



# Technology User Guide

## Volume I: Introduction to Online Testing

# WISCONSIN

Data Recognition Corporation (DRC)  
13490 Bass Lake Road  
Maple Grove, MN 55311

Wisconsin Service Line: 1-800-459-653  
DRC INSIGHT Portal: <https://wi.drcedirect.com>  
Email: [WIHelpDesk@datarecognitioncorp.com](mailto:WIHelpDesk@datarecognitioncorp.com)

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# Introduction

## **About This Guide**

This user guide is part of a multivolume set that describes how to configure, install, manage, and troubleshoot the DRC INSIGHT online testing. This volume, *Volume I: Introduction to Online Testing*, introduces the DRC INSIGHT Secure Application (DRC INSIGHT), a major component of the DRC INSIGHT online testing. The guide also references configuration, installation, network, and system requirement information and provides state-specific testing information and a glossary of common online testing terms.

All the volumes in this guide are designed primarily for District Technology Coordinators and IT personnel who are responsible for setting up and managing online testing and ensuring their systems work effectively and securely. DTCs should be knowledgeable about the technical details of the various operating systems and have the necessary security privileges to perform the tasks discussed in this guide. This guide is also designed to help District Assessment Coordinators and School Assessment Coordinators use the DRC INSIGHT Online Learning System more effectively.

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**!** **Important:** Throughout this user guide, the Information icon (**!**) indicates important information or crucial tips.

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## **DRC INSIGHT Online Testing**

DRC INSIGHT is a secure web-browser testing interface that is installed on each Testing Device to provide a secure testing experience. DRC INSIGHT works with various software and hardware components to provide a secure, online testing system that successfully delivers assessments. DRC INSIGHT delivers assessments and related resources online for all content areas and grade levels by incorporating computerized testing, related resources, dynamic reporting, and a suite of tools. It works with the Central Office Services (COS) application to help manage network traffic, maintain connectivity, and handle bandwidth issues.

## **DRC INSIGHT Secure Application**

The main component of DRC INSIGHT is the secure web-browser testing interface installed on each Testing Device.

## **System Readiness Check**

The System Readiness Check runs when the DRC INSIGHT Secure Application is installed or starts. It helps you verify that the Testing Device is configured correctly and ready for testing.

## **Tutorials**

DRC offers online tutorials to help students become familiar with all aspects of online testing. Students can access the tutorials from the DRC INSIGHT Online Assessments Tutorials link from the main DRC INSIGHT testing page.

## **Testing Accommodations**

DRC INSIGHT also supports many accommodations, including optional testing accommodations, to help students test successfully.

## **Video Sign Language**

Video Sign Language (VSL) is a video accommodation that allows a student to see both the test instructions and the test content signed visually through an online video.

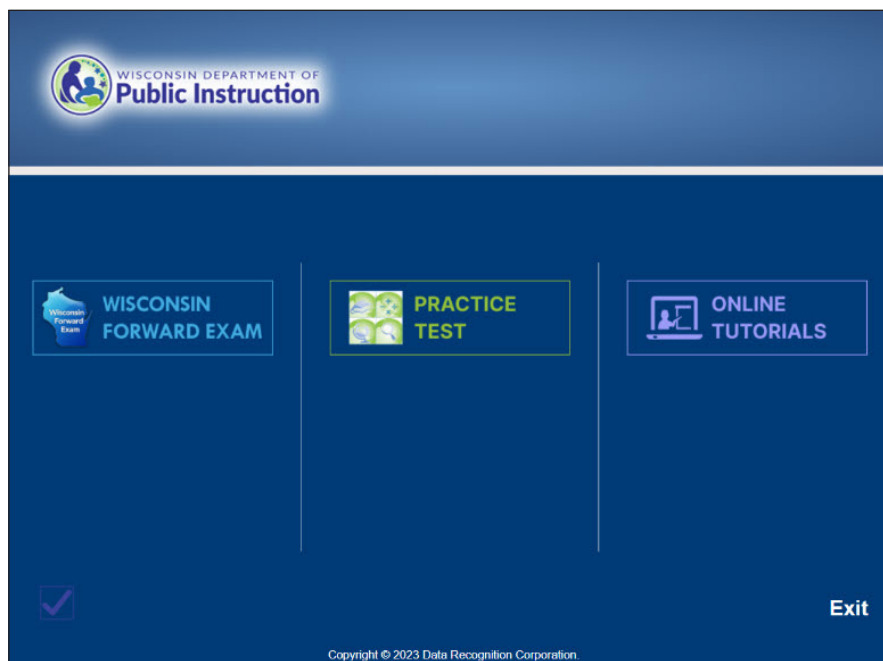
**ⓘ Important:** This accommodation is available in American Sign Language (ASL). Throughout this user guide, all references to VSL refer to signed content presented in the ASL version.

## **The DRC INSIGHT Portal**

The DRC INSIGHT Portal is a secure gateway to the various testing programs and tools that you have permission to use. The DRC INSIGHT Portal provides distribution and administrative functions for the DRC INSIGHT Online Learning System. Technical users download the COS - SD software, the DRC INSIGHT Secure Application, and other software and links from the DRC INSIGHT Portal to set up their testing environment. Administrative users use the DRC INSIGHT Portal to create student records and test sessions to help manage or monitor their testing environment and report the results.

## **DRC INSIGHT Landing Page**

When a Testing Device is successfully registered with DRC INSIGHT, the landing page displays after the application is launched. This page displays when you start DRC INSIGHT and contains links to online tests, tutorials, item samplers.

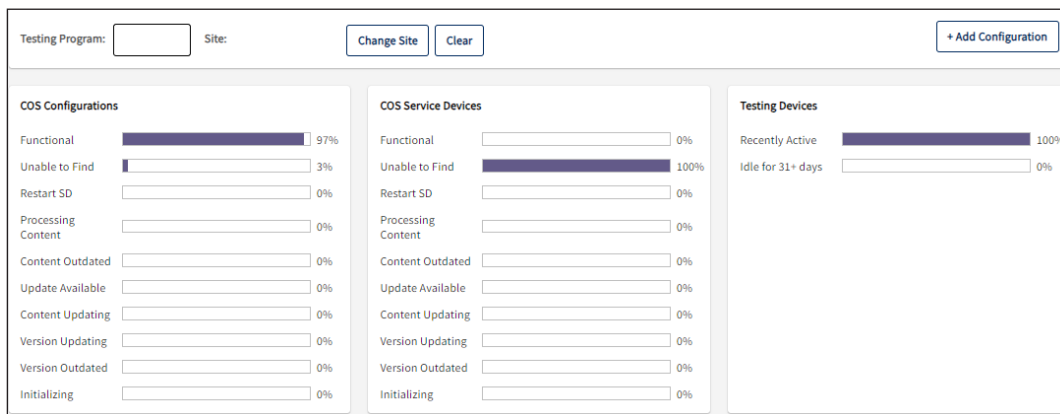


## Central Office Services (COS)

COS is an application that allows you to install, configure, and manage your online testing environment from a central location. The complete COS application includes a number of functional components, such as the COS - SD software, which offers local Content Management and Content Hosting.

