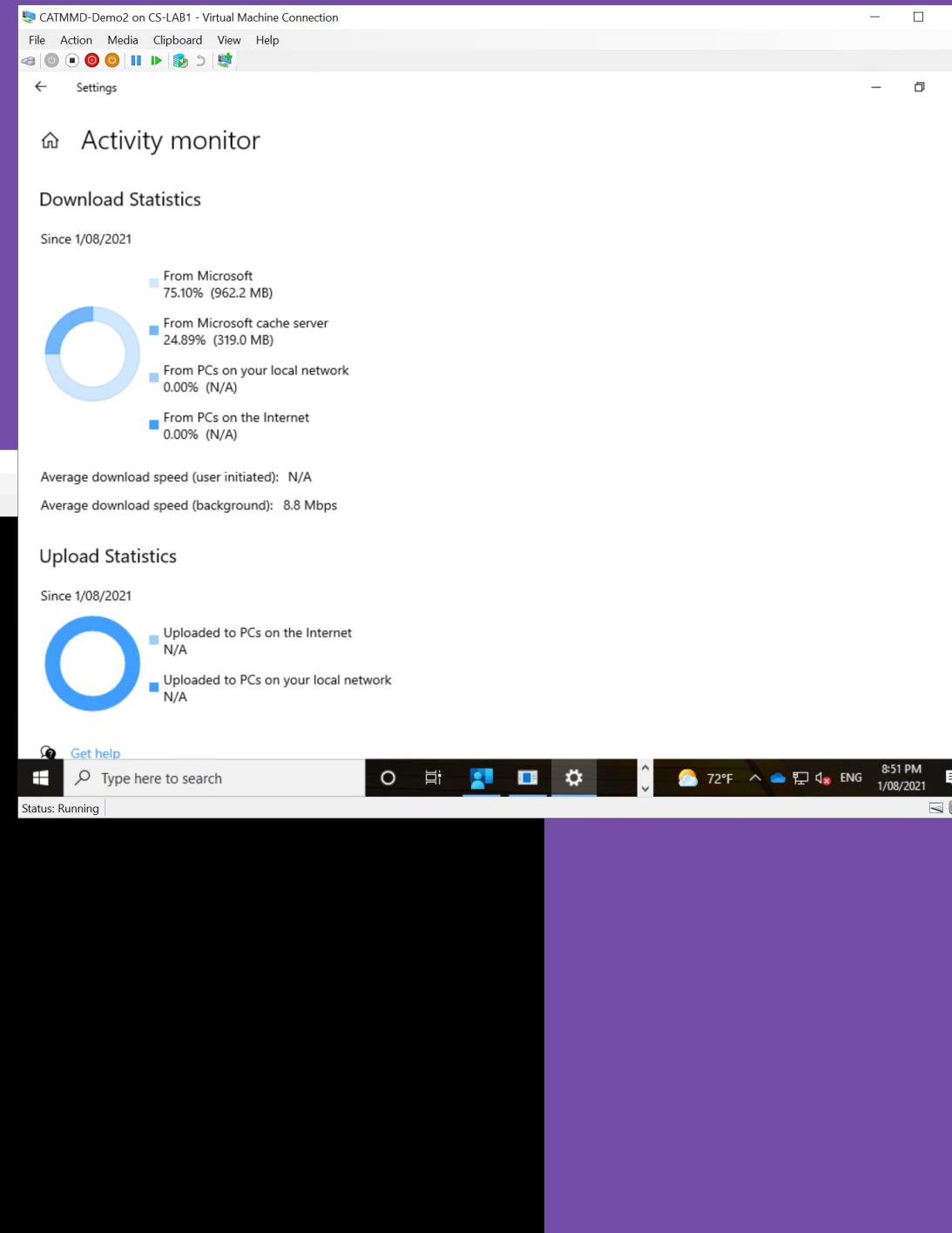
File Home Share View

9294\swda02.manage.microsoft.com\ae8f5c94-be74-4672-8f61-0df6440ad224\679efcab-dacd-4c30-b50c-84595ae8780c

Search 679efcab-dacd-4c30-b...

Name	Date modified	Type	Size
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	258998272-260046...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	73400320-7444889...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	425721856-426770...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	501219328-502267...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	432013312-433061...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	158334976-159383...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	386924544-387973...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	401604608-402653...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:50 PM	230686720-231735...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	319815680-320864...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	275775488-276824...	1,025 KB
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a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	121634816-122683...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	480247808-481296...	1,025 KB
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a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	113246208-114294...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	383778816-384827...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	247463936-248512...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	443547648-444596...	1,025 KB
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a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	449839104-450887...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	392167424-393215...	1,025 KB
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a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	150994944-152043...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	450887680-451936...	1,025 KB
a9b73607-1895-491e-85d3-795c845885c...	1/08/2021 8:49 PM	205520896-206569...	1,025 KB

278 items



Windows PowerShell

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Try the new cross-platform PowerShell <https://aka.ms/pscore6>

