Mc Graw Hill **CTB**

HELP THE TEACHER HELP THE CHILD

Custom Online Assessments

Online Assessment System
Test Delivery Client

NETWORK UTILITY USER GUIDE

September 28, 2012

User documentation for Technology Coordinators

This document describes how to test your network connection and capacity for online testing using the Network Utility. The Network Utility can be run by anyone, requires no network knowledge, and takes just a couple of minutes to complete. It lets you test for the number of workstations you plan to use and save the results from each test.

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Introduction

It is critical to the successful and efficient execution of your online tests to have connectivity and sufficient bandwidth between your site and the CTB Online Assessment System servers. The Network Utility included with the Test Delivery Client (TDC) is a good place to start to confirm that your internet connection supports your testing plan.

About the Network Utility

The Network Utility is a simple, easy-to-use program that performs three tests:

- **Network connectivity:** Confirms that the workstation can connect to the CTB servers.

- **Bandwidth simulation:** Confirms that your connectivity to the CTB servers is robust enough for the number of test workstations at a location. The Network Utility simulates the bandwidth used by online testing and indicates the likelihood of interruption-free service.

    Regarding your bandwidth, you have three factors to consider:

    - the total bandwidth provided by your ISP
    - how many workstations are running the online test simultaneously at that location
    - how much bandwidth is available when you're running the online tests

    The Network Utility shows you whether or not you have sufficient bandwidth available at that moment at that location.

    #### Do NOT run the Network Utility during off-peak hours.

    Running the Network Utility, for example, at 7:30 a.m. when few people are on the network won't give you useful information.

    You want to run the Network Utility at a time that closely duplicates the bandwidth you will have available during testing. Use the following guidelines to get samples:

    - Testing times: Run the Network Utility at those times that students would be running the online test.

- Network load: Run the Network Utility during those periods that your internet interface experiences its heaviest usage. If you don't know when those periods are, run the Network Utility to sample various times during the day and then compare results. These results provide your worst-case analysis.

- Testing locations: Run the Network Utility on one workstation in each lab, classroom, lounge, etc. you have set up for testing. Network capacity can vary from location to location within a site.

  The combination of test results will give you a good indication – but no guarantee – of your network connection's readiness to support the required load.

- **Text to speech:** Confirms that the workstation can interact correctly with the CTB text to speech (TTS) server used for accommodated students.

Get Started

Install the Test Delivery Client (TDC) on a workstation. (See the Installation Guide, or your custom installation document for details.) The Network Utility is installed along with the other software in the download.

Note: If you have a previous version of the TDC on the machine, you must uninstall it first.

Start your testing as soon as you download the TDC. You don't have to wait to install it on all test workstations to get useful information.

To complete your testing, run the Network Utility on at least one workstation at each location (for example, classroom, lab, office, etc.) to confirm that each location has connectivity and sufficient bandwidth.

Run Tests

To begin, launch the Network Utility from the TDC folder or the CTB->Online Assessment menu.

The Network Utility window has three tabs:

- Network Connectivity Test
- Bandwidth Simulation
- Text To Speech Test

The Network Connectivity Test is the default tab at start up.
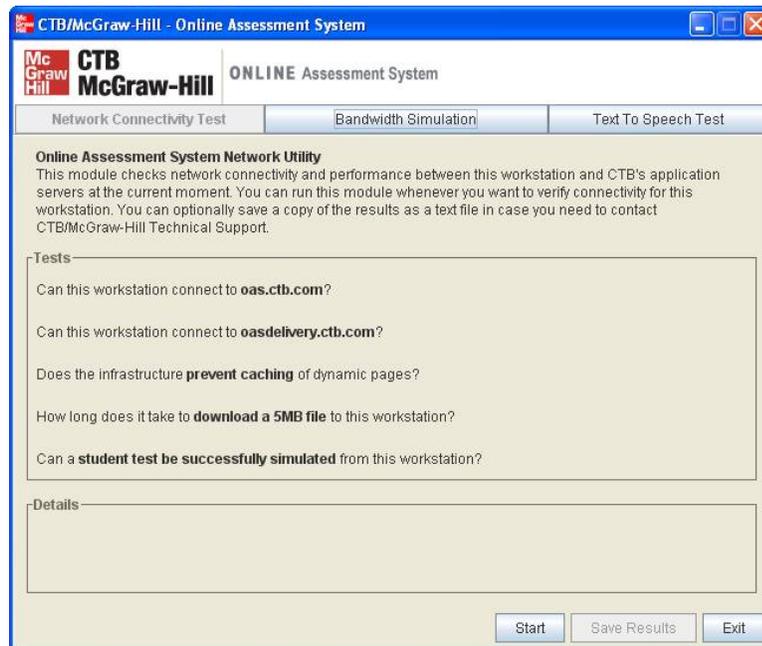
Confirm Network Connectivity

Click the **Start** button.

