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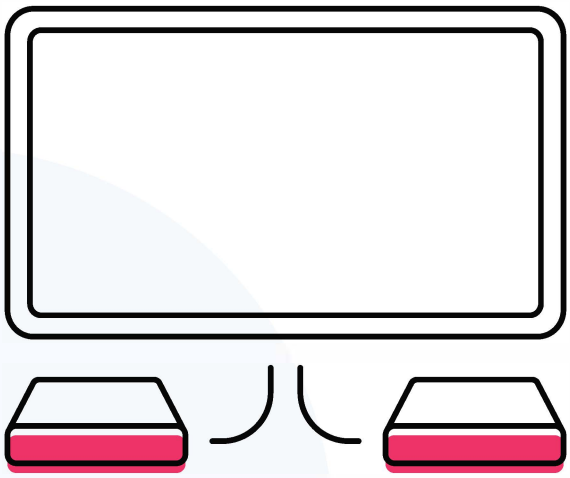

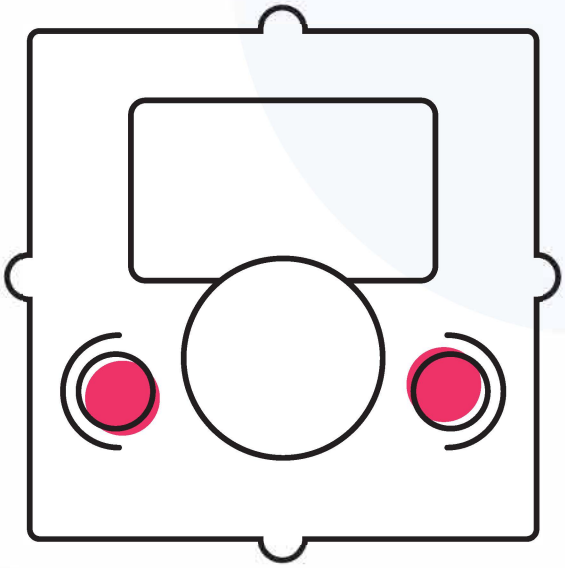

Solstice Active Learning Guide

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Get Started with Solstice Active Learning

Solstice Active Learning is a software-enabled active routing solution for multi-team learning environments that allows educators to control and share content to engage with students. The application provides a simple learning space design tool, drag-and-drop video sharing between screens, as well as an instant messaging system that can broadcast information to each display on demand.

Solstice Active Learning can be enabled on Solstice Gen3 Pods with software version 4.5 or later with a current Active Learning subscription. Additionally, each designer and facilitator must have a Solstice Cloud account to virtually design rooms and route video in real time using the free Solstice Active Learning app.

Each Active Learning video routing connection is counted towards the licensed number of users for the Pod. For example, Solstice Pods with Small Group Edition licensing will allow up to four total connections to it, including those from active video routing. For Solstice Pods with Unlimited user licensing, the maximum number of Active Learning video routing connections is 8; however, an unlimited amount of Solstice users will be able to connect and share to that individual Pod.

Steps to Get Started with Solstice Active Learning

- Physical setup of the Active Learning room. For more information, see the Solstice Active Learning Setup topic below.
- Log in to your Solstice Cloud account and invite Active Learning Designers and Facilitators to create their accounts. If your organization does not already have a Solstice Cloud account, see the Solstice Cloud Admin Guide for more information on how to set up your account.
- Designers and Facilitators accept the email invitation to create their accounts .
- Designers and Facilitators download the Solstice Active Learning app.
- Designer virtually designs and sets up the active learning room within the Solstice Active Learning app.
- Facilitators use the Solstice Active Learning app to conduct active learning sessions, route video and content, and broadcast messages within the active learning room.

How To

Invite Active Learning Designers and Facilitators to Create Their Accounts

Solstice administrators must invite Active Learning users and assign an Active Learning user role in the

Solstice Cloud portal.