PS C:\WINDOWS\system32&gt; Get-DeliveryOptimizationStatus

```
FileDialog          : 501FCB7D-A970-4E34-A753-4B48FE5D8BEF_ae8f5c94-be74-4672-8f61-0df6440ad224_679efcab-dacd-4c30-b50c-84595ae8780c_a
FileSize           : 528728000
FileSizeInCache    : 528728000
TotalBytesDownloaded : 528728000
PercentPeerCaching   : 0
BytesFromPeers      : 0
BytesFromHttp        : 528728000
Status              : Caching
Priority            : Background
BytesFromCacheServer : 528728000
BytesFromLanPeers    : 0
BytesFromGroupPeers  : 0
BytesFromInternetPeers : 0
BytesToLanPeers       : 0
BytesToGroupPeers     : 0
BytesToInternetPeers  : 0
DownloadDuration     : 00:26:45.9770000
HttpConnectionCount   : 0
LanConnectionCount    : 0
GroupConnectionCount  : 0
InternetConnectionCount : 0
DownloadMode          : Lan
SourceURL            : http://swda02.manage.microsoft.com/ae8f5c94-be74-4672-8f61-0df6440ad224/679efcab-dacd-4c30-b50c-84595ae8780c/a9b
                           73607-1895-491e-85d3-795c845885c5.intunewin.bin
CacheHost             : 192.168.100.253
NumPeers              : 0
PredefinedCallerApplication : IntuneAppDownload
ExpireOn              : 30/10/2021 8:52:28 PM
IsPinned               : False
```

PS C:\WINDOWS\system32&gt;



Type here to search

3:08 AM  
2/08/2021

Microsoft 365



# WU thing to download

Date/Time:

### **Component:**

### Thread:

## Source:

2023-10-15T21:02:45.122941Z 13D4 19D4

Info {CDownloadManager::CreateJob} Create job name = WU Client Download, jobId = 008be9a7-2854-4045-bf8d-713560184a12, hr = 0

