



PENN STATE MAC ADMINS 2023

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**YOU DOWN WITH T.C.C.?**



# CHRIS SCHASSE

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OWNER / LEAD ENGINEER

ROCKETMAN TECH

# PRESENTATION RESOURCES

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**RKMN.TECH/TCC**

- ▶ Workflow specific Packages
- ▶ Workflow specific Script
- ▶ Workflow specific Configuration Profiles
- ▶ Follow Up Documentation

# WHAT IS TCC?

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The macOS mechanism protecting the privacy of the users **camera, microphone, and screen recording** capabilities.

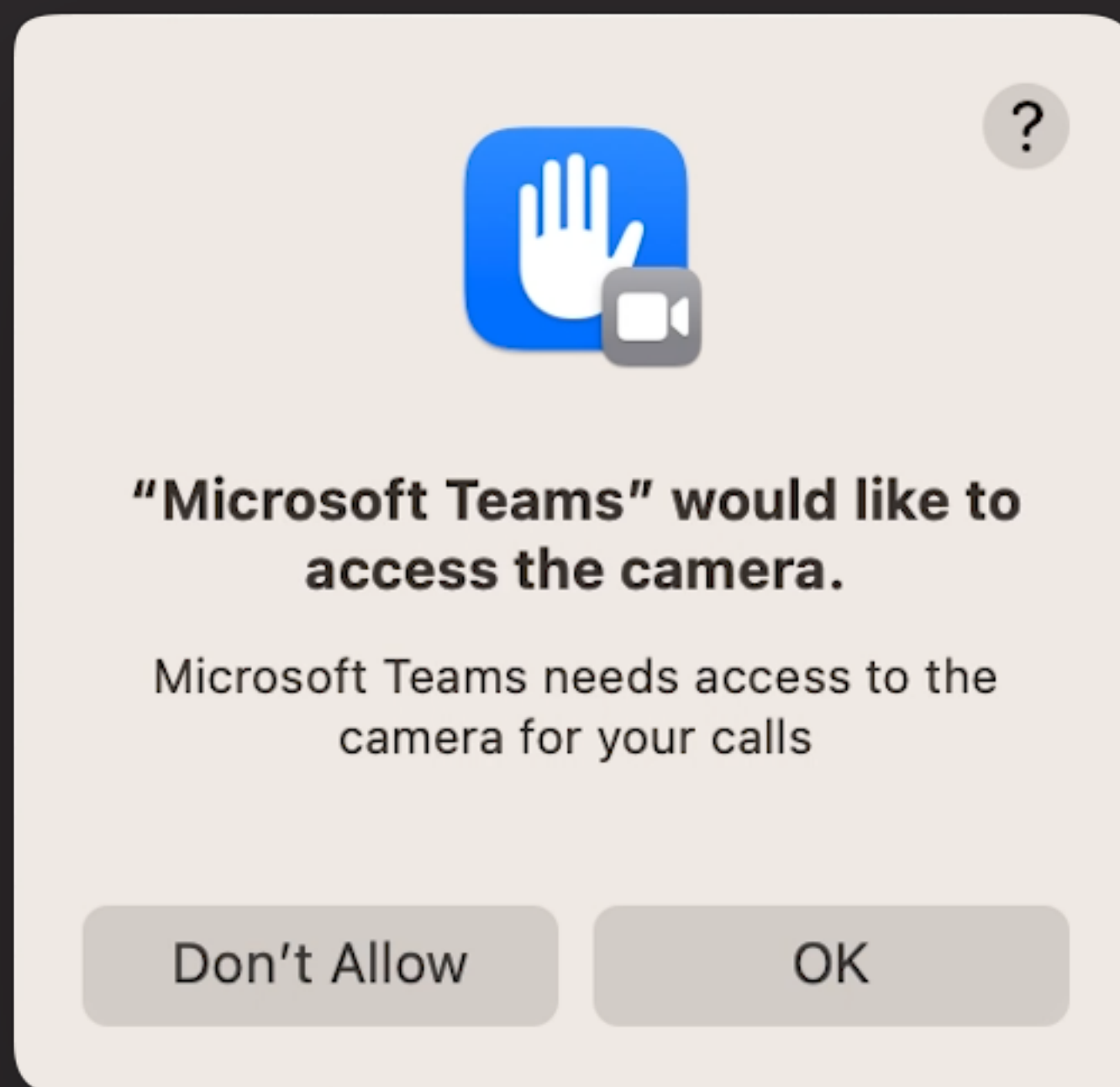




# WHAT IS TCC?

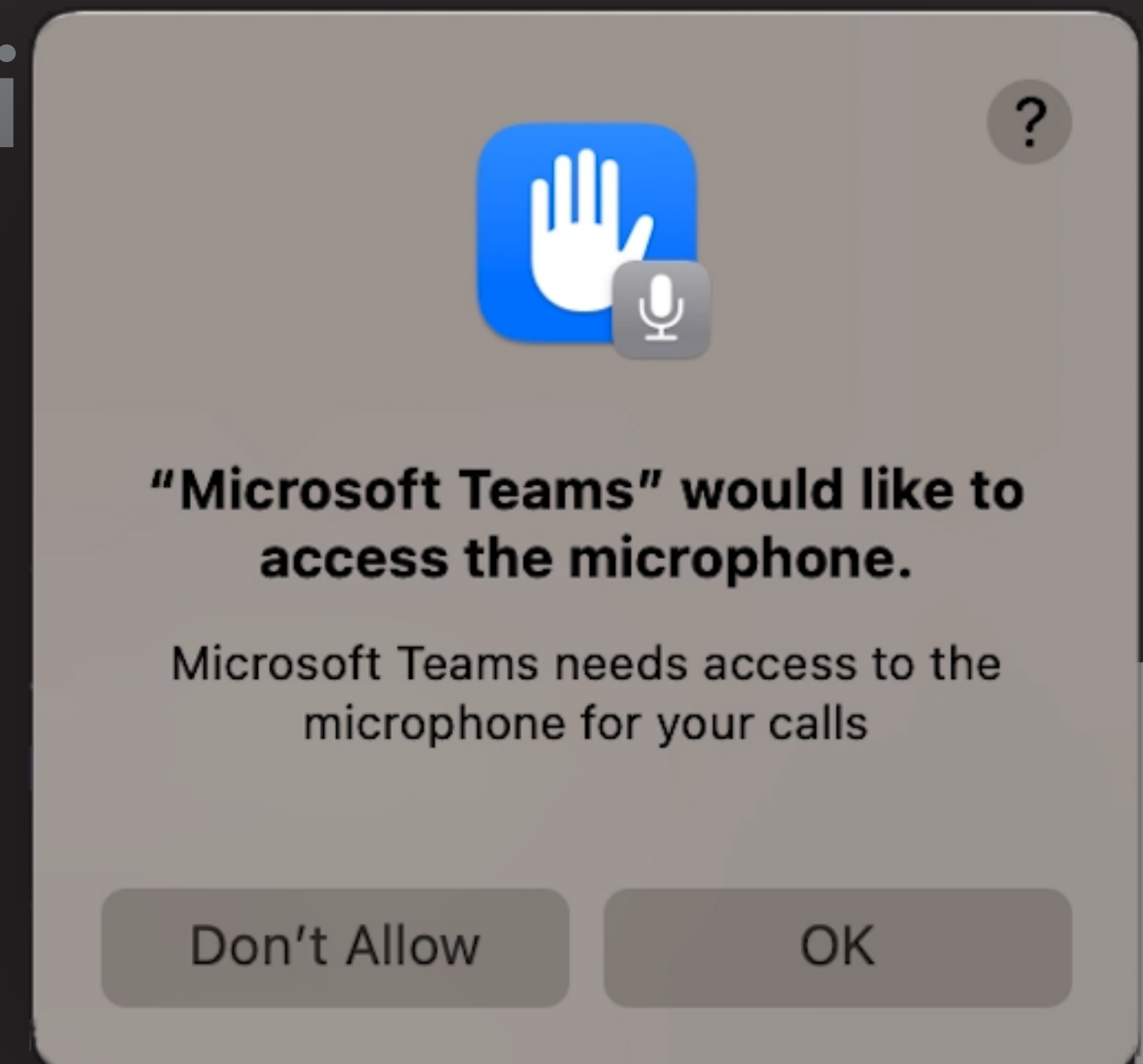
