



New Teams Client Architecture Autopsy A Look Under the Hood

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Upgrade Your Time

Host & Speaker





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Before We Start





All attendee lines are muted

This is to prevent interruptions during the presentation.



Please submit questions via the Chat or Q&A panel

Your questions will be addressed directly during the webinar or in the Q&A section after the presentation.



The webinar is being recorded

After the webinar, we will send you a mail to give access to the recording and presentation slides.



Share your feedback with us

Use the link provided at the end to let us know what we can do better.

Agenda



Microsoft Teams (New)

- 1. Architecture
- 2. Client App
- 3. Client Update process
- 4. Client .exe(s) and processes
- 5. Policies
- 6. Troubleshooting







- Founded 2007, privately owned and funded
- HQ in Vienna (Austria)
- Offices in Germany, USA and The Netherlands
- panagendians work from >20 different locations







MANAGE

NOTES

NOTES WEB

NOTES MOBILE

APPLICATIONS SERVERS MAIL







INFRASTRUCTURE WORKLOAD COST



Time





We know that the new Teams client (v2.1) is not new any longer, but ...



What bothered us in the Teams Classic Client?

What bothered us in the Teams Classic Client?



- High CPU/Memory Usage
- Battery Usage

Workarounds?

- Use the Web client
- Disable GPU acceleration
- Disable Read Receipts
- Clean/Remove Cache
- ... and much more!







1. Architecture



Architecture - Differents between "Classic" and "New"





Source: https://techcommunity.microsoft.com/t5/microsoft-teams-blog/microsoft-teams-advantages-of-the-new-architecture/ba-p/3775704

Architecture – "New Teams Client"







2. Client App



Microsoft Store App

- Windows App
 - AppX Package Msix
- Container based
- Better Security
- Clean Registry
- Built-in auto update
 - AppInstaller framework



pan agenda

Apps	Installed apps	> Microsoft Teams
Specificat	tions	
Publisher	Microsoft	
Version	24280.300.3162.6878	
Арр	266 MB	
Data	19,7 MB	
Total usage	286 MB	
App perm	nissions	
Location		
Off		
Camera		
On On		
Microphone		
On 💽		
Backgrou Let this app ru Power optin	nd apps permissions in in background nised (recommended)	
Learn more at	pout the options	
Runs at lo	g-in	
These start-up	tasks can be configured to run v	vhen you log-in.
Microsoft Tear	ns	
On On		

Configure start-up tasks

Local folders



- **App path** %ProgramFiles%\WindowsApps\MSTeams_[version]_[Arch]_8wekyb3d8bbwe
 - Dynamic path, which changes with every single version update (build number)

🗋 > This PC > Local Disk (C:) > Program Files > WindowsApps > MSTeams_24257.204.3155.53_x64__8wekyb3d8bbwe >

- **User path** %LocalAppData%\Packages\MSTeams_8wekyb3d8bbwe
 - Appx package will be provisioned after first user windows logon
- **Webview2 path** %ProgramFiles(x86)%\Microsoft\EdgeWebView\Application



Disk consumption



Teams Classic → incl. Electron binaries

• Teams New → Shared Binaries (webview2)

- Partial data model: downloads only needed data

Apps > Insta	lled apps > Microsoft Teams		Apps > Installed apps			
Specifications			Microsoft Teams Microsoft 04.10.2024		1,40	GB
Publisher Microsoft Version 24280.300. App 266 MB	3162.6878		Microsoft Teams classic 1.7.00.6058 Microsoft Corporation 01.03.2024		137	мв
Data 19,7 MB Total usage 286 MB	Apps > Installed apps > M	crosoft Teams				
	Specifications		Name	Art	Letzter Zugriff	Größe
	Publisher Microsoft		Microsoft Teams (work or school)	Universal	04.03.24, 15:51	18,51 GB
	Version 24280.300.3162.6878		Orrespekt D			47.00
	App 0 bytes		Screensnot – R	aphael Kollner (Linkeain)	
	Data 1,40 GB					
	Total usage 1,40 GB					

Disk consumption



• Teams Classic → incl. Electron binaries

Disk storage usage

Apps Specific Publisher Version App Data Total usage The new Teams app takes up about 50% less disk space than the classic version. To make it easier to distribute our client to Windows devices, we have added support for MSIX, which improves the dependability of installations and app updates, as well as reduces network bandwidth and disk space consumption. This packaging technology also shows the accurate disk space usage. Users may see larger disk usage than classic Teams in Windows settings, but the difference is mainly because the disk space related to Electron-based classic Teams is not fully and correctly shown.

Publisher					
Version					
Арр		Screenshot – Ra	aphael Köllner ((LinkedIn)	
Data					
Total usage	• 1,40 GB				



- EBWebView = Embedded Browser WebView
 - Default location for all user data





Disk consumption – What can we do?



