



Assessment with iPad



Apple and Digital Assessment

Apple builds powerful tools for learning that, along with engaging educational content, provide an immersive environment for teaching and learning. As more schools embrace iPad, they are also deploying iPad for student assessment purposes. A number of administrative tools are available to help schools manage and configure iPad for daily use and for digital assessments. This paper discusses the ways iPad can be configured and managed for assessment environments.

Digital Assessments in Education

By the end of 2015, millions of students will be taking digitally administered assessments at school. These assessments will become standard practice throughout much of K–12 education in the United States over the next few years.

The shift to digital assessments is being driven by the widespread adoption of state-level college and career-ready standards, such as the [Common Core State Standards](#), and the assessments that measure them. Common Core State Standards have led to the development of next-generation digital assessment systems in English language arts and mathematics. The assessments being developed include those by two major state consortia—the [Smarter Balanced Assessment Consortium](#) (SBAC) and the [Partnership for Assessment of Readiness for College and Careers](#) (PARCC). Several states are separately developing their own statewide digital assessments in these and other subjects.

Configuring iPad for Assessment

Any device used for assessment must provide at least one way to limit a test-taker to a single assessment app. It must also include the ability to disable hardware or software features that allow a test-taker to circumvent the assessment and invalidate the results. iPad meets these requirements with the use of the Single App Mode feature, described below in detail.

Certain events, including power down, loss of network connection, reboot, and hard reset, can remove a device from the test environment. In these events, assessment apps will typically lock the student out of the test; students are then returned to the test environment by a proctor.

Single App Mode

Single App Mode (SAM) is a feature of iOS that limits iPad to a single app. SAM disables hardware buttons and functions, including:

- Home button (except for the triple-click function)
- Side Switch, when used to lock screen rotation
- Side Switch, when used to mute system-generated sounds (such as chimes and other notification sounds)
- Sleep/Wake button

SAM also prevents software services, such as Notifications, from communicating with the user.

To use SAM on iPad devices, they must be supervised by mobile device management (MDM) or Apple Configurator. Supervision is an iOS feature that provides a higher level of device management, allowing for additional device restrictions, configurations, and features. [Learn more](#) about supervising devices.

You can configure and administer SAM in one of three ways:

- **Autonomous Single App Mode (ASAM).** ASAM allows a supported app to enable Single App Mode during certain events, for example, when the app is launched, at test login within the app, or during other events determined by the app developer. It also releases the iPad from Single App Mode when the test is complete.
- **Single App Mode by MDM.** Used for iPad devices that are enrolled in MDM, this process requires staff or teachers to enable SAM at the beginning of a test and disable it when testing is complete.
- **Single App Mode by Apple Configurator.** SAM can be enabled on iPad through Apple Configurator before testing. Apple Configurator is also used to disable SAM and return the device to general use.

Using ASAM

Assessment apps that support ASAM provide the most seamless experience for securing iPad for assessment, as no administrator overhead is required. Check with your testing service to confirm that their app supports ASAM. To take advantage of ASAM, you'll need to use MDM or Apple Configurator to install a profile that identifies your testing app on the device. The profile can be installed any time prior to the assessment, so you may want to install it—along with assessment app itself—as a part of your initial deployment.

Using SAM via MDM or Apple Configurator

If ASAM is not supported in your testing app, you can use MDM or Apple Configurator to control SAM on many devices at testing time.

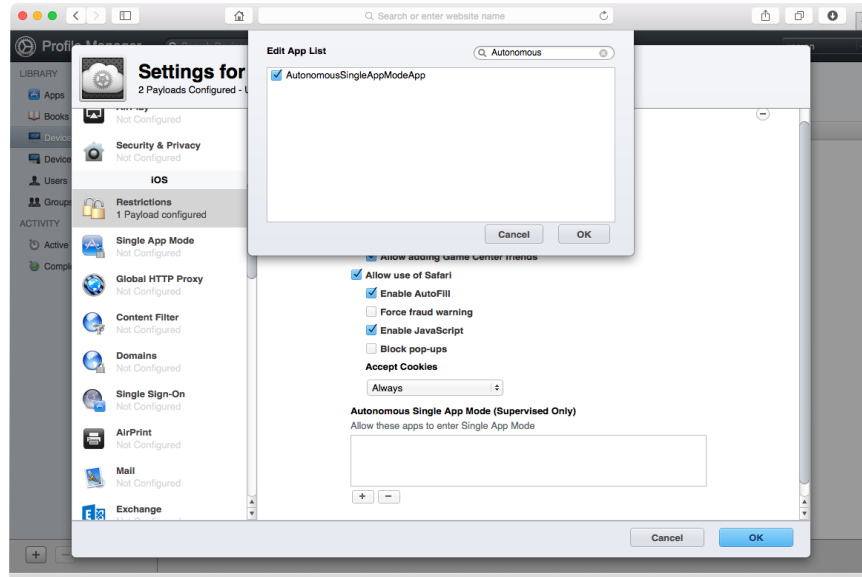
- MDM software can enable SAM to simultaneously turn thousands of iPad devices into dedicated assessment devices—and then quickly return them to their original state when the assessment is complete. An MDM administrator can select a group of supervised iPad devices, then enable SAM for the assessment app on those devices to launch and lock the app. When the assessment is complete, the administrator can remotely disable SAM. As with all uses of MDM, a stable and efficient wireless network is required for optimum performance.
- Apple Configurator can enable and disable SAM on multiple iPad devices that are connected via USB. Apple Configurator is often used in conjunction with a mobile cart that can charge and sync devices. Mobile carts are typically limited to about 30 concurrent connected devices.