# Start to download the thing

2023-10-15T21:02:29.47406832 13D4 CDO	Info (CSwarmConn::CswarmConn) Swarm: 97845be0a5d53c8e4d01177f28485f13b3c178a; peer connection destroyed: [192.168.101.112]:7680
2023-10-15T21:02:43.9193377Z 13D4 19D4	Info (SettingsMonitor::UpdateNetworkConnectivityIfNeeded) Settings mon: connected? 1, ipv6? 0, vpn_connected? 0, cellular? 0
2023-10-15T21:02:45.0241057Z 13D4 19D4	Info (CServiceConfigProvider::CallService) GEO response: {"ExternalIpAddress": "120.88.126.255", "CountryCode": "AU", "KeyValue_EndpointFullUrl": "https://kv501.prod.do.dsp.mp.microsoft.com/all", "Version": "5B36157A03CF0500DA3C2D8238E6005F3469E237734C2046890202DB6F874840", "Cached": "7", "CompactVersion": "10.0.1904.1.3393", "ContentCert": false, "DownloadModeFailureReason": null}
2023-10-15T21:02:45.1066998Z 13D4 19D4	Info (ServiceConfigProvider::CallService) KV response: {"KeyValue_EndpointUri": "https://kv501.prod.do.dsp.mp.microsoft.com/", "KeyValue2_EndpointUri": "https://kv501.prod.do.dsp.mp.microsoft.com/", "Discovery_EndpointUri": "https://disc501.prod.do.dsp.mp.microsoft.com/", "Discovery2_EndpointUri": "https://disc501.prod.do.dsp.mp.microsoft.com/", "ContentPolicy_EndpointUri": "https://disc501.prod.do.dsp.mp.microsoft.com/ContentPolicy"}
2023-10-15T21:02:45.1229417Z 13D4 19D4	Info (CDownloadManager::CreateJob) Create job name = WU Client Download, jobid = 008be9a7-2854-4045-bf8d-713560184a12, hr = 0
2023-10-15T21:02:45.1314114Z 13D4 1014	Info (CBackgroundCopyJob::AddFile) Finished adding file. hr = 0, jobid = 008be9a7-2854-4045-bf8d-713560184a12, fileid = de564ba34aa9318e597050d583f2d40f8dc8b347, #Ranges = 0, Url = http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347.exe
2023-10-15T21:02:45.1328728Z 13D4 1014	Info (CBackgroundCopyFile::PrecreateLocalFile:<lambda_a446e8a71588bd5c9fa3be04f78a5cd>::operator ()) Client file created: hr: 0, C:\Windows\SoftwareDistribution\Download\371f4d937acb11941af056e817c2547e\de564ba34aa9318e597050d583f2d40f8dc8b347 (original file name: C:\Windows\SoftwareDistribution\Download\371f4d937acb11941af056e817c2547e\de564ba34aa9318e597050d583f2d40f8dc8b347)
2023-10-15T21:02:45.1536482Z 13D4 1014	Info (CBackgroundCopyJob::Resume) Job 008be9a7-2854-4045-bf8d-713560184a12 Resume, hr = 0, state = 0, background: 1
2023-10-15T21:02:45.1951177Z 13D4 1014	Info (CBackgroundCopyJob::Resume) Job 008be9a7-2854-4045-bf8d-713560184a12 Resume, hr = 0, state = 0, background: 1
2023-10-15T21:02:45.2148140Z 13D4 5CC	Info (GlobalConfigManager::IsDownloadEnabled) DownloadEnabled? hr: 0, download mode: 2
2023-10-15T21:02:45.3297372Z 13D4 5CC	Info (CServiceConfigProvider::CallService) CP response: {"InfoCode": "2051"}
2023-10-15T21:02:45.3297855Z 13D4 5CC	Warning (CContentPolicyProvider::ProcessOnResponse) CP: JSON response returned an info code error: 80d04803
2023-10-15T21:02:45.3298038Z 13D4 5CC	Error (C) CP RefreshConfigs failed (hr:0x80D04803) [onecore\enduser\deliveryoptimization\configmanagement\contentconfigmanager.cpp, 202] (hr:80D04803)
2023-10-15T21:02:45.3298072Z 13D4 5CC	Warning (CSwarm::InternalStart) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, failed to contact services: 80d04803
2023-10-15T21:02:45.3298139Z 13D4 5CC	Info (CSwarm::InternalStart) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DownloadMode_Simple for URL: http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347.exe
2023-10-15T21:02:45.3298173Z 13D4 5CC	Info (CSwarm::TryCreateMetalInfoMock) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, Creating metadata from size: 333416
2023-10-15T21:02:45.3299037Z 13D4 5CC	Info (CSwarm::InternalStart) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, hash: 3d5778ed9aeccbfc8e93bd5a97a00fa2f36840749e8f02302b162267975fd, cached?: 0, caller: WU Client Download
2023-10-15T21:02:45.3303698Z 13D4 5CC	Error (C) Failed to open reg key, op: 0, key: Swarms\7e388d39fb407959e1fd9a342a62655787529bc\DownloadsStats\RawBytes (hr:0x80070002) [onecore\enduser\deliveryoptimization\statepersistence\win10\persistentstoreregistry.cpp, 36] (hr:80070002)
2023-10-15T21:02:45.3303926Z 13D4 5CC	Error (C) Failed to open reg key, op: 0, key: Swarms\7e388d39fb407959e1fd9a342a62655787529bc\DownloadsStats\ValidBytes (hr:0x80070002) [onecore\enduser\deliveryoptimization\statepersistence\win10\persistentstoreregistry.cpp, 36] (hr:80070002)