1. Log in to Solstice Cloud as an administrator.
2. Click the **User** icon in the top-right corner, then click **Account.** Super Admin level users may also navigate to **Manage > Organization > Users** in the left navbar.
3. Follow the Invite Users to Solstice Cloud directions to invite users as appropriate for your organization.
4. When choosing a role, select one of the following options:
    - **Active Learning Designer** – Can use the Solstice Active Learning app to virtually design and set up video routing spaces. Designers can also facilitate video routing sessions in active learning spaces.
    - **Active Learning Facilitator** – Can use the Active Learning app to conduct video routing sessions in active learning spaces.
5. Click **Invite User** or **Add User** to finish adding or inviting the user to Solstice Cloud.

Enable Screen Key Verification

For enhanced in-room security, a Solstice administrator can require a screen key to be entered by the facilitator before connecting to the room.

1. Log in to the Solstice Cloud portal as an administrator.
2. In the left sidebar menu, go to the **Active Learning** tab.
3. Next to the Screen Key Verification option (located above the Filter by Category section), hover your mouse over OFF, and in the pop-up, click **Turn On**.

Download the Solstice Active Learning app

The Solstice Active Learning app can be installed on a laptop or tablet device. Windows and macOS laptops with a minimum resolution of 1024 x 768 and Android or iOS tablets with 10" screens or larger are supported. Active Learning Designers and Facilitators must download the app to use the Solstice Active Learning capabilities.

- Users with laptop computers can visit mersive.com/download-active-learning/ to download the Solstice Active Learning app.
- Users with tablet devices can download the Solstice Active Learning app from their respective app store.

Deploy the Active Learning app with MSI on Windows

The MSI installer package of the Solstice Active Learning app allows for a GUI-based installation on a local machine or GPO deployment in Active Directory. This allows your IT administrator to centrally deploy the Active Learning app on Windows machines and can be set to install silently. The installer does need privileges to install system-wide, but the installer does not explicitly check for these privileges. This makes it easier to use the MSI in a remote deployment where either an administrator or the SYSTEM account can install this properly.

The MSI allows you to set the following installation parameter:

- **INSTALLDIR=** controls where the client will be installed. The default is: “C:\Program Files (x86)\Mersive Technologies, Inc\Active Learning\”

> The string “INSTALLDIR” is case sensitive and must be entered in all caps.

The client-specific data that was stored in each user’s home directory will now be stored in a central shared location. This allows for centralized management of these settings and the ability to update them for all users at installation time.

Example:

```
msiexec /i ActiveLearning.msi INSTALLDIR=”C:\Program Files (x86)\Mersive Technologies, Inc\Active Learning” /quiet /log c:\ActiveLearningClient.log
```

The above example will:

- Silently install the client in the directory C:\Program Files (x86)\ActiveLearning
- Write an installation log file named C:\ActiveLearningClient.log

If stepping through the InstallShield wizard, the installation directory can also be set on the installer's Destination Folder dialog page.

Deploy the Active Learning app with Jamf on iPadOS

The Solstice Active Learning app can be centrally deployed on iPadOS devices and settings can be centrally managed using mobile device management (MDM) using an MDM provider such as Jamf. Starting in Solstice Active Learning 1.3, administrators can use MDM to configure application-specific settings throughout their Active Learning deployment.

In Jamf this can be done by configuring the Active Learning application under Mobile Device Apps in your Jamf server. Change the settings for the application under the App Configuration tab. Values changed by an administrator will be pushed from the MDM provider to the applications nearly instantaneously.

The MDM configuration keys currently defined for Solstice Active Learning are as follows:

Key	Type	Description
`requiresPasswordForLogout`	boolean	If `true`, a user must enter the account password to log out of the Active Learning app.
`fullscreenPrimaryPosts`	boolean	If `true`, primary display content appears full screen and covers all posts shared to the team display. If `false`, primary display content shows side by side with team display posts.

Administrators may choose whether or not to include each configuration key in their configuration files. Which of these two basic cases an admin chooses will affects users' settings in the following ways:

1. If a specific key is omitted from the configuration file, control of that setting is relinquished fully to the user.
2. If a key is included and configured to a value, the setting is then enforced to only be changed by the administrator. Users will not be able to make any changes to that setting locally.