To learn more about iOS deployment, Apple Configurator, and MDM software, see the [iOS Deployment Overview](#).

Configuring iPad for ASAM

Whether you use ASAM, MDM software, or Apple Configurator to enable Single App Mode, you'll first need to put the assessment iPad devices in supervised mode. You can do this using Apple Configurator or MDM.

When configuring ASAM, you'll need to create a profile in Restrictions that "whitelists" the apps that will be able to use Autonomous Single App Mode. The method for creating whitelist restrictions for ASAM is specific to each MDM vendor. The figure shown here is using Apple's Profile Manager.

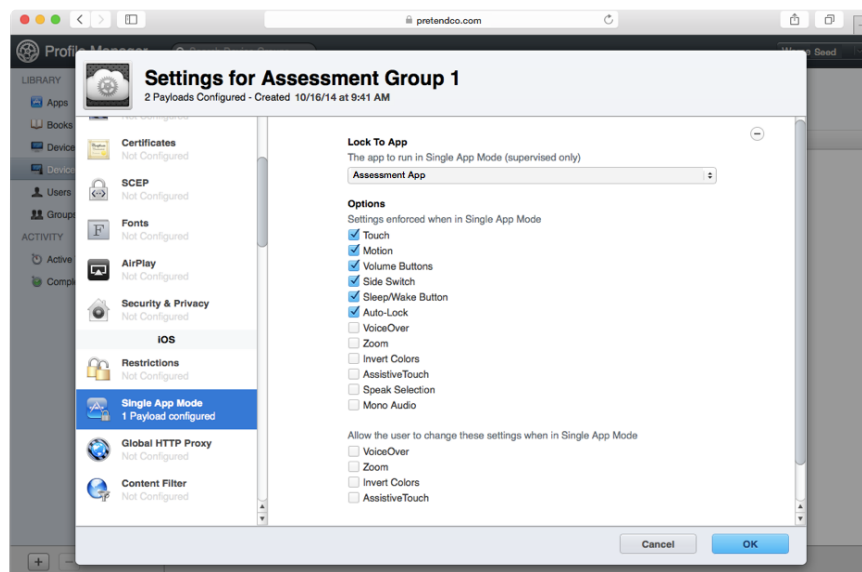


Enabling SAM with MDM software

MDM software is available from Apple and a number of third-party vendors.

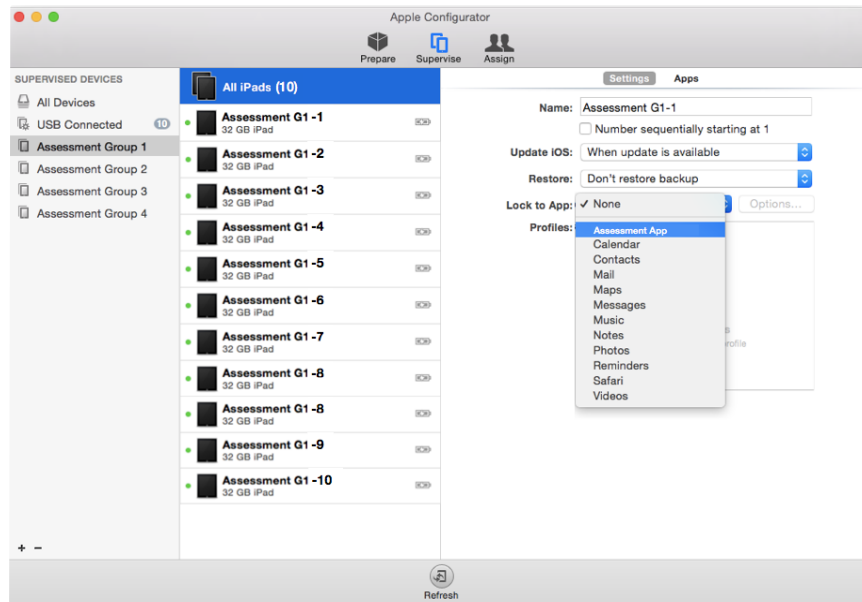
[Profile Manager](#), Apple's MDM solution, is part of OS X Server. It provides a device management server that lets you remotely manage enrolled Mac computers and iOS devices. After enrolling a device with Profile Manager, you can update its configuration over the network without user interaction, and you can generate reports or lock and wipe the device.

