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User Guide

Amazon DCV

Amazon DCV: User Guide

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What Is Amazon DCV?

> ℹ️ **Note**
>
> Amazon DCV was previously known as NICE DCV.

Amazon DCV is a high-performance remote display protocol. It lets you securely deliver remote desktops and application streaming from any cloud or data center to any device, over varying network conditions. By using Amazon DCV with Amazon EC2, you can run graphics-intensive applications remotely on Amazon EC2 instances. You can then stream the results to more modest client machines, which eliminates the need for expensive dedicated workstations.

Topics covered in this guide:

- [Amazon DCV supported features](#)
- [Getting started with Amazon DCV](#)
- [Understanding Amazon DCV clients](#)
- [Using Amazon DCV](#)
- [Troubleshooting](#)

Supported features

Amazon DCV offers a Windows client, Linux client, web browser client, and macOS client. The clients offer similar feature sets, but there are some differences. Choose the Amazon DCV client that meets your specific requirements.

The following table compares the features that are supported by the Amazon DCV clients.

Feature	Windows client	Web browser client	Linux client	macOS client
Connect to Windows Amazon DCV servers	✓	✓	✓	✓
Connect to Linux Amazon DCV servers	✓	✓	✓	✓
QUIC UDP transport protocol	✓	✗	✓	✓
Manage streaming modes	✓	✓	✓	✓
Transfer files	✓	✓	✓	✓
Print from sessions	✓	✓[1]	✓	✓
Copy and paste	✓	✓	✓	✓
Smart card support	✓	✗	✓	✓
USB remotization support	✓ (installable client)	✗	✗	✗
Connection file support	✓	✗	✓	✓
Stereo 2.0 audio playback	✓	✓	✓	✓
Surround sound audio playback	✓ (up to 7.1)	✗	✓ (up to 5.1)	✗
Stereo 2.0 audio recording	✓	✓	✓	✓

Feature	Windows client	Web browser client	Linux client	macOS client
Touchscreen support	✓ (Windows 10 and later)	✓ [2]	✓	✗
Stylus support	✓ (Windows 10 and later)	✓ [3]	✓	✓
Gamepad support	✓ (Windows 10 and later)	✗	✗	✗
Multiple monitor support	✓	✓ [4]	✓	✓
Extending full screen across selected monitors	✓	✓	✓	✓
Webcam support	✓	✓ [5]	✓	✓
Setting time zone	✓	✓	✓	✓
Using accurate audio/video synchronization	✓	✗	✓	✓
Amazon DCV Extensions	✓	✗	✓	✓
WebAuthN	✓	✗	✓	✓

[1]These clients support printing to a file only. They don't support printing to a local printer.

[2] Supported by Firefox, Edge, and Google Chrome.

[3] Supported in Chromium-based browsers only. This includes Google Chrome and Microsoft Edge version 79 and later. Tilt and pressure events aren't supported in other browsers.

[4] Support for up to two monitors.

[5] Supported in Chromium-based browsers only. This includes Google Chrome and Microsoft Edge version 79 and later. This doesn't include Firefox and Safari.

For more information about the Amazon DCV server features, see Amazon DCV server features in the *Amazon DCV Administrator Guide*.

Getting Started with Amazon DCV

To use Amazon DCV, install the Amazon DCV server software on a server. The Amazon DCV server software is used to create a secure session. You install and run your applications on the server. The server uses its hardware to perform the high-performance processing that the installed applications require. Your users access the application by remotely connecting to the session using a Amazon DCV client application. When the connection is established, the Amazon DCV server software compresses the visual output of the application and streams it back to the client application in an encrypted pixel stream. The client application receives the compressed pixel stream, decrypts it, and then outputs it to the local display.

After you choose a Amazon DCV client and connect to it, you are able to interact with the Amazon DCV session. For more information about using the Amazon DCV clients to interact with sessions, see Using Amazon DCV.

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Requirements

To use Amazon DCV, ensure that the client computers meet the following minimum requirements. Bear in mind that your experience is dependent on the number of pixels that are streamed from the Amazon DCV server to the Amazon DCV client.

	Windows client	Web browser client	Linux client	macOS client
Softw	The Windows client is supported on 32-bit and 64-bit versions of the following operating systems: • Windows 10 • Windows 11 The client requires the following additional software: • .NET Framework 4.6.2 • Microsoft Visual C++ Redistrib utable for Visual Studio. For more information and download instructions, see the [Microsoft Support](#) website.	The web browser client is supported on the latest three major versions of the following browsers, across all major desktop operating systems (Windows, macOS, and Linux): • Mozilla Firefox • Google Chrome • Microsoft Edge • Apple Safari The web browser client also requires WebGL and asm.js. ⓘ **Note** The web browser client isn't supported on mobile operating	The Linux client is supported on the following modern Linux operating systems: • RHEL 8.x and Rocky Linux 8.5 or later (x86_64) • RHEL 9, CentOS Stream 9, and Rocky Linux 9 (x86_64) • SUSE Linux Enterprise 15.x • Ubuntu 20.04, 22.04, and 24.04	macOS clients with Intel processor s require macOS Monterey (12) or later. macOS clients with Apple M1 processor s require macOS Monterey (12).

	Windows client	Web browser client	Linux client	macOS client
		systems, such as Android and iOS.		
Netwo	The client must connect to the Amazon DCV server, and it must communicate over the required port. By default, this is port 8443.			

> ℹ️ **Note**
>
> Amazon DCV does not support operating systems that have reached end of life. Contact your vendor regarding your operating system.

For more information about the Amazon DCV server requirements, see Amazon DCV server requirements in the *Amazon DCV Administrator Guide*.

Step 1: Get the Amazon DCV session information

After the Amazon DCV session is running on the Amazon DCV server, you must have specific information to connect to it. Contact your Amazon DCV administrator if you don't have the following information:

- The IP address or host name of the Amazon DCV server
- The port that the Amazon DCV server is configured to communicate over. By default, port 8443 is used by the Amazon DCV server.
- The session ID
- Sign-in credentials to connect to the Amazon DCV host server

Step 2: Choose a Amazon DCV client

Next, choose the Amazon DCV client that best meets your needs. Amazon DCV offers the following clients:

- [Windows](#)

- [Web browser](#)

- [Linux](#)

- [MacOS](#)

For more information about the available clients, see [Understanding Amazon DCV clients](#).

Step 3: Connect to a Amazon DCV session

After the Amazon DCV session starts running on the Amazon DCV server, you can connect to it using your preferred client. Ensure that you have the required information when connecting to your Amazon DCV session. For more information, see [Step 1: Get the Amazon DCV session information](#).

If you're connecting to a console session, contact your Amazon DCV server administrator. With them, ensure that the session is started and confirm the server and session details. If you're connecting to a virtual session on a Linux Amazon DCV server, you might need to start your own session. For more information, see [Starting Amazon DCV Sessions](#) in the *Amazon DCV Administrator Guide.*

Topics

- [Connecting to a Amazon DCV session using the Windows client](#)

- [Connecting to a Amazon DCV session using the web browser client](#)

- [Connecting to a Amazon DCV session using the Linux client](#)

- [Connecting to a Amazon DCV session using the macOS client](#)

- [Connecting to a Amazon DCV session using URI](#)

Connecting to a Amazon DCV session using the Windows client

The steps for connecting to a Amazon DCV session are the same for both the installable and portable versions of the Windows client.

To connect to a session using the Windows client

1. Launch the Windows client.

2. Choose **Connections Settings**, configure your proxy settings as follows, and then choose **OK**.

- To avoid connecting through a proxy, choose **Connect Directly**.

- To connect to the Amazon DCV server using your preconfigured operating system proxy settings, choose **Use system proxy**.

- To connect to the Amazon DCV server through a specific HTTP proxy server, choose **Get through web proxy**. Specify the IP address and communication port or the hostname of the proxy server. If the HTTP proxy server requires authentication, select the **Proxy server requiring password** check box and enter your sign-in credentials.

- To connect to the Amazon DCV server through a specific SOCKS5 proxy server, choose **Get through SOCKSv5 proxy**. Specify the IP address and communication port or the hostname of the proxy server. If the SOCKSv5 proxy server requires authentication, select the **Proxy server requiring password** check box and enter your sign-in credentials.

- To select the transport protocol to use for data transport, choose the **Protocol** tab. By default, the client uses the QUIC protocol (based on UDP) for data transport if it's available. If it isn't available, the client uses the WebSocket protocol (based on TCP). This option is always available.

  QUIC is available only if the two following conditions are met. First, the Amazon DCV server is configured to support it. Second, your network configuration supports UDP communication between the Amazon DCV client and the Amazon DCV server. Additionally, it's only supported for direct client-server communication where there are no intermediate proxies, gateways, or load balancers.

  You can force the client to use a data transport protocol by explicitly selecting it. To verify which protocol is in use, check the Streaming Modes dialog. Additionally, if the QUIC protocol is in use, "QUIC" appears in the titlebar.

  For more information and instructions, see [Enable the QUIC UDP transport protocol](#) in the *Amazon DCV Administrator Guide*.

3. Specify the session details in the following format:

```
server_hostname_or_IP:port#session_id
```

In the following example, the command connects to a session that's named `my-session`. This session is hosted on a Amazon DCV server with the hostname `my-dcv-server.com`. It's connected over port `8443`.

```
my-dcv-server.com:8443#my-session
```

4. Choose **Connect**.

5. Enter sign-in credentials and choose **Login**.

> ⓘ **Note**
>
> By default, the connection is terminated after three unsuccessful login attempts. To try
> again, restart the connection.

6. If you're prompted to verify the server's certificate, confirm the certificate's fingerprint with
    your Amazon DCV administrator. If the fingerprint is valid, choose **Trust & Connect**.

Connecting to a Amazon DCV session using the web browser client

The steps for connecting to a Amazon DCV session are the same across all supported web
browsers. The client connects to the Amazon DCV server using your web browser's proxy settings.
To connect using different proxy settings, see the documentation for your specific web browser.

> ⓘ **Note**
>
> The web browser client doesn't support the QUIC (UDP) transport protocol.

To connect to your Amazon DCV session using the web browser client

1. Open a web browser and enter the Amazon DCV server URL in the following format:

    ```
    https://server_hostname_or_IP:port/#session_id
    ```

    In the following example, the URL connects to a session that's named `my-session`. This
    session is hosted on a Amazon DCV server with the hostname `my-dcv-server.com`. It's
    connected over port `8443`.

    ```
    https://my-dcv-server.com:8443/#my-session
    ```

2. Enter your sign-in credentials and choose **Login**.

> **ⓘ Note**
>
> By default, the connection is terminated after three unsuccessful login attempts. To try again, restart the connection.

3. Your web browser might warn you that the server's certificate isn't trusted. If you're unsure about the authenticity of the certificate, confirm it with your Amazon DCV administrator. Proceed if it's safe to do so.

> **ⓘ Note**
>
> This step varies depending on the web browser that you're using.

Connecting to a Amazon DCV session using the Linux client

The steps for connecting to a Amazon DCV session are the same across all Linux clients.

To connect to a session using the Linux client

1. Launch the Linux client.

2. Choose **Connections Settings**, configure your proxy settings as follows, and then choose **Apply**.

   - To avoid connecting through a proxy, choose **Connect directly**.

   - To connect to the Amazon DCV server using your preconfigured operating system proxy settings, choose **Use system proxy**.

   - To connect to the Amazon DCV server through a specific HTTP proxy server, choose **Get through web proxy (HTTP)**. Specify the IP address or the hostname of the proxy server, as well as the communication port. If the HTTP proxy server requires authentication, select the check box of the **Proxy server requiring password** and enter your sign-in credentials.

   - To connect to the Amazon DCV server through a specific HTTPS proxy server, choose **Get through web proxy (HTTPS)**. Specify the IP address or the hostname of the proxy server, as well as the communication port. If the web proxy server requires authentication, select the **Proxy server requiring password** check box and enter your sign-in credentials.

- To select the transport protocol to use for data transport, choose the **Protocol** tab. By default, the client uses the QUIC protocol (based on UDP) for data transport if it's available. If it isn't available, the client uses the WebSocket protocol (based on TCP). This option is always available.

  QUIC is available only if the following two conditions are met. First, the Amazon DCV server is configured to support it. Second, your network configuration supports UDP communication between the Amazon DCV client and the Amazon DCV server. Additionally, it's only supported for direct client-server communication where there are no intermediate proxies, gateways, or load balancers.

  You can force the client to use a data transport protocol by explicitly selecting it. To verify which protocol is in use, check the Streaming Modes dialog. Additionally, if the QUIC protocol is in use, "QUIC" appears in the titlebar.

  For more information and instructions, see [Enable the QUIC UDP transport protocol](#) in the *Amazon DCV Administrator Guide*.

3. Specify the session details in the following format:

   ```
   server_hostname_or_IP:port#session_id
   ```

   In the following example, the command connects to a session that's named `my-session`. This session is hosted on a Amazon DCV server with the hostname `my-dcv-server.com`. It's connected over port 8443.

   ```
   my-dcv-server.com:8443#my-session
   ```

4. Choose **Connect**.

5. Enter your sign-in credentials and choose **Login**.

   > ⓘ **Note**
   >
   > By default, the connection is terminated after three unsuccessful login attempts. To try again, restart the connection.

6. If you're prompted to verify the certificate on the server, confirm the fingerprint of the certificate with your Amazon DCV administrator. If the fingerprint is valid, choose **Trust & Connect**.

Connecting to a Amazon DCV session using the macOS client

To connect to a session using the macOS client

1. Launch the macOS client.

    If you get an error stating that the application can't be opened because it's from an unidentified developer, see the [Safely open apps on your Mac](#) webpage.

2. Choose **Connections Settings**, configure your proxy settings as follows, and then choose **Apply**.

    -   To avoid connecting through a proxy, choose **Connect directly**.

    -   To connect to the Amazon DCV server using your preconfigured operating system proxy settings, choose **Use system proxy**.

    -   To connect to the Amazon DCV server through a specific HTTP proxy server, choose **Get through web proxy (HTTP)**. Specify the IP address or hostname of the proxy server as well as the communication port. If the HTTP proxy server requires authentication, select the **Proxy server requiring password** check box and enter your sign-in credentials.

    -   To connect to the Amazon DCV server through a specific HTTPS proxy server, choose **Get through web proxy (HTTPS)**. Specify the IP address or hostname of the proxy server as well as the communication port. If the web proxy server requires authentication, select the **Proxy server requiring password** check box and enter your sign-in credentials.

    -   To select the transport protocol to use for data transport, choose the **Protocol** tab. By default, the client uses the QUIC protocol (based on UDP) for data transport if it's available. If it isn't available, the client uses the WebSocket protocol (based on TCP). This option is always available.

        QUIC is available only if the following conditions are met. First, the Amazon DCV server is configured to support it. Second, your network configuration supports UDP communication between the Amazon DCV client and the Amazon DCV server. Additionally, it's only supported for direct client-server communication where there are no intermediate proxies, gateways, or load balancers.

        You can force the client to use a data transport protocol by explicitly selecting it. To verify which protocol is in use, check the Streaming Modes dialog. Additionally, if the QUIC protocol is in use, "QUIC" appears in the titlebar.

For more information, see [Enable the QUIC UDP transport protocol](#) in the *Amazon DCV Administrator Guide*.

3. Specify the session details in the following format:

    ```
    server_hostname_or_IP:port#session_id
    ```

    In the following example, the command connects to a session that's named `my-session`. This session is hosted on a Amazon DCV server with the host name `my-dcv-server.com`. It's connected over port 8443.

    ```
    my-dcv-server.com:8443#my-session
    ```

4. Choose **Connect**.

5. Enter your sign-in credentials and choose **Login**.

    > ⓘ **Note**
    >
    > By default, the connection is terminated after three unsuccessful login attempts. To try again, restart the connection.

6. If you're prompted to verify the server's certificate, confirm the certificate's fingerprint with your Amazon DCV administrator. If the fingerprint is valid, choose **Trust & Connect**.

Connecting to a Amazon DCV session using URI

Using a URI automatically opens a locally installed Amazon DCV client with information passed into from the URI.

Within the URL field of your internet browser, enter the URI in this format: `dcv:// hostname[:port]/[?authToken][#sessionId]`

Example

For example, `dcv://203.0.113.1:8443/? authToken=e3b0c44298fc1c149afbf4c8996fb92427ae41e4649b934ca495991b7852b855#12345`

Your locally installed client will open with the information prepopulated.

For more information, see GetSessionConnectionData in the Amazon DCV Session Manager Developer Guide

Step 4: Create a connection file (optional)

Using the Windows, Linux, or macOS native client, you can create a connection file that you can use to instantly connect to a Amazon DCV session.

Contents

- Creating the connection file
- Supported parameters
- Running the connection file

Creating the connection file

The connection file is a text-based file with a `.dcv` file extension. The format of the `.dcv` file is similar to that of an `.ini` file. The file includes `[groups]` followed by the parameters and their values. The groups and parameters take the following format:

```
[group_name]
parameter_name=parameter_value
```

For example:

```
[options]
fullscreen=true
```

You can create a connection file for a specific Amazon DCV session directly from the client. Or, alternatively, you can create a connection file from scratch using a text editor.

> **ⓘ Note**
>
> The procedure for creating a connection file from scratch using a text editor is the same for the Windows, Linux, and macOS clients.

To create a connection file from the client

1. Open the client.

2. Connect to the server and session where you are creating the file.

3. Select the hostname for the Amazon DCV server in the top-right corner and choose **Save Connection As**.

4. In the **Save As** window, enter a file name and destination folder, and choose **Save**.

By default, when you create a connection file, the file includes the `format`, `host`, `port`, `user`, and `proxytype` parameters. These parameters are required to connect to the session that the file was created from. You can manually customize or add parameters at any time by editing the file using a text editor.

To create a connection file from scratch using a text editor

1. Create a `.dcv` file with the following file name format: *file_name*`.dcv`

2. Open the `.dcv` file using your preferred text editor.

3. Add the `[version]` group and `format` parameter to the top of the file in the following format:

    ```
    [version]
    format=1.0
    ```

    > **⚠ Important**
    >
    > If the `.dcv` file doesn't include the `[version]` group and `format` parameter, parsing fails.

4. Add the required parameter groups using the following format:

```
[group_name]
```

For more information about the parameter groups, see Supported parameters.

5. Add the parameters and parameter values after the groups using the following format:

```
parameter_name=parameter_value
```

> **ⓘ Note**
>
> - Parameter names are case sensitive.
>
> - Don't enclose string parameter values in quotation marks.

For more information about the parameters and parameter values, see Supported parameters.

6. Save the changes and close the `.dcv` file.

You can also use this procedure to add additional parameters to an existing connection file at any time.

Supported parameters

Currently, the `.dcv` file supports parameters in three parameter groups—`[version]`, `[connect]`, and `[options]`. The following tables list the groups and their available parameters.

Groups

- [version] parameters
- [connect] parameters
- [options] parameters
- [debug] parameters

[version] parameters

> ⚠️ **Important**
>
> This is a required group. If your `.dcv` file doesn't include this group, parsing fails.

The following table lists the parameters that can be specified in the `[version]` group.

Parameter	Type	Default value	Description	
format	string		⚠️ **Important** This is a required parameter. The parameter value must be `1.0`. If your `.dcv` file doesn't include this parameter, parsing fails.	

[connect] parameters

The following table lists the parameters that can be specified in the `[connect]` group.

Parameter	Type	Default value	Description
host	String		The hostname of the Amazon DCV server hosting the session.
port	Integer	8443	The port to use when connectin g to the Amazon DCV server.
weburlpath	String		A custom path on the Amazon DCV server for connection. For example, if you specify `customPath`, the client attempts to connect to `host:port/ customPath`.
sessionid	String		The ID of the Amazon DCV session to connect to.
authtoken	String		The authentication token to be used for the connectio n. If you specify an `authtoken`, you must also specify a `sessionid`

Parameter	Type	Default value	Description	
			. When using `authtoken`, you can omit the `user` and `password` parameters.	
user	String		The user name to use when connecting to the Amazon DCV server.	
password	String		The password to use when connecting to the Amazon DCV server. The password isn't encrypted.	
proxytype	String	SYSTEM	The proxy type to be used. Valid values include HTTPS, HTTP, `SOCKS5|SOCKS`, SYSTEM, or `NONE|DIRECT`. If you specify SYSTEM, your computer's proxy settings are used.	

Parameter	Type	Default value	Description
proxyhost	String		The address of the proxy server to be used if connecting through a proxy server.
proxyport	Integer		The port to be used if connecting through a proxy server.
proxyuser	String		The user name to be used for proxy authentication.
proxypassword	String		The password to be used for proxy authentication. The password isn't encrypted.

Parameter	Type	Default value	Description	
transport	String	auto	The protocol to use for data transport. With `auto` the client first tries to connect using the QUIC (UDP) protocol. If the QUIC connectio n fails, transport automatically falls back to `websocket` . Specify `websocket` to use the WebSocket (TCP) protocol for data transport, or specify `quic` to use the QUIC (UDP) protocol for data transport . If you enable QUIC, the QUIC protocol is used for data transport and WebSocket is used for authentic ation traffic. If you enable WebSocket , the WebSocket protocol is used for both data	

Parameter	Type	Default value	Description		
			transport and authentication traffic.		
webport	Integer	8443	The port to use for WebSocket (TCP) traffic.		
quicport	Integer	8443	The port to use for QUIC (UDP) traffic.		
certificatevalidationpolicy	String	ask-user	The policy for validating an untrusted certificate. Values include `strict`, `accept-untrusted`, and `ask-user`.		

[options] parameters

The following table lists the parameters that can be specified in the [options] group.

Parameter	Type	Default value	Description		
fullscreen	Boolean	false	Indicates whether the client starts in full screen mode.		
useallmonitors	Boolean	false	Indicates whether the client uses all monitors when		

Parameter	Type	Default value	Description	
			starting full screen mode.	
promptreconnect	Boolean	true	Indicates whether the client prompts you to reconnect after you disconnect from a session. If the parameter is set to `true`, you're redirected to the sign-in screen when you disconnect. If the parameter is set to `false`, the client closes when you disconnect.	
enableyuv 444decoding	Boolean	false	Indicates whether to enable the [High color accuracy (YUV 4:4:4)](#) when encoding dynamic video content.	

[debug] parameters

The following table lists the parameters that can be specified in the [debug] group.

Parameter	Type	Default value	Description	
loglevel	String	INFO	Value can be set to Debug.	

Running the connection file

To run `.dcv` connection file, navigate to the file and double-click it.

Or, specify the file path as an argument for the `dcvviewer` command.

- Windows client

```
C:\> dcvviewer.exe path\connection_file_name.dcv
```

- Linux and macOS client

```
$ dcvviewer path/connection_file_name.dcv
```

Understanding Amazon DCV clients

Amazon DCV offers a Windows client, Linux client, web browser client, and macOS client. The clients offer similar feature sets, but there are some differences. Choose the Amazon DCV client that meets your specific requirements.

Amazon DCV offers a variety of clients you can use. Each client offers a similar feature set, but there are some differences. When choosing a Amazon DCV client that best fits your needs, consider factors such as the operating system of your local device, the specific features and functionality required, and the level of integration needed. The clients offer a similar set of features, but there may be slight variations in capabilities or user interface. For more information, see Requirements.

Amazon DCV clients include:

- Windows client– Provides seamless integration with Windows, supporting features like desktop sharing, audio/video playback, USB device redirection, and clipboard integration.

- Web browser client– This option is useful for those who need to access remote resources from various devices or locations without the need to install a dedicated client application.

- Linux client– Allows Linux users to access their remote resources with the same level of performance and functionality as the Windows client.

- MacOS client– Provides a dedicated client that seamlessly integrates with the macOS environment. This client offers the same feature set.

Windows client

The Amazon DCV Windows client is supported on Windows computers only. The Windows client is a standalone application that runs on the Windows operating system.

For instructions on how to connect to a Amazon DCV session using the Windows client, see Connecting to a Amazon DCV session using the Windows client.

The Windows client is available in two versions: an installable version and a portable version. Both versions have the same minimum system requirements and have the same features.

Contents

- Installable Windows client

- [Portable Windows client](#)

Installable Windows client

You can use an installation wizard to install the client. The wizard takes you through a series of steps where you can customize your client installation. Or, you can use the command line to perform an unattended installation. This second method uses default settings to automate the installation procedure.

Before using the wizard or the command line to install the client, make sure that your computer has the required software. For a complete list of required software, see [Requirements](#).

To install the Windows client using the installation wizard

1. Download the [Windows client installer](#).

    > **ⓘ Tip**
    >
    > The [latest packages](#) page of the download website contains links that always point to the newest available version. You can use these links to automatically retrieve the newest Amazon DCV packages.

2. Run the installer.

3. On the **Welcome** screen, choose **Next**.

4. On the **End-User License Agreement** screen, read the license agreement. If you accept the terms, select the **I accept the terms in the License Agreement** check box. Choose **Next**.

5. On the **Destination Folder** screen, choose **Next** to keep the default installation folder. To install the client in a different folder, change the destination path, and then choose **Next**.

6. (Optional) On the **Drivers Selection** screen, select **USB device remotization**. Then, choose **Will be installed on local hard drive**, **Next**. This installs the drivers required to support some specialized USB devices. These devices include 3D pointing devices and graphic tablets.

    > **ⓘ Note**
    >
    > Using specialized USB devices requires additional client and server configuration. For instructions, see [Using USB remotization](#).

7.   On the **Ready to install** screen, choose **Install**.

To install the Windows client using an unattended installation

1.   Download the [Windows client installer](#).

2.   Open a command prompt window and navigate to the folder where you downloaded the installer.

3.   Run the unattended installer.

```
C:\> msiexec.exe /i nice-dcv-client-Release-2024.0-9431.msi /quiet /norestart /l*v
  dcv_client_install_msi.log
```

To install all of the optional components, including the USB driver, include the ADDLOCAL=ALL option in the command.

```
C:\>  msiexec.exe /i nice-dcv-client-Release-2024.0-9431.msi ADDLOCAL=ALL /quiet /
norestart /l*v dcv_client_install_msi.log
```

Portable Windows client

The Windows client is also available in a portable version. You don't need to install the portable version on your computer. You can copy it to a USB drive and run it directly from the USB drive on any Windows computer that meets the minimum requirements.

To use the portable Windows client

1.   Download the portable [Windows client zip file](#).

> **ⓘ Tip**
>
> The [latest packages](#) page of the download website contains links that always point to the newest available version. You can use these links to automatically retrieve the newest Amazon DCV packages.

2.   Extract the contents of the zip file.

3.   To launch the client, open the extracted folder, navigate to `/bin/`, and double-click `dcvviewer.exe`.

Web browser client

The Amazon DCV web browser client runs inside a web browser. You don't need to install the web client. The web browser client is supported on the following browsers across all major desktop operating systems (including Windows, macOS, and Linux):

Browser	Version
Google Chrome	Latest three major versions
Mozilla Firefox	Latest three major versions
Microsoft Edge	Latest three major versions
Apple Safari	Latest three major versions

For instructions on how to connect to a Amazon DCV session using the web browser client, see [Connecting to a Amazon DCV session using the web browser client](#).

WebCodecs

The web browser client can use WebCodecs to use video decoders that are already present in the browser. This can improve frame rate, because packets can be decoded by components of the browser. The Amazon DCV web browser client will automatically use it if supported by the browser.

The use of WebCodecs is available on the following browsers:

- Google Chrome version 94 and later
- Microsoft Edge version 94 and later

All major operating systems are supported. This includes Windows, macOS, and Linux.

Limitations

The web browser client has the following limitations:

- It supports up to two screens with a maximum resolution of 1920x1080. The maximum resolution can be overriden on the server side. For more information, see [Managing the Amazon DCV Session Display Layout](#) in the *Amazon DCV Administrator Guide*.

- It uses the web browser's proxy configuration.

Linux client

The Linux client runs natively on the operating system. You can use it to connect to Amazon DCV sessions that are hosted on Windows and Linux Amazon DCV servers.

You install the Linux client on a Linux client computer using a software package. The software package installs all required packages and their dependencies, and performs the required client configuration.

For instructions on how to connect to a Amazon DCV session using the Linux client, see Connecting to a Amazon DCV session using the Linux client.

To install the Linux client

1. The software packages are digitally signed with a secure GPG signature. To allow the package manager to verify the package signature, import the Amazon DCV GPG key. To do this, open a terminal window and import the Amazon DCV GPG key.

   - RHEL, CentOS, Rocky Linux, and SUSE Linux Enterprise 15

     ```
     $ sudo rpm --import https://d1uj6qtbmh3dt5.cloudfront.net/NICE-GPG-KEY
     ```

   - Ubuntu

     Download the GPG key.

     ```
     $ wget https://d1uj6qtbmh3dt5.cloudfront.net/NICE-GPG-KEY
     ```

     Install the GPG key.

     ```
     $ sudo apt-key add NICE-GPG-KEY
     ```

2. Download the appropriate client software package for your target operating system from the Amazon DCV website.

> **ⓘ Tip**
>
> The [latest packages](#) page of the download website contains links that always point
> to the newest available version. You can use these links to automatically retrieve the
> newest Amazon DCV packages.

