NICE Desktop Cloud Visualization
User Guide


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Getting Started with NICE DCV

NICE Desktop Cloud Visualization is a remote visualization technology that enables you to securely connect to graphic-intensive 3D applications hosted on a remote high-performance server. With NICE DCV, you are able to leverage the server's processor, GPU, I/O capabilities, and memory.

In a typical NICE DCV scenario, a graphic-intensive application, such as a 3D modeling or computer-aided design application, is hosted on a high-performance server that provides a high-end GPU, fast I/O capabilities, and large amounts of memory. The NICE DCV server software is installed and configured on the server and it is used to create a secure session. You use a NICE DCV client to remotely connect to the session and use the application hosted on the server. The server uses its hardware to perform the high-performance processing required by the hosted application. The NICE DCV server software compresses the visual output of the hosted application and streams it back to you as an encrypted pixel stream. Your NICE DCV client receives the compressed pixel stream, decrypts it, and then outputs it to your local display.

Contents

• Step 1: Get the NICE DCV Session Information (p. 1)
• Step 2: Choose a NICE DCV Client (p. 1)

Step 1: Get the NICE DCV Session Information

After the NICE DCV session is running on the NICE DCV server, you must have specific information to be able to connect to it. Contact your NICE DCV administrator if you do not have the following information:

• The NICE DCV server's IP address or host name
• The port over which the NICE DCV server is configured to communicate. Port 8443 is the default port used by the NICE DCV server.
• The session ID
• A user name and password to connect to the NICE DCV host server

Step 2: Choose a NICE DCV Client

Next, choose the NICE DCV client that best meets your needs. NICE DCV offers two clients:

• A native Windows client
• A web browser client

For more information about the available clients, see NICE DCV Clients (p. 2).

After you have chosen your preferred NICE DCV client, you can use it to connect to, and interact with the NICE DCV session. For more information about using the NICE DCV clients to interact with sessions, see Using NICE DCV (p. 5).
NICE DCV Clients

NICE DCV offers both a Windows client and a web browser client. The clients offer similar feature sets, but the web browser client does have some limitations (p. 4). Choose the NICE DCV client that best suits your needs.

Topics
- Windows Client (p. 2)
- Web Browser Client (p. 3)

Windows Client

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

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

Contents
- Requirements (p. 2)
- Installable Windows Client (p. 2)
- Portable Windows Client (p. 3)

Requirements

The Windows client is supported on 32-bit and 64-bit versions of the following operating systems:

- Windows 7
- Windows 8.1
- Windows 10

Note
Clients require .NET Framework 4.5.

The client must be able to connect to the NICE DCV server. It must also be able to communicate over the required port (8443 by default).

Installable Windows Client

To use the Windows client on your computer, you must first install it.

The client can be installed using an installation wizard. The wizard walks you through a series of steps that let you customize your client installation. Alternatively, you can use the command line to perform an unattended installation, which uses default settings to automate the installation procedure.

To install the Windows client using the installation wizard
1. Download the Windows client installer from the NICE website.
3. On the Welcome screen, choose Next.
4. On the End-User License Agreement screen, read the license agreement and, 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. On the Ready to install screen, choose Install.

To install the Windows client using an unattended installation

1. Download the Windows client installer from the NICE website.
2. Open a command prompt window and navigate to the folder where you downloaded the installer.
3. Execute the unattended installer.


Portable Windows Client

The Windows client is also available in portable version. The portable Windows client does not require installation. This enables you to copy the client to a USB drive, and execute it directly from the USB drive using any Windows computer that meets the minimum requirements.

To use the portable Windows client

1. Download the portable Windows client zip file from the NICE website.
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 NICE DCV web browser client is a web application that runs inside a web browser. It does not require installation.

Requirements

The client is supported on the following browsers across all desktop operating systems:

- Mozilla Firefox
- Google Chrome
- Microsoft Edge
- Microsoft Internet Explorer 11
- Apple Safari 11

The web browser client is not supported on mobile operating systems, such as Google Android and Apple iOS.

The web browser must meet the following requirements:
• Be able to connect to the NICE DCV server
• Be able to communicate over the required port (8443 by default)
• Provide support for asm.js
• Have WebGL enabled

Limitations

The web browser client has the following limitations:

• It supports a single monitor.
• It supports a maximum resolution of 1080p.
• It only allows you to copy and paste text to and from your clipboard.
• It uses the web browser's proxy configuration.
Using NICE DCV

After you have chosen your preferred NICE DCV client, you can use it to connect to and interact with a NICE DCV session.