FAQ

> *How do I grant Active Learning access to a guest facilitator or substitute teacher?*

Each Solstice Active Learning user should have a unique login. Mersive does not recommend creating a universal guest account for guest facilitators.

Solstice Active Learning Setup

The Solstice Active Learning solution leverages existing TCP/IP-based networking, a flexible software control platform, and a Solstice Pod device and connected display monitor for each team table.

System Components

Physical setup and configuration of a Solstice Active Learning room is straightforward. The system only requires a few components:

- **Solstice Pods.** The Solstice Pod is a network attached wireless sharing device that supports collaboration at each of the team tables as well as the primary display. It supports HDMI output of up to 4K to the display monitor and attaches to the network via standard Ethernet.
- **Facilitator device.** This device is used by the facilitator or faculty member to control multi-screen routing, send messages to the team table displays, and generally interact with the displays.
- **Solstice Active Learning app.** Learning designers and facilitators use the Solstice Active Learning app to virtually configure active learning rooms and route video and other content to conduct active learning sessions within active learning spaces.
- **Student devices.** These devices are brought to the room by the students participating in the active learning space.
- **Mersive Solstice app.** Students can use the Mersive Solstice app to share content to the team table displays. The Mersive Solstice app can be installed on Windows, macOS, Android, and iOS devices. There are also multiple app-free sharing options supported, including AirPlay, Miracast, or wired HDMI input. Browser-based sharing is available and supported for Chromebook, Windows, macOS, and Linux devices.

System Requirements

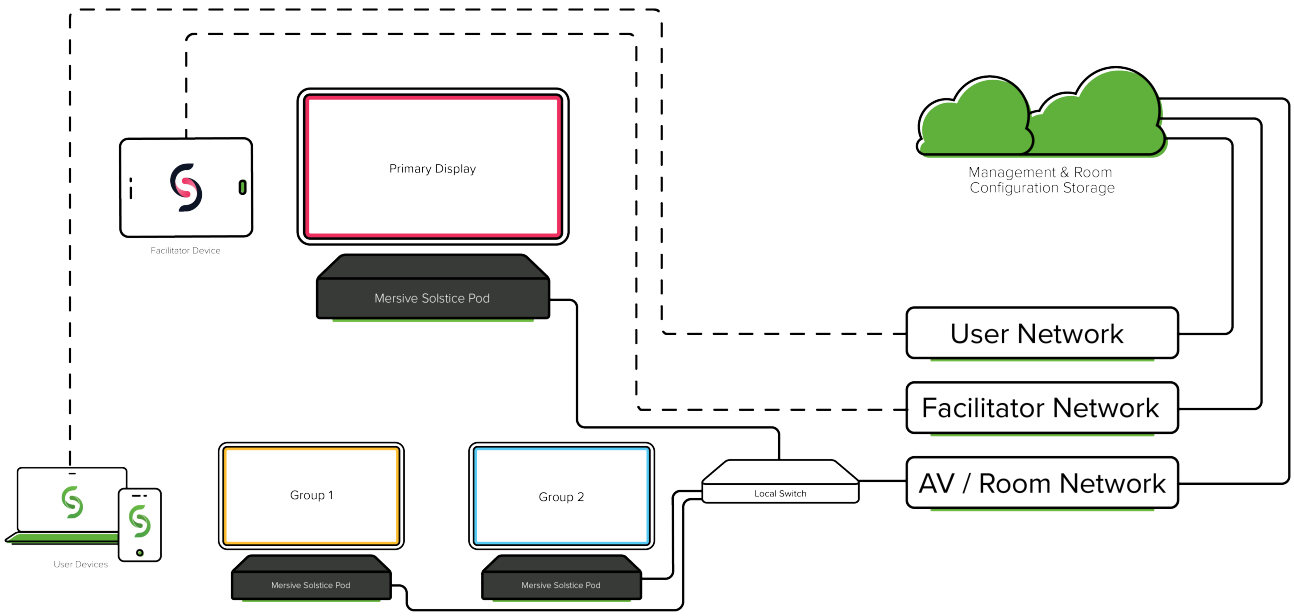
- Each display monitor must be directly connected to a Solstice Pod through an HDMI video cable plugged into an HDMI port on the back of the Pod.
- Each of the Solstice Pods must be directly connected to the same Gigabit switch with a Pod-to-Pod latency of less than 3–4ms. While there are network topologies that can effectively maintain this performance by segmenting Pod traffic to a dedicated VLAN, for simplicity, Mersive recommends simply wiring Ethernet to a local switch.
- Solstice Pods should be assigned static IP addresses. This can be done by a system administrator during the initial configuration of the Pods' network settings.
- Student devices and the facilitator device must all be able to route TCP traffic to each of the Pods in the room. For example, if a facilitator device may be deployed on an internal faculty network and student devices may be connected to a student network, both of these networks must support peer-to-peer routing between the facilitator or student device and the Solstice Pods. This allows students at each of the team tables to collaboratively share content from their