- Teams Classic
 - Remove Cache
- Teams New
 - Microsoft recommends a "Reset"
 - Impacts → losing user settings

 (e. g. dark mode settings ; Audio/Video settings ; localization and much more

Apps > Installed ap	os	Reset
Microsoft Teams Microsoft 5/17/2024	816 MB	won't be affected.
	Advanced options	- Repair
Microsoft Teams Meeting Add-i 1.24.13005 Microsoft 5/17/202	Move	If this app still isn't working right, reset it. The app's data will be deleted.
	Uninstall	Reset



Disk consumption – A better recommendation



- Go to the following folder
 - %LocalAppData%\Packages\MSTeams_8wekyb3d8bbwe\LocalCache\Microsoft\MSTeams\ EBWebView\WV2Profile_tfw
- Delete the content of the following subfolders is sufficient (without losing any user data)
 - Cache
 - IndexedDB
 - App and user data will be re-downloaded at the next start \rightarrow
 - WebStorage
 - Storage for the access to other apps
 - Service Worker\CacheStorage
 - Code/Caching for Web/JS Scripts



• Registry key's

Configuration

HKEY_CURRENT_USER\SOFTWARE\Classes\LocalSettings\Software\Microsoft\Windows\Current
 Version\AppModel\SystemAppData\MSTeams_8wekyb3d8bbwe

LocalAppData

%LocalAppData%\Packages\MSTeams_8wekyb3d8bbwe\LocalCache\Microsoft\MSTeams\

General settings: Audio settings: app_settings.json cmd_settings.json configuration.json !

 %LocalAppData%\Publishers\8wekyb3d8bbwe\ TeamsSharedConfig

Teams Meeting Add-In: tma_settings.json

(former desktop-config.json) (former storage.json)

> Packages > MSTeams_8wekyb3d8bb	we > LocalCache > Microsof	it → MSTeams					
Name	Date modified	Туре					
	08/01/2024 10:42	File folder					
	18/06/2024 13:42	File folder					
📊 Logs	18/06/2024 13:42	File folder					
tfw	18/06/2024 13:19	File folder					
📊 tmp	03/06/2024 11:47	File folder					
UserAvatarlcons	12/04/2024 12:15	File folder					
🎽 app_settings.json	18/06/2024 13:40	JSON File					
📝 cmd_settings.json	03/06/2024 11:47	JSON File					
📔 configuration.json	18/06/2024 12:47	JSON File					







3. Update process

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Microsoft Modern Lifecycle Policy

Modern Lifecycle Policy

Article • 06/18/2024 • 3 contributors

A Feedback

In this article

Change notification

Continuity and migration

Please go here to search for your product's lifecycle.

The Modern Lifecycle Policy covers products and services that are serviced and supported continuously. Under this policy, the product or service remains in support if the following criteria are met:

 Customers must stay current as per the servicing and system requirements published for the product or service.

- 2. Customers must be licensed to use the product or service.
- 3. Microsoft must currently offer support for the product or service.



Teams != WebView2 Updates



Microsoft Teams

Delivery optimization 100 = BITS 99 = disabled 0 = http only What is Delivery Optimization? Set up Delivery Optimization Delivery Optimization reference - Windows Deployment | Microsoft Learn

• WebView2

Updates to WebView2

To keep WebView2 up to date with the latest security and reliability updates, WebView2 Runtime uses its own automatic update process, separate from the update channel used by Microsoft 365 Apps. WebView2 Runtime is updated approximately a few times each month. Updates usually range in size from 5 MB to 30 MB, depending on the type of update. Differential updates and Delivery Optimization are used where possible. For information about managing these updates, see Managing WebView2 applications.

Windows Update > Delivery Optimization

Delivery Optimization downloads updates from Windows, Microsoft Store, and other Microsoft products quickly and reliably.

Allow downloads from other PCs

Your PC may send parts of previously downloaded Windows updates and apps to devices on your local network or on the internet

Allow downloads from:

†1

Devices on my local network

Devices on the internet and my local network Note: Your PC won't upload content to other devices on the internet when Windows detects you're on a metered network

Disable AutoUpdate?



disableAutoUpdate=1

Registry

Location: Computer\HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Teams Name: disableAutoUpdate Type: DWORD Value: 1

Configuration(UC) service	Process Declared Configuration d
Delivery Optimization	Performs content delivery optimiz
	· · · · · · · ·

命 Network 3

Network profile

Public

Your PC is hidden from other devices on the network and can't be used for printer and file sharing.

O Private

For a network you trust, such as at home or work. Your PC is discoverable and can be used for printer and file sharing if you set it up.

Configure firewall and security settings

Metered connection

If you have a limited data plan and want more control over data usage, make this connection a metered network. Some apps might work differently to reduce data usage when you're connected to this network.

Set as metered connection

💽 On

If you set a data limit, Windows will set the metered connection setting for you to help you stay under your limit.

Set a data limit to help control data usage on this network

How does Teams know which update should be applied?