Topics
• Connecting to a NICE DCV Session (p. 5)
• Managing Streaming Modes (p. 7)
• Transferring Files (p. 8)
• Printing (p. 9)
• Copying and Pasting (p. 10)
• Using a Smart Card (p. 11)
• Creating a Connection Shortcut (p. 11)

Connecting to a NICE DCV Session

After the NICE DCV session is running on the NICE DCV server, you can connect to it using your preferred client. Ensure that you have the required information when connecting to your NICE DCV session. For more information, see Step 1: Get the NICE DCV Session Information (p. 1).

If you are connecting to a console session, contact your NICE DCV server administrator to ensure that the session has been started and to confirm the server and session details. If you are connecting to a virtual session on a Linux NICE DCV server, you might need to start your own session. For more information, see Starting NICE DCV Sessions in the NICE DCV Administrator Guide.

Topics
• Connecting to a NICE DCV Session using the Windows Client (p. 5)
• Connecting to a NICE DCV Session using the Web Browser (p. 6)

Connecting to a NICE DCV Session using the Windows Client

The steps for connecting to a NICE DCV session are the same for 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 NICE DCV server using your preconfigured operating system proxy settings, choose Use system proxy.
   • To connect to the NICE DCV server through a specific HTTP proxy server, choose Get through web proxy. Specify the proxy server’s host name or IP address, and communication port. If the HTTP
proxy server requires authentication, select the **Proxy server requiring password** check box and provide your user name and password.

- To connect to the NICE DCV server through a specific SOCKS5 proxy server, choose **Get through SOCKSv5 proxy**. Specify the proxy server's host name or IP address, and communication port. If the SOCKSv5 proxy server requires authentication, select the **Proxy server requiring password** check box and provide your user name and password.

3. Specify the session details in the following format:

   ```plaintext
   server_hostname_or_IP:port#session_id
   ```

   For example, the following connects to a session named `my-session`, which is hosted on a NICE DCV server with the host name `my-dcv-server.com`, over port `8443`:

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

4. Choose **Connect**.

5. Enter your user name and password and choose **Login**.

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

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

### Connecting to a NICE DCV Session using the Web Browser

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

**To connect to your NICE DCV session using the web browser client**

1. Open your preferred web browser and enter the NICE DCV server URL in the following format:

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

   For example, the following URL connects to a session named `my-session`, which is hosted on a NICE DCV server with the host name `my-dcv-server.com`, over port `8443`:

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

2. Enter your user name and password 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 is not trusted. If you're unsure about the authenticity of the certificate, confirm it with your NICE DCV administrator. Proceed if it is safe to do so.

   **Note**
   This step varies depending on the web browser that you are using.
Managing Streaming Modes

NICE 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 reduces the image quality to improve the framerate, while prioritizing image quality reduces the responsiveness to provide better image quality.

This functionality is available on the Windows client and the web browser client, and the steps for setting the streaming mode are the same on both clients.

To change the streaming mode

1. In the client, choose Settings, Streaming Mode.

2. In the Streaming Mode window, choose one of the following options:
   - **Best responsiveness** — This option focuses on a faster response. It might result in lower image quality.
   - **Best quality** — This option focuses on higher image quality. It might result in a slower response.

3. (Optional) For information about network performance, choose Display Streaming Metrics. For more information, see Managing Streaming Modes (p. 7).

4. Close the Streaming Mode window.

Streaming Metrics

The streaming metrics can be used to evaluate your network performance and determine which streaming mode is best suited to 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 NICE DCV session connection.

- **Framerate**—Indicates the number of frames received from the NICE DCV server per second.
- **Network latency**—Indicates the amount of time (in milliseconds) it takes for a packet of data to be sent to the NICE 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, and the blue line shows the current (real-time) throughput.

The following image shows example streaming metric data.
Transferring Files

NICE DCV enables you to upload files to and download files from NICE DCV session storage. You need to be authorized to use this feature. If you are not authorized, the functionality is not available in the client.

This functionality is available on the Windows client and the web browser client, and the steps for uploading, downloading, and renaming files are the same on both clients.

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.

   Note
   If you are using the Windows client, the file is downloaded to your desktop. If you are using the web browser client, the file is downloaded to your default Downloads folder.
To upload a file from your computer to the session storage

1. In the client, choose Storage.
2. (Optional) To upload the file to a new folder, choose Create Folder, type a folder name, and then open the folder.
3. In the File Storage window, choose Upload File, browse to and select the file to upload, and then choose Open.

