



# Citrix Workspace app for Chrome OS

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## About this release

August 11, 2021

### What's new

#### What's new in 2108

##### External webcam support

You can now use external webcams within Citrix Workspace app for Chrome OS virtual desktop and app sessions. The Workspace app detects newly connected external webcams and makes them available for use dynamically.

##### Support for Microsoft Windows logo key and shortcut keys

We're now supporting the Microsoft Windows logo key and shortcut keys on your Citrix Workspace app for Chrome OS sessions.

This release adds support for the following key combinations:

- Windows + R
- Windows + D
- Windows + E
- Windows + M
- Windows + S
- Windows + CTRL + S
- Windows + T
- Windows + U
- Windows + Number
- Windows + X
- Windows + K

##### Note (Microsoft Teams optimization):

Microsoft Teams optimization for audio calls, video calls, and screen sharing is generally available from release 2105.5 onwards. We recommend that you update to the latest version of Citrix Workspace app for Chrome OS. By default, screen sharing is disabled but can be enabled. For more information, see [Microsoft Teams optimization settings](#).

##### Recommendation:

If you are using Citrix Virtual Apps and Desktops versions that are no longer supported, you might see black screens or graphics artifacts. For more information on supported versions, see [Product Matrix](#).

We recommend setting the **Legacy Graphics Mode** to **Disabled**.

### What's new in 2106.2

This release addresses a number of issues that help to improve overall performance and stability.

### What's new in 2105.5

#### Enhanced graphics

This enhancement provides higher frame rates, resulting in smoother interactive graphics and video playback.

#### Microsoft Teams support

With this release, you can use the following features of Microsoft Teams for virtual desktop and virtual app sessions:

- Optimized audio calls
- Optimized video calls
- Optimized screen sharing

It is supported only on VDA versions 1906 and later.

#### Note:

- Screen sharing currently allows sharing of the entire screen, including areas outside of Citrix Workspace app. To avoid unintended data exposure, this feature is **disabled** by default but can be enabled through the Google admin policy. For more information, see [Microsoft Teams optimization settings](#).
- To troubleshoot, and to change Microsoft Teams to optimized from unoptimized within your client session, see [Troubleshooting for Microsoft Teams optimization](#).
- During screen sharing using Microsoft Teams optimization, the red border around the shared window does not appear.
- Video calls are supported only on the primary monitor. If you try to move your Microsoft Teams call to a different monitor in your virtual desktop session, only audio calls are supported. You might not be able to see participant videos nor your own.
- App sharing is currently not supported.

### What's new in 2105.1

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 2103

### Google Cloud Print support

Google no longer supports its Google Cloud Print feature. As a result, the Google Cloud Printing with Citrix Workspace app for Chrome OS is not available.

## What's new in 2101.6

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 2101.5

### Improved webcam performance

This release improves the overall performance and stability of the webcam with 32-bit applications. It also introduces support for webcam redirection for 64-bit applications. Support for webcam redirection with both 32-bit and 64-bit apps is currently limited to built-in webcams.

For more information, see [Webcam redirection for 64-bit](#).

#### Note:

When an application overlaps with the application window of the video conferencing call for a participant, all participants on the call might see a static video image for that participant.

### Improved audio performance

Citrix Workspace app for Chrome OS now allows you to experience smooth audio quality on your calls when using a webcam. You'll no longer see much lag between audio and video. Also, earlier, when you set the PCM Audio through the VDA, you were unable to hear the audio. This release addresses those issues and improves the overall audio performance and stability.

**Audio recommendations:** For best performance, use a USB headset within a session to speak and to listen.

## What's new in 2010

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 2009.5

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 2009

### Session performance improvements in multi-monitor scenarios

Citrix Workspace app for Chrome OS improves the overall performance and stability of sessions in multi-monitor scenarios. In earlier versions, when a session was running on multiple monitors, you experienced sluggish performance.

### Improved audio performance

In earlier releases, you might hear a crackling sound when listening to audio. Citrix Workspace app for Chrome OS now enriches the user experience by providing smooth audio output.

## What's new in 2007

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 2006

### Language support

Citrix Workspace app for Chrome OS is now available in the Italian language.

### Support for setting multi-touch as the default mode

Citrix Workspace app for Chrome OS now allows you to set **Multi-touch** as the default mode through the Google Admin Console. Multi-touch mode controls whether to enable multi-touch gestures. You can toggle between Panning mode and Multi-touch mode. In earlier versions, panning mode was set as the default mode.

When you launch a session in a touch-enabled device, the gestures by default are handled in panning mode. You can switch to multi-touch mode using the toolbar. This feature provides a better user experience. For more information, see [Multi-touch mode](#).

### Touch support

Citrix Workspace app for Chrome OS now enhances touch support by allowing you to run sessions on touch-enabled Chrome devices in tablet mode. This feature includes support for gestures, multi-touch, and soft keyboard functionality.

The **Open keyboard** icon now appears on the session toolbar when a Chrome device is in tablet mode. When you use this feature or perform a three-finger tap, the soft keyboard appears. For more information, see [Support for Touch](#).

## What's new in 2004

### Language support

Citrix Workspace app for Chrome OS is now available in the Brazilian Portuguese language.

## What's new in 2002

### Support for Asset ID

Citrix Workspace app for Chrome OS now uses an Asset ID that administrators set through the Google Admin Console as a client name for sessions launched from enrolled Chromebooks.

By default, Citrix Workspace app continues to generate a unique client ID for enrolled Chromebooks, which is similar to earlier versions. To use this feature, you must set a policy for Citrix Workspace app. For more information, see [Asset ID](#).

## What's new in 1912

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 1911

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 1909

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 1908

This release addresses a number of issues that help to improve overall performance and stability.

## What's new in 1907

### High DPI scaling

Starting in this release, the **High DPI Scaling** feature is disabled by default for app and desktop sessions. For better resolution on high DPI enabled devices, go to **Settings** and select the **High DPI Scaling** check box. For more information, see [DPI scaling](#).

## **What's new in 1906**

### **Support for high DPI client scaling for app sessions**

Starting in this release, Citrix Workspace app for Chrome OS allows the operating system to control the resolution of an app session. Citrix Workspace app for Chrome OS supports high DPI client scaling for app sessions on a single monitor. Earlier versions of Citrix Workspace app for Chrome OS allowed the operating system to control the resolution of desktop sessions only. For more information, see [DPI scaling](#).

## **What's new in 1905**

This release addresses a number of issues that help to improve overall performance and stability.

## **What's new in 1904**

This release addresses a number of issues that help to improve overall performance and stability.

## **What's new in 1903**

This release addresses a number of issues that help to improve overall performance and stability.

## **What's new in 1902**

This release addresses a number of issues that help to improve overall performance and stability.

## **What's new in 1901**

### **Support for managed Chromebook devices to stay awake**

With this release, Citrix Workspace app for Chrome OS keeps managed Chromebook devices awake even when the users are not active. Earlier, when users were not active, by default, the operating system was dimming the screen and eventually suspending the system. For more information, see [Awake setting](#).

## **What's new in 1811.3**

This release addresses a number of issues that help to improve overall performance and stability.

## **What's new in 1811.2**

This release addresses a number of issues that help to improve overall performance and stability.



## **What's new in 1811**

### **Support for DPI scaling**

With this release, Citrix Workspace app for Chrome OS allows the operating system to control the resolution of a desktop session.

Citrix Workspace app for Chrome OS supports DPI scaling by allowing you to set the VDA resolution on the monitors that have a high pixel ratio. When you set the resolution correctly on the VDA, blurry text becomes crisper. For more information about DPI scaling, see [DPI scaling](#).

### **Support for assistive cursor**

Citrix Workspace app for Chrome OS now supports an assistive cursor to be displayed in a desktop session when the cursor is not visible within the session. For more information about the assistive cursor, see [Assistive cursor](#).

## **What's new in 1809.1**

### **Enhanced support for multi-monitor display in kiosk mode for desktop sessions**

Citrix Workspace app for Chrome OS provides enhanced support for multi-monitor display in kiosk mode for desktop sessions. The applications inside a desktop session can now be maximized to either of the two monitors instead of spanning across both monitors. For more information about enhanced multi-monitor display in kiosk mode, see [To use enhanced multi-monitor display in kiosk mode](#).

### **Improved network throughput for graphics over high latency connections**

The default number of ICA output buffers that are used to send and receive data has been raised. This change provides improved network throughput performance even on high latency connections.

## **What's new in 1809**

### **USB device redirection support for UC-Logic Tablet WP5540U**

Citrix Workspace app for Chrome now supports USB redirection for the UC-Logic Tablet WP5540U into a session.

## **What's new in 1808**

### **Support for proxy connections**

Citrix Workspace app for Chrome OS supports opening documents from Google drive using published applications through the unauthenticated proxy servers. To enable this, configure the proxy setting in internet options.

## Fixed issues

### Fixed issues in 2108

- Sessions do not support multi-monitor mode if you set the display resolution to any mode other than DPR (Device Pixel Ratio) and auto-fit. [RFHTMCRM-5116]
- Attempts to launch Microsoft Teams optimized sessions on a Chromebook with 32-bit operating system might fail. [RFHTMCRM-5206]
- Applications launched inside the virtual desktop on a Chromebook might display visual artifacts. [CVADHELP-17805]
- You might see rectangular blocks across the screen while using certain apps like Microsoft Excel. The issue might occur in sessions running on earlier VDA versions. [RFHTMCRM-5420]
- You might not be able to take screenshots during a published application session on a Chromebook. [RFHTMCRM-5370]
- When launching a seamless application in multi-monitor sessions, black patches might appear on the loading spinner. [RFHTMCRM-5425]
- When you clear the **Use all the monitors to span display** check box under **Multi-monitor settings**, the app might not be interactive. [RFHTMCRM-5519]

### Fixed issues in 2106.2

This release addresses issues that help to improve overall performance and stability.

### Fixed issues in 2105.5

- Participant videos might not appear properly, and you might see static video images of the participants during your Microsoft Teams optimized call. With this release, participant videos appear properly, and you see static video images less often. [RFHTMCRM-5063]
- When audio or camera names contain special characters such as trademark or copyright symbols, you might not be able to start or receive the Microsoft Teams optimized calls. [RFHTMCRM-5067]
- You cannot select and use your built-in webcam while an external webcam is connected during Microsoft Teams optimized calls. [RFHTMCRM-5111]
- When you enable multifactor authentication for cloud stores, you might not be able to log in even after entering your credentials. [CVADHELP-15312]
- When using a published app that is able to print using the Print Screen key in a client session, pages print twice. [RFHTMCRM-5085, CVADHELP-17119]

### Fixed issues in 2105.1

This release addresses issues that help to improve overall performance and stability.

### **Fixed issues in 2103**

This release addresses issues that help to improve overall performance and stability.

#### **Fixed issues in 2101.6**

- When you play an audio or a video file through the Windows Media Player (WMP) within a session, the session might exit unexpectedly. [RFHTMCRM-4800]

#### **Fixed issues in 2101.5**

- When there is video playback in parallel with the video conferencing call, the webcam video might become unresponsive. As a workaround, turn the webcam off and back on within the conferencing app. [RFHTMCRM-4631]
- Certain Excel keyboard shortcuts such as CTRL+SHIFT+L, CTRL+SHIFT+3, and ALT + '=' might fail to work in sessions running on a Chromebook. For more information, see [Excel shortcuts](#). [RFHTMCRM-4571]
- In scenarios where a published application is already running, when you launch another application through session sharing, a connection dialog box appears with a spinning circle. [RFHTMCRM-4580]
- With session sharing enabled, when you attempt to launch a session through the HDX SDK for HTML5, the session might not receive any messages. The issue occurs with seamless sessions. [RFHTMCRM-4581]

#### **Fixed issues in 2010**

- When Citrix Workspace app is running on a Chromebook device, the Chromebook might exhibit a poor bandwidth. [RFHTMCRM-3821]

#### **Fixed issues in 2009.5**

This release addresses a number of issues that help to improve overall performance and stability.

#### **Fixed issues in 2009**

- Audio playback might unexpectedly stop working in a session. To work around the issue, reconnect the session. [CVADHELP-15186]
- Attempts to launch applications might fail. The issue occurs when you connect to a cloud store enabled with Citrix Gateway service by using Citrix Workspace app for HTML5. [RFHTMCRM-3530]

### Fixed issues in 2007

This release addresses a number of issues that help to improve overall performance and stability.

### Fixed issues in 2006

- The soft keyboard might appear at every tap even in the non-editable area. The issue occurs when a Chromebook is in tablet mode.

With this fix, the **SoftKeyboard** API detects whether a Chromebook is in tablet mode and prevents the soft keyboard from appearing in the non-editable area. [RFHTMCRM-3402]

- When you establish an audio call in a session launched from Citrix Workspace app for Chrome OS, the audio might stop working unless you relaunch the session. [RFHTMCRM-3413]
- If you attempt to copy and paste content that contains more than 10,000 words, a session might become unresponsive. [RFHTMCRM-3450]

### Fixed issues in 2004

- On touch-enabled Chromebooks, basic touch functionalities (such as double tap, press and hold, and scroll) might fail to work. [RFHTMCRM-3275]

### Fixed issues in 2002

- When you set the session state policy to full screen mode and attempt to launch a session, the session or the app might fail to launch. This error message might appear in the console.log:

**Cannot read property 'window' of undefined**  
[RFHTMCRM-3097]

### Fixed issues in 1912

This release addresses a number of issues that help to improve overall performance and stability.

### Fixed issues in 1911

This release addresses a number of issues that help to improve overall performance and stability.

### Fixed issues in 1909

- The HDX SDK for Chrome OS might not launch sessions when Citrix Workspace app is not running in the background. [RFHTMCRM-3001]

### Fixed issues in 1908

This release addresses a number of issues that help to improve overall performance and stability.

### Fixed issues in 1907

- Attempts to open files from a Google Drive using Citrix Workspace app might fail. [RFHTMCRM-2857]

### Fixed issues in 1906

- Single sign-on might not work with Citrix Workspace app for Chrome OS. The issue occurs in Chrome OS version 72 and later. [RFHTMCRM-2791]
- When you connect to a Chromebook device that has two external monitors, the session can extend to two monitors. The third monitor might appear as a blank window. [RFHTMCRM-2815]

### Fixed issues in 1905

- With this fix, you can enable the FPS meter to debug graphical issues through the Google Admin Policy. [RFHTMCRM-2772]
- When a session that is running on a Chromebook device is active for 53 minutes or more, you might not be able to lock the session. You can see a locking screen that eventually becomes unresponsive. [LD1060]

### Fixed issues in 1904

- When you open a session that is a fixed size through the Chrome OS HDX SDK and then change the resolution by setting **autoresize: true** to auto fit to the window, the session might not resize. [RFHTMCRM-2571]
- With this fix, Citrix Workspace app for Chrome OS supports localization in the Dutch language. [RFHTMCRM-2663]
- When you open a desktop session or an app using Citrix Workspace app for Chrome OS on a touch-enabled Chromebook and change the resolution to a fixed value that is larger than the window size, the session might not pan. [RFHTMCRM-2712]
- After you upgrade to Chrome OS 72, smart card redirection might stop working. This fix updates corresponding libraries to redirect the smart card successfully.

### **Fixed issues in 1903**

- When a store URL that auto reconnects to applications or desktops is used within the Citrix Workspace app for Chrome OS, a blank window opens as a new tab in the Chrome browser. The issue occurs in Chrome OS Version 72 and later. [RFHTMCRM-2698]

### **Fixed issues in 1902**

- When you start a session in multi-monitor mode, the keyboard input might not work within the secondary monitor. [RFHTMCRM-2631]

### **Fixed issues in 1901**

- When the HDX SDK for Chrome OS and the Virtual Channel SDK for Chrome files are included in the same HTML file, the APIs of one SDK might override the other, depending on the order added. [RFHTMCRM-2581]
- The DPI scaling feature might not work for managed Chromebook devices. [RFHTMCRM-2594]

### **Fixed issues in 1811.3**

This release addresses a number of issues that help to improve overall performance and stability.

### **Fixed issues in 1811.2**

This release addresses a number of issues that help to improve overall performance and stability.

### **Fixed issues in 1811**

This release addresses a number of issues that help to improve overall performance and stability.

### **Fixed issues in 1809.1**

This release addresses a number of issues that help to improve overall performance and stability.

### **Fixed issues in 1809**

- The touch screen might behave inconsistently in a user session. For each tap performed, double clicks are reported. [LC9703]

## Fixed issues in 1808

### Version 18.8.1.4043

- The LongCommandLine path to the VDA might be formed incorrectly if the path has LongCmd-Line parameters. [RFHTMCRM-2413]

## Known issues

### Known issues in 2108

- The keyboard shortcut Ctrl+ Alt + Shift +1 might not work in optimized Microsoft Teams within a virtual desktop. As a workaround, open the **On-Screen Keyboard** and use the shortcut. [RFHTMCRM-5441]
- In a multi-monitor Microsoft Teams optimized session with 3 monitors, whitespace with scroll bars might appear in the session window. [RFHTMCRM-5538]

### Known issues in 2106.2

No new issues have been observed in this release.

### Known issues in 2105.5

- When you change your audio devices in audio settings during a Microsoft Teams optimized audio or video call, audio might not work. [RFHTMCRM-5121]
- Attempts to launch optimized Microsoft Teams on a 32-bit Chromebook might not be successful. [RFHTMCRM-5206]
- If you enable high DPI scaling, videos might not appear properly in optimized Microsoft Teams video calls. [RFHTMCRM-5271]
- You might not be able to resume audio on your Microsoft Teams call after putting audio on hold. [RFHTMCRM-4854, HDX-29787]
- The webcam indicator light might not turn off when you leave a Microsoft Teams call. You might experience the issue after you shift between the tabs in Microsoft Teams settings and then call. As a workaround, select Quit by right-clicking the Microsoft Teams icon on your virtual menu bar and restart Microsoft Teams to join the call again. [RFHTMCRM-4810]
- The keyboard shortcut Ctrl+Alt+Shift+1 might not work in optimized Microsoft Teams within a virtual desktop. As a workaround, open the **On-Screen Keyboard** and use the shortcut. [RFHTMCRM-5441]

### Known issues in 2105.1

No new issues have been observed in this release.

### Known issues in 2103

No new issues have been observed in this release.

### Known issues in 2101.5

- A webcam video might not appear during an application launch. This error message appears:  
**No webcam device available.**

As a workaround, log off from the session and log back on.

- When you move the window of a video conferencing app during a call, the session might display artifacts that hide screen content and other portions of the display.

### Known issues in 2010

- When you launch a session through Citrix Workspace app for Chrome OS, the session display might freeze. This issue occurs when one of the following conditions is true or both of them are true.
  - The **Optimize for 3D graphics workload** policy is set to **Enabled**
  - The **Use video codec** policy is set to **For the entire screen**

As a workaround, reset both policies to their default settings. [CVADHELP-16071]

### Known issues in 2009.5

No new issues have been observed in this release.

### Known issues in 2009

- In multi-monitor mode, screen corruption might be observed intermittently. The issue occurs when you drag applications. The issue occurs with XenDesktop 7.6 VDAs running Windows 2012 R2. [RFHTMCRM-3550]
- When you launch a seamless session in multi-monitor mode, your screen might fail to refresh. The issue occurs if you drag an application in the Chrome OS shelf and then drag it back to the original position. [RFHTMCRM-3579]
- With legacy graphics mode enabled (such as XenApp 6.5) in multi-monitor mode, texts might be corrupted. [RFHTMCRM-3586]
- With **Unified Desktop Mode** enabled on a Chromebook, mouse clicks might fail to work. For more information, see Google bug ID 1052245.



### Known issues in 2007

No new issues have been observed in this release.

### Known issues in 2006

- The automatic keyboard display feature might not work in the editable area when a Chrome device is in tablet mode. This issue occurs in Citrix Virtual Apps and Desktops 1912 and later. As a workaround, navigate to **Toolbar > Open keyboard** or perform a three-finger tap to display the soft keyboard automatically. [RFHTMCRM-3487]

### Known issues in 2004

- If you install Citrix Workspace app on a Chromebook, default file type associations for some files (such as .txt or .pdf) can change. As a result, some files fail to launch from the **Downloads** folder with the correct app.

As a workaround, change the default app from the Open drop-down menu after selecting the file.

**Note:**

Google has closed this bug as an expected behavior. As the list of file handlers in the manifest.js file consists of files such as .txt and .pdf, the file type associations change to Citrix Workspace app.

For more information, see Google bug ID #1053885.

- Attempts to open a file from Google drive using Citrix Workspace app might fail. A prompt to enter the Google email address and password does not appear. Instead, the following error message appears:

**This app isn't verified.**

**This app hasn't been verified by Google yet. Only proceed if you know and trust the developer.**

[RFHTMCRM-3326]

- Attempts to play an audio file using Google Chrome browser v 79 in a session launched from Citrix Workspace app for Chrome OS might fail.

For more information, see Google bug ID 1007255.

[RFHTMCRM-3327]

### **Known issues in 2002**

- Google Cloud Print might not work with Citrix Workspace app for Chrome OS. On Citrix Workspace app for Chrome OS, if you navigate to [Settings > Printer](#) and then attempt to open [Google Cloud Print](#) by entering credentials on the logon page, this error message appears:

**Sign in with Google temporarily disabled for this app**

**This app has not been verified yet by Google in order to use Google Sign In.**

As a workaround, use the [Citrix PDF Printer](#) option to print a file. This is a third-party issue. For more information, see Google bug ID #1034865. [RFHTMCRM-3127]

- With seamless mode enabled, if you launch an application in tablet mode and switch between landscape and portrait orientations, the session might adjust its screen resolution incorrectly. [RFHTMCRM-3143]

### **Known issues in 1912**

No new issues have been observed in this release.

