

# **Solstice Windows Display Admin Guide**

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# Solstice Windows Display Software

The Solstice Windows Display is a pure-software version of Mersive's wireless meeting collaboration and content sharing solution for conference rooms, classrooms, and huddle spaces. This version of Solstice installs on a standard Windows 8 or 10 computer to improve meeting room productivity using existing hardware infrastructure.

## Quick Links

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## Key Features

- Any number of simultaneous users, sharing unlimited content
- Customizable display layouts
- Apple iOS mirroring support
- Support for multi-touch displays
- Support for any displays of any resolution
- Configurable sharing options, access control, and use modes
- Flexible network deployment options
- Calendar integration

## Licensing and Downloads

Solstice Windows Display Software, which runs on a Windows host computer, is a licensed Mersive product. For more information on purchasing a Solstice Windows Display Software license, [contact us](#) or reach out to one of [our certified resellers](#).

Upon purchase of a Solstice Windows Display Software license, you will receive a welcome email with login credentials to the Mersive Download Center. Once logged in, click the appropriate link to start the download. After the download is complete, follow the prompts to install and launch the software.

You will also receive email notifications when subsequent software updates are available for your license. The process for installing updates is similar: use your login credentials to access the Mersive Download Center to download the update, then follow the prompts to install the update.

Once you have purchased a license, you will receive an activation code via email. Enter this activation code as it appears in the email into the license key box that appears when you start the Solstice Display application. You will also receive access to the Mersive Download Center via email, through which updates and new versions of the product will be delivered. You will be notified when updates are available by email sent to the email address associated with your account.

## Getting Started with the Solstice Windows Display

### | Start the Solstice Windows Display

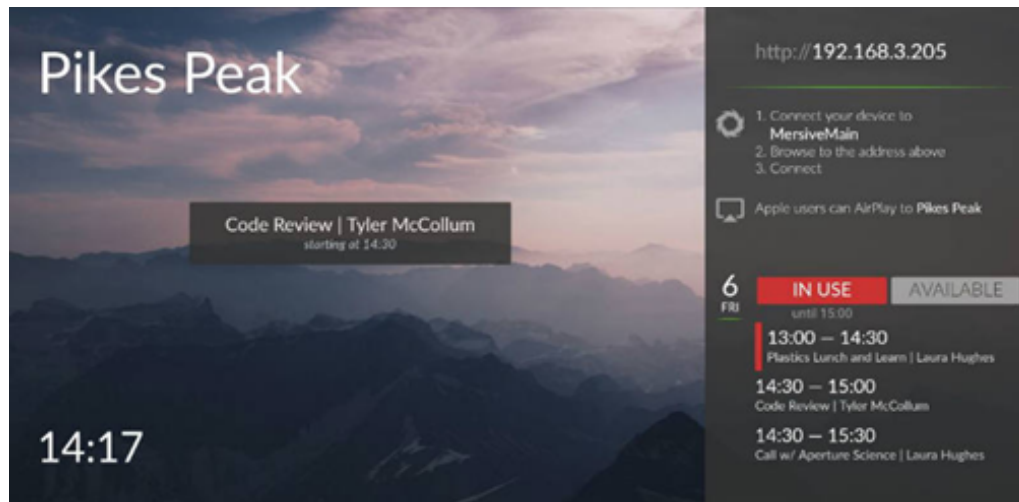
To start using your Solstice Windows Display:

1. Ensure your Windows host computer is powered on, then run the Solstice Display application.
2. Verify that the display monitor is powered on, the Solstice Display host computer is connected to the monitor via a video cable, and the host computer input is selected on the monitor.

At this point, you will see the Solstice welcome screen on the display with instructions on how to connect to this Solstice display. The Solstice Windows Display window can be set to open full screen, in a resizable application window, or at a fixed window size. See [Configuring the Solstice Windows Display](#) below for more information.

### | About the Solstice Welcome Screen

Upon system launch, Solstice shows a welcome screen that informs users how to get the Solstice user app onto their devices and connect to the display.