### COS Dashboard

COS allows you to seamlessly configure and organize your devices using the COS Dashboard. The COS Dashboard is a visual dashboard of the various COS Configurations that currently exist. The COS Dashboard displays status information about all the COS Configurations. It also provides links to information about specific COS Configurations and the Testing Devices and COS - SDs associated with each COS Configuration.



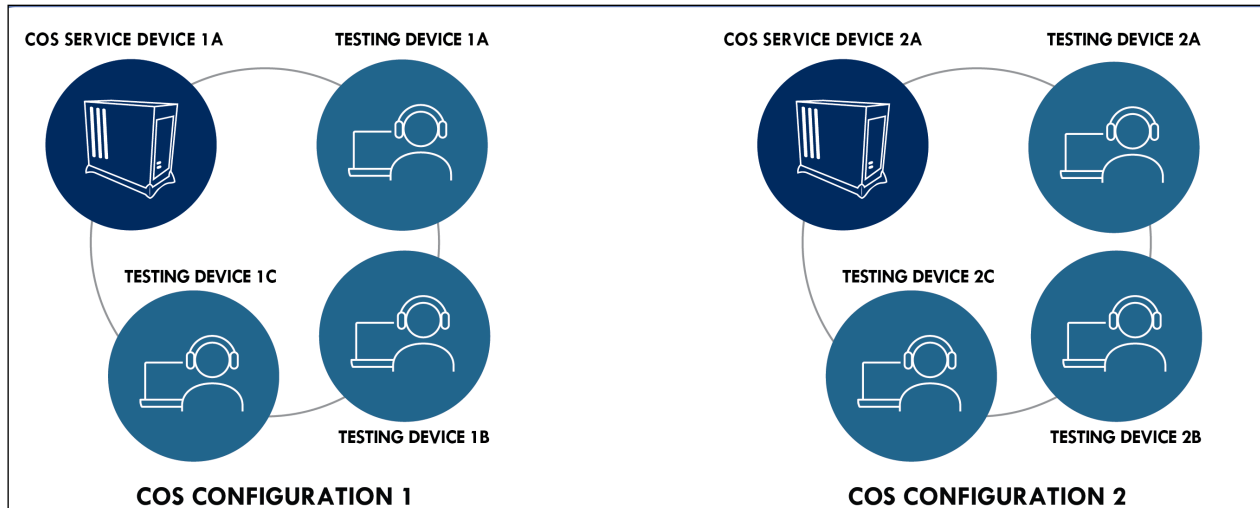
### COS Terminology

Refer to the [COS Online Help](#) Glossary for descriptions of various COS terms.



## Visual Overview of COS

The COS application consists of COS Configurations, COS - SDs, Testing Devices, and related options. The diagram below provides a visual overview of a sample relationship between these COS components.



### COS Configurations

A COS Configuration has two primary functions:

- It allows you to logically group Testing Devices and COS - SDs.
- It allows you to easily specify the settings for all the devices in the COS Configuration.

In the diagram above, when a student logs into DRC INSIGHT on any Testing Device in COS CONFIGURATION 1, the student's test content comes from COS SERVICE DEVICE 1A. When a student logs into DRC INSIGHT on any Testing Device in COS CONFIGURATION 2, the student's test content comes from COS SERVICE DEVICE 2A.

### COS Service Devices

The COS - SDs provide the test content and test hosting services for the COS Configuration if those services are enabled by the COS Configuration. Once a COS - SD is registered with a COS Configuration, it cannot be used in another COS Configuration, although you can remove the COS - SD from a COS Configuration and add it to another COS Configuration. If there are multiple COS - SDs in the COS Configuration, the devices become part of the pool of COS - SDs associated with the COS Configuration.

### Testing Devices

For a student to test using DRC INSIGHT on a Testing Device, the Testing Device must be registered to a COS Configuration, and it cannot be used in another COS Configuration without moving the device. After a Testing Device is registered with a COS Configuration, the device becomes part of the pool of Testing Devices associated with that COS Configuration. Registering a Testing Device to a COS Configuration defines where the Testing Device's test content will come from during testing.

In the diagram above, moving a Testing Device from COS CONFIGURATION 1 to COS CONFIGURATION 2 causes the device to receive test content from COS SERVICE DEVICE 2A. Moving a Testing Device from COS CONFIGURATION 2 to COS CONFIGURATION 1 causes the device to receive test content from COS SERVICE DEVICE 1A.

### COS Configuration Options

Within a COS Configuration, you can manage Testing Devices, determine which DRC test programs will be available to the COS Configuration, add an optional proxy host for testing, and establish other settings.

# Introduction

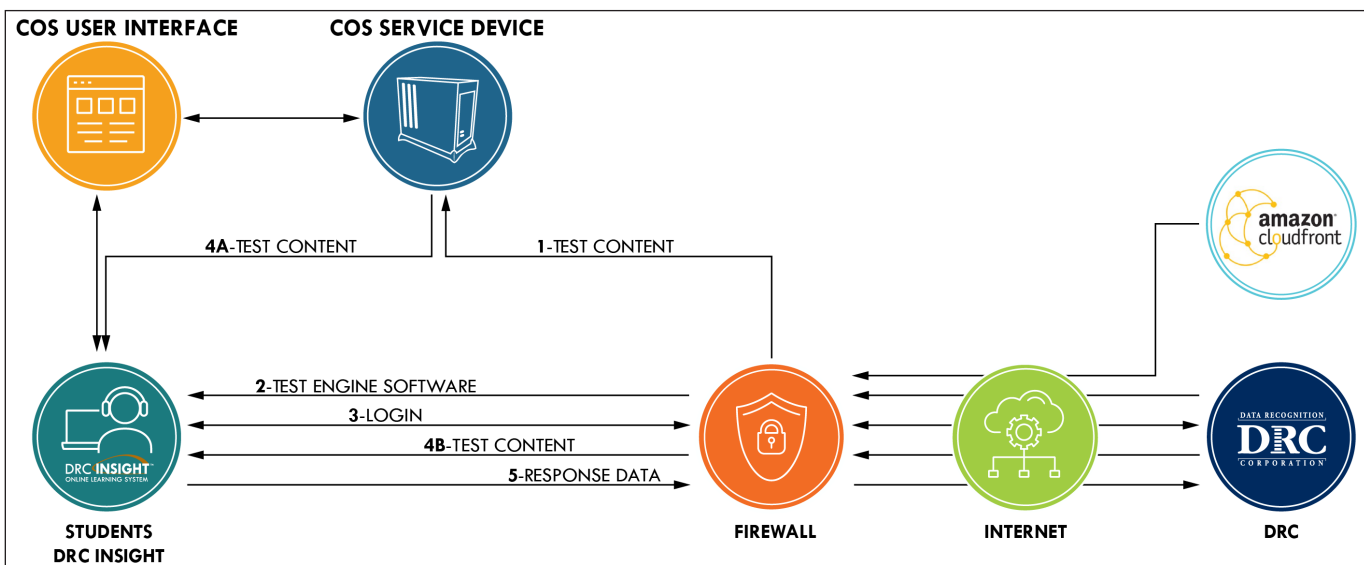
## Why Use a COS Service Device?