### **Known issues in 1911**

No new issues have been observed in this release.

### **Known issues in 1909**

No new issues have been observed in this release.

### **Known issues in 1908**

No new issues have been observed in this release.

### **Known issues in 1907**

- When you attempt to redirect the Microsoft LifeCam USB device in a session, the redirection might fail. [RFHTMCRM-2856]

### **Known issues in 1906**

- The window's border or shelf might appear in full-screen mode for Citrix Workspace app for Chrome OS public sessions. [RFHTMCRM-2792]

- In a multi-monitor environment, when you attempt to add or remove an external monitor, the session might become unstable. [RFHTMCRM-2853]

#### **Known issues in 1905**

- Single sign-on might not work with Citrix Workspace app for Chrome OS. The issue occurs in Chrome OS version 72 and later. [RFHTMCRM-2791]

#### **Known issues in 1904**

No new issues have been observed in this release.

#### **Known issues in 1903**

No new issues have been observed in this release.

#### **Known issues in 1902**

No new issues have been observed in this release.

#### **Known issues in 1901**

No new issues have been observed in this release.

#### **Known issues in 1811.3**

No new issues have been observed in this release.

#### **Known issues in 1811.2**

No new issues have been observed in this release.

#### **Known issues in 1811**

- After you redirect the USB device **UC-Logic Tablet WP5540U** and enable the assistive cursor in a multi-monitor environment, the assistive cursor movement might not align with the stylus action. [RFHTMCRM-2472]

#### **Known issues in 1809.1**

No new issues have been observed in this release.

### **Known issues in 1809**

No new issues have been observed in this release.

### **Known issues in 1808**

#### **Version 18.8.1.4043**

No new issues have been observed in this release.

#### **Version 1808**

- When you start applications and desktops from multiple VDAs and set one VDA with applications and desktops in focus, the applications and desktops from the other VDAs that are not in focus might become black. As a workaround, minimize all the applications and then start the required applications from the taskbar. [RFHTMCRM-2408]

## **Prerequisites for installing**

February 18, 2021

### **System requirements and compatibility**

#### **Requirements**

All devices must meet the minimum hardware requirements for the installed operating system.

Users devices require the Google Chrome operating system (version 50 or later) to access desktops and apps using Citrix Workspace app for Chrome OS. Citrix recommends that you use Citrix Workspace app for Chrome OS with releases from the Google Chrome OS stable channel. Citrix Workspace app for Chrome OS is supported only on Chrome OS.

#### **Supportability matrix**

Citrix Workspace app for Chrome OS supports access to desktops and applications through the following versions of StoreFront. Stores must be accessed through Citrix Receiver for Web sites. Citrix Workspace app for Chrome OS does not support direct access to StoreFront stores, either using the store URL or the XenApp Services URL.

- StoreFront 2.5 and later

Citrix Workspace app for Chrome OS can be used to access desktops and applications delivered by the following product versions:

- XenApp and XenDesktop 7.6 and later

### Secure user connections

In a production environment, Citrix recommends securing communications between Citrix Workspace for Web sites and users' devices with Citrix Gateway and HTTPS. Citrix recommends using SSL certificates with a key size of at least 1024 bits throughout the environment in which Citrix Workspace app for Chrome OS is deployed. Citrix Workspace app for Chrome OS enables user access to desktops and applications from public networks with the following versions of Citrix Gateway.

- NetScaler Gateway 10.5 and later

Citrix Workspace app for Chrome OS supports CloudBridge disabling compression and printer compression as well as using HDX Insight analytics to display in CloudBridge Insight Center.

- CloudBridge 7.4 and later

#### Note:

If there is an issue connecting to the SSL-enabled VDA with Citrix Workspace app for Chrome OS, configure the cipher suites as specified in [TLS settings on VDAs](#).

### Secure ICA

Starting with Version 2.1, Citrix Workspace app for Chrome OS supports RC5 (128 bit) encryption.

#### Note:

If any encryption format other than basic is set, Citrix Workspace app for Chrome OS upgrades the encryption format to RC5 (128 bit).

**Tip:** Citrix recommends that you use a SSL-enabled VDAs for end-to-end SSL encryption.

## Install

February 18, 2021

### Install manually

There are a number of options for deploying Citrix Workspace app for Chrome OS.

- You can use Google App management console to configure Citrix Workspace using Google policy. For more information on Chrome OS configuration, see Knowledge Center article [CTX141844](#).
- You can repackage Citrix Workspace app for Chrome OS to include a Citrix Workspace configuration (.cr) file you have generated. The .cr file contains the connection details for Citrix Gateway and the Citrix Receiver for Web site that provides users' desktops and apps. Users browse to chrome://extensions and then drag and drop the repackaged app (.crx) file onto the Chrome window to install Citrix Workspace app for Chrome OS. Because the app is pre-configured, users can start working with Citrix Workspace app for Chrome OS as soon as they install it, without a need to perform additional configuration steps.

You can deliver your custom Citrix Workspace app for Chrome OS application to users in the following ways:

- Publish the repackaged application for users through Google Apps for Business using the Google Admin Console.
- Provide the .crx file to users through other means, such as through email.
- Users install Citrix Workspace app for Chrome OS from the Chrome Web Store by searching for Citrix Workspace and clicking Add to Chrome.

Once installed, Citrix Workspace app for Chrome OS must be configured with connection details for Citrix Gateway and the Citrix Receiver for Web site providing that provides users' desktops and apps. This can be achieved in two ways:

- Generate a .cr file containing the appropriate connection details and distribute this file to users. To configure Citrix Workspace app for Chrome OS, users double-click the .cr file and click Add when prompted. For more information about generating .cr files from StoreFront, see [Export store provisioning files for users](#).
- Provide users with the URL they must enter manually when they first start Citrix Workspace app for Chrome OS.

### Repackage

To simplify the deployment process for users, you can repackage Citrix Workspace app for Chrome OS with a new .cr file to preconfigure Citrix Workspace app for Chrome OS with the appropriate connection details for your environment. Users can start working with Citrix Workspace app for Chrome OS as soon as they have installed it without the need to perform any additional configuration steps.

1. Download the unpackaged version of Citrix Workspace app for Chrome OS to a suitable location.
2. Download the sample configuration file and customize it as appropriate for your environment.
3. Rename the modified configuration file to default.cr and copy it to the Citrix Workspace app for Chrome OS root directory.

Configuration files with different names or in other locations are not included when Citrix Workspace app for Chrome OS is repackaged.

4. By default, the in-session toolbar is enabled. If you want to disable the in-session toolbar perform the following steps.

**Note:** We recommend that you back up the configuration.js file before making any changes to it.

- a) Use a text editor to open the configuration.js file in the Citrix Workspace app for ChromeApp root directory.
- b) Locate the following section in the file.

```
pre codeblock 'appPrefs':{ 'chromeApp':{ 'ui': { 'toolbar': { ' '
menubar':true, 'clipboard': false
```

- c) Change the setting for the menubar attribute to **false**.

**Note:** To override any previous configuration, we recommend that you use the Google Admin console to push the policy.

5. By default, Citrix Workspace app for Chrome OS can open any file extension in the Files App in a Chromebook intended for opening files in Google Drive using the FileAccess component in the VDA. If an administrator wants to disable this option to download the unpackaged version of Citrix Workspace app for Chrome OS and edit the “file handlers” section in manifest.json to resemble the following:

```
1  "file handlers" : {
2
3      "text" :
4          "extensions" : \[
5              "ica",
6              "cr"
7          \]
8      }
9
10 }
11
```

6. In Chrome, browse to `chrome://extensions`, select the **Developer mode** check box in the top right corner of the page and then click the **Pack extension** button.

For security reasons, StoreFront only accepts connections from known Citrix Workspace app for Chrome OS instances. You must whitelist your repackaged application to enable users to connect to a Citrix Receiver for Web site.

7. On the StoreFront server, use a text editor to open the web.config file for the Citrix Receiver for Web site, which is typically located in the C:\inetpub\wwwroot\Citrix\storename Web directory, where *storename* is the name specified for the store when it was created.

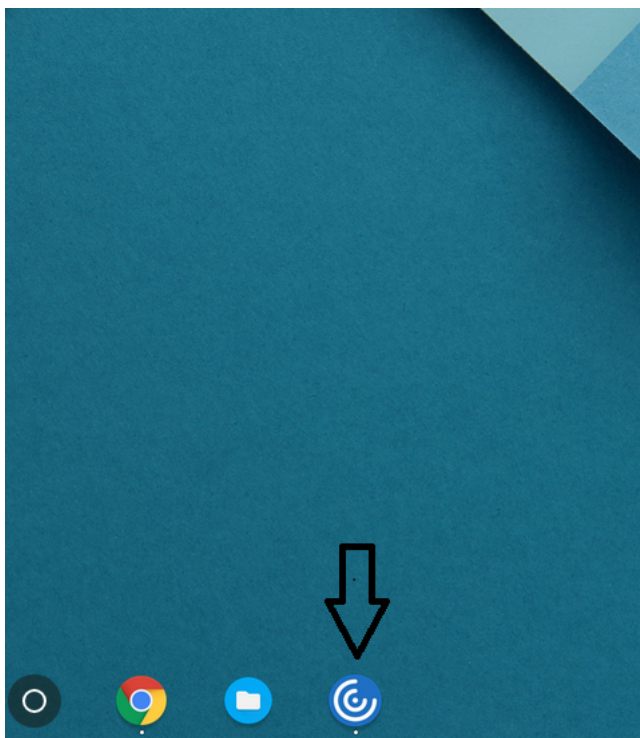
8. Locate the following element in the file.

```
pre codeblock <html5 ... chromeAppOrigins="chrome-extension://haiffjcadagjlijoggc  
"... />
```

9. Change the value of the **chromeAppOrigins** attribute to chrome-extension://*packageid*, where **packageid** is the ID generated for your repackaged application.

### Uninstall

After installing and configuring Citrix Workspace app for Chrome OS, select the Citrix Workspace icon in the Chrome apps list to start Citrix Workspace app for Chrome OS, as shown in the following figure. To remove Citrix Workspace app for Chrome OS from their devices, right-click the Citrix Workspace icon in the Chrome apps list and select Uninstall.



### Upgrade

To upgrade to the new Citrix Workspace app, do any of the following steps:

- Download the Citrix Workspace app from the [Citrix download page](#) and install the app to upgrade from Citrix Receiver to Citrix Workspace app.



- Upgrade your Citrix Workspace app using your OS app store.
- On Windows and macOS, auto-update to Citrix Workspace app from Citrix Receiver using Citrix Receiver Updates.

For the documentation of Citrix Receiver for Chrome, see [Citrix Receiver](#).

## Get started

July 23, 2021

### Set up

Desktops and applications appear after logging in. You can search for resources and click an icon to start a desktop or application in a new window.

When you start an additional application, Citrix Workspace app for Chrome OS checks if the application can be launched in an existing session before creating a new session. This enables you to access multiple applications in a single session.

You can configure the features and functionalities of Citrix Workspace app for Chrome OS using any of the following methods:

- Google Admin Policy
- Web.config in StoreFront
- default.ica
- configuration.js

#### Note:

As of version 1901, the splash screen is no longer visible to users. The schema “**splashScreen**”: **false**” will no longer be supported in future releases. You must remove the schema, if present, from the Google Admin policy or the configuration.js file.

### Using Google Admin policy

#### Note:

Citrix recommends using this method only when Citrix Workspace app for Chrome OS is repackaged for users.

Before Version 2.1, only store/beacon related configurations could be pushed through the Google Admin Policy. For additional information about this policy, see Knowledge Center articles [CTX141844](#) and [CTX229141](#).

With Citrix Workspace app for Chrome OS Version 2.1, other Chrome configurations can also be pushed through the Google Admin Policy.

For more information, see the following sample policy text:

```
1   {
2
3     "settings": {
4
5       "Value": {
6
7         "settings_version": "1.0",
8         "store_settings": {
9
10          "name": "RTST",
11          "gateways": [
12            {
13
14              "url": "https://yourcompany.gateway.com",
15              "is_default": true
16            }
17          ],
18          "beacons": {
19
20            "internal": [
21              {
22
23                "url": "http://yourcompany.internalwebsite.net"
24              }
25            ],
26            "external": [
27              {
28
29                "url": "http://www.yourcompany.externalwebsite.com"
30              }
31            ]
32          }
33        }
34      },
35    },
36  },
37  "rf_web": {
38
39    "url": "http://yourcompany.storefrontstoreweb.net"
```

```
40         }
41     }
42 }
43 ,
44     "engine_settings":{
45
46     "ui":{
47
48     "sessionsize": {
49
50     "windowstate": "fullscreen",
51     "available" : {
52
53     "default" : "Fit_To_Window",
54     "values" : ["Fit_To_Window", "Use_Device_Pixel_Ratio", "
55         1280x800", "1440x900", "1600x1200"]
56     }
57     }
58 ,
59     "toolbar": {
60
61     "menubar":true,
62     "usb": true,
63     "fileTransfer":true,
64     "about":true,
65     "lock":true,
66     "disconnect":true,
67     "logoff":true,
68     "fullscreen":true,
69     "multitouch":true,
70     "preferences":true,
71     "gestureGuide":true
72     }
73
74     }
75 , "features" :{
76
77     "com" :{
78
79     "portname" : "COM5"
80     }
81 ,
82     "graphics" : {
83
```

```
84     "features" : {
85
86     "graphics" : {
87
88         "jpegSupport" : true,
89         "h264Support" : {
90
91         "enabled" : true,
92         "losslessOverlays" : true,
93         "dirtyRegions" : true,
94         "yuv444Support" : false
95         }
96
97     }
98     ,
99     "filetransfer" : {
100
101     "allowupload" : true,
102     "allowdownload" : true,
103     "maxuploadsize" : 2147483647,
104     "maxdownloadsize" : 2147483647
105     }
106
107     }
108     ,
109     "nacl" : {
110
111     "supportNacl" : true,
112     "graphics": {
113
114     "enable": true
115     }
116     ,
117     "video": {
118
119     "enable": true
120     }
121     ,
122     "audio": {
123
124     "enable": true
125     }
126
127     }
128
```

```
129         }
130
131         }
132
133     }
134 }
```

## Using webconfig

### Note:

Citrix recommends that you use the **web.config** file method for configuration purposes only when a store version of Citrix Workspace app for Chrome OS is being used.

To change the configuration using the Web.config file method (only for those using on-prem StoreFront):

1. Open the **web.config** file for the Citrix Receiver for Web site. This file is typically located in **C:\inetpub\wwwroot\Citrix\storenameWeb**, where *storename* is the name specified for the store when it was created.
2. Locate the **chromeAppPreferences** field and set its value with the configuration as a JSON string.

For example:

```
chromeAppPreferences = '{"ui": {"toolbar": {"menubar": false}}}'
```

## Using the default.ica file

### Note:

Citrix recommends that you use the **default.ica** file method for configuration purposes only for Web Interface users.

Citrix Workspace app for Chrome OS allows Custom. ica files without any initial program value.

To change the configuration using the **default.ica** file:

1. Open the default.ica file typically located at **C:\inetpub\wwwroot\Citrix\<site name>\conf\default.ica** for Web interface customers, where **site name** is the name specified for the site when it was created.  
In the case of StoreFront customers, **default.ica** file is typically located at **C:\inetpub\wwwroot\Citrix\<Store name>** where **store name** is the name specified for the store when it was created.
2. Add a new key at the end of the file, **chromeAppPreferences** with its value set to configuration as the JSON object.

For example:

```
chromeAppPreferences={"ui":{"toolbar":{"menubar": false}}}
```

A sample **default.ica** file looks like the below:

```
1      ;
2
3      ; ICA Override File
4
5      ;
6
7      ; Add ICA file settings that you want to be sent to client devices
8
9      ; to this file. Settings contained in this file override any
10
11     ; settings generated by Delivery Services.
12
13     ;
14
15
16     [WFClient]
17
18     Version=2
19
20     RemoveICAFile=yes
21
22     ProxyTimeout=30000
23
24     ProxyFavorIEConnectionSetting=Yes
25
26     ProxyUseFQDN=Off
27
28
29     [ApplicationServers]
30
31     Application=
32
33
34     [Application]
35
36     TransportDriver=TCP/IP
37
38     DoNotUseDefaultCSL=On
```

```
39
40     BrowserProtocol=HTTPonTCP
41
42     LocHttpBrowserAddress=!
43
44     WinStationDriver=ICA 3.0
45
46     ProxyTimeout=30000
47
48     AutologonAllowed=0N
49
50     ;EncryptionLevelSession=RC5 (128 bit)
51
52
53     [EncRC5-0]
54
55     DriverNameWin16=fdc0w.dll
56
57     DriverNameWin32=fdc0n.dll
58
59
60     [EncRC5-40]
61
62     DriverNameWin16=fdc40w.dll
63
64     DriverNameWin32=fdc40n.dll
65
66
67     [EncRC5-56]
68
69     DriverNameWin16=fdc56w.dll
70
71     DriverNameWin32=fdc56n.dll
72
73
74     [EncRC5-128]
75
76     DriverNameWin16=fdc128w.dll
77
78     DriverNameWin32=fdc128n.dll
79
80
81     [Compress]
82
83     DriverNameWin16=fdc128w.dll
```

```
84
85     DriverNameWin32=pdcompn.dll
86
87     chromeAppPreferences={
88     "ui" : {
89     "toolbar" : {
90     "menubar" : false }
91     }
92     }
```

## Using the configuration.js file

The **configuration.js** file is located in the ChromeApp root folder. Access this file directly to make changes to Citrix Workspace app for Chrome OS.

### Note:

- Citrix recommends that you back up the configuration.js file before making any changes to it.
- Administrator-level credentials are required to edit the configuration.js file; after editing the file, repackage the app to make additional modifications to toolbar elements.
- In kiosk mode, the toolbar is hidden by default. When editing the configuration.js file to enable the toolbar, ensure that kiosk mode is disabled. Citrix recommends that you use one of the alternative methods (for example, the default.ica file) to enable the toolbar.

## Configure

July 23, 2021

### Content Collaboration Service integration

This release introduces integration of Citrix Content Collaboration Service with Citrix Workspace app.

Citrix Content Collaboration enables you to:

- Exchange documents easily and securely.
- Send large documents by email
- Securely handle document transfers to third parties.
- Access a collaboration space.

Citrix Content Collaboration provides many ways to work, including a web-based interface, mobile clients, desktop apps, and integration with Microsoft Outlook and Gmail.

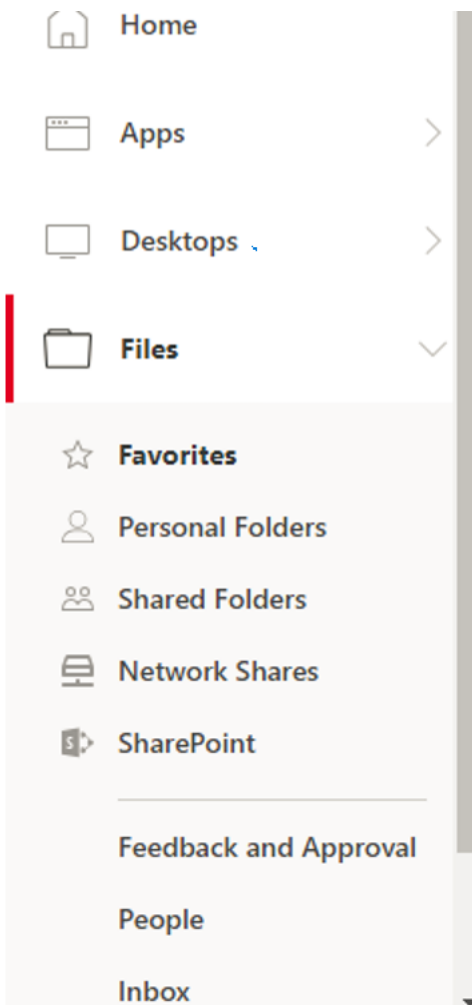


You can access Citrix Content Collaboration functionality from the Citrix Workspace app using the **Files** tab displayed within Citrix Workspace app. You can view the **Files** tab only if Content Collaboration Service is enabled in the Workspace configuration in the Citrix Cloud console.

**Note:**

Citrix Content Collaboration integration in Citrix Workspace app is not supported on Windows Server 2012 and Windows Server 2016 due to a security option set in the operating system.

The following image displays example contents of the **Files** tab of the new Citrix Workspace app:



**Limitations:**

- Resetting Citrix Workspace app does not cause Citrix Content Collaboration to log off.
- Switching stores in Citrix Workspace app does not cause Citrix Content Collaboration to log off.

To enable Citrix Workspace app for Chrome OS for users to access resources hosted on Citrix Virtual Apps and Desktops, you must create a StoreFront store. You must also enable WebSocket connections on Citrix Gateway, Citrix Virtual Apps, and Citrix Virtual Apps and Desktops, as required.

## Multi-touch mode

Citrix Workspace app for Chrome OS now allows you to set **Multi-touch** as the default mode through the Google Admin Console. Multi-touch mode controls whether to enable multi-touch gestures. You can toggle between Panning mode and Multi-touch mode. In earlier versions, panning mode was set as the default mode.

When you launch a session in a touch-enabled device, the gestures by default are handled in panning mode. You can switch to multi-touch mode using the toolbar. This feature provides a better user experience.

