Capacity Planning Tool for Computer-based Testing

OCTOBER 2016
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I. Computer-based Assessment Certification Overview

Beginning in 2017, districts and schools must deliver Ohio’s State Tests only online unless they can demonstrate the need for paper tests. Per legislation,\(^1\) 2016 was the last year the state was required to make a paper test option available. The Ohio Department of Education released guidance about online testing on June 29, 2016.

Districts with a need for paper tests in spring 2017 must complete the computer-based certification process. To gather and verify data, there are two steps in the process. The department will review the data and make a decision to approve the request to provide paper tests and in what quantity.

The first step, the Connectivity/Readiness Survey, gathers connectivity data (e.g., internal and external network capacity), the number of testing devices that meet AIR requirements, and building (testing site) enrollment. Districts access the Connectivity/Readiness Survey dashboard here, logging in with their district's credentials and then making a selection under District Data Dashboard. There you can see if you need to complete the survey. If your district needs a username and password, or help with your survey, contact support@ohio-k12.help.

The second step, the Capacity Planning Tool, pulls data from the Connectivity/Readiness Survey and allows your district to enter additional data elements. The tool evaluates your district’s existing technology infrastructure and calculates estimations for conducting online testing in English language arts (ELA), math, science and social studies. Calculated estimations include the required number of testing devices and the network bandwidth requirements for the planned number of concurrent testers. If a district is less than 100 percent capacity in any given building or testing center, the department will provide paper tests as an accommodation to get the building or testing center to 100 percent.

II. Accessing the Capacity Planning Tool

You can access the Capacity Planning Tool here. From the District Data Dashboard, you will need to login with your district’s credentials. Once logged in, you can access the Capacity Planning Tool by clicking on Capacity Planning Tool. This will redirect you to the landing page for the Capacity Planning Tool.

\(^1\) Sec. 10. of House Bill 487 of the 130th General Assembly as amended by Sec. 610.17 of HB 64 of the 131st General Assembly
III. Understanding the Landing Page

CAPACITY PLANNING TOOL

ODE Public District (050765)

ODE District

Quick Links
Ohio’s State Testing
2016-2017 Testing Dates
Ohio State Tests Portal
REQUESTING EXCEPTIONS TO ONLINE TESTING – 2016-2017

Key Dates
FALL TEST WINDOWS 2016
Grade 3 ELA: Nov.7 to 18
HS End-of-Course: Dec. 5 to Jan. 13

SPRING TEST WINDOWS 2017
ELA: March 13 to April 14
Math, science, social studies: April 3 to May 12

Support
Questions about Ohio’s State Tests should be sent to statetests@education.ohio.gov or call (614) 466-1317.

For questions about using the Capacity Planning Tool, submit the support form at the left.

Capacity Planning Tool for Ohio’s State Tests in Spring 2017

The Capacity Planning Tool evaluates a school district’s existing technology infrastructure and calculates estimates for performing online testing for English language arts (ELA), math, science and social studies. Calculated estimates include number of testing devices required and network bandwidth requirements for the planned number of concurrent testers.

At the top of the landing page, you will see Quick Links, Key Dates, and Support. You can use Quick Links to find resources you may want to reference when completing the Capacity Planning Tool. Key Dates outline the Fall 2016 and Spring 2017 testing windows. View Support to find contact information for Support when completing the Capacity Planning Tool.

The next section, Capacity Planning Tool for Ohio’s State Tests in Spring 2017, provides a brief description of the Capacity Planning Tool. Please note that the Capacity Planning Tool does not include other online tests such as the OELPA, ACT or SAT. You only need to provide data related to testing English language arts (ELA), math, science and social studies.

Capacity Plans for ODE Public District (050765)

Testing Center is a location, typically a school building, that will administer state tests in spring 2017. Attributes includes students to be tested, devices available for online testing, networking within the location, and networking that connects to the Internet.

No entries match your request? Scroll down to the District Buildings table and use the "start plan" action.