Using a COS - SD allows for additional **test security** as it requires testing devices and the COS - SD to be on the same network, thus preventing testing from occurring off-network.

Hosting testing content closer to the student also **reduces network bandwidth** and provides a more consistent and equitable testing experience for all students across testing sites. It is especially beneficial for test sessions with audio, images and/or video content.

## COS Testing with or without a COS Service Device

The following diagram provides a visual overview of the process of testing with COS, with and without a COS - SD configured for Content Management and Content Hosting.



## TEST CONTENT and TEST ENGINE SOFTWARE

- (1) This path represents the initial path for test content with a COS - SD configured to use Content Management and Content Hosting. When the COS - SD is installed, test content stored on the Amazon Web Services (AWS) CloudFront is automatically sent to the COS - SD. The Content Management service automatically checks for new content several times a day and updates the COS - SD.
- (2) When a student starts DRC INSIGHT (i.e., the DRC INSIGHT Secure Application is launched), the test engine software is automatically loaded from the DRC servers to the Testing Device.
- (3) When a student logs in to the test, the student's login is verified by the DRC servers and the student's scheduled test sessions are sent to the Testing Device.
- (4A) When a student selects a test and a COS - SD is configured, the COS - SD delivers the test content to the student's Testing Device, reducing the start-up time for the student. All the test content is encrypted for security.
- (4B) When a student selects a test in situations in which no COS - SD is configured (e.g., for tests with no accommodations), the test content is delivered directly from the DRC servers to the Testing Devices. Again, all the test content is encrypted for security.

## ***COS Testing with or without a COS Service Device (Cont.)***

### **TEST RESPONSES**

- (5) The Response Data path represents the path for test response data. During testing, if the Testing Devices can communicate with the DRC server, the test responses go directly to the DRC server. If the Testing Devices cannot communicate with DRC, testing ends.

### ***DRC INSIGHT, COS - SDs, Devices, Testing and Testing Programs***

You can install DRC INSIGHT and a COS - SD on a computer and configure DRC INSIGHT to support one or more testing programs.

- You can install a COS - SD on a Windows, macOS, or Linux computer.
  - You can install only one COS - SD per physical, or virtual computer.
  - You can use the same COS - SD for multiple testing programs.
  - You specify different locations for the COS - SD within the COS Configuration.
- You can install DRC INSIGHT on Windows, macOS, Linux, Chrome OS and iPadOS devices.
  - From the testing device, you can use DRC INSIGHT to access multiple testing programs. When you start DRC INSIGHT, a page displays that lists the different testing programs you can select.
  - From the testing device, you can configure DRC INSIGHT to work with a COS - SD that is installed on a different Windows, macOS, or Linux computer.
- You can install a COS - SD and DRC INSIGHT on the same Windows or macOS device.
- For details, refer to the Technical Bulletins, *Configuring a COS Service Device and DRC INSIGHT on a Single Windows PC for Online Testing* and *Configuring a COS Service Device and DRC INSIGHT on a Single macOS Computer for Online Testing* on your state's Portal site by navigating to **MY APPLICATIONS–General Information–Documents**.

### ***Software Installation and Update Rights for DRC INSIGHT Testing Devices and COS Service Devices***

Certain software rights are required to install and/or automatically update DRC INSIGHT and the COS - SD software.

- DRC INSIGHT requires Administrator rights to install it and Write access to perform the software updates.
- The COS - SD software requires Administrator rights to install it.

COS - SDs are automatically updated with new software releases without manual intervention, assuming that the computer is turned on, is active (i.e., not asleep or hibernating), and has Internet access.

### ***Online Testing Setup Options***

You can create a variety of online testing setups using COS Service Devices and DRC INSIGHT. Documentation explaining how to install, configure, manage, and troubleshoot COS Service Devices and DRC INSIGHT for these various setup options is available in the following volumes:

#### *Volume I: Introduction to Online Testing*

This volume introduces the components that make up DRC INSIGHT and the COS Service Devices; references configuration, installation, network, and system requirement information; and provides testing information and a link to the [COS Online Help](#) for a glossary of common online testing terms.

#### *Volume II: Central Office Services (COS)*

This volume describes how to use COS to install and set up COS Service Devices for Content Management and Content Hosting.

#### *COS Online Help*

After you have installed COS, use [COS Online Help](#) to understand how to use the COS Dashboard to work with COS - SDs, Testing Devices, and COS Configurations.

**Note:** Any site that plans to use proxy hosts during testing (i.e., computers that act as an intermediary between a COS - SD and the Internet to prevent direct Internet access) should reference [COS Online Help](#).

#### *Volume III: DRC INSIGHT*

This volume describes how to install DRC INSIGHT on Testing Devices, register the devices, and use the System Readiness Check to verify that the devices are ready for online testing.

#### *Volume IV: Troubleshooting*

This volume describes how to use various testing resources and tools, contains frequently asked online testing Q&As, and provides a list of common error messages with corrective actions.

## Online Testing Setup Options (cont.)

The particular information you need to know varies based on how you plan to perform online testing. The *COS Configuration Online Testing Setup Options and Tasks* table lists the online testing setup options (A and B) that are available, indicates which volumes to reference, and highlights the tasks required for each option.

### COS Configuration Online Testing Setup Options and Tasks

Online Testing Setup A	Reference	Tasks
Use the COS interface to manage COS - SDs and Testing Devices.	<i>Volume I: Introduction to Online Testing</i>	Review allowlisting information (previously referred to as whitelisting) and other network considerations.
One or more COS - SDs are configured for Content Management and Content Hosting.	<i>Volume II: Central Office Services (COS) and the COS Online Help</i>	Install COS - SDs and use the COS interface to create, configure, monitor, and manage COS Configurations/locations containing COS - SDs and Testing Devices.
	<i>Volume III: DRC INSIGHT</i>	Install, configure, and manage DRC INSIGHT, including registering Testing Devices with COS Configurations.
	<i>Volume IV: Troubleshooting</i>	Use testing tools and troubleshoot issues.
Online Testing Setup B	Reference	Tasks
Use the COS interface to manage one or more COS Configurations containing Testing Devices only. Test content is received directly from DRC without hosting of any type.	<i>Volume I: Introduction to Online Testing</i>	Review allowlisting information and other network considerations.
	<i>Volume II: Central Office Services (COS) and the COS Online Help</i>	Use the COS interface to create, monitor, and manage COS Configurations/locations containing Testing Devices only—no content hosting is performed.
	<i>Volume III: DRC INSIGHT</i>	Install, configure, and manage DRC INSIGHT, including registering Testing Devices with COS Configurations.
	<i>Volume IV: Troubleshooting</i>	Use testing tools and troubleshoot issues.
<ul style="list-style-type: none"> <li>No COS - SD software needs to be installed.</li> <li>No COS - SDs are configured for Content Management or Content Hosting.</li> </ul>		

### **Setup Options for a COS Configuration**

The following table provides an overview of COS Configuration online testing setup options for online testing setups A and B. These testing setups include COS - SDs with or without Content Management (CM)/Content Hosting (CH) turned on and locations within the COS Configuration.