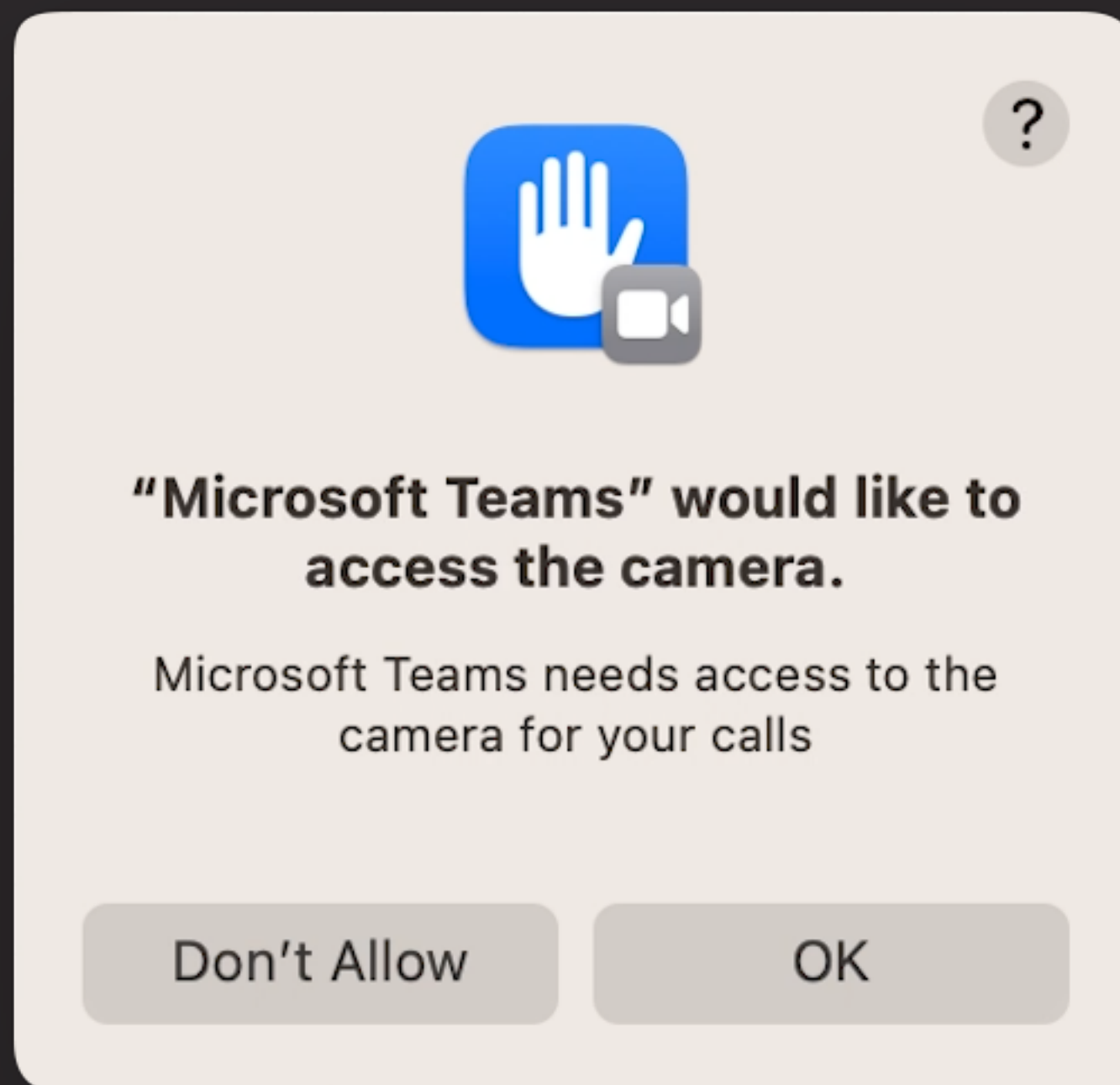
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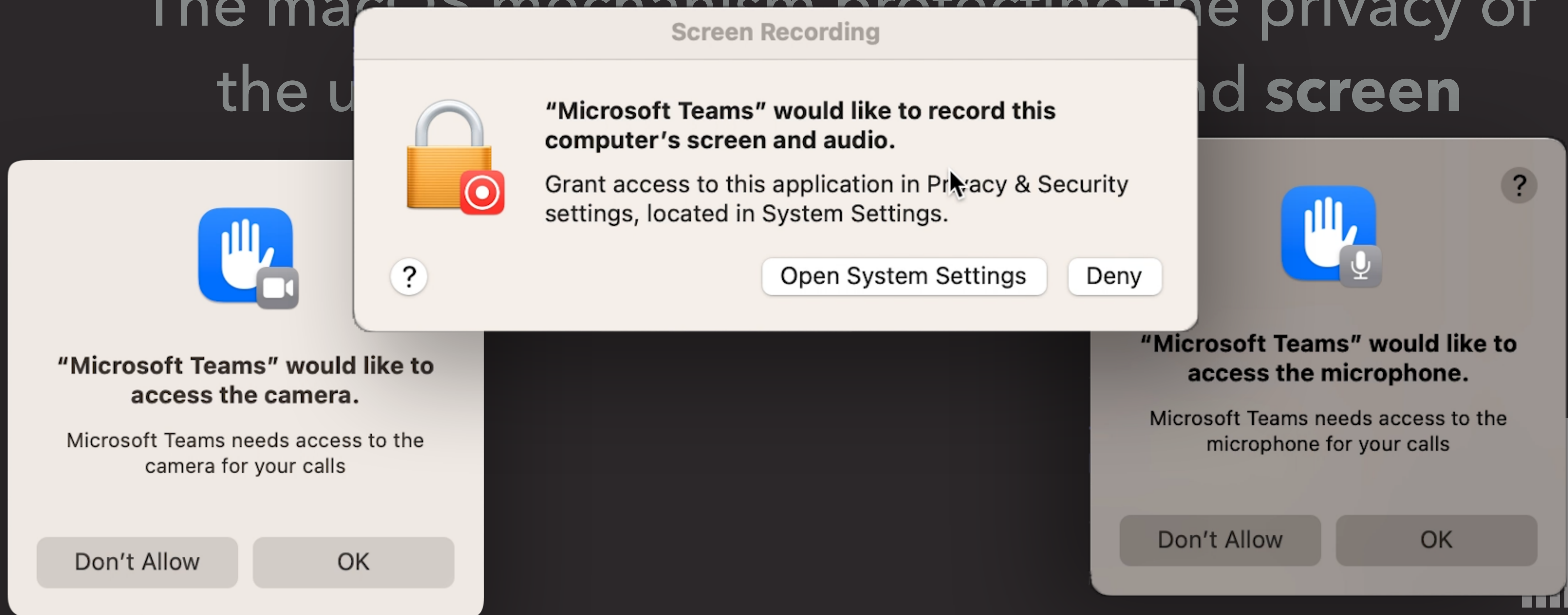
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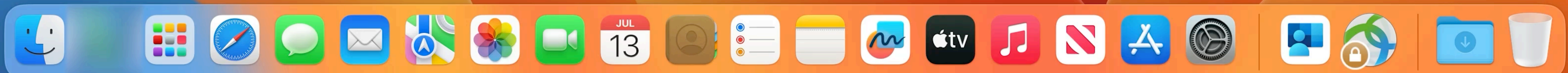
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The macOS mechanism protecting the privacy of the user and screen

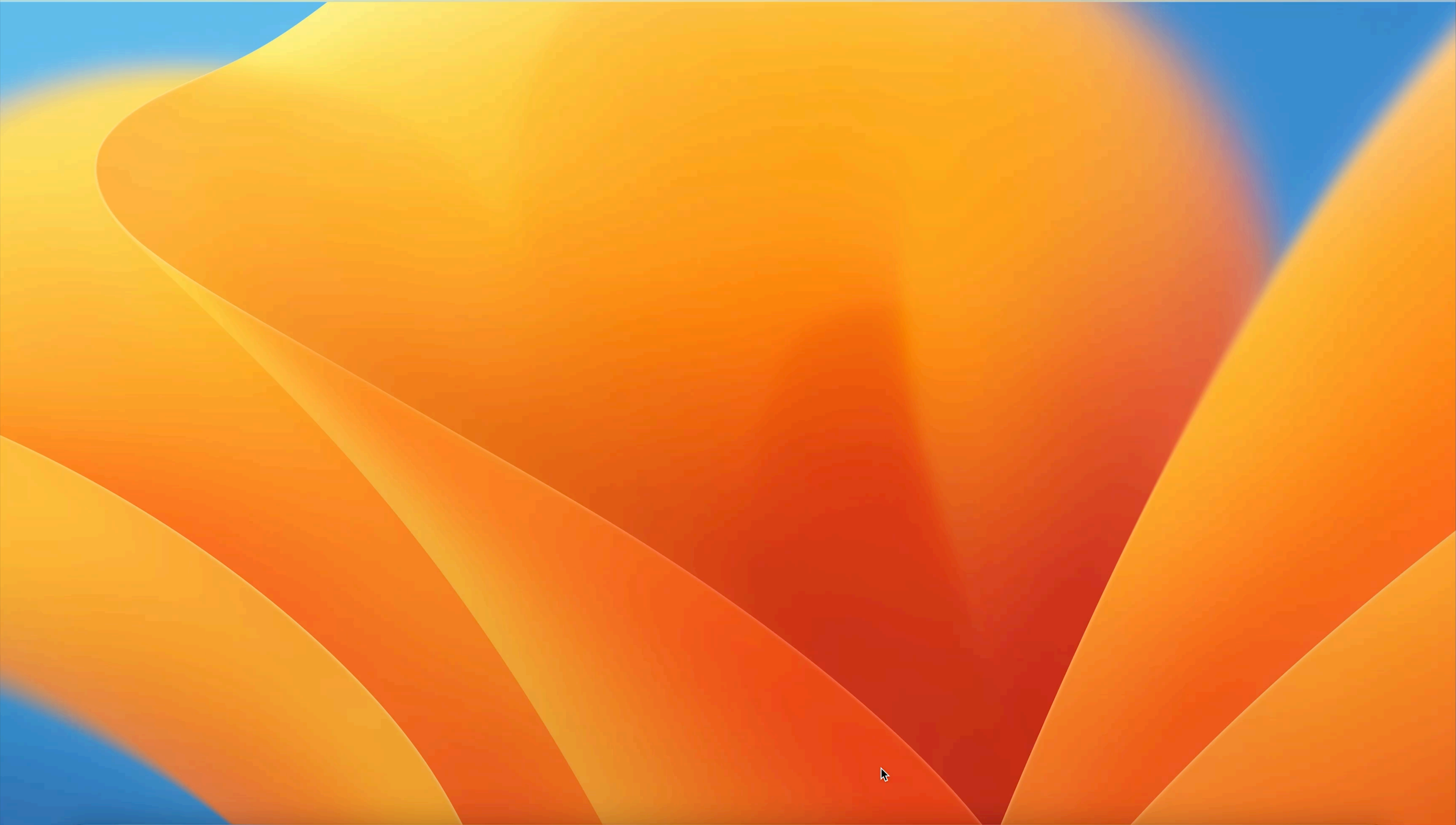




# CONNECTING TO A TEAMS MEETING FOR THE FIRST TIME









# PROBLEMS WITH TCC

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- ▶ Camera, Microphone, and Screen Recording are protected by SLP
- ▶ There is no way to programmatically enable this for users
- ▶ You can, however, ***guide*** users through this process