3. Install the Linux client. Enter the filename of the downloaded file to complete the following
   command.

   - RHEL, CentOS, and Rocky Linux

     ```
     $  sudo yum install the downloaded .rpm file
     ```

   - Ubuntu

     ```
     $  sudo dpkg --install the downloaded .deb file
     ```

   - SUSE Linux Enterprise

     ```
     $  sudo zypper install the downloaded .rpm file
     ```

macOS client

The Amazon DCV macOS client is supported on Apple Mac computers only. The macOS client is a
standalone application that runs on the macOS operating system.

The macOS client is installed using a `.dmg` software package.

For instructions on how to connect to a Amazon DCV session using the macOS client, see
[Connecting to a Amazon DCV session using the macOS client](#).

To install the macOS client

1. Download the correct macOS client installer depending on your client computer.

   - [macOS client for Intel processors](#)
   - [macOS clients for Apple M1 processors](#)

> **ⓘ Tip**
>
> The [latest packages](#) page of the download website contains links that always point
> to the newest available version. You can use these links to automatically retrieve the
> newest Amazon DCV packages.

2. Run the downloaded `.dmg` file.

    If you get an error stating that the application can't be installed because it's from an
    unidentified developer, see the [Safely open apps on your Mac](#) webpage.

3. Click and drag the DCV `.app` file to the **Applications** folder.

4. (Optional) For easy access, create a desktop shortcut or add the application to the dock.

Using Amazon DCV

After you choose a Amazon DCV client, you can use it to interact with a Amazon DCV session. From here, you can changes settings, perform basic tasks, and manage external devices. Some of the functionalities Amazon DCV is capable of are:

Changing the settings

- Changing display resolution
- Setting the time zone
- Managing streaming modes

Using basic functions

- Transferring files
- Printing from a session
- Copying and pasting
- Saving a screenshot
- Collaborating on a Amazon DCV session

Managing the display

- Using multiple monitors
- Using accurate audio/video synchronization
- Using high color accuracy

Managing external devices

- Using a smart card
- Using USB remotization
- Using a webcam

Connecting to networks

- Set certificate validation policy

- [Using WebAuthn redirection](#)

Changing display resolution

By default, Amazon DCV automatically adapts the display resolution of the remote machine to match the current size of the client. When the client window is resized, DCV requests the server to change its display resolution to a size that fits within the client window.

Amazon DCV can configure a resolution according to the settings and the server system configuration.

- Web client resolution is limited by default to 1920x1080 (from web-client-max-head-resolution server setting).

- Native clients are limited by default to 4096x2160 (from max-head-resolution).

Note that the available resolutions and number of monitors depend on the configuration of the server, make sure to follow the [prerequisites guide](#) to properly setup the system environment and drivers for best performance.

> ⓘ **Note**
>
> Maximum supported per-monitor resolution is 4096x4096 for up to 4 monitors. Higher resolutions or more than 4 monitors are not supported in any configuration.

If you prefer a fixed resolution on the server, which does not change even when the client window is resized, select the **Display Resolution** menu and specify the desired resolution. If you decide to re-enable automatic resize, you can select **Adapt automatically** .

This functionality is available on the Windows client, web browser client, Linux client, and macOS client.

Changing display resolution on Windows clients

1. Click on the **Settings** icon from the menu at the top.

2. Select **Display Resolution** from the menu.

3. Select your preferred resolution from the drop-down menu.

Changing display resolution on macOS clients

1. Click on the **DCV Viewer** icon from the menu at the top.

2. Select **Preferences** from the drop-down menu.

3. Go to the **Display** tab.

4. Select your preferred resolution from the **Display Resolution** menu.
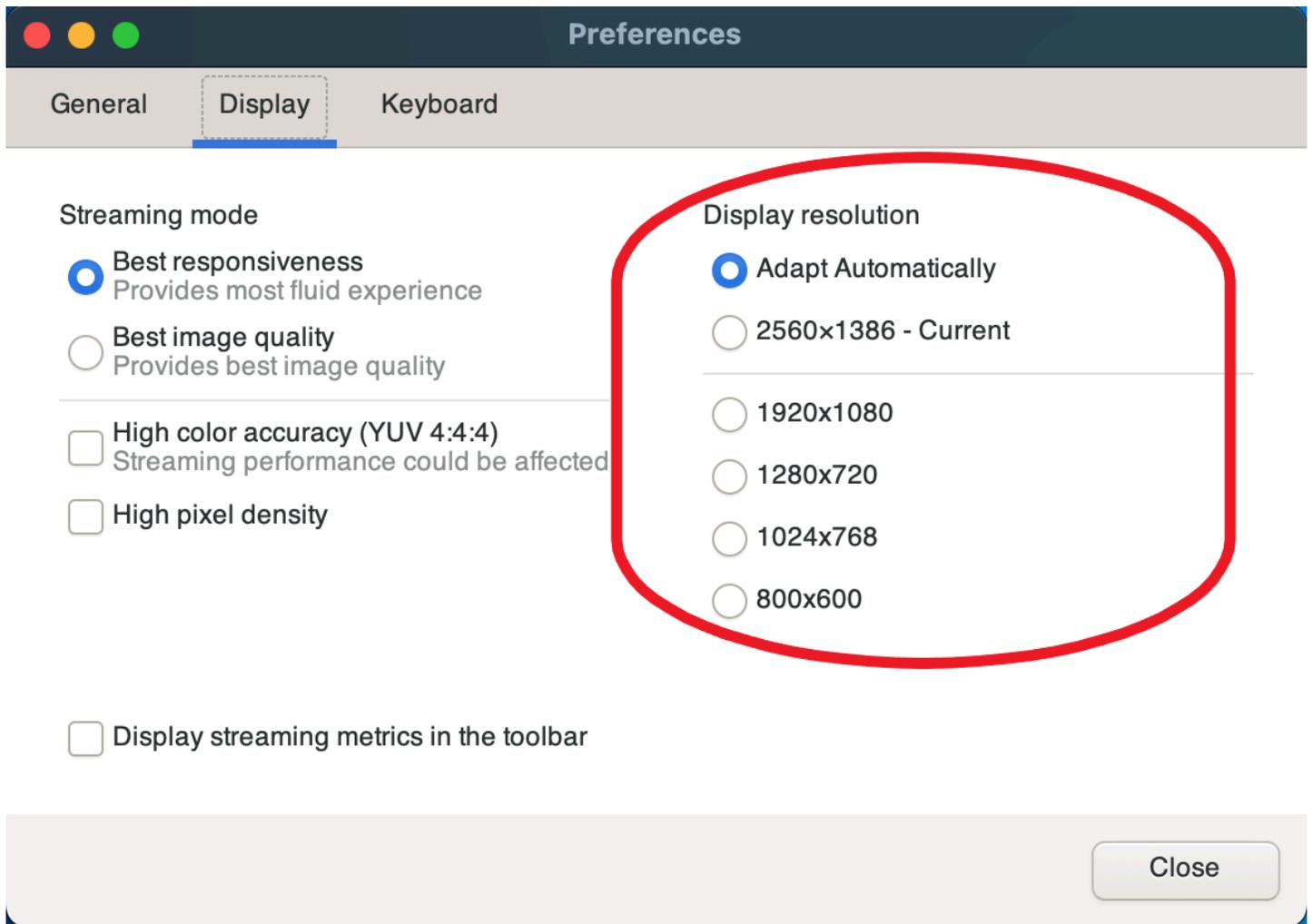
Changing display resolution on Linux clients

1. Click on the **Settings** icon from the menu at the top.

2. Select **Preferences** from the menu.

3. Go to the **Display** tab.

4. Select your preferred resolution from the **Display Resolution** menu.
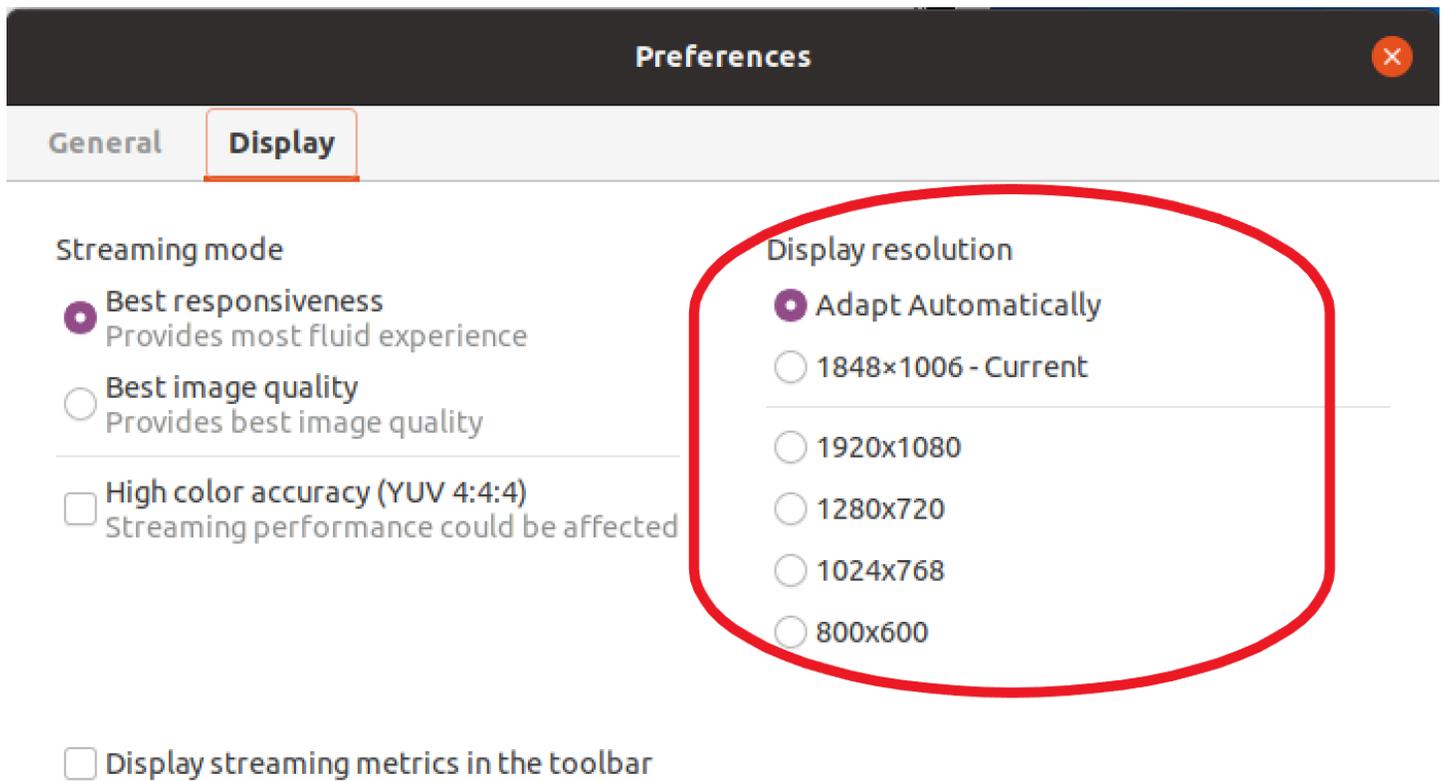
Setting the time zone

DCV allows you to set the time zone for your session to display either the time zone you are currently or the time zone of where the remote desktop you are using is located.

This is referred to as time zone redirection.

Once this feature is either enabled or disabled the DCV client will save this settting for each time the user signs on to the client.

When collaborating sessions, the first client to connect to the session, known as the primary connection, will set the time zone for the session even if the primary connection leaves the session. For more information, see Collaborating on a Amazon DCV session.

To use this feature, your administrator will have to enable it. If you do not have the option to change your displayed time zone and would like to do so, contact your administrator. For more information, see Modifying Configuration Parameters in the *Amazon DCV Administrator Guide*.

To set your time zone, do one of the following depending on your client:

- **For Windows**

  1. Go to the **Settings** icon.

  2. Select **Time Zone Redirection** from the drop down menu.

  > ⓘ **Note**
  >
  > It will indicate if the feature is **Enabled** or **Disabled** under the menu item.
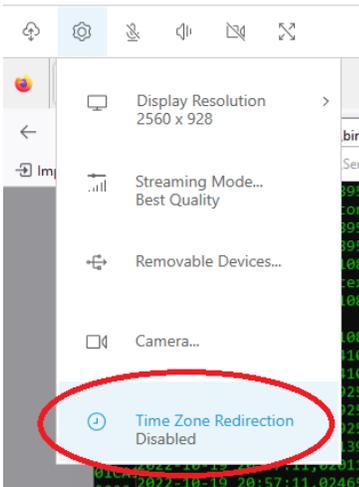
- **For macOS**

  1. Go to the **DCV Viewer** icon from the toolbar at the top.

  2. Select **Preferences** from the drop-down menu.

  3. Select the **General** tab.

  4. Check the box for **Enable timezone redirection**.
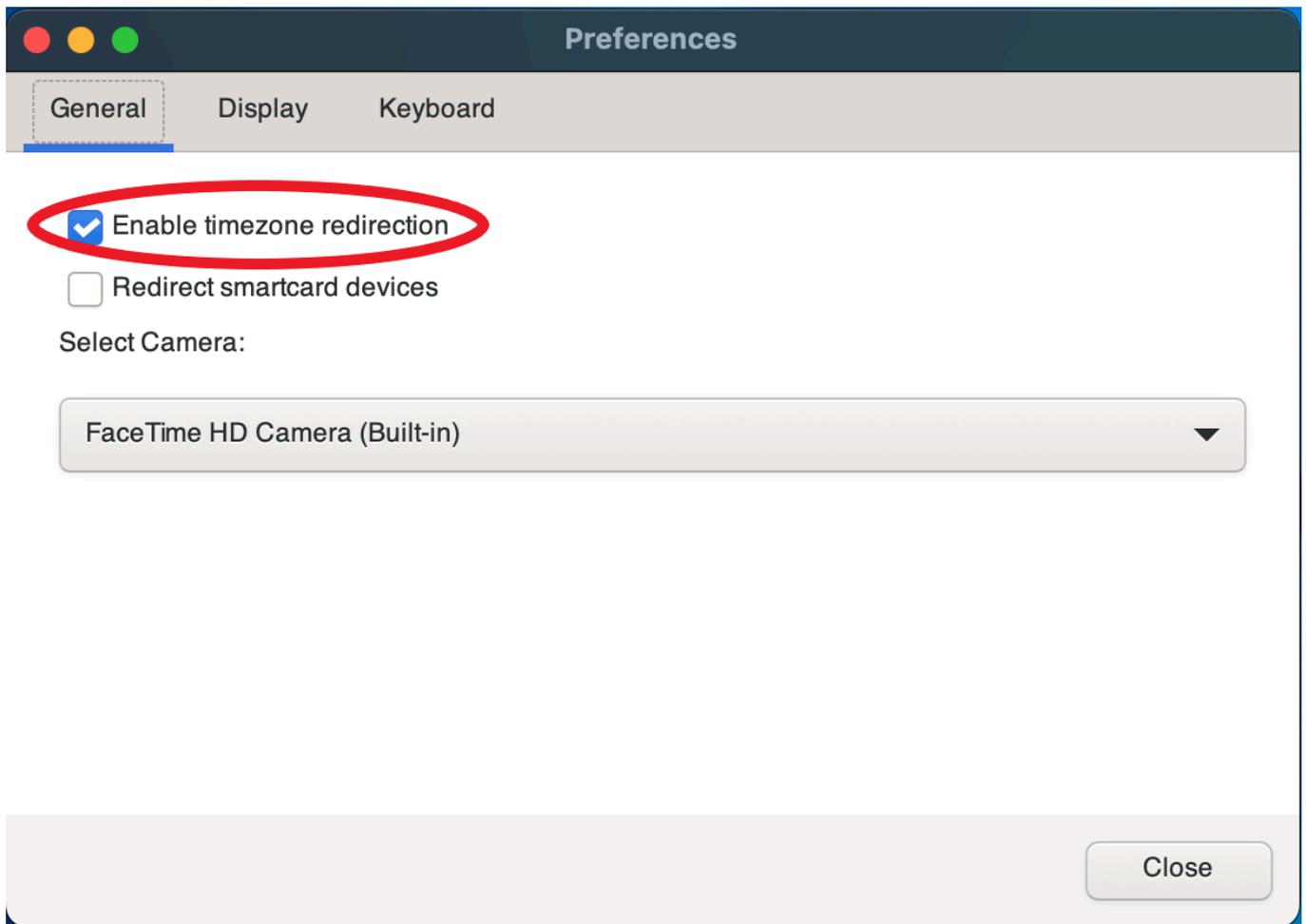
- **For Linux**

  1. Go to the **Settings** icon.

  2. Select **Preferences** from the drop-down menu.

  3. Select the **General** tab in the **Preferences** windows.

  4. Check the box for **Timezone Redirection**.
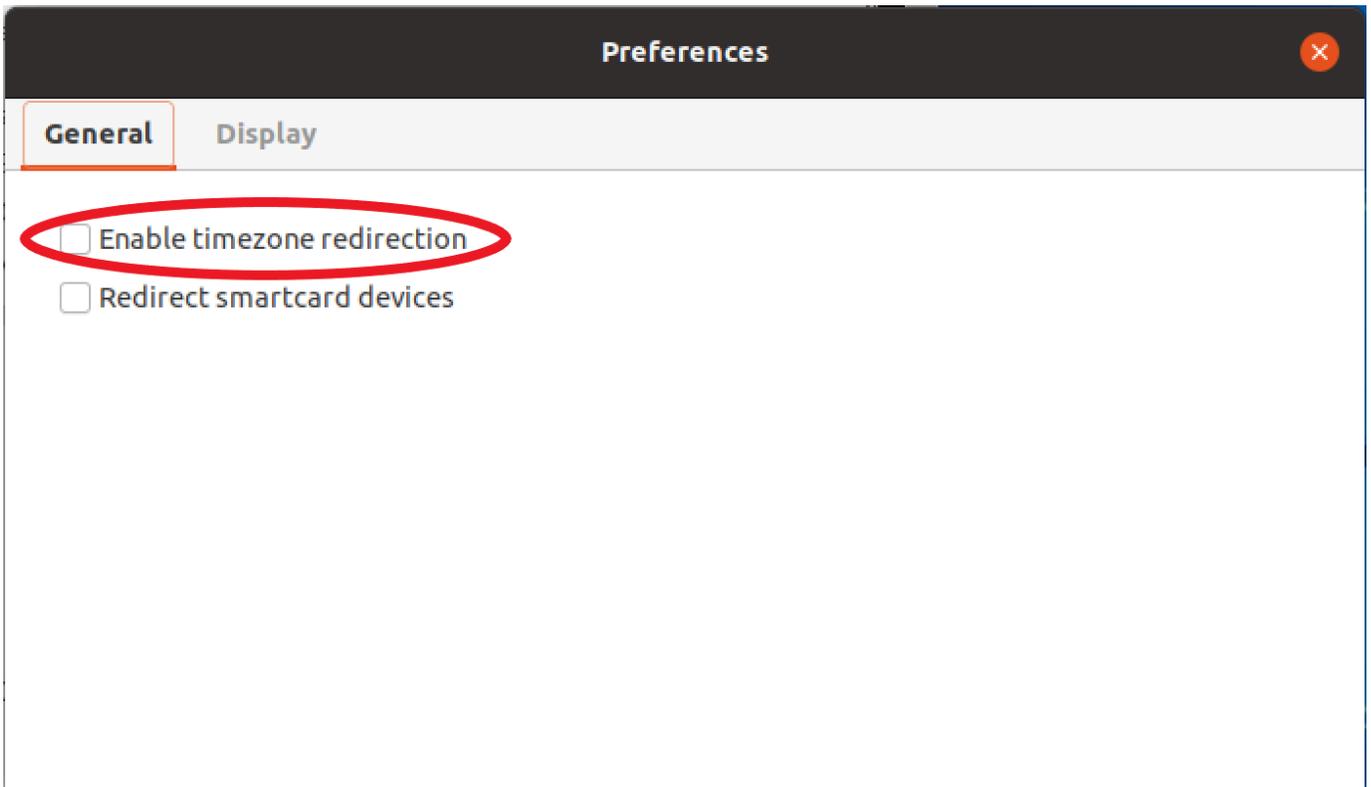
- **For web based clients**

  1. Go to **Preferences**.

  2. Click on the switch for **Time Zone Redirection**.
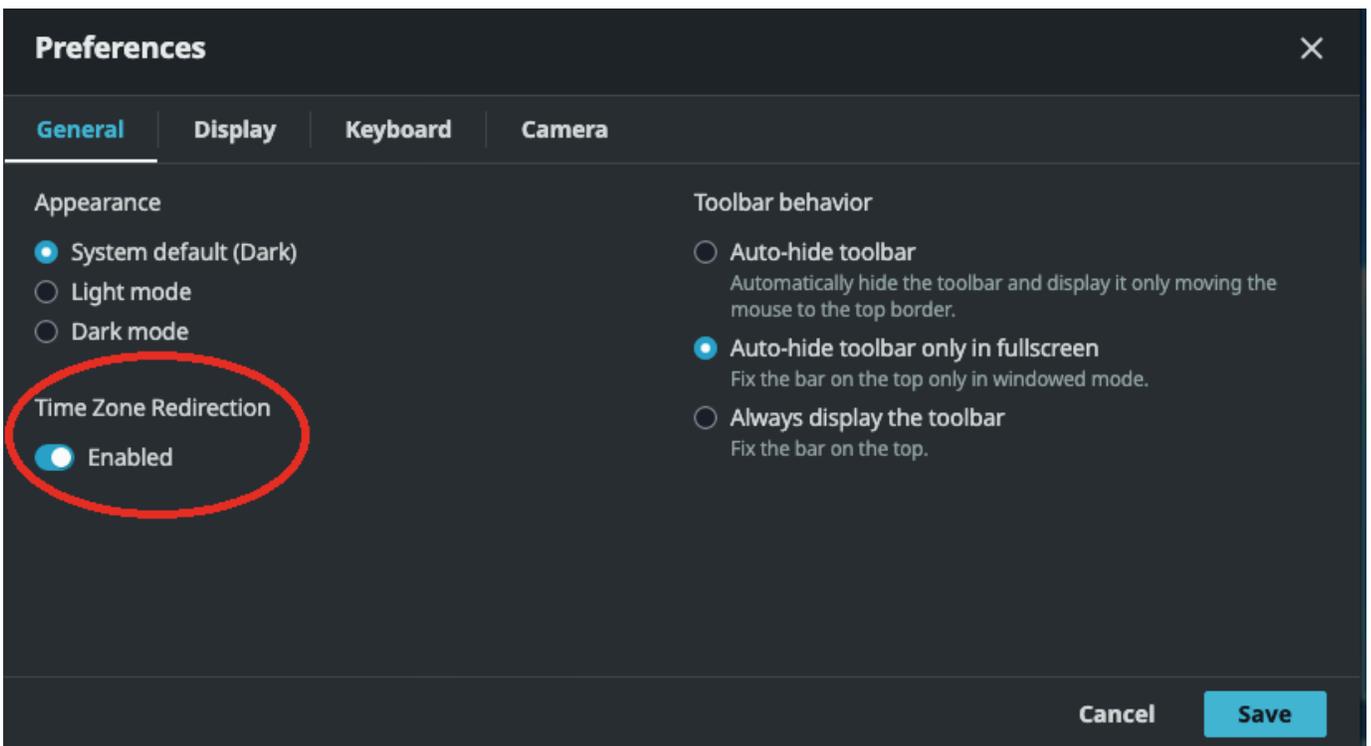
Managing streaming modes

Amazon DCV uses an adaptive protocol that automatically optimizes the streaming mode depending on the network capabilities. However, you can specify whether you prefer to prioritize responsiveness or image quality.

- Prioritizing responsiveness (**Best responsiveness**) reduces the image quality to improve the frame rate. This option prioritizes faster response times though It might result in lower image quality.

- Prioritizing image quality (**Best quality**) reduces the responsiveness to provide better image quality. This option prioritizes higher image quality. It might result in longer response times.

This functionality is available on the Windows client, web browser client, Linux client, and macOS client. The steps for setting the streaming mode depend on the client used.

Topics

- [Streaming modes on Windows, Linux, and macOS clients](#)
- [Streaming modes on Web browser client](#)

Streaming modes on Windows, Linux, and macOS clients

Streaming modes on Windows clients

1. Choose the **Settings** icon.

2. Select **Streaming Mode** from the drop-down list.

3. In the Streaming Mode window, choose one of the following options:

   - **Best responsiveness**

   - **Best quality**

4. (Optional) For information about network performance, choose **Display Streaming Metrics**. For more information, see [Streaming metrics](#).
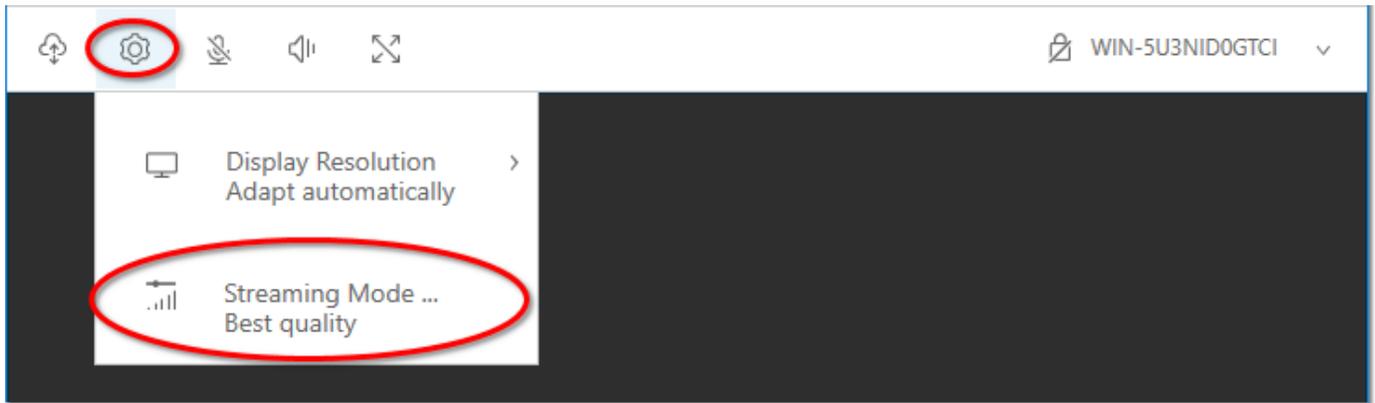
5. Close the **Streaming Mode** window.

Streaming modes on macOS clients

1. Choose the **DCV Viewer** icon at the top of the window.

2. Select **Preferences** from the drop-down menu.

3. Select the **Display** tab in the **Preferences** window.

4. Choose one of the following options:

    -   **Best responsiveness**

    -   **Best image quality**

5. (Optional) For information about network performance, choose **Display Streaming Metrics**.
    For more information, see Streaming metrics.
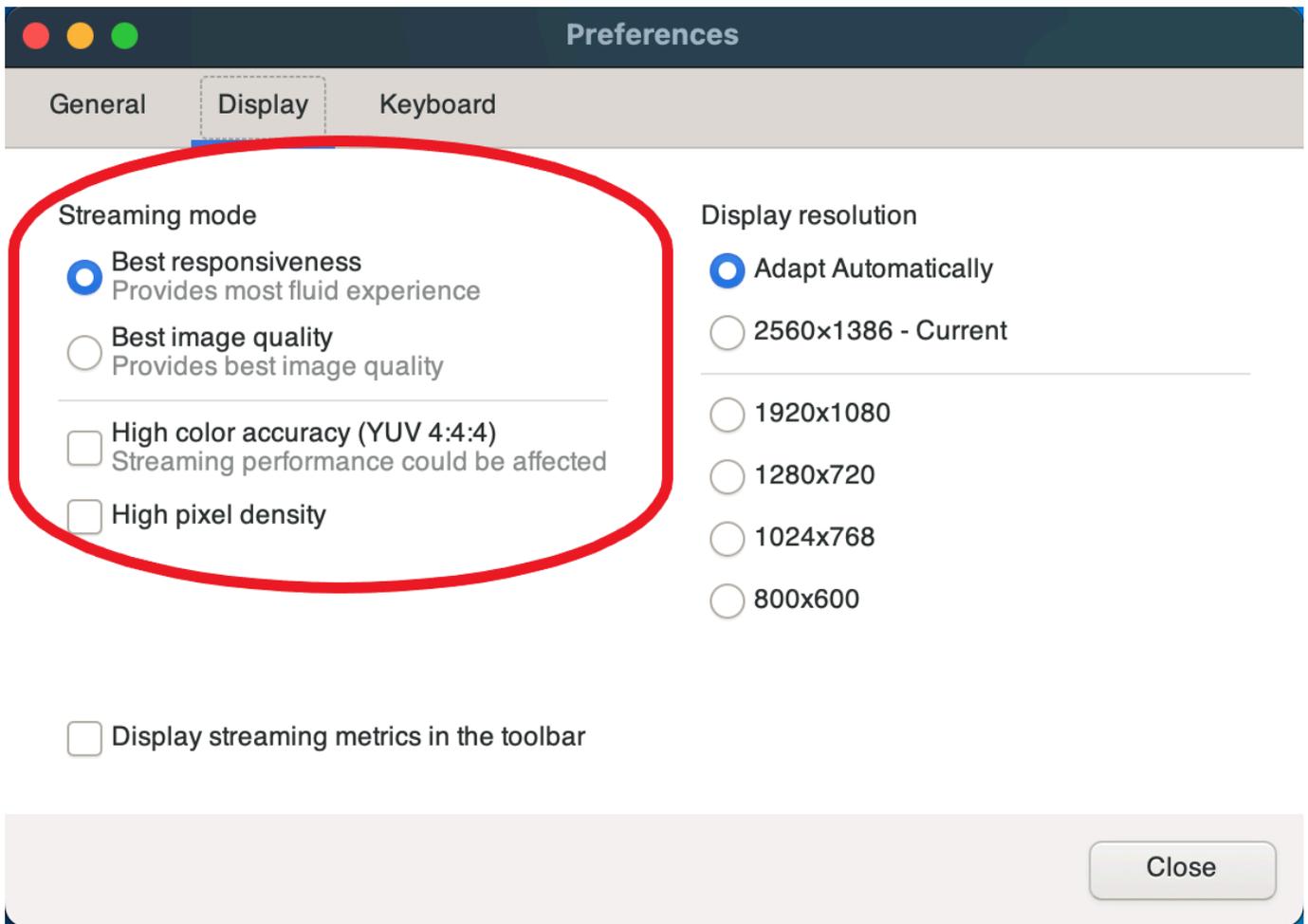
6.   Close the **Preferences** window.