2023-10-15T21:02:45.3303419Z 13D4 5CC	Info (CSwarm::InternalStart) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, Metadata info => file length: 333416; piece count: 1; piece len: 333416; hashChecks? 0
2023-10-15T21:02:45.3303879Z 13D4 5CC	Info (CConnMan::CConnMan) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC fallback to CDN download throttled for 60 s
2023-10-15T21:02:45.3310036Z 13D4 5CC	Info (CStorage::CStorage) Swarm de564ba34aa9318e597050d583f2d40f8dc8b347, Invalidating cache. All pieces expired.
2023-10-15T21:02:45.3463574Z 13D4 5CC	Info (CTelemetryLogger::InternalTraceDownloadStart) hr = 0, jobid = 008be9a7-2854-4045-bf8d-713560184a12, field = de564ba34aa9318e597050d583f2d40f8dc8b347, sessionId = 18765819-f26e-4306-95d7-385b862ddf73, updateId = (9FA3B796-72BA-4BF2-8313-85284E9056B7), caller = WU Client Download, cdnUrl = http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347
2023-10-15T21:02:45.3466876Z 13D4 5CC	Info (CFile::TryCreateWithRetriesForSharingViolations:<lambda_ce2b1547a0b2f223fc018a169f007c6>::operator ()) Client file opened: hr: 0, C:\Windows\SoftwareDistribution\Download\371f4d937acb11941af056e817c2547e\de564ba34aa9318e597050d583f2d40f8dc8b347
2023-10-15T21:02:45.3467935Z 13D4 CDO	Info (CSwarm::SetContentDeliveryURL) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, CDN URL (supplied): http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347.exe
2023-10-15T21:02:45.3468562Z 13D4 CDO	Info (CPieceManager::AddPiecesToDownload) Piece stats: Pending: [#Incomplete: 1, #In-order: 0], Completed: 0
2023-10-15T21:02:45.3468614Z 13D4 CDO	Info (CStorage::LogPieceStats) Swarm de564ba34aa9318e597050d583f2d40f8dc8b347: Piece stats: Cached: 0, Expired: 0, In-memory: 0, Total: 1
2023-10-15T21:02:45.3469218Z 13D4 CDO	Info (CSwarm::TryWake) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347: sleeping? 1, forceWakeUp? 1, uploadState: [1, 2], sleepReason: -1
2023-10-15T21:02:45.3759367Z 13D4 CDO	Info (CHttplibPeerConn::Initiate) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
2023-10-15T21:02:49.0374772Z 13D4 CDO	Info (CSwarmConn::CSwarmConn) Swarm: peer connection destroyed: [192.168.101.111]:6450
2023-10-15T21:02:59.0904662Z 13D4 CDO	Info (CAnnounceSequencer::InternalAnnounce) Swarm: f86385687e8c97b3540c2205762b65d94a8ba5ed, announce request: {"ContentId": "f86385687e8c97b3540c2205762b65d94a8ba5ed", "AltCatalogId": "http://4.tlu.delivery.mp.microsoft.com/filestreamingservice/files/e9543225-b319-436f-8c60-2d3d70a15505", "PeerId": "bd35d989ce7ea49c6f7b642052ca900000000", "Requester": "f86385687e8c97b3540c2205762b65d94a8ba5ed", "Sequence": 1, "Timestamp": "2023-10-15T21:02:59.0904662Z", "Type": "Announce", "Version": "1.0"} [192.168.101.111:6450]
2023-10-15T21:03:00:018876Z 13D4 1F48	Info (CAnnounceSequencer::OnComplete) Swarm: f86385687e8c97b3540c2205762b65d94a8ba5ed, announce complete: event: 3, hr: 0, server: [52.179.216.235]:443 (https://array502.prod.do.dsp.mp.microsoft.com/join/), nPeers: 0, response: {"FailureReason": null, "NextJoinTimeInMills": "1536420", "Complete": 0, "Incomplete": 0, "Rediscover": false, "KVVersion": "CE19C38849E3226"}, peerId: "bd35d989ce7ea49c6f7b642052ca900000000", Requester: "f86385687e8c97b3540c2205762b65d94a8ba5ed", Sequence: 1, Timestamp: "2023-10-15T21:03:00:018876Z", Type: "Announce", Version: "1.0"} [192.168.101.111:6450]
2023-10-15T21:03:02:1002476Z 13D4 CDO	Error (CHttplibPeerConn::OnCdnError) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, responseSize: 0, IP: 192.168.100.232
2023-10-15T21:03:02:1002784Z 13D4 CDO	Info (CTelemetryLogger::TraceErrorCdnComm) hr: 80072ee2, httpCode: 0, errorCount: 1, field: de564ba34aa9318e597050d583f2d40f8dc8b347, sessionId: 18765819-f26e-4306-95d7-385b862ddf73, url: http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347.exe, isHeader: 1
2023-10-15T21:03:02:1002818Z 13D4 CDO	Info (CConnMan::OnCdnError) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC: 1
2023-10-15T21:03:05:1779876Z 13D4 CDO	Info (CHttplibPeerConn::Initiate) Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
<b>Date/Time:</b>	<b>Component:</b>
<b>Thread:</b>	<b>Source:</b>