# GUIDING THE USER

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- ▶ Script with loops detecting if user has completed the action
- ▶ Videos guiding users through steps using DEPNotify
- ▶ Launching the application and/or System Settings

● Login to Teams

● Enable Camera

● Enable Microphone

● Enable Screen Sharing

 Microsoft


Sign in

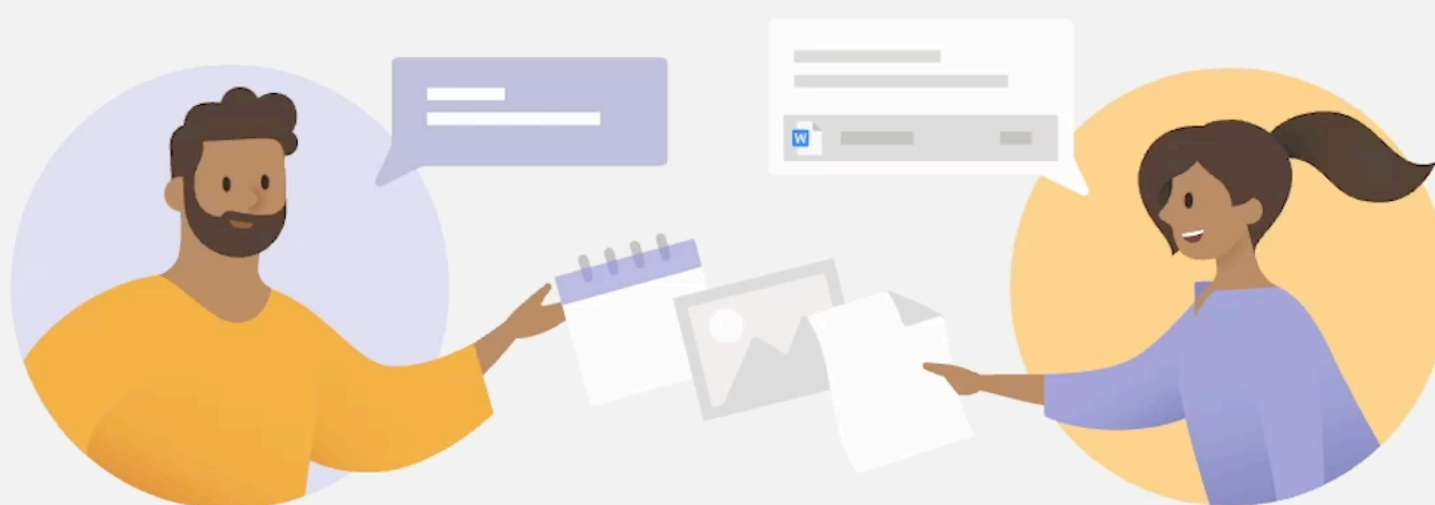
No account? [Create one!](#)

Next

Follow the instructions to login to Microsoft Teams

I have logged into Microsoft Teams

 Microsoft



Welcome to Microsoft Teams!

Collaborate with your coworkers or coordinate with your social groups in one app.

Get started


[Get Microsoft Teams for my small business](#)

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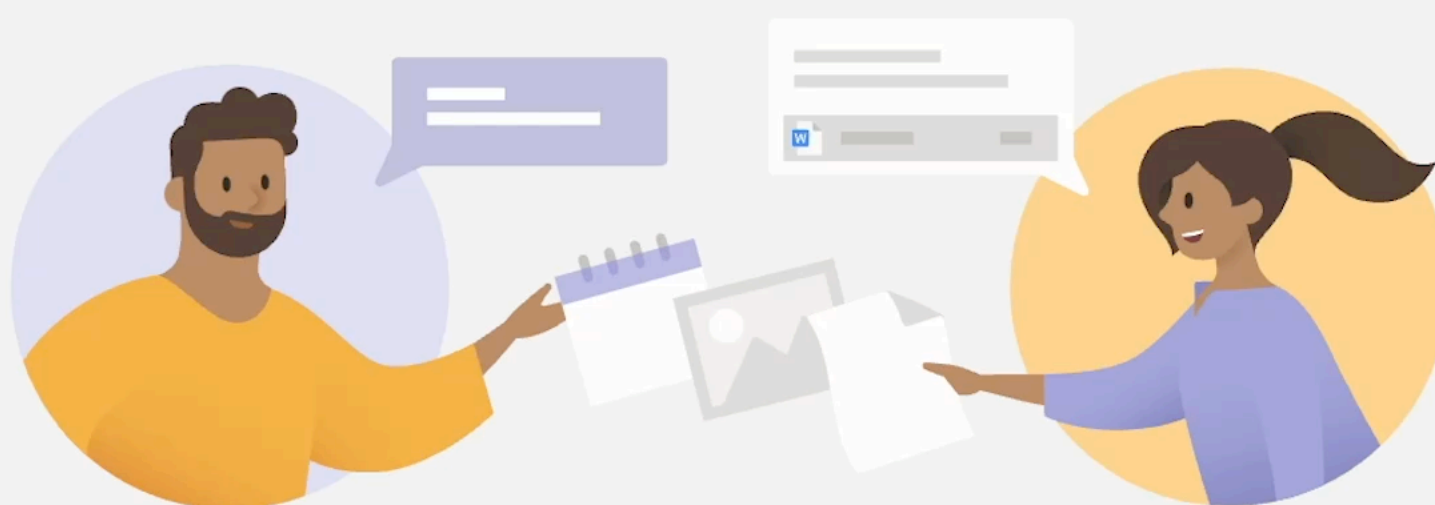
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# SETTING UP THE WORKFLOW IN JAMF



# WHAT WE NEED

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- ▶ DENotify Package
- ▶ App Setup Helper Script
- ▶ App Setup Helper Videos specific to application (*optional*)
- ▶ PPC Profile specific to application (*optional*)

## Settings

☐ Display icons

AllSystemGlobalJamf AppsSelf ServiceServerNetworkComputer managementDevice managementUser managementInformation