Streaming modes on Linux clients

1.   Choose the **Settings** icon at the top of the window. **Streaming Mode**.

2.   Select the **Display** tab in the **Preferences** window.

3.   Choose one of the following options:

- **Best responsiveness**

- **Best image quality**

4.   (Optional) For information about network performance, choose **Display Streaming Metrics**. For more information, see [Streaming metrics](#).
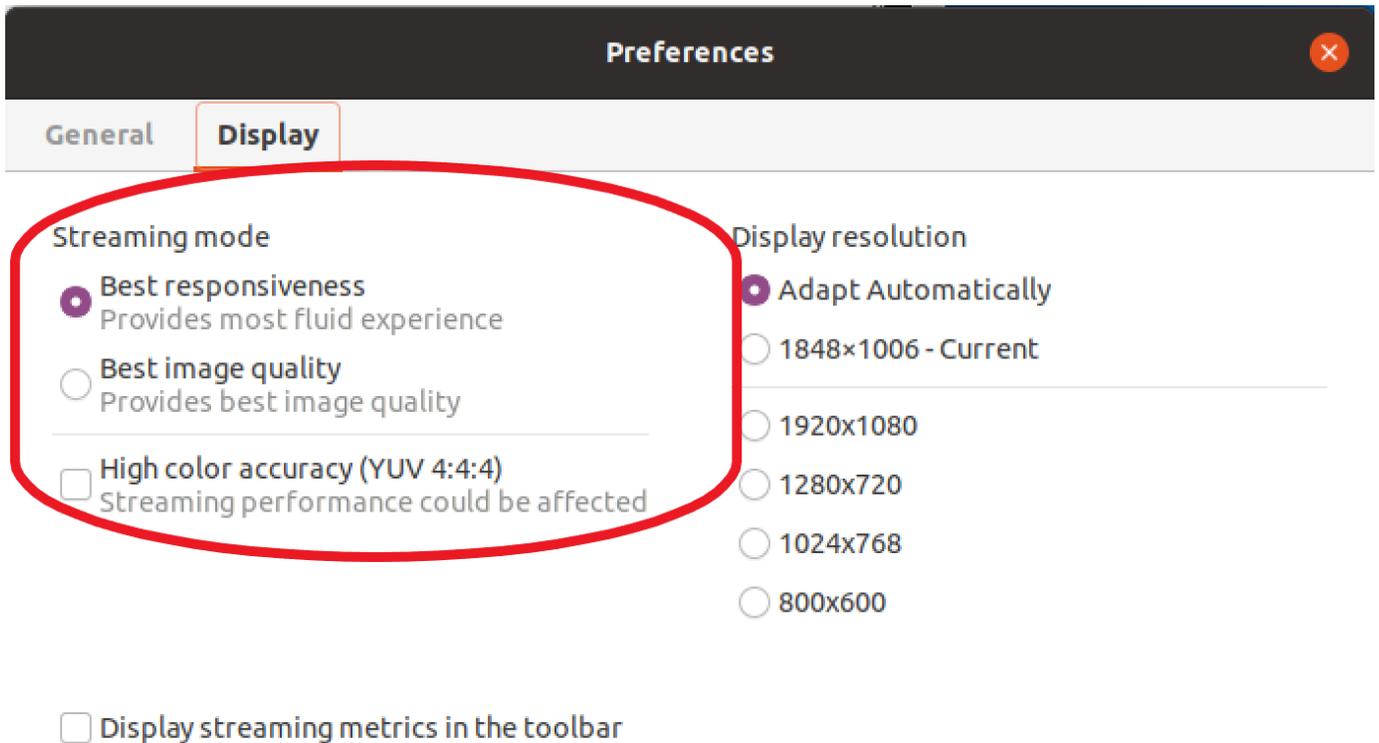
5.   Close the **Preferences** window.

Streaming metrics

The streaming metrics can be used to evaluate your network performance and determine which streaming mode is suitable for your network conditions. To view the streaming metrics, choose **Settings**, **Streaming Mode**, **Display Streaming Metrics**.

The streaming metrics provide the following real-time information:

> ⓘ **Note**
>
> Metrics are displayed for the current Amazon DCV session connection.

- **Framerate**—Indicates the number of frames received from the Amazon DCV server every second.
- **Network latency**—Indicates the amount of time (in milliseconds) it takes for a packet of data to be sent to the Amazon DCV server and back to the client.

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- **Bandwidth usage**—Indicates the amount of data being sent and received over the network connection. The red line shows the peak network throughput. The yellow line shows the average throughput. The blue line shows the current (real-time) throughput.

The following image shows example streaming metric data.
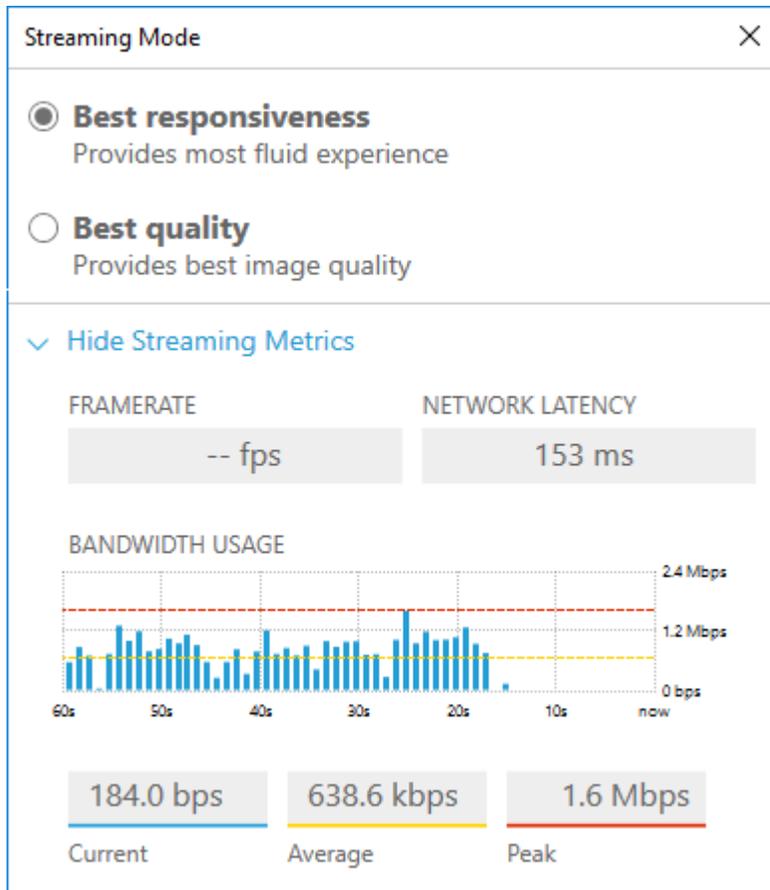
Streaming modes on Web browser client

The steps for managing the streaming modes are the same across all supported web browsers.

1. In the client, choose **Session**, **Preferences**.
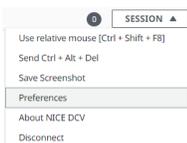
2. Under the **Display** tab, choose one of the following options from the **Streaming options** section:

   - **Best responsiveness**

Streaming modes on Web browser client

- **Best quality**
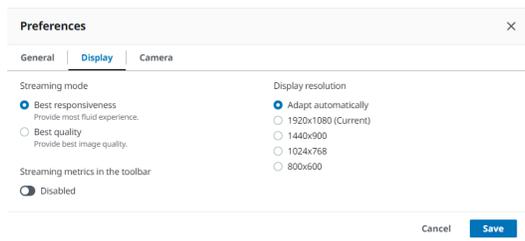
3. (Optional) For information about network performance, choose **Display Streaming Metrics**. For more information, see Streaming metrics.

4. Save and close the **Preferences** modal.

Streaming metrics

The streaming metrics can be used to evaluate your network performance and determine which streaming mode is suitable for your network conditions.

The streaming metrics provide the following real-time information:

> **ⓘ Note**
>
> Metrics are displayed for the current Amazon DCV session connection.

- **Framerate**—Indicates the number of frames received from the Amazon DCV server every second.

- **Network latency**—Indicates the amount of time (in milliseconds) it takes for a packet of data to be sent to the Amazon DCV server and back to the client.

- **Bandwidth usage**—Indicates the amount of data being sent and received over the network connection. The red line shows the peak network throughput. The yellow line shows the average throughput. The blue line shows the current (real-time) throughput.

To view the streaming metrics:

1. In the client, choose **Session**, **Preferences**.
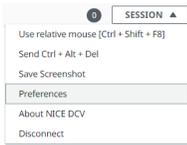
2. Under the **Display** tab, enable the toggle to show **Streaming metrics in the toolbar**.

3. Close the **Preferences** modal.

4. The streaming metrics are then displayed in the center of the client toolbar.

5. Click on the streaming metrics to see more detailed streaming data like in the following example.
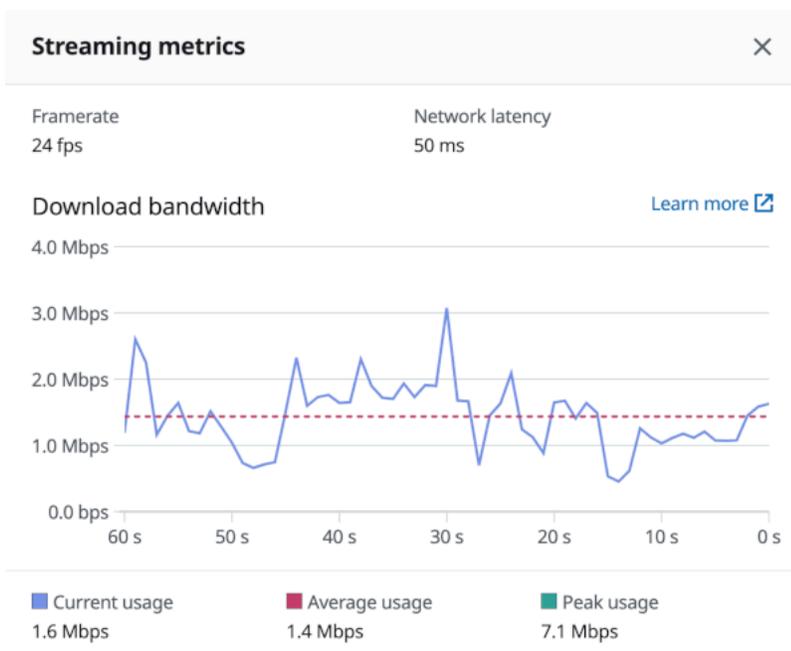
6. (Optional) Close the **Metrics** modal.

Transferring files

You can use Amazon DCV to upload files to and download files from Amazon DCV session storage. For instructions on how to enable and configure session storage, see Enabling Session Storage in the *Amazon DCV Administrator Guide*.

You must be authorized to use this feature. If you are not authorized, the functionality is not available in the client. For more information, see [Configuring Amazon DCV Authorization](#) in the *Amazon DCV Administrator Guide*.

This functionality is available on the Windows, web browser, Linux, and macOS clients.

Topics

- [Transferring files using Windows, Linux and macOs clients](#)
- [Transferring files using web browser](#)

Transferring files using Windows, Linux and macOs clients

The steps for uploading, downloading, and renaming files are similar across Windows, Linux and macOS clients.

Downloading a file

If you're using the Windows client, the file is downloaded to your desktop. If you're using the Linux, or macOS client, the file is downloaded to your default Downloads folder.

To download a file from the session storage to your computer

1. In the client, choose **Storage**.
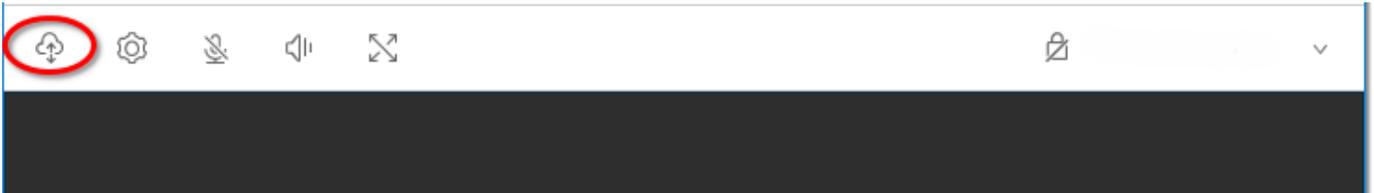
2. In the **File Storage** window, either select the file to download, or choose the down arrow next to the file and then choose **Download**.

Uploading a file

Files that you upload to a session are saved to a path that's specified by the Amazon DCV server administrator.

To upload a file from your computer to the Amazon DCV session storage

1. Choose **Storage** in the client.

2. Do one of the following:

    - To upload the file to an existing folder:

      Navigate to the folder within the **File Storage** window.

    - To upload the file to a new folder

      1. Choose **Create Folder**.

      2. Enter folder name.

      3. Open the new folder.

3. Choose **Upload File** in the **File Storage** window.

4. Select the file to upload.

5. Choose **Open**.

To drag and drop a file from your computer to the Amazon DCV session storage

1. Navigate to **File Storage**, the folder, or the subfolder you would like to upload the file and open it.

2. On your local computer, select one or more files or folders you would like to upload.

3. Drag the selected file(s) or folder(s) onto the Amazon DCV session window.

    > ⓘ **Note**
    >
    > If the **File Storage** window is closed, it will automatically open.

4. Drop your files within the drop area of your desired location in **File Storage**, selected folder, or selected subfolder window.

Renaming a file

You can change the name of the file in session storage.

To change the name of a file in session storage

1. In the client, choose **Storage**.

2. Choose the down arrow that's next to the file to rename, and choose **Rename**.

3. Enter the new file name and press **Enter**.

Transferring files using web browser

The steps for uploading, downloading, and renaming files are the same across all supported web browsers.

Downloading a file

In the web browser client the file is downloaded to your default Downloads folder.

To download a file from the session storage to your computer

1. In the client, choose **Storage**.

2. In the **File Storage** window, either select the file to download, or select a table row corresponding to the file to download and click on the **Actions** button and the **Download** option from there. You can also just click on the name of the file to download it.

Uploading a file

Files that you upload to a session are saved to a path that's specified by the Amazon DCV server administrator.

To upload a file from your computer to the DCV session

1. Choose **Storage** in the client.
2. Do one of the following:

    *   Upload the file to an existing folder:

        Navigate to the folder within the **File Storage** window.
    *   Upload the file to a new folder
        1. Choose **Create Folder**.
        2. Enter folder name.
        3. Open the new folder.
3. Choose **Upload File** in the **File Storage** window.

4. Select the file to upload.

5. Choose **Open**.

To drag and drop a file from your computer to the Amazon DCV session storage

1. Navigate to **File Storage**, the folder, or the subfolder you would like to upload the file and open it.

2. On your local computer, select one or more files or folders you would like to upload.

3. Drag the selected file(s) or folder(s) onto the Amazon DCV session window.

> ⓘ **Note**
>
> If the **File Storage** window is closed, it will automatically open.

4. Drop your files within the drop area of your desired location in **File Storage**, selected folder, or selected subfolder window.

Renaming a file

You can change the name of the file in session storage.

To change the name of a file in session storage

1. In the client, choose **Storage**.

2. Select a table row corresponding to the item to rename and click on the **Actions** button and the **Rename** option from there.

3. Enter the new file name and press **Enter**.

Printing from a session

You can use Amazon DCV to print content from a Amazon DCV session. The available printing devices depend on the client that you're using.

- **Windows client, Linux client, and macOS client** — You can print to the physical printer that's connected to your client computer. Or, you can print to a PDF document that uses the Amazon DCV virtual printer.

- **Web browser client** — You can print to a .PDF document using the Amazon DCV virtual printer.

When you print to the Amazon DCV virtual printer, the content is exported to a printable file. You can download it to your local computer using the client and then print it using your local printer.

You must be authorized to use this feature. If you are not authorized, the functionality is not available in the client. For more information, see [Configuring Amazon DCV Authorization](#) in the *Amazon DCV Administrator Guide*.

To print content from the session

1. In the client, open the Print window.

2. In the Print window, choose one of the following printing devices and then choose **Print**.

   - (All clients connected to all Windows and Linux server) **DCV Printer** — Prints to the Amazon DCV virtual printer

   - (Windows client connected to Windows and Linux server) ***<local-printer-name>*****-Redirected** — Prints to the local printer

3. If you print to the Amazon DCV virtual printer, a notification appears when the file is ready for download. In the top-right corner, choose **Notifications**, locate the Print notification in the list, and then choose **Download**.

   - If you're using the web browser client, after the download has completed, choose **Show in folder**.

   - If you're using the Windows client, the printer dialog is automatically opened when the file is downloaded.

   - If you're using the Linux or macOS clients, the downloaded file is automatically opened with the default associated application.

> ⓘ **Note**
>
> The file is deleted from the Amazon DCV server after you have downloaded it, and it's no longer available for download.

Copying and pasting

You can use Amazon DCV to copy and paste text between your local computer and the Amazon DCV session. You must be authorized to use this feature. If you are not authorized, the functionality is not available in the client. For more information, see Configuring Amazon DCV Authorization in the *Amazon DCV Administrator Guide*.

The type of content that can be copied and pasted, and the methods for copying and pasting differ between the Windows client, web browser client, Linux client, and macOS client.

Topics

- Windows, Linux, and macOS clients
- Web browser client

Windows, Linux, and macOS clients

You can use the Windows, Linux, and macOS clients to copy and paste text and images between your local computer and the Amazon DCV session. You can do this using the keyboard shortcuts and context (right-click) menu shortcuts. If you can't copy and paste, contact your Amazon DCV server administrator to ensure that the permissions are properly configured.

Web browser client

You can use the web browser client to copy and paste text and images between your local computer and the Amazon DCV session. Use keyboard shortcuts and context (right-click) menu to copy and paste text and images on Google Chrome and Microsoft Edge. Mozilla Firefox and Apple Safari do not support copying and pasting images, and require a different procedure to copy and paste text.

To copy text from the session in Mozilla Firefox or Apple Safari and paste on your local computer

1. In the web browser client, highlight the text to copy and choose **Clipboard**, **Copy to Local Device**.
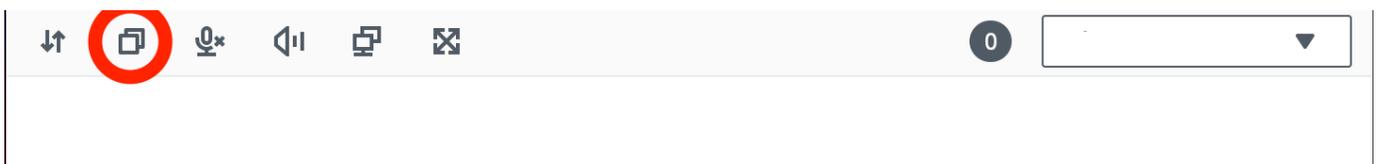
The text is now placed in your computer's clipboard.

2. Paste the text using the paste keyboard shortcut or context menu shortcut.

To copy text from your local computer and paste in the session in Mozilla Firefox or Apple Safari

1. On your local computer, copy the text using the copy keyboard shortcut or context menu.

2. In the web browser client, choose **Clipboard**, **Paste to Remote Session**.

3. Paste the text using the host operating system's paste shortcuts.

Saving a screenshot

You can use Amazon DCV to save a screenshot of the Amazon DCV session. This functionality is available on the Windows, web browser, Linux, and macOS clients. The steps for saving a screenshot are similar on all clients.

You must be authorized to use this feature. If you aren't authorized, the functionality isn't available in the client. For more information, see Configuring Amazon DCV Authorization in the *Amazon DCV Administrator Guide*. If you aren't authorized to save screenshots, the client also avoids the external tools that are running on your client computer to capture a screenshot of the Amazon DCV client. Images that are obtained by these tools either show a black rectangle instead of the Amazon DCV client window or only show the background desktop. This functionality is available only on Windows and macOS clients.

To save a screenshot

1. Launch the client, and connect to the Amazon DCV session.

2. In the client, choose **Session**, **Save a Screenshot**.
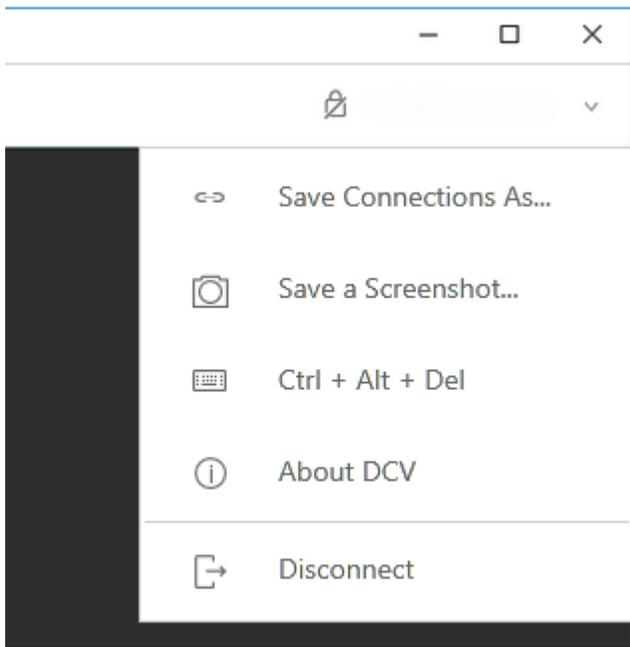
3.   Choose a location and the name for the screenshot file.

Collaborating on a Amazon DCV session

Amazon DCV users can collaborate on the same session, enabling screen and mouse sharing. Users can join authorized sessions while session owners can disconnect users from any session collaboration. To take advantage of this feature, users must join the same session identified by the same session ID.

> **ⓘ Note**
>
> When collaborating on Amazon DCV sessions, the multiple monitor function is disabled.

Requirements

By default, the only user that can connect to a Amazon DCV session is the owner of that session.

For users to collaborate on the same session, the active permissions applied to the session need to be updated to include the `display` parameter. For more information on editing the permissions file, see Configuring Amazon DCV authorization.

> **ⓘ Note**
>
> Administrator privileges are required to edit the permissions file.

To collaborate on Amazon DCV sessions for Windows or Linux based servers:

1. Choose the **Collaborators** icon on the Amazon DCV client located in the DCV toolbar.
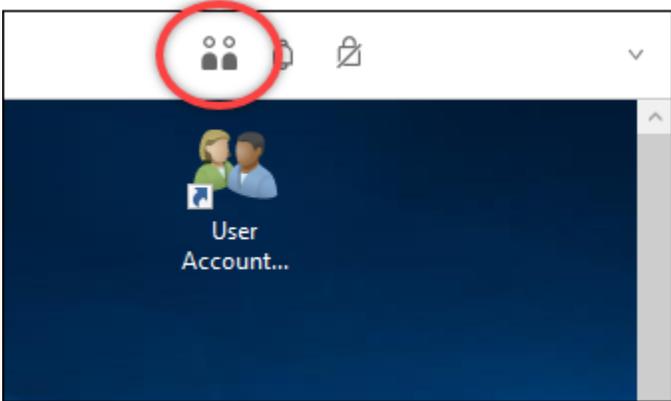
   A **Collaborators Window** will open showing all of the connected Amazon DCV sessions available.

2. Select a session to join.

3. Choose **Disconnect**, to remove one or all client connections, except yours, from the DCV session.

   This option is only available for session owners.
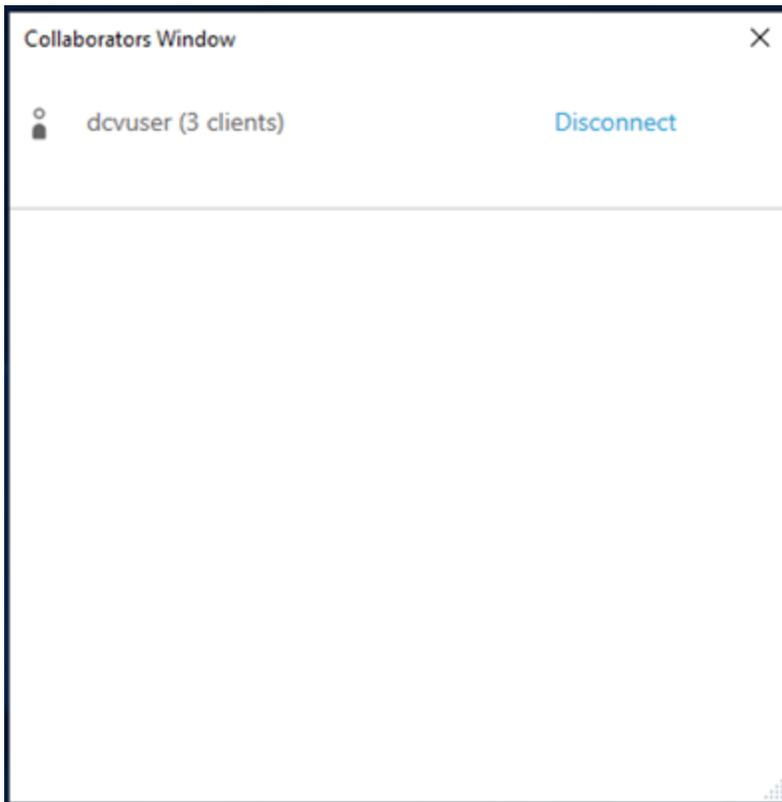
4. Choose **Disconnect** to remove an user from an active session.

To collaborate on Amazon DCV sessions for macOS:

1. Go to **View** on the top toolbar.
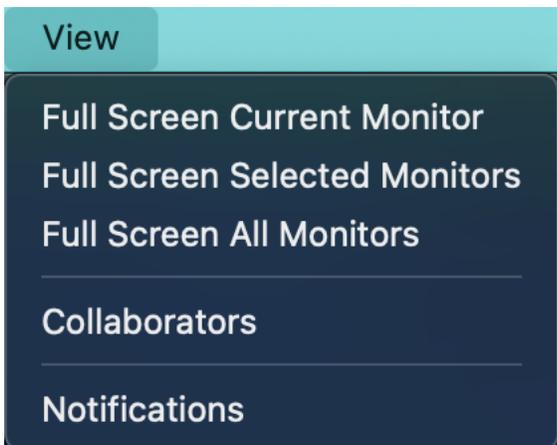
2. Choose **Collaborators** from the drop-down menu.