To set the feature as the default, edit the **Google Admin Console** policy and set the value of **default-Mode** to **multitouch**.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8         "engine_settings": {
9
10          "ui": {
11
12            "touch" : {
13
14              "defaultMode" : "multitouch"
15            }
16          }
17        }
18      }
19    }
20  }
21  }
22  }
23  }
24  }
25  }
```

## Support for Touch

Citrix Workspace app for Chrome OS now enhances touch support by allowing you to run sessions on touch-enabled Chrome devices in tablet mode. This feature includes support for gestures, multi-touch, and soft keyboard functionality.

The **Open keyboard** icon now appears on the session toolbar when a Chrome device is in tablet mode. When you use this feature or perform a three-finger tap, the soft keyboard appears.

## Automatic Keyboard display

You can enable automatic keyboard display on a server by using the floating keyboard button that appears in an input field. For the automatic keyboard display feature to be available, verify that the server-side setting is enabled.

To enable the server-side setting, complete these steps:

1. On the Delivery Controller, open Citrix Studio.
2. Select **Policies**.
3. Click **Create Policy**.
4. Search for Automatic Keyboard Display and select Allowed.

### Limitations:

- Performing a three-finger tap to fetch the soft keyboard does not work in multi-touch mode. It works only in panning mode.
- For the soft keyboard to work properly, always close it using the Open Keyboard icon on the session toolbar rather than the system soft keyboard. If you close the soft keyboard using the system soft keyboard, the soft keyboard might behave unexpectedly.

## Asset ID

Citrix Workspace app for Chrome OS uses an Asset ID that administrators set through the Google Admin Console as a client name for sessions launched from enrolled Chromebooks.

By default, Citrix Workspace app continues to generate a unique client ID for enrolled Chromebooks, which is similar to earlier versions. To use this feature, you must set a policy for Citrix Workspace app.

The data value you enter cannot contain more than 15 characters. Values longer than 15 characters are truncated to 15 characters.

## Configuring Asset ID

1. Log on to the Google Admin Console.

2. Go to **Device Management > Chrome > Devices Console** and add **Asset ID** for the device.
3. Edit the **Google Admin Console** policy and set the value of **useAssetID** to **true**. By default, the **useAssetID** is set to **false**.

```
1 {
2
3  "settings": {
4
5    "Value": {
6
7      "settings_version": "1.0",
8      "engine_settings": {
9
10       "uniqueID": {
11
12         "useAssetID": true
13       }
14     }
15   }
16 }
17 }
18 }
19 }
20 }
21 }
```

#### Limitations:

- You must have a Google Admin policy that can be pushed. Otherwise, the current method of generating a unique client ID for managed Chromebooks remains in use.
- Do not enter a value that contains more than 15 characters. Values longer than 15 characters are truncated to 15 characters.

#### Multiple StoreFront

You can change the Store address without having to restart Citrix Workspace. Existing Citrix Workspace sessions, if any, continue to run uninterrupted.

To add multiple stores and switch between them using Chrome OS:

1. Click **Settings** in Citrix Workspace app for Chrome OS, and in the **Account** pane, click **Add a store**.

×

[Account](#) [Printer](#) [General](#)

---

**Store Address**

[Apply](#) [Add a store](#)

**Log Files**

[Start Logging](#)

---

[Workspace for Chrome Third Party Notices](#) [Send Feedback](#)

2. Enter the StoreFront URL in the **Store Address** field.
3. Click **Apply** to save the new store.

×

[Account](#) [Printer](#) [General](#)

---

**Store Address**

[Apply](#) [Cancel](#)

**Log Files**

[Start Logging](#)

---

[Workspace for Chrome Third Party Notices](#) [Send Feedback](#)

4. You can select an existing store from the drop-down list.

Account Printer General×

---

**Store Address**

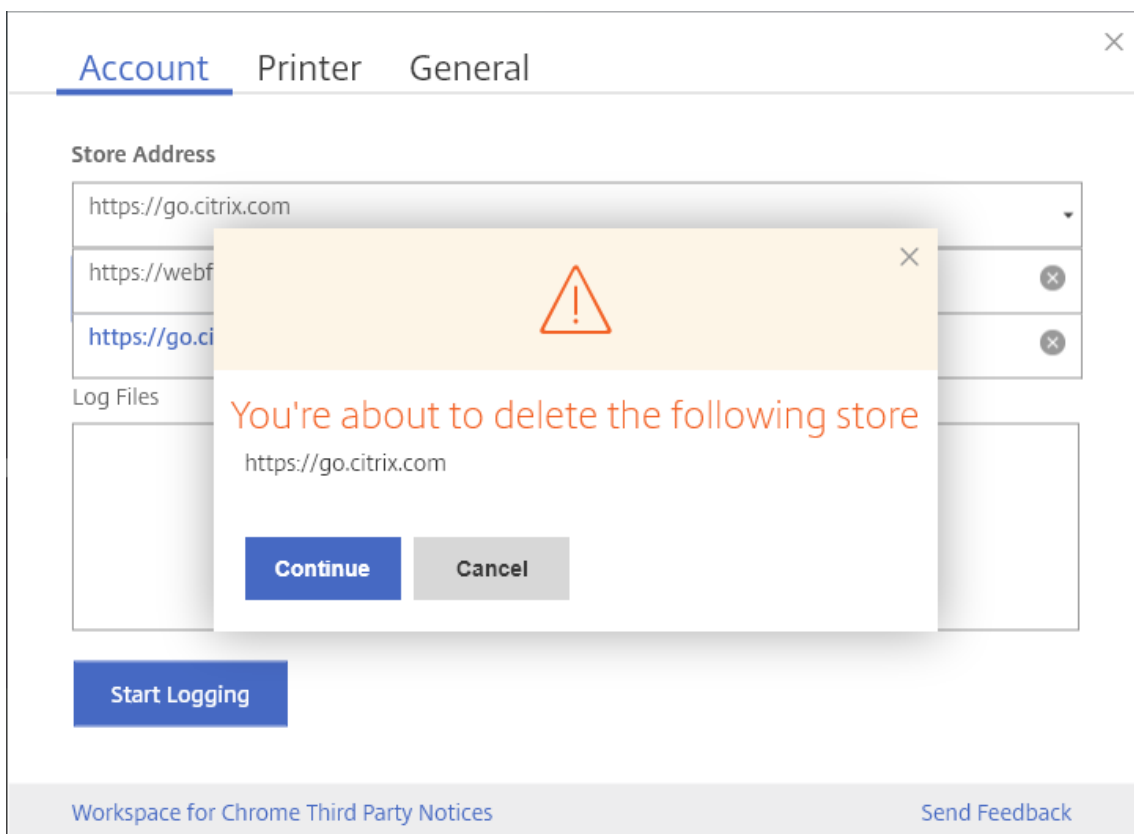
https://alphaxendesktop.eng.citrite.net	▼
https://go.citrix.com	✕
https://alphaxendesktop.eng.citrite.net	✕

**Log Files**

[Start Logging](#)

[Workspace for Chrome Third Party Notices](#)[Send Feedback](#)

5. To delete a store from the list, click the **Delete** icon next to the store address you want to delete and confirm deletion.



6. When you select a different store from the drop down-list, the **Apply** button changes to **Switch**.
7. Click **Switch** to confirm that you want to switch to a different store.



×

AccountPrinterGeneral

**Store Address**

https://webfwtest3.cloudburrito.com

SwitchAdd a store

**Log Files**

Start Logging

[Workspace for Chrome Third Party Notices](#)[Send Feedback](#)

### Limitations:

- This feature is supported in user and public modes but not in kiosk mode.
- This feature supports adding up to five stores.

## Selective H.264

### Configuring Selective H.264 in StoreFront using the web.config file

To change the Selective H.264 configuration using the web.config file:

1. Open the web.config file for Citrix Receiver for Web site.  
This file is typically located in the C:\inetpub\wwwroot\Citrix\*<Storename>* Web folder, where *Storename* is the name specified for the store when it was created.
2. Locate the **chromeAppPreferences** field and set its value with the configuration as a JSON string; for example:  

```
chromeAppPreferences="{“graphics”:{“ selectiveH264”:false}}
```

### Configuring Selective H.264 using the configuration.js file

The configuration.js file is located in the **ChromeApp root** folder. Edit this file to make changes to Citrix Workspace app for Chrome OS.

By default, selective H.264 is set to true.

To disable the Selective H.264 configuration using the configuration.js file:

1. Open the configuration.js file and set the selectiveH264 attribute to **false**.

```
'graphics': {  
    'selectiveH264': false  
}
```

**Note:**

- Citrix recommends that you back up the configuration.js file before making any changes to it.
- Citrix recommends using this method only when Citrix Workspace app for Chrome OS is repackaged for users.
- Administrator-level credentials are required to edit the configuration.js file; after editing the file, repackage the app for the changes to take effect.

### Full-screen mode

To configure your desktop session to always open in full-screen mode, edit the Google Admin Policy by including the following:

```
1 {  
2  
3  
4     "settings": {  
5  
6  
7         "Value": {  
8  
9             "settings\_version": "1.0",  
10            "engine\_settings": {  
11  
12                "ui": {  
13  
14                    "sessionsize": {  
15  
16                        "windowstate": "fullscreen"  
17                    }  
18                }  
19            }  
}
```

```
20
21     }
22
23     }
24
25     }
26
27 }
```

## Awake setting

Citrix Workspace app for Chrome OS keeps managed Chromebook devices awake even when the users are not active.

The awake setting feature is disabled by default.

To enable the feature, edit the **Google Admin Console** policy and set the value of the **keep\_away\_level** property under **power\_settings** to either **“system”** or **“display”** and then restart the session.

The **“system”** level keeps the system awake, but allows the screen to be dimmed or turned off. The **“display”** level keeps the system awake and active.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "power_settings": {
9
10        "keep_away_level": " system" or "display"
11      }
12    }
13  }
14
15  }
16
17 }
```

### Note:

For Kiosk mode, make sure that the **Allow app to manage power** setting in the **Google Admin**

console is disabled.

## Multi-monitor display

Multi-monitor supports up to two external monitors. By default, the multi-monitor feature is set to enabled.

### Note:

- If you are using Citrix Workspace app for Chrome OS running on XenApp 6.5, set the **shadowing** policy to **Disabled** to use the multi-monitor feature.
- In a desktop session, when the window is set to full screen, the **Display Resolution** option in Preferences is deactivated.
- UI dialogs and toolbars appear only on the primary monitor. However, USB and smart card authentication dialogs span across monitors.

## Multi-monitor performance

Citrix Workspace app for Chrome OS improves the overall performance and stability of sessions in multi-monitor scenarios. In earlier versions, when a session was running on multiple monitors, you experienced sluggish performance.

### To use enhanced multi-monitor display in kiosk mode

Enhanced multi-monitor display in kiosk mode is enabled by default.

To disable kiosk mode, edit the **configuration.js** file or the **Google Admin Console** policy and set the value of **kioskMultimonitor** property to **false**.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "features": {
11
12         "graphics": {
13
14          "kioskMultimonitor": false
```

```
15         }
16
17     }
18
19     }
20
21     }
22
23     }
24
25 }
```

**Note:**

To be able to launch a session in kiosk mode, you must enable **Unified Desktop** mode.

1. Launch a web browser and enter the following command: `chrome://flags`
2. From the list of flags, search for `UnifiedDesktopMode` and set it to **Enabled**.

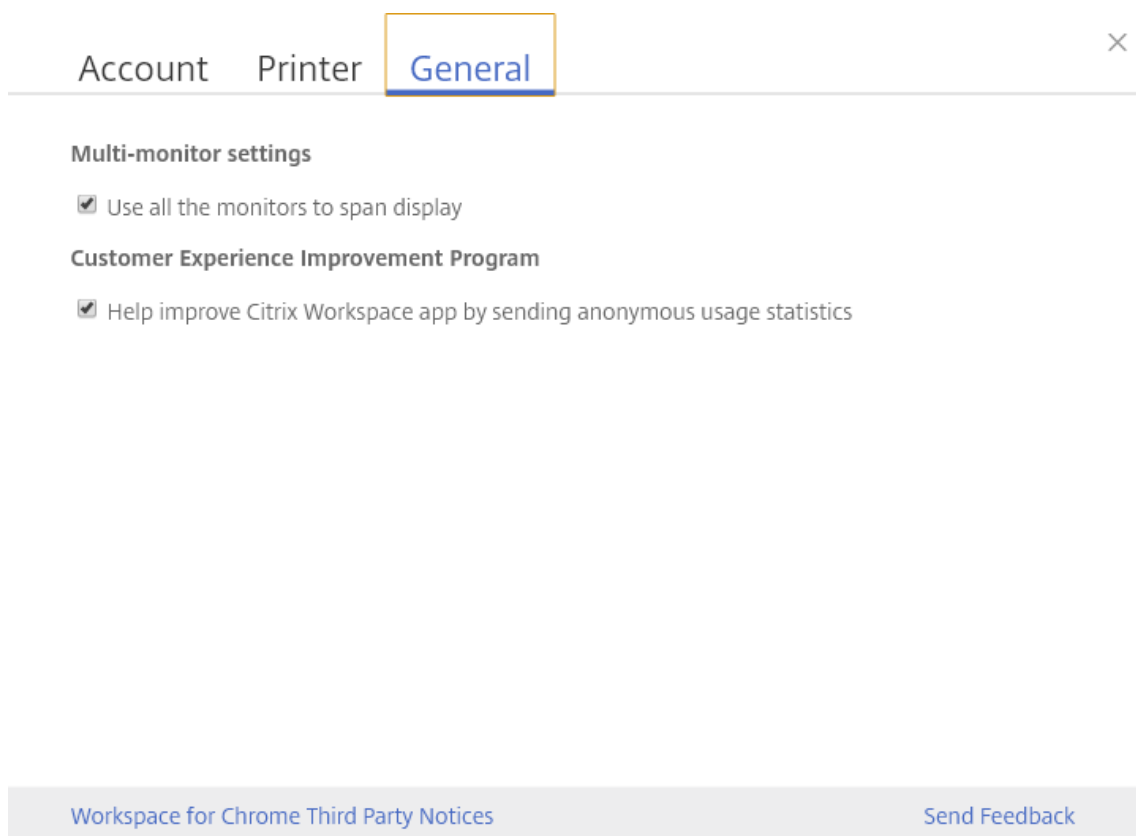
**To configure Unified Desktop mode using Google Admin policy**

1. Log on to the Google Admin console.
2. Go to **Device management > Chrome Management > User Settings**.
3. Set the Unified Desktop policy to **Make Unified Desktop mode available to user**.
4. Click **Save**.

**To disable multi-monitor feature**

By default, multi-monitor is enabled.

1. Launch Citrix Workspace app for Chrome OS.
2. Select **Settings > General**.
3. Clear **Use all the monitors to span display**.



Multi-monitor display is available on both desktops and applications.

When using a multi-monitor display, the desktop session can span across multiple monitors in two ways:

4. Windowed mode: The desktop session displays in single monitor mode.
5. Full-screen mode: When a desktop session is switched to full-screen mode, the session displays in multi-monitor mode only when Use all the monitors to span display is selected.

For the display to span across monitors in a desktop session, select **Use all the monitors to span display** option and click full-screen mode when the two monitors are connected.

In an application session, when two monitors are connected and **Use all the monitors to span display** option **is selected**, the session automatically displays in a multi-monitor mode.

#### Using Citrix Virtual Desktops on dual monitors:

1. Click **Multimonitor** in the toolbar.

The screen is now extended to both the monitors.

#### Limitations:

- Citrix Workspace app for Chrome OS does not support full-screen H.264 graphics mode for multiple monitors.

- The limit of the number of monitors is not hard-coded. The total resolution to be managed and rendered affects the limitation.
  - This feature supports two monitors. If you launch a session with the total screen resolution greater than [2 x (1920x1080)] pixels, you might experience screen lags. Monitor resolution limits can cause screen lags to occur.
  - The built-in screen of the latest Chromebooks supports a resolution greater than 1920x1080 pixels. The feature has not been tested on such devices.
- In multi-monitor mode, full-screen H264 is disabled because of issues found during testing.
  - When you use one single, large external monitor, the issue does not occur and H264 remains running. Selective H264 also runs in this scenario.
- When you use screens with different resolutions, you might experience performance issues.
- When you use built-in monitors with higher resolution and external monitors whose resolution is low, performance issues might occur.

## Microsoft Teams optimization settings

### To enable screen sharing

To enable screen sharing using the Google admin policy, change the screen sharing value to **true** for msTeamsOptimization as follows:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "features":{
11
12         "msTeamsOptimization":{
13
14          "screenSharing" : true
15          }
16
17        }
18
19      }
20    }
21  }
```

```
20
21     }
22
23     }
24
25 }
```

To enable screen sharing for Bring your own device (BYOD) users (only for those using on-prem StoreFront):

Follow the steps in [Get started - Using webconfig](#) and set the **chromeAppPreferences** value as follows: `chromeAppPreferences = '{ "features":{ "msTeamsOptimization":{ "screenSharing":true } } } '`

### Note:

Ensure that the following setting is allowed in **Google Admin Console** for screen sharing optimization to work:

In **Google Admin Console**, under **Devices > Chrome > Settings >**

Select **Allow sites to prompt the user to share a video stream of their screen** under **Screen Video Capture** for all three categories: **User & Browser Settings**, **Device Settings** and **Managed Guest Session Settings** (or an appropriate category)

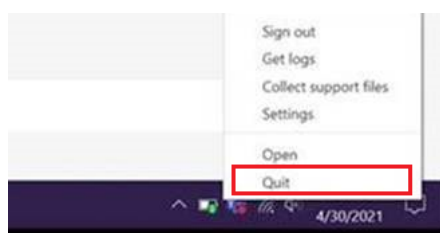
The screenshot shows the Google Admin Console interface. The top navigation bar includes the Google Admin logo, a search bar, and user profile icons. Below the navigation bar, there's a breadcrumb trail: 'Devices > Chrome > Settings'. A notification banner at the top asks for feedback on Chrome OS. The main content area is titled 'USER & BROWSER SETTINGS' and has a search bar for organizational units. On the left, a list of organizational units is shown, with 'mycitrixdemo.net' selected. The main settings area shows several settings, with 'Screen video capture' highlighted by a red box. The 'Screen video capture' setting is set to 'Allow sites to prompt the user to share a video stream of their screen'.

## Troubleshooting for Microsoft Teams optimization

To change Microsoft Teams to optimized from unoptimized within your client sessions, do the following:

1. Quit Microsoft Teams by right-clicking the Microsoft Teams icon, then click **Quit**. Relaunch Microsoft Teams.





2. If this does not work, log off from the session and log back on.
3. If logging off and logging back on does not work, clear the cache in the directory **C:\Users\Administrator\AppData** on the VDA, then restart Microsoft Teams.

For more information, see [Troubleshooting](#).

### Feature flag management

If an issue occurs with Citrix Workspace app in production, we can disable an affected feature dynamically in Citrix Workspace app even after the feature is shipped. To do so, we use feature flags and a third-party service called LaunchDarkly. You do not need to make any configurations to enable traffic to LaunchDarkly, except when you have a firewall or proxy blocking outbound traffic. In that case, you enable traffic to LaunchDarkly via specific URLs or IP addresses, depending on your policy requirements.

You can enable traffic and communication to LaunchDarkly in the following ways:

#### Enable traffic to the following URLs

- events.launchdarkly.com
- app.launchdarkly.com

#### List IP addresses in an allow list

If you must list IP addresses in an allow list, for a list of all current IP address ranges, see [LaunchDarkly public IP list](#). You can use this list to ensure that your firewall configurations are updated automatically in keeping with the infrastructure updates. For details about the status of the infrastructure changes, see the [LaunchDarkly Statuspage page](#).