14 settings

### Packages

Upload packages, configure settings, and set deployment priority

### Scripts

Upload and manage scripts to deploy to computers, set parameters

### Printers

Configure printers to deploy to computers

### Directory bindings

Allow Jamf Pro to bind computers to a directory service

### Disk encryption configurations

Use to manage and enable FileVault on computers

### Dock items

Manage Dock items on computers

### Patch management

Add external patch sources and set number of times to retry deployment

### Inventory collection

Configure inventory information to collect for computers

### Inventory display

Select the attributes to display in a simple computer search

### Check-in

Set check-in frequency, startup options, and login events on computers

### Security

Set communication requirements and pre-approve access for computers

### Extension attributes

Create custom inventory attributes to collect additional computer data

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☐ Display icons

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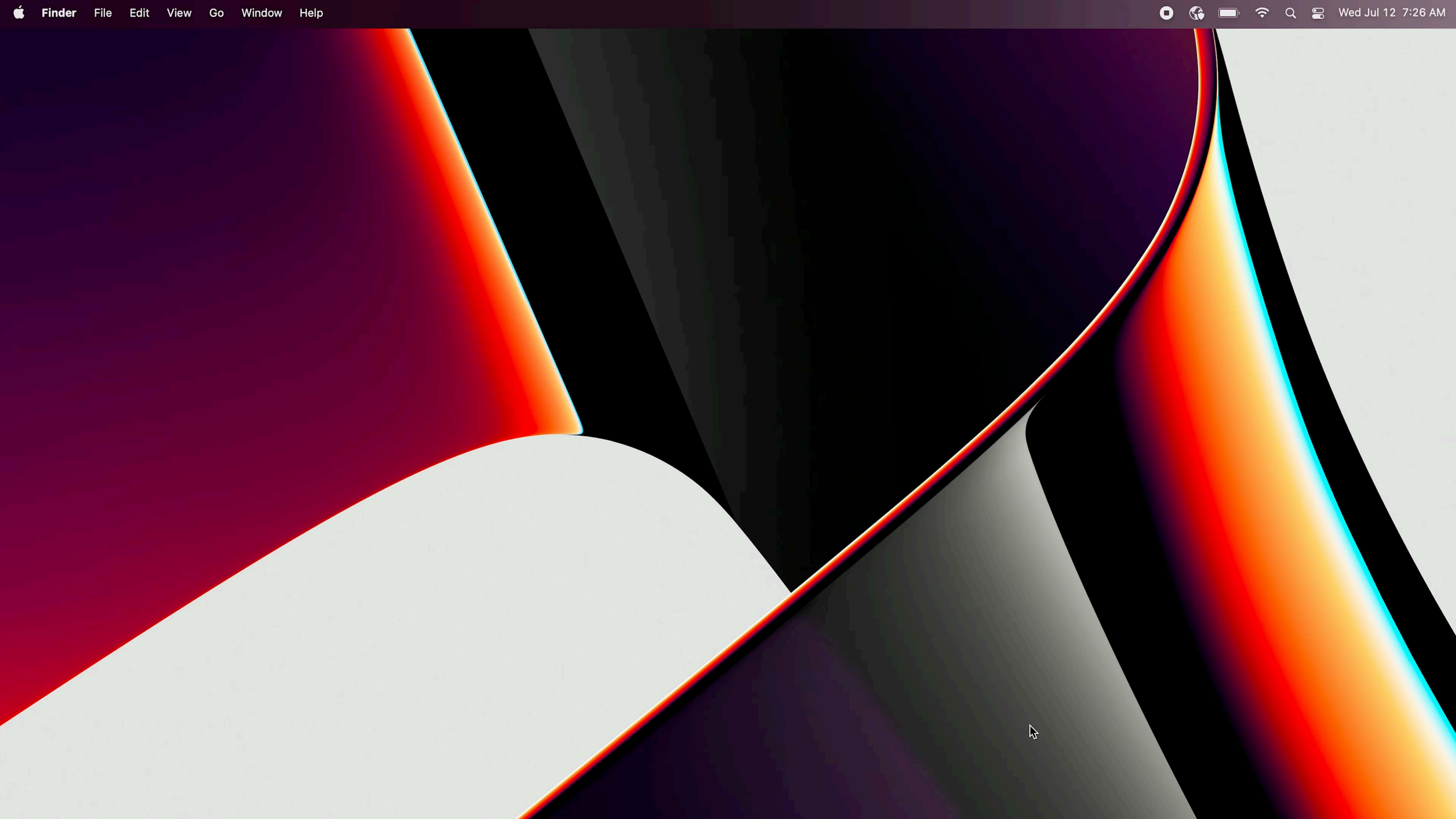
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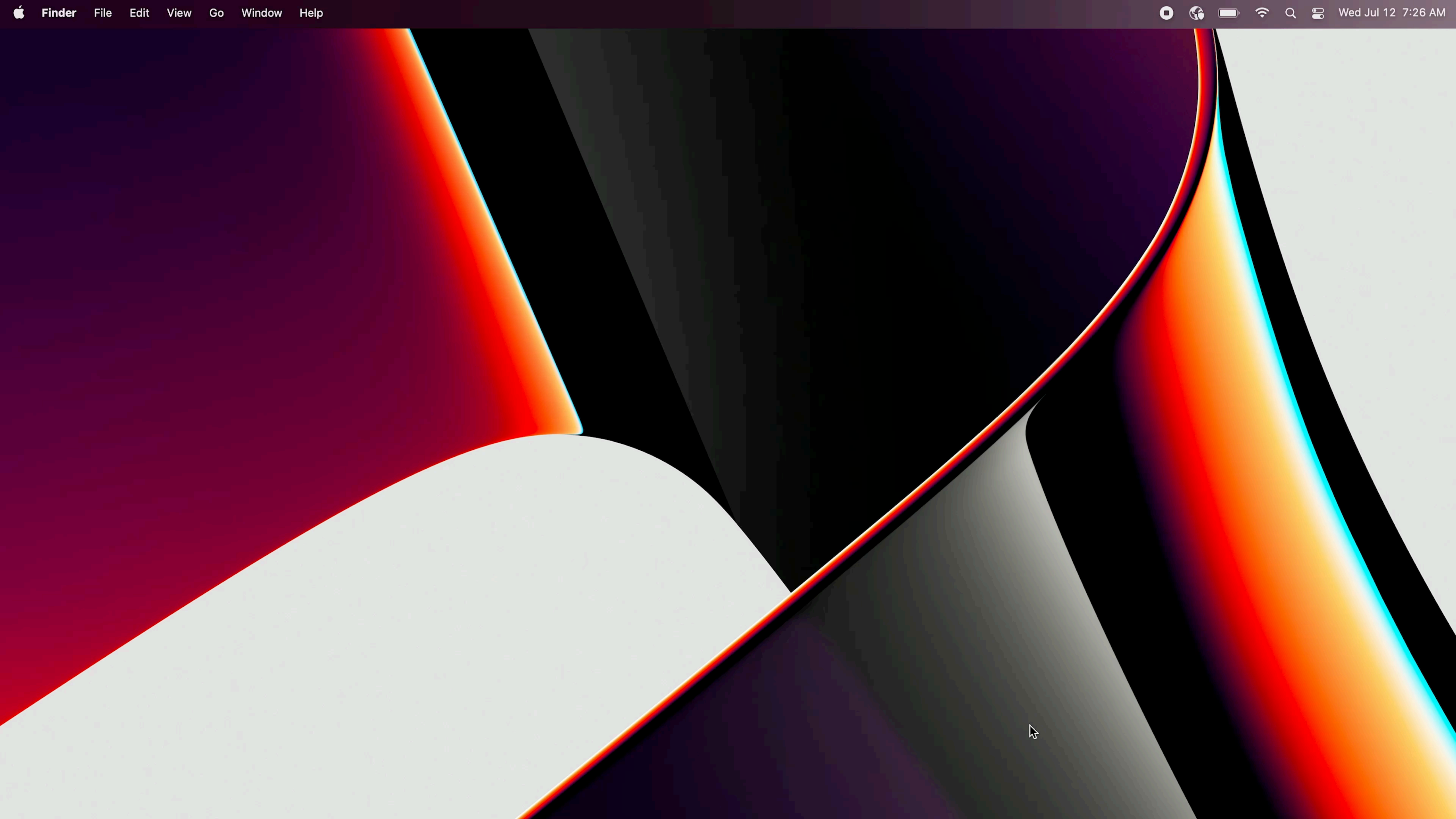
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Create custom inventory attributes to collect additional computer data











# TAKING A CLOSER LOOK AT THE SCRIPT

[RKMN.TECH/TCC](https://rkmn.tech/tcc)

NAME		FREQUENCY	TRIGGER	SCOPE
_TCC Presentation				
>	<div></div> App Configuration Settings for Microsoft Teams	Once per computer	Check-in, microsoftTeamsTCC	S: TCC Workflow
_Zen Touch				
>	<div></div> 0.0 Onboarding	Once per computer	Check-in, Enrollment	All computers
>	<div></div> 1.1 Rename Computer	Once per computer	Check-in, Enrollment	All computers
>	<div></div> __ - Action	Once per computer	Check-in, Enrollment	All computers
Applications				
>	<div></div> Zoom	Ongoing	Self Service	1 computer

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Computers



Devices



Users

## INVENTORY



Search Inventory



Search Volume Content



Licensed Software

## CONTENT MANAGEMENT

**Policies**

Configuration Profiles



Restricted Software



Mac Apps



Patch Management



eBooks

## GROUPS



Smart Computer Groups



Static Computer Groups



Classes

## ENROLLMENT



Enrollment Invitations



PreStage Enrollments

## SETTINGS



Management Settings



Collapse Menu

Computers : Policies

## ← App Configuration Settings for Zoom

Options

Scope

Self Service

User Interaction

☐ Show in Jamf Pro Dashboard

General



Packages

1 Package



Scripts

1 Script

## General

**Display Name** Display name for the policy

App Configuration Settings for Zoom



Enabled

**Category** Category to add the policy to

\_TCC Presentation

**Trigger** Event(s) to use to initiate the policy

Startup

When a computer starts up. A startup script that checks for policies must be configured in Jamf Pro for this to work



Login

When a user logs in to a computer. A login event that checks for policies must be configured in Jamf Pro for this to work



Network State Change

When a computer's network state changes (e.g., when the network connection changes, when the computer name changes, when the IP address changes)