   A **Collaborators Window** will open showing all of the connected Amazon DCV sessions available.
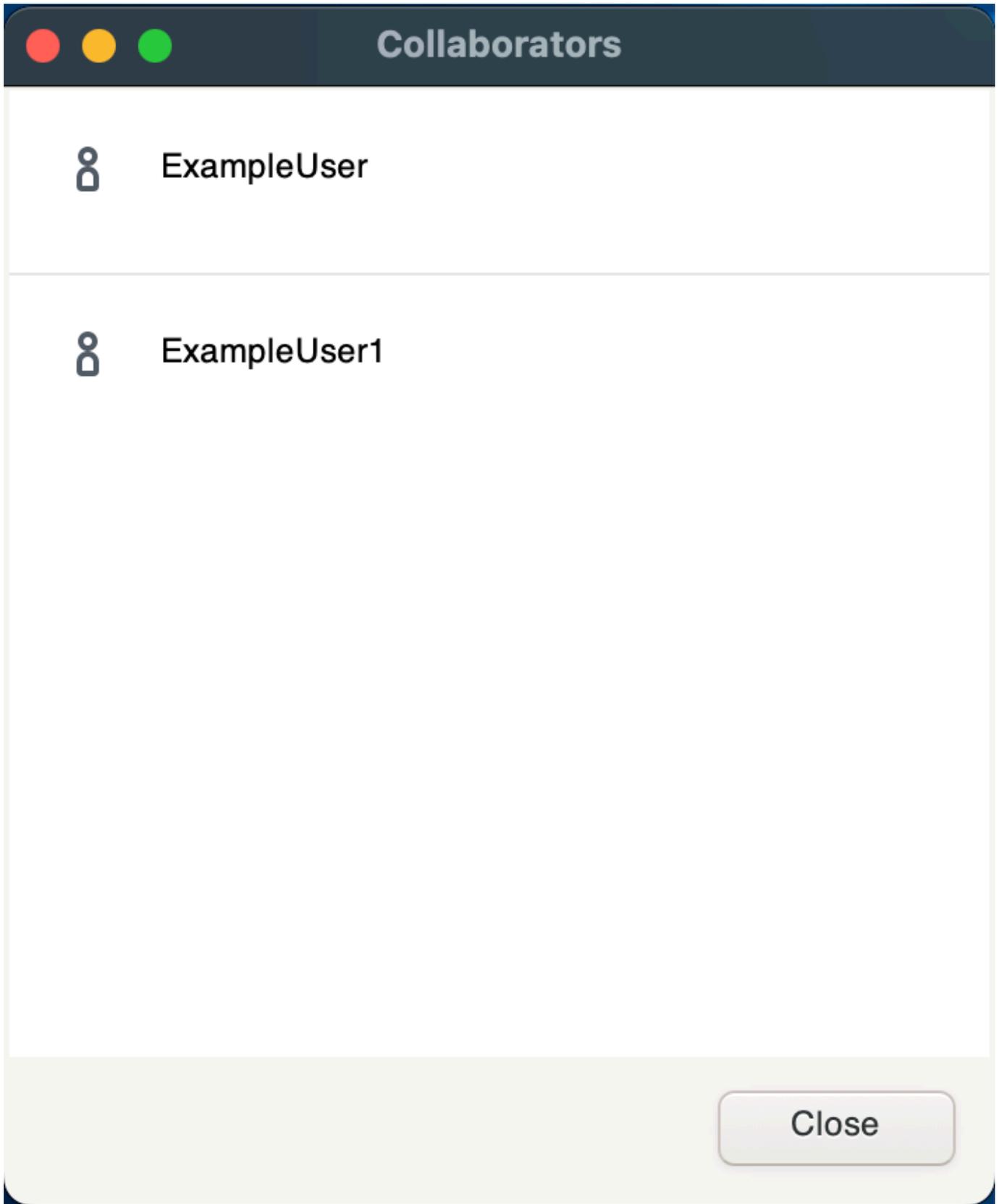
3. Select the session to join.

4. Choose **Disconnect** to remove one or all client connections, except yours, from the DCV session.

    This option is only available for session owners.

Using multiple monitors

> **Note**
>
> When collaborating on Amazon DCV sessions, the multiple monitor function is disabled.

Amazon DCV is capable of extending full screen resolution across a single monitor, a set of selected monitors, or all available monitors.

If the requested layout is not supported by the server, the layout might be adjusted to match the display limits of your server. If the layout cannot be adjusted, the request fails and the changes are not applied.

You can also manually specify custom display layouts. For more information, see [Managing the Amazon DCV Session Display Layout](#) in the *Amazon DCV Administrator Guide*.

Amazon DCV can configure a resolution according to the settings and the server system configuration.

- Web client resolution is limited by default to 1920x1080 (from web-client-max-head-resolution server setting).

- Native clients are limited by default to 4096x2160 (from max-head-resolution).

> **Note**
>
> Maximum supported per-monitor resolution is 4096x4096 for up to 4 monitors. Higher resolutions or more than 4 monitors are not supported in any configuration.

Make sure to follow the [prerequisites guide](#) to properly setup the system environment and drivers for best performance.

Topics

- [Extending full-screen across all monitors](#)
- [Extending full-screen across selected monitors](#)
- [Exiting full screen on multiple monitors](#)

Extending full-screen across all monitors

You can use the Amazon DCV clients to extend the display for a session across all at full screen resolution.

With the Windows, Linux, and macOS clients, the extended display matches your physical display layout and screen resolutions.

With the web browser client, the session display can be extended to up to two screens with 1920x1080 screen resolution. When the display is extended, the additional screen is opened in a new browser window. The second extends the display to the right of the original screen. Ensure that you position the screens accordingly.

Example

For example, three monitors are connected to your local computer. The server extends the display for a session across all three monitors and matches the specific screen resolutions of your display.

To enable this feature, do one of the following depending on your client.

- **Windows client**

  1. Go to the toolbar at the top of the window.

  2. Choose the **Full Screen** icon.

  3. Select **Across all monitors** from the drop-down menu.
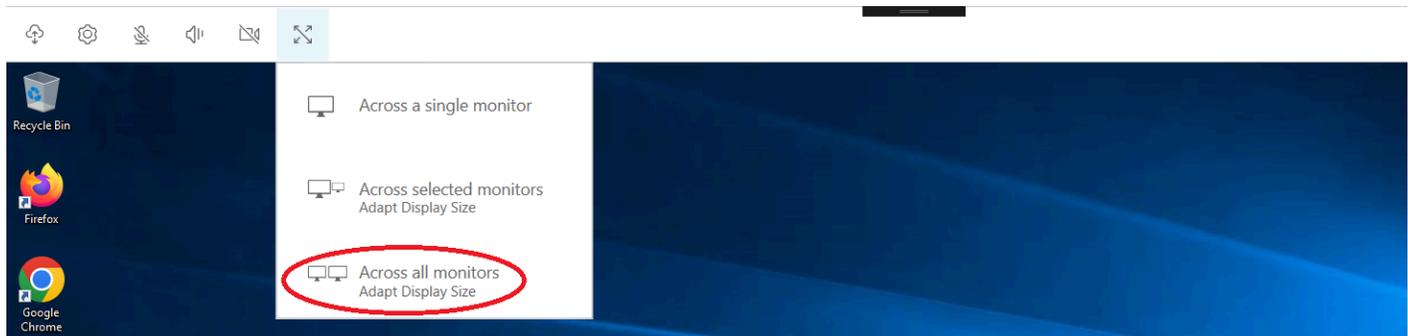
- **macOS client**

> ⓘ **Note**
>
> The **Displays have separate Spaces** option in **Mission Control** system preference must be enabled.

1. Go to the toolbar at the top of the window.

2. Choose **View** from the toolbar at the top of window.

3. Select **Full Screen All Monitors** from the drop-down menu.
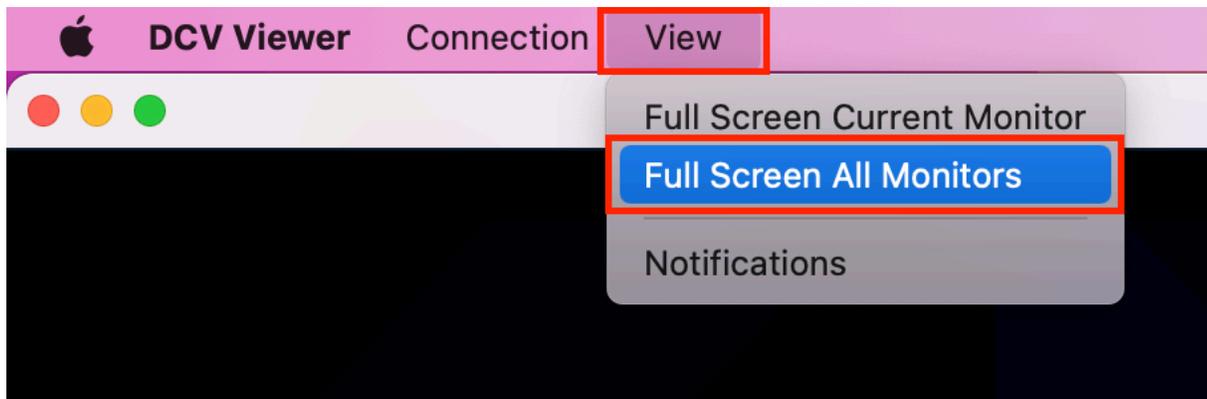
- **Linux client**

1. Go to the toolbar at the top of the window.

2. Choose the **Full Screen** icon.

- **Web browser client**

1. Go to the toolbar at the top of the window.

2. Choose the **Multiscreen** icon.

Extending full-screen across selected monitors

If there are three or more monitors connected, DCV can also extend full-screen across a selection of those available monitors. If your selected monitors cannot go full screen, an error message will appear and you will need to perform the procedure again.

Selected monitors must be set adjacent, or sharing a side with each other, in your display setting.

Examples of adjacent monitor placement.

> ⓘ **Note**
>
> The blue boxes are DCV enabled monitors.
> The gray boxes are other monitors.
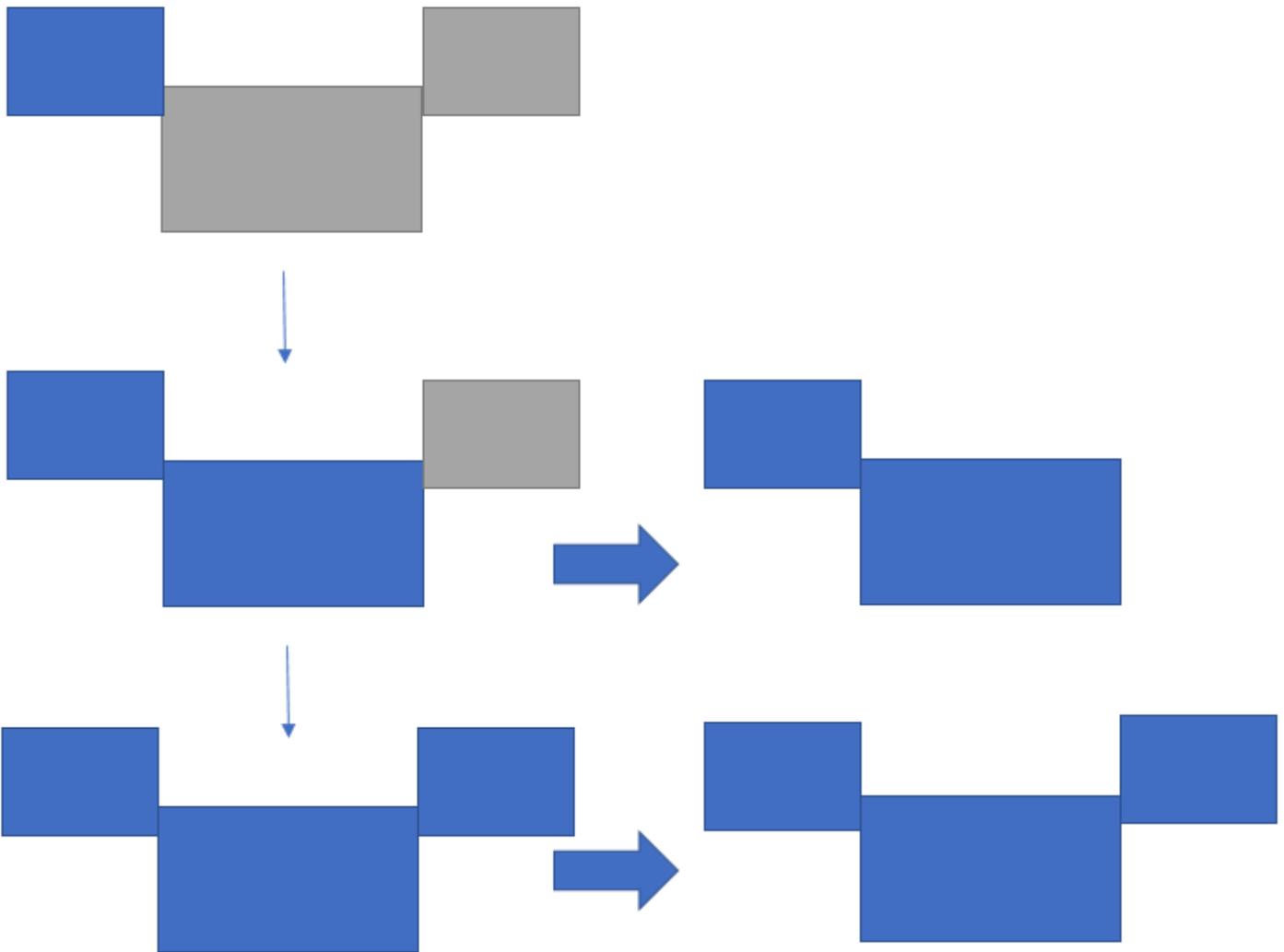
Examples of nonadjacent monitor placement.

If your monitors are not set adjacent in your Windows display configuration, you will need to exit DCV and change your Display settings on your local machine.

- **Windows client**

1. Go to the top menu.

2. Select the **Full Screen** icon.

> ℹ️ **Note**
>
> The **Full Screen** drop-down menu will appear.

3. Select **Across selected monitors** from the drop down menu.

> ℹ️ **Note**
>
> The **Across selected monitors** window will appear displaying your current monitor layout.

Full Screen Across Selected Monitors   ✕

Select the monitors you wish to make full screen.

Please note, selected monitors must be configured adjacent to each other. For example, an unused monitor cannot be configured between two selected monitors.

2

3

4

1

Internal Display (1920x1080)
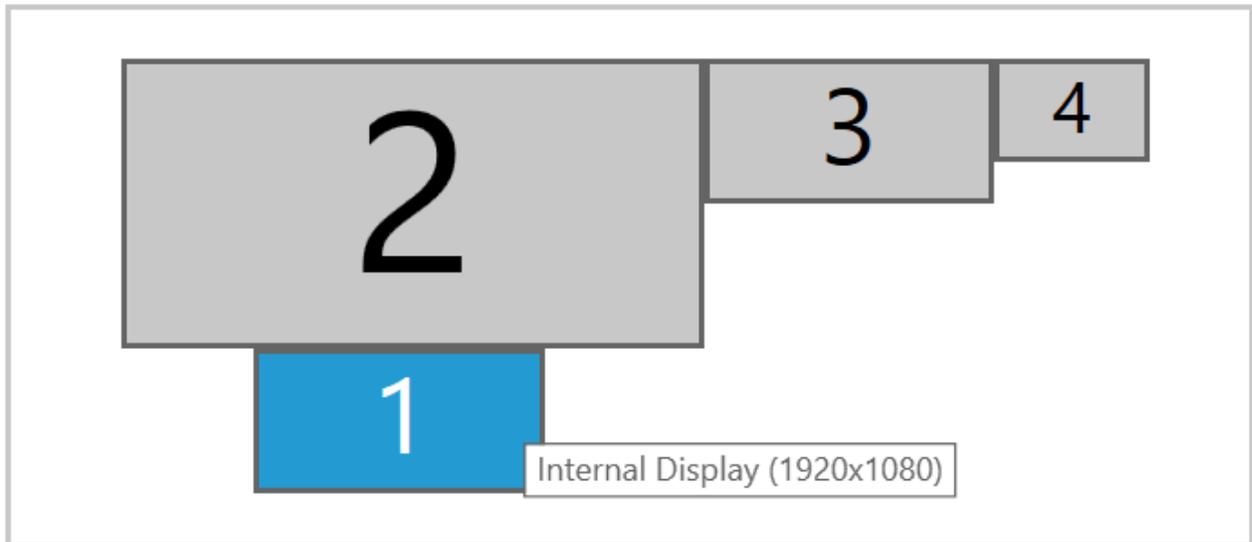
Apply

4. Select which monitors you want DCV to be displayed full screen.

5. Click **Apply**.

- **macOS client**

   1. Go to the top menu.

   2. Select **View**.

   > ⓘ **Note**
   >
   > The **View** drop-down menu will appear.
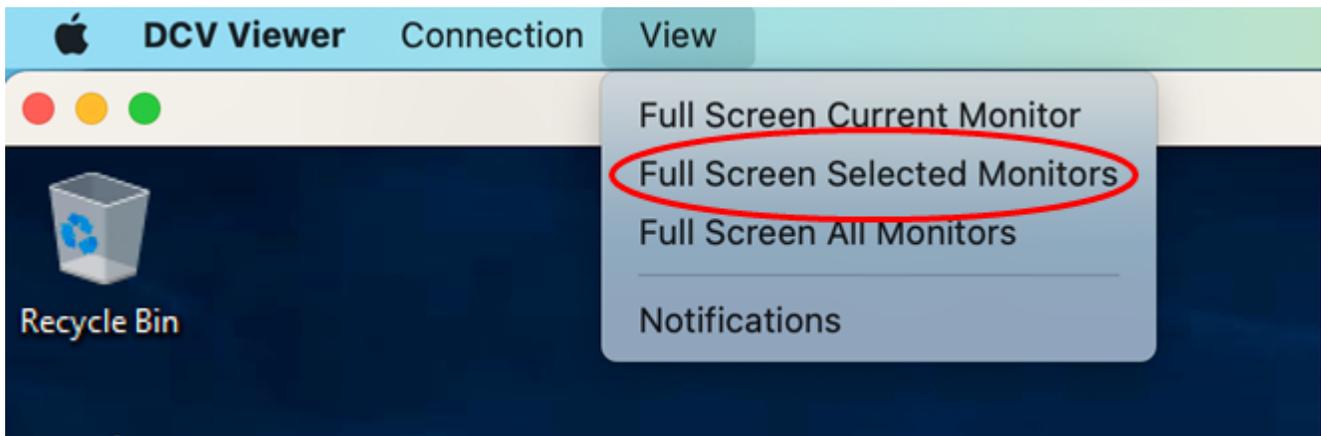
3. Select **Full Screen Selected Monitors** from the drop down menu.

> ⓘ **Note**
>
> The **Full Screen Selected Monitors** window will appear displaying your current
> monitor layout.
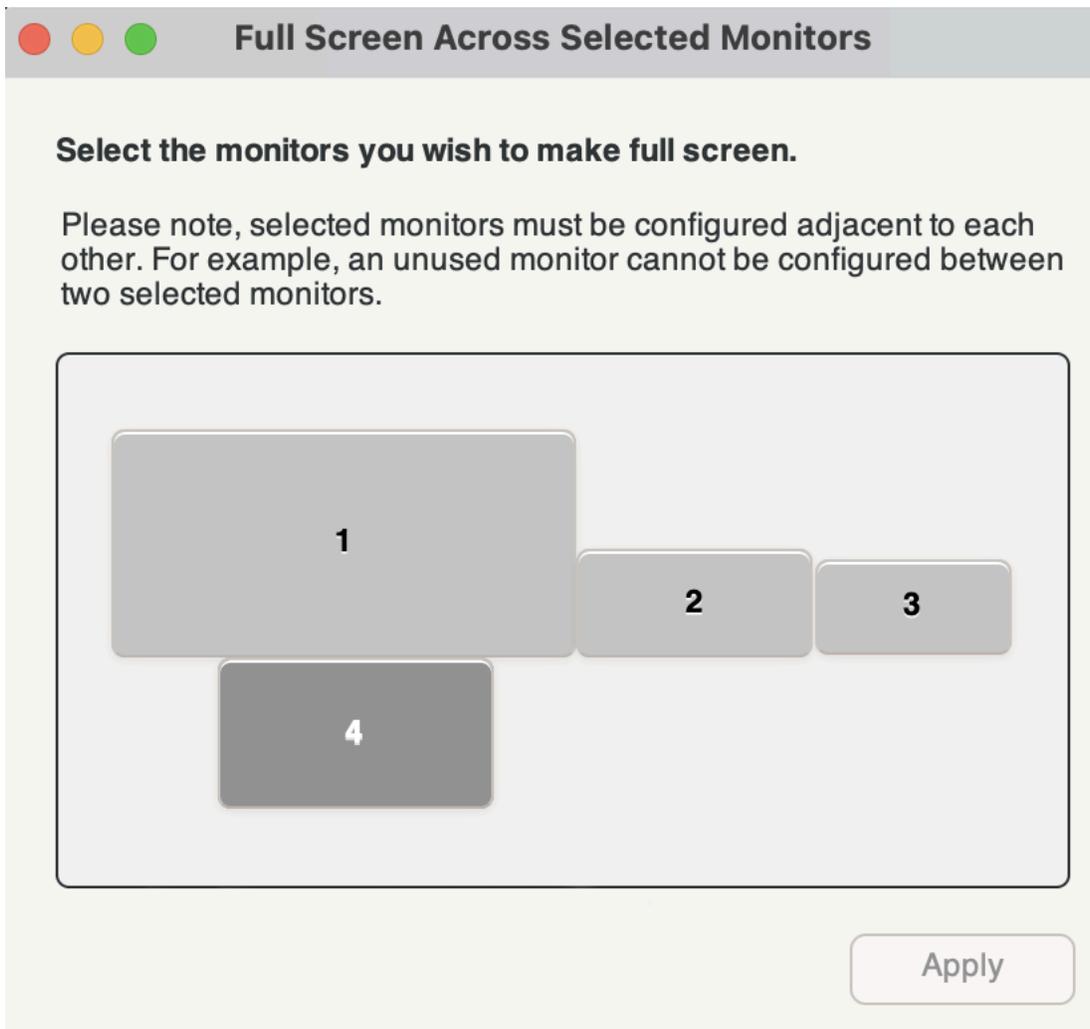
4. Select which monitors you want DCV to be displayed full screen.

5. Click **Apply**.

- **Linux client**

  1. Go to the top menu.

  2. Select **Full Screen** icon.

  > ⓘ **Note**
  >
  > The **Full Screen** drop-down menu will appear.
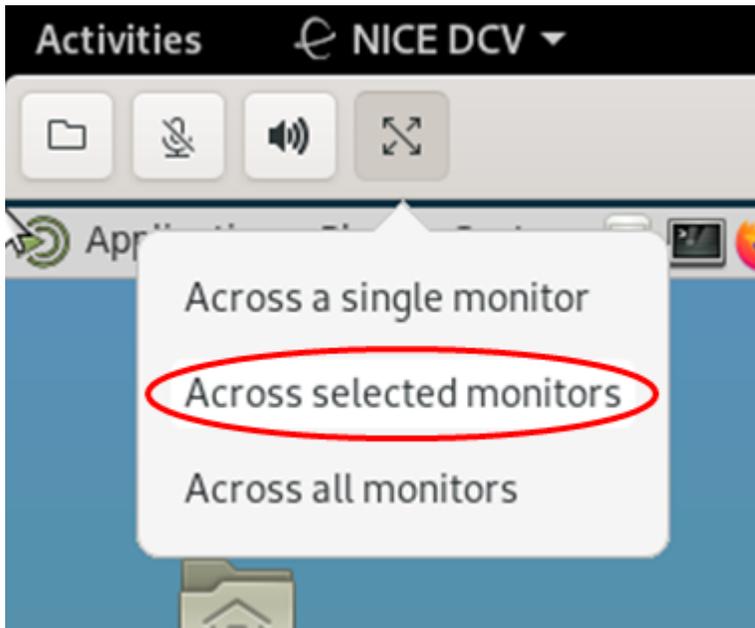
3. Select **Across selected monitors** from the drop down menu.

> **ⓘ Note**
>
> The **Across selected monitors** window will appear displaying your current monitor layout.

Cancel   **Full Screen Across Selected Monitors**   Apply

Select the monitors you wish to make full screen.

Please note, selected monitors must be configured adjacent to each other.
For example, an unused monitor cannot be configured between two selected monitors.

```
    +----------------+----------------+
    |                |                |  +----------+
    |       1        |       2        |  |    3     |
    |                |                |  |          |
    +----------------+----------------+  +----------+
```
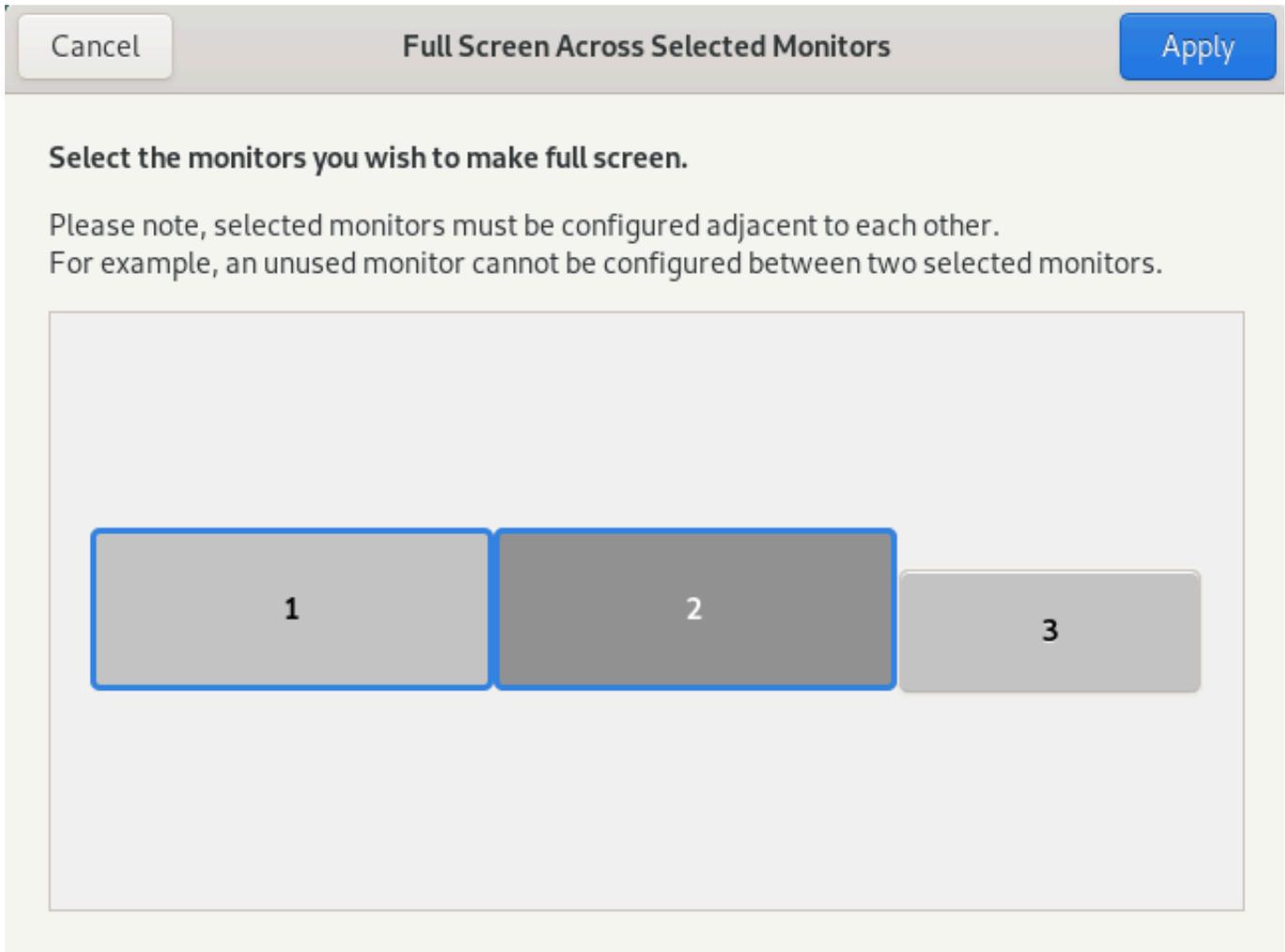
4. Select which monitors you want DCV to be displayed full screen.

5. Click **Apply**.

Exiting full screen on multiple monitors

After you extend the displays or enter full screen mode, a tab appears at the top-center edge of the screen. To exit full screen mode, choose the tab and then select **Exit fullscreen**.

> ⓘ **Note**
>
> By default, DCV will save your display settings. If DCV detects a different monitor configuration, the display settings will be reset.

Using accurate audio/video synchronization

The **Accurate Audio/Video synchronization** setting enables a mode that minimizes the time difference in audio and video playback. This mode is useful in workloads that require the video and audio to be accurately synchronized, such as lip sync.

> ⓘ **Note**
>
> This feature may produce a lag in the perceived responsiveness of the remote system.

Accurate Audio/Video Synchronization functionality is supported on Windows and Linux servers with hardware GPU acceleration, and for console sessions only. It is supported on all native clients.

> ⓘ **Note**
>
> Accurate Audio/Video Synchronization is not supported on web based clients.