Date  
Thru  
202



**DOINC (MCC) fallback to CDN throttled for 60 seconds for background dl**

# DOINC Failure because server not available, fallback to peers/CDN

```
2023-10-15T21:02:45.3299037Z 13D4 5CC Info {CSwarm::InternalStart} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, hash: 34d5778ed9aebcbff8e93bd5a97a00fa2af36840749e8f02302b162267975fd, cached? 0, caller: WU Client Download
2023-10-15T21:02:45.3303698Z 13D4 5CC Error () Failed to open reg key, op: 0, key: Swarms\{d7e388d39fb407959e1fd9a342a62655787529bc\DownloadStats\RawBytes (hr:0x00070002) [oncore\enduser\deliveryoptimization\statepersistence\win10\persistentstoreregistry.cpp, 36] (hr:80070002)
2023-10-15T21:02:45.3303926Z 13D4 5CC Error () Failed to open reg key, op: 0, key: Swarms\{d7e388d39fb407959e1fd9a342a62655787529bc\DownloadStats\ValidBytes (hr:0x00070002) [oncore\enduser\deliveryoptimization\statepersistence\win10\persistentstoreregistry.cpp, 36] (hr:80070002)
2023-10-15T21:02:45.3304191Z 13D4 5CC Info {CSwarm::InternalStart} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, Metadata info => file length: 333416; piece count: 1; piece len: 333416; hashChecks? 0
2023-10-15T21:02:45.3308739Z 13D4 5CC Info {CConnMan::CConnMan} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC fallback to CDN download throttled for 60 s
2023-10-15T21:02:45.3310036Z 13D4 5CC Info {CStorage::CStorage} Swarm de564ba34aa9318e597050d583f2d40f8dc8b347, Invalidating cache. All pieces expired.
2023-10-15T21:02:45.3465374Z 13D4 5CC Info {CTelemetryLogger::InternalTraceDownloadStart} hr = 0, jobId = 008be947-2854-4045-bf8d-713560184a12, fileId = de564ba34aa9318e597050d583f2d40f8dc8b347, sessionId = 18765819-f26e-4306-95d7-385b862ddf73, updatedId = {9FA3B796-72BA-4BF2-8
2023-10-15T21:02:45.3466876Z 13D4 5CC Info {CFile::TryCreateWithRetriesForSharingViolations::<lambda_cerb2b1547a0b2f223cf0c81a69f007c6>}::operator () Client file opened: hr: 0, C:\Windows\SoftwareDistribution\Download\371f4d937acb11941af056e817c2547e\de564ba34aa9318e597050d583f2d40f
2023-10-15T21:02:45.3467935Z 13D4 CD0 Info {CSwarm::SetContentDeliveryURL} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, CDN URL (supplied): http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050
2023-10-15T21:02:45.3468562Z 13D4 CD0 Info {CPieceManager::AddPiecesToDownload} Piece stats: Pending: [#Incomplete: 1, #In-order: 0], Completed: 0
2023-10-15T21:02:45.3468614Z 13D4 CD0 Info {CStorage::LogPieceStats} Swarm de564ba34aa9318e597050d583f2d40f8dc8b347: Piece stats: Cached: 0, Expired: 0, In-memory: 0, Total: 1
2023-10-15T21:02:45.3469218Z 13D4 CD0 Info {CSwarm::TryWake} Swarm de564ba34aa9318e597050d583f2d40f8dc8b347: sleeping? 1, forceWakeUp? 1, uploadState: [1, 2], sleepReason: -1
2023-10-15T21:02:45.3759367Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
2023-10-15T21:02:49.0374772Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: , peer connection destroyed: [192.168.101.111]:64510
2023-10-15T21:02:59.0904662Z 13D4 CD0 Info {CAnnounceSequencer::InternalAnnounce} Swarm: f86385687e8c97b3540c2205762b65d94a8ba5ed, announce request: {"ContentId": "f86385687e8c97b3540c2205762b65d94a8ba5ed", "AltCatalogId": "http://4.tlu.dl.delivery.mp.microsoft.com/filestreamingser
2023-10-15T21:03:00.0018876Z 13D4 1F48 Info {CAnnounceSequencer::OnComplete} Swarm: f86385687e8c97b3540c2205762b65d94a8ba5ed, announce complete, event: 3, hr: 0, server: [52.179.216.235]:443 (https://array502.prod.do.dsp.mp.microsoft.com/join/), nPeers: 0, response: {"FailureReason": null, "N
2023-10-15T21:03:02.1002476Z 13D4 CD0 Error {CHttpPeerConn::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, responseSize: 0, IP: 192.168.100.232
2023-10-15T21:03:02.1002784Z 13D4 CD0 Info {CTelemetryLogger::TraceErrorCdnComm} hr: 80072ee2, httpCode: 0, errorCount: 1, fileId: de564ba34aa9318e597050d583f2d40f8dc8b347, sessionId: 18765819-f26e-4306-95d7-385b862ddf73, url: http://au.download.windowsupdate.com/c/msdownload/upd
2023-10-15T21:03:02.1002818Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 1
2023-10-15T21:03:05.1779876Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
2023-10-15T21:03:09.9580554Z 13D4 CD0 Info {CSwarmConn::Initiate} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, initiating peer connection: [192.168.101.112]:7680
2023-10-15T21:03:09.9612015Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, peer connection destroyed: [192.168.101.112]:7680
2023-10-15T21:03:22.1183463Z 13D4 CD0 Error {CHttpPeerConn::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, responseSize: 0, IP: 192.168.100.232
2023-10-15T21:03:22.1183559Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 1
2023-10-15T21:03:25.4787208Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
2023-10-15T21:03:29.4195817Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: , peer connection destroyed: [192.168.101.111]:64514
2023-10-15T21:03:30.3473092Z 13D4 5CC Warning {CBackgroundCopyFile::MonitorProgress::<lambda_j415m76e3d1f388eff5f58098db3d2a>}::operator () No progress(last seen bytes = 0) seen for de564ba34aa9318e597050d583f2d40f8dc8b347, background
2023-10-15T21:03:42.1028837Z 13D4 CD0 Error {CHttpPeerConn::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, responseSize: 0, IP: 192.168.100.232
2023-10-15T21:03:42.1028890Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 1
2023-10-15T21:03:45.1981823Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.232
2023-10-15T21:03:50.4457020Z 13D4 CD0 Info {CSwarmConn::Initiate} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, initiating peer connection: [192.168.101.112]:7680
2023-10-15T21:03:50.4473209Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, peer connection destroyed: [192.168.101.112]:7680
2023-10-15T21:04:02.1008806Z 13D4 CD0 Error {CHttpPeerConn::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, responseSize: 0, IP: 192.168.100.232
2023-10-15T21:04:02.1008866Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 0
2023-10-15T21:04:02.1025340Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 209.197.3.8
2023-10-15T21:04:02.1485668Z 13D4 CD0 Info {CHttpPeerConn::OnConnection::<lambda_c3b340fe4ba2a9fed49e615ff93013d>}::operator () Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP connection: [209.197.3.8]:80
2023-10-15T21:04:02.1485767Z 13D4 CD0 Info {CConnMan::ConnectionComplete} connected to http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am_delta_patch_1.399.706.0_de564ba34aa9318e597050d583f2d40f8dc8b347
2023-10-15T21:04:02.2552261Z 13D4 CD0 Info {CDownloadRateStrategy::UpdateStateMachine} DownloadRateStrategy: None to Unlimited
2023-10-15T21:04:02.2560614Z 13D4 CD0 Info {CSwarm::OnDownloadPieceDone} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, download completed, sleeping? 0
2023-10-15T21:04:02.2676160Z 13D4 CD0 Info {CSettingsMonitor::UpdateNetworkConnectivityIfNeeded} Settings mon: connected? 1, ipv6? 0, vpn_connected? 0, cellular? 0
2023-10-15T21:04:02.2882395Z 13D4 924 Info {CTelemetryLoader::InternalTraceDownloadCompleted} iobld: 008be9a7-2854-4045-bf8d-713560184a12. fileId: de564ba34aa9318e597050d583f2d40f8dc8b347. sessionId: 18765819-f26e-4306-95d7-385b862ddf73. uodateld: {9FA3B796-72BA-4BF2-8313-85
Date/Time: Component:
Thread: Source:
2023-10-15T21:03:02.1002818Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 1
```