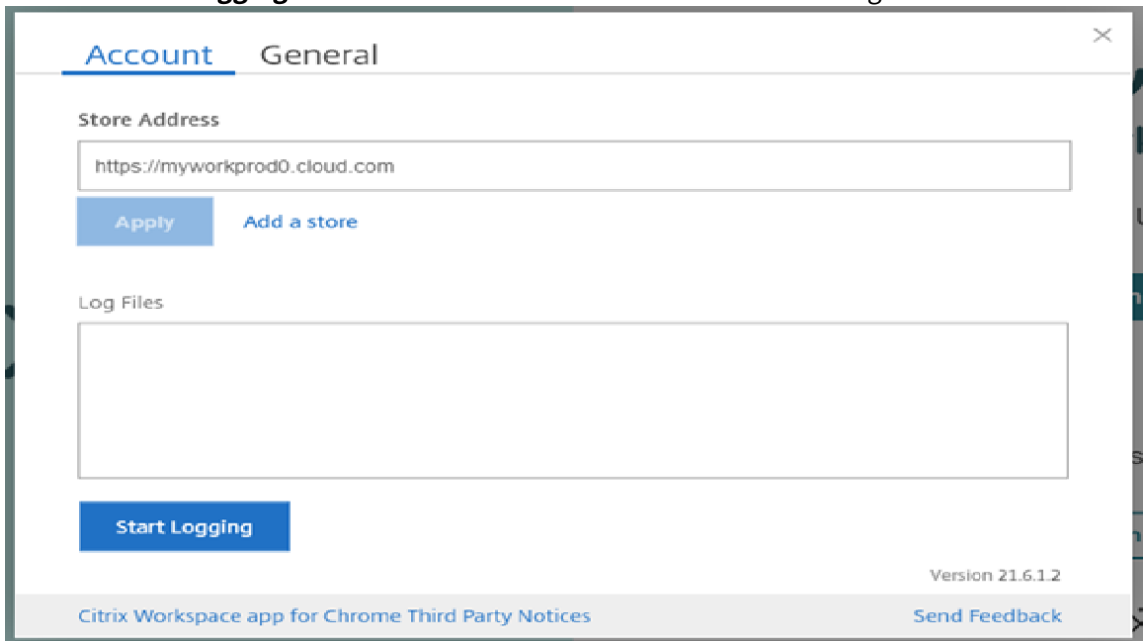
### How to collect logs

To collect Citrix Workspace app for Chrome OS client logs for any issue:

1. Click the **Settings** button on the bottom right of the Citrix Workspace app **Sign In** screen.



2. Click the **Start Logging** button under **Account** to enable collection of logs.

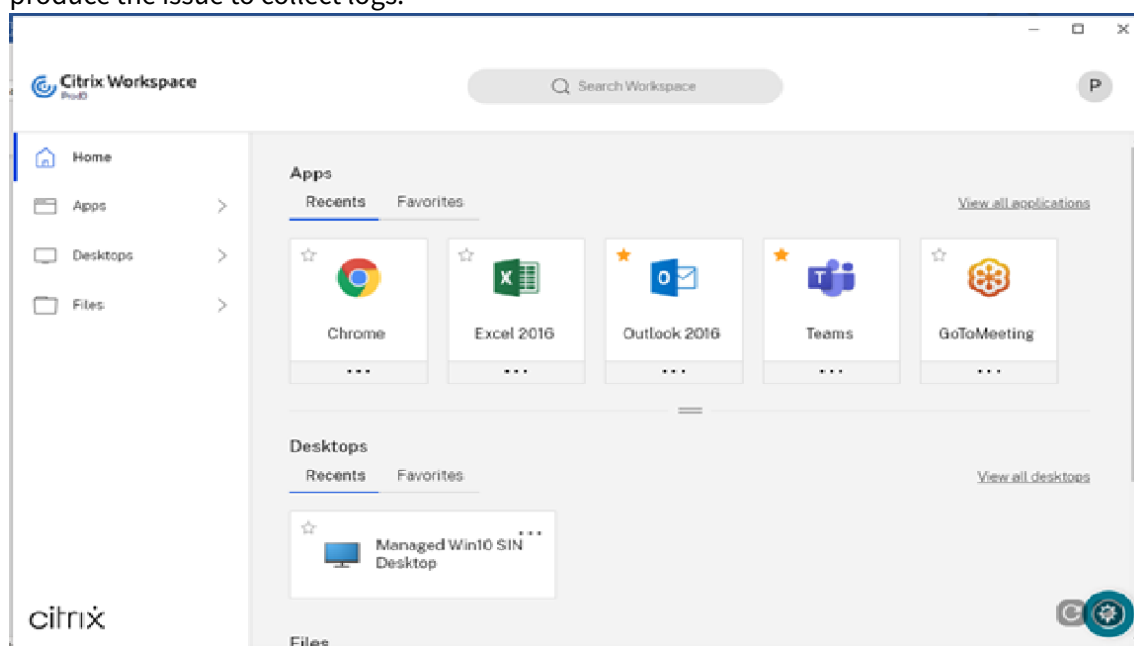


3. The **Start Logging** button changes to **Stop Logging**. This indicates collection of logs is enabled.



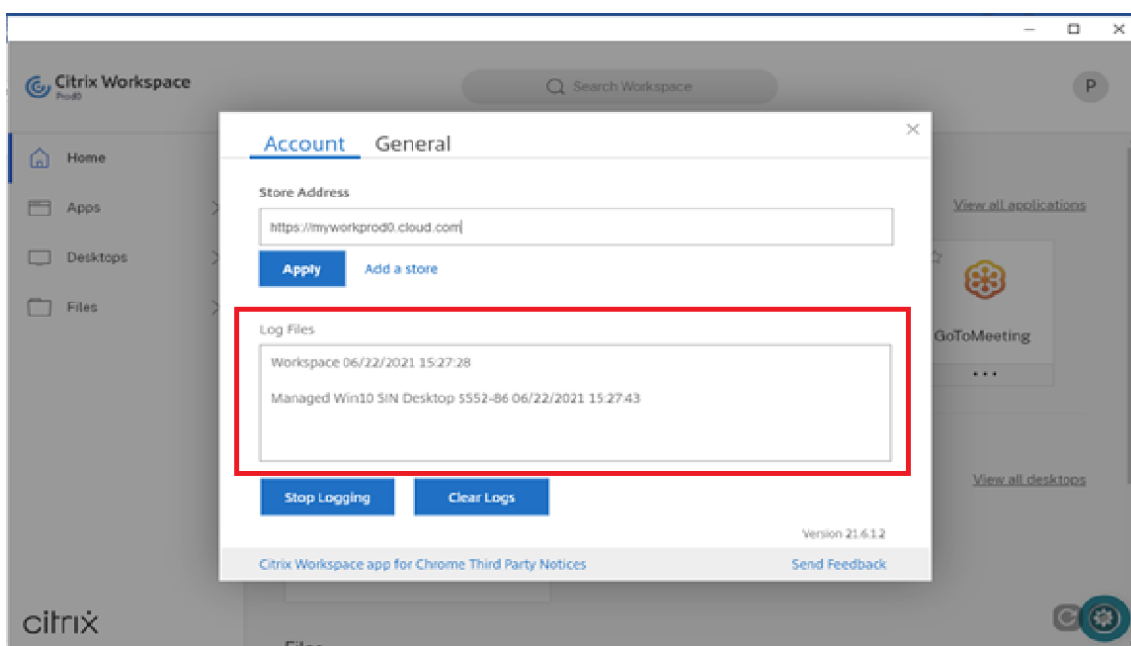
Close the **Account** dialog box.

4. Log into the Citrix Workspace app virtual desktop and launch your virtual app session and reproduce the issue to collect logs.

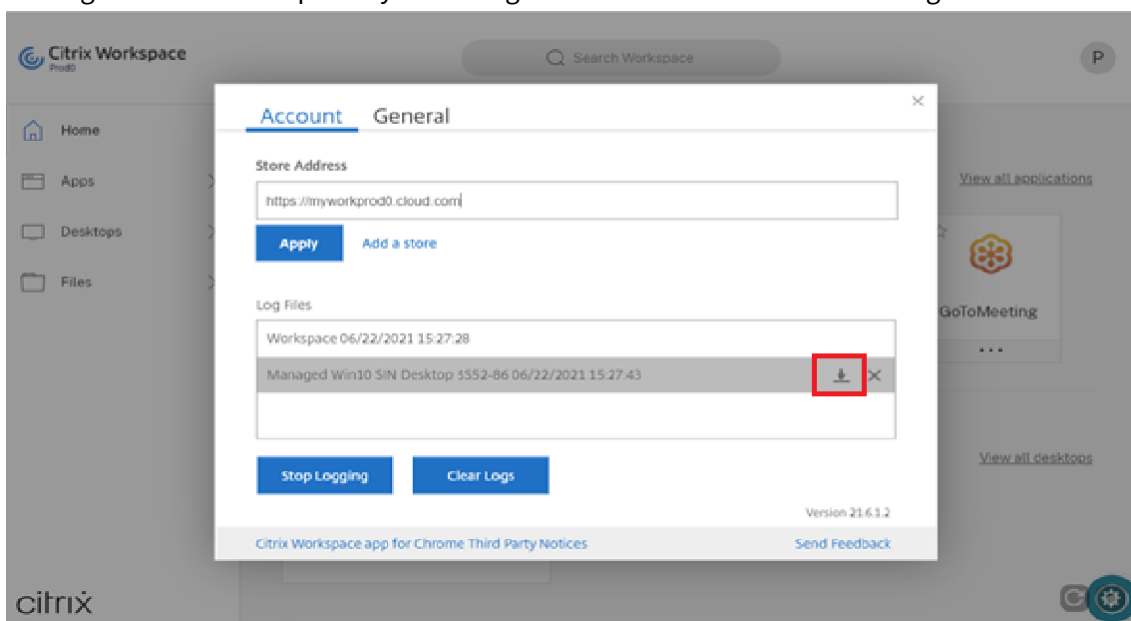


Continue to work on the session to reproduce the issue.

5. Once the issue is reproduced, close the session.
6. Click the **Settings** button again to open the **Account** dialog box.
7. The **Account** dialog box shows the list of **Log Files** captured.



8. Moving the mouse on top of any of the Log files shows a small arrow at the right.



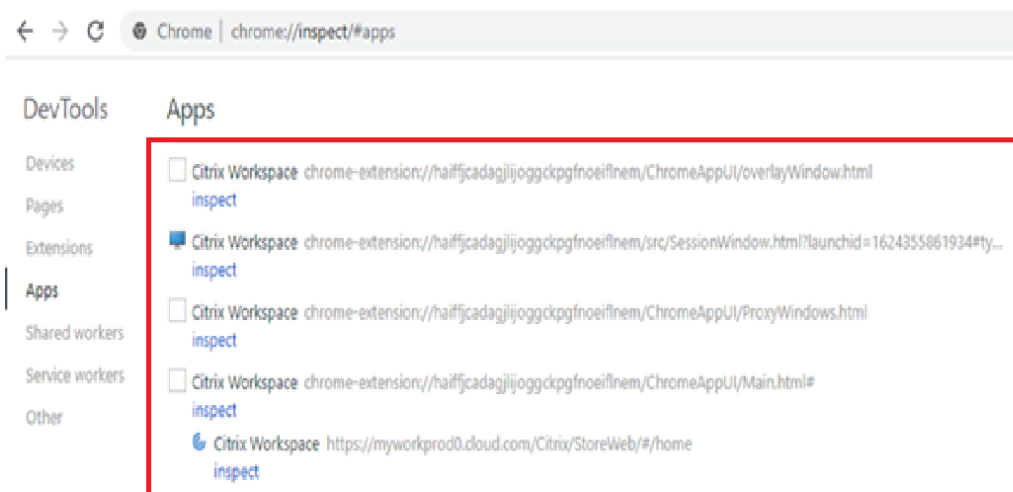
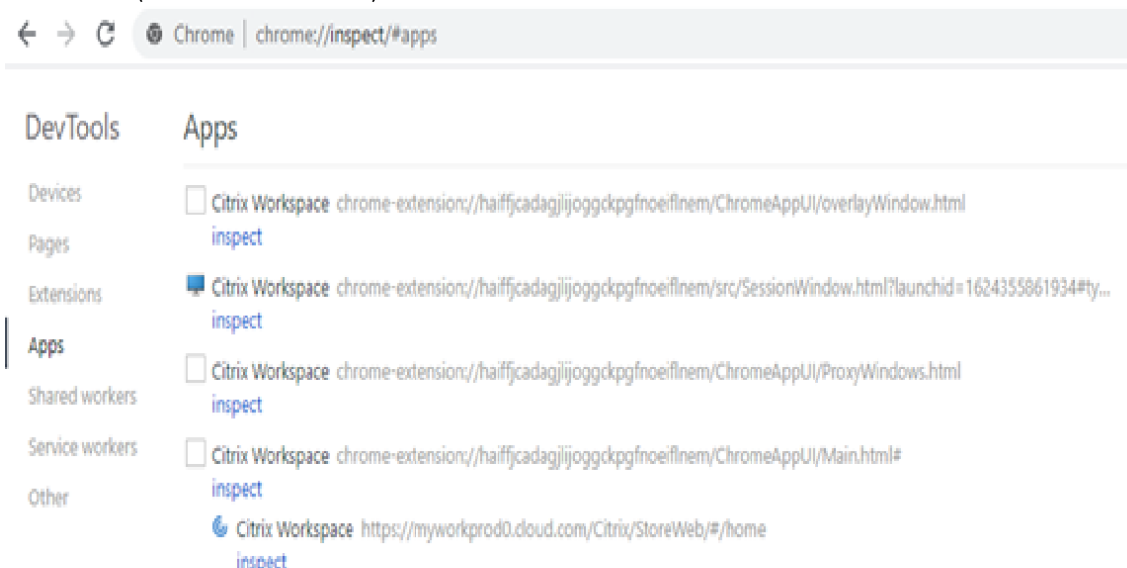
9. Click the arrow button to download and save the Log file.
10. Save all the log files listed under **Log files** and share it with the administrator or Citrix support engineer.
11. Click **Stop Logging**.

**Note:**

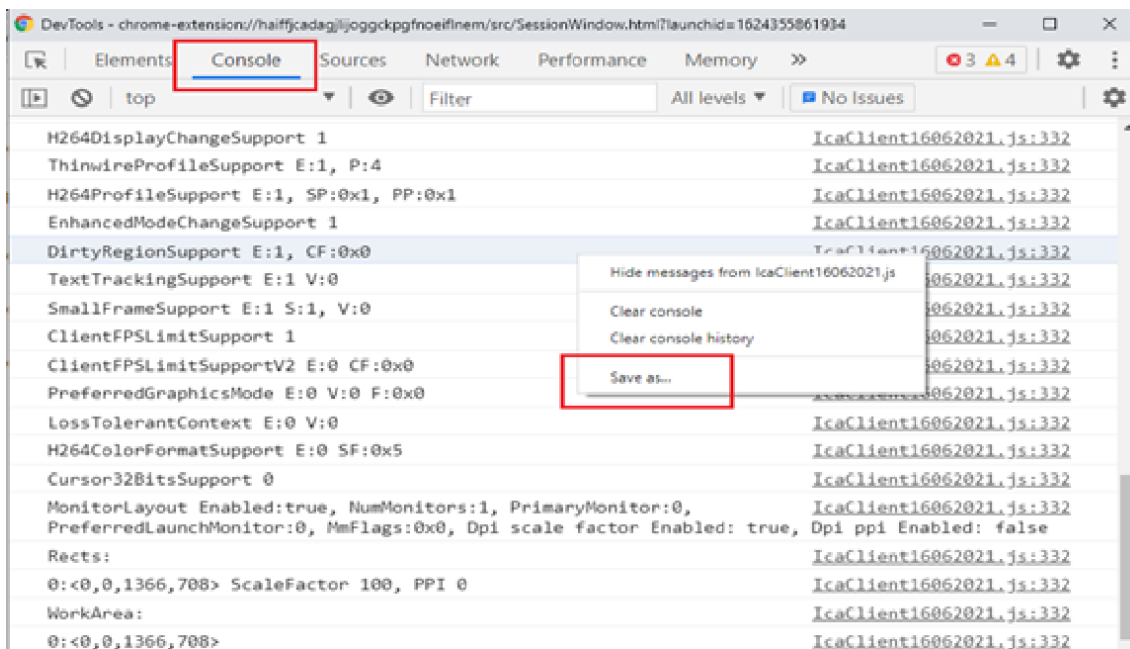
In the case of Kiosk mode, files can be saved to a USB removable device.

To collect Citrix Workspace app for Chrome OS console logs:

1. Open **chrome://inspect/#apps** page in the Google Chrome browser of your Citrix Workspace app.
2. In the **Apps** tab, click **inspect** for all Citrix Workspace-related windows: SessionWindow.html, Main.html (and its child nodes).

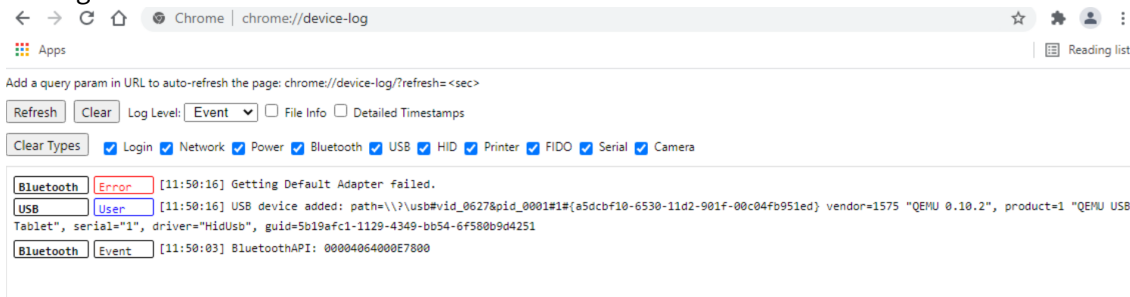


3. For each opened developer tool window, click **Console**. Then, save the entire log by right-clicking and selecting **Save as** option.



For collection of logs for USB redirection-related issues:

1. Follow the steps in [Using Web.config](#) for Chrome OS and enable moreLogs for USB by: Adding the moreLogs configuration value to chromeAppPreferences in the web.config file on the StoreFront:  
`chromeAppPreferences = '{ "moreLogs":{ "usb":true } } '`
2. Then, open a new tab in the Google Chrome browser and enter **chrome://device-log** and share the logs.



## Webcam redirection for 64-bit

Webcam redirection is now available for both 32-bit and 64-bit applications. Support for webcam redirection with both 32-bit and 64-bit apps is currently limited to built-in webcams. Configure for webcam redirection for 64-bit as follows:

### Configuring the webcam by using the configuration.js file and the Google Admin Console

For Versions 2010 and earlier:

Configure webcam redirection using the following path: **HTML5\_CONFIG > appPrefs > chromeApp > nacl > video**

For Versions 2101 and later:

Configure webcam redirection using the following path: **HTML5\_CONFIG > features > video**

**Note:**

We recommend that you use the **HTML5\_CONFIG > features > video** path to configure webcam redirection. The other path continues to work for some time and will be removed in a future release.

### Recommendations for webcam redirection

- Set the Citrix Delivery Controller Audio Quality policy to Low or Medium. When using low-powered Chromebooks, audio lags might occur if you do not set the Audio Quality policy.
- For best performance, we recommend using high-end Chromebooks and low-latency networks with good bandwidth connections.
- When you use the speaker of a system during a video conference call, you might hear an echo. As a workaround, use a headset.
- Set the following registry key on a VDA:

HKEY\_LOCAL\_MACHINE\SOFTWARE\Citrix\HdxRealTime

Name: OfferH264ToApp

Type: REG\_DWORD

Value: 1

**Note:**

This setting applies to the current user setting. For new users, set the registry key through the Windows Group Policy Object (GPO) Editor.

**DISCLAIMER:** Caution! Using the Registry Editor incorrectly can cause serious problems that might require you to reinstall your operating system. Citrix cannot guarantee that problems resulting from the incorrect use of the Registry Editor can be solved. Use the Registry Editor at your own risk. Be sure to back up the registry before you edit it.

### Serial COM port redirection

To configure serial COM port redirection, enable the feature by applying Citrix Virtual Apps and Desktops port redirection policy settings. For more information on port redirection, see [Port redirection policy settings](#).

**Note:**

By default, Citrix Workspace app for Chrome OS maps COM5 as a preferred serial COM port for redirection.

After enabling serial COM port redirection policy settings on the VDA, configure Citrix Workspace app for Chrome OS using one of the following methods:

- Google Admin Policy
- configuration.js file
- Changing the default mapping by issuing a command in an active ICA session.

**Using Google Admin Policy to configure COM port redirection**

Use this method to redirect the serial COM port by editing the policy file.

**Tip:**

Citrix recommends that you configure the COM port using the policy file only when Citrix Workspace app for Chrome OS is repackaged.

Edit the Google Admin Policy by including the following:

```
1      {
2
3      "settings": {
4
5          "Value": {
6
7              "settings_version": "1.0",
8              "store_settings": {
9
10             "rf_web": {
11
12                 "url": "<http://YourStoreWebURL>"
13             }
14
15             }
16         },
17         "engine_settings":{
18
19             "features" : {
20
21                 "com" : {
22
```



```
23     "portname" : "<COM4>", where COM4 indicates the port number that
      is set by the administrator.
      }
24
25     }
26
27     }
28
29     }
30
31     }
32
33     }
```

### Using the configuration.js file to configure COM port redirection

Use this method to redirect the serial COM port by editing the **configuration.js** file. Locate the port-name field in the configuration.js file and edit the value by changing the port number.

For example:

```
1  "com" :{
2
3
4  "portname" : "COM4"
5
6  }
```

#### Note:

Citrix recommends using the configuration.js file method to configure serial port redirection only when Citrix Workspace app for Chrome OS is repackaged and republished from StoreFront.

### Issuing a command in an ICA session to configure COM port redirection

Use this method to redirect the serial COM port by running the following command in an active ICA session:

```
1  net use COM4 : \\Client\COM5
```

### Tip:

In the example above, COM4 is the preferred serial port used for redirection.

### Citrix Universal Print Driver

The Citrix PDF Universal Printer driver enables users to print documents opened with hosted applications or applications running on virtual desktops delivered by XenDesktop 7.6 and XenApp 7.6 or later. When a user selects the Citrix PDF Printer option, the driver converts the file to PDF and transfers the PDF to the local device. The PDF then opens in a new window for viewing and printing through Google Cloud Print.

When printing a document opened with a hosted application or an application running on a virtual desktop, the user is given the option to print the document to PDF. The PDF is then transferred to the local device for viewing and printing from a locally attached printer or Google Cloud Print. The file is not stored in Citrix Workspace app for Chrome OS.

### Important

Local PDF printing is supported only on XenApp and XenDesktop 7.6 or later.

### Requirements

To access the Citrix Workspace app for Chrome OS download page, you need a MyCitrix account.

Download the Citrix PDF Printer from the [Citrix downloads](#) page.

To enable users to print documents opened with hosted desktop and applications:

1. Download the Citrix PDF Printer and install the Citrix PDF Universal Printer driver on each machine that delivers desktops or apps for Citrix Workspace app for Chrome OS users. After installing the printer driver, restart the machine.
2. In Citrix Studio, select the Policy node in the left pane and either create a new policy or edit an existing policy.

For more information about configuring Citrix Virtual Apps and Desktops policies, see [Policies](#).

3. Set the Auto-create PDF Universal Printer policy setting to **Enabled**.

### Google Cloud Print

Google Cloud Print allows you to make remote printing devices (such as a printer at home) available to you or anyone you choose.

You can configure Citrix Workspace to use Google Cloud Print by default to redirect your files, rather than having to select and configure it every time you print.

To use Google Cloud Print:

- You must install the Citrix PDF printer driver in the VDA; refer to the [Citrix download site](#) for the latest software packages.
- Google Cloud Printers should be registered with a user's Google account. Refer to the [Google Cloud Print](#) website for more information.
- If a customized Citrix Workspace app for Chrome OS package is deployed using the Google Management console, ensure that the Citrix Workspace app for Chrome OS package contains the correct OAuth2.0 credentials in the manifest.json file. Refer to the Google Developers site for information about obtaining OAuth2.0.