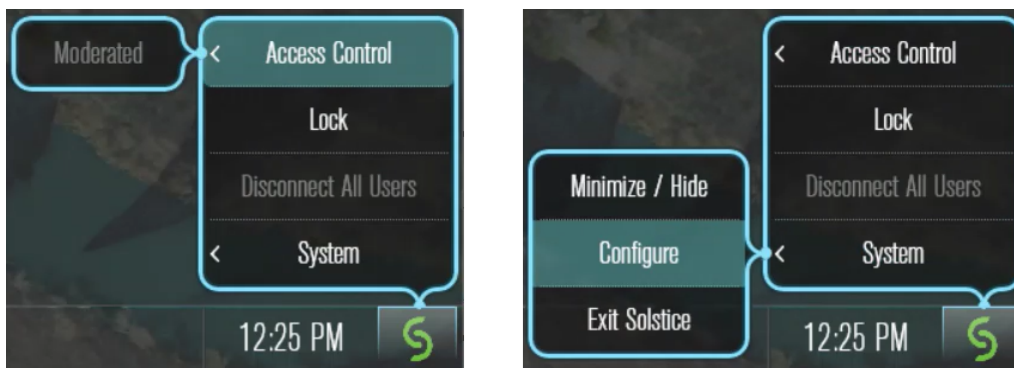
By default, the welcome screen includes user instructions for connecting to the display user a web browser or AirPlay. If enabled in Solstice Dashboard, the right sidebar will also display calendar and scheduling information.

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## About the Solstice Display Menu

The Solstice display menu lets in-room users manually bring the display out of moderated mode, lock the display, or disconnect all users.

To access the Solstice display menu when the Solstice Windows Display is running, click the Solstice icon on the right end of the presence bar that appears on the bottom of the display (using a USB mouse or via a supported touch screen). If the presence bar is not visible, use a mouse to right-click on the display or share content to the display to show the presence bar.



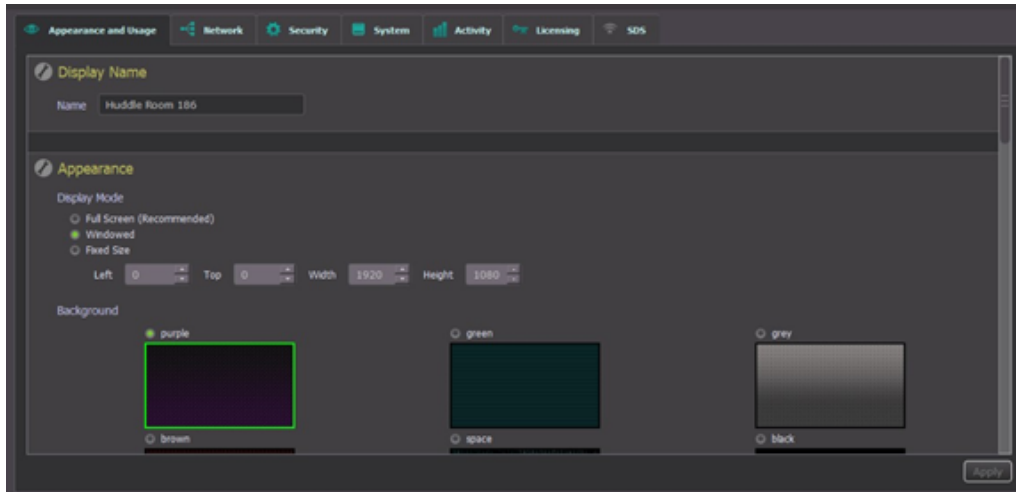
Available menu options include:

- **Access Control** allows a user with access to the configuration panel to manually remove the display from moderated mode. The display may also be put into moderated mode in the Solstice user app. This control can be used to manually override moderation in the case that the user with moderator control left the room without releasing the display.
- **Lock** can be used by end-user collaborators during their meetings (if needed). Locking the display disables access to the display by any new users for the remainder of the session. Only users already connected to the display can share media.
- **Disconnect All Users** disconnects all users from the session and removes all shared content.
- **System > Configure** provides local access to a limited set of Solstice configuration settings, which admins can use to configure the Solstice display appearance, connection and security options, and system settings. A complete set of configuration options is accessible via Solstice Dashboard.