To enable or disable Audio/Video Synchronization

1. Launch the client and connect to the Amazon DCV session.

2. Do one of the following depending on your client.

   - Windows clients

     1. Choose the **Settings** icon.

     2. Select **Accurate Audio/Video Synchronization** from the drop-down menu.
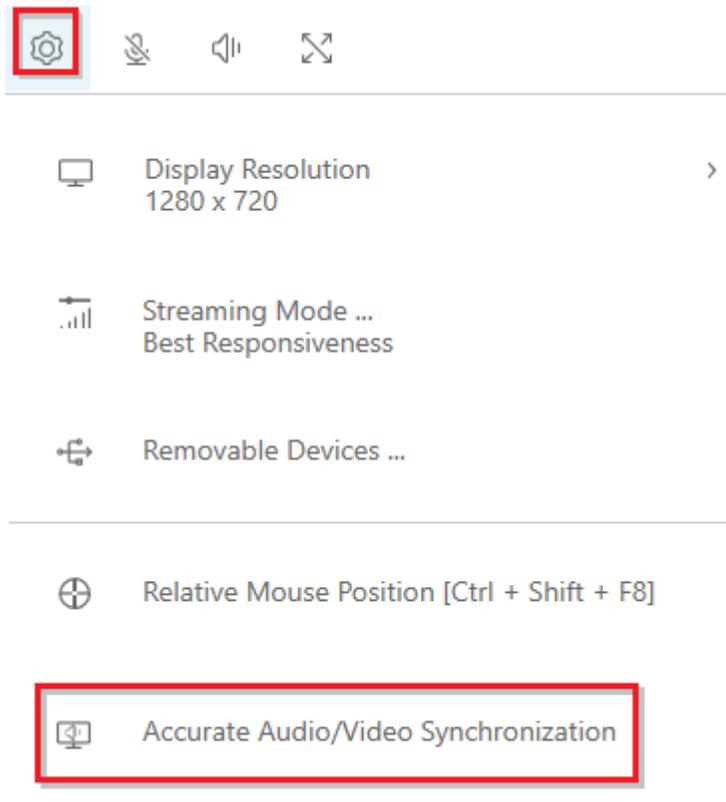
- macOS clients

  1. Choose the **DCV Viewer** icon.

  2. Select **Preferences** from the drop-down menu.

  3. Check the box for **Accurate Audio/Video Synchronization**.
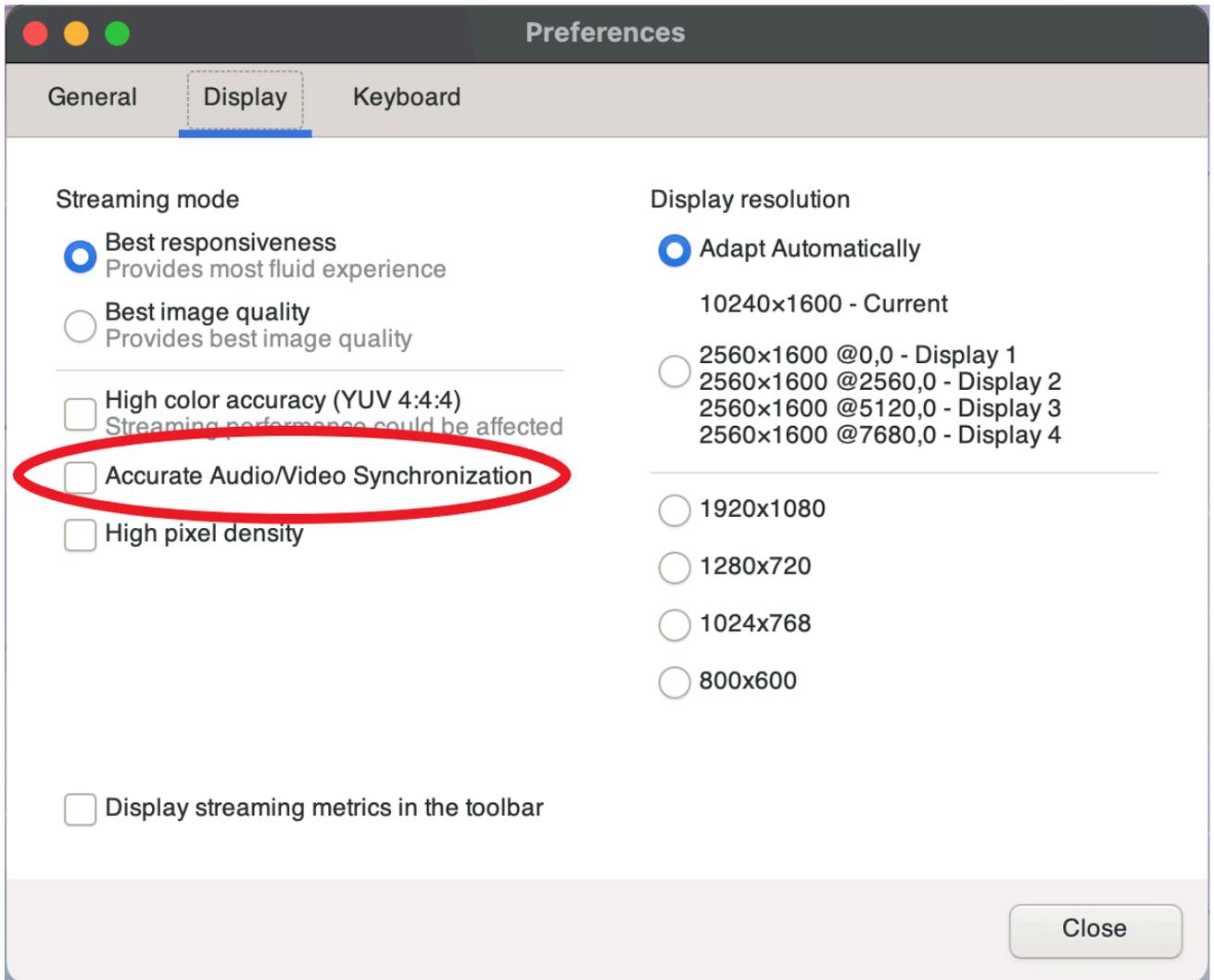
- Linux clients

  1. Choose the **Settings** icon.

  2. Select **Preferences** from the drop-down menu.

  3. Check the box for **Accurate Audio/Video Synchronization**.
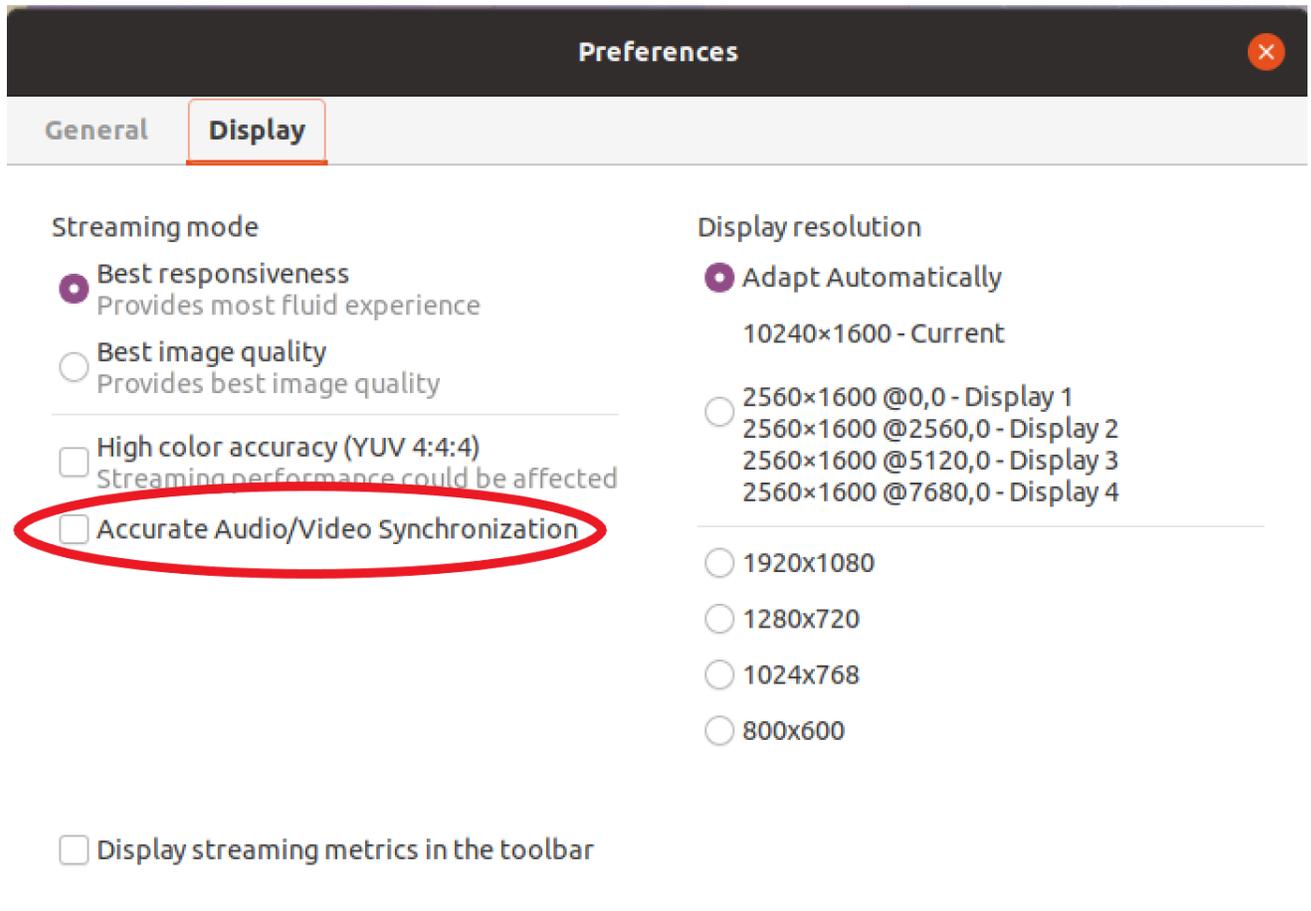
Using high color accuracy

By default, Amazon DCV uses YUV 4:2:0 chroma subsampling when compressing the display output and then updates the parts of the screen that are not changing over time to a full lossless RGB implementation. This default behavior aims to strike a balance between performance and image fidelity, though it may introduce chroma artifacts. By enabling the High color accuracy setting, the YUV chroma subsampling will be set to 4:4:4, thus increasing color fidelity. However this will increase network bandwidth and could affect performance of clients, especially at high resolution, because most client machines do not support HW accelerated decoding when using YUV 4:4:4.

The steps for setting the high color accuracy depend on the client used.

Topics

- [High color accuracy on native clients](#)

- [High color accuracy on Web browser client](#)

High color accuracy on native clients

As long as you are using a Amazon DCV Server and a Amazon DCV Client both having version 2022.0 or later, please follow these steps to enable high color accuracy:

Enabling high color accuracy on Windows clients

1. Choose the **Settings** icon.

2. Select **Streaming Mode** from the drop-down menu.
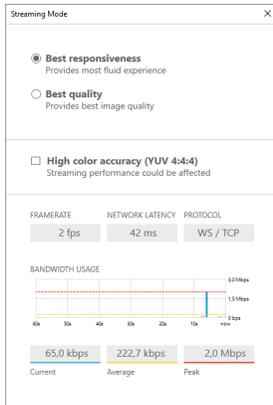
3. Check the High color accuracy (YUV 4:4:4) checkbox in the **Streaming Mode** window.

4. Close the **Streaming Mode** window.

Enabling high color accuracy on macOS clients

1. Choose the **DCV Viewer** icon.

2. Select **Preferences** from the drop-down menu.

3. Select the **Display** tab in the **Preferences** window.

4. Check one or both of the following checkboxes:

    - High color accuracy (YUV 4:4:4)

    - High pixel density
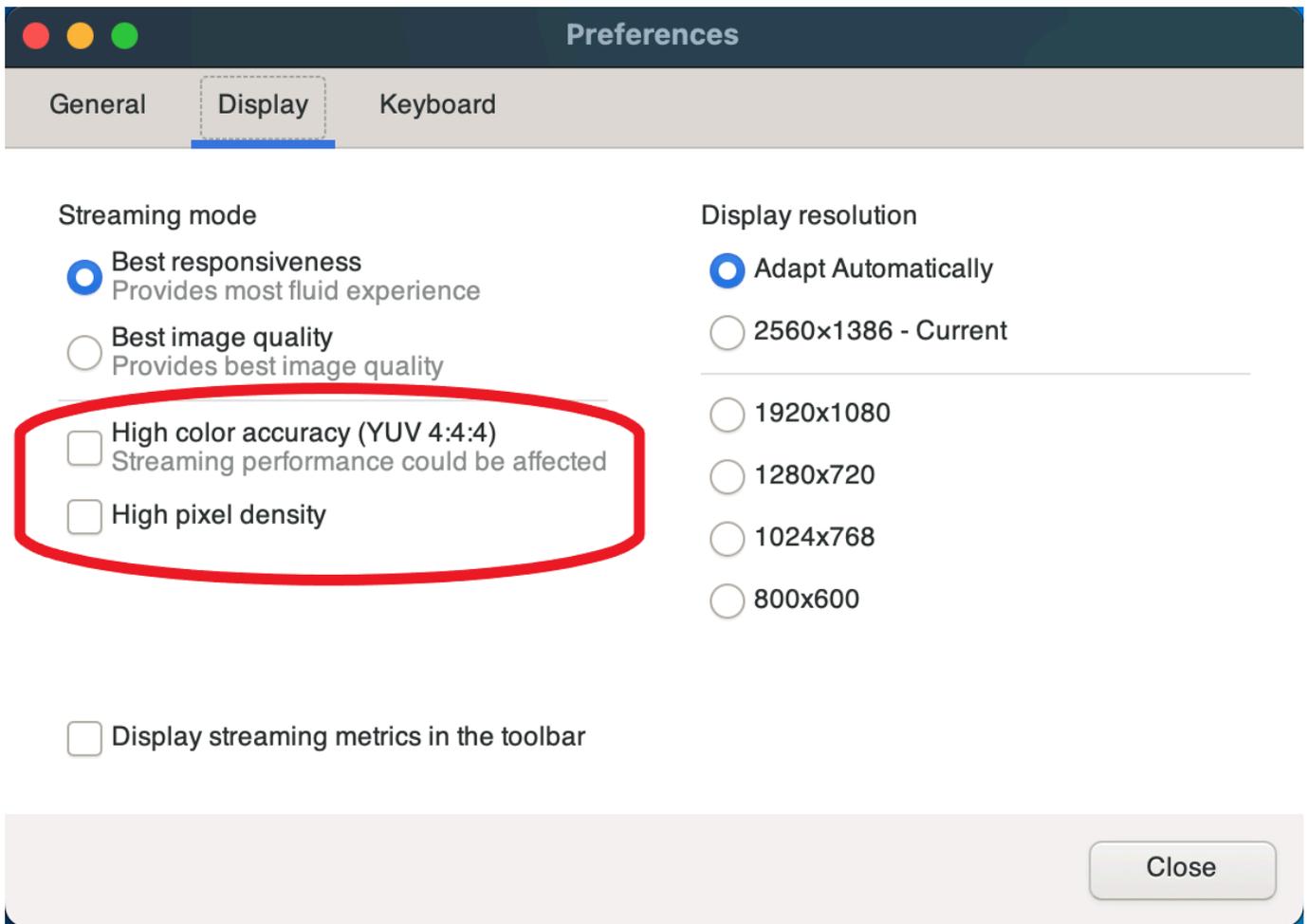
5.   Close the **Preferences** window.

Enabling high color accuracy on Linux clients

1.   Choose the **Settings** icon.

2.   Select **Preferences** from the drop-down menu.

3.   Select the **Display** tab in the **Preferences** window.

4.   Check the checkbox for **High color accuracy (YUV 4:4:4)**.
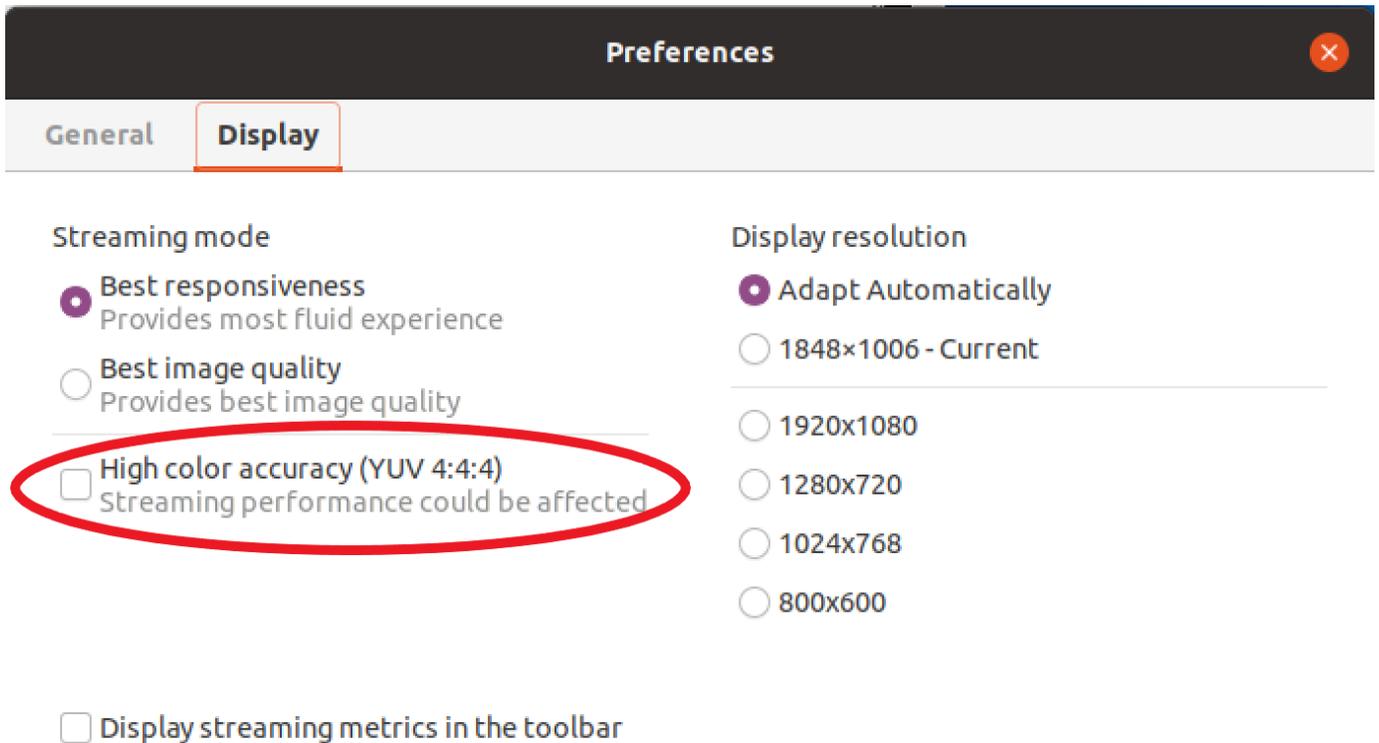
5.   Close the **Preferences** window.

High color accuracy on Web browser client

In order to use high color accuracy on Web browser client you need a Amazon DCV Server with version 2022.0 or later, as well as a browser supporting the VideoDecoder interface of the Web Codecs API.

The steps for enabling the high color accuracy are the same across all supported web browsers.

1.   In the client, choose **Session**, **Preferences**.
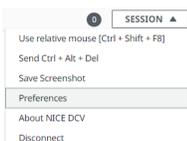
2.   Under the **Display** tab, if the high color accuracy feature is available, the corresponding toggle will be visible and allows to specify whether to enable or disable the YUV chroma subsampling set to 4:4:4:

Preferences   ✕

General   **Display**   Keyboard   Camera

Streaming mode   Display resolution

⦿ Best responsiveness   ⦿ Adapt automatically
   Provide most fluid experience.   ○ 1378x906 (Current)
○ Best quality   ○ 1920x1080
   Provide best image quality.   ○ 1440x900
                                                            ○ 1024x768
High color accuracy (YUV 4:4:4)   ○ 800x600

🔵 Enabled
   Streaming performance could be affected.

Streaming metrics in the toolbar

🔵 Enabled

                                                            Cancel   **Save**

3.   Save and close the **Preferences** modal.

Using a smart card

You can use Amazon DCV to use one or more smart cards that's connected to your client computer. You can do this using the standard Personal Computer/Smart Card (PC/SC) interface, in a Amazon DCV session. For each session, only one connected client can connect a smart card at a time. This is especially important in environments where multiple clients connect to the same session.

Smart card access is supported only with the Windows, Linux, and macOS clients. It's not supported with the web browser client.

Only one client can connect a smart card at a time. While your smart card is connected, no other clients who are connected to the session can connect a smart card.

After you're done using the smart card in the Amazon DCV session, release it. After it's released, other clients who are connected to the session can connect a smart card. The smart card is automatically released when you disconnect from the session.

You must be authorized to use this feature. If you are not authorized, the functionality is not available in the client. For more information, see Configuring Amazon DCV Authorization in the *Amazon DCV Administrator Guide.*

Connecting a smart card

Connecting to a Windows client

1. Launch the client and connect to the Amazon DCV session.

2. Choose the **Settings** icon.

3. Select **Removable Devices** from the drop-down list.

4. Enable the **Smart Card** toggle.
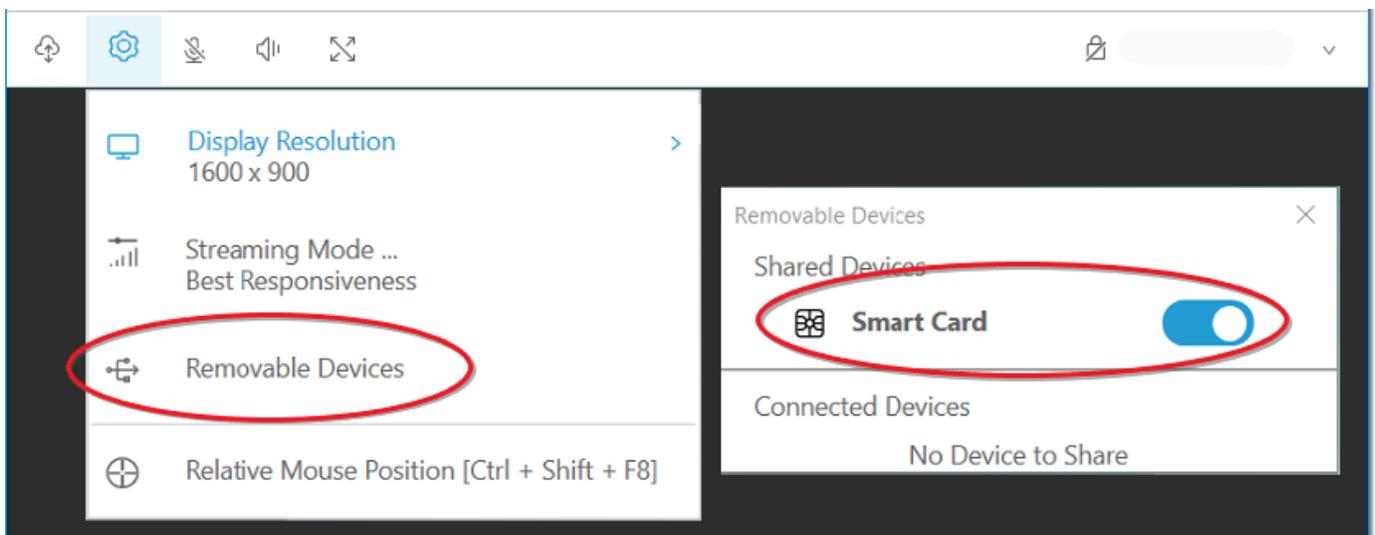
Connecting to a macOS client

1. Launch the client and connect to the Amazon DCV session.

2. Choose the **DCV Viewer** icon.

3. Select the **General** tab in the **Preferences** window.

4. Check the **Redirect smartcard devices** checkbox.
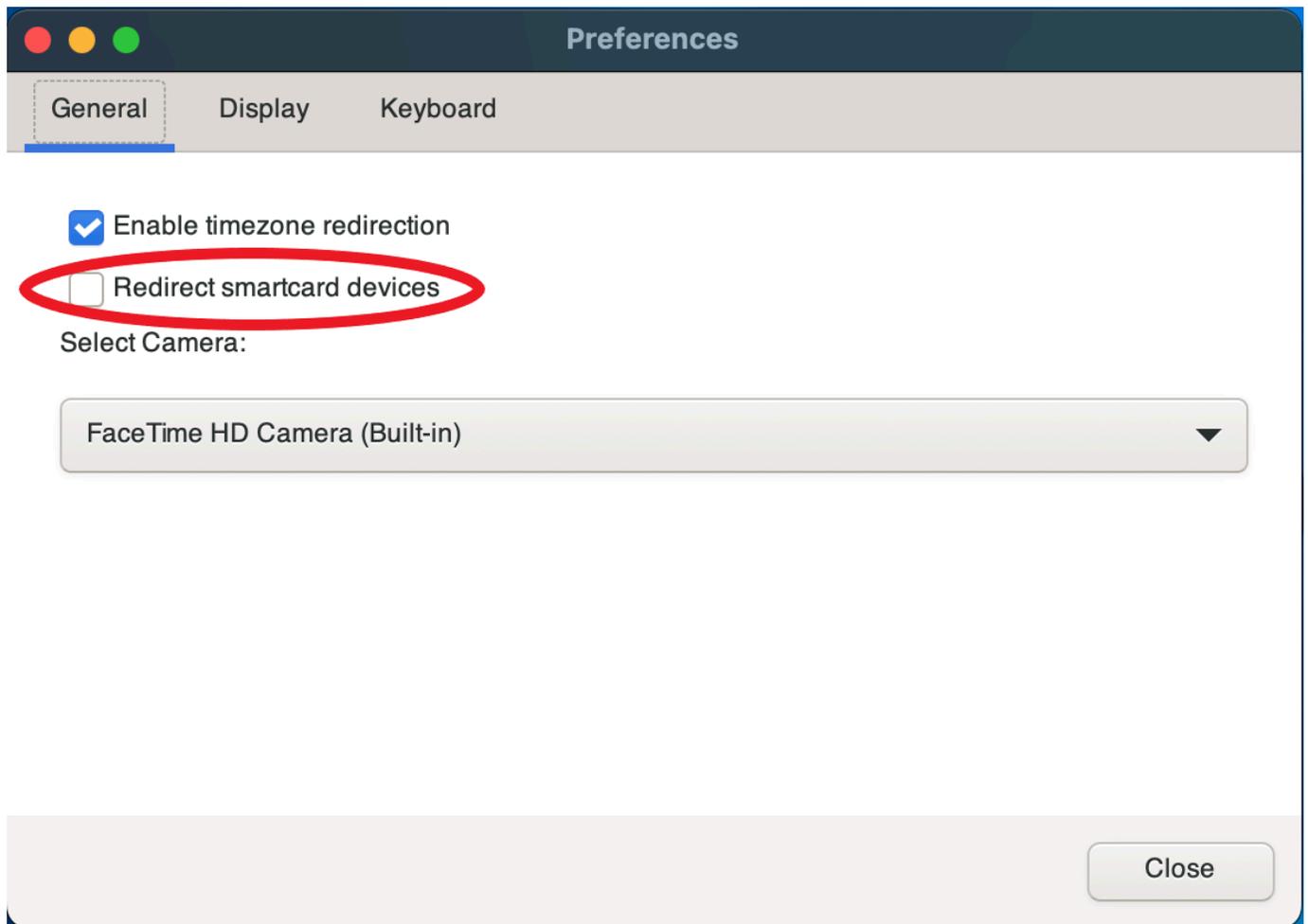
Connecting to a Linux client

1. Launch the client and connect to the Amazon DCV session.

2. Choose the **Settings** icon.

3. Select the **General** tab in the **Preferences** window.

4. Check the **Redirect smartcard devices** checkbox.
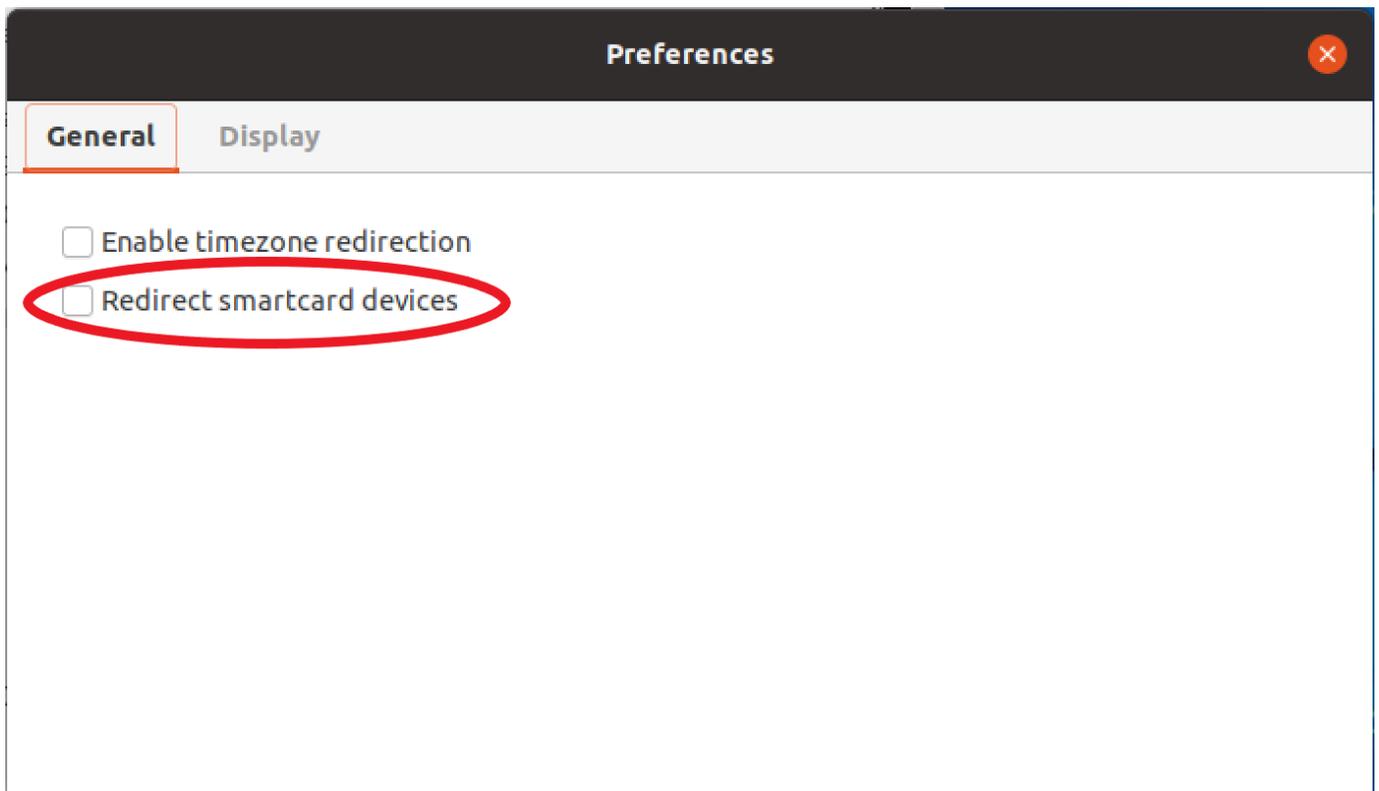
Using a smart card on Linux servers

- Open a terminal and launch the application using the `dcvscrun` command followed by the application name and arguments.