<b>Setup</b>	<b>COS - SD Installed*</b>	<b>CM/CH**</b>	<b>Setup Description/Notes</b>
A	Yes	Yes or No	COS interface with one or more COS - SDs; CM/CH on or off
B	No	NA	COS interface only—no COS - SDs

### **Table Notes**

\* “COS - SD Installed” indicates one or more COS - SDs. COS manages COS - SDs and Testing Devices.

\*\* After the COS - SD software is installed, CM/CH can be turned on (set to Yes) for a COS Configuration. If a COS - SD is installed and you turn CM/CH to No (off) the COS - SD will be bypassed. Bypassing a COS - SD is not recommended.



# The System Readiness Check

### ***What's Covered in This Section***

This section points to the document describing the specific hardware, software, network, and desktop requirements to configure COS Service Devices, DRC INSIGHT testing devices, and automatic software updates. This section also discusses the tasks necessary to configure the DRC INSIGHT software environment, including the tasks to configure DRC INSIGHT to connect directly to DRC servers and databases through the Internet.

### ***Wisconsin Configuration Information***

This guide includes information about the operating systems, software, devices, and accommodations that work with DRC INSIGHT testing devices and COS Service Devices. The specific technical information covered in this user guide (and related Technical Bulletins) that pertains to Wisconsin is shown below. Use this information as a reference when reading the volumes in this user guide.

#### **Operating Systems**

- Windows
- macOS
- Linux
- Apple iPadOS
- Chrome OS

#### **Central Office Services (COS) Hosting and Other Options\***

- Content Management
- Content Hosting
- Proxy Host and Restricted Proxy Host

#### **Accommodation(s)/Designated Supports**

- Video Sign Language (VSL)\*\*

#### **Testing and Capacity Tools**

- Testing Site Capacity Estimator
- Load Balancing

\*A COS Service Device is required.

\*\*Throughout this user guide, VSL refers to the American Sign Language (ASL) version.

### ***System Requirements Information***

The DRC system requirements information describes the specific hardware, software, network, and desktop requirements to configure DRC INSIGHT and COS Service Devices to work with various Testing Devices in different testing scenarios. This information is updated regularly based on various factors, including changes in vendor support of various operating systems and hardware devices.

To review current information, refer to *DRC INSIGHT System Requirements*, which is available at your state's Portal site, by navigating to **General Information–Downloads** and clicking **View System Requirements** at the left side of the bottom of the Test Setup General Information page.



## Software Updates

For online testing, the COS Service Device and DRC INSIGHT software must be up to date. You can use the System Readiness Check to confirm that you have the latest version of the COS Service Device and DRC INSIGHT software (see *Volume III: DRC INSIGHT*).

## Operating System Updates

COS Service Device and DRC INSIGHT software updates are different from operating system updates. On testing days, Testing Devices should not be set to automatically update the operating system. If a Testing Device is set to accept operating system updates automatically, verify that it has the most current supported version of the operating system before the test session starts.

**! Important:** Operating system vendors such as Google, Microsoft, and Apple are using a model in which operating system updates occur automatically in the background. Update processes running in the background on Testing Devices consume CPU and memory and can affect the testing experience. To avoid this situation, verify that no background processes are running on Testing Devices during testing.

## COS - SD Software Updates

The COS - SD software is designed to automatically receive updates. To ensure that software updates are installed automatically, COS - SDs should be kept up and running.

## DRC INSIGHT Software Updates

**Important:** The Secure Browser now must be updated by a user with Admin rights on Windows and Mac testing devices. This change only affects sites that update the Secure Browser on each device manually after launching the DRC INSIGHT Secure Browser.

If your site uses deployment software to update testing devices, you are not impacted since the deployments are performed by an Admin user.

Sites should update their software before testing begins to avoid delays.

Refer to *Software Installation and Update Rights* in *Volume II: Central Office Services (COS)*.

### ***Network Requirements for Testing Computers***

This section describes various network considerations for online testing.

#### ***Network Connectivity***

To ensure proper network connectivity for testing, keep the following information in mind.

- All testing computers should have access to the Internet and be able to access the DRC servers using HTTPS protocols on port 443.
- All firewalls at the testing computer and network level should allow connectivity on ports 55222, 55223, 55224, and 55225. Ports need to be listed in order.
- Ensure that the following file types are allowlisted, both internally and externally:
  - **css**
  - **exe** (for updates)
  - **msi** (for updates)
  - **gif**
  - **html**
  - **jpeg**
  - **js**
  - **json**
  - **png**
  - **ttf**
  - **woff**
  - **svg**
  - **xml**
  - **zip**
- Prioritize and allowlist DRC INSIGHT traffic on firewalls, Internet packet shapers, routers, switches, proxies, and other network devices that you use.

**Network Connectivity (cont.)**

Each testing program uses its own URLs to communicate from the DRC INSIGHT software to the DRC servers. Ensure that the URLs shown in the table below are allowlisted on the content filtering systems or other proxy/firewall software that you use locally.

Program	URLs	Ports
Wisconsin	<a href="https://drc-centraloffice.com">https://drc-centraloffice.com</a> <a href="https://drc-wbte-prod.s3.amazonaws.com">https://drc-wbte-prod.s3.amazonaws.com</a> <b><a href="https://eca-test-engine-service-wi.te.drccdirect.com">https://eca-test-engine-service-wi.te.drccdirect.com</a></b> <b><a href="https://eca-test-init-wi.te.drccdirect.com">https://eca-test-init-wi.te.drccdirect.com</a></b> <b><a href="https://eca-test-engine-auth-service-wi.te.drccdirect.com">https://eca-test-engine-auth-service-wi.te.drccdirect.com</a></b> <b><a href="https://eca-test-engine-profile-service-wi.te.drccdirect.com">https://eca-test-engine-profile-service-wi.te.drccdirect.com</a></b> <b><a href="https://eca-test-engine-reg-service-wi.te.drccdirect.com">https://eca-test-engine-reg-service-wi.te.drccdirect.com</a></b> <b><a href="https://insight-services-wi.drccdirect.com">https://insight-services-wi.drccdirect.com</a></b> <b><a href="https://wi-te.drccdirect.com">https://wi-te.drccdirect.com</a></b> <b><a href="https://wi-insight-client.drccdirect.com">https://wi-insight-client.drccdirect.com</a></b> <b><a href="https://wi-insight.drccdirect.com">https://wi-insight.drccdirect.com</a></b> <b><a href="https://wi.drccdirect.com">https://wi.drccdirect.com</a></b> <a href="https://www.drccdirect.com">https://www.drccdirect.com</a> <a href="https://wbte.drccdirect.com">https://wbte.drccdirect.com</a> <a href="https://dtk.drccdirect.com">https://dtk.drccdirect.com</a> <a href="https://api-gateway-cloud.drccdirect.com">https://api-gateway-cloud.drccdirect.com</a> <a href="https://api-gateway.drccdirect.com">https://api-gateway.drccdirect.com</a> <b><a href="https://api-caching.drccdirect.com">https://api-caching.drccdirect.com</a></b> <a href="https://cdn-content-prod.drccdirect.com">https://cdn-content-prod.drccdirect.com</a> <a href="https://cdn-download-prod.drccdirect.com">https://cdn-download-prod.drccdirect.com</a> <b><a href="https://east-1-drc-wbte-prod-wi.s3.amazonaws.com">https://east-1-drc-wbte-prod-wi.s3.amazonaws.com</a></b> <b><a href="https://east-2-drc-wbte-prod-wi.s3.amazonaws.com">https://east-2-drc-wbte-prod-wi.s3.amazonaws.com</a></b> <a href="https://us-east-1-content-hosting-form-locker-prod.s3.us-east-1.amazonaws.com">https://us-east-1-content-hosting-form-locker-prod.s3.us-east-1.amazonaws.com</a> <a href="https://us-east-2-content-hosting-form-locker-prod.s3.us-east-2.amazonaws.com">https://us-east-2-content-hosting-form-locker-prod.s3.us-east-2.amazonaws.com</a>	80/http 443/https (applies to all the URLs)