# Configuring the Solstice Windows Display

Solstice Dashboard for Enterprise Edition is a management tool that provides the ability for an administrator to configure all Solstice Enterprise Edition Pods and Windows Display Software licenses on a network from one or multiple Windows computers on the same network. Dashboard provides configuration and management functionality not available from the Solstice local configuration panel, such as the ability to post bulletin and/or emergency broadcast messages, encrypt Solstice network traffic, configure discovery tags, and more.

Non-enterprise Solstice Pods and Windows Software licenses can also be upgraded to Enterprise Edition.



Use the following directions to access and configure Solstice Windows Display configuration options from Solstice Dashboard and/or the local configuration panel of the Solstice Windows Display Software:

## Access the Solstice Windows Display Options

1. Ensure the Solstice Display application is running on the Windows host computer.
2. Open the Solstice Dashboard application on a Windows computer on the same network as the Solstice Windows Display.
3. In the list of Your Solstice Instances on the left, select the name of the Solstice Windows Display to be configured. Software-based Solstice displays appear under the Solstice Software heading.
4. If the desired Solstice Windows Display does not appear, click **Manual** under Import Displays. Enter the **IP Address** that appears on the Solstice Windows Display and the desired **Display Name**, then click **Add**.
5. After selecting the desired Solstice Windows Display, all available configuration options will display in tabs to the right.

## Appearance and Usage Settings

Options in the Appearance and Usage tab allow admins to edit the settings for the appearance of the Solstice display, configure sharing options, set the preferences for launching the software, enable the display-side video folder, and enable and configure video feeds for a Solstice Windows Display Software instance.

Configuration options include:

- Enter a **Display Name** to set or edit the name of the Solstice Windows Display.
- The **Appearance** section provides display options:
  - Choose a **Display Mode** (Full Screen, Windowed, or specify a Fixed Size and location in pixels) for the Solstice Windows Display.
  - **Welcome Screen** options include the Modern Splash Screen, which rotates through up to 6 customizable background images with optional subtle animation to avoid burn-in and shows connection instructions on the right half of the screen. These instructions may be toggled on or off from Solstice Dashboard. If the Classic Splash Screen is selected, calendar information for the space will not display.
  - **Quick Connect** provides the option to show the hostname instead of an IP address if set up through your DNS. If enabled, this provides a more streamlined connection experience for users that would otherwise be typing in an IP address, and allows admins to mask the IP address for security reasons without interrupting user workflow.
  - Choose whether the **Presence Bar** appears at the bottom of the Solstice display to show the display's IP address, display name, and/or screen key.
- **Usage and Feature Management** provides admin control of the sharing options users see when connected to the specific display, the ability for users to utilize browser look-in, and resource restrictions to limit Solstice's impact on the network. For Solstice Small Group Edition (SGE) licenses, the maximum number of connections in the **Resource Restrictions** section is limited to four simultaneously connected devices.



**Enable AirPlay Discovery Proxy** in this section supports iOS mirroring on networks that do not allow UDP broadcast traffic and/or Apple's Bonjour protocol. Contact your IT administrator and/or refer to the Network Deployment Guide for more information.

- **Launch Options** controls the behavior of the Solstice Windows Display Software, specifying whether it should automatically launch upon Windows login or a Solstice user connection, as well as if it should automatically hide upon the last user disconnect.

- **Display Side Video Folder** allows admins to enable/disable user access to a video folder on the Solstice Windows Display host computer, as well as designate the location of the video folder on the host computer.
  - **Video Feeds** allow the configuration of live Video Feeds that can be shared to the Solstice Windows Display during a collaboration session. To enable a Video Feed, select **Capture Source Feature Enabled** and click **Apply**. A list of attached video sources will appear. Use the list to enable and change settings for one or multiple Video Feed sources. Refer to the [Configure Video Feeds / Attached Sources with a Frame Grabber](#) section of this guide to learn more.
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## | Network and Security Settings

Most of the network settings used by the Solstice Windows Display Software are inherited from Windows, but the Solstice **Network** tab controls several Solstice-specific settings, including:

- **Communication Ports** allows the administrator to select the Solstice base port and reflects changes to additional ports when the base port is changed. Solstice always uses three sequential ports beginning with the base port, plus port 80 for web configuration and user app access.
- In **Display Discovery**, the admin may specify SDS servers to allow users to easily "discover" and connect to the Solstice Windows Display. See the [Introduction to Solstice Discovery Service](#) to learn more about SDS.
- **Web Server Proxy** allows Solstice Windows Display Software instances to be activated and licensed when deployed behind a secure web server proxy. Both HTTP and HTTPS options are available, with web proxy IP address, port designation, and login credentials required for both.
- **Quality of Service** packet headers can be enabled to allow Solstice traffic to be differentiated and prioritized on the enterprise network by utilizing the IETF-defined quality of service (QoS) header information for enabled enterprise networks that support differentiated network traffic via QoS. Learn more about how to [Implement QoS](#).
- Set **Display Search Tags** to group Solstice displays based on criteria such as their location or use, allowing users to filter the Solstice displays listed in their Solstice app to easily find and connect to right display. See how to [Add Search Tags](#) for Solstice displays.

The **Security** tab allows admins to designate various security settings, including:

- **Administration** provides the following options to improve security:
    - Set an **Admin Password** to restrict access to the Solstice Configuration Panel and lock a specific configuration and optionally **Enforce password validation rules** (8-character minimum, one uppercase and one lowercase character, one number or special character) for the admin password. This password is required for local and web-based configuration.
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- Admins may also choose to **Always serve the Solstice client via port 443** for unsecured networks where users may be subject to man-in-the-middle redirects. Enabling this configuration may require additional steps for the user to authorize the use of this port on their device.
  - Enable **Redirect to HTTPS Hostname** to automatically redirect a user that enters the Pod IP address in their browser to the HTTPS hostname as determined by a reverse DNS lookup by the defined DNS server.
  - **Access Control** designates the security mode that determines how users access the Solstice session and post to the display. The options include:
    - **Screen Key Enabled** requires users to enter the Screen Key, which can be shown in the main Solstice display area and in the bottom presence bar, to connect to a Solstice collaboration session to view the session via browser look-in. Clearing this box allows anyone on the network to connect to a display with no restrictions.
    - **Moderated Approval** enables or disallows moderated sessions. If enabled, a user may connect and start a moderated session. The moderator will have full sharing rights and control of the display. Both joining and sharing media posts must be approved by a moderator, and non-moderator users cannot control shared content. Moderators can promote other users to moderator status once they have been admitted to the session.
  - **Encrypt Client-Server Communications** to secure Solstice network traffic between the Solstice Windows Display and Solstice user apps using a standard RSA/SHA cipher with a 2048-bit private key. This includes network traffic related to configuration via Solstice Dashboard. By default, the Solstice Windows Display server is loaded with a self-signed CA certificate from Mersive that is used when a Pod receives HTTPS connections. Admins may also upload a custom CA certificate bundle to be used instead. For more information, see [Enable Network Encryption](#) directions.
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## | Time, Language, Digital Signage, Calendar, Licensing, and Other Settings

Some other configuration options and information available for Solstice Windows Display Software instances include:

- The **System** tab provides options to designate the time format (12- or 24-hour) and the language used on the Solstice Windows Display. The SDS (Solstice Discover Service) server may also be downloaded [here](#).
  - **Digital Signage** options allow the ability to extend HTML-based signage to licensed Solstice displays in meeting rooms, huddle spaces, and transitional areas when they are not being used for wireless collaboration.
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- Using **Calendar** options, any Solstice-enabled display can receive and display room calendar information to show the schedule for the meeting space when no one is sharing content. Participants can easily see if the space is currently scheduled or available, as well as the next three upcoming meetings in the space. See [Room Calendar Settings](#) for further details.
  - The **Message Center** provides options to add RSS feeds that will scroll across the top of the Solstice Welcome Screen and create and publish an one-time emergency message that will be broadcast to all selected displays.
  - **Activity** gives real time information about the display, including the display name, the version of the Solstice Windows Display Software, number of connected users, number of posts, bandwidth usage, and live sources in use.
  - **Licensing** provides details about the current Solstice Windows Display Software license, including license status, display name, software version, maintenance status, and device fulfillment ID (under **Device Info**). This section also gives options to check for updates, install updates, activate licenses, and recall licenses for use on a different host computer. Non-enterprise Solstice Windows Display Software licenses can also be upgraded to Enterprise Edition via the licensing tab.
  - Solstice Discovery Service Hosts can also be set in **SDS**, allowing users to easily "discover" and connect to the Solstice Windows Display. See the [Introduction to Solstice Discovery Service](#) to learn more about SDS.
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## Configure Video Feeds / Attached Sources with a Frame Grabber