For example:

```
1  "oauth2": {  
2  
3  
4  "client_id": "replace this with your client ID",  
5  
6  "scopes": [  
7  
8  "<https://www.googleapis.com/auth/cloudprint>"  
9  
10 ]  
11  
12 }
```

**Note:**

This feature only works with Google Cloud Printer. Refer to the [Google Developers](#) site for additional information.

### Google Drive access

With Google drive support, your users can open, edit, and save Windows file types from a Chrome device running Citrix Workspace. While running a Google Chrome device, your users can seamlessly use existing Windows-based applications (for example, Microsoft Word) and access the files residing on Google Drive

For example, if a user opens a file in Google Drive (for instance, a .DOC file attachment downloaded from Gmail), edits it, and saves it to Google Drive, the file can be accessed in a Citrix Virtual Apps hosted application. The file can be viewed, edited, and saved to Google Drive.

## Prerequisites

To enable Google Drive access, you must install the Citrix File Access component (FileAccess.exe) on your VDA and enable file type associations in Citrix Studio. You can download Citrix File Access from the [Citrix downloads](#) page.

## To enable Google Drive access from Citrix Workspace

1. Install FileAccess.exe on each Citrix Virtual Apps or Citrix Virtual Apps and Desktops VDA.
2. Configure the appropriate FTAs for published applications in Citrix Studio.
3. On the Citrix Virtual Apps or Citrix Virtual Apps and Desktops VDA, <https://accounts.google.com> and `<https://ssl.gstatic.com>` have to be trusted and cookies from these sites should be enabled.

Only files from Google Drive can be opened using Citrix Workspace. To open a file from Google Drive, right-click and open the file using Citrix Workspace.

Citrix recommends that you associate one file type with only one published application.

## Proxy connection support

The Citrix Workspace app for Chrome OS supports opening documents from Google drive using published applications through the unauthenticated proxy servers. To enable this, configure the proxy setting in internet options.

## To disable Google Drive access from Citrix Workspace

In the manifest.json file, replace:

```
1  "file_handlers" : {
2
3
4      "all-file-types" : {
5
6
7          "extensions" : [
8
9              "*"
10
11          ]
12
13      }
```

```
14
15
16     }
17     ,
```

**with:**

```
1     "file_handlers" : {
2
3         "cr-file-type" : {
4
5             "extensions" : [
6                 "cr",
7                 "ica"
8             ]
9         }
10
11     }
12     ,
```

## Kiosk mode

Citrix Workspace app for Chrome OS kiosk mode provides the ability to run all apps in the same window. Using this feature, you can run Citrix Workspace apps in kiosk mode, and then launch any Windows app or desktop using the same mode. In addition, kiosk mode allows you to publish remote apps or desktops as a dedicated Chrome package using a persistent URL.

You can control this feature by adjusting the kiosk settings in the Chrome admin panel for managed Chrome devices.

See the [Google support site](#) for instructions on enabling the Citrix Workspace app to run in kiosk mode on managed and non-managed Chrome devices.

If you are deploying a Citrix Workspace app, you should publish using the visibility options set to Public/unlisted to ensure interoperability with kiosk mode. [Go to the Chrome Web Store Developer Dashboard](#)

The store URL is read-only when kiosk mode is active and cannot be edited using the **Account** settings screen. However, you can change this setting by either repackaging the app with the .cr file or through Google Policy Management using the Google Admin Console.

```
1     <Services version="1.0">
```

```
2     <Service>
3     <rfWeb>http://your_RfWebURL_or_persistenturl</rfWeb>
4     <Name>Mystore</Name>
5     <Gateways>
6     <Gateway>
7     <Location>https://yourcompany.gateway.com</Location>
8     </Gateway>
9     </Gateways>
10    <Beacons>
11    <Internal>
12    <Beacon>http://yourcompany.internalwebsite.net</Beacon>
13    </Internal>
14    <External>
15    <Beacon>http://www.yourcompany.externalwebsite.com</Beacon>
16    </External>
17    </Beacons>
18    </Service>
19    </Services>
```

If you are using the Google Admin Console, edit the policy.txt file containing the Citrix Workspace configuration. Replace the value of “url” under “rf\_web” with a persistent URL.

```
1     {
2
3     "settings": {
4
5     "Value": {
6
7     "settings_version": "1.0",
8     "store_settings": {
9
10    "beacons": {
11
12    "external": [
13    {
14
15    "url": "http://www.yourcompany.externalwebsite.com"
16    }
17
18    ],
19    "internal": [
20    {
21
```

```
22     "url": "http://yourcompany.internalwebsite.net"
23   }
24
25 ]
26 }
27 ,
28 "gateways": [
29 {
30
31   "is_default": true,
32   "url": "https://yourcompany.gateway.com"
33 }
34
35 ],
36 "name": "mystore",
37 "rf_web": {
38
39   "url": " http://your_RfWebURL_or_persistenturl "
40 }
41
42 }
43
44 }
45
46 }
47
48 }
```

## Excel shortcuts

Keyboard shortcuts are configured with the **sendAllKeys** attribute.

For all Excel shortcuts to work, configure as follows: **HTML5\_CONFIG > features > sendAllKeys**

The **sendAllKeys** attribute defaults to **true**. To change the default, open the **configuration.js** file (see [Google Policies](#)), add the **sendAllKeys** attribute, and set the attribute to **false**.

## Clipboard

Citrix Workspace app for Chrome OS supports HTML format in addition to plain text between the client and the VDA in a session. This support is useful when using Microsoft Office apps and browsers. Enhanced clipboard support is available only on Chrome and Safari browsers.

## Configuring clipboard

You can copy HTML content and retain formatting when copying a link in Chrome. An `<img>` tag is added in HTML format, which allows you to copy images as well as text. This feature is richer than plain text.

To enable this feature, add the following registry entry to the VDA:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Citrix\wfshell\Virtual Clipboard\Additional  
Formats\HTML Format
```

**“Name”=“HTML Format”**

### Warning

Using the Registry Editor incorrectly can cause serious problems that can require you to reinstall the operating system. Citrix cannot guarantee that problems resulting from incorrect use of the Registry Editor can be solved. Use Registry Editor at your own risk. Make sure you back up the registry before you edit it.

For additional information about the issues resolved by the introduction of this feature, see Knowledge Center article [CTX086028](#).

## Shortcuts

You can use standard Windows shortcuts to copy data, including text, tables, and images, between hosted applications, both within the same session and between different sessions. Only Unicode plain text can be copied and pasted between hosted applications and the local clipboard on the device.

Users can use standard Windows keyboard shortcuts with Citrix Workspace app for Chrome OS because these shortcuts are passed from Chrome OS to hosted applications. Similarly, shortcuts specific to particular applications can also be used, provided they do not conflict with any Chrome OS shortcuts. However, note that the **Windows** key must also be pressed for function keys to be recognized, so an external keyboard is required. For more information about using Windows keyboards with Chrome OS, see <https://support.google.com/chromebook/answer/1047364>. Citrix-specific shortcuts, such as those for switching between sessions and windows, cannot be used with Citrix Workspace app for Chrome OS.

## USB device redirection

Citrix Workspace app for Chrome OS supports a wide range of USB peripherals. With this added functionality, you can create a Google policy to identify the PID/VID of the device to enable its use in Citrix Workspace. This support extends to new USB devices, including the 3D Space mouse, additional composite devices, Bloomberg keyboards, and UC-Logic Tablet WP5540U.

For more information on configuring USB devices, see Knowledge Center article [CTX200825](#).



## Automatic redirection of USB devices

In kiosk mode, USB devices are redirected automatically inside a session without any manual intervention. In user and public modes, for the first time, you must manually redirect the USB device into the session from the toolbar or the Connection Center. This manual USB redirection is done to grant permission to the Chrome operating system for accessing the USB device. When a USB device is inserted, it is redirected into the session automatically.

If you insert a USB device when multiple sessions are running, it is redirected into the session that is in focus. If there are no sessions in focus, the USB device is not redirected into any session. If a single session is running and if it is not in focus when you insert the USB device, the device might not be redirected.

## File transfer

Citrix Workspace app for Chrome OS provides secure file transfer functionality between a user device and a Citrix Virtual Apps and Desktops session. This feature uses a file transfer virtual channel instead of client drive mapping.

By default, users can:

- Upload files from a local download folder or attached peripheral
- Seamlessly access data from their Citrix Virtual Apps and Desktops sessions.
- Download files from their Citrix Virtual Apps and Desktops sessions to a local folder or a peripheral on their user device.

Administrators can configure file transfer, uploads, and downloads using policies in Citrix Studio.

### Prerequisites

- XenApp or XenDesktop 7.6 or later, with:
  - Hotfix ICATS760WX64022.msp on server OS VDAs (Windows 2008 R2 or Windows 2012 R2)
  - Hotfix ICAWS760WX86022.msp or ICAWS760WX64022.msp on client OS VDAs (Windows 7 or Windows 8.1)
- To change file transfer policies: Group Policy Management (GPM) hotfix GPMx240WX64002.msi or GPMx240WX86002.msi on machines running Citrix Studio.

### Limitations:

- A user can upload or download a maximum of 10 files at a time.
- Maximum file size:
  - For uploads: 2147483647 bytes (2 GB)
  - For downloads: 262144000 bytes (250 MB)
- If either the 'Upload file to Desktop' or the 'Download file from Desktop' policy is set to Disabled, the toolbar still displays both the Upload and the Download icons but the functionality is based

on the policy setting. However, if both policies are set to Disabled, the Upload and Download icons are not displayed in the toolbar.

### Configuring file transfer policies

To configure file transfer using a Citrix Studio policy

By default, file transfer is enabled.

Use Citrix Studio to change the following policies, located under User Setting > ICA > File Redirection.

---

CITRIX STUDIO POLICY	DESCRIPTION
Allow file transfer between desktop and client	To enable or disable the file transfer feature
Upload file to Desktop	To enable or disable file upload in the session. Requires the “allow file transfer between desktop and client” policy to be set to true.
Download file from Desktop	To enable or disable file download from the session. Requires the “allow file transfer between desktop and client” policy to be set to true.

---

### To configure file transfer using configuration.js file

The configuration.js file is located in the ChromeApp root folder. Edit this file directly to make changes to Citrix Workspace app for Chrome OS.

**Note:**

Citrix recommends that you back up the configuration.js file before making any changes to it. Administrator level credentials are required to edit the configuration.js file; After editing the file, repackage the app to make additional modifications to toolbar elements.

### To change the file transfer configuration using the configuration.js file:

Open the configuration.js file and configure the settings as below:

---

FILE TRANSFER CLIENT SETTINGS	DESCRIPTION
AllowUpload	To enable or disable upload from client-side. By default set to true (enabled).

---

AllowDownload	To enable or disable download from the client-side. By default set to true (enabled).
MaxUploadSize	To set the maximum size of the file that can be uploaded in bytes. By default set to 2147483648 bytes (2GB)
MaxDownloadSize	To set the maximum size of the file that can be downloaded in bytes. By default set to 2147483648 bytes (2 GB).

Following are the behavior cases when the policy set in Citrix Studio and the client are different.

Citrix Studio Policy Upload / Download	Client- side setting Upload / Download	Resulting Behavior
DISABLED	ENABLED	DISABLED
DISABLED	DISABLED	DISABLED
ENABLED	DISABLED	DISABLED
ENABLED	ENABLED	ENABLED

**Note:**

When there is a conflicting value set for **Maximum File Size upload or download** in the registry and in the client-side settings, the minimum size value among the two is applied.

## File transfer logs

The file transfer logs can be retrieved from both the client and the server.

To retrieve file transfer logs from the client:

1. Launch a browser.
2. Go to the following URL to start logging:  
`<storefronturl>/clients/html5client/src/viewlog.html`  
 where `<storefronturl>` is the FQDN or IP address of the StoreFront server where the store is configured.

For more information on file transfer, see [HTML5 and Chrome File Transfer Explained](#).

## Logging

Citrix Workspace app for Chrome OS provides timestamps for the logs generated by the user device.

To assist with troubleshooting connection issues, logs can be generated on both the user device and the machines providing desktops and applications.

### To enable logging on user devices

1. On the user device, select the button with a settings image on it in the bottom-right corner of the Citrix Workspace app for Chrome OS login page.
2. In the **Settings** dialog, select **Start Logging**.  
Details of the collected log files are listed in the **Settings** dialog.
3. Select **Stop Logging** to end the collection of logs on the user device.

## Taskbar icons

Applications and desktops configured using Citrix Virtual Apps and Desktops in an active session are displayed as separate apps in the taskbar (shelf) on a Chrome device. This feature applies to published applications and desktops. The functionality and behavior of this feature is similar to the taskbar experience that is provided by the Windows Operating system.

By default, this feature is enabled.

### Configuring taskbar icons using Google Admin policy

#### Note:

Citrix recommends using this method only when Citrix Workspace app for Chrome OS is repackaged for users.

1. Log on to the Google Admin Console.
2. Go to **Device management > Chrome Management > User Settings**.
3. Add the below strings to the policy.txt file.

```
//Preferences for chrome app
'appPrefs':{
  'chromeApp':{
    'seamless' : {
      'showInShelf' : false
    },
  },
}
```

4. Click **Save** and close the file.

## Configuring taskbar icons using the Web.config in StoreFront

### Note:

Citrix recommends that you use the web.config file method for configuration purposes only when a store version of Citrix Workspace app for Chrome OS is being used.

1. Open the web.config file for the Citrix Receiver for Web site. This file is typically located in C:\inetpub\wwwroot\Citrix\- 2. Locate the **chromeAppPreferences** field and set its value with the configuration as a JSON string.

For example:

```
chromeAppPreferences='{“seamless”:{“showInShelf”:false}}
```

## Configuring taskbar icons using the configuration.js file

The configuration.js file is located in the **ChromeApp root** folder. Access this file directly to make changes to Citrix Workspace app for Chrome.

### Note:

Administrator-level credentials are required to edit the configuration.js file; after editing the file, repackage the app for the changes to take effect.

### To change the Chrome OS taskbar using the configuration.js file:

1. Open the configuration.js file and set the **showInShelf** attribute to true.

For example:

```
//Preferences for chrome app
'appPrefs':{
  'chromeApp':{
    'seamless' : {
      'showInShelf' : false
    },
  },
}
```

### Limitations:

1. When more than one instance of the same application is launched, the app icon is not stacked and appears as two separate icons. For example, two instances of Notepad display two icons of Notepad in the taskbar.
2. App pinning is not supported.

## Customer Experience Improvement Program (CEIP)

Data Collected	Description	What we Use it for
Configuration and usage data	The Citrix Customer Experience Improvement Program (CEIP) gathers configuration and usage data from Citrix Workspace app for Chrome OS and automatically sends the data to Citrix and Google Analytics.	This data helps Citrix improve the quality, reliability, and performance of Citrix Workspace app.

### Additional Information

Citrix will handle your data in accordance with the terms of your contract with Citrix, and protect it as specified in the [Citrix Services Security Exhibit](#) available on the [Citrix Trust Center](#).

Citrix also uses Google Analytics to collect certain data from Citrix Workspace app as part of CEIP. Please review how Google handles [data collected for Google Analytics](#).

You can turn off sending CEIP data to Citrix and Google Analytics. To do that, use one of the following methods:

- Disable CEIP using Google Admin Policy
- Disable CEIP using graphical user interface
- Disable CEIP using configuration.js

#### Note:

1. When CEIP is disabled for Version 2006 and earlier, minimal information, containing the installed Citrix Workspace app for Chrome OS version is uploaded. This minimal information is valuable to Citrix because it provides the distribution of different versions used by customers.
2. For Version 1906 and earlier, when Citrix Workspace app for Chrome OS is launched in a public session mode, CEIP data is not collected.

### To disable CEIP using Google Admin Policy

#### Note:

Administrator-level credentials are required to perform this procedure

1. Log on to the Google Admin Console.
2. Go to **Device management > Chrome Management > User Settings**.
3. Add the strings shown after Step 4 to the policy.txt file under the **engine\_settings** key.

4. Click **Save**.

For more information on google policy, see Knowledge Center article [CTX141844](#).

For Version 1907 and earlier, set the enabled attribute under **ceip** to **false**.

```
1 'ceip':{  
2  
3   'enabled':false,  
4 }
```

For Version 1908 and later, set the enabled attribute under **analytics** to **false**. However, the **analytics** key is backward compatible with the **ceip** key.

```
1 'analytics':{  
2  
3   'enabled':false,  
4 }
```

### To disable CEIP using graphical user interface

**Note:**

You can modify the CEIP settings using GUI only when the administrator has enabled it using any of the above methods.

1. Launch Citrix Workspace app for Chrome OS.
2. Select **Settings > General**.
3. Uncheck **Help improve Citrix Workspace by sending anonymous usage statistics**.

Relaunch the session for the changes to take effect.

### To disable CEIP using configuration.js

The configuration.js file is located in the ChromeApp root folder. Edit this file to configure Citrix Workspace app for Chrome OS.

**Note:**

- Citrix recommends that you back up the configuration.js file before making any changes to it.
- Citrix recommends using this method only if Citrix Workspace app for Chrome OS is repackaged for users.

- Administrator-level credentials are required to edit the configuration.js file.

For Version 1907 and earlier, set the enabled attribute under **ceip** to **false** in the **configuration.js** file.

```
1 'ceip':{  
2  
3   'enabled':false,  
4 }
```

For Version 1908 and later, set the enabled attribute under **analytics** to **false** in the **configuration.js** file.

```
1 'analytics':{  
2  
3   'enabled':false,  
4 }
```

### Blocking CEIP

For Version 2007 and later, administrators are allowed to block CEIP through the configuration.js file. This configuration takes precedence over the configuration made through the graphical user interface and Google Admin Policy, and CEIP data is not sent to Citrix.

- Open the configuration.js file, add the **connectionEnabled** attribute, and set the attribute to **false**:

```
1 'analytics':{  
2  
3   'connectionEnabled':false,  
4 }
```

The specific CEIP data elements collected by Google Analytics are:

---

Workspace app version	Session mode (Kiosk, Public/General)	Session type (desktop/application)	XenDesktop information (Delivery Controller and VDA versions)
-----------------------	--------------------------------------	------------------------------------	---



---

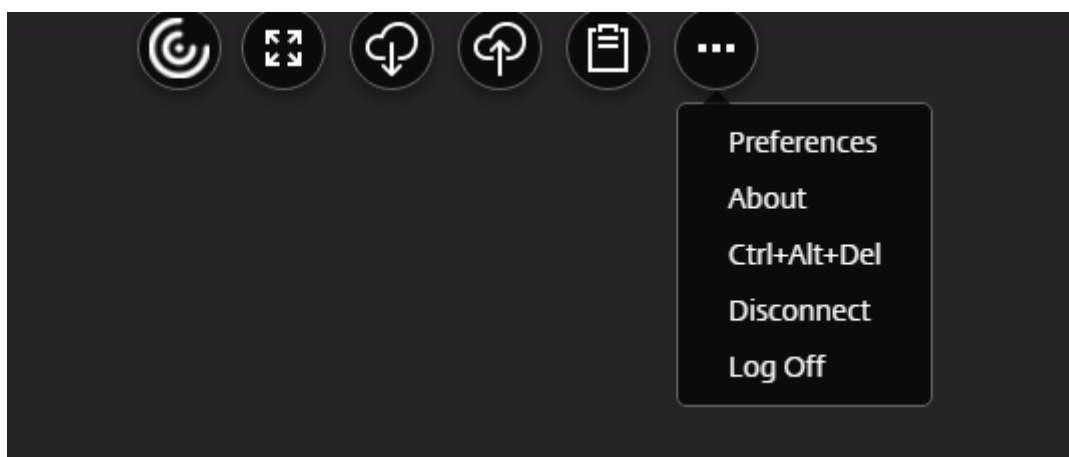
Launch type (SDK/I-CAFile/FTA/Store and so on)	Time zone of the session	Language of the session	Client keyboard layout
Network socket type (HTTPS/HTTP)	Feature usage (clipboard, file transfer, app switcher, printing, USB, smart card, and so on)	Device pixel ratio	Secure ICA (used / not used)
Asset ID of enrolled enterprise Chromebooks	Reconnection timeout (if != 180)		

---

## Redesigned toolbar

Citrix Workspace app for Chrome OS provides a redesigned toolbar to improve the user experience. This enhancement provides new options that are accessible from the toolbar to facilitate common tasks, such as:

- switching to full-screen mode
- upload or download a file
- copy content from an active session to the clipboard to enable sharing between sessions
- access additional options



## Configuring redesigned toolbar

By default, the enhanced toolbar is enabled.

### To hide the toolbar configuration using the configuration.js file:

The configuration.js file is located in the ChromeApp root folder. Edit this file directly to make changes to Citrix Workspace app for Chrome OS.

1. Open the configuration.js file and set the menubar attribute to false.

You can also hide an individual icon to prevent it from displaying in the toolbar. For example, to hide the Ctrl+Alt+Del button in the toolbar:

1. Open the configuration.js file and set the lock attribute to false.

#### Note:

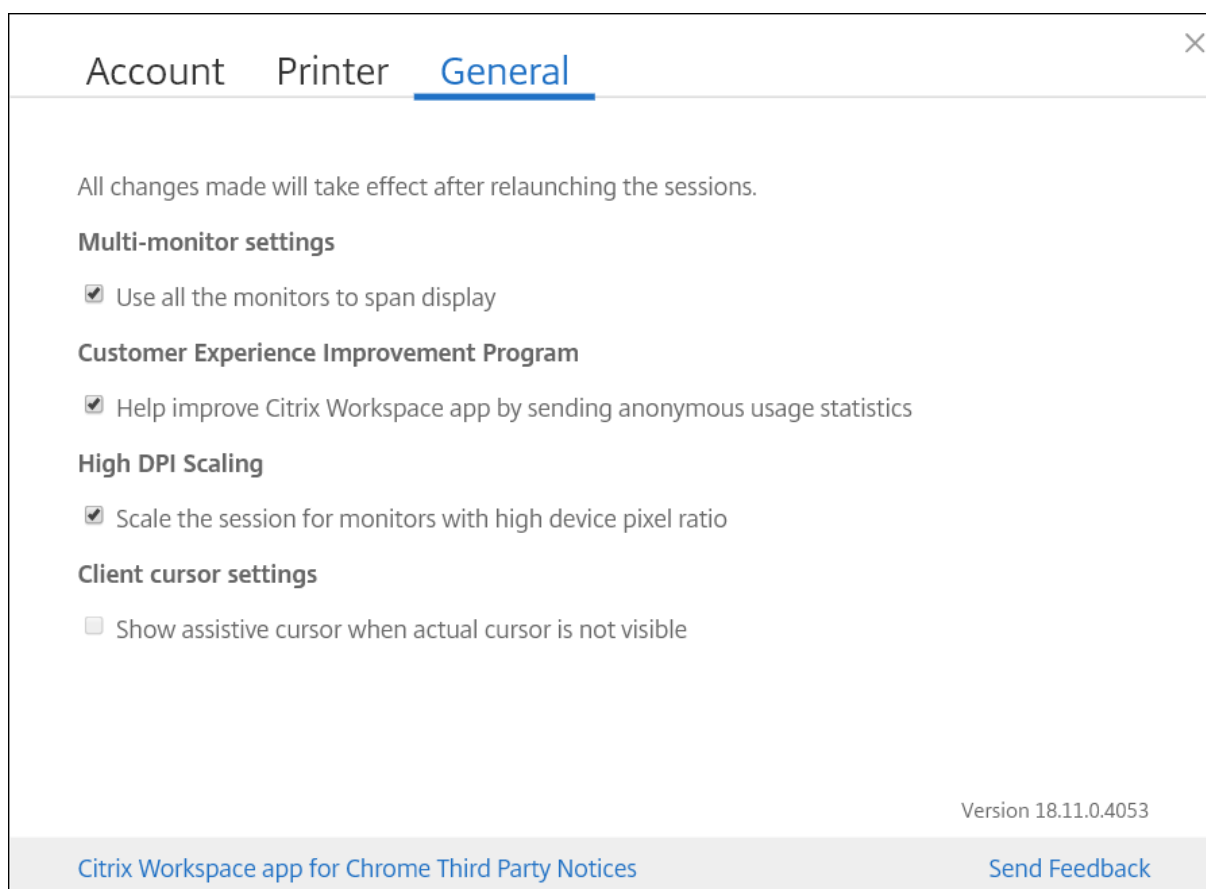
- Citrix recommends that you back up the configuration.js file before making any changes to it.
- Administrator-level credentials are required to edit the configuration.js file; after editing the file, repackage the app for the changes to take effect.

## DPI scaling

Citrix Workspace app for Chrome OS allows the operating system to control the resolution of app and desktop sessions and supports DPI client scaling for app sessions on a single monitor.

The **High DPI Scaling** feature is disabled by default for app and desktop sessions. For better resolution on high DPI enabled devices, go to **Settings** and select the **High DPI Scaling** check box.

You can configure the **High DPI Scaling** setting using the Google Admin policy only.



The DPI scaling feature **Scale the session for monitors with high device pixel ratio** is enabled by default.

Citrix Workspace app for Chrome OS supports DPI scaling by allowing you to set the VDA resolution on monitors that have a high pixel ratio. To set the resolution for desktop sessions, go to the session toolbar. Select **Preferences > Display Resolution > Use device pixel ratio** for the correct resolution to be set on the VDA. When the resolution is set properly on the VDA, blurry text becomes crisper.

To enable or disable the feature, edit the **Google Admin Console** policy and set the value of **scaleToDPI** property to **true** or **false**.

For example, to disable the feature, set **scaleToDPI** property to **false**.

```

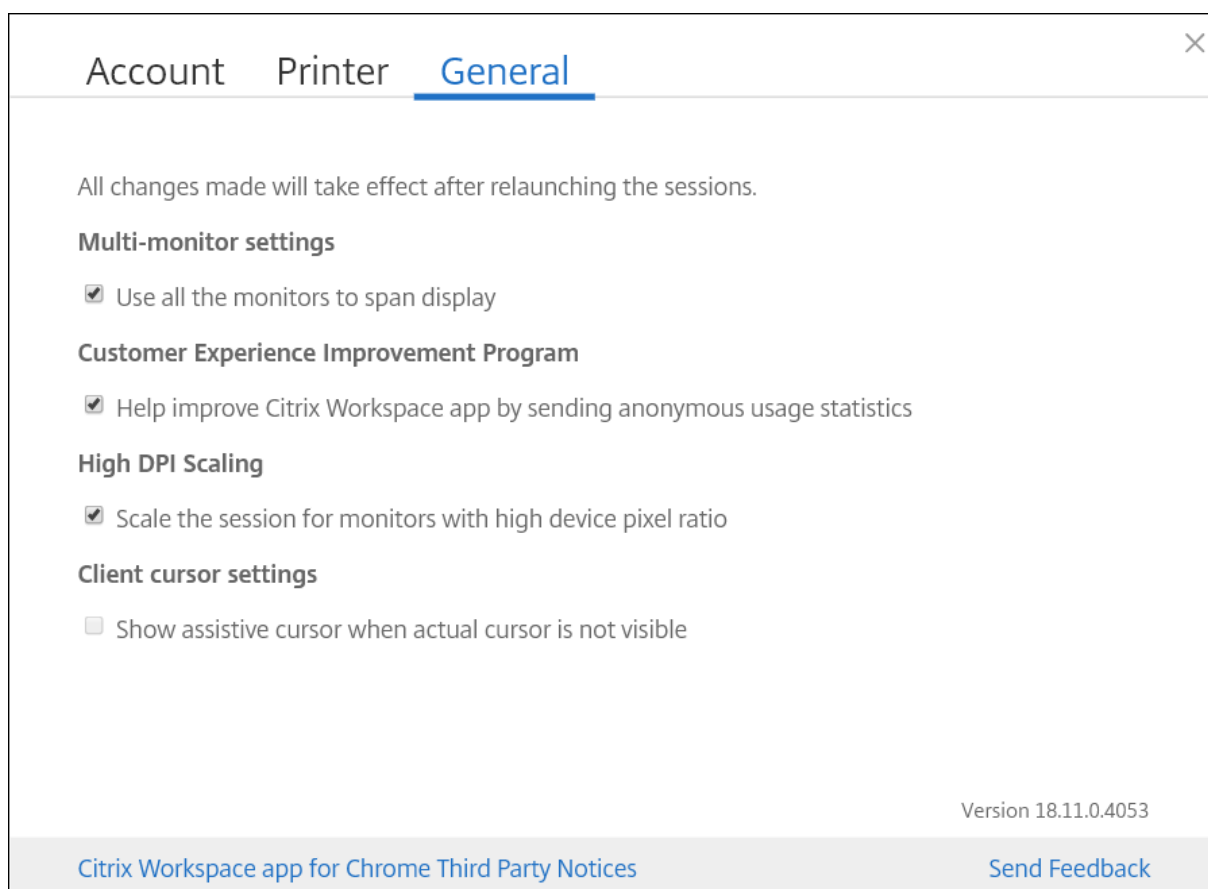
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {

```

```
9
10     'features' : {
11
12     'graphics' : {
13
14         'dpiSetting': {
15
16             'scaleToDPI': false
17         }
18     }
19     }
20
21     }
22
23     }
24
25     }
26
27     }
28
29     }
```

### **Assistive cursor**

When a cursor is not visible inside a desktop session, you can enable an assistive cursor. Launch the next session for the setting to take effect.



The assistive cursor feature is disabled by default.

To enable the feature, edit the **Google Admin Console** policy and set the value of the **assistiveCursor** property under **ui** to **true** and then restart the session.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ui": {
11
12          "assistiveCursor": true
13        }
14      }
15    }
16  }
```

```
16
17     }
18
19     }
20
21 }
```

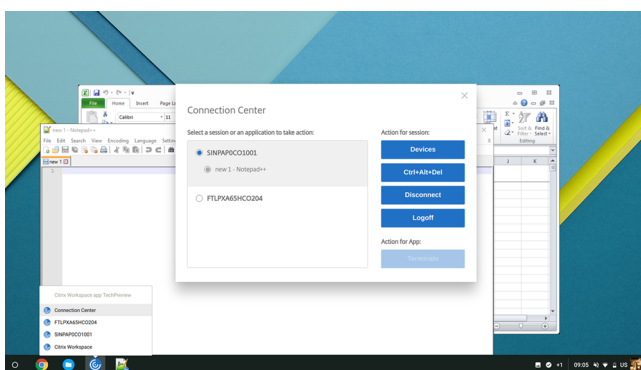
### Note:

- If an administrator enables the assistive cursor as described above, the corresponding check box in the client-side setting is selected by default. To disable the feature, clear the check box.
- If an administrator disables the assistive cursor as described above, the check box is cleared and the feature disabled.

## Connection Center

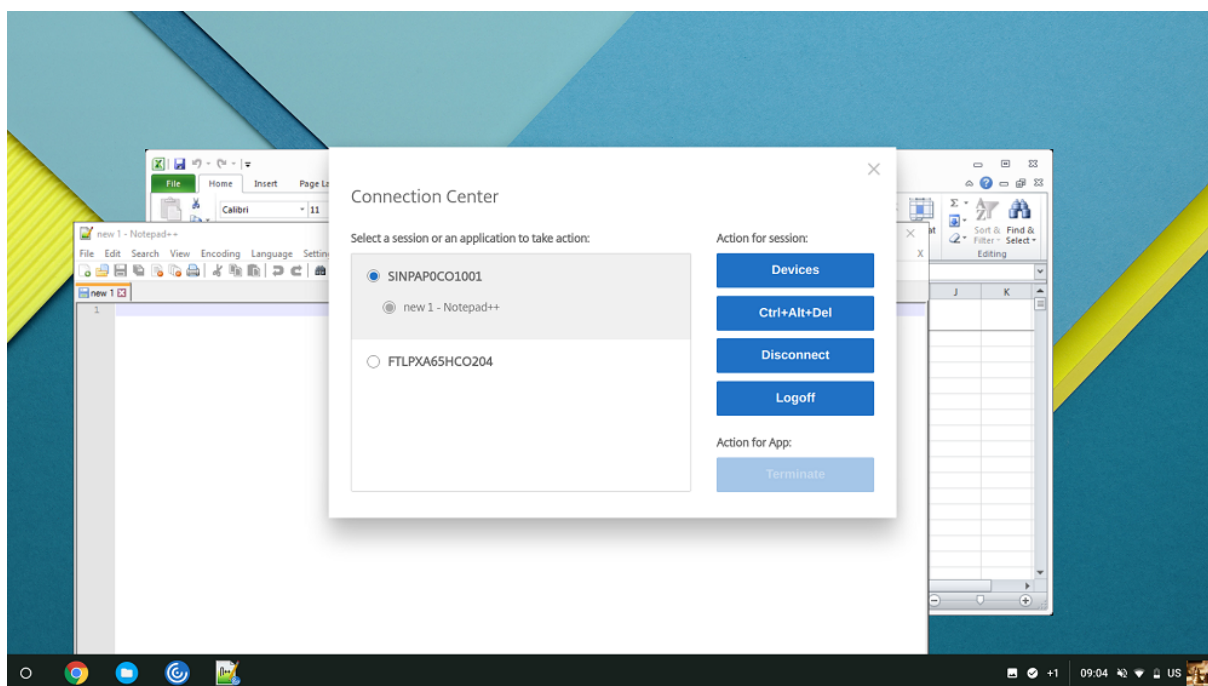
Connection Center facilitates application management in seamless sessions. This is done by providing a taskbar that lists all opened applications.

To launch the Connection Center, right-click the Citrix Workspace icon and then select **Connection Center**.



Using Connection Center, you can select an application and:

1. Display devices.
2. Send a Ctrl+Alt+Del command.
3. Disconnect from a session.
4. Logoff from the session.



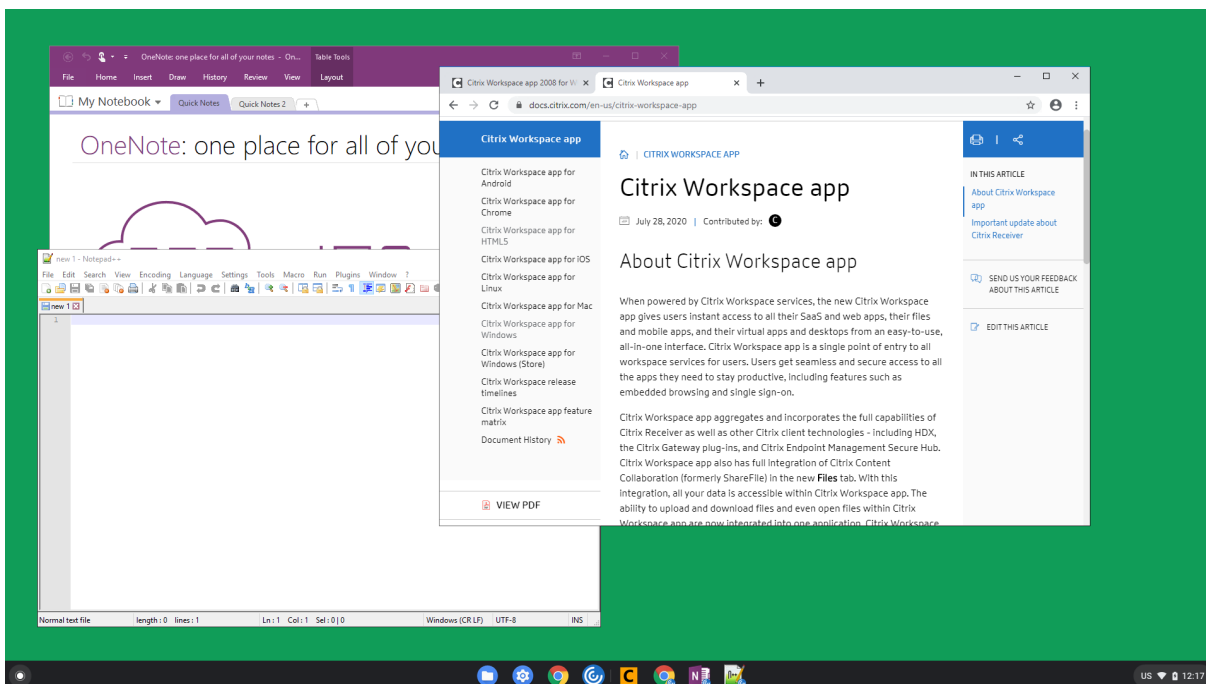
You can also terminate an app using the Connection Center by selecting the radio button of the corresponding application and clicking **Terminate**.

### Seamless window integration

Citrix Workspace app for Chrome OS improves the user experience by adding seamless integration of multiple apps hosted in separate windows within an active session. Using this functionality, Citrix Workspace app for Chrome OS enables you to launch applications in an independent user interface compared as opposed to launching all apps for a session in a single window.

Seamless applications can be hosted in separate windows. With this functionality, remote applications are run natively on the client device.

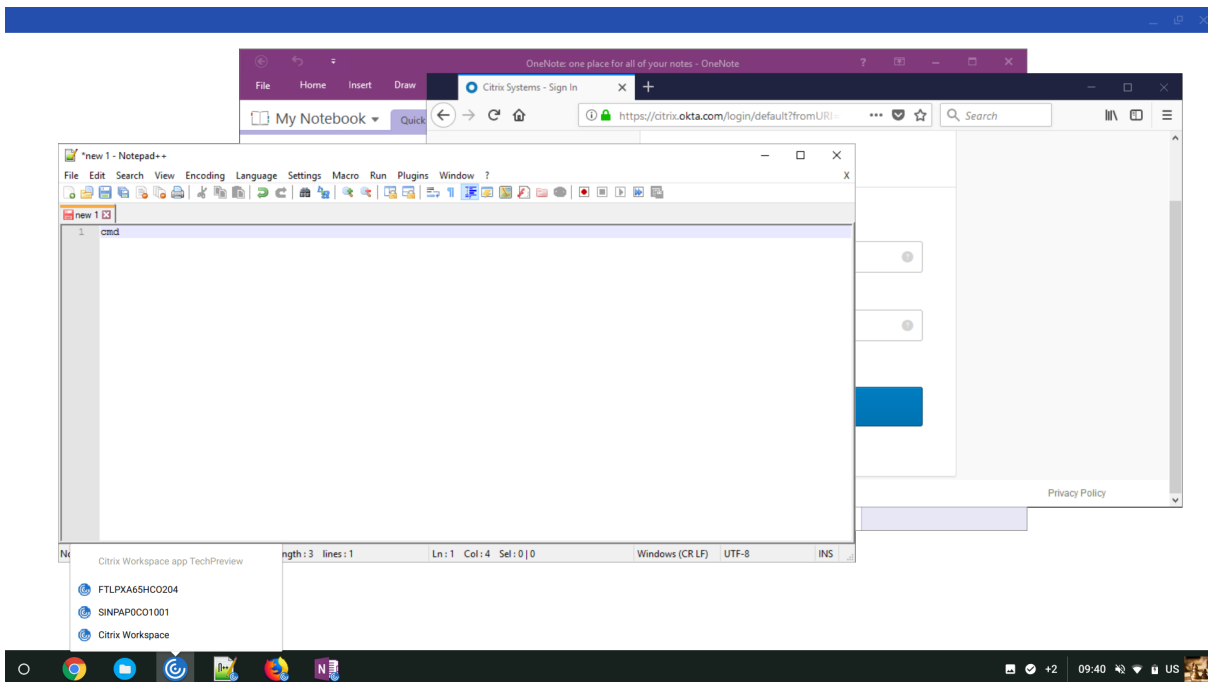
## Citrix Workspace app for Chrome OS



### Limitations:

- Extra entries appear in the Chrome task bar. Click any of these to bring the selected session to the front.
- All opened apps in an active session run in a single window; focusing on one app in an active session brings that window into focus along with all other apps belonging to that session.

Use the seamless session taskbar to quickly move between apps:





**Tip:**

All apps in one session run in a single window. When moving an app to a second monitor, all apps that are part of that session move to the second monitor.

**Reload store**

In Citrix Workspace app for Chrome OS window, a button is added for reload operation. By clicking the button, the cookies of the store get cleared and the store page is reloaded.

**Audio**

You can use a USB headset within a session to speak and to listen. You can also use buttons on the USB headset (such as mute and skip).

**Webcam**

Citrix Workspace app for Chrome OS provides an enhancement to webcam redirection functionality. H.264 hardware encoding for webcam input helps reduce CPU load and increases battery efficiency for Chromebook devices. These devices have encoders for H.264, which leverages Intel functionality through the PPB\_VideoEncoder API.

Citrix Workspace app for Chrome OS supports webcam redirection for both 32-bit and 64-bit applications.

**Session sharing**

For session sharing, the applications must be hosted on the same machine and must be configured in seamless window mode with the same settings for parameters, such as window size, color depth, and encryption. Session sharing is enabled by default when a hosted application is made available.

**Host to client redirection**

Content redirection allows you to control whether users access information by using applications published on servers or applications running locally on user devices.

Host to client redirection is one type of content redirection. It is supported only on Server OS VDAs (not Desktop OS VDAs)

with Citrix XenApp and XenDesktop versions 7.15 LTSR and later. For more information, see [Host to client redirection - XenApp and XenDesktops](#).

When host to client redirection is enabled, URLs are intercepted on the server VDA and sent to the user device. Citrix Workspace app for Chrome OS displays a dialog prompting the user to select whether to

open the URL within the session or on the local device. The dialog appears for every URL. When host to client redirection is disabled, users open the URLs with web browsers or multimedia players on the server VDA. When host to client redirection is enabled, users cannot disable it.

Host to client redirection was previously known as server to client redirection.

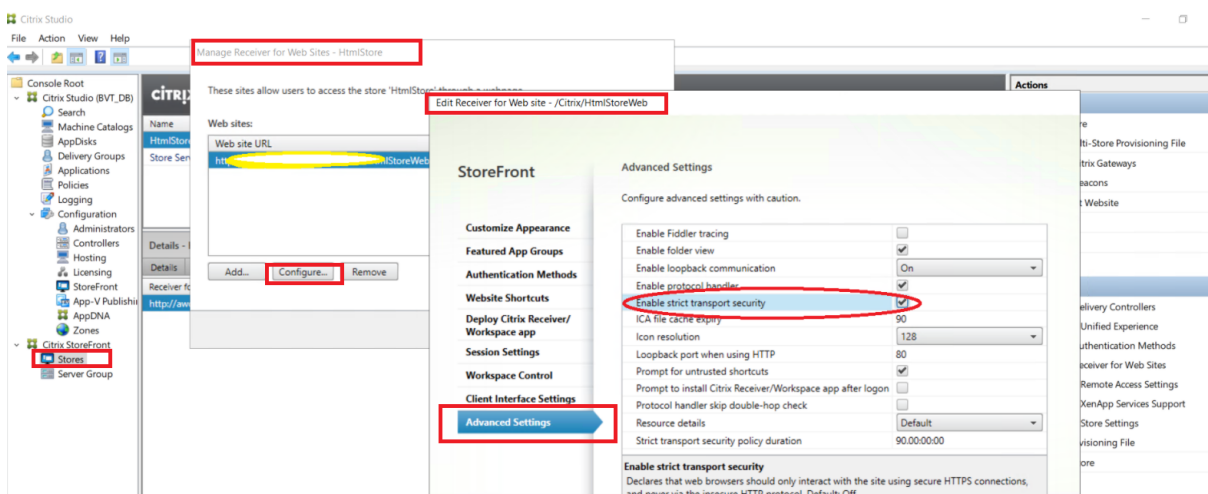
For more information, see [General content redirection](#).