- ms-teamsupdate.exe checks config service
 - https://config.teams.microsoft.com/config/v1/MicrosoftTeams/{currentVersion}ClientId=f649d466-68fe-40a3-b77a-0319703d9d1e&aaduserid={userId}&agents=TeamsBuilds,TeamsWebview2&audience=ring3_6&cloud=prod&cpuarch=x64&desktopVersion= / {currentVersion} &environment=prod&id={userId}&osplatform=windows&osversion=10.0.19045&teamslocale=en-us&teamsring=ring3_6&tenantId={tenantId}

🖗 Event	🕸 Process 😝 Stack
Image	
<u> </u>	Microsoft Teams Updater (work or school)
NEW	Microsoft Corporation
Name:	ms-teamsupdate.exe
Version:	24091.212.2834.983
Path:	
C:\Progr	am Files\WindowsApps\MSTeams_24091.212.2834.983_x64_8wekyb3d8bbwe\ms-teamsupdate.exe
Comman	d Line:
"C:\Prog	ram Files\WindowsApps\MSTeams_24091.212.2834.983_x64_8wekyb3d8bbwe\ms-teamsupdate.exe" - CheckUpdate - AppSessionGUID 0f7231de-b6f6-4c8f-9735-f1bdb76e2667

Compares installed with available version

🖨 WebView2
i arm64
i macOS
<u></u>
latestVersion=24074.2321.2810.3500

- Downloads update via CDN
 - https://statics.teams.microsoft.com/production-windows-x64/

statics.teams.cdn.office.net	/production-windows-x64/24074.2321.2810.3500/MSTeams-x64.msix
statics.teams.cdn.office.net	/production-windows-x64/24074.2321.2810.3500/MSTeams-x64.msix
statics.teams.cdn.office.net	/production-windows-x64/24074.2321.2810.3500/MSTeams-x64.msix
statics.teams.cdn.office.net	/production-windows-x64/24074.2321.2810.3500/MSTeams-x64.msix

... and that happens periodically (often)





MSTeams_24137.2216.2931.24 × +								
$\leftarrow \rightarrow \uparrow$		C □ → …	Program Files	> WindowsApps >	ISTeams_24137.2216.2931.2440_x648wekyb3d8bbwe > Search MSTeams_24137.2216.29	31.2		
🕀 New - 🐰	⊕ New ~ X □ □ □ ▲ ∞ □ ▲ ∞ □ ▲ MSTeams_24152.407.2925.676 × + ▲							
A Home		Name	Date modified	$\leftarrow \rightarrow \uparrow$	C D > ··· Program Files > WindowsApps > MSTeams_24152.407.2925.6763_x648wekyb3d8bb	we		
🔁 Gallery		📒 AppxMetadata	14/06/2024 12:26					
> 📥 Test - panagen	da	🚞 arm64	14/06/2024 12:26	🕀 New 🗸 🐰	$\bigcirc \qquad \bigcirc \qquad$			
		📒 Audio	14/06/2024 12:26	A Home	Name Date modified Type Size			
Desktop		📒 client-bindings	14/06/2024 12:26		AppxMetadata 19/06/2024 12:47 File folder			
Downloads		aesktop-assets	14/06/2024 12:26	> Test - papagenda	arm64 19/06/2024 12:47 File folder			
		📒 Images	14/06/2024 12:26		Audio 19/06/2024 12:47 File folder			
	*	📒 locale	14/06/2024 12:26		client-bindings 19/06/2024 12:47 File folder			
Pictures	*	🚞 Msix.AppInstall	14/06/2024 12:26	Desktop 🖌	desktop-assets 19/06/2024 12:47 File folder			
Ø Music	*	presence	14/06/2024 12:26	✓ Downloads ■ Documents ■	Images 19/06/2024 12:47 File folder			

Update/Install issues



Delivery Optimization settings

- DODownloadMode = 100 /99
- Get-DeliveryOptimizationLog | Set-Content C:\Logs\DO_export.log

GPO's

- Prevent non-admins from installing packaged Windows apps
- Allow All trusted Apps to instal



https://learn.microsoft.com/en-us/microsoftteams/applocker-in-teams

Software Settings

Administrative Templates

> 📋 Start Menu and Taskbar

Windows Components

ActiveX Installer Service Add features to Windows 10

App Package Deployment

> Windows Settings

> Control Panel

Printers

> Network

Server

> 📔 System

App Package Deploymen

Setting

Allow all trusted apps to install

Prevent non-admin users from

At least Windows Server 2016

ability to install Windows app

Manages non-Administrator users'

If you enable this policy, non-

dministrators will be unable to

Edit policy setting

Requirements:

Windows 10

Description:

packages.

installing packaged Windows apps

EventViewer - AppXDeployment



Install other versions of Teams? Sure thing!