Solstice Windows Display Software running on a host computer is able to integrate with external video sources using a frame grabber or capture card. Using the Video Feeds feature in the Solstice Windows Display Software configuration, a Solstice session can include live feeds with audio from any video source connected to the display host computer. External video feeds could include video conferencing equipment, DVD/Blu-ray players, video recorders, etc.

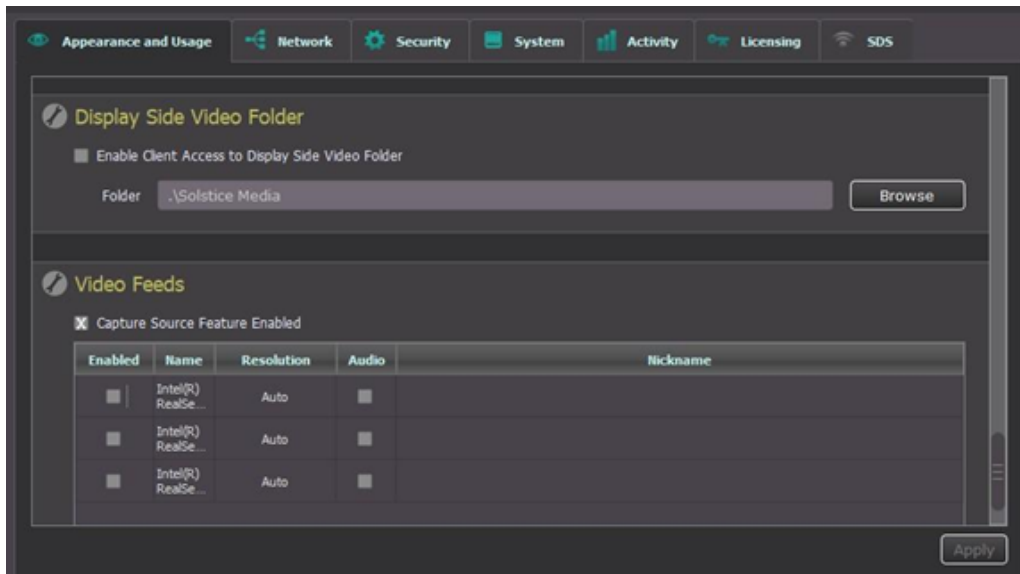
It is recommended that users connect USB video sources to integrated USB slots on the host computer's motherboard, rather than stand-alone USB cards, to reduce the processing and memory demands on the computer. Generally, integrated USB slots are located on the back of the host computer.

To utilize attached video sources, the Solstice Windows Display Software host computer must have a DirectShow-compatible frame grabber or capture card. Install the card per the manufacturer's specifications. Install the drivers that came with the card.

Audio is only supported on certain frame grabber cards. Check the manufacturer's specs to determine if the card supports audio. For Apple TV or HDCP-protected content to be shared, a Datapath frame grabber card is required.

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1. Once the card is installed and the external source is connected to the display host computer, launch the Solstice Windows Display.
2. Access configuration options for the Solstice Windows Display, either via the local configuration menu or from Solstice Dashboard.




3. Select the **Appearance and Usage** tab and scroll down to the **Video Feeds** section.
4. Check **Capture Source Feature Enabled** and click **Apply**. A list of attached Video Feeds will appear.
  - a. Enable each feed individually in the first column.
  - b. To change the resolution of the Video Feed source, double click the **Resolution** column, and click the arrow for a dropdown menu with resolution options.
  - c. If the frame grabber or capture card supports audio, select the box in the **Audio** column.
  - d. Click **Apply** when all settings changes are complete.
5. On the Solstice Window Display interface, click the Share Media button in the bottom left corner of the display.