  Example

  For example, to launch `firefox` with smart card support, use the following command:

  ```
  $  dcvscrun firefox
  ```

  > ⚠️ **Important**
  >
  > If you enabled smart card caching, run the following command in the same terminal that you set and exported the DCV_PCSC_ENABLE_CACHE environment variable in.

Releasing a smart card

Releasing from a Windows client

1. Choose the **Settings** icon.

2. Select **Removable Devices** from the drop-down list.

3. Disable the **Smart Card** toggle.

Releasing from a macOS and Linux clients

1. Choose the **Settings** icon.

2. Select the **General** tab in the **Preferences** window.

3. Uncheck the **Redirect smartcard devices** checkbox.

Smart card data caching (optional)

To have the Amazon DCV server cache smart card data, you will need to enable the smart card caching feature. By default, smart card caching is disabled. With smart card caching enabled, the server caches the results of recent calls to the client's smart card. This helps to reduce the amount of traffic that is transferred between the client and the server and improves performance.

You cannot enable smart card caching if it's disabled on the server. For more information, see [Configuring Smart Card Caching](#) in the *Amazon DCV Administrator Guide*

Enabling smart card caching on Windows servers

1. Launch the client and connect to the Amazon DCV session.

2. Open a terminal window.

3. Run one of the following commands:

   - To enable smart card caching for the current terminal window:

     ```
     C:\> set DCV_PCSC_ENABLE_CACHE=1
     ```

   - To enable smart card caching permanently for all applications on the server:

     ```
     C:\> setx DCV_PCSC_ENABLE_CACHE 1
     ```

Enabling smart card caching on Linux servers

1. Launch the client and connect to the Amazon DCV session.

    > **ⓘ Note**
    >
    > Make sure to run the following command in the same terminal that you intend to launch the application.

2. Open a terminal window where you ran the applicaiton with `dcvscrun`.

3. Export the DCV_PCSC_ENABLE_CACHE with the value 1.

    Example

    For example, you might run the command:

    ```
    $ DCV_PCSC_ENABLE_CACHE=1 dcvscrun APPLICATION
    ```

    or

    ```
    $ DCV_PCSC_ENABLE_CACHE=1
    $ dcvscrun APPLICATION
    ```

Using USB remotization

> **ⓘ Note**
>
> This feature is for installable Windows clients only.

With Amazon DCV you can use specialized USB devices such as 3D pointing devices and two-factor authentication USB dongles. These devices must be connected to your computer for them to interact with applications running on a Amazon DCV server.

> **ⓘ Note**
>
> Graphic tablets, gamepads, and smart card readers are automatically supported by Amazon
> DCV and do not require USB remotization to be used.

You must be authorized to use this feature. If you are not authorized, the functionality is not
available in the client. For more information, see Configuring Amazon DCV Authorization in the
Amazon DCV Administrator Guide.

After this feature is enabled, the most commonly used USB devices are supported. You can connect
them to your computer and use them on the server without additional configuration required.

However, some specialized USB devices aren't supported in the default configuration. Unsupported
devices do not appear in the **Settings** menu after they're connected. These devices must be added
to the USB Device **Allow List** on the Amazon DCV Server before they can be used. After they are
added to this list, they will appear in the **Settings** menu on the client.

For information on this or any additional configuration that may be required on the Amazon DCV
server, see Enabling USB Remotization and in the *Amazon DCV Administrator Guide*.

Using a USB device on a Amazon DCV server

1. Connect the USB device in any open USB slot on your computer.

2. Go to your DCV client session.

3. Choose the **Settings** icon located in the upper left of the window.

4. Select **Removable Devices...** from the dropdown menu.
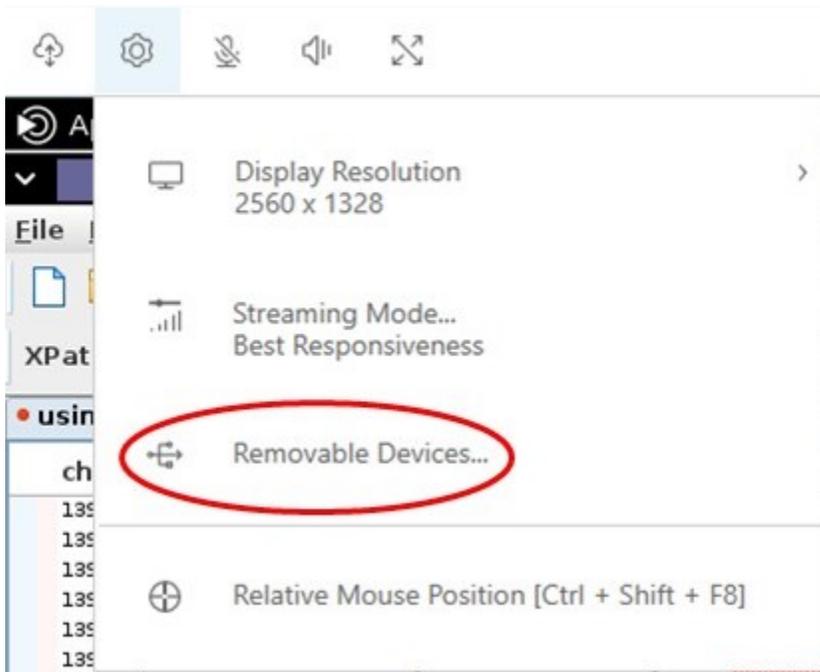
5.   Move the slider next to the USB device in the list.
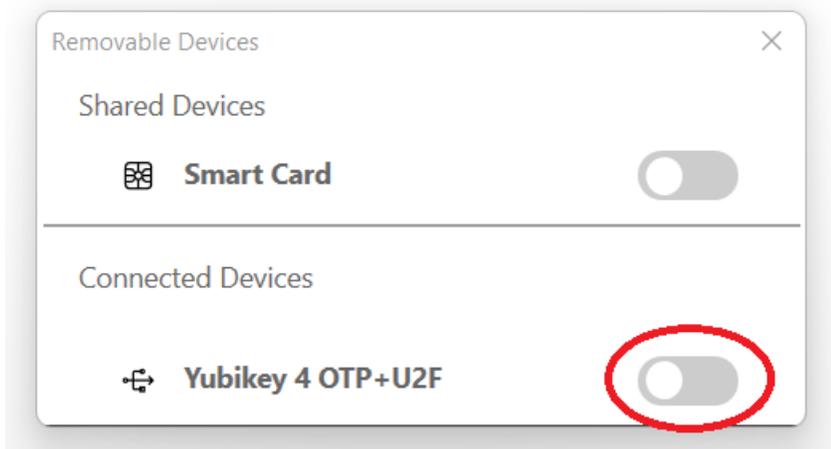
Your USB device is ready to use now.

Using a webcam

With Amazon DCV, you can use a webcam connected to your local client computer in a remote application that runs in a Amazon DCV session. For each session, only one connected client can use a webcam at a time. This is especially important in environments where multiple clients connect to the same session.

Webcam functionality is supported with all Amazon DCV clients. However, with the web browser client, webcam functionality is only supported with Chromium-based browsers, such as Google Chrome or Microsoft Edge. It isn't supported on Mozilla Firefox or Apple Safari.

Webcam functionality is supported on Windows Amazon DCV servers only. It's not supported on Linux Amazon DCV servers.

You must be authorized to use this feature. If you are not authorized, the functionality is not available in the client. For more information, see [Configuring Amazon DCV Authorization](#) in the *Amazon DCV Administrator Guide*.

If you have multiple webcams connected to your local client computer, you can select the webcam that you want to use. The selected camera is used automatically when the webcam is enabled using the webcam toolbar icon.

Topics

- [Using a webcam on Windows, Linux and macOS clients](#)
- [Using a webcam on the web browser client](#)

Using a webcam on Windows, Linux and macOS clients

The steps for selecting the camera to use are similar across the Windows, Linux and macOS clients.

To select the webcam to use

1. Launch the client and connect to the Amazon DCV session.

2. Do one of the following depending on your client.

   - Windows and Linux clients

     1. Choose the **Settings** icon.

     2. Select **Camera**.

     3. Select the camera from the drop-down list
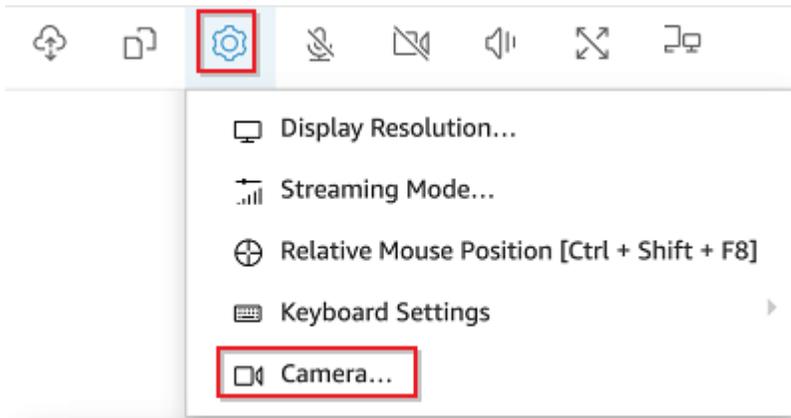
- macOS client

  1. Choose the **DCV Viewer** icon.

  2. Select the **General** tab.

  3. Select the arrow down arrow in the **Select Camera:** field to open a drop-down list of cameras.

  4. Select the camera from the drop-down list
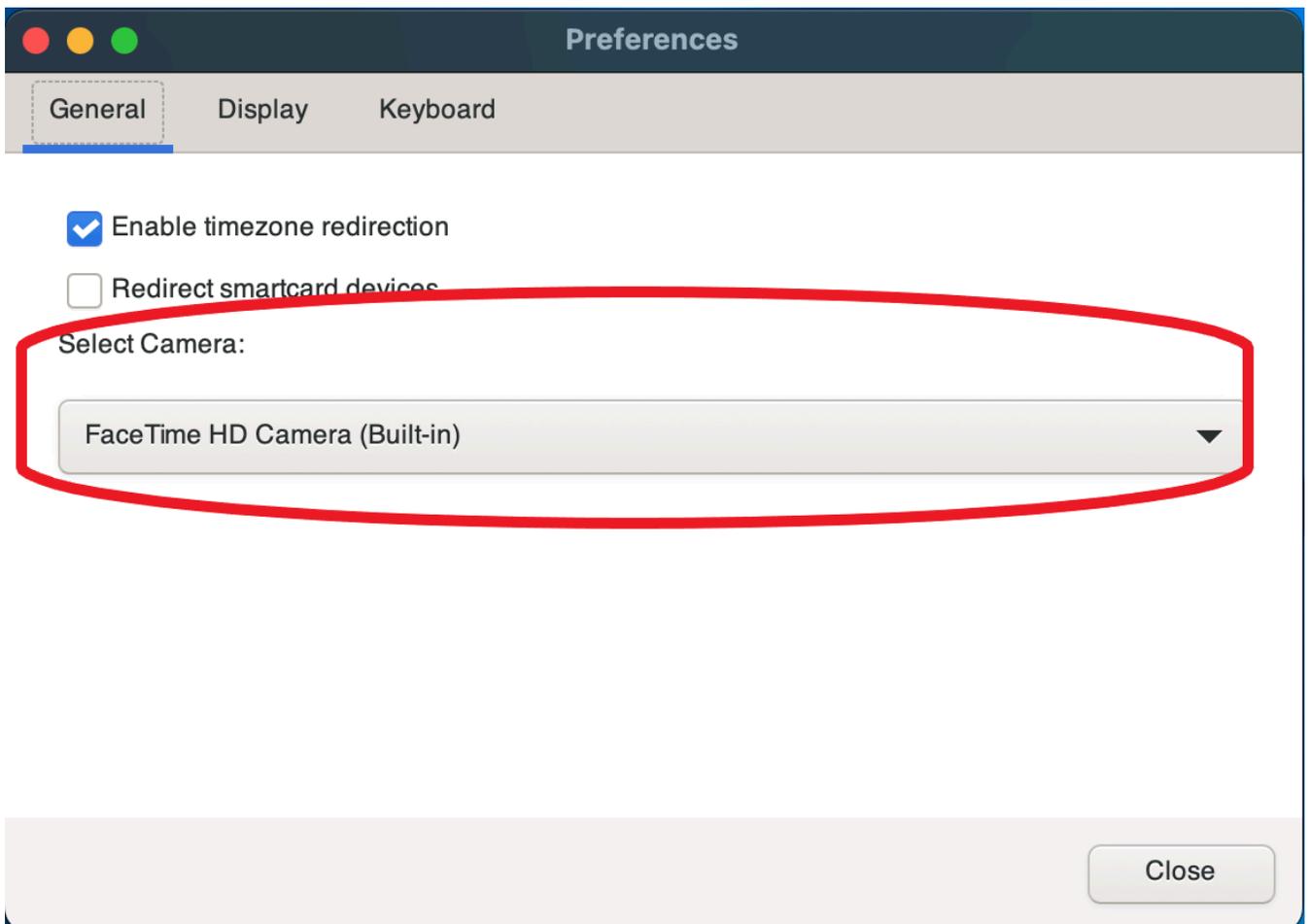
> **ⓘ Note**
>
> - The camera menu items appears only if you're authorized to use a webcam in the session. If you don't see the camera menu items, you might not be authorized to use a webcam.
>
> - You can't change the webcam selection while the webcam is in use, or while another client enabled a webcam in the session.

To start using your webcam in a session

You must first enable it. Use the webcam icon on the toolbar to enable or disable your webcam for use in the session. You can also use the icon to determine its current state. The webcam icon appears on the toolbar only if the following is the case:

- You're authorized to use a webcam.

- You have at least one webcam connected to your local computer.

- No other users enabled a webcam for use in the session.

Toolbar icon	Description
	Your webcam is disabled in the session. Other clients can enable a webcam for use in the session. Click the icon to enable your webcam in the session. If you didn't previously select the webcam to use, the default webcam is used.
	Your webcam is enabled in the session, but it isn't in use. While your webcam is enabled, no other clients that are connected to the session can use a webcam. Click the icon to disable your webcam in the session.
	Your webcam is in use by a remote application in the Amazon DCV session. No other clients can enable a webcam while your webcam is in use. Click the icon to disable your webcam in the session.

Troubleshooting

Topics

- [Webcam doesn't work on Windows 10](#)
- [Client application says that the webcam is in use](#)

Webcam doesn't work on Windows 10

Windows 10 provides built-in privacy settings that manage access to the device camera. If you're running Windows 10 on your client computer, these privacy settings might prevent use of the webcam.

> **ⓘ Note**
>
> If you're connecting to a Windows 2019 Amazon DCV server, you might need to perform these steps on the Amazon DCV server as well.

To modify the privacy settings on your computer, do the following:

1. Choose the search icon on the toolbar.
2. Enter `Settings` and press **Enter**.
3. In the left-hand panel, choose **Camera**.
4. For **Allow apps to access your camera**, switch the toggle to the **On** position.
5. You might need to restart your computer for the changes to take effect.

Client application says that the webcam is in use

Only one application can use the webcam at a time. If you're using the webcam in multiple applications, first close the applications where it's no longer needed.

Using a webcam on the web browser client

Webcam functionality is only supported with Chromium-based browsers, such as Google Chrome or Microsoft Edge. It isn't supported on Mozilla Firefox or Apple Safari.

The steps for selecting the camera to use are the same across all supported web browsers..

To select the webcam to use

1. Launch the client and connect to the Amazon DCV session.

2. In the client, choose **Session**, **Preferences**.
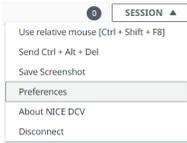
3. Under the **Camera** tab, select the camera to use.
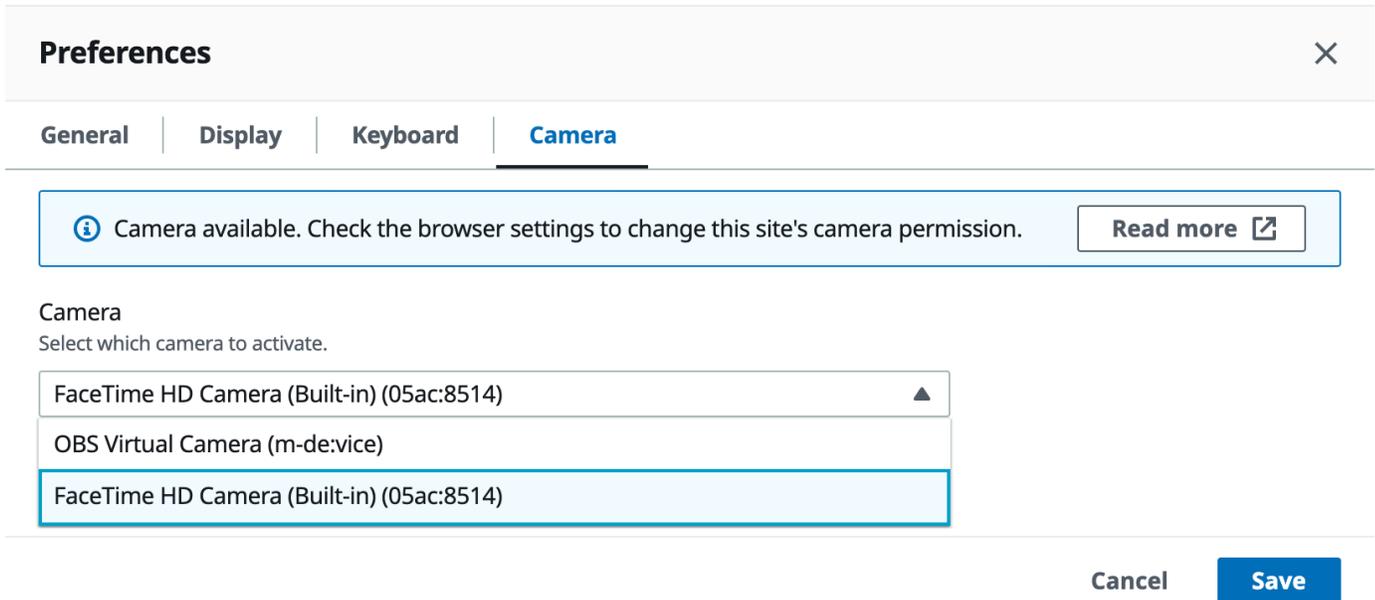
4. Close the **Preferences** modal.

ⓘ **Note**

- The camera menu items appears only if you're authorized to use a webcam in the session. If you don't see the camera menu items, you might not be authorized to use a webcam.

- You can't change the webcam selection while the webcam is in use, or while another client enabled a webcam in the session.

- If the camera permission settings have not been expressly granted or denied by the user, you're prompted to allow camera detection before being able to select the camera to use.

- In case the camera permission settings have been expressly granted or denied by the user, you would be able to change such setting following this procedure:

1. At the top left of your browser window, click the area on the address bar left of the URL.

2. In the popup window that opened, select the desired camera permission setting to be applied.

To start using your webcam in a session

You must first enable it. Use the webcam icon on the toolbar to enable or disable your webcam for use in the session. You can also use the icon to determine its current state. The webcam icon appears on the toolbar only if the following is the case:

- You're authorized to use a webcam.

- You have at least one webcam connected to your local computer.

- No other users enabled a webcam for use in the session.

Toolbar icon	Description
⊗ webcam	Your webcam is disabled in the session. Other clients can enable a webcam for use in the session. Click the icon to enable your webcam in the session. If you didn't previously select the webcam to use, the default webcam is used.
⊖ webcam	Your webcam is enabled in the session, but it isn't in use. While your webcam is enabled, no other clients that are connected to the session can use a webcam. Click the icon to disable your webcam in the session.
⊙ webcam	Your webcam is in use by a remote application in the Amazon DCV session. No other clients can enable a webcam while your webcam is in use. Click the icon to disable your webcam in the session.

Troubleshooting

Client application says that the webcam is in use

Only one application can use the webcam at a time. If you're using the webcam in multiple applications, first close the applications where it's no longer needed.

Set certificate validation policy

Amazon DCV uses a secure TLS connection for communication between the server and client. The certificate validation policy determines how the Amazon DCV client responds when a certificate can't be verified as trustworthy. Set one of the following options in the connection file:

- `Strict`: Prohibits the connection if there is any problem validating the TLS certificate.

- `Ask user`: Prompts the user to determine whether to trust the certificate when a certificate can't be verified.

- `Accept untrusted`: Connects to the server even if the TLS certificate is self signed and can't be validated by the client.

For information about editing the connection file, see [???](#).

Using WebAuthn redirection

Amazon DCV offers the WebAuthn Redirection feature, specifically designed for use with Google Chrome and Microsoft Edge browsers. This functionality enables authentication in session for web applications. This feature operates through a dedicated browser extension that, once installed, redirects the WebAuthn requests from the web application to the DCV client.

Authorization is required to use this feature. Otherwise, it is not available in the client. For more information, see Configuring Amazon DCV Authorization in the Amazon DCV Administrator Guide.

> ⓘ **Note**
>
> WebAuthn redirection is supported only on Windows, Linux, and macOS clients. It is not supported on the web browser client.

Webauthn Redirection user interface

The extension opens a user interface used to monitor and control the Webauthn Redirection feature.
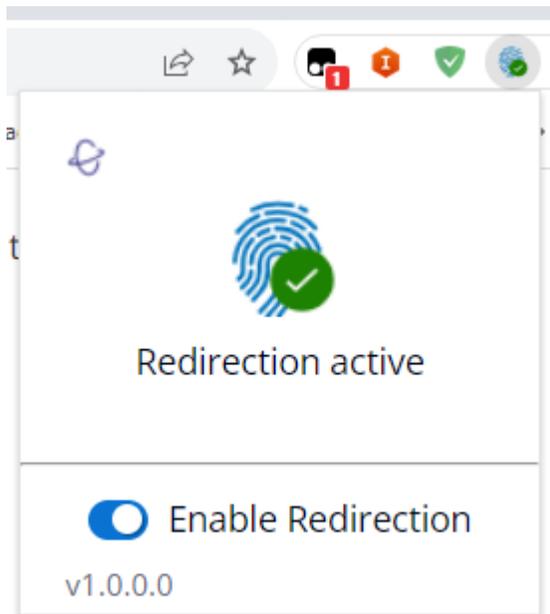
- **Extension Icon:** Located in the main body of user interface, this icon displays the feature's current state.

  The icon will be one of the following:

Icon	Name	Usage
	Inactive	Redirection is inactive. This occurs when you disable the extension.
	Ok (Active)	Redirection is active and connected to the underlying Amazon DCV software on the host.
	Processing	Redirection is executing an operation in progress or is attempting to connect to the underlying Amazon DCV sofware in the host.

Icon	Name	Usage
	Error	There is an error connecting to the underlying Amazon DCV software on the host.

- **Status Message:** Located in the main body of user interface, the message will explain the current operational status.

- **Redirection Toggle:** Located at the bottom of the user interface, this switch enables or disables the feature.

  - Enabling redirection allows WebAuthn requests to be intercepted by the extension and forwarded to the client.

  - Disabling redirection allows WebAuthn requests to be processed locally by the browser.

Troubleshooting Amazon DCV

This chapter describes how to identify and troubleshoot problems that you might have with Amazon DCV client.

Topics

- [Using the Log Files](#)

For additional support, use any of the following resources.

- If you are a Amazon DCV on-premises customer and you need additional help, contact your Amazon DCV reseller.

- If you are using Amazon DCV on Amazon EC2, you can log a support ticket with [AWS support](#).

- If you do not have an AWS support plan, you can seek help from the Amazon DCV community by posting your question on the [AWS re:Post](#).

Using the Log Files

Use the Amazon DCV client log files to identify and troubleshoot problems with your Amazon DCV client. Logs are enabled by default on Windows (since 2024.0), Linux and macOS clients. When using older Windows clients a log file must be provided (see [Enabling debug in log files](#)).

- Windows client

```
%localappdata%\Amazon\DCV\logs\client.log
```

- Linux or macOS client

```
~/.local/share/NICE/dcvviewer/log/viewer.log
```

Enabling debug in log files

In order to troubleshoot issues, the Amazon DCV debug logs must be explicitly enabled.

For Windows clients

1. Navigate to the folder where the `dcvviewer.exe` file is located. By default, this is `C:\Program Files (x86)\NICE\DCV\Client\bin\`.

2. Do one of the following:

   - Open a command prompt and enter the following:

     ```
     dcvviewer --log-level debug --log-file-name C:/ProgramData/client.log
     ```

   - Add the following configuration to the connection file and double click on it to connect:

     ```
     [debug]
     logfilename=C:/ProgramData/client.log
     loglevel=debug
     ```

> **ⓘ Note**
>
> To enable logging on Windows without changing the default log level, set the value to `info` instead of `debug`. Logs are stored in the specified local file on your machine.

For macOS clients

1. Open a terminal.

2. Navigate to the folder where the `dcvviewer` file is located. Usually it is located here: `/Applications/DCV\ Viewer.app/Contents/MacOS/dcvviewer`.

3. Enter the following to launch the Amazon DCV client:

   ```
   dcvviewer --log-level debug
   ```

When the client launches, the log files appear in the terminal.

For Linux clients

1. Open a terminal.

2. Enter the following to launch the Amazon DCV client:

```
dcvviewer --log-level debug
```

When the client launches, the log files appear in the terminal.

Release notes and document history for Amazon DCV

This page provides the release notes and document history for Amazon DCV.

Topics

- [Amazon DCV release notes](#)
- [Document history](#)

Amazon DCV release notes

This section provides an overview of the major updates, feature releases, and bug fixes for Amazon DCV. All the updates are organized by release data. We update the documentation frequently to address the feedback that you send us.