## Security settings

Citrix recommends using stores that are secure. Besides, it is a good practice to have HTTP strict transport security (HSTS) setting enabled for secure stores.

Perform the following steps to enable the HSTS setting:

1. In **Citrix StoreFront**, under **Stores**, click on the link of the particular store to enable the security settings.
2. The **Manage Receiver for Web Sites** dialog box appears.
3. Click **Configure**.
4. The **Edit Receiver for Web site** dialog box appears.
5. Click the **Advanced Settings** tab and select **Enable strict transport security**.



## Google policies

March 1, 2021

There are four options to customize Citrix Workspace app for Chrome OS:

- configuration.js
- web.config

- default.ica
- Google Policy

The four options are available on the configuration utility, which is a UI-based configuration webpage. The configuration utility is compatible with Citrix Receiver.

This article describes custom configurations through the **Google Policy** option. The Google Admin console is cloud-managed. It lets you push policies per device and per user. Before Citrix Workspace app for Chrome OS (formerly Citrix Receiver for Chrome) Version 2.1, only policies to configure Store-Front were available. Extra policies have been made available since then.

For more information about customizing Citrix Workspace app for Chrome OS, see Knowledge Center articles [CTX141844](#), and [CTX229141](#).

You can also refer to the blog <https://www.citrix.com/blogs/2016/08/17/receiver-for-chrome-configuration-options/>.

### Google policy file

There are two ways to configure Google policies:

- Use the UI-based configuration utility tool or
- Edit the policy.txt JSON file

In the UI-based configuration utility tool, click **Create New**. Select **Citrix Workspace app for Chrome** > **Google Policy** and click **Continue**.

Enter the details under different tabs. For example, **ui**, **features**, **store\_settings**, **power\_settings** and so on. Click **Download** on the utility page. The policy.txt file is created.

To edit the policy.txt JSON file manually, and to add custom configurations, see the following sample policy text. Configurable items under each key are described later in this article.

```
1      {
2
3          "settings": {
4
5              "Value": {
6
7                  "settings_version": "1.0",
8                  "power_settings": {
9
10                     "keep_away_level": "display"
11                 }
12            },
```

```
13     "store_settings": {
14
15         "name": "SampleStore",
16         "gateways": [
17             {
18
19                 "url": "https://yourcompany.gateway.com",
20                 "is_default": true
21             }
22
23         ],
24         "beacons": {
25
26             "internal": [
27                 {
28
29                     "url": "http://yourcompany.internalwebsite.
30                         net"
31                 }
32             ],
33             "external": [
34                 {
35
36                     "url": "http://www.yourcompany.
37                         externalwebsite.com"
38                 }
39             ]
40         }
41     },
42     "rf_web": {
43
44         "url": "http://yourcompany.
45             storefrontstoreweb.net"
46     }
47 },
48     "engine_settings": {
49
50         "vc_channel": {
51
52             "CTXCAM ": false,
53             "CTXFILE": false
54         }
```

```
55         }
56     ,
57     "ceip": {
58         "enabled": true
59     }
60 ,
61     "analytics": {
62         "enabled": true
63     }
64 ,
65     "ui": {
66         "toolbar": {
67             "menubar": true,
68             "usb": true,
69             "fileTransfer": true,
70             "about": true,
71             "lock": true,
72             "disconnect": true,
73             "logoff": true,
74             "fullscreen": true,
75             "multitouch": true,
76             "preferences": true,
77             "gestureGuide": true
78         }
79     ,
80     "sessionsize": {
81         "windowstate": "fullscreen",
82         "minwidth" : 240,
83         "minheight" : 120,
84         "available": {
85             "default": "Fit_To_Window",
86             "values": ["Fit_To_Window", "
87                 Use_Device_Pixel_Ratio", "1280x800",
88                 "1440x900", "1600x1200"]
89         }
90     }
91     ,
92     "netPromoters": true,
```

```
98     "appSwitcher": {
99
100         "showTaskbar": true,
101         "showIconsOnly": false,
102         "autoHide": false
103     }
104 ,
105     "splashScreen": true,
106     "assistiveCursor": false
107 }
108 ,
109 "nacl": {
110
111     "supportNacl": true,
112     "graphics": {
113
114         "enable": true,
115         "config": {
116
117             "acceleration": 2
118         }
119     }
120 }
121 ,
122     "video": {
123
124         "enable": true
125     }
126 ,
127     "audio": {
128
129         "enable": true
130     }
131 }
132 }
133 ,
134 "uniqueID": {
135
136     "prefixKey": "CR-",
137     "restrictNameLength": false,
138     "useAssetID": false
139 }
140 ,
141 "features": {
142
```

```
143     "graphics": {
144
145         "jpegSupport": true,
146         "h264Support": {
147
148             "enabled": true,
149             "losslessOverlays": true,
150             "dirtyRegions": true,
151             "yuv444Support": false
152         }
153     }
154 },
155     "multiMonitor": true,
156     "kioskMultimonitor": true,
157     "dpiSetting": {
158
159         "scaleToDPI": true
160     }
161 },
162     "filetransfer": {
163
164         "allowupload": true,
165         "allowdownload": true,
166         "maxuploadsize": 2147483647,
167         "maxdownloadsize": 2147483647
168     }
169 },
170     "com": {
171
172         "portname": "COM5"
173     }
174 },
175     "transport": {
176
177         "cgpEnabled": true
178     }
179 },
180     "other": {
```

```
188
189         "h264nonworker": false
190     }
191 ,
192     "customVC": [
193     {
194
195         "appId": "xyz",
196         "streamName": "abc"
197     }
198
199     ]
200 }
201
202 }
```

### Power setting

Citrix Workspace app for Chrome OS keeps managed Chromebook devices awake even when users are not active. The awake setting feature is disabled by default. To configure awake settings, use the Google admin policy by including the following:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "power_settings": {
9
10        "keep_away_level": "system"
11      }
12    }
13  }
14
15  }
16
17 }
```

List of power setting options with their descriptions:



- “keep\_away\_level”: Keeps devices awake even when users are not active. You can choose either of the two values:
  - “system”: Keeps the system awake, but allows the screen to be dimmed or turned off.
  - “display”: Keeps the system awake and active.

### Note:

For Kiosk mode, make sure that the **Allow app to manage power** setting in the **Google Admin** console is disabled.

## Store settings

To create a store, you identify and configure communications with the servers. You can provide the resources that you want to make available in the store. Then, optionally, you configure remote access to the store through Citrix Gateway. To configure store settings, edit the Google admin policy by including the following:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "store_settings": {
9
10        "name": "SampleStore",
11        "gateways": [{
12
13          "url": "https://yourcompany.gateway.com",
14          "is_default": true
15        }
16      ],
17      "beacons": {
18
19        "internal": [{
20
21          "url": "http://yourcompany.internalwebsite.net"
22        }
23      ],
24      "external": [{
25
```

```
26         "url": "http: //www.yourcompany.externalwebsite
27             .com"
28     }
29 ]
30 ,
31     "rf_web": {
32         "url": "http: //yourcompany.storefrontstoreweb.net"
33     }
34 }
35 }
36 }
37 }
38 }
39 }
40 }
41 }
42 }
```

List of store setting options and their descriptions:

- “name”: Enter the Store name.
- “gateways”: Gateway URLs.

Add gateway URLs in the format <https://gateway.domain.com> or <https://yourcompany.gateway.com> and click **Add** on the utility page.

You can set a default gateway if two or more gateway URLs are added.

To make a gateway the default, set the “is\_default” flag to true. Otherwise, set the flag to false.

For example:

```
1     {
2
3         "settings": {
4
5             "Value": {
6
7                 "settings_version": "1.0",
8                 "store_settings": {
9
10                    "name": "RTST",
11                    "gateways": [{
12
```

```
13         "url": "https://yourcompany.gateway.com"
14         ,
15         "is_default": true
16     }
17     ,
18     {
19         "url": "https://gateway2.domain.com",
20         "is_default": false
21     }
22 ]
23 }
24 }
25 }
26 }
27 }
28 }
29 }
```

- “internal”: Determines whether Citrix Workspace app connects to StoreFront directly or it connects through a gateway. For example, <https://storefront.domain.com>.
- “external”: Determines whether the specified network interface is available and allows traffic. For example, <https://citrix.com>.
- “rf\_web”: Store URL.

## Virtual channels

A virtual channel consists of a client-side virtual driver that communicates with a server-side application. Virtual channels are a necessary part of the remote computing experience with Citrix Virtual Apps and Desktops servers.

Virtual channels are used for:

- Printing
- Serial port mapping
- Clipboard
- Audio
- Multimedia
- Control channel
- EUEM
- USB
- File transfer

- Mobility
- Multi-touch
- Smart card.

All virtual channels are enabled by default. To disable a particular virtual channel, use the Google admin policy by including the following. Select the feature name under “vc\_channel” and click **Add** on the utility page. For example:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "vc_channel": {
11
12          "<vc_name1>": false,
13          "<vc_name2>": false,
14          "<vc_name3>": false,
15          "<vc_namen>": false
16        }
17      }
18    }
19  }
20 }
21
22 }
23
24 }
```

To enable a particular “vc\_channel”, select the feature and click **Remove** on the utility page.

**Note:**

The names can be from 1 to n. The last name “n” cannot have a comma after setting it to true or false.

```
1 {
2
3   "settings": {
```

```
4
5     "Value": {
6
7         "settings_version": "1.0",
8         "engine_settings": {
9
10            "vc_channel": {
11
12                "CTXCPM ": false,
13                "CTXCAM ": false,
14                "CTXGUSB": false
15            }
16
17        }
18
19    }
20
21 }
22
23 }
```

List of virtual channel options with their descriptions:

- "CTXCPM": PDF printing.
- "CTXCCM": Client serial port mapping.
- "CTXCLIP": Clipboard operations from session to VDA and from VDA to session.
- "CTXCAM": Client audio mapping.
- "CTXMM": Citrix multimedia redirection.
- "CTXCTL": Citrix control virtual channel.
- "CTXEUEM": End user experience monitoring.
- "CTXGUSB": Redirect USB devices to session.
- "CTXFILE": Secure file transfer functionality between a user device and a Citrix Virtual Apps and Desktops session. You can upload and download files to and from a session and seamlessly access data.
- "CTXMTCH": Multi-touch remotes all gestures to the virtual session. The app behaves based on the gestures it supports.
- "CTXSCRD": Smart card support.

## **Analytics and CEIP**

Gathers anonymous data from customer deployments of Citrix Workspace app. Collected information includes the following:

- System information details such as:
  - the version of the operating system
  - installed version of Citrix Workspace
  - language
  - browser version
- Usage tracking details such as:
  - statistics of application launches over the course of a week
  - monitor resolutions
  - graphics modes
  - decoders
  - renderers
- Critical to quality details such as connection and launch failures, and statistics on session connection times.
- Configuration tracking details such as data points tracking to check whether feature is enabled or disabled.

**Note:**

To disable analytics and CEIP, one requires administrator-level credentials.

To configure analytics and CEIP using the GUI, go to [Device Management](#) > [Chrome](#) > [User Settings](#), and add the strings as shown in the policy.txt file.

For Citrix Workspace app 1907 for Chrome OS and earlier, to configure CEIP, enable the attribute under **ceip** on the utility page. To configure manually, set the attribute under **ceip** to **true** in Google admin policy by including the following:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ceip":{
11
12          "enabled":true
13        }
14      }
15    }
16  }
```

```
15         }
16
17     }
18
19 }
20
21 }
```

For Citrix Workspace app 1908 for Chrome OS and later, to configure analytics, enable the attribute under **analytics** on the utility page. To configure manually, set the attribute under **analytics** to **true** in Google admin policy by including the following.

**Note:**

The analytics key is backward compatible with the CEIP key.

```
1 {
2
3     "settings": {
4
5         "Value": {
6
7             "settings_version": "1.0",
8             "engine_settings": {
9
10                "analytics":{
11
12                    "enabled":true
13                }
14            }
15        }
16    }
17 }
18
19 }
20
21 }
```

### In-session toolbar and dialogs

The in-session toolbar is a floating toolbar that can be moved anywhere on the screen. The toolbar has Citrix Workspace app icon embedded on it. A customized toolbar improves the user experience.

This enhancement provides new options that are accessible from the toolbar to facilitate common tasks, such as:

- switching to full-screen mode
- uploading or downloading files
- accessing additional options

The toolbar is enabled by default. To hide or customize individual toolbar items, edit the Google admin policy by including the following:

```
1  {
2
3    "settings": {
4
5      "Value": {
6
7        "settings_version": "1.0",
8          "engine_settings": {
9
10         "ui" : {
11
12           "toolbar" : {
13
14             "menubar" :true,
15             "usb": true,
16             "fileTransfer":true,
17             "about":true,
18             "lock":true,
19             "disconnect":true,
20             "logoff":true,
21             "fullscreen":true,
22             "multitouch":true,
23             "preferences":true,
24             "gestureGuide":true
25           }
26         }
27       }
28     }
29   }
30
31 }
32
33 }
34
```



List of in-session toolbar options and their descriptions:

- “menubar”: Toolbar appears when set to true, and is hidden when set to false.
- “usb”: Opens the USB devices dialog box. Contains the list of devices that can be redirected into the session. To redirect a USB device, select an appropriate device and click **Connect**.
- “fileTransfer”: Secure file transfer functionality between a user device and a Citrix Virtual Apps and Desktops session. You can upload and download files to and from a session and seamlessly access data.
- “about”: Displays the third-party licenses page and provides the version number.
- “lock”: Sends “Ctrl+Alt+Del” to the session.
- “disconnect”: Disconnects the session.
- “logoff”: Logs off from the session.
- “fullscreen”: Adjusts the session to full-screen mode. If the session is connected with multiple monitors, the multi-monitor icon appears on the menu bar rather than a full-screen icon. A **Restore** icon appears on the menu bar while in full-screen mode. To restore maximized mode, click **Restore** in the toolbar UI.
- “multitouch”: Remotes all gestures to the virtual session, and the app behaves based on the gestures it supports.
- “preferences”: Provides options to customize CEIP and display resolution settings.
- “gestureGuide”: Provides the guide for gestures in touch mode.

## Window state on session launch

To open desktop sessions in full-screen mode, edit the Google admin policy by including the following. By default, desktop sessions open in maximized windows, where the “window state” value is set to “maximized”.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ui": {
11
12          "sessionsize": {
```

```
13
14         "windowstate": "fullscreen"
15     }
16
17     }
18
19 }
20
21 }
22
23 }
24
25 }
```

## Session size

The session size setting lets you customize resolutions for a session. Edit the Google admin policy by including the following:

```
1 {
2
3     "settings": {
4
5         "Value": {
6
7             "settings_version": "1.0",
8             "engine_settings": {
9
10            "ui": {
11
12                "sessionsize" : {
13
14                    "minwidth" : 240,
15                    "minheight" : 120,
16                    "available" : {
17
18                        "default" : "Fit_To_Window",
19                        "values" : [
20                            "Fit_To_Window",
21                            "Use_Device_Pixel_Ratio",
22                            "1280x800",
23                            "1440x900",
```

```
24                                     "1600x1200"  
25                                     ]  
26                                 }  
27  
28                                 }  
29  
30                                 }  
31  
32                                 }  
33  
34                                 }  
35  
36                                 }  
37  
38 }
```

List of various resolution options and their descriptions:

- “minwidth”: 240 : The minimum width for sessions.
- “minheight”: 120 : The minimum height for sessions.
- “available”: Options to set resolution preferences for sessions.
  - “default”: The value that you set applies to the default resolution. By default, the value is set to “Fit\_To\_Window”. You can change the default value as follows:
    - \* “values”: Other resolution values are:
      - “Fit\_To\_Window”: The default resolution value available. It matches the window size to emulate various screen resolutions.
      - “Use\_Device\_Pixel\_Ratio”: Scales sessions to match the DPI of the device.
      - “1280x800”: Sets the session size to 1280 \* 800 pixels.
      - “1440x900”: Sets the session size to 1440 \* 900 pixels.
      - “1600x1200”: Sets the session size to 1600 \* 1200 pixels.

## Net promoter score

Citrix Workspace app for Chrome OS prompts you periodically for Net Promoter Score (NPS) feedback. The prompt asks you to rate your experience with Citrix Workspace app for Chrome OS. We use NPS feedback as a tool to measure customer satisfaction and to further improve the app.

You can rate your experience on a scale of 1 to 5, with 5 indicating that you are satisfied.

To configure NPS, use the Google admin policy by including the following. If the option is set to true, the user can provide rating.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ui": {
11
12          "netPromoters": true
13        }
14      }
15    }
16  }
17 }
18
19 }
20
21 }
```

## App switcher

Shows the apps that are launched inside a session.

**Note:**

This option is only for kiosk mode.

The app switcher enables users to switch between multiple apps running in the same session. The app that is in focus is highlighted. To configure app switcher, use the Google admin policy by including the following:

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
```

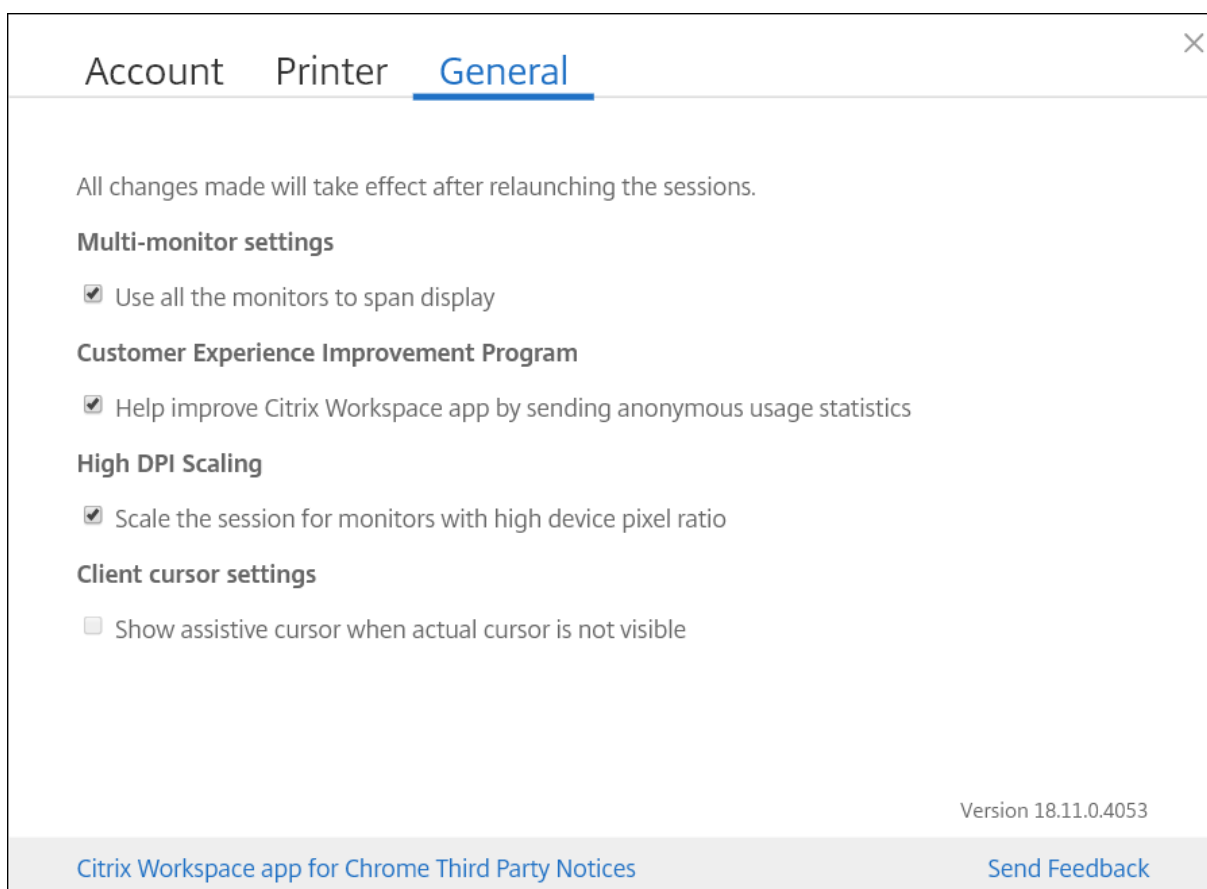
```
10         "ui": {
11
12             "appSwitcher": {
13
14                 "showTaskbar": true,
15                 "showIconsOnly": false,
16                 "autoHide": false
17             }
18
19         }
20
21     }
22
23 }
24
25 }
26
27 }
```

List of appSwitcher options with their descriptions:

- “showTaskbar”: If set to true, the taskbar appears at the bottom of the session. To hide the taskbar, set this option to false.
- “showIconsOnly”: If set to true, the taskbar icons appear. By default, the option is set to false.
- “autoHide”: If set to true, the taskbar is automatically hidden. By default, the option is set to false.

### **Assistive cursor**

When a cursor is not visible inside a desktop session, you can enable an assistive cursor. Requires a session restart.



The assistive cursor feature is disabled by default. To enable the assistive cursor feature, use the Google admin policy by including the following.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ui": {
11
12          "assistiveCursor": true
13        }
14      }
15    }
16  }
17 }
```

```
18
19     }
20
21 }
```

### Note:

- If an administrator enables the assistive cursor as described above, the corresponding check box on the client-side setting is selected by default. To disable the feature, clear the check box.
- If an administrator disables the assistive cursor as described above, the check box is cleared and the feature is disabled.