Enrollment Complete

Immediately after a computer completes the enrollment process



Recurring Check-in

At the recurring check-in frequency configured in Jamf Pro



Custom

At a custom event

**Custom Event** Custom event to use to initiate the policy. For an iBeacon region change event, use "beaconStateChange"

zoomTCC



History



Logs



Clone



Delete



Edit



Computers



Devices



Users

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Search Inventory



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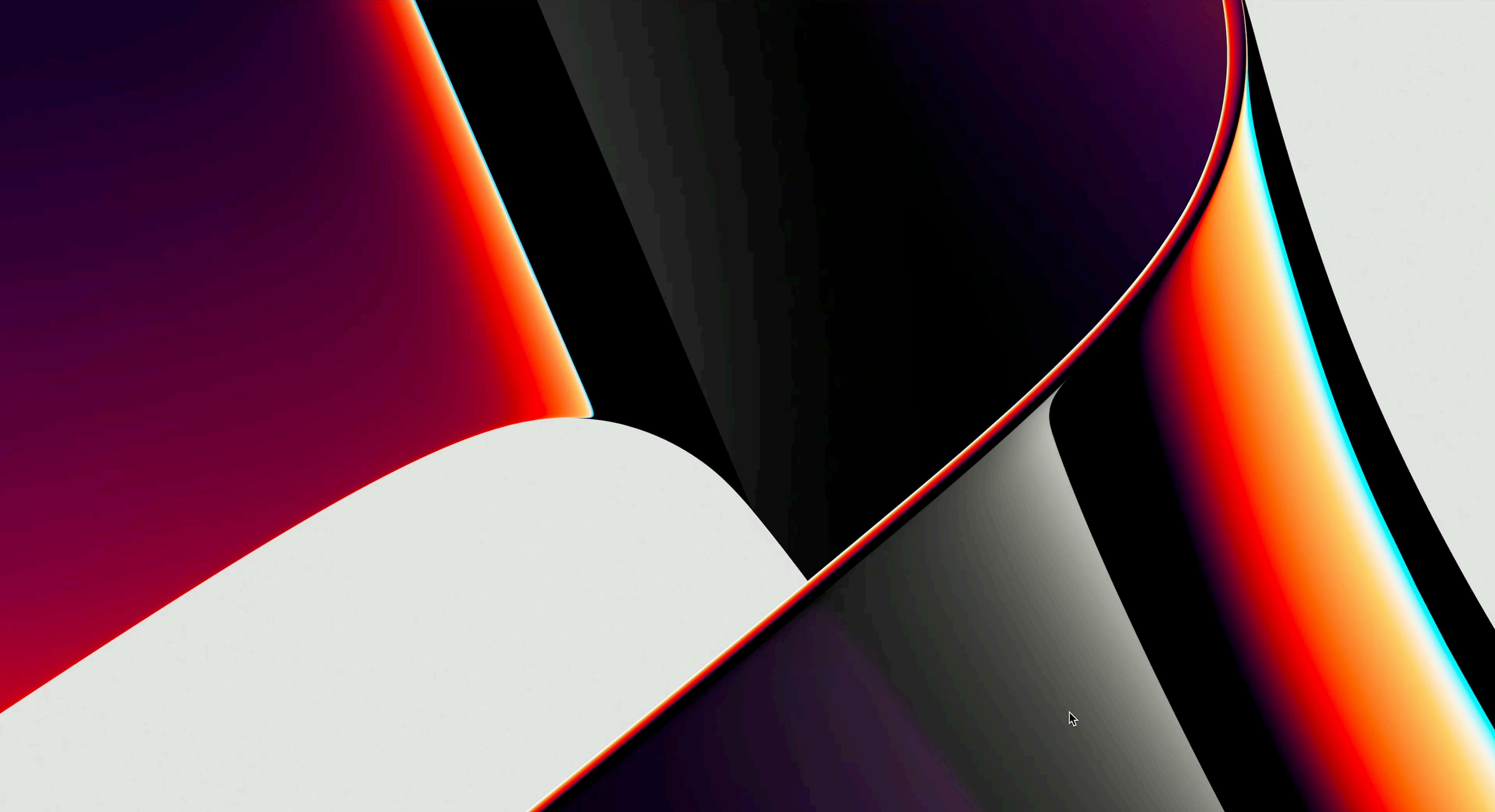


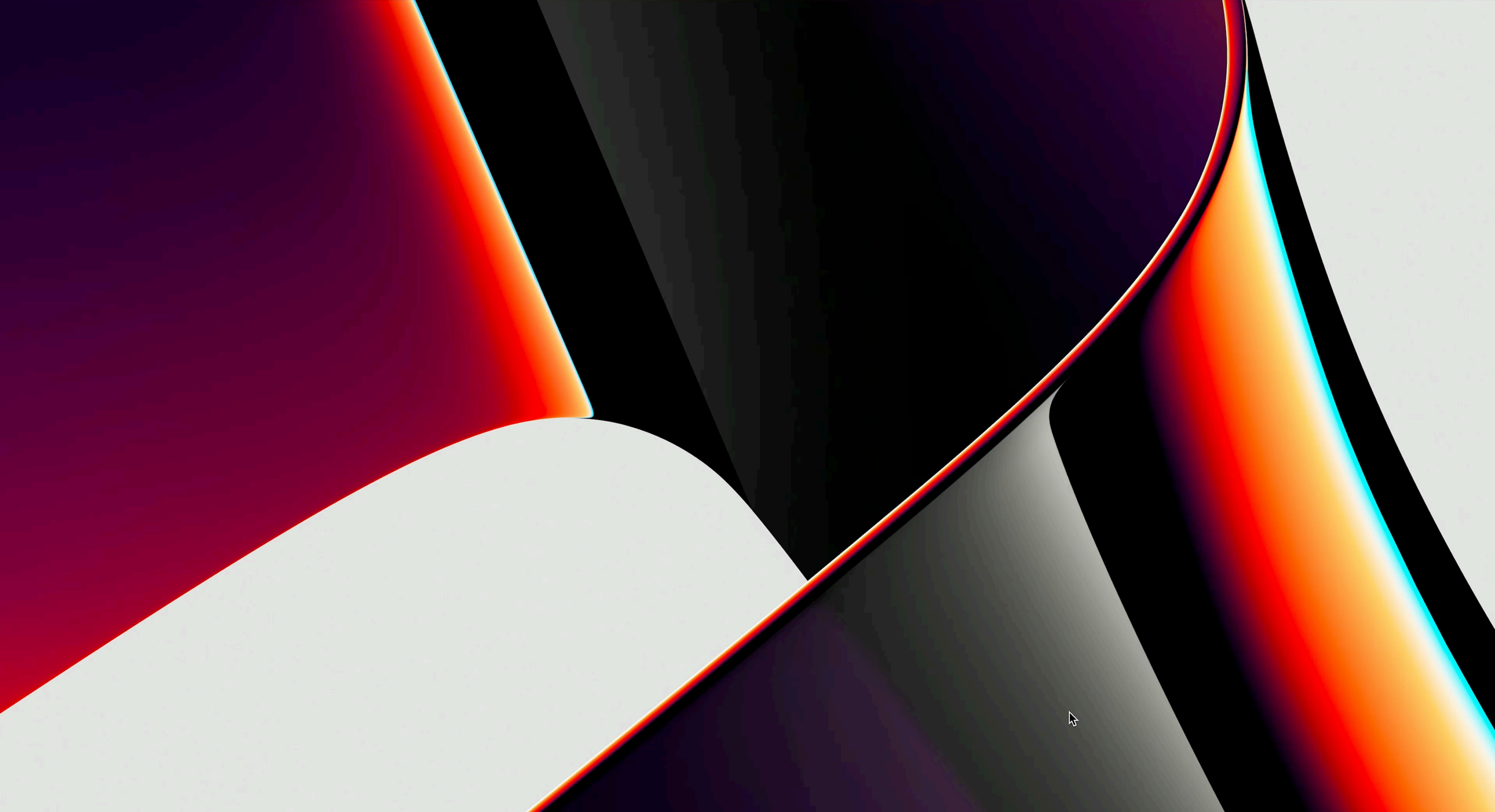
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Edit









INVENTORY

- Search Inventory
- Search Volume Content
- Licensed Software

CONTENT MANAGEMENT

- Policies**
- Configuration Profiles
- Restricted Software
- Mac Apps
- Patch Management
- eBooks

GROUPS

- Smart Computer Groups
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- Classes

ENROLLMENT

- Enrollment Invitations
- PreStage Enrollments

SETTINGS

- Management Settings
- Collapse Menu

Computers : Policies

← App Configuration Settings for Zoom

- Options
- Scope
- Self Service
- User Interaction

☐ Show in Jamf Pro Dashboard

 General

 Packages  
2 Packages

 Scripts  
1 Script



Scripts

App Setup Helper - Zoom

**Priority** Priority to use for running the script in relation to other actions

After ▼

**Parameter Values** Values for script parameters. Parameters 1–3 are predefined as mount point, computer name, and username

Parameter 4

--appcode=zoom

Parameter 5

--launchpath=/Applications/zoom.us.app

Parameter 6

--appname=Zoom

Parameter 7

--dvideopath=/tmp/videos

Parameter 8

Parameter 9



INVENTORY

- Search Inventory
- Search Volume Content
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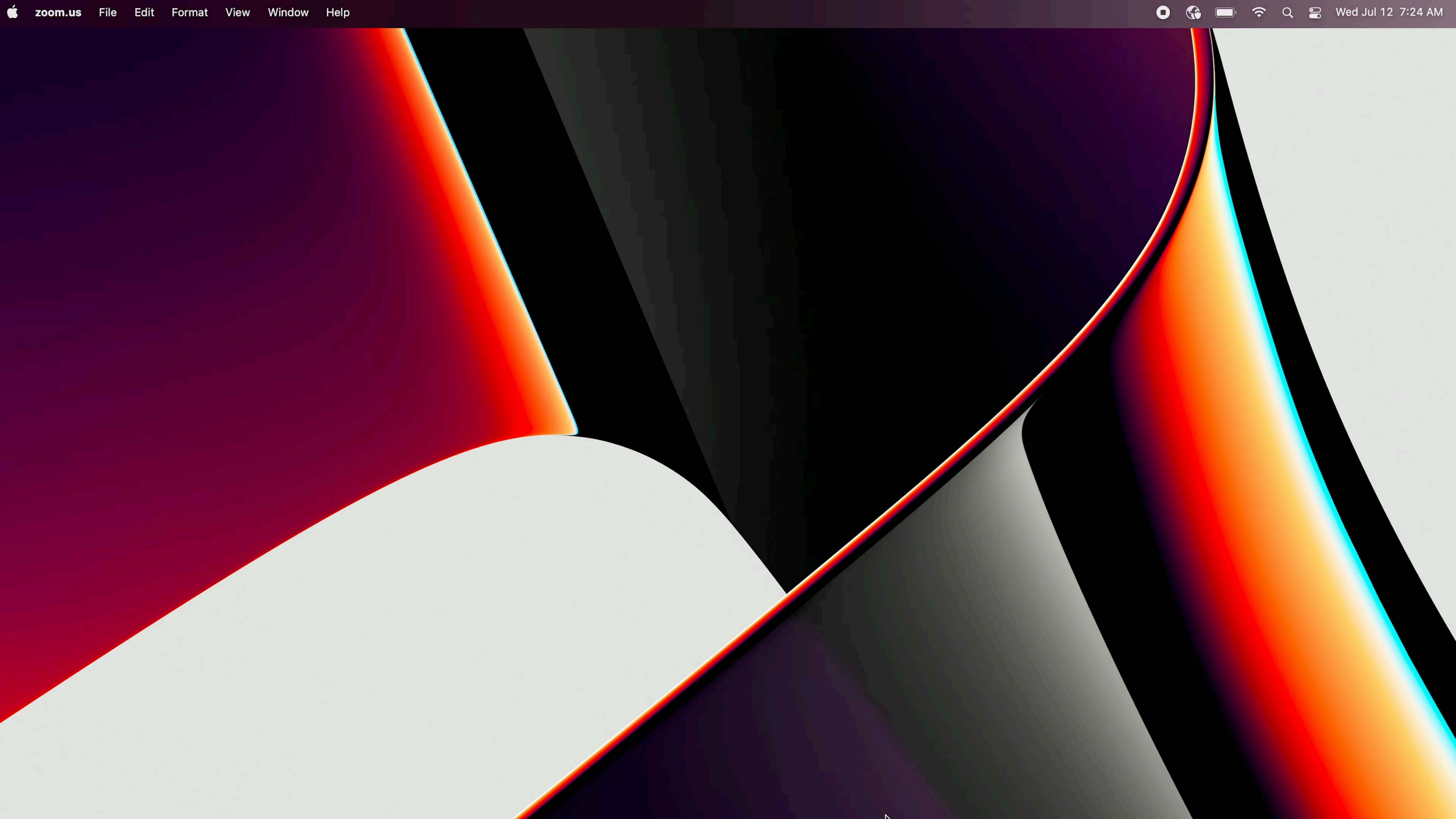
--appname=Zoom