<table>
<thead>
<tr>
<th>TESTING CENTER NAME</th>
<th>#TESTS</th>
<th>DEVICE READINESS (%)</th>
<th>LAN READINESS (%)</th>
<th>WIRELESS READINESS (%)</th>
<th>WAN READINESS (%)</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No entries match your request.

Capacity Plans for ODE Public District provides an overview of the estimated readiness for all testing centers identified within a district that have completed a capacity plan. Please note that the first time you log into the Capacity Planning Tool no testing centers will be visible in the table (see screenshot above).
Once you create and save a capacity plan, it appears in the table as a Testing Center. A Testing Center is a location, typically a school building, that will administer state tests in Spring 2017. Each Testing Center requires its own capacity plan. The department will not make determinations for paper accommodations at a district level. Instead, we will make determinations for paper accommodations on the need at each individual Testing Center. As you can see in the table above, each of the testing centers have the network capacity to support online testing, but appear to be lacking the device capacity to test all students online this year (see device readiness for each). Therefore, the department will provide paper tests as an accommodation to get each testing center to 100 percent.

In the District Buildings section, you will be able to create capacity plans for each building or test center. Please note the following instructions provided at the beginning of this section:

If you previously completed the Connectivity/Readiness Survey (also known as the Building Data Survey), use “start plan” below to create a capacity plan for a building based on the survey data provided. If you have not previously completed the survey, some data values in the capacity plan will be blank and you will need to enter the required values.

If you completed the Connectivity/Readiness Survey before accessing the Capacity Planning Tool, then data from the survey is prepopulated for each building in the table (see above) and will also carry over when your start a new capacity plan. To start a capacity plan for an existing building, click on Start Plan in the last column of the table.

Non-IRN Testing Centers

Non-IRN Testing Centers

Use “create new” to develop a capacity plan for a location other than a district building with an IRN that may operate as a testing site. You will be required to enter the testing device data and networking infrastructure data.

In some cases, students may test at a location other than a district building with an IRN. Since these testing sites are not associated with an IRN, you will not see them in the table of the District Buildings section.
To create a capacity plan for a test site not associated with an IRN, go to the **Non-IRN Testing Centers** section and, under **Actions**, select **Create New**. Please note that Non-IRN Testing Centers would not have completed the Connectivity/Readiness Survey and will not have data from the survey. As such, you must enter testing device and networking infrastructure data.

**IV. Completing a Capacity Plan**

**CAPACITY PLANNING TOOL – TESTING CENTER PLAN**

![Chart](image.gif)

**ODE Public District (050765)**

ODE District

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**Capacity Planning Tool for Ohio’s State Tests in Spring 2017**

The Capacity Planning Tool evaluates a school district’s existing technology infrastructure and calculates estimates for performing online testing for English language arts (ELA), math, science and social studies. Calculated estimates include number of testing devices required and network bandwidth requirements for the planned number of concurrent testers.

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After selecting **Start New** or **Create New** from the landing page of the Capacity Planning Tool, you are ready to complete a capacity plan. Once you create a capacity plan, it becomes a **Testing Center** and is visible in the **Capacity Plans** section on the homepage.

At the top of the page you will see a brief description of the Capacity Planning Tool. Below that is an orange **Capacity Planning Home** button you can click to return to the home page.

**Create New Capacity Plan**

**Testing Center Name**

A location, typically a school building, that will administer state tests in spring 2017. Building names should include their associated IRN, for example, “Hancock Elementary (000000).”

For other testing centers without an IRN, consider using a name like “Local Testing Center (123 Main St, Centerville).”

Newfoundland Elementary School (001234)

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**Notes (optional)**

Enter comments or notes about this testing center that may be needed to better contextualize the data entered on this form.

