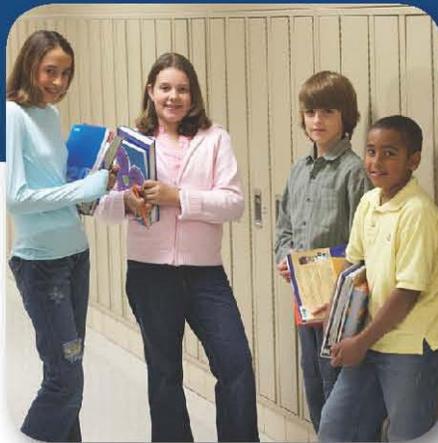
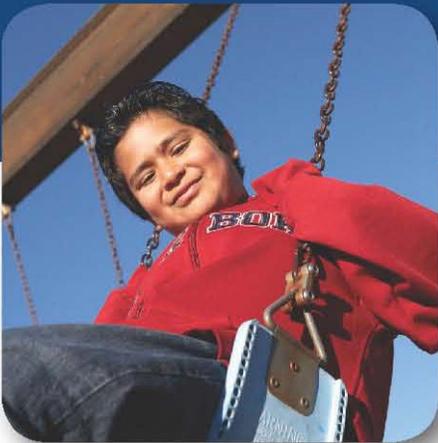


● ● ● Deciding on Computer-Based Testing



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OVERVIEW

This document is a guide for evaluating a site’s ability to administer DRC’s Computer-Based assessments. It contains a number of questions to assess various factors sites should consider when making the decision to administer Computer-Based testing. For each question, there is a corresponding checkbox. Sites should check each box for which they are confident they can perform the task or answer the question presented. The more boxes that are checked, the more likely it is that a site will be able to deliver a successful Computer-Based testing experience to students.

CATEGORIES

The questions are organized into the following categories:

- Technology – Testing Device
- Technology – Testing Site Manager (TSM)
- Technology – Network Configuration
- Training

Assessing these categories will help sites determine readiness to deliver Computer-Based testing.

Technology

Determining the availability of supported devices and peripherals, as well as whether the network infrastructure is sufficient to administer Computer-Based assessments, are key factors for delivering a good student experience.

- **Testing Device**
 - Does the site have supported testing devices required for Computer-Based testing?
 - Does the site have enough testing devices to complete Computer-Based testing during the allowed testing window?
- **Testing Site Manager (TSM)**
 - Does the site have the required device(s) to run the number of Testing Site Managers (TSMs) required to support the site’s Computer-Based testing?
- **Network Configuration**
 - Does the site have the network **capacity** and **reliability** (Wireless, LAN, WAN, and Internet) to support the number of students testing at one time?

Training

An important factor in successful Computer-Based testing is adequately preparing the people involved in delivering and taking the tests. Will the site provide enough time for **students, educators, and technology support staff** to review the training materials and become familiar with the Computer-Based testing technology?

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TECHNOLOGY – TESTING DEVICE

<input type="checkbox"/>	Taking into account potential movement, can you estimate the number of students who will be taking Computer-Based tests?
<input type="checkbox"/>	Using the estimated number of students and the length of the test window, determine how many students will need to test each day. Factor in other activities occurring at the site that may affect access to testing devices or limit available network bandwidth. Does the Computer-Based testing site have adequate rooms and appropriate space to conduct testing?
<input type="checkbox"/>	After reviewing the DRC INSIGHT System Requirements, does the site have testing devices that meet the system requirements? If so, how many?
<input type="checkbox"/>	<p>After determining the number of devices needed to complete Computer-Based testing and the number of students a site needs to test, does the site have enough supported devices to deliver Computer-Based testing within the test window?</p> <p>Determine the number of tests a site can support using the following variables:</p> <ul style="list-style-type: none"> ❖ Number of testing devices available at the site that meet the system requirements ❖ Number of hours a testing device can be used in a day ❖ Number of days in the test window a site plans to test ❖ Number of hours each test session or parts requires <p>Example Calculation</p> <p>20 computers × 6 hours per day = 120 total hours/day 120 total hours per day × 24 days = 2880 total testing hours 2880 total hours/2 hours for a test = 1440 total test sessions/parts the site could support</p> <p>Determine the <u>number of expected test sessions/parts</u> using the following variables:</p> <ul style="list-style-type: none"> ❖ Number of students to be tested ❖ Number of test sessions/parts each student will be taking <p>Example Calculation</p> <p>600 students x 2 test sessions/parts each = 1200 total test sessions/parts</p> <p>The number of expected test sessions/parts should be less than the number of tests a site can support.</p> <p>The formula is more complicated when a site is planning to test multiple subjects and grades because testing times vary by subject and grade.</p> <p>DRC has devised a simple calculation tool called the Computer Usage Estimator that can help districts and schools determine whether there are enough devices to deliver Computer-Based testing. The Computer Usage Estimator can be used to plan for a whole site or individual testing labs.</p>
<input type="checkbox"/>	Does the site have enough technology peripheral equipment (e.g., headsets, mice, iPad stands, keyboards, station dividers, etc.) to deliver Computer-Based testing within the test window?