6. Click **Attached Sources** and select the name of any video feed(s) enabled in the Solstice Configuration Panel.

# Windows Host Technical Requirements

Solstice Windows Display Software is a version of the Solstice server that runs on a Windows 8 or 10 host computer and is connected to the display by HDMI video cable. Refer to the table below for minimum required and recommended technical specs for the computer running the Solstice Display Software.

Windows Host Computer Requirements for Solstice Windows Display Software		
	Minimum	Recommended
Processor	Intel i5 or AMD Ryzen 5 or higher	Intel i7 or AMD Ryzen 7 or higher, 4+ core recommended
RAM	8 GB	16 GB or higher
Max Display Resolution	1080p	1080p or 4K
Operating System	Windows 8 or 10	
	 Solstice Display Software for Windows is not supported in a virtual machine (VM) environment or while using terminal services.	
Graphics	DirectX 11 or higher, or Dedicated Graphics (i.e. AMD Radeon or NVIDIA GeForce)	
Network	Single NIC Card, Ethernet connection	
If adding an external video and audio source input	<p>These DirectShow compatible frame grabber cards are supported.</p> <p>If audio support needed:</p> <ul style="list-style-type: none"><li>• Avermedia DarkCrystal HD Capture SDK II (C729) - (1 HDMI, 1 analog input)</li><li>• VPrime XI200DE-HDMI - (2 HDMI inputs)</li></ul> <p>If protected content support needed (no audio support):</p> <ul style="list-style-type: none"><li>• Datapath VisionRGB-E1S - (1 DVI-I input)</li><li>• Datapath VisionRGB-E2S - (2 DVI-I inputs)</li></ul>	

## How To Check for DirectX 11

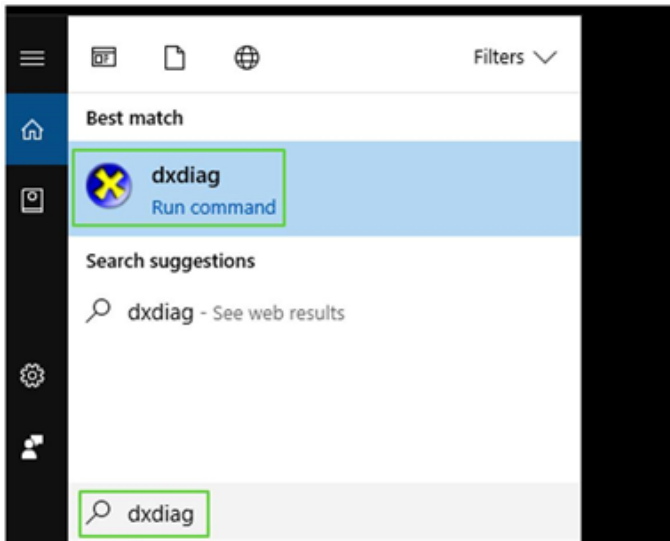
Use the following steps to verify that your Windows host computer has DirectX 11 or better graphics.



DirectX 11 is not required for Solstice users running the Solstice user app on their laptops or mobile devices. See [Using Solstice](#) for more information about Solstice user apps.