In the next section, you can enter (or edit) the name of your testing center. There is also a box for you to enter notes that may help explain the data you entered in your capacity plan. If you selected **Start New** from the landing page to create a capacity plan, you will notice that the name and IRN of your testing center already appears. If you selected **Create New** from the landing page to create a capacity plan, then you will notice that the box under **Testing Center Name** is blank. For testing centers without an IRN consider using a name that is easy to identify and include an abbreviated address in parenthesis.
While providing *Notes* for your test center is optional, it is strongly recommended. Numeric data from the Capacity Planning Tool is one source of information that will inform decisions regarding paper accommodations. However, it is not the only one. We encourage you to use *Notes* to further explain your situation. The department will use this information to inform the determinations for paper accommodations. Many districts have a philosophy and approach to delivering assessment that the tool cannot quantify.

The next section *Scheduling Information and Devices* begins by explaining the parameters the tool allows you to select for scheduling. It also provides links to resources that you may want to reference when completing this section.

Scheduling information includes the number of students taking tests and your planned testing window. Testing window data is the number of consecutive testing days (2 to 12) and number of sessions per testing day (1 or 2). Please note that any makeup tests should be scheduled within the 15-day testing window. The maximum value that can be entered for Testing Days on this form is 12 to allow up to 3 days for makeup testing. If a testing center is not able to reach 100% readiness using up to 12 days, paper will be provided as an accommodation to fulfill the remaining need so that the testing center is not penalized for makeup days.

Information about testing dates and windows is at ODE’s website: [2016-2017 Testing Dates](#)

Device information is the number of PCs, laptops, Chromebooks, tablets, etc. that meet or exceed AIR technical specifications. This number should only count devices allocated for online testing. The specifications are here: [System Requirements for Online Testing (2016–2017)](#)

**Scheduling Information and Devices**

Scheduling information includes the number of students taking tests and your planned testing window. Testing window data is the number of consecutive testing days (2 to 12) and number of sessions per testing day (1 or 2). Please note that any makeup tests should be scheduled within the 15-day testing window. The maximum value that can be entered for Testing Days on this form is 12 to allow up to 3 days for makeup testing. If a testing center is not able to reach 100% readiness using up to 12 days, paper will be provided as an accommodation to fulfill the remaining need so that the testing center is not penalized for makeup days.

Information about testing dates and windows is at [2016-2017 Testing Dates](#)

Device information is the number of PCs, laptops, Chromebooks, tablets, etc. that meet or exceed AIR technical specifications. This number should only count devices allocated for online testing. The specifications are here: [System Requirements for Online Testing (2016–2017)](#)

**Any Grades 3 - 8 Test Takers?**

Select Yes or No. Then, enter the total number of students taking each test. **NOTE:** This count should include all students, including students with disabilities and English Language learners taking any state test listed on this form.

[Yes][No]

**Any High School Test Takers?**

Select Yes or No. Then, enter the total number of students taking each test. **NOTE:** This count should include all students, including students with disabilities and English Language learners taking any state test listed on this form.

[Yes][No]

Next, you will need to select the number of tests planned for Grades 3-8 and high school courses. Click Yes and the tests for grades 3-8 and high school will appear. Enter the total number of students taking each test. It is very important that your count includes ALL students, including students with disabilities and English Language Learners taking any test listed on this form.
Tests for Grades 3-8 include:

<table>
<thead>
<tr>
<th>Grade 3 ELA</th>
<th>Grade 3 Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 4 ELA</th>
<th>Grade 4 Math</th>
<th>Grade 4 Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 5 ELA</th>
<th>Grade 5 Math</th>
<th>Grade 5 Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 6 ELA</th>
<th>Grade 6 Math</th>
<th>Grade 6 Social Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 7 ELA</th>
<th>Grade 7 Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 8 ELA</th>
<th>Grade 8 Math</th>
<th>Grade 8 Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Tests for high school include:

<table>
<thead>
<tr>
<th>Algebra I</th>
<th>Geometry</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Integrated Math I</th>
<th>Integrated Math II</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ELA I</th>
<th>ELA II</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>American History</th>
<th>American Government</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biology</th>
<th>Physical Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Once you have entered the total number of students taking each test, you will see that the tool calculates the total number of tests in the box under *Total Tests (read only).* Please note that this box is read-only (as are any other boxes on the form where the tool performs calculations and inserts values).