The Network Utility attempts to establish connections to the required CTB servers and confirms that your infrastructure is configured properly. Then it downloads a 5 megabyte file and tells you how long that took. Finally, it simulates an actual student testing on the workstation and returning responses to the server. This test may take as much as an hour (depending on test size) and can run in the background. Response times are given in milliseconds.

Note: There may be times when a load test is not configured to run, in which case this test will fail and an appropriate message will be displayed to let you know.

The following window shows a successful run:
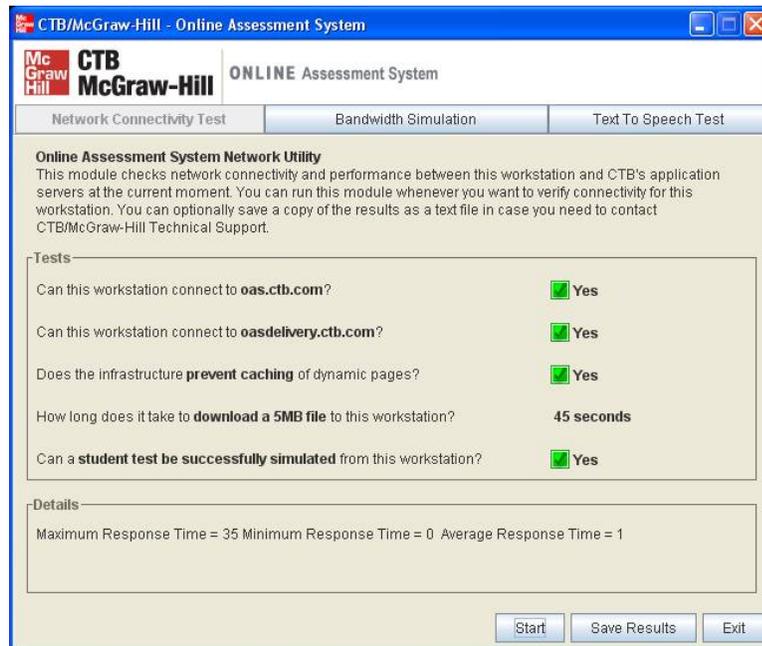
If any of the tests result with "No" click the **Save Results** button to store the results in a file. The program prompts you to provide the file name and folder.

Work with your local network specialist to correct connection and caching problems. Contact CTB Technical Support if the problem persists.

Confirm Bandwidth

Click the **Bandwidth Simulation** tab.

Enter the number of test workstations at your site. The default is 100; the maximum is 200; the minimum is 12.

Click the **Start** button.

The Network Utility generates equivalent network traffic, incrementally increasing that traffic to simulate the number of the workstations you specified, and displays the results for approximately that many machines. The program runs the full course or stops if the bandwidth falls below the requir❌threshold – indicated by in the Evaluation column (see figure).

There are three potential results:

- **Green - Students are unlikely to experience any interruptions:** You had sufficient bandwidth when you ran the test to support the online assessment test traffic from that many workstations.

- **Yellow - Some students may experience interruptions:** Generally, you have sufficient bandwidth; however, there is the potential that under heavy load some users may experience interruptions.
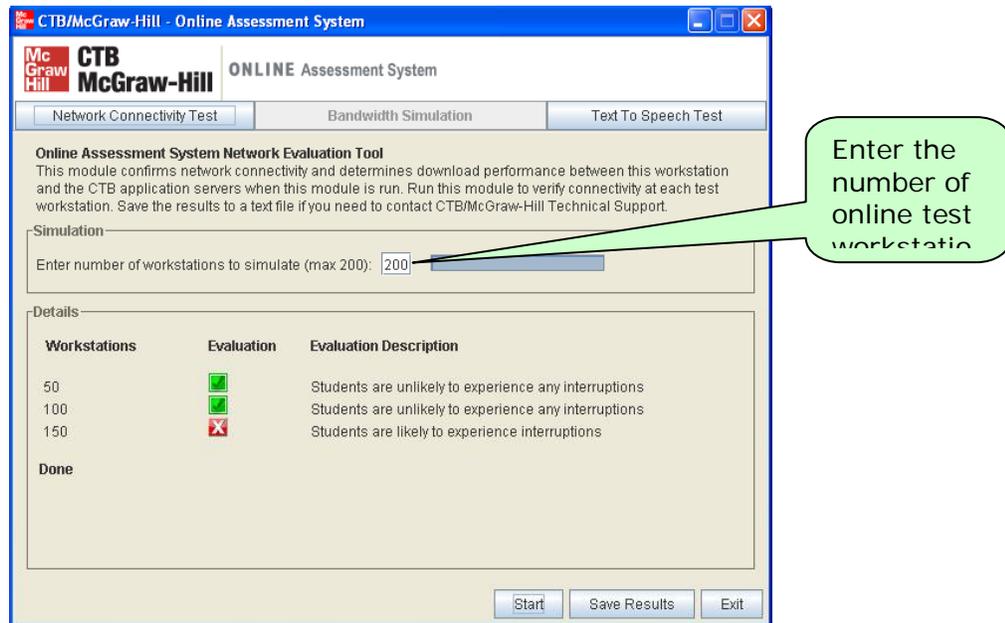
- **Red - Students are likely to experience interruptions**: You had insufficient bandwidth to guarantee interruption-free testing. Plan to limit the number of test workstations used simultaneously or revisit your network set-up to increase capacity.