Welcome to the build repository for Microsoft Teams

This repository contains multiple files:

- <u>defconfig</u> which shows daily builds, experimental builds, preview builds, and public builds for Microsoft Teams classic.
- <u>defconfig2</u> which shows builds in all rings for Microsoft Teams classic, Microsoft Teams (personal), Microsoft Teams, and Microsoft Teams Rooms.

https://github.com/ltzLevvie/MicrosoftTeams-msinternal

URLs for the latest Teams (R1) build of Microsoft Teams:

Teams 2.1 - Microsoft Teams:

24277.3500.3159.6417 (win-x64) - published on Friday, October 4, 2024 at 12:43 AM with 184 MB: https://staticsint.teams.cdn.office.net/production-windows-x64/24277.3500.3159.6417/MSTeams-x64.msix 24277.3500.3159.6417 (win-x86) - published on Friday, October 4, 2024 at 12:44 AM with 173 MB: https://staticsint.teams.cdn.office.net/production-windows-x86/24277.3500.3159.6417/MSTeams-x86.msix 24277.3500.3159.6417 (win-arm64) - published on Friday, October 4, 2024 at 12:46 AM with 186 MB: https://staticsint.teams.cdn.office.net/production-windows-arm64/24277.3500.3159.6417/MSTeams-arm64.msix 24277.3500.3159.6041 (osx-x64 + osx-arm64) - published on Friday, October 4, 2024 at 12:26 AM with 325 MB: https://staticsint.teams.cdn.office.net/production-osx/24277.3500.3159.6041/MicrosoftTeams.pkg

https://github.com/ltzLevvie/MicrosoftTeams-msinternal/blob/master/defconfig2

How often do we get updates?



	Ring 1.5 (IT Admins Preview)	Ring 3 (TAP)	Ring 3.6 (EA)	Ring 4 (Public)
21.3.2024	24074.2304.2771.8005 -	24060.2610.2771.7995 -	24060.2610.2771.7995 -	
22.3.2024				24033.813.2773.520 -
25.3.2024		24060.2615.2778.8710 -	24060.2615.2778.8710 -	
26.3.2024	24074.2310.2781.1984 -			
28.3.2024	24074.2312.2785.5306 -	24060.2619.2785.5310 -	24060.2619.2785.5310 -	
31.3.2024			24060.2623.2790.8046 -	24060.2623.2790.8046 -
1.4.2024		24074.2317.2792.3373 -		
3.4.2024	24091.203.2797.8390 -			
4.4.2024		24074.2320.2799.6852 -	24074.2320.2799.6852 -	
5.4.2024	24091.204.2801.1189 -			
8.4.2024	24095.2503.2805.9358 -			
10.4.2024	24091.205.2810.3215 -	24074.2321.2810.3500 -	24074.2321.2810.3500 -	24074.2321.2810.3500 -
11.4.2024		24091.206.2813.8995 -	24091.206.2813.8995 -	
12.4.2024	24102.2202.2815.1115 -			
17.4.2024	24102.2204.2823.2836 -			
18.4.2024		24091.209.2826.4509 -	24091.209.2826.4509 -	24074.2323.2827.4973 -
19.4.2024	24102.2206.2829.2518 -			
21.4.2024	24102.2207.2829.7571 -			
22.4.2024		24091.211.2830.1534 -	24091.211.2830.1534 -	
23.4.2024	24102.2208.2835.4230 -	24091.212.2834.983 -	24091.212.2834.983 -	
25.4.2024	24102.2209.2841.2542 -			
26.4.2024	24116.2502.2841.3203 -	24091.213.2841.2586 -	24091.213.2841.2586 -	
29.4.2024		24091.214.2846.1452 -	24091.214.2846.1452 -	24091.214.2846.1452 -
30.4.2024		24102.2213.2848.2706 -		
6.5.2024		24102.2219.2860.2337 -	24102.2219.2860.2337 -	
9.5.2024	24124.2304.2866.4284 -	24102.2220.2866.8552 -	24102.2220.2866.8552 -	
10.5.2024	24124.2306.2868.7316 -	24102.2221.2869.7473 -	24102.2221.2869.7473 -	24102.2223.2870.9480 -
13.5.2024		24124.2309.2873.2153 -	24124.2309.2873.2153 -	
17.5.2024	24137.2202.2884.4946 -			
22.5.2024			24124.2310.2880.4371 -	
23.5.2024		24124.2311.2896.3219 -	24124.2311.2896.3219 -	
31.5.2024				24124.2315.2911.3357 -
7.6.2024	24152.407.2925.6763 -			

StartTimeUtc ≡	Label	≡
2024-03-05 07:36:15.0130	msedgewebview2 - 122.0.2365.66 - Microsoft	Corporation
2024-03-18 09:56:15.0190	msedgewebview2 - 122.0.2365.80 - Microsoft	Corporation
2024-03-28 12:01:30.0040	msedgewebview2 - 122.0.2365.92 - Microsoft	Corporation
2024-04-04 13:01:45.0660	msedgewebview2 - 123.0.2420.65 - Microsoft	Corporation
2024-04-09 07:24:30.0130	msedgewebview2 - 123.0.2420.81 - Microsoft	Corporation
2024-04-26 08:49:30.0020	msedgewebview2 - 123.0.2420.97 - Microsoft	Corporation
2024-04-29 06:11:00.1750	msedgewebview2 - 124.0.2478.67 - Microsoft	Corporation