<table>
<thead>
<tr>
<th>Total Tests (read-only)</th>
<th>Testing Days *</th>
<th>Testing Sessions per Day *</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>12</td>
<td>2</td>
</tr>
</tbody>
</table>

Next, you will be able to enter the total number of days you plan to test, the number of testing sessions per day, and the number of testing devices you have allocated for testing that meet or exceed AIR technical specifications. Testing window data is the number of consecutive testing days (2 to 12) and number of sessions per testing day (1 or 2).

The tool will calculate your *Testing Device Capacity* and *Device Readiness Percent* using the data you have entered. A *Testing Device Capacity* greater than or equal to 1 = 100% *Device Readiness*, and anything less than 1 = less than 100%. If your test center was less than 100%, then you can use the tool to get an idea of how many more devices you would need to get you to 100%. *Device Readiness Percent* indicates whether you have enough testing device capacity for your planned testing schedule expressed as a percent.

**Local Area Network (LAN) Infrastructure**

Your local area network (LAN) infrastructure includes the routers, switches, wiring and wireless access points.

Wireless access points (WAPs) connect testing devices to the local area network (LAN). Depending on the wireless networking standard of the WAP, it will support connecting 20-40 testing devices. This form assumes 20 testing devices per WAP. For more details on WAPs, see *Technical Specifications Manual for Online Testing For Technology Coordinators (2016–2017) - page 8.*
Enter the values for each component of your Local Area Network (LAN) infrastructure in the boxes provided. You will be entering only the values for **LAN Bandwidth**, **Percent of LAN**, and **Wireless Access Points (WAPs)**. Read the directions provided in *italics* to inform the intended values that you need to enter in each box. **LAN Capacity**, **LAN Readiness Percent**, **Wireless Capacity** and **Wireless Readiness Percent** are read-only. The formulas built into the form use your data to calculate each of these components of your LAN infrastructure.

<table>
<thead>
<tr>
<th><strong>LAN Bandwidth (Mbps)</strong> *</th>
<th><strong>Percent of LAN</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bandwidth in the building between routers and switches.</td>
<td>Estimated percent of LAN bandwidth dedicated to testing sessions. Use this factor to account for non-testing activities.</td>
</tr>
<tr>
<td>500</td>
<td>50</td>
</tr>
</tbody>
</table>

**LAN Capacity**

**FORMULA**

\[
\text{LAN Capacity} = \left( \frac{\text{LAN Bandwidth} \times \text{Percent of LAN}}{0.08} \right) \div \text{Testing Devices}
\]

A LAN Capacity greater than or equal to 1 = 100% LAN Readiness; anything less than 1 = less than 100%.

<table>
<thead>
<tr>
<th><strong>LAN Readiness Percent</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent readiness for your LAN infrastructure to support online testing (max 100). If less than 100, it means your infrastructure may be insufficient for online testing.</td>
</tr>
<tr>
<td>100</td>
</tr>
</tbody>
</table>

**Wireless Access Points (WAPs) ***

Enter the number of WAPs that will be allocated to online testing. If WAPs contains an initial value, it was populated from the Connectivity / Readiness Survey and may include those WAPs not available for online testing. On this form, the value should only include WAPs allocated for online testing.

<table>
<thead>
<tr>
<th><strong>Wireless Capacity</strong></th>
<th><strong>Wireless Readiness Percent</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>(WAPs \times 20) \div \text{Testing Devices}</td>
<td>Percent readiness for your wireless access points (if required) to support online testing. If less than 100, it means you may have insufficient WAPs for online testing.</td>
</tr>
<tr>
<td>5</td>
<td>100</td>
</tr>
</tbody>
</table>

A Wireless Capacity greater than or equal to 1 = 100% Wireless Readiness; anything less than 1 = less than 100%.