**Notes:**

- Any URLs **bolded** in the table above were recently added. Make sure they are added to your allowlisted URLs.
- You can allowlist \*.drccdirect.com if your filter allows wildcard addresses. DRC recommends that you allow \*.drccdirect.com if possible. Some locations may have to allowlist both the individual address and the wildcard address.
- If your location uses an Internet connection idle timeout, verify that the timeout limit is set to meet or exceed the DRC INSIGHT testing session timeout limit, which is currently set to 20 minutes for most state clients, to allow students enough time to complete testing.
- If your location uses screensavers, verify that the timeout limit is set to meet or exceed the DRC INSIGHT testing session timeout limit, which is currently set to 20 minutes for most state clients, to allow students enough time to complete testing.
- DRC recommends allowing DRC INSIGHT traffic to bypass your firewalls and proxies if possible.
- Besides allowlisting these sites, you may need to allow them to pass through the proxy server without requiring authentication credentials to be passed by DRC INSIGHT.

## **Network Connectivity (cont.)**

### **Wireless Networking**

DRC INSIGHT supports wireless networks. However, sites may experience issues if unreliable wireless networks are used or if too many students attempt to connect to a single access point. When you test load capacity in a wireless network, verify that your access points and network can handle the number of simultaneous users that will be testing.

**⚠ Important:** Some access points interpret COS-SD-to-DRC INSIGHT communication as peer-to-peer networking. If you have Layer 7 or peer-to-peer web filtering rules in your filters and access points, DRC recommends that you disable them. Also, some content filters have advanced settings to allow for additional checks. If your content filter has Reverse Lookup or Evasive Protocols, DRC recommends that those be disabled as part of the filtering process.

### **Desktop Monitoring**

If your testing location uses remote desktop monitoring software to monitor the computers that will be used for testing, that software may interfere with the testing software.

**⚠ Important:** If possible, disable the monitoring software on testing computers during test times to guarantee adequate security. The particular steps you need to take vary, depending on the monitoring software you are using and the operating system of the testing computer. If it is not feasible to disable your monitoring software, ensure that any staff members who can use the monitoring software refrain from using it during testing periods.

## ***DRC INSIGHT Bandwidth and Connectivity Requirements***

To start a test, DRC INSIGHT contacts DRC to download the DRC INSIGHT Test Engine and presents the login page. After a successful login, DRC INSIGHT downloads the test from the DRC server or from a configured COS - SD. DRC INSIGHT sends test responses to the DRC server every 45 seconds, or after a navigational command, such as Next, Back or Pause, is issued.

- DRC INSIGHT must maintain connectivity to the Internet, or to a proxy server that maintains connectivity to the Internet, at all times.
- DRC INSIGHT supports wireless networks. If you test using wireless networks, be careful not to overload the network access points.
- DRC recommends using Ethernet networks where available for online testing.

## **Bandwidth Calculation Guidelines**

Bandwidth requirements and recommendations are based on the *actual amount of bandwidth available*. Even with a high-speed communication line, only part of the connection may be available for online testing due to competing Internet traffic. The greatest amount of bandwidth is required when students download tests.

## **Calculating Bandwidth**

You can estimate bandwidth requirements by dividing the size of the test by your target wait time (i.e., the amount of time it should take the test to load).

**Note:** Accommodated tests contain audio and/or video files that make the test size larger and the download time longer.

## ***Bandwidth Required with a Content Hosting COS - SD***

With a Content Hosting device, more students can load the test at a time. Using a COS - SD with Content Hosting decreases your Internet bandwidth requirements because tests can be loaded from the COS - SD rather than from the DRC server, which greatly increases your capacity.

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**ⓘ Important:** Bandwidth calculations are estimates. There are many variables, including network traffic, that can impact actual network performance. For additional information, see the *Testing Site Capacity Estimator* in *Volume IV: Troubleshooting*.

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### ***Background Applications and Online Testing***

For both test security and device performance, DRC recommends that unnecessary background processes and software be removed, turned off or disabled. DRC also recommends prior to testing sites review which processes and software are running in the background and have a procedure for disabling them before the assessment and enabling them after the assessment. For more information on disabling background processes and software, reference the most recent version of the *DRC INSIGHT System Requirements* from your state's Portal site.

Before testing temporarily disable or remove the following:

- Instructional Software
  - Typing assistant and grammar checking software (e.g., Grammarly, Ginger Software, ProWritingAid)
  - Classroom monitoring software (e.g., Linewize Classwize, Impero Wellbeing, GoGuardian)
  - Remote access/remote control software (e.g., TeamViewer, AnyDesk, Remote PC)
- Automatic Updates
- Intelligent Personal Assistant (IPA) (e.g., Siri, Cortana)
- Collaboration Tools (e.g., Microsoft Teams, Zoom, Google Chat and Meets)
- Screen Capture Software
- Screen readers when not used for Refreshable Braille online testing (e.g., ChromeVox, NVDA, VoiceOver)

## ***Video Sign Language (VSL) Configuration***

If you download the VSL software for your testing, remember that the hardware and software requirements differ for VSL.

- You can download the VSL content on any machine whose hardware meets the minimum VSL system requirements. DRC recommends that sites download VSL content only if they have one or more testers that need to use VSL.
- VSL does not run on remote or virtual configurations/Testing Devices.
- VSL requires more memory for DRC INSIGHT.
- VSL requires more disk space for the COS - SD than a standard configuration.
- A COS – SD provides a more consistent testing experience when testing with VSL.

## ***Changing the Monitor Display for VSL***

After you have installed VSL, if the video looks pixelated or there is a semi-transparent grid or halo displaying over the video, you may need to change the testing computer's hardware acceleration setting from **None** to **Full**. Hardware acceleration uses the computer's hardware to perform certain tasks faster than is possible with software. This can cause smoother rendering of graphics and better application performance. The hardware accelerator is often described as either a graphics card or a video card.

### **Windows 10**

1. To reset this setting on a Windows 10 computer, right-click on the Desktop and select **Display settings**.
2. When the Display settings page displays, scroll down and click **Advanced display settings**.
3. From the Advanced display settings window, click the **Display adapter properties for Display x** link.
4. The Monitor and Graphics Properties window displays. Select the **Troubleshoot** tab and click **Change settings**.