For green results, no further actions are necessary. For yellow and red, click **Save Results**. The program prompts you to provide the file name and folder.

The following figure illustrates the saved results of the bandwidth test. Note that the bandwidth indicates kilobits per second. Work with your local network specialist if you are concerned about the bandwidth. Contact CTB Technical Support if the problem persists.

```
------------------------------------------------------------------------------
CTB/McGraw-Hill – Online Assessment System
Tue Sep 29 14:49:03 PDT 2009
------------------------------------------------------------------------------

Workstation      Bytes Read      Bandwidth      Evaluation
50               16233280        25364          Students are unlikely to experience any interruptions
100              16783280        13112          Students are unlikely to experience any interruptions
150               6783280          705          Students are likely to experience interruptions

Note: Bandwidth = Kbps
```

Confirm Text-to-speech Connectivity

To check the text-to-speech feature, click the **Text to Speech Test** tab.

Enter the text you want to convert. You can enter up to 30 characters.

Enter text to speak here; 30-character
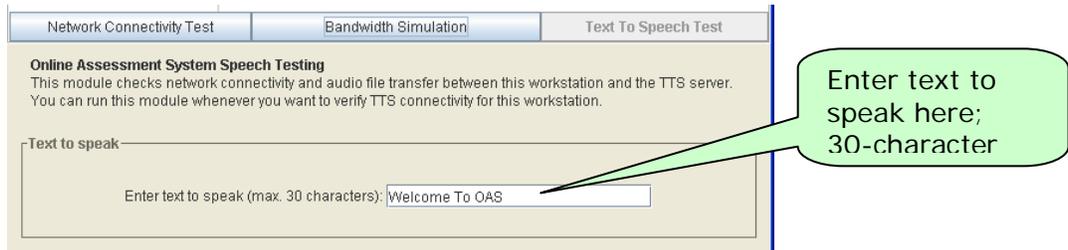
Click **Speak**.

This initiates a session with the CTB Text-to-Speech (TTS) server in which the text is sent to the server and the MP3 audio file is returned. The Network Utility shows each step.
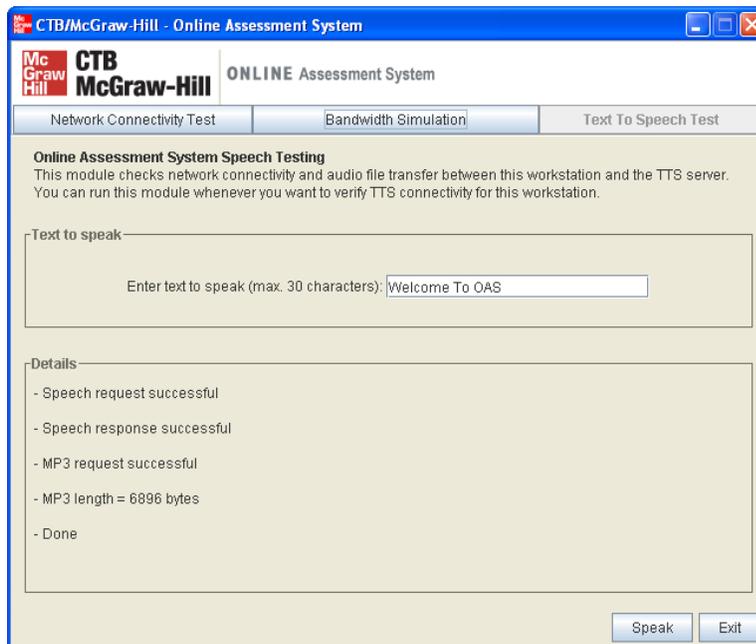
Upon receipt of the mp3 file, the Network Utility outputs the audio to the computer speakers. If you do not hear the audio, confirm that the computer's speakers are not muted and the volume is turned up.

If the connection is not successful or you provide text that cannot be reproduced, the error message in Details is "**Failed to speak input text.**" Work with your local network specialist to correct connection problems. Contact CTB Technical Support if the problem persists.

Close Network Utility

Click either the close box or the exit button to close the Network Utility.