Topics

- [DCV 2024.0-19030 — June 10, 2025](#)
- [DCV 2024.0-19030 — May 16, 2025](#)
- [DCV 2024.0-19030 — March 31, 2025](#)
- [DCV 2024.0-18131 — October 31, 2024](#)
- [DCV 2024.0-17979 — October 1, 2024](#)
- [DCV 2023.1-17701 — September 10, 2024](#)
- [DCV 2023.1-17701 — August 20, 2024](#)
- [DCV 2023.1-16388 — July 3, 2024](#)
- [DCV 2023.1-16388 — March 5, 2024](#)
- [DCV 2023.1-16388 — December 19, 2023](#)
- [DCV 2023.1-16220 — November 9, 2023](#)
- [DCV 2023.0-15487 — June 29, 2023](#)
- [DCV 2023.0-15065 — May 3, 2023](#)
- [DCV 2023.0-15022 — April 21, 2023](#)
- [DCV 2023.0-14852 — March 28, 2023](#)
- [DCV 2022.2-14521 — February 17, 2023](#)
- [DCV 2022.2-14357 — January 18, 2023](#)

- DCV 2022.2-14175 — December 21, 2022
- DCV 2022.2-14126 — December 9, 2022
- DCV 2022.2-13907 — November 11, 2022
- DCV 2022.1-13300 — August 4, 2022
- DCV 2022.1-13216 — July 21, 2022
- DCV 2022.1-13067 — June 29, 2022
- DCV 2022.0-12760 — May 23, 2022
- DCV 2022.0-12627 — May 19, 2022
- DCV 2022.0-12123 — March 23, 2022
- DCV 2022.0-11954 — February 23, 2022
- DCV 2021.3-11591 — December 20, 2021
- DCV 2021.2-11445 — November 18, 2021
- DCV 2021.2-11190 — October 11, 2021
- DCV 2021.2-11135 — September 24, 2021
- DCV 2021.2-11048 — September 01, 2021
- DCV 2021.1-10851 — July 30, 2021
- DCV 2021.1-10598 — June 10, 2021
- DCV 2021.1-10557 — May 31, 2021
- DCV 2021.0-10242 — April 12, 2021
- DCV 2020.2-9662 — December 04, 2020
- DCV 2020.2-9508 — November 11, 2020
- DCV 2020.1-9012 — September 30, 2020
- DCV 2020.1-9012 — August 24, 2020
- DCV 2020.1-8942 — August 03, 2020
- DCV 2020.0-8428 — April 16, 2020
- DCV 2019.1-7644 — October 24, 2019
- DCV 2019.1-7423 — September 10, 2019
- DCV 2019.0-7318 — August 5, 2019
- DCV 2017.4-6898 — April 16, 2019
- DCV 2017.3-6698 — February 24, 2019

- [DCV 2017.2-6182 — October 8, 2018](#)

- [DCV 2017.1-5870 — August 6, 2018](#)

- [DCV 2017.1-5777 — June 29, 2018](#)

- [DCV 2017.0-5600 — June 4, 2018](#)

- [DCV 2017.0-5121 — March 18, 2018](#)

- [DCV 2017.0-4334 — January 24, 2018](#)

- [DCV 2017.0-4100 — December 18, 2017](#)

DCV 2024.0-19030 — June 10, 2025

Build numbers	Changes and bug fixes	
- nice-dcv-server: 19030 - nice-dcv-client (Windo : 9431 - nice-dcv-viewer (macOS): 8004 - nice-dcv-viewer (Linux): 8004 - nice-dcv-web-viewe r: 19030 - nice-xdcv: 654 - nice-dcv-gl: 1096	- Rebranded SM agent installer. - Renewed certificates before expiry. - Fixes for dead keys for Linux and MacOS Clients. - Update the access console to use different UUID from the claim scoping. - Migration to JDK 17.	

Build numbers	Changes and bug fixes	
• nice-dcv-gltest: 352 • nice-dcv-simple-external-authenticator: 266		

DCV 2024.0-19030 — May 16, 2025

Build numbers	Changes and bug fixes	
• nice-dcv-server: 19030 • nice-dcv-client (Windows): 9431 • nice-dcv-viewer (macOS): 8004 • nice-dcv-viewer (Linux): 8004 • nice-dcv-web-viewer: 19030 • nice-xdcv: 654	• Allow to set the log level from the connection file. • Fixes for dead keys for Linux and MacOS Clients. • Fixes for WebAuthn. • Fixes for display scale factor, relative mouse and multiple webcams for MacOS Client. • Improvement of clipboard image handling for the Windows and MacOS Clients. • Other fixes and performance improvements.	

Build numbers	Changes and bug fixes	
- nice-dcv-gl: 1096 - nice-dcv-gltest: 352 - nice-dcv-simple-external-authenticator: 266		

DCV 2024.0-19030 — March 31, 2025

Build numbers	Changes and bug fixes	
- nice-dcv-server: 19030 - nice-dcv-client (Windows): 9254 - nice-dcv-viewer (macOS): 7209 - nice-dcv-viewer (Linux): 7209 - nice-dcv-web-viewer: 19030	- Support for Amazon Linux 2023. - Bug fixes and performance improvements.	

Build numbers	Changes and bug fixes	
• nice-xdcv: 654 • nice-dcv-gl: 1096 • nice-dcv-gltest: 352 • nice-dcv-simple-external-authenticator: 266		

DCV 2024.0-18131 — October 31, 2024

Build numbers	Changes and bug fixes	
• nice-dcv-server: 18131 • nice-dcv-client (Windows): 9254 • nice-dcv-viewer (macOS): 7209 • nice-dcv-viewer (Linux): 7209 • nice-xdcv: 631	• Fixed a problem with the installer of Amazon DCV server on Windows that could cause unistallation to fail. • Fixed a problem on Amazon DCV server on Linux that result on the mouse cursor being hidden when a physical display is connected. • Fixed a problem on the Windows native client that could result in local USB devices getting disconnected when using the USB redirection feature. • Fixed a crash in the macOS related to the clipboard. • Fixed a crash in the macOS and Linux clients when connecting to a machine with multiple DCV sessions. • Fixed a problem in the macOS and Linux clients preventing print of large documents through the DCV PDF printer.	

Build numbers	Changes and bug fixes
• nice-dcv-gl: 1078 • nice-dcv-gltest: 344 • nice-dcv-simple-external-authenticator: 259	• Fix rendering issues in the Web Client with Firefox 130 and newer.

DCV 2024.0-17979 — October 1, 2024

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 1 • nice-dcv-client (W: 9206 • nice-dcv-viewer (macOS): 6995 • nice-dcv-viewer (Linux): 6995	Amazon DCV added the following features: • The NICE DCV product was renamed Amazon DCV. • Support for Ubuntu 24 server and clients. • Wayland support for Linux native client. • For Console sessions on a Linux server, DCV blanks the local screen and blocks the input. • High pixel density for Web client on macOS. • Added echo cancellation on Linux and macOS clients.	• QUIC UDP is enabled by default on the Amazon DCV Server. • Support for RHEL 7 and CentOS 7 and 8 was discontinued. • The Windows versions of the Amazon DCV server and client have as a requirement Microsoft Visual C++ Redistributable for Visual Studio 2022 instead of Microsoft Visual C++ Redistributable for Visual Studio 2017. • Increased upload speed limits to 10 Mbps and 100 Mbps for the web client • Added the capability to to drag and drop windows between

Build numbers	New features	Changes and bug fixes
- nice-xdcv: 627 - nice-dcv-gl: 1073 - nice-dcv-gltest: 340 - nice-dcv-simple-ex ternal-au thenticat or: 256		- multiple displays in the web client. - The web client will show a banner if there is a degradation of network performance. - Security and performance improvements

DCV 2023.1-17701 — September 10, 2024

Build numbers	Changes and bug fixes	
- nice-dcv-server: 1 - nice-dcv-client (W : 9210	Support to retrieve Window handles in DCV extensions on Windows client.	

Build numbers	Changes and bug fixes	
- nice-dcv-viewer (macOS): 6809 - nice-dcv-viewer (Linux): 6809 - nice-xdcv: 565 - nice-dcv-gl: 1047 - nice-dcv-gltest: 325 - nice-dcv-simple-ex ternal-au thenticat or: 228		

DCV 2023.1-17701 — August 20, 2024

Build numbers	Changes and bug fixes	
• nice-dcv-server: 1 • nice-dcv-client (W : 9187 • nice-dcv-viewer (macOS): 6809 • nice-dcv-viewer (Linux): 6809 • nice-xdcv: 565 • nice-dcv-gl: 1047 • nice-dcv-gltest: 325 • nice-dcv-simple-	• Bug fixes and performance improvements.	

Build numbers	Changes and bug fixes	
external-authenticator: 228		

DCV 2023.1-16388 — July 3, 2024

Build numbers	Changes and bug fixes	
• nice-dcv-server: 1(• nice-dcv-client (W : 9127 • nice-dcv-viewer (macOS): 6703 • nice-dcv-viewer (Linux): 6703 • nice-xdcv: 565	• Bug fixes and performance improvements to native clients.	

Build numbers	Changes and bug fixes	
- nice-dcv-gl: 1047 - nice-dcv-gltest: 325 - nice-dcv-simple-ex ternal-au thenticat or: 228		

DCV 2023.1-16388 — March 5, 2024

Build numbers	Changes and bug fixes	
- nice-dcv-server: 1(- nice-dcv-client (W : 8993 - nice-dcv-viewer	- Fixed a problem with extensions in the Windows Client when display scaling is set to a value different from 100%. - Fixed a problem with relative mouse mode and High DPI mice in the Windows Client. - Fixed a problem with the release of keyboard combinations using the `Shift` key in the Windows Client.	

Build numbers	Changes and bug fixes	
(macOS): 6203 • nice-dcv-viewer (Linux): 6203 • nice-xdcv: 565 • nice-dcv-gl: 1047 • nice-dcv-gltest: 325 • nice-dcv-simple-ex ternal-au thenticat or: 228		

DCV 2023.1-16388 — December 19, 2023

Build numbers	Changes and bug fixes	
• nice-dcv-server: 1(• nice-dcv-client (W : 8934 • nice-dcv-viewer (macOS): 6203 • nice-dcv-viewer (Linux): 6203 • nice-xdcv: 565 • nice-dcv-gl: 1047 • nice-dcv-gltest: 325 • nice-dcv-simple-	• Fixed a race condition in the agent startup on Windows which could cause streaming failures and excessive logging. • Fixed last interaction time reported in `dcv list-connections` when the idle timeout setting is changed at runtime. • Fixed a compatibility problem with NVIDIA GRID drivers 528.89 on Windows server. • Fixed video decoding problems in the Web Client that could result in streaming failures. • Fixed a problem with full screen on multiple monitors on the Windows client when display resolution change is disabled on the server. • Fixed a problem with webcam resolution on the Linux and macOS clients. • Fixed a problem with double and triple mouse click on the Linux and macOS clients. • Fixed a problem WebAuthN redirection on the Linux and macOS clients.	

Build numbers	Changes and bug fixes	
ex ternal-au thenticat or: 228		

DCV 2023.1-16220 — November 9, 2023

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 1(• nice-dcv-client (W : 8908 • nice-dcv-viewer (macOS): 6125 • nice-dcv-viewer (Linux): 6125 • nice-xdcv: 565	Amazon DCV added the following features: • Support for the redirection of in-session WebAuthN requests from web applicati ons running in remote Google Chrome or Microsoft Edge browsers. Redirecte d requests are channeled to the client, allowing FIDO2 compliant authenticators such as YubiKey or Windows Hello to validate user identity. • A new Indirect Display Driver (IDD) for Windows hosts optimizes the graphics pipeline and significantly reduces overall CPU usage by protocol. • The Windows Performance Counters can now be used to track various DCV protocol metrics such as frame rates, network bandwidth, CPU usage, and more, which can help users to understand the performance of their network and DCV protocol.	• Added support transparent images to the clipboard on Windows. • Fixed a problem with concurren t access to the clipboard on Windows which prevented cut and paste operations to succeed with some applications. • Fixed a problem that could result in the monitor scaling factor being reset to 100% Amazon DCV Server on Windows • Added settings to automatic ally disconnect clients on user logout and on screen lock for console sessions on Windows and Linux • Fixed problems in the audio stack that could result in noises and sound artifacts.

Build numbers	New features	Changes and bug fixes
• nice-dcv-gl: 1047 • nice-dcv-gltest: 325 • nice-dcv-simple-ex ternal-au thenticat or: 228		• Webcam streaming can be resumed when reconnecting without closing the application on the server • Improved relative mouse behavior with a high dpi mouse on Windows native client • Fixed issues with SmartCard support in the macOS native client • Fixed support for high pixel density on Linux native client • Improved user interface accessibility on the Web client and on the Windows native client • Fixed limitations with some keyboard layouts when using the Web client on macOS • Updated third party dependenc ies to the latest versions • Xdcv was updated to version 21.1.9 of XServer • Removed support for Windows Server 2012R2, Ubuntu 18.04 and Suse Enterprise Linux 15SP4 • Bug fixes and performance improvements

DCV 2023.0-15487 — June 29, 2023

Build numbers	Changes and bug fixes	
- nice-dcv-server: 1! - nice-dcv-client (W : 8771 - nice-dcv-viewer (macOS): 5629 - nice-dcv-viewer (Linux): 5629 - nice-xdcv: 551 - nice-dcv-gl: 1039 - nice-dcv-gltest: 318 - nice-dcv-simple-	- Fixed a problem in the Web client which could cause wrong colors when using Chrome 114 or newer. - Fixed the el7 rpm packages of Amazon DCV server and Xdcv to avoid an error on uninstall. - Fixed a compatibility problem with NVIDIA GRID drivers 528.89 on Windows server. - Fixed a problem which could prevent the clipboard from working correctly on some Windows applications. - The dcv-gl package now requires the latest version of the Amazon DCV server package to ensure configuration is correct when the package is installed or updated. - Fixed a problem on Windows client that could result in the wrong resolution being used after a resize. - Fixed support for IPv6 addresses in the macOS and Linux clients. - The macOS client now allows to configure Control + click as a right click. - The Web client now allows the use of special keys and combinations when in full screen on supported browsers. - Updated the OpenSSL third party library.	

Build numbers	Changes and bug fixes	
ex ternal-au thenticat or: 208		

DCV 2023.0-15065 — May 3, 2023

Build numbers	Changes and bug fixes	
• nice-dcv-server: 1! • nice-dcv-client (W : 8671 • nice-dcv-viewer (macOS): 5483 • nice-dcv-viewer (Linux): 5483 • nice-xdcv: 547	• Fixed an issue with `close-session` that could prevent release of license tokens. • Fixed crash in macOS native client on BigSur.	

Build numbers	Changes and bug fixes	
• nice-dcv-gl: 1027 • nice-dcv-gltest: 318 • nice-dcv-simple-ex ternal-au thenticat or: 208		

DCV 2023.0-15022 — April 21, 2023

Build numbers	Changes and bug fixes	
• nice-dcv-server: 1 • nice-dcv-client (W : 8671 • nice-dcv-viewer	• Fixed a concurrency problem which could prevent streaming from working correctly after a screen resize. • Fixed a race condition on the Amazon DCV server that could cause failures in QUIC connections. • Fixed a crash in Amazon DCV server related to applications with hidden cursors. • Fixed a problem with Japanese keyboard input on Windows server.	

Build numbers	Changes and bug fixes
(macOS): 5456 • nice-dcv-viewer (Linux): 5456 • nice-xdcv: 547 • nice-dcv-gl: 1027 • nice-dcv-gltest: 318 • nice-dcv-simple-ex ternal-au thenticat or: 206	• Improved audio/video synchronization for the Webcam stream. • Updated the ICU and libxml2 third party libraries. • Updated Xdcv to version 21.1.8 of XServer and fixed a problem with XKB that could prevent virtual sessions from starting. • Fixed a problem that could cause video decoding failure on Windows, macOS and Linux native clients. • Fixed problems with settings on the macOS and Linux native clients.

DCV 2023.0-14852 — March 28, 2023

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 14 - nice-dcv-client (W: 8655 - nice-dcv-viewer (macOS): 5388 - nice-dcv-viewer (Linux): 5388 - nice-xdcv: 527 - nice-dcv-gl: 1022 - nice-dcv-gltest: 318 - nice-dcv-simple-	Amazon DCV added the following features: - Added support for full-screen on selected monitors for Amazon DCV client on macOS and Linux. - Added support to initiate file upload by drag and drop for all clients. - Added Red Hat Enterprise Linux 9, Rocky Linux 9, and CentOS Stream 9. - Added support for time zone redirection for Amazon DCV Server on Linux.	- Fixed some problems in the QUIC transport which could cause incorrect bandwidth estimation and visual artifacts. - Updates to the user interface of the macOS and Linux clients. - Windows installers now consistently use Amazon DCV in user visible application names. - Reworked implementation of clipboard support on Windows for increased robustness. - Fixed a problem with the Caps Lock key when using German keyboard layout on Windows.

Build numbers	New features	Changes and bug fixes
ex ternal-au thenticat or: 206		

DCV 2022.2-14521 — February 17, 2023

Build numbers	Changes and bug fixes
- nice-dcv-server: 14521 - nice-dcv-client (Windows): 8570 - nice-dcv-viewer (macOS): 5125 - nice-dcv-viewer (Linux): 4804 - nice-xdcv: 519 - nice-dcv-gl: 1012 - nice-dcv-gltest: 307 - nice-dcv-simple-external-authenticator: 198	- Fixed problems with Japanese and Spanish keyboards on the macOS client. - Fixed a problem with numpad keys on the Windows Amazon DCV Server. - Fixed a memory leak with QUIC connections. - Improved stability of Windows Amazon DCV Client when using old video drivers. - Updated the OpenSSL and libsoup third party libraries. - Updated Xdcv to version 21.1.7 of XServer.

DCV 2022.2-14357 — January 18, 2023

Build numbers	Changes and bug fixes
- nice-dcv-server: 14357 - nice-dcv-client (Windows): 8522 - nice-dcv-viewer (macOS): 4804 - nice-dcv-viewer (Linux): 4804 - nice-xdcv: 487	- Fixed a crash with virtual sessions on Suse Linux 12 which started happening with the latest updates to the Suse packages. - Fixed a memory leak in DCV-GL related to the handling of X Pixmaps.

Build numbers	Changes and bug fixes
• nice-dcv-gl: 1012 • nice-dcv-gltest: 307 • nice-dcv-simple-external-authenticator: 198	• Integrate DCV-GL with the `xrestop` tool, so that X Pixmaps are associated to the corresponding process. • Improve webcam and audio redirection on Windows server to be more consistent with Windows' native behavior: the stream is not interrupted in case of OS events. • Improve how the Windows Amazon DCV Client handles input methods. • Fixed a problem with the clipboard in the Windows Amazon DCV Client related to text using only the carriage return character as the line separator.

DCV 2022.2-14175 — December 21, 2022

Build numbers	Changes and bug fixes
• nice-dcv-server: 14175 • nice-dcv-client (Windows): 8472 • nice-dcv-viewer (macOS): 4804 • nice-dcv-viewer (Linux): 4804 • nice-xdcv: 487 • nice-dcv-gl: 983 • nice-dcv-gltest: 307 • nice-dcv-simple-external-authenticator: 198	• Fixed a leak of file descriptors in the server when using WebSocket connections. • Xdcv was updated to version 21.1.6 of XServer.

DCV 2022.2-14126 — December 9, 2022

Build numbers	Changes and bug fixes
- nice-dcv-server: 14126 - nice-dcv-client (Windows): 8472 - nice-dcv-viewer (macOS): 4804 - nice-dcv-viewer (Linux): 4804 - nice-xdcv: 481 - nice-dcv-gl: 983 - nice-dcv-gltest: 301 - nice-dcv-simple-external-authenticator: 198	- Fixed a problem in the Windows server when using the Korean keyboard. - Fixed a problem with USB redirection on the Windows server that could cause a hang on Windows 11. - Fixed a problem with log rotation on the server when the 'rotate' parameter is set to 0. - Fixed a problem in the macOS and Linux clients which could cause the stream to freeze under specific network conditions. - Fixed a problem in the Windows native client not properly resizing when going fullscreen. - Fixed a problem in the macOS and Linux clients which could cause a crash during file upload. - Fixed a problem in the macOS client which could cause the audio to stop working. - Fixed a problem in the Linux client which could cause a crash when using a NVIDIA GPU. - Fixed a problem in the Web Client which could cause the Time Zone redirection UI to go out of synchronization with the server. - Fixed a problem in the Web Client which could prevent the post-session page from loading. - Updated the libTIFF and MIT-Kerberos open source dependencies.

DCV 2022.2-13907 — November 11, 2022

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 1 • nice-dcv-client (W: 8427 • nice-dcv-viewer (macOS): 4653 • nice-dcv-viewer (Linux): 4653 • nice-xdcv: 481 • nice-dcv-gl: 983 • nice-dcv-gltest: 301 • nice-dcv-simple-	Amazon DCV added the following features: • Added support for full-screen on selected monitors for Amazon DCV client on Windows. • Added support for high pixel density displays native client on macOS. • Added printer redirection for Amazon DCV client on macOS and Linux. • Added support for time zone redirection for Amazon DCV Server on Windows. • Added a GNOME-Shell extension for Ubuntu 22.04 to support single sign on for console sessions. • Added VAAPI based encoder on AMD GPUs when using the open source drivers.	• Updated Web client user interface to the Cloudscape design style. • Fixed memory leak inside the agent triggererd by client reconnection. • Added support for systems using GDM3 when using virtual sessions on Ubuntu 20.04. • Fixed problem intermittently causing black screen in virtual session on Ubuntu 20.04. • Fixed a problem in the Web client causing a missing clipboard update when changing tab. • Fixed a problem with the Enter key of the numeric keypad.

Build numbers	New features	Changes and bug fixes
ex ternal-au thenticat or: 198		

DCV 2022.1-13300 — August 4, 2022

Build numbers	Changes and bug fixes
- nice-dcv-server: 13300 - nice-dcv-client (Windows): 8261 - nice-dcv-viewer (macOS): 4279 - nice-dcv-viewer (Linux): 4251 - nice-xdcv: 433 - nice-dcv-gl: 973 - nice-dcv-gltest: 295 - nice-dcv-simple-external-authenticator: 193	- Do not automatically unlock Windows when more than a collaborator is connected to a session. - Fixed a problem when the server fails to load the specified certificate file. - Fixed a problem causing audio distortion on the macOS client.

DCV 2022.1-13216 — July 21, 2022

Build numbers	Changes and bug fixes
- nice-dcv-server: 13216 - nice-dcv-client (Windows): 8261 - nice-dcv-viewer (macOS): 4251 - nice-dcv-viewer (Linux): 4251 - nice-xdcv: 433 - nice-dcv-gl: 966	- Fixed a problem in all clients that resulted in a failure to connect to Amazon DCV server 2019.1 and older. - Fixed a problem with SmartCard redirection on Windows server.

Build numbers	Changes and bug fixes
• nice-dcv-gltest: 295 • nice-dcv-simple-external-authenticator: 193	• Fixed a problem that could cause the streaming to fail when connecting to a Amazon DCV server on a host with a GPU.

DCV 2022.1-13067 — June 29, 2022

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 1: • nice-dcv-client (W : 8248 • nice-dcv-viewer (macOS): 4241 • nice-dcv-viewer (Linux): 4241 • nice-xdcv: 433 • nice-dcv-gl: 966	Amazon DCV added the following features: • Added support for Ubuntu 22.04 and Rocky Linux 8.5 and higher for the server. • Added support for Ubuntu 22.04 for the native client. • Improved collaboration experience for the Windows, macOS and Linux native clients.	• Improved performance, up to a 30% reduction of overall CPU consumption on non-GPU servers. • Log rotation can now be configured in the settings specifying a time interval or a size limit. • Fixed problems in the QUIC transport which could cause the initial handshake to fail. • Fixed a problem that could cause relative mouse motion on Linux server to not work as expected for some applications.

Build numbers	New features	Changes and bug fixes
• nice-dcv-gltest: 295 • nice-dcv-simple-ex ternal-au thenticat or: 193		

DCV 2022.0-12760 — May 23, 2022

Build numbers	Changes and bug fixes
• nice-dcv-server: 12760 • nice-dcv-client (Windows): 8145 • nice-dcv-viewer (macOS): 4131 • nice-dcv-viewer (Linux): 4131 • nice-xdcv: 424 • nice-dcv-gl: 961 • nice-dcv-gltest: 291 • nice-dcv-simple-external-authenticator: 188	Changes: Fixed a problem preventing successful connection of the Web Client when specifying the web-url-path option.

DCV 2022.0-12627 — May 19, 2022

Build numbers	Changes and bug fixes
• nice-dcv-server: 12627 • nice-dcv-client (Windows): 8145 • nice-dcv-viewer (macOS): 4131 • nice-dcv-viewer (Linux): 4131 • nice-xdcv: 424 • nice-dcv-gl: 961 • nice-dcv-gltest: 291 • nice-dcv-simple-external-authenticator: 188	Changes: • Fixed some problems in the QUIC transport which could cause incorrect bandwidth estimation and visual artifacts. • Fixed a problem with the Audio service in the installer of the Windows server which could cause the update process to fail. • Fixed a problem with the USB handling in the installer of the Windows client which could cause the uninstall process to fail. • Fixed a problem when saving a screenshot in the macOS and Linux clients. • Updated the OpenSSL, zlib and gdk-pixbuf third party libraries.

DCV 2022.0-12123 — March 23, 2022

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 12123 • nice-dcv-client (Windows): 7920 • nice-dcv-viewer (macOS): 3973 • nice-dcv-viewer (Linux): 3973 • nice-xdcv: 424 • nice-dcv-gl: 961 • nice-dcv-gltest: 291	Amazon DCV added the following features: • Added option to enable high color accuracy to the macOS and Linux clients.	Changes: • Improved bandwidth estimation and image quality when using the QUIC transport. Fixes: • Fixed visual artifacts in console sessions on Linux

Build numbers	New features	Changes and bug fixes
• nice-dcv-simple-external-authenticator: 188		when using NVIDIA drivers 510.xx. • Fixed problem with DualShock 4 controllers connected via Bluetooth in the Windows native client. • Fixed possible crash in the macOS client when enabling the webcam.

DCV 2022.0-11954 — February 23, 2022

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 11954 • nice-dcv-client (Windows): 7866 • nice-dcv-viewer (macOS): 3929 • nice-dcv-viewer (Linux): 3929 • nice-xdcv: 424 • nice-dcv-gl: 961 • nice-dcv-gltest: 291 • nice-dcv-simple-external-authenticator: 188	Amazon DCV added the following features: • Game controller support for Windows Server and Windows native client. • The Amazon DCV Web Client now leverages WebCodecs on browsers that support it. • Added option to enable high color accuracy to the Windows and Web clients. • Improved collaboration experience: users get notified when someone joins the session	Changes: • TLS certificates can now be updated without restarting the Amazon DCV Server. • It is now possible to configure the Amazon DCV Server to listen on a specific network interface or on specific IPv4 or IPv6 addresses. • The 'DCV Printer' is now automatically configured also on Linux systems. • The Amazon DCV processes on Windows are now executed at higher priority. Fixes:

Build numbers	New features	Changes and bug fixes
	• Added CentOS 8 Stream to the list of supported Linux distributions.	• Fixed a crash on agent restart on Windows 2016 when using instances with a GPU. • Fixed a crash on Windows when logging out of a session while some USB devices are redirected from the Amazon DCV Client. • Normalize user names that contain a Windows domain when performing authoriza tion checks. • Improved relative mouse mode in the Windows Client. • Fixed a problem with the synchronization of the CapsLock key.

DCV 2021.3-11591 — December 20, 2021

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 11591 • nice-dcv-client (Windows): 7801 • nice-dcv-viewer (macOS): 3829 • nice-dcv-viewer (Linux): 3829 • nice-xdcv: 415	Amazon DCV added the following features: • The user interface of the Web Client has been updated. • EC2 G5 and G5g instances are now supported.	• The init script for Linux virtual sessions does not load the user's bash profile anymore, thus avoiding recurring problems with environment variables overriding the system's default values.

Build numbers	New features	Changes and bug fixes
• nice-dcv-gl: 952 • nice-dcv-gltest: 284 • nice-dcv-simple-external-authenticator: 176	• Windows Server 2022 and Windows 11 are now supported operating systems.	• The nice-dcv-ext-authe nticator now requires Python 3.

DCV 2021.2-11445 — November 18, 2021

Build numbers	Changes and bug fixes
• nice-dcv-server: 11445 • nice-dcv-client (Windows): 7792 • nice-dcv-viewer (macOS): 3797 • nice-dcv-viewer (Linux): 3797 • nice-xdcv: 411 • nice-dcv-gl: 946 • nice-dcv-gltest: 279 • nice-dcv-simple-external-authenticator: 160	Fixes: • Fixed a problem preventing the client from working correctly on macOS Monterey. • Improved security in the server on Windows. • Fixed a bug which could cause multi-mon itor layouts to not be applied correctly, in particular when using the Web Client. • Fixed a problem which could cause the `Delete` key to not work correctly with some Windows applications. • Marked the Web client package on Linux as mutually exclusive with old versions of the server package, which included the Web client itself.

DCV 2021.2-11190 — October 11, 2021

Build numbers	Changes and bug fixes
• nice-dcv-server: 11190 • nice-dcv-client (Windows): 7788 • nice-dcv-viewer (macOS): 3776	Fixes: • Fixed a problem in the Windows client which prevented the user from dismissing the

Build numbers	Changes and bug fixes
• nice-dcv-viewer (Linux): 3776 • nice-xdcv: 411 • nice-dcv-gl: 946 • nice-dcv-gltest: 279 • nice-dcv-simple-external-authenticator: 160	certificate validation dialog when connecting to a server with an expired certificate. • Fixed a problem with the middle click button on Stylus pens not working as expected on native clients. • Fixed a regression in Xdcv which prevented legacy X11 fonts to be loaded. • Fixed a problem in the macOS and Linux clients with keyboard combinations not working correctly when using a keyboard layout which uses dead keys.

DCV 2021.2-11135 — September 24, 2021

Build numbers	Changes and bug fixes
• nice-dcv-server: 11135 • nice-dcv-client (Windows): 7781 • nice-dcv-viewer (macOS): 3740 • nice-dcv-viewer (Linux): 3740 • nice-xdcv: 408 • nice-dcv-gl: 944 • nice-dcv-gltest: 279 • nice-dcv-simple-external-authenticator: 160	Fixes: • Fixed a problem with QUIC packet size negotiation that can cause connectivity and performance problems when using a 2021.2 client to connect with an older server. • Fixed a bug with NVIDIA device selection that could cause NVENC encoder to fail. • Fixed problems on machines with Windows and a NVIDIA GPU that could cause compression artifacts and color accuracy artifacts. • Fixed a bug with modifier keys on Linux server which could cause some keyboard combinations to not work as expected. • Fixed a performance regression for macOS clients on machines with the M1 CPU.