devices to the group display. You may also need to open certain network ports for Solstice and Solstice Active Learning to work correctly.

- The facilitator device must have access to the internet so that management, configuration changes, and the state of the application can be stored.
- The Solstice Active Learning app is supported on the following devices with a 1024x768 resolution or a 10" screen or greater:
    - Windows 10 and 11 laptops
    - Mac laptops with macOS Big Sur or Monterey
    - Apple tablets with latest OS
    - Android tablets with latest OS

Example Network Configuration

Shown below is an example network configuration for an Active Learning Space with several group displays and a primary display. Each Pod is routed to a local switch that is attached to the campus network. Different network segments can be configured to carry different device traffic as long as they are routable to one another. Finally, the facilitator device must be able to reach the cloud for management and configuration.



System Performance

When configured as described, Solstice Active Learning enables users to route videos and other content from one display to another within the room. Bandwidth utilization and frame rate are dependent on both the number of simultaneous videos routed as well as the compressibility of the content on the source display. To learn more about Mersive's bandwidth and frame rate testing for active learning scenarios, view the full whitepaper here.

FAQ

> *Can students and facilitators be on different networks?*

Yes, the facilitator (via the Solstice Active Learning app) and students (via the Solstice app) can be on different VLANs as long as the appropriate network ports are opened. The apps utilize the same network ports and rely on routable TCP traffic.

> *Do I need a special Ethernet switch?*

No, virtually any Ethernet switch will work with Solstice Active Learning.

Design an Active Learning Room

Once the Pods have been connected to their team table displays and deployed on the network, Active Learning Designers can virtually design and enable a new active learning space using the Solstice Active Learning app's intuitive drag-and-drop interface.

> To create and design rooms within the Solstice Active Learning app, users must first be invited to create an account by a Solstice Cloud administrator and assigned the Active Learning Designer user role.

How To

Download the Solstice Active Learning App

The Solstice Active Learning app can be installed on a laptop or tablet device. Windows and macOS laptops with a minimum resolution of 1024 x 768 and Android or iOS tablets with 10" screens or larger are supported. Active Learning Designers and Facilitators must download the app to use the Solstice Active Learning capabilities.

- Users with laptop computers can visit mersive.com/download-active-learning/ to download the Solstice Active Learning app.
- Users with tablet devices can download the Solstice Active Learning app from their respective app store.

Create a New Active Learning Room

1. Open and sign in to the Solstice Active Learning app using your Solstice Cloud login credentials.
2. Click the **Add** icon in the top-right corner of the app.
3. In the **Enter Name** field, enter in the name of the Active Learning room. Tip: Enter in a room name that Facilitators will be able to easily identify as the correct room.
4. Select the room shape that best represents your room from the list that is provided.
5. Click **Save**. The Design panel opens.
6. Drag-and-drop the different elements provided, then rotate or adjust the size if needed, to make a virtual representation of the active learning room:
    - Place a door in the correct location so that Facilitators will be able to quickly orient themselves in relation to the room.