TECHNOLOGY – TESTING SITE MANAGER (TSM)

<input type="checkbox"/>	After reviewing the DRC INSIGHT System Requirements, does the site have TSM-capable device(s) available that meet the system requirements?
<input type="checkbox"/>	Does the site have enough support staff to install and maintain a TSM?

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TECHNOLOGY – NETWORK CONFIGURATION

<input type="checkbox"/>	<p>Review the district and school network capacity (LAN, WAN, and ISP) to administer Computer-Based testing. Verify that there is available capacity for the number of students taking the test at the same time. Take into account competing Internet bandwidth and other traffic in the building at the time of testing.</p> <p>Estimate the available bandwidth needed from Testing Client to Test Content (test content could be on a local TSM at the site, on a central TSM at another site, or at DRC if there is no TSM performing content caching):</p> <ul style="list-style-type: none"> ❖ Up to 25 Concurrent Testers: 50 Mb ❖ 26–150 Concurrent Testers: 100 Mb ❖ 151–500 Concurrent Testers: 200 Mb <p>Use the Capacity Estimator to help determine bandwidth requirements. Is the available bandwidth for the school sufficient to support Computer-Based testing and the number of students testing at one time?</p>
<input type="checkbox"/>	<p>Connection and bandwidth requirements are greatest at the beginning of the test when the student is logging in to the test and the test engine and test content are being downloaded to the testing device. This process requires a connection from the testing device to DRC. Does the district and school network have the network reliability (LAN, WAN, and ISP) needed to administer Computer-Based testing?</p>
<input type="checkbox"/>	<p>After the test has started, the network requirements for testing are reduced significantly. For fixed form tests, a TSM can remove the need to connect back to DRC during the test. If there is a potential that Internet connectivity during the test may be inconsistent, can the site install and support a TSM?</p>
<input type="checkbox"/>	<p>Are the firewall and filters on the computer network configurable to allow communication with the Computer-Based servers and can the necessary URLs be whitelisted?</p>
<input type="checkbox"/>	<p>Can the site use network shaping to give DRC INSIGHT testing traffic priority over other network traffic?</p>
<input type="checkbox"/>	<p>Will you be able to schedule and manage network bandwidth allocation during testing? For example, limiting the amount of high-bandwidth activities such as downloading and watching videos.</p>
<input type="checkbox"/>	<p>If the site is using wireless connectivity, complete a wireless site survey to assess sufficient wireless coverage in testing areas. The areas to review in this survey include:</p> <p>Device Density</p> <p>Review the number of devices connecting to a single access point. Devices connecting to the access point might not be in the same room where the testing occurs. If the site has an open network or available guest network, account for devices that students, proctors, and teachers have connected (e.g., smartphones, laptops, and tablets).</p> <p>Radio Frequency Interference</p> <p>Review whether other devices might cause interference. Wireless networks share the same frequency as many technologies and any of these devices operating at the same frequency as an access point can cause interference. In addition, wireless access points sharing the same channel may interfere with each other.</p> <p>Connection Consistency</p> <p>Consider things that may interrupt the connection between the testing device and the access point. Review whether there are objects obstructing the line of sight between testing devices and access points that could interrupt the connection. Also, multiple access points can lead to momentary interruptions as a testing device moves from one point to another.</p> <p>2.4 GHz vs. 5 GHz Bands</p> <p>Assess whether the site’s wireless network is using either the 2.4 GHz or 5 GHz bands appropriately. Wireless networks operate in either 2.4 GHz or 5 GHz band. The 5 GHz connection can transmit higher amounts of data with better speeds. The 2.4 GHz connection is better for transmitting data over longer ranges and through walls and other solid objects.</p> <p>After this survey, is the site’s wireless capacity adequate to support Computer-Based testing?</p>

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TRAINING

Students Readiness

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Will students have opportunities to use and become comfortable with the technology? (e.g., testing devices, keyboards, headsets, etc.) |
| <input type="checkbox"/> | Will students have sufficient time to view student tutorials and to practice taking the tests through the Online Tools Training (OTTs)/Practice Tests to become familiar with the testing application before they take the test? |

Educators Readiness

- | | |
|--------------------------|--|
| <input type="checkbox"/> | Will educators have time to access training material and to become familiar with the technology being used to deliver Computer-Based testing by personally accessing Online Tools Trainings (OTTs)/Practice Tests? |
| <input type="checkbox"/> | Will educators be able to provide students with sufficient classroom time to watch student tutorials and to access the Online Tools Trainings (OTTs)/Practice Tests? |

Technology Staff Readiness

- | | |
|--------------------------|---|
| <input type="checkbox"/> | Will technology staff have enough time to understand the technology infrastructure requirements and to understand how to properly install and configure the network environment and TSMs? |
| <input type="checkbox"/> | Will technology staff have adequate time to prepare testing devices (e.g., install Insight Secure Browser, register testing devices)? |