**Note:** If the Troubleshoot tab does not display or if the Change settings button is grayed out, your current display driver does not allow you to change the settings.

5. When the Display Adapter Troubleshooter window displays, move the pointer to the far left to disable or reduce the hardware acceleration and click **OK**.

**Note:** These settings can help you troubleshoot display-related problems with your graphics hardware.

### ***Text-To-Speech (TTS) Configuration (Audio)***

Remember that the hardware and software requirements differ for TTS.

- Sites are responsible for supplying the headphones required for TTS.
- TTS software does not run on remote or virtual configurations/Testing Devices.
- A COS – SD provides a more consistent testing experience when testing with TTS.



## ***DRC INSIGHT and Virtual or Remote Desktops***

DRC INSIGHT is a desktop-installed application that runs natively\* on specific operating systems. To successfully launch and run DRC INSIGHT, you must meet system requirements, such as operating system level, processor, disk space, memory, Internet connectivity, and screen resolution.

*\*Running natively refers to running without external support, as opposed to running in an emulation.*

As long as your virtual/remote machines meet these requirements, you can run DRC INSIGHT in a virtual/remote desktop environment. However, if your site uses virtual computing technology and runs DRC INSIGHT on virtual/remote operating systems and/or devices, you must implement appropriate security measures to ensure that these virtual/remote desktops cannot access other applications during the administration of an online assessment.

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**ⓘ Important:** Virtual/remote desktop software does not work with audio accommodations such as Text-To-Speech (TTS). Virtual/remote desktop software does not work with visual accommodations such as Video Sign Language (VSL).

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## ***Kiosk Mode and Security***

The risk of running DRC INSIGHT on virtual/remote operating systems and devices in a virtual/remote desktop environment is the loss of built-in security. When DRC INSIGHT runs on a supported device and operating system, it uses Kiosk Mode to secure student access and prevent students from performing inappropriate testing activities, such as accessing the Internet.

DRC INSIGHT's Kiosk Mode is not available for unsupported operating systems and devices. Sites using virtual computing technology for unsupported operating systems and devices must implement security measures to ensure that any virtual/remote desktop a student is using cannot access other applications while online assessments are being administered.

## ***Native Operating Systems and Devices***

To review the supported operating systems on which DRC INSIGHT runs natively and the devices that can currently run DRC INSIGHT-supported operating systems natively if they meet the minimum system requirements, refer to the latest version of the *DRC INSIGHT System Requirements*.

## ***Virtual Desktop Operating Systems***

Besides the physical devices that host operating systems directly, virtual desktops can indirectly host some supported operating systems for DRC INSIGHT. Typically, users access these virtual desktops from another operating system on another device across a network boundary. Below are the supported and unsupported operating systems for virtual or remote desktop sessions.

### **Supported Operating Systems**

- Microsoft Windows
- macOS
- Linux
- nComputing vSpace

### **Unsupported Operating Systems**

- Google Chrome OS
- Apple iOS
- Google Android

## ***Virtual Desktop Devices***

The device a student interacts with is actually a gateway to the virtual or remote desktop. However, the device may or may not be capable of supporting DRC INSIGHT natively or be able to run an operating system that DRC INSIGHT supports.

DRC software is supported on any vendor-supported device that meets DRC's operating system specifications and has a DRC-supported operating system.

.....  
**⚠ Important:** \*Virtual/remote desktop software can access supported operating systems. If you test using unsupported devices, ensure that students cannot access the Internet and other resources.  
.....

### ***Windows 10 and 11 Desktop Font Size Requirements***

The testing devices' font size settings must match the test settings to guarantee that line breaks and other items display correctly during testing. The correct font size for testing in the Windows 10 and 11 operating system is **100% (Custom DPI)**. To verify and/or change this setting, perform the following steps:

1. Right-click the desktop and select **Display settings**.
2. Select **Scale and layout—Change the size of text, apps, and other items** and choose **100%**. The DPI scaling changes are applied instantly.

### ***Windows 10 and 11 Taskbar Security Requirement***

During testing, each testing computer is locked down while DRC INSIGHT is active to prevent the student from having access to outside information. For Windows computers, you must be sure the **Auto-hide the taskbar** setting is turned off to secure the testing computer. To turn off the setting on a Windows 10 or 11 computer, perform the following steps:

1. Right-click on the Taskbar and select **Taskbar settings**.
2. Toggle **Automatically hide the taskbar in desktop mode** and **Automatically hide the taskbar in tablet mode** to **Off** (in case the Windows 10 or 11 computer is being used in tablet mode).

## System Requirements and Testing Information

### Online Testing, Testing Devices, Peripheral Devices, and Software Features

This section describes various configuration details related to Testing Devices, peripheral devices, and software features for online testing.

Peripheral/Feature	Device	Description	Reference
Cortana	Windows 10 and 11	For Windows 10 devices, Cortana must be disabled for testing, either manually or by using group policy.	See <a href="#">“Disabling Cortana in Windows 10 and 11 Devices” on page 29.</a>
Microphone	iPad	The first time sites launch DRC INSIGHT on an iPad, the microphone must be enabled even if testers are not taking a speaking test.	See <a href="#">“Enabling the Microphone on an iPad” on page 30.</a>
	macOS	When DRC INSIGHT is launched on a macOS device, testers are prompted to enable the microphone.	See <a href="#">“Enabling the Microphone on a macOS Device” on page 31.</a>
Keyboard	Chrome (plus a note about iPads)	<p>Before students start taking a writing test using a Chrome OS device, the testing site must verify that the device’s keyboard configurations are correct for online testing. Specifically, sites must verify the keyboard configurations if students might use quotation marks (“ ”) and/or apostrophes (‘ ’) in test responses.</p> <p>Because some users may be prohibited from using these characters, DRC recommends configuring your device to use the US keyboard.</p> <p>Sites must also disable on-screen keyboards so they cannot be accessed in Tablet mode.</p>	<p>See <a href="#">“Keyboard Settings for Chrome OS Devices” on page 32</a> (for iPads, see the <a href="#">“Keyboard Note Regarding iPad Devices”</a> that follows).</p> <p>See <a href="#">“Disabling On-Screen Keyboards” on page 33.</a></p>
Trackpad/mousepad and Force Click	macOS	<p>Before testing, sites must manually disable both Force Click (look up) and three finger drag/gestures functionality. Look up allows users to tap a word with three fingers to display a definition of the word. Three finger drag/gestures allows users to access multiple applications by swiping between two full-screen apps.</p> <p>This functionality is activated via the device’s trackpad/mousepad. If it is enabled, students have the potential to access unauthorized information and/or applications during the online assessment.</p>	See <a href="#">“macOS Device Trackpad/Mousepad Settings” on page 34.</a>
Timeout Settings	macOS	For macOS computers, it is important that various timeout settings are set to work with the DRC INSIGHT timeout value to avoid timing out during testing.	See <a href="#">“Manually Adjusting the Timeout Settings on a macOS Device” on page 35.</a>

## ***Disabling Cortana in Windows 10 and 11 Devices***

For Windows 10 and 11 devices, Cortana must be disabled for testing, either manually or by using group policy. DRC INSIGHT does not check whether Cortana is off before starting a test.