It's not DNS

There's no way it's DNS

It was DNS



# DOINC = Nope, Off to the CDN

2023-10-15T21:03:45.1981823Z 13D4 CDDU Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 192.168.100.252  
2023-10-15T21:03:50.4457020Z 13D4 CD0 Info {CSwarmConn::Initiate} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, initiating peer connection: [192.168.101.112]:7680  
2023-10-15T21:03:50.4473209Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: 97f845be0a5d53c8e4d01177f28485f13b3c178a, peer connection destroyed: [192.168.101.112]:7680  
**2023-10-15T21:04:02.1008806Z 13D4 CD0 Error {CHttpPeerConn::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP request Connect failed: 80072ee2, status code: 0, requestOffset: 0, requestSize: 0, reason: -1**  
**2023-10-15T21:04:02.1008866Z 13D4 CD0 Info {CConnMan::OnCdnError} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, DOINC failure: 80072ee2, statusCode: 0, allowDOINC? 0**  
2023-10-15T21:04:02.1025340Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 209.197.3.8  
2023-10-15T21:04:02.1485668Z 13D4 CD0 Info {CHttpPeerConn::OnConnection::<lambda\_c3b340fe4ba2af9ed49e615ff593013d>::operator ()} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, HTTP connection: [209.197.3.8:443]>  
2023-10-15T21:04:02.1485767Z 13D4 CD0 Info {CConnMan::ConnectionComplete} connected to http://au.download.windowsupdate.com/c/msdownload/update/software/defu/2023/10/am\_delta\_patch\_1.399.706.0\_de564ba34aa9318e597050d583f2d40f8dc8b347  
2023-10-15T21:04:02.2552261Z 13D4 CD0 Info {CDownloadRateStrategy::UpdateStateMachine} DownloadRateStrategy: None to Unlimited  
2023-10-15T21:04:02.2560614Z 13D4 CD0 Info {CSwarm::OnDownloadPieceDone} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, download completed, sleeping? 0  
2023-10-15T21:04:02.2676160Z 13D4 CD0 Info {CSettingsMonitor::UpdateNetworkConnectivityIfNeeded} Settings mon: connected? 1, ipv6? 0, vpn\_connected? 0, cellular? 0  
2023-10-15T21:04:02.2882395Z 13D4 924 Info {CTelemetryLogger::InternalTraceDownloadCompleted} jobId: 008be9a7-2854-4045-bf8d-713560184a12, fileId: de564ba34aa9318e597050d583f2d40f8dc8b347, sessionId: 1876543210984512  
2023-10-15T21:04:02.2945334Z 13D4 CD0 Info {CAnnounceSequencer::InternalAnnounce} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce request: {"ContentId": "c3b539c75838e16f0ba517573456cac526f470dc"}  
2023-10-15T21:04:02.3019268Z 13D4 CD0 Info {CAnnounceSequencer::InternalAnnounce} Swarm: 1e74b9bf956176444f69ca2630cf3e7c557f32bb, announce request: {"ContentId": "1e74b9bf956176444f69ca2630cf3e7c557f32bb"}  
2023-10-15T21:04:02.3188844Z 13D4 924 Info {CBackgroundCopyJob::NotifyFileStateChange} Job 008be9a7-2854-4045-bf8d-713560184a12, transferred  
2023-10-15T21:04:02.3191843Z 13D4 CD0 Info {CSwarmConn::Initiate} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, initiating peer connection: [192.168.101.111]:7680  
2023-10-15T21:04:02.3240145Z 13D4 1F48 Info {CBackgroundCopyJob::Complete} Job 008be9a7-2854-4045-bf8d-713560184a12 Complete, hr = 0  
2023-10-15T21:04:02.3240409Z 13D4 1C18 Info {CBackgroundCopyJob::Shutdown} Shutdown job 008be9a7-2854-4045-bf8d-713560184a12. Destroying? 1  
2023-10-15T21:04:02.3312050Z 13D4 CD0 Info {CAnnounceSequencer::InternalAnnounce} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, announce request: {"ContentId": "7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a"}  
**2023-10-15T21:04:02.3319180Z 13D4 CD0 Info {CSwarm::HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1**  
2023-10-15T21:04:02.3330708Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, peer connection destroyed: [192.168.101.111]:7680  
2023-10-15T21:04:02.3519923Z 13D4 1C18 Info {CBackgroundCopyJob::InternalShutdown} Deleted reg for job 008be9a7-2854-4045-bf8d-713560184a12, hr = 0  
2023-10-15T21:04:03.2112822Z 13D4 1014 Info {CAnnounceSequencer::OnComplete} Swarm: 1e74b9bf956176444f69ca2630cf3e7c557f32bb, announce complete, event: 3, hr: 0, server: [52.184.216.226]:443 (<https://array505.prod>)  
2023-10-15T21:04:03.2386480Z 13D4 1014 Info {CAnnounceSequencer::OnComplete} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce complete, event: 3, hr: 0, server: [52.184.216.174]:443 (<https://array504.prod>)  
2023-10-15T21:04:03.2702189Z 13D4 1014 Info {CAnnounceSequencer::OnComplete} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, announce complete, event: 3, hr: 0, server: [52.184.216.246]:443 (<https://array506.prod>)  
2023-10-15T21:04:09.4833560Z 13D4 CD0 Info {CSwarmConn::~CSwarmConn} Swarm: , peer connection destroyed: [192.168.101.111]:64516  
2023-10-15T21:04:17.1291313Z 13D4 CD0 Info {CSwarm::HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1  
2023-10-15T21:04:17.1293917Z 13D4 CD0 Info {CSwarm::HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1  
2023-10-15T21:04:17.1296443Z 13D4 CD0 Info {CSwarm::HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1  
2023-10-15T21:04:17.1296493Z 13D4 CD0 Info {CSwarm::HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1

Date/Time:

Component:

Thread:

Source:

2023-10-15T21:04:02.1025340Z 13D4 CD0 Info {CHttpPeerConn::Initiate} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, initiating HTTP connection, IP: 209.197.3.8