## Splash screen

Citrix Workspace app displays a splash screen on the first launch with the text “Citrix Workspace app extends the capabilities of Citrix Receiver.” To configure the display of splash screen, use the Google admin policy by including the following. It is enabled by default. To disable, set the enabled attribute under the splash screen to false.

```
1 {
2
3     "settings": {
4
5         "Value": {
6
7             "settings_version": "1.0",
8             "engine_settings": {
9
10                "ui": {
11
12                    "splashScreen": true
13                }
14            }
15        }
16    }
17 }
18
19 }
20
21 }
```

List of splash screen options with their descriptions:

- “splash screen”: If set to true, the splash screen appears.

## Native client

Allows running native codes safely from a web browser that is independent of the user’s operating system. This functionality allows web apps to run at near-native speeds. To configure a native client, use the Google admin policy by including the following. By default, the native client option is enabled. To disable it, set the enabled attribute under the native client to false.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "ui": {
11
12         "Nacl" : {
13
14          "supportNacl" : true,
15          "graphics": {
16
17           "enable": true,
18           "config": {
19
20            "acceleration": 2
21          }
22        }
23      }
24    },
25    "video": {
26
27     "enable": true
28   }
29  },
30  "audio": {
31
32   "enable": true
```



```
33         }
34
35     }
36
37     }
38
39     }
40
41     }
42
43     }
44
45 }
```

List of native client options with their descriptions:

- “supportNacl”: Supports native client.
- “graphics”: Enables native client graphics module.
- “config”: Selects h264 hardware or software decoder.
  - Software = 0
  - Hardware = 1
  - Hardware with fallback = 2
  - AutoDetect = 3
- “video”: Enables webcam redirection.
- “audio”: Enables audio input or microphone redirection.

### Unique ID and Asset ID

A unique ID is applied as a prefix to the client name.

Citrix Workspace app uses an asset ID that administrators set through the **Google Admin** console as a client name for the sessions launched from enrolled Chromebooks.

To configure an asset ID using the GUI, go to **Device Management > Chrome > Devices Console**, and add the **Asset ID** for the device.

To configure an asset ID and a unique ID manually, use the Google admin policy by including the following:

```
1 {
2
3     "settings": {
4
```

```
5     "Value": {
6
7         "settings_version": "1.0",
8         "engine_settings": {
9
10            "uniqueID" : {
11
12                "prefixKey" : "CR-",
13                "restrictNameLength" : true,
14                "useAssetID": false
15            }
16
17        }
18
19    }
20
21 }
22
23 }
```

List of uniqueID options and their descriptions:

- “prefixKey”: The prefix to be used before the client name. The default value is CR.
- “restrictNameLength”: Enables or disables the name length of the prefixKey.
- “useAssetID”: Asset ID that is set as a client name for sessions that are launched from enrolled Chromebooks.

#### Limitations:

- You must have a Google admin policy that can be pushed. Otherwise, the current method of generating a unique client ID for managed Chromebooks remains in use.
- Do not enter a value that has more than 15 characters. Values longer than 15 characters are truncated to 15 characters.

## Graphics and H.264

To configure graphics and H.264 protocol support, use the Google admin policy by including the following. By default, H.264 protocol support is enabled. To disable it, set the enabled attribute to false.

```
1 {
2
3     "settings": {
4
```

```
5     "Value": {
6
7         "settings_version": "1.0",
8         "engine_settings": {
9
10            "ui": {
11
12                "features": {
13
14                    "graphics": {
15
16                        "jpegSupport": true,
17                        "h264Support" : {
18
19                            "enabled": true,
20                            "losslessOverlays": true,
21                            "dirtyRegions": true,
22                            "yuv444Support": false
23                        }
24                    }
25                }
26            }
27        }
28    }
29 }
30 }
31 }
32 }
33 }
34 }
35 }
36 }
37 }
```

List of graphics options with their descriptions:

- "jpegSupport": JPEG capability in Graphics (Thinwire).
- "h264Support": H.264 protocol support.
- "enabled": H.264 support capability in Thinwire.
- "losslessOverlays": Loss less overlays capability in Thinwire.
- "dirtyRegions": Dirty regions capability in Thinwire.
- "yuv444Support": Yuv444 support capability in Thinwire.

## Multi-monitor display

By default, the multi-monitor feature is set to enabled.

### Note:

- If you are using Citrix Workspace app running on XenApp 6.5, set the **shadowing** policy to **Disabled** to use the multi-monitor feature.
- In a desktop session, when the window is set to full screen, the **Display Resolution** option in **Preferences** is deactivated.
- UI dialogs and toolbars appear only on the primary monitor. However, USB and smart card authentication dialogs span across monitors.

## To disable enhanced multi-monitor display in kiosk mode

Enhanced multi-monitor display in kiosk mode is enabled by default.

To disable the feature in kiosk mode, edit the **configuration.js** file or the **Google Admin Console** policy and set the value of **kioskMultimonitor** property to **false**.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "features": {
11
12          "graphics": {
13
14            "multiMonitor": true,
15            "kioskMultimonitor": true
16          }
17        }
18      }
19    }
20  }
21
22 }
23
```

```
24     }
25
26 }
```

**Note:**

To be able to launch a session in kiosk mode, you must enable **Unified Desktop** mode.

1. Launch a web browser and enter the following command: `chrome://flags`
2. From the list of flags, search for `UnifiedDesktopMode` and set it to **Enabled**.

### To configure Unified Desktop mode

1. Log on to the Google Admin console.
2. Go to **Device management > Chrome Management > User Settings**.
3. Set the Unified Desktop policy to **Make Unified Desktop mode available to user**.
4. Click **Save**.

### Kiosk mode

The store URL is read-only in kiosk mode and cannot be edited using the **Account** settings screen. You can change this setting by repackaging the app with the `.cr` file or through Google Policy Management using the Google Admin Console.

If you are using the Google Admin Console, edit the `policy.txt` file containing the Citrix Workspace configuration. Replace the value of `"url"` under `"rf_web"` with a persistent URL.

```
1     {
2
3     "settings": {
4
5     "Value": {
6
7     "settings_version": "1.0",
8     "store_settings": {
9
10    "beacons": {
11
12    "external": [
13    {
14
15    "url": "http://www.yourcompany.externalwebsite.com"
16    }
```

```
17
18     ],
19     "internal": [
20     {
21
22         "url": "http://yourcompany.internalwebsite.net"
23     }
24
25     ]
26     }
27     ,
28     "gateways": [
29     {
30
31         "is_default": true,
32         "url": "https://yourcompany.gateway.com"
33     }
34
35     ],
36     "name": "mystore",
37     "rf_web": {
38
39         "url": " http://your_RfWebURL_or_persistenturl "
40     }
41
42     }
43
44     }
45
46     }
47
48     }
```

## DPI scaling

You can configure the **High DPI Scaling** setting only using the Google admin policy. The DPI scaling feature **Scale the session for monitors with high device pixel ratio** is enabled by default.

To enable or disable the feature, edit the Google Admin Console policy and set the value of **scaleToDPI** property to true or false.

For example, to disable the feature, set **scaleToDPI** property to **false**.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "features" : {
11
12        "graphics" : {
13
14          "dpiSetting": {
15
16            "scaleToDPI": false
17          }
18        }
19      }
20    }
21  }
22 }
23 }
24 }
25 }
26 }
27 }
28 }
29 }
```

## File transfer

To configure file transfer, use the Google admin policy by including the following. By default, the file transfer feature is enabled. To disable it, set the enabled attribute to false.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
```

```
8         "engine_settings": {
9
10            "ui": {
11
12                "features": {
13
14                    "filetransfer" : {
15
16                        "allowupload": true,
17                        "allowdownload": true,
18                        "maxuploadsize": 2147483647,
19                        "maxdownloadsize": 2147483647
20                    }
21                }
22            }
23        }
24    }
25
26    }
27
28    }
29
30    }
31
32 }
```

List of file transfer options with their descriptions:

- “allowupload”: Allows file uploads from device to remote session.
- “allowdownload”: Allows downloads from device to remote session.
- “maxuploadsize”: The maximum file size, in bytes, that can be uploaded. By default, set to 2,147,483,648 bytes (2GB).
- “maxdownloadsize”: The maximum file size, in bytes, that can be downloaded. By default, set to 2,147,483,648 bytes (2GB).

### Serial COM port redirection

To configure serial COM port redirection, enable the feature by applying Citrix Virtual Apps and Desktops port redirection policy settings. For more information about port redirection, see [Port redirection policy settings](#) in the Citrix Virtual Apps and Desktops product documentation.

**Note:**

By default, Citrix Workspace app maps COM5 as the preferred serial COM port for redirection.



After enabling serial COM port redirection policy settings on the VDA, configure the Workspace app using the Google admin policy by including the following:

```
1 {
2
3     "settings": {
4
5         "Value": {
6
7             "settings_version": "1.0",
8             "store_settings": {
9
10                "rf_web": {
11
12                    "url": "<http://YourStoreWebURL>"
13                }
14            }
15        },
16        ,
17        "engine_settings":{
18
19            "features" : {
20
21                "com" : {
22
23                    "portname" : "<COM5>"
24                }
25            }
26        }
27    }
28
29
30
31
32    }
33
34 }
```

List of serial COM port name options and their descriptions:

- "portname": Port number for the COM (serial) virtual channel. By default, the value is COM5.

## Transport

Adaptive transport maintains high server scalability and efficient use of bandwidth. By using adaptive transport, ICA virtual channels automatically respond to changing network conditions. They intelligently switch the underlying protocol between the Citrix protocol called Enlightened Data Transport (EDT) and TCP to deliver the best performance.

By default, the transport option is disabled. To disable it, set the enabled attribute under transport to false.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "transport" : {
11
12         "cgpEnabled" : true
13        }
14      }
15    }
16  }
17 }
18
19 }
20
21 }
```

List of transport options with their descriptions:

- "cgpEnabled": The Common Gateway Protocol (CGP).

## Other

To configure H.264, use the Google admin policy by including the following. By default, the option under the **other** section is disabled. To enable it, set the disabled attribute h264nonworker to true.

```
1 {
```

```
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
9
10        "other": {
11
12          "h264nonworker" : false
13        }
14      }
15    }
16  }
17 }
18
19 }
20
21 }
```

List of options with their descriptions:

- "h264nonworker": Enable the option to decode H.264 frame in main thread.

## CustomVC

Virtual Channel SDK for Chrome enables third-party Chrome apps to write custom virtual channels. These channels are initialized with the app and desktop sessions launched using Citrix Workspace app or using the HDX SDK for Chrome.

In addition, the virtual channel SDK gives an easy way to write and receive data from the third-party Chrome app and the app and desktop.

To configure custom virtual channels, use the Google admin policy by including the following.

```
1 {
2
3   "settings": {
4
5     "Value": {
6
7       "settings_version": "1.0",
8       "engine_settings": {
```

```
9
10         "customVC": [
11             {
12
13                 "appId": "xyz",
14                 "streamName": "abc"
15             }
16         ]
17     }
18 }
19
20 }
21
22 }
23
24 }
```

List of CustomVC options with their descriptions:

- “appId”: ID of the chrome app that is implementing custom virtual channels.
- “streamName”: The virtual channel name.

## Taskbar icons

Applications and desktops configured using Citrix Virtual Apps and Desktops in an active session are displayed as separate apps in the taskbar (shelf) on a Chrome device. This feature applies to published applications and desktops. The functionality and behavior of this feature are similar to the taskbar experience provided by the Windows Operating system.

By default, this feature is enabled.

## To configure taskbar icons

1. Log on to the Google Admin Console.
2. Go to **Device management > Chrome Management > User Settings**.
3. Add the following strings to the policy.txt file.

```
//Preferences for chrome app
'appPrefs':{
  'chromeApp':{
    'seamless' : {
      'showInShelf' : false
    },
  },
}
```

4. Click **Save** and close the file.

## Verifying the configuration of policies

To verify that policies are pushed correctly, do the following:

1. Navigate to <chrome://policy/>.
2. Click [Reload policies](#).
3. Search for the Citrix Workspace app for Chrome OS Web Store ID, which is [haiffjcadagjlijoggckpgfnoei](#).
  - If policies are pushed successfully from the Google Admin Console, they appear under the Web Store ID: [haiffjcadagjlijoggckpgfnoeiflnem](#). If not, verify that the policies are configured correctly. To create or edit the policy, make sure to use the [Configuration Utility Tool](#).
  - If the policies appear under the Web Store ID but do not take effect in the session, contact Citrix Technical support.

## Authenticate

February 18, 2021

### Smart card

Citrix Workspace app for Chrome OS provides support for USB smart card readers with StoreFront. You can use smart cards for the following purposes:

- Smart card logon authentication to Citrix Workspace app for Chrome OS.
- Smart card-aware published apps to access local smart card devices.
- Applications such as Microsoft Word and Outlook that are launched in ICA sessions can access smart cards for signing documents and email.

Supported smart cards include:

- PIV cards
- common access cards

Prerequisites:

- StoreFront versions 3.6 or later

#### **Important:**

For smart card authentication to StoreFront 3.5 and earlier, users require a custom script to enable smart card authentication. Contact Citrix Support for details.

- XenDesktop 7.6 or later
- XenApp 6.5 or later

To configure smart card support on your Chrome device:

1. Install the smart card connector application. Note that the smart card application is required for PCSC support on the Chrome device. This application reads the smart card using the USB interface. You can install this application from the [Chrome website](#).
2. Install the middleware application. Note that a middleware application (for example, Charismathics, or CACKey) is required because it serves as an interface that communicates with the smart card and other client certificates.
  - To install the Charismathics smart card extension or CACKey, see the instructions on the [Chrome website](#).
  - For more information about middleware applications and smart card authentication, see the [Google support site](#).
3. Configure smart card authentication using Citrix Gateway. For more details, see [Configuring Smart Card Authentication](#) in Citrix Gateway documentation.

### **Limitations:**

- The smart card certificate is cached even after the smart card is removed from the Chrome device. This is a known issue that exists in Google Chrome. Restart the Chrome device to clear the cache.
- When Citrix Workspace app for Chrome OS is repackaged, administrators should get the appId whitelisted by Google to ensure that the smart card connector application passes through.
- Only one smart card reader is supported at a time.

### **SAML authentication**

To configure Single Sign-on:

1. Set up the third-party Identity provider (IdP) for SAML authentication if it is not already configured (for example, ADFS 2.0). For more information, see Knowledge Center article [CTX133919](#).
2. Set up Single Sign-on with Google Apps using SAML IdP. This enables users to leverage third-party identity to use Google apps instead of the Google Enterprise account. For more information, see [Set up Single Sign-On \(SSO\) for Google Apps accounts using third-party identity providers](#) on Google support.
3. Configure Chrome devices to log on via SAML IdP. This enables users to log on to Chrome devices using a third-party identity provider. For more information, see [Configure SAML Single Sign-On for Chrome devices](#) on Google support.

4. Configure Citrix Gateway to log on via SAML IdP. This enables users to log on to Citrix Gateway using a third-party identity provider. For more information, see [Configuring SAML Authentication](#).
5. Configure Citrix Virtual Apps and Desktops for Federated Authentication to allow logons to Citrix Virtual Apps and Desktops sessions using dynamically generated certificates after the SAML logon process instead of typing username/password combinations. For more information, see [Federated Authentication Service](#).
6. Install and configure SAML SSO for Chrome app extension on Chrome devices. For more information, see the Google website. This extension retrieves SAML cookies from the browser and provides them to Citrix Workspace. This extension must be configured with the following policy to allow Citrix Workspace to get SAML cookies.

```
1 {
2
3     "whitelist" : {
4
5         "Value" : [
6             {
7
8                 "appId" : "haiffjcadagjlijoggckpgfnoeiflnem",
9                 "domain" : "saml.yourcompany.com"
10            }
11        ]
12    }
13 }
14
15 }
```

If you are repackaging Citrix Workspace app for Chrome OS, change the appId accordingly. In addition, change the domain to your company's SAML IdP domain.

7. Configure Citrix Workspace to use Citrix Gateway configured for SAML logon. This enables users to use the Citrix Gateway configured for SAML logon. For more information on Chrome OS configuration, see Knowledge Center article [CTX141844](#).

## SDK and API

February 18, 2021

## HDX SDK

Citrix Workspace app for Chrome OS introduces an API (Experimental API) that allow third-party Chrome apps to lock, unlock and disconnect from a Citrix Virtual Apps and Desktops session. Using this API, Citrix Workspace app for Chrome OS can be launched in both embedded mode and kiosk mode. Sessions launched in embedded mode function in ways similar to sessions launched kiosk mode.

For the SDK documentation, see [HDX SDK for Citrix Workspace app for Chrome](#).

For HDX SDK examples, refer to the Citrix [download](#) page.

## Citrix Virtual Channel SDK

The Citrix Virtual Channel Software Development Kit (SDK) provides support for writing server-side applications and client-side drivers for additional virtual channels using the ICA protocol. The server-side virtual channel applications are on Citrix Virtual Apps or Citrix Virtual Apps and Desktops servers. This version of the SDK provides support for writing new virtual channels for Citrix Workspace app for Chrome OS. If you want to write virtual drivers for other client platforms, contact Citrix.

The Virtual Channel SDK provides:

- An easy interface that can be used with the virtual channels in the Citrix Server API SDK (WFAPI SDK) to create new virtual channels.
- Working source code for several virtual channel sample programs that demonstrate programming techniques.
- The Virtual Channel SDK requires the WFAPI SDK to write the server side of the virtual channel.

For the VC SDK documentation, see [Citrix Virtual Channel SDK for Citrix Workspace app for Chrome](#).

For VC SDK examples, refer to the Citrix [download](#) page.

## Procedure to consume the API in the third-party Chrome app

1. Install the latest version of Citrix Workspace app for Chrome OS. See [Citrix downloads](#) page for details.
2. Whitelist the third-party Chrome app by adding the policy file for Citrix Workspace app for Chrome OS using Chrome management settings.

For more details, see [Manage Chrome Apps by organizational unit](#) on Google support.

The Sample policy.txt file to whitelist the third-party Chrome app is as below:

```
1 {
```



```

2
3     "settings": {
4
5         "Value": {
6
7             "settings_version": "1.0",
8             "store_settings": {
9
10                "externalApps": [ "<3rdParty_App1_ExtID>" , "<3
rdParty_App2_ExtID>" ]
11
12            }
13
14        }
15
16    }
17 }

```

**Note:**

<3rdParty\_App1\_ExtID> is used as an example for the name of externalApps and can send messages to Citrix Workspace app for Chrome OS. Get your **appid** from the chrome://extensions site.

3. Launch the application or desktop session in Citrix Workspace for Chrome OS by following the steps below:

- Get the workspaceappId

```
var workspaceappId = " haiffjcadaglijoggckpgfnoeiflnem ";
```

**Note:**

In this example, **workspaceappId** indicates the store version of Citrix Workspace app for Chrome OS. If you are using a repackaged version of Citrix Workspace app for Chrome OS, use the appropriate workspaceappId.

- Convert ICA data from INI to JSON format.

**Note:**

Typically, the ICA file is retrieved from StoreFront as an INI file. Use the following helper function to convert an ICA INI file into JSON.

```
//Helper function to convert ica in INI format to JSON
function convertICA_INI_TO_JSON(data){
var keyVals = {};
if (data) {
```

```
var dataArr;
if(data.indexOf('\r')== -1){
  dataArr = data.split('\n');
}else{
  dataArr = data.split('\r\n');
}
for (var i = 0; i < dataArr.length; i++) {
  var nameValue = dataArr[i].split( '=', 2);
  if (nameValue.length === 2) {
    keyVals[nameValue[0]] = nameValue[1];
  }
  // This is required as LaunchReference will contain '=' as well. The above split( '=',2) will not provide
  // the complete LaunchReference. Ideally, something like the following should be used generically as
  // well
  // because there can be other variables that use the '=' character as part of the value.
  if (nameValue[0] === "LaunchReference") {
    var index = dataArr[i].indexOf( '=');
    var value = dataArr[i].substr(index + 1);
    keyVals[nameValue[0]] = value;
  }
}
console.log(keyVals); //to remove
return keyVals;
}
return null;
}
```

- Send an ICA message from the third-party Chrome app to Citrix Workspace app for Chrome OS.

```
1  var icaFileJson = {
2    ... }
3    ; // ICA file passed as JSON key value pairs.
4  var message = {
5
6    "method" : "launchSession",
7    "icaData" : icaJSON
8  }
9  ;
10 chrome.runtime.sendMessage(workspaceappID, message,
11 function(launchStatus) {
12
```

```
13  if (launchStatus.success) {
14
15  // handle success.
16  console.log("Session launch was attempted successfully");
17  }
18  else {
19
20  // handle errors.
21  console.log("error during session launch: ", launchStatus.message
22             );
23
24  }
25  );
```

For more details on sendMessage API commands, see the following links:

<https://developer.chrome.com/extensions/runtime#event-onMessageExternal>

<https://developer.chrome.com/extensions/runtime#method-sendMessage>

## Limitations

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- During screen sharing using Microsoft Teams optimization, the red border around the shared window does not appear.
- When **Use Hardware Encoding for Video Codec** is set to **Enabled** in Citrix Studio, your screen might appear green during a session through an Intel vGPU VDA. [RFHTMCRM-5521]
- In multi-monitor sessions through a Microsoft Windows 7 VDA, extended monitors might appear black. Also, the mouse cursor might not render correctly. We recommend selecting a combined display resolution of less than 4800 pixels in width and in height. [RFHTMCRM-5539]
- The server falls back to YUV420 even when configured to Graphics-Thinwire YUV444 setting. The graphics-rich applications are limited to the YUV420 range. [RFHTMCRM-5520]
- Single-sign on (SSO) with Google IdP (Identity provider) is not supported.

**Locations**

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