Users will not get all updates at the same time



			ChangeDate	Teams Version	ChangeType
ChangeDate	Teams Version	ChangeType	2024-03-26 10:07:29	24033.811.2738.2546	TimeWindowStart
2024-03-20 14:33:01	24046.2809.2757.3796	TimeWindowStart	2024-04-03 13:33:51	1.7.00.1864	Downgrade
2024-03-26 09:05:08	24033.813.2773.520	Downgrade	2024-04-04 08:49:37	24033.813.2773.520	Upgrade
2024-04-04 14:16:07	24060.2623.2790.8046	Upgrade	2024-04-10 10:34:34	24060.2623.2790.8046	Upgrade
2024-04-16 09:04:40	24074.2321.2810.3500	Upgrade	2024-04-22 10:22:43	24074.2321.2810.3500	Upgrade
2024-04-23 09:10:39	24074.2323.2827.4973	Upgrade	2024-04-29 09:49:28	24074.2323.2827.4973	Upgrade
2024-05-02 14:09:14	24091.214.2846.1452	Upgrade	2024-05-14 08:03:13	24091.214.2846.1452	Upgrade
2024-05-15 09:37:32	24102.2223.2870.9480	Upgrade			
2024-06-05 11:05:29	24124.2315.2911.3357	Upgrade			
2024-06-13 08:31:41	24137.2216.2931.2440	Upgrade			



4. Client .exe(s) and processes

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Teams New – Executables





ms-teams.exe msteams_autostarter.exe msteams_canary.exe ms-teamsupdate.exe

Microsoft Teams Trampoline
msteams_canary.exe
asInvoker
Microsoft Teams

🖬 ms-teams.exe	24388	Running
🌃 ms-teamsupdate.exe	29200	Running
🗰 ms-teamsupdate.exe	17724	Running
amsedgewebview2.exe	13744	Running
📨 msedgewebview2.exe	24404	Running
amsedgewebview2.exe	9912	Running
amsedgewebview2.exe	17924	Running
📨 msedgewebview2.exe	17736	Running
msedgewebview2.exe	27884	Running

Runs at log-in

These startup tasks can be configured to run when you log-in.

Microsoft Teams



Configure startup tasks

<pre><gonlications></gonlications></pre>
The second
CApplication in Pileams Executable ms-teams.exe EntryPoint windows.FulliPustApplication >
<pre><application entrypoint="Windows.FullTrustApplication" executable="ms-teamsupdate.exe" id="MSTeams.Update">···</application></pre>
<pre><application entrypoint="Windows.FullTrustApplication" executable="msteams_autostarter.exe" id="msteamsautostarter">···</application></pre>
<pre></pre>

Teams New – Processes



Teams Classic was "easy" Task Manager File Options View Processes Performance Apphistory Startup Name PID Status taskhostw.exe 2336 Running taskhostw.exe 4416 Running Taskmgr.exe 4280 Running Teams.exe 5648 Running Teams.exe 6348 Running Teams.exe 7816 Running Teams.exe 7100 Running Teams.exe 4536 Running Teams.exe 4784 Running Teams.exe 7048 Running Teams.exe 6860 Running





Teams New – Processes



"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=crashpad-handler
"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=gpu-process noerrdialogs user-data-dir="C:\Users\cadler\AppData\Local\Packages\MSTeams_8wekyb3d8bbwe\LocalCache\Microsoft\MSTeams\EBWebView"
"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=utility utility-sub-type=network.mojom.NetworkService
"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=utility utility-sub-type=storage.mojom.StorageService
"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=utility utility-sub-type=audio.mojom.AudioService
"C:\Program Files (x86)\Microsoft\EdgeWebView\Application\129.0.2792.79\msedgewebview2.exe" type=renderer

https://learn.microsoft.com/en-us/microsoft-edge/webview2/concepts/end-user-faq



5. Policies

Upgrade Your Time

Getting Policies





https://api.interfaces.records.teams.microsoft.com/Skype.User/users/{userld}/policies