# Go to the CDN for the thing

Date/Time:	Component:	Source:
Thread:	Component:	Source:
2023-10-15T21:04:02.2945334Z 13D4 CDO	Info {CAnnounceSequencer::_InternalAnnounce} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce request: {"ContentId":"c3b539c75838e16f0ba517573456cac526f470dc","AltCatalogId":"http://2.tlu.dl.delivery.mp.microsoft.com/filestreamingservice/files/d5a83006-46b9-4181-9c8d-c6676dad63c8","PeerId":"302b971b5028df44a648fd11da44505200000000","ReportedIp":"192.168.101.110","SubnetMask":"255.255.255.0","Ipv6":"2001:0:2851:fcb0:30cd:894:87a7:8100","IsBackground":"1","ClientCompactVersion":"10.0.19041.3393","Uploaded":"0","Downloaded":"3341712","DownloadedCdn":"3341712","DownloadedDoinc":"0","Left":"0","JoinRequestEvent":"3","RestrictedUpload":"0","PeersWanted":"50","GroupId":"NDXe/7p1WPAsRe9QlonrITqT3nqbDfaIciu3zv3AA6w=","Scope":"14","UploadedBPS":"0","DownloadedBPS":"0","HttpDelayLeftSecs":"0","Profile":"3735552","ConnAttempts":"257:1444;","ConnHandshakes":"257:10;","Seq":"98"}	
2023-10-15T21:04:02.2560614Z 13D4 CDO	Info {CSwarm::_OnDownloadPieceDone} Swarm: de564ba34aa9318e597050d583f2d40f8dc8b347, download completed, sleeping? 0	
2023-10-15T21:04:02.2676160Z 13D4 CDO	Info {CSettingsMonitor::_UpdateNetworkConnectivityIfNeeded} Settings mon: connected? 1, ipv6? 0, vpn_connected? 0, cellular? 0	
2023-10-15T21:04:02.2882395Z 13D4 924	Info {CTelemetryLogger::_InternalTraceDownloadCompleted} jobld: 008be9a7-2854-4045-bf8d-713560184a12, fileld: de564ba34aa9318e597050d583f2d40f8dc8b347, sessionld: 18765819-f26e-4306-95d7-385b862ddf73, updatedld: (9FA3B796-72BA-4BF2-8313-85284E9056...)	
2023-10-15T21:04:02.2945334Z 13D4 CDO	Info {CAnnounceSequencer::_InternalAnnounce} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce request: {"ContentId":"c3b539c75838e16f0ba517573456cac526f470dc","AltCatalogId":"http://2.tlu.dl.delivery.mp.microsoft.com/filestreamingservice/files/d5a83006-46b9-4181-9c8d-c6676dad63c8","PeerId":"302b971b5028df44a648fd11da44505200000000","ReportedIp":"192.168.101.110","SubnetMask":"255.255.255.0","Ipv6":"2001:0:2851:fcb0:30cd:894:87a7:8100","IsBackground":"1","ClientCompactVersion":"10.0.19041.3393","Uploaded":"0","Downloaded":"3341712","DownloadedCdn":"3341712","DownloadedDoinc":"0","Left":"0","JoinRequestEvent":"3","RestrictedUpload":"0","PeersWanted":"50","GroupId":"NDXe/7p1WPAsRe9QlonrITqT3nqbDfaIciu3zv3AA6w=","Scope":"14","UploadedBPS":"0","DownloadedBPS":"0","HttpDelayLeftSecs":"0","Profile":"3735552","ConnAttempts":"257:1444;","ConnHandshakes":"257:10;","Seq":"98"}	
2023-10-15T21:04:02.3019268Z 13D4 CDO	Info {CAnnounceSequencer::_InternalAnnounce} Swarm: 1e74b9bf956176444f69ca2630cf3e7c557f32bb, announce request: {"ContentId":"1e74b9bf956176444f69ca2630cf3e7c557f32bb","AltCatalogId":"http://11.tlu.dl.delivery.mp.microsoft.com/filestreamingservice/files/64..."}, announce complete, event: 3, hr: 0, server: [52.184.216.226]:443 ( <a href="https://array505.prod.do.dsp.mp.microsoft.com/join/">https://array505.prod.do.dsp.mp.microsoft.com/join/</a> ), nPeers: 0, response: {"FailureReason":null,"NextJoinTi..."}, peer connection destroyed: [192.168.101.111]:7680	
2023-10-15T21:04:02.3188844Z 13D4 924	Info {CBackgroundCopyJob::NotifyFileStateChange} Job 008be9a7-2854-4045-bf8d-713560184a12, transferred	
2023-10-15T21:04:02.3191843Z 13D4 CDO	Info {CSwarmConn::Initiate} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, initiating peer connection: [192.168.101.111]:7680	
2023-10-15T21:04:02.3240145Z 13D4 1F48	Info {CBackgroundCopyJob::Complete} Job 008be9a7-2854-4045-bf8d-713560184a12 Complete, hr = 0	
2023-10-15T21:04:02.3240409Z 13D4 1C18	Info {CBackgroundCopyJob::Shutdown} Shutdown job 008be9a7-2854-4045-bf8d-713560184a12. Destroying? 1	
2023-10-15T21:04:02.3312050Z 13D4 CDO	Info {CAnnounceSequencer::_InternalAnnounce} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, announce request: {"ContentId":"7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a","AltCatalogId":"http://4.tlu.dl.delivery.mp.microsoft.com/filestreamingservice/files/3c..."}, announce complete, event: 3, hr: 0, server: [52.184.216.246]:443 ( <a href="https://array506.prod.do.dsp.mp.microsoft.com/join/">https://array506.prod.do.dsp.mp.microsoft.com/join/</a> ), nPeers: 0, response: {"FailureReason":null,"NextJoinTi..."}, peer connection destroyed: [192.168.101.111]:64516	
2023-10-15T21:04:02.3330708Z 13D4 CDO	Info {CSwarmConn::~CSwarmConn} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, peer connection destroyed: [192.168.101.111]:7680	
2023-10-15T21:04:02.3519923Z 13D4 1C18	Info {CBackgroundCopyJob::_InternalShutdown} Deleted reg for job 008be9a7-2854-4045-bf8d-713560184a12, hr = 0	
2023-10-15T21:04:03.2112822Z 13D4 1014	Info {CAnnounceSequencer::OnComplete} Swarm: 1e74b9bf956176444f69ca2630cf3e7c557f32bb, announce complete, event: 3, hr: 0, server: [52.184.216.226]:443 ( <a href="https://array505.prod.do.dsp.mp.microsoft.com/join/">https://array505.prod.do.dsp.mp.microsoft.com/join/</a> ), nPeers: 0, response: {"FailureReason":null,"NextJoinTi..."}, peer connection destroyed: [192.168.101.111]:64516	
2023-10-15T21:04:03.2386480Z 13D4 1014	Info {CAnnounceSequencer::OnComplete} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce complete, event: 3, hr: 0, server: [52.184.216.174]:443 ( <a href="https://array504.prod.do.dsp.mp.microsoft.com/join/">https://array504.prod.do.dsp.mp.microsoft.com/join/</a> ), nPeers: 0, response: {"FailureReason":null,"NextJoinTi..."}, peer connection destroyed: [192.168.101.111]:64516	
2023-10-15T21:04:03.2702189Z 13D4 1014	Info {CAnnounceSequencer::OnComplete} Swarm: 7386d53aee6de67fc7bd7a0bbeeee8c62cf3d0a, announce complete, event: 3, hr: 0, server: [52.184.216.246]:443 ( <a href="https://array506.prod.do.dsp.mp.microsoft.com/join/">https://array506.prod.do.dsp.mp.microsoft.com/join/</a> ), nPeers: 0, response: {"FailureReason":null,"NextJoinTi..."}, peer connection destroyed: [192.168.101.111]:64516	
2023-10-15T21:04:09.4833560Z 13D4 CDO	Info {CSwarmConn::~CSwarmConn} Swarm: , peer connection destroyed: [192.168.101.111]:64516	
2023-10-15T21:04:17.1291313Z 13D4 CDO	Info {CSwarm::_HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1	
2023-10-15T21:04:17.1293917Z 13D4 CDO	Info {CSwarm::_HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1	
2023-10-15T21:04:17.1296443Z 13D4 CDO	Info {CSwarm::_HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1	