Parameter 7

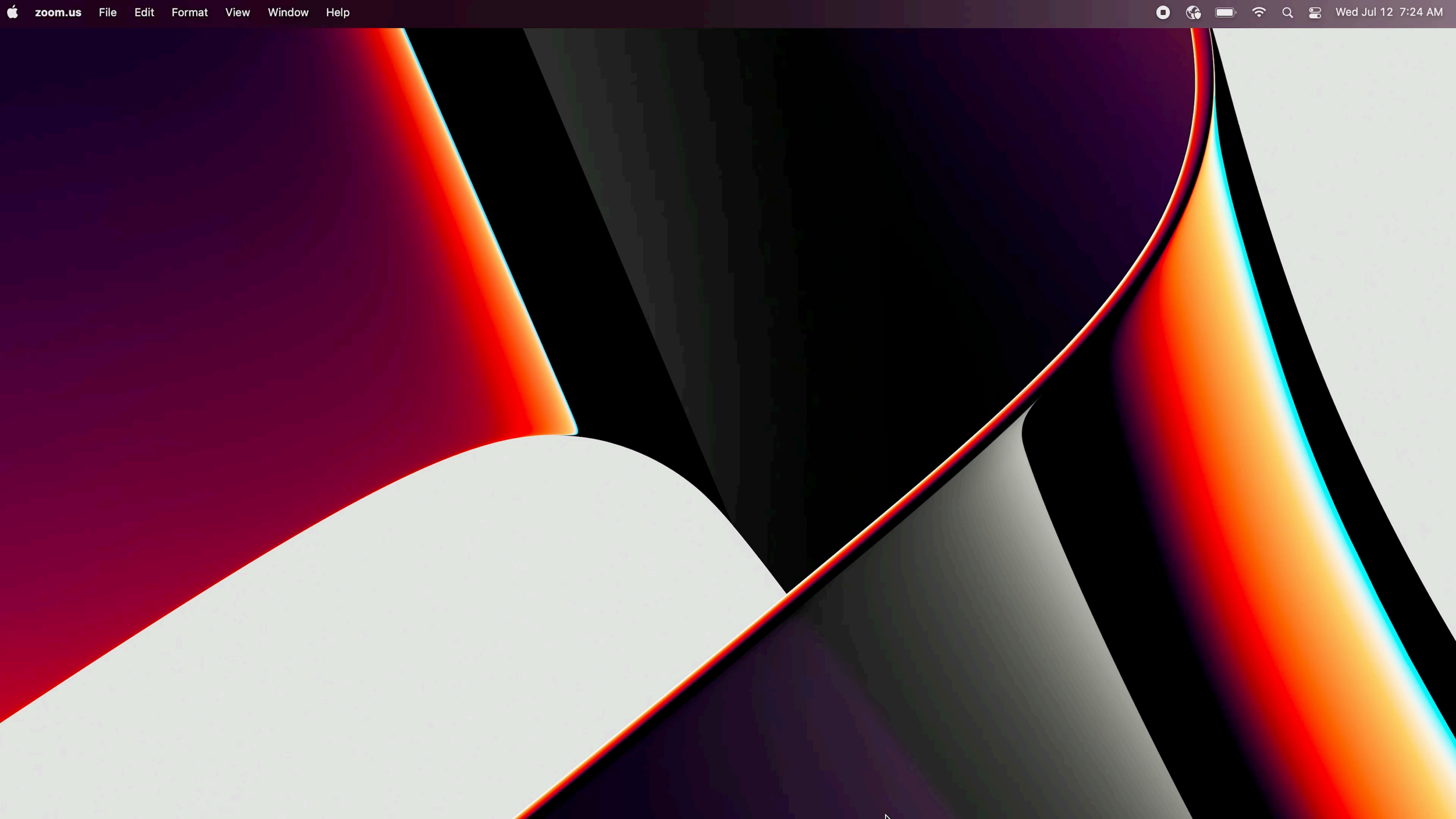
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Parameter 8

Parameter 9









# POSSIBLE TWEAKS

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- ▶ Using videos for some steps, and text for other steps
- ▶ Checking if the user has logged into the application instead of asking them. This requires finding a plist or file that is created after login.
- ▶ Opening System Settings and allow users to manually enable the application without launching it



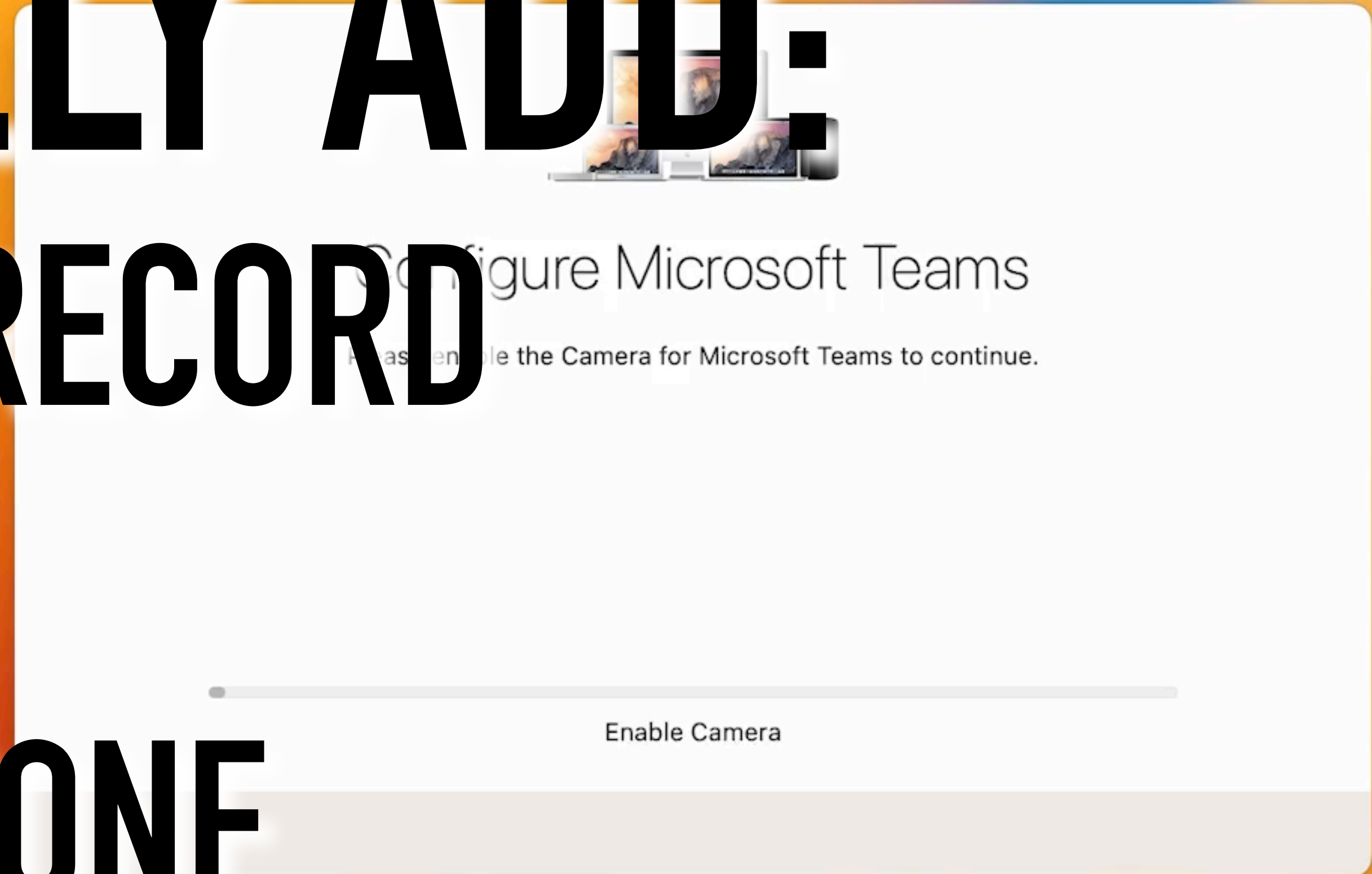
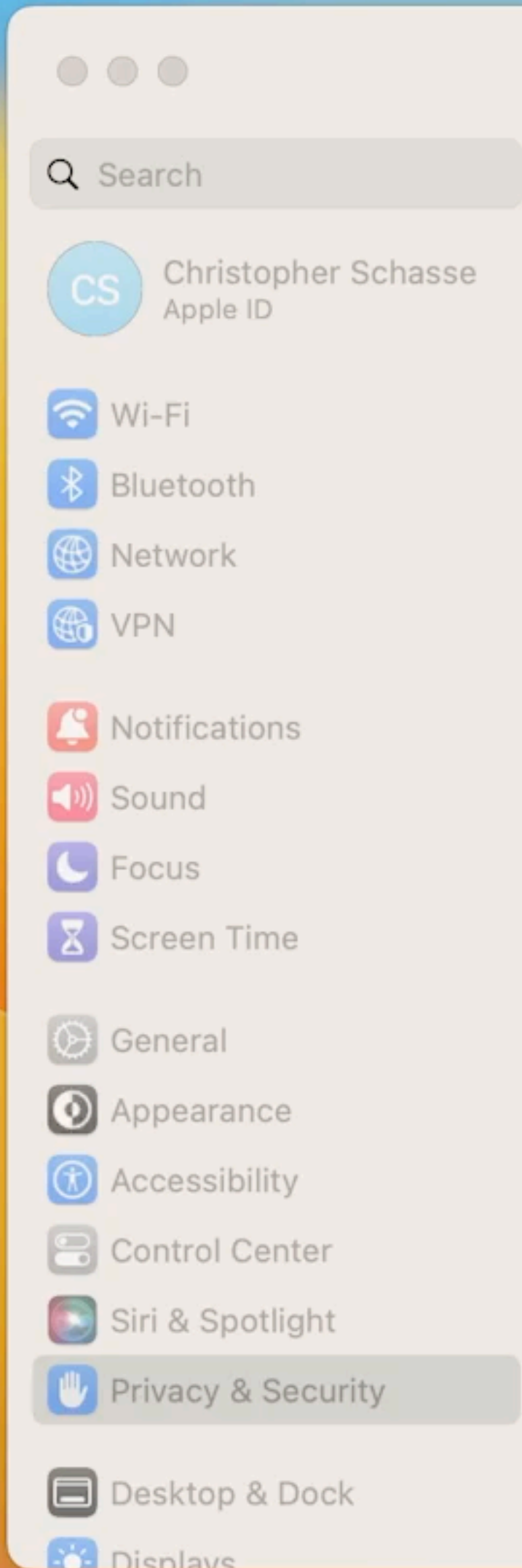
**ALTERNATIVES WE  
CONSIDERED**