You can also 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 next to the file to rename and choose Rename.
3. Type the new file name and press Enter.

Printing

NICE DCV enables you to print content from the NICE DCV session. The content is exported to a printable file by a virtual NICE DCV printer. The type of printable file created by the virtual printer depends on the client that you’re using.

- If you are using the Windows client, the virtual printer creates a .PDF file.
- If you are using the web browser client with Google Chrome, Mozilla Firefox, or Apple Safari, the virtual printer creates an .PDF file.
- If you are using the web browser client with Microsoft Edge or Internet Explorer, the virtual printer creates an .XPF file.

After the file has been created by the virtual printer, you can download it to your local computer using the client.

You need to be authorized to use this feature. If you are not authorized, the functionality is not available in the client.

Printing is only supported with sessions hosted on a Windows NICE DCV server. The steps for printing from sessions are the same for the Windows client and the web browser client.

To print content from the session

1. In the client, open the Print window.
2. In the Print window, choose DCV Printer, Print.
   
   Note
   A notification appears when the file is ready for download.
3. In the top-right corner, choose Notifications, locate the Print notification in the list, and then choose Download it.
4. After the download has completed, choose Show in folder.

   Note
   The file is deleted from the NICE DCV server after you have downloaded it, and it is no longer available for download.
Copying and Pasting

NICE DCV lets you copy and paste text between your local computer and the NICE DCV session. You need to be authorized to use this feature. If you are not authorized, the functionality is not available in the client.

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

Copying and Pasting with the Windows Client

The Windows client enables you to copy and paste text and images between your local computer and the NICE DCV session using the keyboard shortcuts and Windows context menu shortcuts.

Copying and Pasting with the Web Browser Client

The Web browser client enables you to copy and paste only text between your local computer and the NICE DCV session. In addition, the copy and paste keyboard shortcuts and context menu shortcuts are not supported in the session.

To copy text from the session for use on your local computer

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. You can paste it using the paste keyboard shortcut or context menu shortcut.

To copy text from your local computer into the session

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.**
Using a Smart Card

NICE DCV enables you to use a smart card connected to your client computer, using the standard Personal Computer/Smart Card (PC/SC) interface.

Smart card access is only supported with the Windows client connected to a session hosted on a Linux NICE DCV server. It is not supported with the web browser client or Windows NICE DCV servers.

You need to be authorized to use this feature. If you are not authorized, the functionality is not available in the client.

The smart card functionality can only be used by one NICE DCV client at a time. This is especially important in environments where multiple clients are connected to the same session.

To use the smart card in a session, you first take control of it. No other clients connected to the session can access it while you have control. When you're done using the smart card, release control. After it's released, other clients connected to the session can take control. The smart card is automatically released when you disconnect from the session.

To take control or release control of the smart card in a session

1. In the Windows client, choose Settings. The current status of the smart card is listed below Enable/Disable smartcard. The values are Enabled (controlled) and Disabled (released).

2. To control the smart card, choose Enable/Disable smartcard when the status is Disabled. To release control, choose Enable/Disable smartcard when the status is Enabled.

Creating a Connection Shortcut

The Windows client enables you to create a connection shortcut file that you can use to instantly connect to a NICE DCV session.

The connection shortcut file is a .dcv file. You can manually edit the connection shortcut file using your preferred text editor. The shortcut includes the following information:

- NICE DCV server host name
- NICE DCV server port
- User name
• Proxy type

You can also add your password to the connection file using the `password=MyPassword` format. Adding your password to the connection shortcut file logs you in automatically after connecting to the session.

**Note**
Creating and using a connection shortcut file is only supported with the Windows client.

**To create a connection shortcut file**
1. Open the Windows client and connect to the server and session to create the shortcut for.
2. Select the NICE DCV server’s host name in the top-right corner and choose **Save Connection As**.
3. In the **Save As** window, provide a file name and destination folder, and choose **Save**.
4. To connect to the session, open the file.
Document History for NICE DCV

The following table describes the documentation for this release of NICE Desktop Cloud Visualization.

- **API version**: latest
- **Latest documentation update**: June 05, 2018

<table>
<thead>
<tr>
<th>Change</th>
<th>Description</th>
<th>Date</th>
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<tbody>
<tr>
<td>Initial release of NICE DCV</td>
<td>First publication of this content.</td>
<td>June 05, 2018</td>
</tr>
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