Getting Policies



GET • https://apl.interfaces.records.teams.microsoft.com/Skype.Policy/configurations/TeamsMessagingPolicy/configuration/sfried%20policy	
Params Authorization Headers (11) Body Pre-request Script Tests Settings	
TYPE Token Token	
The authorization header will be automatically generated when you send the request. Learn more about authorization	X-Ecr-Config: P.R-1251043-2-14.P.R-1174743-1-8.P.R-1156896-1-19.P.R-113470-6-27.P.R-1114536-1-13.P.R-1114535-1-2.P.R-113345-1-2.P.R-1324806-7-2.P.R-10799132-2-7.P.R-1077 R-66531-16-110.P.R-50197-3-6.P50205-1-2.P.R-1037771-12-57.P.R-25116-14.P.R-1118262-3-45.P.R-1008134-1-2.R.P.R-105432-1-4.P.R-1053471-14.P.R-107573-5-14.P.R-73797-131 1252811-19.P.R-124738-1-5.P.R-1254717-1-2.2.P.R-R-1000717-1-0.P.R-1091342-2-F.P.R-105265-1-2.P.R-1005342-1-4.P.R-105472-1-4.P.R-105472-1-4.P.R-1016452-1-3 1252811-19.P.R-124738-1-5.P.R-1254717-1-2.2.P.R-1100717-1-0.P.R-1051061-1-5.P.R-1051061-1-5.P.R-1051061-2-2.P.R-105573-5-1.P.R-1016452-3-2.P.R-12482 R-1042871-1-16.P.R-66530-19-136.P.R-50196-5-13.P.D-50206-1-2.P.R-10688671-1-5.P.R-1051061-1-5.P.R-1045278-1-2.P.R-1045273-2-4.P.R-1045273-2-4.P.R-1045273-2-4.P.R-1045273-2-4.P.R-1045273-1-2.P.R-1045273-1-
Body Cookles Headers (15) Test Results Pretty Raw Preview Visualize JSON	1141006-3-11 P.R-1040914-1-39.P.F-1050095-20-57.P.R-104280-14-50.P.R-11329147-11 P.R-105270-1-3.P.R-105895-1-6.P.R-105274-14.P.R-105284-14.P.R-105284-14.P.R-105284-14.P.R-105284-14.P.R-105284-14.P.R
1 g 2 "Description": mull, 3 "Allow/Previews": true, 4 "Allow/merDeletelessage": file, 5 "July/merDeletelessage": file,	11 P.R.1101359 - 19 P.R.1096578 - 12 23 P.R.1095276 - 107 - 4 P.R.109284 - 146 P.O. 1078339 - 44 B.P. 01078335 - 1.3 P.O.1047224 - 1.3 P.R.61553 - 2.4 P.R.122685 - 1.4 P.R.12268 - 1.4 P.R.122702 - 1.5 P.R.60009 - 2. P.R.22508 - 1.4 P.R.25518 - 1.4 P.R.1257702 - 3.1 S. 35 P.R.96789 - 11-70 P.R.1173866 - 1.3 P.D.1091360 - 1.7 P.R.55151 - 11 - 3 P.R.69009 - 2. P.R.2508 1 - 1.8 P.R.25618 - 71971 - 1. P.R.61261 - 1.2 P.R.51163 - 1.4 P.R.75353 - 1.4 P.R.1257702 - 3.1 S. 1259954 - 3.7 P.R.1210133 - 3.1 7 P.R.124003 - 3.2 T.P.R.1247327 - 5.5 P.R.1247281 - 1.6 P.R.124602 - 15.2 P.R.111735 - 2.10 P.R.10446 - 12 P.R.511631 - 1.4 P.R.75353 - 1.4 P.R.1257702 - 3.1 S.
AllowdseroEsterVersage: true, AllowdseroEsterChart: false, "AllowdseroEsterChart: false, "AllowdserOts: true, "AllowdseroEster's true,	30 P.R-1041654.20-47.P.R-102694-1-48.P.R-1023346-12-146.P.R-1019344-1-5.P.R-104221-1-3.P.R-87570-1-15.P.R-80232-2.5.P.R-42248-3-248.P.O-1245752-1-5.P.R-1061619-1-4.P.R-10 D-66988-1-2.P.D-42683-1-3.P.R-1148755-2-21.P.R-1113346-1-17.P.R-39408-2-10.P.R-1266069-2-3.P.R-1221281-1-4.P.R-1015811-1-10.P.R-79743-1-2.P.R-77423-3-11.P.R-63356-6-17.P.R- 49.P-R-42997-1-3.P.R-42996-3-10.P.R-23584-1-103.P-R-73080-1-7.P.D-42892-1-23.P.R-70375-1-4.P.R-45594-1-6.P.R-45751-1-21.P.R-59884-1-6.P.R-1016482-4-6.P.R-5
10 "AllowGiphy": true, 11 "GiphyBatingType": "NoBestriction", 12 "AllowGiphyDispley": true, 13 "AllowSetEnterretImage": true,	K+116453-1-5/P-K-31801-5-26/P-K-1253957-1-11/P-K-1252810-4-10/P-K-1168946-1-18/P-K-1117472-4-9/P-K-1058385-1-4/P-K-1058385-1-4/P-K-1057398-11-7/P-K-1021487-1-19/P-K-10653 42445-1-13/P-R-45192-1-3/P-R-44125-1-3
14 "Allowikers': true, 15 "Allowikers': krue, 16 "Allowikers': true, 17 "Allowikers': true, 18 "Allowikers': true,	
18 "ReadRecciptEnabledType": "UserPreference", 19 "AllowFrieiTypessages": true, 20 "AllowFrieiTypessages": true,	

https://api.interfaces.records.teams.microsoft.com/Skype.Policy/configurations/TeamsMessagingPolicy/configuration/{nameofpolicy}

How policies work in Teams New



Client start – ConfigID's will be downloaded

https://config.teams.microsoft.com/config/v1/MicrosoftTeams/49_1.0.0.0?env buildType=production&virtualization=&browser=edge&osPlatform=wind d=**{userId}**&tenantId=**{tenantId}**&experienceBuild=24053101417&desktopVersionus&agents=TeamsNorthstar,TeamsBuilds,Segmentation&ECSCanary=1

... and end up in the depths of LevelDB



config.teams.Microsoft.com > WestUS

as well as other services like appsuggestions.teams.Microsoft.com



Central Control?