<table>
<thead>
<tr>
<th><strong>Wireless Readiness Percent</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.333</td>
</tr>
</tbody>
</table>

Enter the values for each component of your Local Area Network (LAN) infrastructure in the boxes provided. You will be entering only the values for **LAN Bandwidth**, **Percent of LAN**, and **Wireless Access Points (WAPs)**. Read the directions provided in *italics* to inform the intended values that you need to enter in each box. **LAN Capacity**, **LAN Readiness Percent**, **Wireless Capacity** and **Wireless Readiness Percent** are read-only. The formulas built into the form use your data to calculate each of these components of your LAN infrastructure.
The last section of the Capacity Planning Tool examines your Internet connection. An ITC or a commercial Internet Service Provider (ISP) provides your Internet connection (sometimes called WAN connection) to your district. Bandwidth is the measure of a connection's capacity or utilization, usually measured in terms of "bits per second." In this tool, all bandwidth and speed values must be input in "megabits per second (Mbps)."

According to AIR, the utilization of the Internet connection during online testing will average from 0.05 Mbps to 0.15 Mbps. This form assumes a sustained utilization rate of "0.08 Mbps" per testing device during online testing.


**Internet Connection**

Your Internet connection (sometimes called WAN connection) is provided to your district by an ITC or a commercial Internet Service Provider (ISP). Bandwidth is the measure of a connection's capacity or utilization, usually measured in terms of "bits per second." In this tool, all bandwidth and speed values must be input in "megabits per second (Mbps)."

According to AIR, the utilization of the Internet connection during online testing will average from 0.05 Mbps to 0.15 Mbps. This form assumes a sustained utilization rate of "0.08 Mbps" per testing device during online testing.


**Internet Download Speed (Mbps)**

Enter the Internet download speed measured from a testing device.

You can measure the speed of the Internet connection from a testing device by using SPEEDTEST. Click on the link to open a new window, then click "BEGIN TEST" (takes about 1 minute), and enter the download speed.

100

For Internet Download Speed (Mbps), you need to enter your Internet download speed measured from a testing device. You can measure the speed of the Internet connection from a testing device by using SPEEDTEST. Click on the link to open a new window, then click "BEGIN TEST" (takes about one minute), and enter the download speed. The SPEEDTEST will look like the image at the top of the next page.
Once you enter your Internet Download Speed (Mbps) in the box provided, the tool will calculate your Internet Bandwidth Capacity and WAN Readiness Percent. If your WAN Readiness Percent is less than 100%, it means your connection may be insufficient for online testing.

**Internet Bandwidth Capacity**

**FORMULA**

Internet Download Speed (Mbps) + (Testing Devices × 0.08 Mbps)

An Internet Bandwidth Capacity greater than or equal to 1 = 100% WAN Readiness; anything less than 1 = less than 100%.

16.667

**WAN READINESS PERCENT**

Percent readiness for your Internet connection (WAN) to support online testing. If less than 100%, it means your connection may be insufficient for online testing.

V. Submitting and Saving a Capacity Plan

Submitter

Enter the email address for the person creating or updating this plan. A PDF report for the plan will be emailed. If this field is blank, no email notification will be sent.

At the bottom of the form, there is an option to enter your email address. You will receive a PDF report for the plan to the email you entered. If this field is blank, you will not receive an email notification.
Once you complete your capacity plan, click on the green Save button at the bottom of the form to save it.

You now have created your capacity plan. It will be visible on the homepage in the Capacity Plans section.

VI. Next Steps

The following timeline outlines key dates for next steps in the computer-based certification process:

a. Release Capacity Planning Tool and guidance (October 17)
b. Your district completes Capacity Planning Tool (Oct 17 – Nov 28)
c. The Ohio Department of Education reviews district CPT and determines eligibility (Oct 17 – Nov 28)
d. The department finalizes the CPT process (Nov 28 - December 9)
e. The department approves paper test orders (Oct 17 – December 9)
f. Your district finalizes paper test orders based on any changes in your student population (In March, but trying to get on time order info from Ops)
g. Spring test administration (March 13 – May 12)