# MANUALLY ADD:

## SCREEN RECORD

## CAMERA

## MICROPHONE





Q Search

CS

Christopher Schasse  
Apple ID

Wi-Fi

Bluetooth

Network

VPN

Notifications

Sound

Focus

Screen Time

General

Appearance

Accessibility

Control Center

Siri & Spotlight

Privacy & Security

Desktop & Dock

Displays

< Camera

Allow the applications below to access your camera.

Cisco Webex Meetings

Google Chrome

Microsoft Remote Desktop


Microsoft Remote Desktop Beta

Microsoft Teams

OBS

Slack

zoom



# Configure Microsoft Teams

Please enable the Camera for Microsoft Teams to continue.

Enable Camera

# ISSUES WITH THIS

---



- ▶ If the Application hasn't been setup already, it doesn't show up
- ▶ Microphone and Camera need to be requested by the application
- ▶ Applications can be manually added to Screen Recording

# **MANUALLY ADD:**

- ▶ **SCREEN RECORD**





# ISSUES WITH THIS

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- ▶ Can't control where the windows are
- ▶ Can't open to the Screen Recording pane, just Privacy
- ▶ **Potential Improvement:** Create a video for the user

# USING SWIFT DIALOGUE

## Configure Application



This application needs to be configured for use. Please follow the instructions below.

Enable Camera



Enable Microphone



Enable Screen Sharing



Waiting...



# ISSUES WITH SWIFT DIALOGUE

---



- ▶ Doesn't support videos
- ▶ Doesn't allow us to guide users

# ISSUES WITH SWIFT DIALOGUE

---



- ▶ ~~Doesn't support videos~~
- ▶ Doesn't allow us to guide users

# ISSUES WITH SWIFT DIALOGUE

---



- ▶ ~~Doesn't support videos~~
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# BENEFITS OF

# SWIFT DIALOGUE

---



- ▶ ~~Doesn't support videos~~
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# BENEFITS OF

# SWIFT DIALOGUE

---



- ▶ ~~Doesn't support videos~~
- ▶ ~~Doesn't allow us to guide users~~
- ▶ Allows you to set the window position

# BENEFITS OF

# SWIFT DIALOGUE

---



- ▶ ~~Doesn't support videos~~
- ▶ ~~Doesn't allow us to guide users~~
- ▶ Allows you to set the window position
- ▶ Shows exactly what has been enabled and what hasn't



# BENEFITS OF

# SWIFT DIALOGUE



- ▶ ~~Doesn't support videos~~
- ▶ ~~Doesn't allow us to guide users~~
- ▶ Allows you to set the window position
- ▶ Shows exactly what has been enabled and what hasn't

# COMING SOON!



# UNDER THE HOOD

# THE TCC DATABASE

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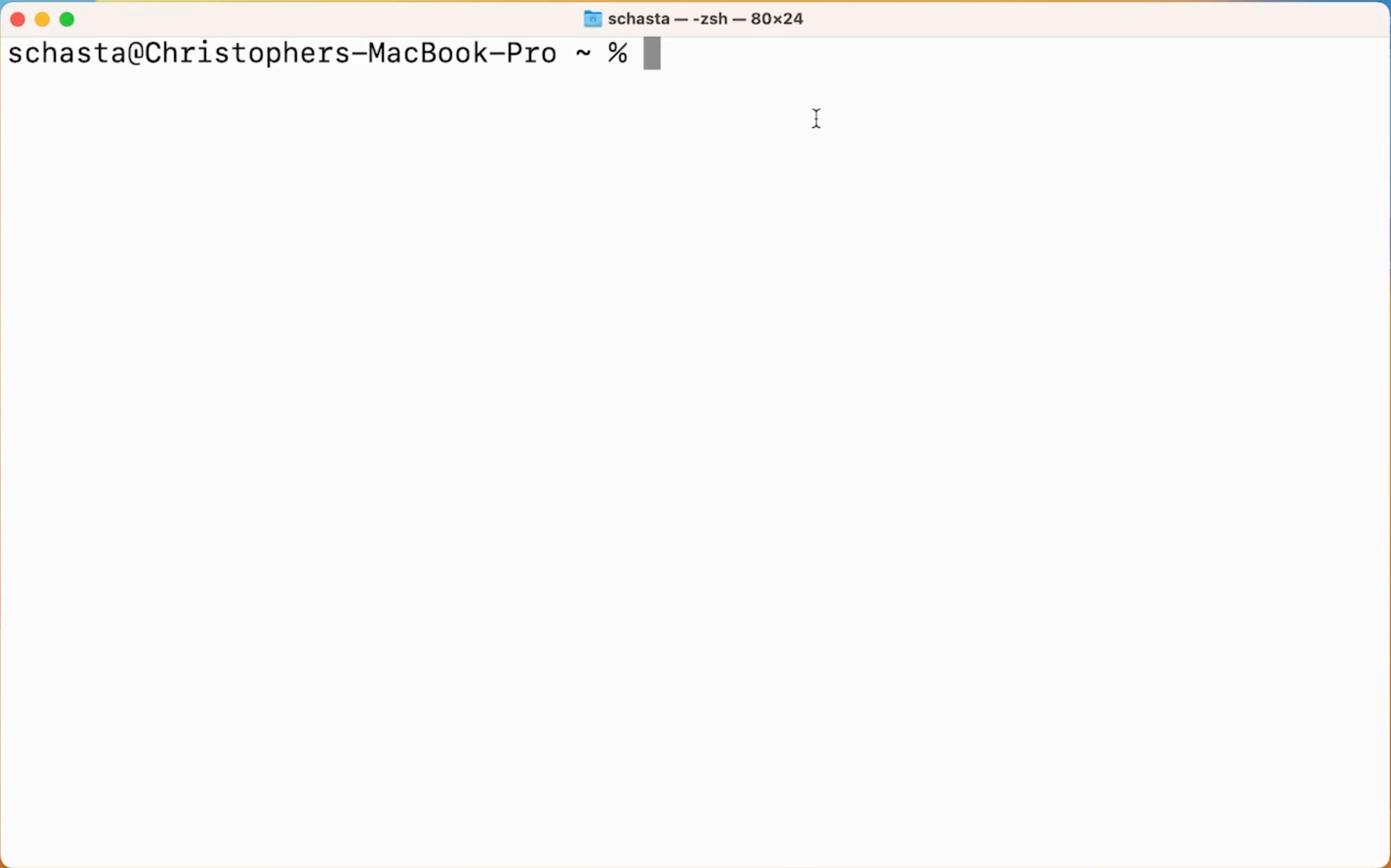