### ***Disabling Cortana Manually***

To disable Cortana manually on a Windows 10 device, do the following:

1. Launch **Cortana** from the search bar on the taskbar.
2. From the left pane, click **Settings**.
3. Under Cortana, toggle the switch to **Off**.

### ***Disabling Cortana by Using Group Policy***

To disable Cortana using Group Policy on Windows 10 devices, do the following:

1. Type **gpedit.msc** in the search bar on the taskbar and press **Enter** to open the Local Group Policy Editor.
2. Navigate to **Computer Configuration–Administrative Templates–Windows Components–Search**.
3. Double-click on **Allow Cortana** to open the Settings box.

The Allow Cortana Group Policy setting specifies whether Cortana is allowed on the device. If you enable or don't configure this setting, Cortana is allowed on the device. If you disable this setting, Cortana is turned off on the device.

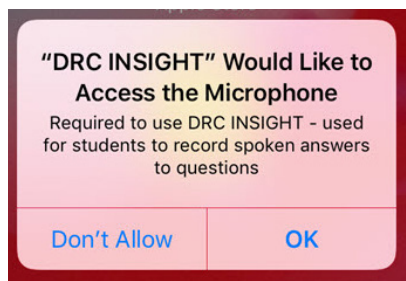
4. Set **Allow Cortana** to **Disabled**, click **OK**, and close the Group Policy Editor.
5. Sign out and sign back in—or restart your PC—to make the change take effect.

## Enabling the Microphone on an iPad

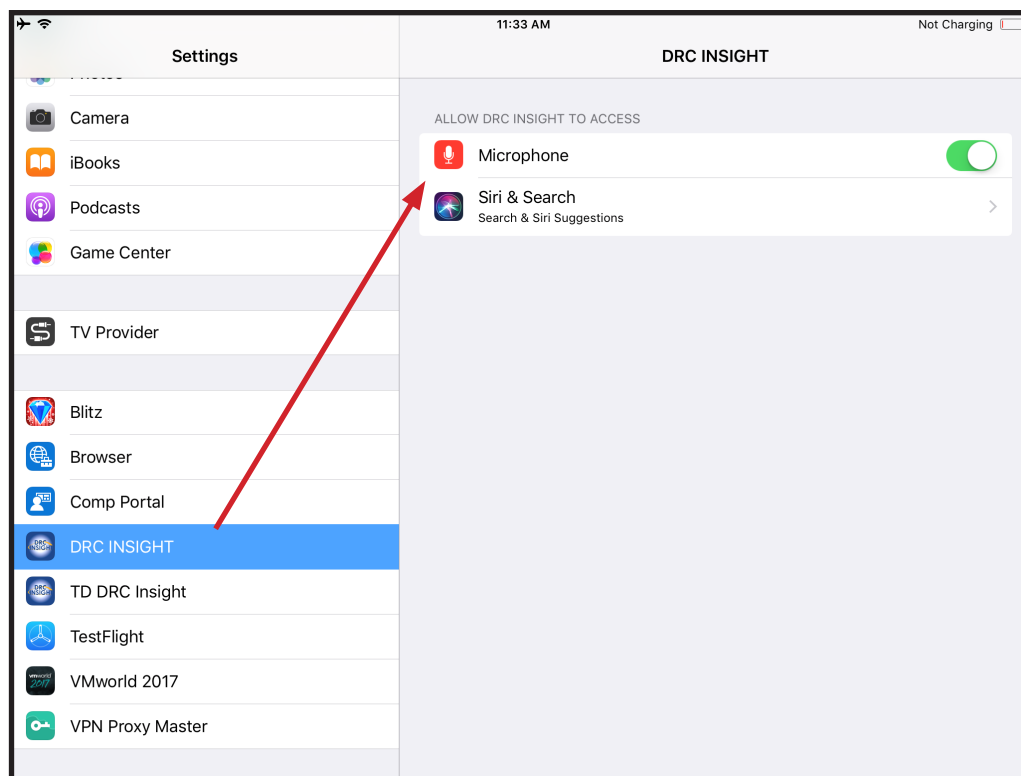
Before DRC INSIGHT is installed on an iPad, there is no microphone access setting under **Settings–Privacy–Microphone** (see below).

1. After DRC INSIGHT is installed, the first time it is launched a message will display asking you to allow microphone access. Tap **OK**.

⚠ **Important:** Even if the testing administration does not use a microphone or include any speaking-response tests, you **MUST** tap **OK** to allow microphone access.

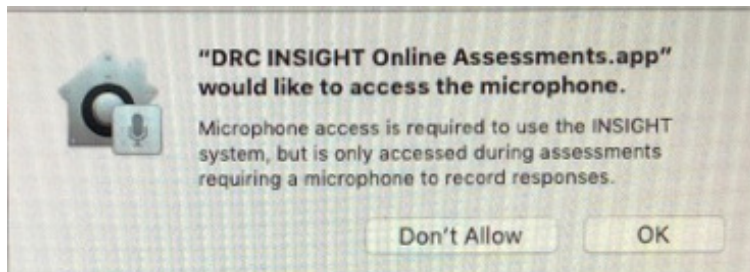


2. If you select **Don't Allow** instead of **OK**, DRC INSIGHT displays the message *Microphone Required - Permission to use the microphone is required* and testing cannot continue.
3. If this happens, you must click **Settings**, manually enable the microphone for DRC INSIGHT using the **DRC INSIGHT** slider (see below), and restart DRC INSIGHT.



## ***Enabling the Microphone on a macOS Device***

When DRC INSIGHT is first launched on a macOS device, the following message displays:



- If you select **OK**, which is recommended, the DRC INSIGHT Online Assessments App will be listed as **accepted** in the macOS device settings and you can continue testing, regardless of whether or not the test requires a microphone.
- **Note:** To verify this setting, navigate to **System Preferences–Security & Privacy–Privacy–Microphone settings**.
- If you select **Don't Allow**, the result depends on whether the test requires a microphone.
  - If the test requires a microphone, the macOS device will not pass the internal microphone check and the tester will be unable to continue testing.
  - To change the setting manually, you must navigate to **System Preferences–Security & Privacy–Privacy–Microphone settings**, check the checkbox next to the DRC INSIGHT Online Assessments App, and restart DRC INSIGHT.
  - If the test does not require a microphone, the software check for an internal microphone does not execute and the tester can use the macOS device to test.

### ***Keyboard Settings for Chrome OS Devices***

Before students start taking a writing test using a Chrome OS device, the testing site should verify that the device’s keyboard configurations are correct for online testing. Specifically, if students might use quotation marks (“ ”) and/or apostrophes (‘) in test responses, sites must verify that the Testing Device is configured correctly (see [“Chrome Keyboard Settings” on page 33](#)).

As background, both quotation marks and apostrophes are commonly used in Passage Based Writing (PBW) responses in which a student’s response is based on a passage presented to the student. The student must provide evidence from the passage to support claims, opinions, and ideas. Some Chrome OS configurations may cause these characters to display improperly or cause an error message to display.

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⚠ **Important:** DRC INSIGHT does not adjust operating system settings. However, students can adjust the keyboard settings. Because of this, it is recommended that the keyboard settings should be reviewed before testing begins.