To enable SAM using Profile Manager, select the assessment app from the "Lock to App" drop-down menu on an enrolled, supervised iPad.



Enabling SAM with Apple Configurator

Once iPad is supervised, use Apple Configurator to enable and disable SAM by selecting the assessment app from the “Lock to App” drop-down menu. Apple Configurator can simultaneously supervise multiple USB connected devices.



Guided Access

Guided Access—one of many built-in accessibility features of iOS—helps students with disabilities such as autism remain on task and focused on content.

Guided Access has been used to help configure iPad for assessments, though it wasn't designed to support online assessments. Because Guided Access is enabled and launched right on iPad, the user or test administrator has to touch each device, resulting in significant administrative overhead for medium- to large-scale assessments. SAM is the preferred method for securing iPad for assessment.

Design and Usability

Keyboards

iOS incorporates an onscreen keyboard that can be adapted by app developers to support specific purposes. The onscreen keyboard can support special characters, and it can be split into two separate sections that can be moved to various positions on screen.

iPad also supports wireless Bluetooth keyboards, such as the Apple Wireless Keyboard. Additional Bluetooth keyboards are available from third-party providers.

In addition, a number of vendors offer wired keyboards that are certified “Made for iPad.”

Some states may require the use of physical keyboards for their assessments. In these cases, schools need to provide keyboards only for the actual number of iPad devices being used by students during an assessment.

Screen resolution and display size

The most visible feature on any iPad is the display. Since its introduction, iPad has featured a crisp, bright display with vibrant color and razor-sharp text. All iPad 2 and later 9.7-inch iPad models meet both SBAC and PARCC minimum technical requirements of 1024-by-768 pixels. Introduced with the third-generation iPad, the Retina display has a screen resolution of 2048-by-1536 pixels.

Both SBAC and PARCC require a minimum 9.5-inch display; all 9.7-inch iPad devices meets these requirements. All iPad mini models have a 7.9-inch display and do not meet the requirements.

Restrictions

iOS includes a number of features—such as spell checking, auto-correction, grammar-checking, and dictionary lookup—to make general-use text and data entry easier. With the release of iOS 8.1.3, some of these features can be restricted by installing a configuration profile on iPad. Check with your MDM vendor to confirm they can support these restrictions, or see <http://support.apple.com/kb/HT204271> for step-by-step instructions on installing the profile.

Conclusion

New digital assessments that measure college and career-ready state standards are meant to help improve performance in U.S. K–12 education. A primary motivation in shifting to these assessments is the ability to take full advantage of today's digital technologies such as iPad.

iPad is a powerful device for learning and teaching. Features built into iPad, such as Single App Mode, MDM support, wired and wireless keyboard options, and industry-leading display technologies, also make iPad an ideal device to support digital assessment.

Apple will continue to work with schools and school officials at the local, state, and national levels to help transition U.S. K–12 education successfully to new digital assessments.

Appendix

The following configuration options for SAM are available in the MDM framework.

- Disable Touch
- Disable Device Rotation
- Disable Volume Buttons
- Disable Ringer Switch
- Disable Sleep/Wake Button
- Disable Auto-Lock
- Enable VoiceOver
- Enable Zoom
- Enable Invert Colors
- Enable AssistiveTouch
- Enable Speak Selection
- Enable Mono Audio

In addition, the following settings may be enabled:

- Allow VoiceOver adjustment
- Allow Zoom adjustment
- Allow Invert Colors adjustment
- Allow AssistiveTouch adjustment

For More Information

For more information or assistance, please contact your local Apple representative or call 1-800-800-2775.

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