Only available tool: Get-CsOnlineUser



- No gpresult or similar available
- Unfortunately, there is no control if policies are actually active on a computer

Manual Override?



• Theoretically via configuration.json - but not recommended

MSTeams	× +	– o x
← → ↑ C	□ > ··· LocalCache > Microsoft > MSTeams >	Search MSTeams
🕀 New ~ 🔏 🕡	Ĩ 💭 🖄 🗊 î↓ Sort ~ ≡ View ~ ····	Preview
Name	Date modified Type Size	
Backgrounds	28.03.2023 16:31 File folder	
EBWebView	06.10.2024 21:03 File folder	
and the second s	06.10.2024 22:06 File folder	
🚞 tfw	04.10.2024 08:15 File folder	
UserAvataricons	19.04.2024 10:50 File folder	
app_settings.json	06.10.2024 20:57 JSON File 2 KB	
cmd_settings.json	19.08.2024 10:02 JSON File 1 KB	
configuration.json	06.10.2024 22:41 JSON File 1 KB	
crash_reports_cache.json	04.10.2024 08:15 JSON File 1 KB	
ecs_request_param.json	15.08.2024 07:59 JSON File 1 KB	
ecs_settings.dat64	06.10.2024 22:06 DAT64 File 2 069 KB	
previous_session_data.json	06.10.2024 11:04 JSON File 1 KB	
12 items 1 item selected 36 bytes		

{} configuration.json ×

C: > Users > cadler > AppData > Local > Packages > MSTeams_8wekyb3d8bbwe > LocalCache > Microsoft > MSTeams > {} configuration.json > ...

1 {"messaging/enableDeleteChat": true}



Upgrade Your Time

Very helpful – Developer Mode



Via configuration.json

MSTeams	× +	- o >
← → ↑ C	□ > ··· LocalCache > Microsoft > MS	Teams > Search MSTeams
🕀 New - 👗 🗘	î 函 @ û î↓ Sort ~ ≡ Vier	w ~ · · · · · Preview
Name	Date modified Type	Size
Backgrounds	28.03.2023 16:31 File folder	
EBWebView	06.10.2024 21:03 File folder	
Eugs	06.10.2024 22:06 File folder	
🚞 tfw	04.10.2024 08:15 File folder	
UserAvataricons	19.04.2024 10:50 File folder	
app_settings.json	06.10.2024 20:57 JSON File	2 KB
cmd_settings.json	19.08.2024 10:02 JSON File	1 KB
configuration.json	06.10.2024 22:41 JSON File	1 KB
crash_reports_cache.json	04.10.2024 08:15 JSON File	1 KB
ecs_request_param.json	15.08.2024 07:59 JSON File	1 KB
ccs_settings.dat64	06.10.2024 22:06 DAT64 File	2 069 KB
previous_session_data.json	06.10.2024 11:04 JSON File	1 KB
12 items 1 item selected 36 bytes		

{} configuration.json ×

C: > Users > cadler > AppData > Local > Packages > MSTeams_8wekyb3d8bbwe > LocalCache > Microsoft > MSTeams > {} configuration.json > ...

1 {"core/devMenuEnabled": true}

App Version	>		
Edge Tools	>		
Profiler	>		
Crash	>		
Window Details			
Debug Meet Now			
Raise user activity event			
Toasts	>		
Lifecycle	>		
Slimcore Status	>		
Clouds	>		
Settings	>		
Open Current Log			
Open Logs Folder			
Open Dev Tools (NRC)		Christoph Adler panagenda	
Open Dev Tools (Main Window)		Open	
Edit Configuration		Engineering Tools	>
	- 11 C		_
	G	My status	>
		Open Dev loois	
	t_	Collect Support Files	
		Quit Teams	
	E.		
			23:01

Hindsight – Analyzing Web Artifacts





95	local storage	https://teams.microsoft.com	tmp.react-web-client.buildNumber	23110231809		
6	local storage	https://teams.microsoft.com	tmp.react-web-client.ecs-settings-cache	{"calendar":{"enableRememberingExternalUsersInCalendar":false,"	nableWhiteboard	Calendar Tab": true, "enable Remember Anonymous External
97	local storage	https://teams.microsoft.com	tmp.react-web-client.loaderDiagnostics	[{"message":"[ExpLoader] ClientPreferencesService: Client preferen	ces were not found	in local storage; returning defaults.","level":3,"levelNam
8	local storage	https://teams.microsoft.com	tmp.react-web-client.local-user-prefere	{"theme":{"userTheme":"light","followOsTheme":true,"isClassicThe	me":false,"isCallin	gWindowDarkTheme":false},"animation":{"disableAnimat
9	local storage	https://teams.microsoft.com	tmp.react-web-client.mainWindowNavH	0		
0	local storage	https://teams.microsoft.com	tmp.react-web-client.mainWindowNavH	{"windowHistoryIndex":-1,"userContextId":null}		