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### ***Keyboard Note Regarding iPad Devices***

For the DRC INSIGHT Secure App for iPadOS, DRC INSIGHT is automatically placed in Assessment Mode regardless of whether Mobile Device Management (MDM) software is used to deploy the App.

When DRC INSIGHT launches, the software prompts you to lock DRC INSIGHT in Assessment Mode. You should select Yes. When the iPad is locked in Assessment Mode, the Smart Punctuation feature is turned off. Turning this feature off removes the issues discussed above concerning quotation marks and/or apostrophes. For more details, refer to *Preparing the iPad for Testing* in *Volume III: DRC INSIGHT*.



## **Changing Chrome OS Keyboard Settings**

To ensure that quotation marks and apostrophes display properly in DRC INSIGHT on Chrome OS devices, set the keyboard to **US keyboard**.

### **Changing Chrome OS Keyboard Setting by Using Shortcuts**

On the Chrome OS device, press **Ctrl–Shift–Spacebar** to toggle through the keyboard types configured on the device until **US** is displayed in the status area in the bottom-right of the desktop. During a test, ensure the student has clicked outside of their text box.

### **Changing Chrome OS Keyboard Setting by Using the Google Admin Console**

Within the Google Admin Console, navigate to **Device management–Chrome–Device Settings** and select **US keyboard**.

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**!** **Important:** Ensure that the Chrome OS device keyboard is set to US keyboard.

---

### **Changing the Chrome OS Keyboard Language Setting**

If the language setting on a Chrome OS device keyboard is set to International English (instead of US English), it can cause the quotation marks button to become unavailable. Remove International English and add US English to the available languages.

1. Sign in to the Chromebook and click **Status**.
2. Click **Settings–Show advanced settings**.
3. In the Languages section, click **Language and input settings**.
4. Select **English (United States)**. If it is not available, click **Add**, select **English (United States)**, and click **OK**.
5. In the right column, click **English (United States)**.
6. Click **Done**.

### **Disabling On-Screen Keyboards**

Sites should disable on-screen keyboards so students cannot access speech-to-text or predictive text features. Sites can also disable on-screen keyboards while Installing and Deploying the DRC INSIGHT Secure App (see *Quick Tour: Installing and Deploying the DRC INSIGHT Secure App to Chrome Devices in Volume III: DRC INSIGHT*).

To disable the on-screen keyboard on a ChromeOS device, do the following:

1. Sign on to the Chrome OS device and click **Status**.
2. Click **Settings–Show advanced settings**.
3. Select **Accessibility**.
4. Under “Keyboard and text input,” turn off **On-screen keyboard**.

## ***macOS Device Trackpad/Mousepad Settings***

On macOS devices, sites must do the following:

- *Manually enable* the Enable dragging with drag lock feature, which prevents users from accessing multiple applications by swiping between two full-screen apps
- *Manually disable* the Look up & data detectors (Force Click) feature, which prevents users from seeing additional information from sources like Dictionary by selecting text

.....  
**!** **Important:** DRC strongly recommends that sites make these changes *before* online testing. If school technology personnel cannot make these changes without disrupting testing, sites must closely monitor sessions using macOS devices to watch for the use of these features.  
.....

### ***Enable Dragging with Lock Feature***

To enable the Enable dragging with drag lock feature, do the following:

**Note:** Settings and directions may vary slightly depending upon your macOS device version.

1. Use the Finder (or click on the Apple icon in the upper-left corner of the screen) and select **System Settings** or **System Preferences**.
2. Navigate to **Accessibility–Pointer Control–Mouse and Trackpad–Trackpad Options**.
3. Depending upon the version of your device, do one of the following:
  - Check **Enable dragging** and select **with drag lock** from the drop-down menu.
  - Select **With Drag Lock** under Trackpad Options.

### ***Disable Look Up & Data Detectors (Force Click)***

To disable the Look up & data detectors (Force Click) feature, do the following:

**Note:** Settings and directions may vary slightly depending upon your macOS device version.

1. Use the Finder (or click on the Apple icon in the upper-left corner of the screen) and select **System Settings** or **System Preferences**.
2. Navigate to **Trackpad–Point & Click**.
3. Uncheck **Look up & data detectors**.

## ***Manually Adjusting the Timeout Settings on a macOS Device***

Online testers that are using macOS devices for testing must verify that the various computer timeout settings are set to a value that works with the DRC INSIGHT timeout value. DRC recommends that the combination of screen saver and energy-saving timeout settings on macOS Testing Devices should be greater than the DRC INSIGHT timeout value.

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ⓘ **Important:** For most DRC clients, DRC INSIGHT is set to time out after twenty minutes of inactivity during a test session (a sixty-second countdown/warning displays before the timeout begins). Some clients have requested different timeout values for DRC INSIGHT. Please verify with your site administrator if you are unsure which timeout value you are testing with. These instructions assume the standard value of twenty minutes.

---

On a macOS device, the macOS administrator must verify that the three timeout settings for Security Privacy, Energy Saver, and Desktop & Screen Saver are set correctly. These timeout settings are adjusted from the System Preferences page. To display the System Preferences or System Settings page, use the Finder (or click on the Apple icon in the upper-left corner of the screen) and select **System Preferences** or **System Settings**.

**Note:** Settings and directions may vary slightly depending upon your macOS device version.

### ***Manually Adjusting the Timeout Settings on a macOS Device (cont.)***

On a macOS device, the best way to prevent screen display timeout issues is to disable the Security Privacy setting **Require Password after sleep or screen saver begins** during testing. If this setting is disabled, the computer will not require a screen password during testing.

1. To disable the setting, select **Security & Privacy** from the System Preferences page.
2. Uncheck **Require Password after sleep or screen saver begins**.
3. Click **Turn Off Screen Lock**.


If the **Require password after sleep or screen saver begins** setting is not disabled during testing, the combined time for various timeout settings on the System Preferences page—Require Password X Minutes after sleep or screen saver begins, the Energy Saver settings for Computer sleep and Display sleep, and the Screen Saver start time—must total twenty minutes or more (based on the DRC INSIGHT timeout setting).

### ***Example of Combining Timeout Settings***

The example below shows how to combine timeout settings for testing with DRC INSIGHT. With these settings, the testing computer will wait more than twenty minutes before requiring a password, fifteen minutes before sleeping, twenty minutes before starting the screen saver, and five minutes after going to sleep or starting the screen saver. Note that this is one example and other combinations of timeout settings also work well.

1. Set the **Security & Privacy** password to **Require Password 5 minutes after sleep or screen saver begins**.
2. Set the **Energy Saver** screen slider settings for **Computer sleep** and **Display sleep** to a value of 15 minutes or greater.
3. Set the **Desktop & Screen Saver** setting to start the screen saver to **Start after 20 minutes**.

# Notes



Data Recognition Corporation (DRC)  
13490 Bass Lake Road  
Maple Grove, MN 55311

Wisconsin Service Line: 1-800-459-6530  
DRC INSIGHT Portal: <https://wi.drcedirect.com>  
Email: [WIHelpDesk@datarecognitioncorp.com](mailto:WIHelpDesk@datarecognitioncorp.com)

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