- Drag a **Primary Display** to the location where the Facilitator's main display is located. In the **Pod Address** field, enter in the Pod's IP address, then click **Save**.
- Drag a **Flat Panel** or **Projector** into the room to build a new team block. Enter in the **Team Name**, **Pod Address**, and select a color for the team. You can drag tables and chairs into the team block as well. When you are done building your team block, click **Save**.
- Chairs and tables can also be placed in the room outside of team blocks to aid in creating an accurate representation of the room.

7. Choose one Pod to route audio to when routing content with audio within the room (optional).
    a. Click the three vertical dots to **Edit** the team block or primary display where audio should play.
    b. Click the **Activate audio output** toggle on (green), then click **Save**.
8. When you are done building the Active Learning room, click the **Save** button at the bottom of the screen.

Duplicate an Active Learning Room

For quick room creation, you can duplicate an existing Active Learning room. Go to the home screen of the Active Learning app, click on the vertical ellipsis icon next to the room name, then select Duplicate. A copy of the Active Learning room will be added to the bottom of your room list.

Edit an Active Learning Room

To edit an Active Learning room, go to the home screen of the Active Learning app, click on the vertical ellipsis icon next to the room name, then select **Edit**. The design panel opens allowing you to edit the room configuration. When you are done making changes, click the **Save** button at the bottom of the screen.

Delete an Active Learning Room

To delete an Active Learning room, go to the home screen of the Active Learning app, click on the vertical ellipsis icon next to the room name, then select **Delete**. When prompted if you are sure you want to delete the room, click **Confirm** to permanently delete the room.

Active Learning Settings and Sessions

The Solstice Active Learning app's drag-and-drop interface allows facilitators to easily conduct active learning sessions and route video and content within the active learning space. The app is designed for educators, with built-in engagement tools like the ability to broadcast messages across all displays.

> To facilitate active learning rooms within the Solstice Active Learning app, users must first be invited to Solstice Cloud with an Active Learning Facilitator user role by a Solstice Cloud administrator.

How To

Configure the Solstice Active Learning App Settings

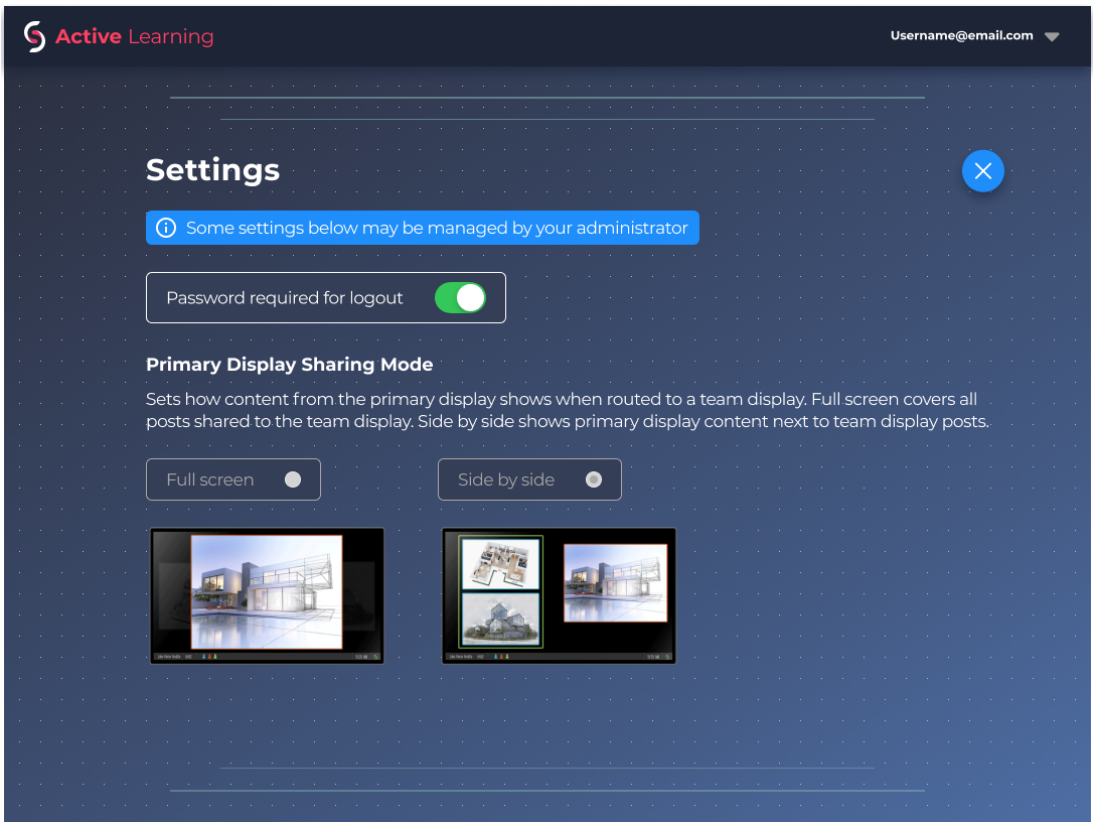
The following settings can be configured in the Solstice Active Learning app:

- **Password required for logout:** If enabled, the user must enter the password to log out of the account they are currently using. This helps keep learning facilitators who need to access the Solstice Active Learning app in a learning space but may not know the account password from locking themselves out of the app.
- **Primary Display Sharing Mode:** Choose between two layout options for how the primary display appears when it is routed to a team display. The following options are available:
  - **Full screen** (default) – the primary display content appears covering content shared by team members to the individual team display
  - **Side by side** – team content posts appear in a sidebar format next to the primary display content

> Content routed from one team display another or from a team display to the primary display will appear in a side by side layout by default.

Mobile Device Management for iPadOS

In the Solstice Active Learning app for iPadOS, a system administrator may use mobile device management (MDM) settings to lock one or both of the above settings into a desired configuration. A note will appear at the top of the settings window when this occurs. Learn more about MDM configuration for the Solstice Active Learning app.



In this example, the administrator has locked **Primary Display Sharing Mode** to the side-by-side format, but the user may enable or disable **Password required for logout**.

> The Solstice Active Learning app for Android does not currently support mobile device management.

Access an Active Learning Room

1. Open and sign in to the Solstice Active Learning app using your Solstice Cloud login credentials.
2. Click on an Active Learning room to access the facilitator control panel for that room.
3. If prompted, enter the four-digit screen key shown on a room display to connect.

Route Video in the Active Learning Session

Solstice Active Learning provides multiple ways to route video feeds to and from the displays in the active learning room:

- **One to one** – Press and hold the primary display or a team block and drag to any other display in the room to route video from the first display to the second display. For example, pressing and holding the Orange Team block, then dragging it to the Green Team block will route the video feed of the Orange Team's display to appear on the Green Team's display. Multiple one-to-one video routing feeds can be created simultaneously.
- **Primary to all displays** – Press and hold the primary display to route its video feed to all other team displays, or click the **Primary to All** button at the bottom of the screen.
- **Team display to all displays** – Press and hold a team display to route its video feed to the primary display and all other team displays.
- **Multiple displays to primary** – Select and drag multiple team displays to the primary display to route their individual video feeds to the primary display simultaneously. You can also press and hold a team display to have Solstice automatically route its video feed to the primary display. This can then be repeated for multiple team displays.
- To stop all active video routing, click the **Reset** button at the bottom of the screen, or stop individual feeds by clicking the circle in the middle of the connected line.

Multiple displays cannot be routed to the same secondary display at the same time. It is also not possible to daisy chain video routing between the displays. For example, if the Green Team display is being routed to the Blue Team display, facilitators cannot route the Blue Team's feed to any other display. This helps make it clear to viewers whose content they are viewing.

Broadcast Messages to All Displays

Solstice Active Learning allows learning facilitators to create and broadcast messages to all displays in an active learning room.

1. Click the **Add New** button at the bottom of the screen.
2. Enter the message you wish to broadcast.
3. Select the icon that best represents the message.
4. Click **Confirm**. Once created, the message and the corresponding icon will appear at the bottom of the screen for easy access.
5. To broadcast the message, click the message's icon at the bottom of the screen. The icon will turn blue to indicate it is being broadcast to the displays.
6. To stop the message broadcast, click the message icon again.