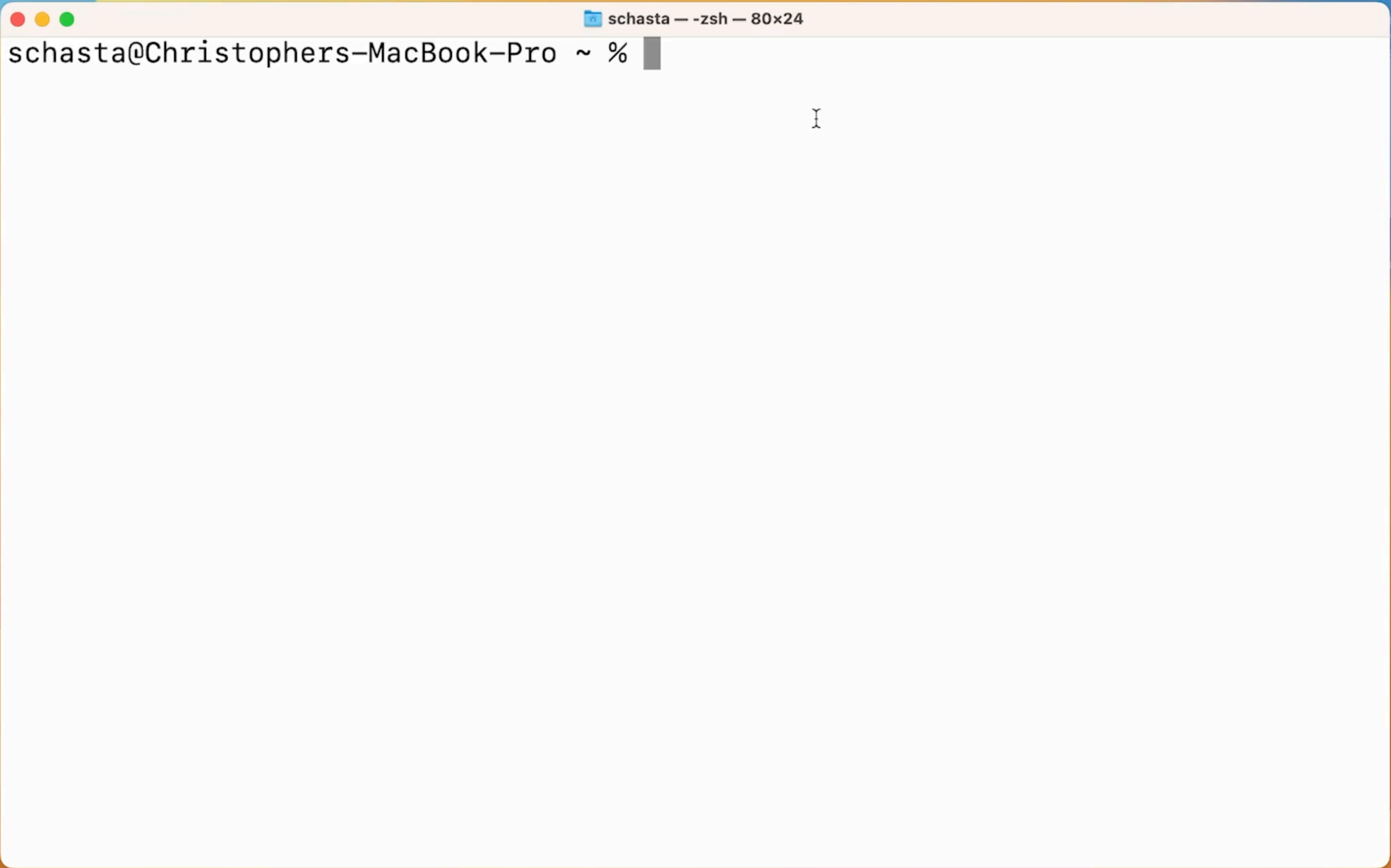
- ▶ `/Library/Application Support/com.apple.TCC/TCC.db`
  - ▶ Screen Recording
- ▶ `~/Library/Application Support/com.apple.TCC/TCC.db`
  - ▶ Camera
  - ▶ Microphone





# THINGS TO CONSIDER (CAVEATS)







# DIFFICULT CUSTOMIZATION

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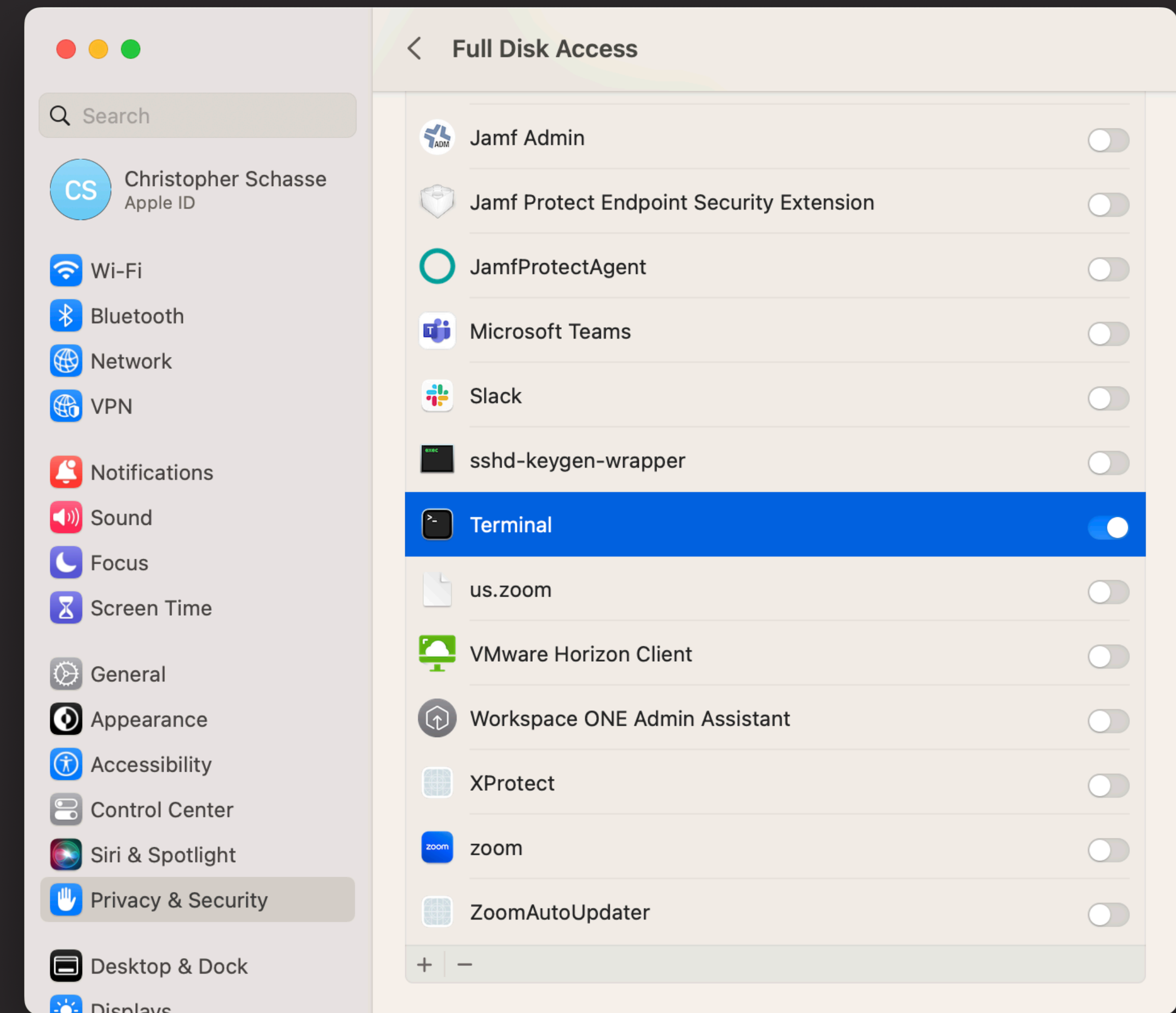


- ▶ Must be customized for each application
- ▶ These videos are difficult to make
- ▶ Must be 1400 x 650 px

# REQUIRES “FULL DISK ACCESS”



- ▶ Important to note for testing
- ▶ “sudo jamf policy” consideration
- ▶ Error: unable to open database `"/Library/Application Support/com.apple.TCC/TCC.db"`: authorization denied



# ZERO TOUCH CONSIDERATIONS

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When implementing into a DEPNotify Zero Touch Provisioning workflow, consider the following:

- ▶ The application must be installed first
- ▶ When using “determinate” - this script has **four status's**
- ▶ Don't install the DEPNotify Package if DEPNotify is already installed



# FUTURE IMPROVEMENTS

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- ▶ Completely configurable through parameters
- ▶ Generic, non-application specific videos
- ▶ More application specific videos
- ▶ **Swift Dialogue Support**

# FOLLOW UP SESSION

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RKMN.TECH/NEXT



**THANKS FOR  
ATTENDING!**



# ROCKETMANTECH

- ▶ MacAdmins Slack: @rocketman
- ▶ Email: [chris@rocketman.tech](mailto:chris@rocketman.tech)
- ▶ LaunchPad: [rocketman.tech/launchpad](https://rocketman.tech/launchpad)
  - ▶ *Or join #launchpad in MacAdmins Slack*