# I downloaded the thing!

```
2023-10-15T21:04:02.2560614Z 13D4 CDDU Info {CSwarm::_OnDownloadPieceDone} Swarm: de5b4ba34aa9318e59/u5ud583t2d4ut8dc8b34/, download completed, sleeping? 0  
2023-10-15T21:04:02.2676160Z 13D4 CD0 Info {CSettingsMonitor::_UpdateNetworkConnectivityIfNeeded} Settings mon: connected? 1, ipv6? 0, vpn_connected? 0, cellular? 0  
2023-10-15T21:04:02.2882395Z 13D4 924 Info {CTelemetryLogger::_InternalTraceDownloadCompleted} jobId: 008be9a7-2854-4045-bf8d-713560184a12, fileId: de564ba34aa9318e597050d583f2d40f8dc8  
2023-10-15T21:04:02.2945334Z 13D4 CD0 Info {CAnnounceSequencer::_InternalAnnounce} Swarm: c3b539c75838e16f0ba517573456cac526f470dc, announce request: {"ContentId":"c3b539c75838e16f0b  
2023-10-15T21:04:02.3019268Z 13D4 CD0 Info {CAnnounceSequencer::_InternalAnnounce} Swarm: 1e74b9bf956176444f69ca2630cf3e7c557f32bb, announce request: {"ContentId":"1e74b9bf956176444f6  
2023-10-15T21:04:02.3188844Z 13D4 924 Info {CBackgroundCopyJob::NotifyFileStateChange} Job 008be9a7-2854-4045-bf8d-713560184a12, transferred  
2023-10-15T21:04:02.3191843Z 13D4 CD0 Info {CSwarmConn::Initiate} Swarm: 7386d53aeee6de67fc7bd7a0bbeeee8c62cf3d0a, initiating peer connection: [192.168.101.111]:7680  
2023-10-15T21:04:02.3240145Z 13D4 1F48 Info {CBackgroundCopyJob::Complete} Job 008be9a7-2854-4045-bf8d-713560184a12 Complete, hr = 0  
2023-10-15T21:04:02.3240409Z 13D4 1C18 Info {CBackgroundCopyJob::Shutdown} Shutdown job 008be9a7-2854-4045-bf8d-713560184a12. Destroying? 1  
2023-10-15T21:04:02.3312050Z 13D4 CD0 Info {CAnnounceSequencer::_InternalAnnounce} Swarm: 7386d53aeee6de67fc7bd7a0bbeeee8c62cf3d0a, announce request: {"ContentId":"7386d53aeee6de67fc  
2023-10-15T21:04:02.3319180Z 13D4 CD0 Info {CSwarm::_HandleTransientError} hr:0, initialized? 1, sleeping? 0, reason: -1
```

Date/Time:

Thread:

Component:

Source:

2023-10-15T21:04:02.3188844Z 13D4 924

Info {CBackgroundCopyJob::NotifyFileStateChange} Job 008be9a7-2854-4045-bf8d-713560184a12, transferred

# Thank you