Teams New – Log files



%LocalAppData%\Packages\MSTeams_8wekyb3d8bbwe\LocalCache\Microsoft\MSTeams\Logs

Launcher_*.log **MSTeams_*.log** MSTeamsBackgroundUpdate_*.log MSTeamsBackgroundEcs_*.log MSTeamsNM_SlimCore_*.log MSTeamsUpdate_*log tma_addin_msi.log



22	2 <mark>:38.661306:02:00 0x00000f</mark>	c8 (ERR) WIL: D:\a	_work\1\s\src\base\winregutils.cpp(42)\ms-teamsupdate.exe!00007FF792D5592D: (caller: 00007FF792C5A325) LogHr	۰(31
900	2 The system cannot find	the file specified.		
22	2:38.661306+02:00 0x00000f	c8 <err> WIL: D:\a</err>	_work\1\s\src\base\winregutils.cpp(102)\ms-teamsupdate.exe!00007FF792C5AFDC: (caller: 00007FF792C72785) LogH	lr(3
900	2 The system cannot find	the file specified.	Т	
22	2:38.661306+02:00 0x00000+	c8 <err> WIL: D:\a</err>	_work\1\s\src\base\winregutils.cpp(42)\ms-teamsupdate.exe!00007FF792C5B16B: (caller: 00007FF792C72785) LogHr	•(33
100	12 The system cannot find	the file specified.		

Teams New – Client issues during start



What to do if the New Teams client crashes at startup?

Process Name	PID	Operation	Path
teams.exe	20732	C [®] Process Start	
ms-teams.exe	20732	C Thread Create	
mims-teams.exe	20732	CLoad Image	C:\Program Files\WindowsApps\MSTeams_24091.212.2834.983_x648wekyb3d8bbwe\mste
ms-teams.exe	20732	CC Load Image	C:\Windows\System32\ntdll.dll
nd ms-tearly_exe	20732	C [®] Load Image	C:\Windows\System32\hmpalert.dll
teams.exe	20732	🕫 Load Image	C:\Windows\System32\kernel32.dll
teams.exe	20732	¢₿Load Image	C:\Windows\System32\KemelBase.dll
🖬 ms-teams.exe	20732	🗘 Load Image	C:\Windows\System32\shlwapi.dll
🛄 ms-teams.exe	20732	CC Load Image	C:\Windows\System32\msvcrt.dll
teams exe	20732	C load Image	C:\Windows\Svstem32\user32.dll
msteams Microsoft Teams (work or school)			u.dll
Microsoft Corporation	1001 21	2 2024 002 vc4 0u	uslaub 2d 9bbws/ms.teams.eve.
msteams	4031.21	2.2034.303_X040/	erybudbbwe visteans.exe
ms-teams.exe	20732	C [®] Load Image	C:\Windows\System32\msvcp_win.dll
ms-teams.exe	20732	C [®] Load Image	C:\Windows\System32\ucrtbase.dll
The most earns.exe	20732	C [®] Load Image	C:\Windows\System32\advapi32.dll
ms-teams.exe	20732	CS Load Image	C:\Windows\System32\sechost.dll
ms-teams.exe	20732	C Load Image	C:\Windows\System32\rpcrt4.dll
ms-teams.exe	20732	CCLoad Image	C:\Windows\System32\bcrypt.dll
ms-teams.exe	20732	C Load Image	C:\Windows\System32\ole32.dll
ms-teams.exe	20732	Load Image	C:\Windows\System32\combase.dll
ms-teams.exe	20732	Load Image	C:\Windows\System32\ws2_32.dll
ms-teams.exe	20732	Load Image	C:\Windows\System32\shell32.dll
ms-teams.exe	20732	C Load Image	C:\Windows\System32\SHCore.dll
msteams.exe	20732	C Load Image	C:\Windows\System32\wintrust.dll
ms-teams.exe	20732	C Load Image	C:\Windows\System32\oleaut32.dll
ms-teams.exe	20732	C Load Image	C:\Program Files\WindowsApps\MSTeams_24091.212.2834.983_x648wekyb3d8bbwe\sqlite
Thims-teams.exe	20732	CS Load Image	C:\Windows\System32\wininet.dll



Short Recap



Upgrade Your Time

Recap on the New Teams client

- Improved User Experience
- Better client framework
- A lot is undocumented
- VDI is different (as always)
- Troubleshooting improved slightly





Q & A



THANK YOU!



Your Feedback Matters to Us