Build numbers	Changes and bug fixes
	• Fixed a bug in the macOS client which would cause some keyboard combinations to not work as expected. • Fixed a problem with how touch events are handled in Linux virtual sessions that could cause termination of the session.

DCV 2021.2-11048 — September 01, 2021

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 11048 • nice-dcv-client (Windows): 7774 • nice-dcv-viewer (macOS): 3690 • nice-dcv-viewer (Linux): 3690 • nice-xdcv: 406 • nice-dcv-gl: 944 • nice-dcv-gltest: 279 • nice-dcv-simple-external-authenticator: 160	Amazon DCV added the following features: • Web client clipboard improvements. With these improvements, you can now copy and paste PNG format images using the Amazon DCV web client on Google Chrome and Microsoft Edge. • A screenshot blocking feature for the Windows and macOS clients. This feature adds an additional layer of security by preventing users from taking screenshots of Amazon DCV session content. When enabled, any screenshots that a user capture result in a blank screen.	Changes: • The Amazon DCV web client is now a separate package on Linux and an optional component in the Windows installer. With this change, customers can decide whether to deploy the web client. • The H.264 High Profile is now supported when the NVENC encoder is used. Using NVENC encoder with NVIDIA GPUs, you can reduce bandwidth usage while maintaining the same image quality. • Amazon DCV server now uses all available GPUs for compression on machines with more than one GPU.

Build numbers	New features	Changes and bug fixes
	• Streaming quality improvements. Streaming quality improved specifica lly through better "build- to-lossless" performan ce when using the QUIC protocol. • A `certificate-valida tion-policy` option to specify the behavior of your client was addded. You can use it when the server presents an untrusted X.509 certificate, such as a self-signed certificate. • The number of channels configured in the Audio Driver at run time can be changed. • The Pressure2K option was added to the `dcvinput` Xorg module. You can use this to change the pressure sensitivity range of the stylus from 0-65335 to 0-2048, for compatibility with applications, such as Mari and Nuke • Support for the experimen tal WebCodecs API on Google Chrome and Microsoft Edge was added. When you enable this API in the browser, the Amazon	• All Windows drivers shipped with Amazon DCV are now WHQL certified. • OpenSSL was updated to version 1.1.1. • Xdcv was updated to version 1.20.13 of XServer. Fixes: • Fixed a problem with numpad keys on macOS clients. • Fixed an issue that prevented some USB devices (for example, gamepads) to be properly redirected to Windows servers. • Fixed a bug where modifier keys couldn't be properly released on disconnection. • Fixed a crash in the Linux native client when using Ubuntu 20.04 and Intel GPUs.

Build numbers	New features	Changes and bug fixes
	DCV web client can use it to accelerate video decoding and deliver higher frame rates.	

DCV 2021.1-10851 — July 30, 2021

Build numbers	Changes and bug fixes
- nice-dcv-server: 10851 - nice-dcv-client (Windows): 7744 - nice-dcv-viewer (macOS): 3590 - nice-dcv-viewer (Linux): 3560 - nice-xdcv: 392 - nice-dcv-gl: 937 - nice-dcv-gltest: 275 - nice-dcv-simple-external-authenticator: 154	Changes: - We improved stability on the Windows, Linux, and macOS clients. Fixes: - Fixed a bug that caused screen flickering with AMD and NVIDIA graphic adapters on Windows servers. - Fixed a sporadic issue when connecting to a Linux server running multiple sessions. - Fixed bugs that were related to handling of non-western keyboard layouts on Linux server. - Fixed visual artifact on the connection window in the Windows client. - Fixed several bugs and improved device compatibility in the USB redirection driver on Windows.

DCV 2021.1-10598 — June 10, 2021

Build numbers	Changes and bug fixes
- nice-dcv-server: 10598 - nice-dcv-client (Windows): 7713 - nice-dcv-viewer (macOS): 3473 - nice-dcv-viewer (Linux): 3473 - nice-xdcv: 392 - nice-dcv-gl: 937 - nice-dcv-gltest: 275 - nice-dcv-simple-external-authenticator: 154	- Fixed a problem in the Windows installer of the server to prefill the `session owner` field with the current user. - Improved the overall stability of the macOS and Linux clients.

DCV 2021.1-10557 — May 31, 2021

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 10557 - nice-dcv-client (Windows): 7713 - nice-dcv-viewer (macOS): 3450 - nice-dcv-viewer (Linux): 3454 - nice-xdcv: 392 - nice-dcv-gl: 937 - nice-dcv-gltest: 275 - nice-dcv-simple-external-authenticator: 154	- Amazon DCV added client option to enable accurate Audio/Video synchronization when connecting to a server with a GPU. - Amazon DCV added support for microphone on Linux console sessions.	- Reduced CPU usage on Windows server hosts without a GPU. - Fixed a problem with reading `.dcv` connection files in the macOS and Linux clients. - Added fallback to software decoding for macOS machines that don't support hardware accelerated decoding. - Added support for macOS client to read CA certificates that are stored in the system keychain.

DCV 2021.0-10242 — April 12, 2021

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 10242 - nice-dcv-client (Windows): 7643 - nice-dcv-viewer (macOS): 3186 - nice-dcv-viewer (Linux): 3294 - nice-xdcv: 380 - nice-dcv-gl: 912 - nice-dcv-gltest: 266 - nice-dcv-simple-external-authenticator: 134	- Added webcam redirection support for Windows Amazon DCV servers. - Added printer redirection support for Linux Amazon DCV servers. - Added support for M1 processors on macOS clients. - Added multi-monitor display support for macOS clients.	- Optimized GPU and CPU resource usage on Linux servers and on Amazon EC2 instances with an NVIDIA GPU. - Added support for GPU accelerated video encoding using AMD GPUs on Amazon EC2 G4ad instances for Linux Amazon DCV servers. - Optimized audio processing to reduce audio latency - Changed the default for clients to the QUIC protocol if the protocol is enabled on the server. - Added a new get-screenshot command to the DCV command line tool. - Added a force logout option that uses the `--logout-user` option of the `close-session` command. You can use this option when closing a console session.

DCV 2020.2-9662 — December 04, 2020

Build numbers	Changes and bug fixes
- nice-dcv-server: 9662 - nice-dcv-client (Windows): 7490 - nice-dcv-viewer (macOS): 2117 - nice-dcv-viewer (Linux): 3007 - nice-xdcv: 359 - nice-dcv-gl: 881 - nice-dcv-gltest: 259 - nice-dcv-simple-external-authenticator: 125	- Enhanced the security protocols used in the web browser client. - Increased performance and robustness of Amazon EC2 G4ad instances used with the Windows client. - Fixed a problem with port selection in the connection settings dialog of the Windows client.

DCV 2020.2-9508 — November 11, 2020

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 9508 - nice-dcv-client (Windows): 7459 - nice-dcv-viewer (macOS): 2078 - nice-dcv-viewer (Linux): 1737 - nice-xdcv: 359 - nice-dcv-gl: 881 - nice-dcv-gltest: 259 - nice-dcv-simple-external-authenticator: 125	- Added support for the QUIC (UDP-based) transport protocol. - Added support for SLES 15 and Ubuntu 20.4. - Added smart card support for Windows Amazon DCV servers.	- Changed the default the Amazon DCV frame rate limiter to 60 FPS for console sessions that are hosted on servers and EC2 instances with an NVIDIA GPU. - Optimized the GPU and CPU resources used on Windows Amazon DCV servers that are hosted on EC2 instances with an NVIDIA GPU. - Added the `list-endpoints` Amazon DCV CLI command. This lists the current active endpoints.

Build numbers	New features	Changes and bug fixes
		• The `version` Amazon DCV CLI command supports the `--json` option.
		• On Linux servers, the `create-session` Amazon DCV CLI command now supports the `--disable-login-mo nitor` option.
		• Improved compatibility with different display managers on Linux Amazon DCV servers.
		• Fixed several issues in the handling of keyboard input.
		• The USB devices allow list file is now dynamically reloaded.

DCV 2020.1-9012 — September 30, 2020

Build numbers	Changes and bug fixes
• nice-dcv-server: 9012 • nice-dcv-client (Windows): 7342 • nice-dcv-viewer (macOS): 1986 • nice-dcv-viewer (Linux): 1545 • nice-xdcv: 338 • nice-dcv-gl: 840 • nice-dcv-gltest: 246 • nice-dcv-simple-external-authenticator: 111	• Added missing macOS client icons.

DCV 2020.1-9012 — August 24, 2020

Build numbers	Changes and bug fixes
- nice-dcv-server: 9012 - nice-dcv-client (Windows): 7342 - nice-dcv-viewer (macOS): 1910 - nice-dcv-viewer (Linux): 1545 - nice-xdcv: 338 - nice-dcv-gl: 840 - nice-dcv-gltest: 246 - nice-dcv-simple-external-authenticator: 111	- Fixed Amazon S3 access in AWS GovCloud Region - Web-based client improvements

DCV 2020.1-8942 — August 03, 2020

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 8942 - nice-dcv-client (Windows): 7342 - nice-dcv-viewer (macOS): 1910 - nice-dcv-viewer (Linux): 1545 - nice-xdcv: 338 - nice-dcv-gl: 840 - nice-dcv-gltest: 246 - nice-dcv-simple-external-authenticator: 111	- The Linux Amazon DCV server now supports AWS Graviton2-based Arm instances, such as M6g, C6g, and R6g. For more information, see AWS Graviton Processor. - Added support for RHEL 8.x and CentOS 8.x on Linux Amazon DCV server. - Added support for printer redirection when using a Windows Amazon DCV server and the Windows Amazon DCV client.	- Added support for the new Amazon DCV Virtual Display driver on Amazon EC2 instances that don't have a GPU. - Resolved the issue that caused visual artifacts as a result of colorspace conversion when using the NVENC encoder. - The dcv list-sessions command now always includes the console session, if one is present - On newer Linux distributions, the agent for console

Build numbers	New features	Changes and bug fixes
	• Added stylus support with pressure sensitivity on macOS and Linux native Amazon DCV client. • Added surround sound 5.1 support for Linux Amazon DCV server and Linux Amazon DCV client. • Added touch screen support for Linux Amazon DCV native client. • You can now associate a custom name to a Amazon DCV session. • Support for hardware accelerated decoding and rendering on the macOS native Amazon DCV client.	sessions is now started as part of the desktop session to better support newer display managers, such as GDM3. • Native clients now automatically open when activating a URL with the dcv:// scheme. • Improved how the macOS native client and web client handle keyboard modifiers. • Improved visual and fbconfig selection in DCV-GL to improve support for some applications. • Reduced CPU usage during file transfer • Improved WebGL rendering in the web browser client to reduce resource usage.

DCV 2020.0-8428 — April 16, 2020

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 8428 • nice-dcv-client (Windows): 7238 • nice-dcv-viewer (macOS): 1716	• Added on-screen stylus and touch support on Linux server. • Added 7.1 surround sound playback support on Windows server to Windows native client.	• The toolbar grip on the Windows client can now be hidden while in full screen mode. • Added NTLM proxy support on Windows native client.

Build numbers	New features	Changes and bug fixes
• nice-dcv-viewer (Linux): 1358 • nice-xdcv: 296 • nice-dcv-gl: 759 • nice-dcv-gltest: 229 • nice-dcv-simple-external-authenticator: 87	• Added hardware accelerat ion and stylus support on Linux native client. • Added a new API command to set display layout on the server side. • Added multi-monitor web client display support on the Microsoft Edge browser (version 79.0.309 or later).	• Improved support for Windows headless physical hosts using NVIDIA adapters. • Removed support for the legacy NVIDIA NvIFR library. • Added support for Windows Graphic Capture API on latest Windows 10. • Added support for Amazon EC2 Instance Metadata Service (IMDS) v2 on EC2 instances. • DCV CLI provides new `on-client-connecte d /disconnected` commands to detect when a client connects or disconnects from a session. • Added support for specifyin g the host name to bind certificates for the external authenticator. • DCV-GL now uses the GL Vendor-Neutral Dispatch library (GLvnd) on systems that support it.

DCV 2019.1-7644 — October 24, 2019

Build numbers	Changes and bug fixes
• nice-dcv-server: 7644 • nice-dcv-client (Windows): 7114 • nice-dcv-viewer (macOS): 1535 • nice-dcv-viewer (Linux): 1124 • nice-xdcv: 226 • nice-dcv-gl: 544 • nice-dcv-gltest: 220 • nice-dcv-simple-external-authenticator: 77	• Fixed an issue in the integration API used by NICE EnginFrame and other session managers. • Fixed an issue with the 32-bit version of the Windows native client.

DCV 2019.1-7423 — September 10, 2019

Build numbers	Changes and bug fixes
• nice-dcv-server: 7423 • nice-dcv-client (Windows): 7087 • nice-dcv-viewer (macOS): 1535 • nice-dcv-viewer (Linux): 1124 • nice-xdcv: 226 • nice-dcv-gl: 544 • nice-dcv-gltest: 220 • nice-dcv-simple-external-authenticator: 77	• Improved security for DCV server on Windows. • Fixed a rendering problem with Autodesk Maya on Linux. • Added improvements and bug fixes related to keyboard handling.

DCV 2019.0-7318 — August 5, 2019

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 7318 - nice-dcv-client (Windows): 7059 - nice-dcv-viewer (macOS): 1530 - nice-dcv-viewer (Linux): 968 - nice-xdcv: 224 - nice-dcv-gl: 529 - nice-dcv-gltest: 218 - nice-dcv-simple-external-authenticator: 72	- Multiple monitor support on Web client. - Stylus input support on Windows Server 2019. - Audio in/out on macOS and Linux native clients. - Enhanced clipboard capability on Linux server (middle-click paste).	- Added improved compatibility for pressure sensitivity for Windows touch input. - Improved behavior on systems that have heterogeneous graphic adapters on Windows. - Reduced time required to detect inactive connections (for example, in response to changes from wired to Wi-Fi networks on the client). - Reduced logging when the cursor icon can't be captured on Linux. - Support for disabling the Composite extension in the virtual sessions Xdcv component. - Added the option to a limit on the number of concurrent virtual sessions. - Improved script compatibility for systems with Bash 5 installed. - Changed default for OpenGL and GLES to be detected and used automatically for rendering on the Linux client.

Build numbers	New features	Changes and bug fixes
		• Updated the DCV-GL on-screen buffer when the visibility of a GL window changes. • Fixed the mouse wheel detection in the Windows client on Windows 7. • Fixed a problem that caused the Windows client to fail when loading libraries on some Windows 7 systems. • Improved printing on the Windows client when printing documents with landscape orientation.

DCV 2017.4-6898 — April 16, 2019

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 6898 • nice-dcv-client (Windows): 6969 • nice-dcv-viewer (macOS): 1376 • nice-dcv-viewer (Linux): 804 • nice-xdcv: 210 • nice-dcv-gl: 490 • nice-dcv-gltest: 216 • nice-dcv-simple-external-authenticator: 70	• New native client for macOS.	• The Windows native client now uses hardware acceleration for decoding and rendering, if available in the system. • The dcv command line tool now uses the same options and output format on both Windows and Linux. • The dcv command line tool now reports information about licenses.

Build numbers	New features	Changes and bug fixes
		• Clients now show a warning to the user before disconnection due to inactivity.
		• Improved support for keyboard combinations that use multiple modifiers.
		• Improved robustness of the interaction with the Reprise License Manager for communication failures.
		• The `dcvusers` command line tool now defaults to saving data to the `dcv` user home directory on Linux.
		• Followed the same ordering used by the `nvidia-smi` tool when using the NVENC hardware encoder with multiple GPUs on Linux.
		• The Linux client now receives and handles printed files from the Windows DCV printer.

DCV 2017.3-6698 — February 24, 2019

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 6698 • nice-dcv-client: 5946 • nice-dcv-viewer (Linux): 683	• Added support for Kerberos (GSSAPI) authentication.	• Added an option to opt in to Y'UV444 encoding.

Build numbers	New features	Changes and bug fixes
• nice-xdcv: 207 • nice-dcv-gl: 471 • nice-dcv-gltest: 210 • nice-dcv-simple-external-authenticator: 66	• Added support for touch events on Windows versions that support it. • Automatically unlock Windows sessions when using system authentic ation (Windows Credential Provider).	• The EL6 RPM now includes the NVENC encoder module. • Windows system authentic ation now accepts the `name@domain` format. • Yubikey USB devices are now added to the allow list. • Improved Japanese keyboard support. • Input authorization permissions are more fine-grained. Added `pointer` permission to handle virtual cursors. Relative mouse mode depends on mouse (for motion injection) and pointer (for motion feedback). Added `keyboard-sas` permission to handle SAS on Windows (Control+A lt+ Del). `keyboardsas` depends on `keyboard` permission. • Fixed a problem with empty clipboard events in the Web client on browsers that support the async clipboard API. • Fixed a race on the capture module that prevented

Build numbers	New features	Changes and bug fixes
		clients from receiving the first frame.
		• Improvements to handling of concurrent file storage transfers.
		• Fixed NvIFR on Windows with newer NVIDIA drivers. New drivers changed behavior. The driver version is now detected automatic ally and memory handling is performed accordingly.
		• Never stop retrying re-acquiring an RLM license token. This allows you to recover from a `licensing error` state even after extended time periods.
		• Added an option to set full screen keyboard shortcut in the Windows client.
		• Improved auto-fit logic when dragging window across multiple monitors in the Windows client.
		• Fixed the prompt-reconnect option when disconnection is not triggered by UI in the Windows client.
		• Fixed DCV-GL incompati bility with NVIDIA driver 410.xx.

Build numbers	New features	Changes and bug fixes
		• Fixed regressions in DCV-GL with the Matlab and Blender applications.

DCV 2017.2-6182 — October 8, 2018

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 6182 • nice-dcv-client: 5890 • nice-dcv-viewer (Linux): 503 • nice-xdcv: 180 • nice-dcv-gl: 427 • nice-dcv-gltest: 201 • nice-dcv-simple-external-authenticator: 58	• Added audio playback support on Linux virtual sessions. • Improved smart card performance. • Added file transfer support on the Linux client.	• Improvements and bug fixes related to keyboard handling. • Changing the log level in the configuration no longer requires a server restart. • The Windows server installer now skips installation of Microsoft C runtime redistributable if it's already installed. • When running on EC2, if accessing S3 for the license fails, a notification is displayed in the user interface. • The Linux `dcv` command line tool now supports `list-connections` and `describe-session` sub-commands and includes an option to emit JSON output. • Added a `cuda-devices` setting in the `display`

Build numbers	New features	Changes and bug fixes
		section. This configures the server to distribute NVENC encoding over different CUDA devices.
		• Improved robustness of session creation code when handling multiple concurrent commands.
		• Increased the default clipboard limit to 20 MB.
		• The Windows client now detects legacy `.dcv` files and launches the DCV 2016 Endstation (if installed).
		• The DCV simple external authenticator now always uses the system Python interpreter instead of the one set in the environment.
		• Improved the read-back strategy of DCV-GL for improved performance and robustness.
		• DCV-GL now checks if a window changed size after a front buffer readback. This fixes a rendering problem with the Coot application.

DCV 2017.1-5870 — August 6, 2018

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 5870 • nice-dcv-client: 5813 • nice-dcv-viewer (Linux): 450 • nice-xdcv: 170 • nice-dcv-gl: 366 • nice-dcv-gltest: 198 • nice-dcv-simple-external-authenticator: 53	Released package for Ubuntu 18.04. When working in console mode, the system must be configured to use LightDM or another display manager of your choice because GDM does not expose the required X11 display information. Virtual sessions are not affected by this limitation.	• The license setting is now read when a session is created. This allows the administrator to change this setting without restarting the server. • Resolved stability problem in the Windows client that caused the program to exit unexpectedly on some systems. • Reduced logging in a possible error condition.

DCV 2017.1-5777 — June 29, 2018

Build numbers	New features	Changes and bug fixes
• nice-dcv-server: 5777 • nice-dcv-client: 5777 • nice-dcv-viewer (Linux): 438 • nice-xdcv: 166 • nice-dcv-gl: 366 • nice-dcv-gltest: 189 • nice-dcv-simple-external-authenticator: 51	• Added a Linux native client. • Added support for 3DConnexion mouses and USB storage devices. • Windows session locked automatically when the last client disconnects.	• Performance improvements in the Linux version. • Changed the default HW encoder on NVIDIA devices to NVENC to avoid problems with NvIFR in new NVIDIA drivers. • Improved smart card support on Linux. • Fixed file permissions for uploaded files when using Linux console sessions.

DCV 2017.0-5600 — June 4, 2018

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 5600 - nice-dcv-client: 5600 - nice-xdcv: 160 - nice-dcv-gl: 279 - nice-dcv-gltest: 184 - nice-dcv-simple-external-authenticator: 48	- Added support for multiple monitors on Linux. - Windows client performance improvements. - Used new Clipboard API on Chrome 66+. - Added NVENC encoder for Windows.	- Usage on EC2 now requires ability to reach S3 from the instance running DCV server. - Performance improvements to server frame processing and Windows client decoding. - Fixed keyboard issues related to NumPad and blocked modifiers. - Prevent file descriptor leak when using an external authenticator on Linux. - Fixed possible errors in smart card connection.

DCV 2017.0-5121 — March 18, 2018

Build numbers	New features	Changes and bug fixes
- nice-dcv-server: 5121 - nice-dcv-client: 5121 - nice-xdcv: 146 - nice-dcv-gl: 270 - nice-dcv-gltest: 184 - nice-dcv-simple-external-authenticator: 46	- Windows native client is now DPI aware. - Added support for relative mouse movement mode.	- Prevented hang on Ansys cfx5solve on Linux. - Fixed possible agent hang on Windows 10. - Improved the Web Client user interface. - Normalized Windows user name when a domain is specified.

Build numbers	New features	Changes and bug fixes
		• Fixed the external authentic ator on RHEL6.

DCV 2017.0-4334 — January 24, 2018

Build numbers	Changes and bug fixes
• nice-dcv-server: 4334 • nice-dcv-client: 4334 • nice-xdcv: 137 • nice-dcv-gl: 254 • nice-dcv-gltest: 184 • nice-dcv-simple-external-authenticator: 45	• Improved keyboard handling. • Fixed DBus problem on RHEL6 where closing of a session doesn't allow a new one to be created. • Improved support for SOCKS5 proxy on the native client. • Addressed the bug that cause crashes on Headwave when running on virtual sessions and on Chimera when running on virtual sessions. • Improved font support on virtual sessions.

DCV 2017.0-4100 — December 18, 2017

Build numbers
• nice-dcv-server: 4100 • nice-dcv-client: 4100 • nice-xdcv: 118 • nice-dcv-gl: 229 • nice-dcv-gltest: 158 • nice-dcv-simple-external-authenticator: 35

Document history

The following table describes the documentation for this release of Amazon DCV.

Change	Description	Date
Amazon DCV Version 2024.0	Amazon DCV fixes for 2024.0. For more information, see [???]().	June 10, 2025
Amazon DCV Version 2024.0	Amazon DCV fixes for 2024.0. For more information, see [DCV 2024.0-19030 — June 10, 2025]().	May 16, 2025
Amazon DCV Version 2024.0	Amazon DCV fixes for 2024.0. For more information, see [DCV 2024.0-19030 — March 31, 2025]().	March 31, 2025
Amazon DCV Version 2024.0	Amazon DCV fixes for 2024.0. For more information, see [DCV 2024.0-18131 — October 31, 2024]().	October 31, 2024
Amazon DCV Version 2024.0	Amazon DCV 2024.0 is now available. For more information, see [DCV 2024.0-17979 — October 1, 2024]().	October 1, 2024
Amazon DCV Version 2023.1	Amazon DCV fixes for 2023.1. For more information, see [DCV 2023.1-17701 — September 10, 2024]().	September 10, 2024
Amazon DCV Version 2023.1	Amazon DCV fixes for 2023.1. For more information, see [DCV 2023.1-17701 — August 20, 2024]().	August 20, 2024

Change	Description	Date
Amazon DCV Version 2023.1	Amazon DCV fixes to the Windows, macOS, and Linux Client 2023.1. For more information, see DCV 2023.1-16388 — July 3, 2024.	July 3, 2024
Amazon DCV Version 2023.1	Amazon DCV fixes to the Windows Client 2023.1. For more information, see DCV 2023.1-16388 — March 5, 2024.	March 5, 2024
Amazon DCV Version 2023.1	Amazon DCV fixes to 2023.1. For more information, see DCV 2023.1-16388 — December 19, 2023.	December 19, 2023
Amazon DCV Version 2023.1	Amazon DCV 2023.1 is now available. For more informati on, see DCV 2023.1-16220 — November 9, 2023.	November 9, 2023
Amazon DCV Version 2023.0	Amazon DCV no longer supports end of life operating systems.	June 30, 2023
Amazon DCV Version 2023.0	Amazon DCV fixes to 2023.0. For more information, see DCV 2023.0-15487 — June 29, 2023.	June 29, 2023
Amazon DCV Version 2023.0	Amazon DCV fixes to 2023.0. For more information, see DCV 2023.0-15065 — May 3, 2023.	May 3, 2023

Change	Description	Date
Amazon DCV Version 2023.0	Amazon DCV updates and fixes to 2023.0. For more information, see DCV 2023.0-15022 — April 21, 2023.	April 21, 2023
Amazon DCV Version 2023.0	Amazon DCV 2023.0 is now available. For more information, see DCV 2023.0-14852 — March 28, 2023.	March 28, 2023
Amazon DCV Version 2022.2	Amazon DCV 2022.2 is now available. For more information, see DCV 2022.2-13907 — November 11, 2022.	November 11, 2022
Amazon DCV Version 2022.1	Amazon DCV 2022.1 is now available. For more information, see DCV 2022.1-13067 — June 29, 2022.	June 29, 2022
Amazon DCV Version 2022.0	Amazon DCV 2022.0 is now available. For more information, see DCV 2022.0-11954 — February 23, 2022.	February 23, 2022
Amazon DCV Version 2021.3	Amazon DCV 2021.3 is now available. For more information, see DCV 2021.3-11591 — December 20, 2021.	December 20, 2021
Amazon DCV Version 2021.2	Amazon DCV 2021.2 is now available. For more information, see DCV 2021.2-11048 — September 01, 2021.	September 01, 2021

Change	Description	Date
Amazon DCV Version 2021.1	Amazon DCV 2021.1 is now available. For more informati on, see DCV 2021.1-10557 — May 31, 2021.	May 31, 2021
Amazon DCV Version 2021.0	Amazon DCV 2021.0 is now available. For more informati on, see DCV 2021.0-10242 — April 12, 2021.	April 12, 2021
Amazon DCV Web Client SDK	The Amazon DCV Web Client SDK is now available. The Amazon DCV Web Client SDK is a JavaScript library that you can use to develop your own Amazon DCV web browser client applications that your end users can use to connect to and interact with a running Amazon DCV session. For more information, see the Amazon DCV Web Client SDK Developer Guide.	March 24, 2021
Amazon DCV Version 2020.2	Amazon DCV 2020.2 is now available. For more informati on, see DCV 2020.2-9508 — November 11, 2020.	November 11, 2020
Amazon DCV Version 2020.1	Amazon DCV 2020.1 is now available. For more informati on, see DCV 2020.1-8942 — August 03, 2020.	August 03, 2020

Change	Description	Date
Amazon DCV Version 2020.0	Amazon DCV 2020.0 includes support for surround sound 7.1, touch and stylus, and multi-monitor using the new Microsoft Edge browser. For more information, see Installing the Amazon DCV Server in the *Amazon DCV Administrator Guide*.	April 16, 2020
HTTP response headers	The Amazon DCV server can be configured to send additional HTTP response headers.	August 26, 2019
macOS client	Amazon DCV now offers a macOS client. For more information, see macOS Client in the *Amazon DCV User Guide*.	April 18, 2019
Smart card caching	The Amazon DCV server can now cache smart card data received from the client to help improve performance. For more information, see Configuring Smart Card Caching in the *Amazon DCV Administrator Guide*.	October 08, 2018

Change	Description	Date
Linux client	Amazon DCV offers Linux clients for RHEL 7, CentOS 7, SLES 12, and Ubuntu 16.04/18.04. For more information, see Linux Client in the *Amazon DCV User Guide*.	August 29, 2018
Updated Parameter reference	The parameter reference was updated. For more information, see Amazon DCV Server Parameter reference in the *Amazon DCV Administrator Guide*.	August 07, 2018
USB remotization	Amazon DCV enables clients to use specialized USB devices, such as 3D pointing devices or graphic tablets. For more information, see Enabling USB Remotization in the *Amazon DCV Administrator Guide*.	August 07, 2018
Initial release of Amazon DCV	First publication of this content.	June 05, 2018