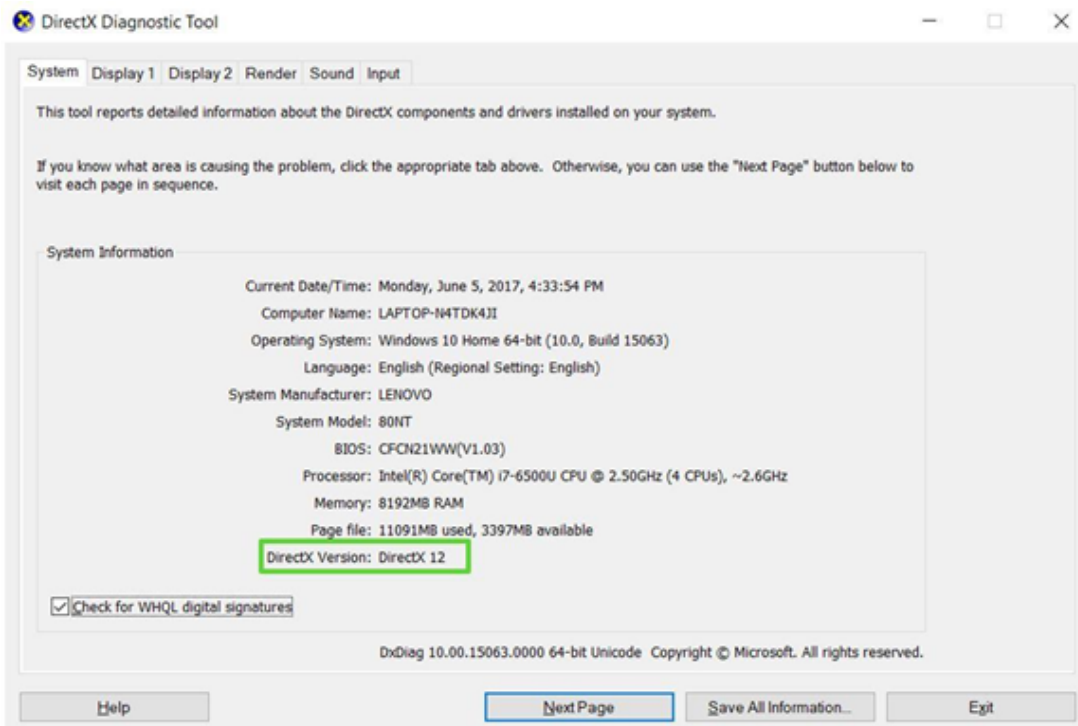
## Step 1 – Launch the DirectX Diagnostic Tool

From your Windows host computer, search for the DirectX Diagnostic Tool by entering 'dxdiag' in the search box. Click the 'dxdiag.exe' program in the results to launch the program.

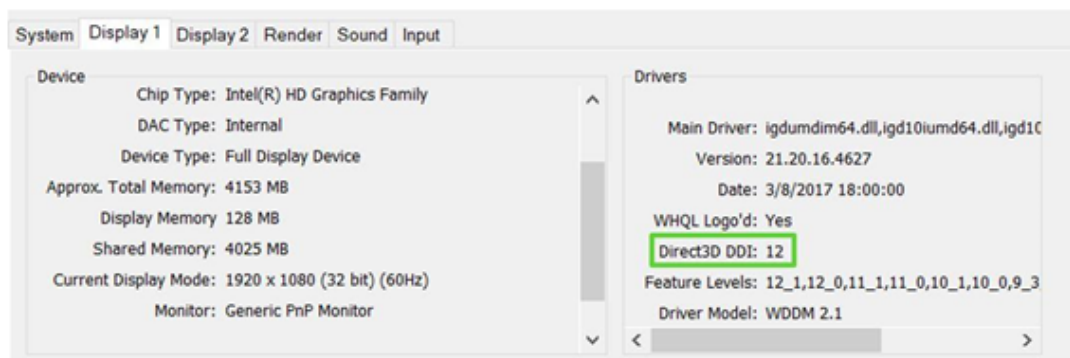


## Step 2 – Verify Software and Hardware Versions of DirectX

Once the DirectX Diagnostic Tool launches, check the software version of DirectX on the **System** tab. Verify it is 11 or higher.



Then check the hardware version of DirectX, which is labeled **DDI Version** on the **Display** tab. It should also be 11 or higher.



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## Next Steps

If both the DirectX software and hardware versions are 11 or higher and your Windows host computer meets the other minimum specifications, you can proceed to install and use the Solstice Windows Display Software. If your DirectX software version is not 11 or higher, check [how to install the latest version of DirectX](#).

If your DirectX hardware version, labeled **DDI Version** in the diagnostic tool, is not 11 or higher, you will need to update the host computer's graphics card or select another host computer to install Solstice Windows Display Software on. For more information, contact [Mersive Technical Support](#).

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## Other Resources

[Solstice Deployment Overview](#)

[Solstice Dashboard Deployment Guide](#)

[Solstice Discovery Service \(SDS\)](#)