**OECD Programme for**

**International Student Assessment 2015**

# PISA 2015 – STUDENT DELIVERY SYSTEM MANUAL

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Produced by ETS, Core 2 Contractor


**PISA 2015 Contractors**




# PISA 2015 STUDENT DELIVERY SYSTEM MANUAL

## 1. Introduction

The PISA Field Trial Student Delivery System (SDS) is a self-contained set of applications for delivery of the PISA 2015 computer-based assessments (CBA) and student questionnaires. The SDS is intended to run from a USB flash drive but can also be run from a local hard drive. Each national SDS includes all national language versions of the CBA tests and the Student Questionnaires, including, where appropriate, the optional Information and Computer Technology Familiarity (ICT) and Educational Career (EC) Questionnaires, the UH version of the Student Questionnaire, and the optional computer-based assessment of Financial Literacy.

This document serves two purposes. It describes how to download and install the software, launch and run the SDS, and troubleshoot problems when using the SDS, and it provides information about configuring the SDS and translating the interface. Additionally, Sections 4-7 can be integrated into the Test Administrator manual with only minor adaptations.

## 2. Downloading the SDS

The SDS includes all relevant languages in one download package. For the international master, the package includes English and French source versions of the assessments, and English versions of the questionnaires and Financial Literacy assessment. National versions include the same set of instruments but offered in the national languages that will be used for the Field Test. See Section 8 below for information on how to limit which languages are available to test takers.

The SDS comes compressed in the 7-zip format. To extract 7-zip files, 7-zip software must be installed on your computer. 7-zip is freeware and can be downloaded from http://www.7-zip.org/. Please install this software onto the computer where you will be configuring the SDS before proceeding.

The 7-zip compressed files can be obtained from the PISA Portal in the Documents tab. The source version is located in /Materials/2015 Field Test Resources/CBA Delivery Software. National versions are available in the Tasks folder, where each country has a folder named Student Delivery System.

## 3. Setting up the USB

As noted above, the computer-based assessment will typically be delivered using a USB flash drive, although it can also be run from the local hard drives on the school computers. The software runs much faster from the hard drive than the USB drives due to the higher transfer rates.

To install the SDS software, download the 7-zip archive and expand it locally. If you wish to run the SDS from a USB drive, copy the contents of the ZIP archive to the USB by completing the following steps.

Insert a blank USB flash drive into your computer and open it in Windows Explorer. The drive letter assigned will vary depending on what drives you have on your computer. We assume for the explanation below that the USB is assigned to the F: drive.

Format the USB drive by going to File > Removable Disk (F:) > Format….This will delete the existing contents of the flash drive. When you format the USB, make sure the format type is FAT32 (usually this is the default). Select the “Quick Format” option to make this faster.

Copy the extracted files onto the root directory of the blank USB flash drive. NOTE: Do not copy the 7-zip file to the USB, only the extracted files and folders. Please make sure to copy all files and folders as shown in Figure 1 below:

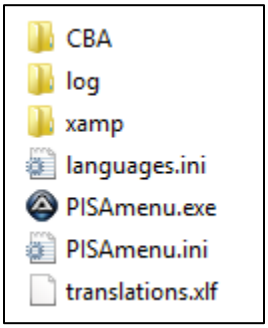



**Figure 1: Extracted SDS Files**

After this procedure, your USB is set up to administer the CBA test. Additional USB drives should be set up following the same procedure. One note about USB drives: in previous PISA cycles, some countries have purchased inexpensive USB drives and had a high rate of failure with them. There is no good way to test a USB drive to know if it will fail when used, so the best preventative measure is to purchase high quality USB drives from a known vendor. This is not a place where you should look to cut costs. A useful utility for testing USB drives can be downloaded from http://www.vconsole.com/client/?page=page&id=13.

## 4. Preparing to Launch the Test

**Note to NPM**

It is important to prepare the school computers prior to administering the PISA assessments and questionnaires. The System Diagnostics plays an important role in this. In the months before the Field Test, after schools have been selected, the System Diagnostics should be used to evaluate whether school computers are capable of delivering the PISA tests. More information can be found in the System Diagnostic Manual *[Doc. Ref.: CBAManual_SysDiagnostic_FT15.docx]*. The System Diagnostics should also be run on the day of the test to make sure that the school computers have not been changed since the initial check.

Unlike in previous PISA cycles, the SDS does not require administrator rights to run. However, it is possible to configure Windows policies on a school computer that could prevent the SDS from starting up. For instance, a school may prohibit normal users from running programs contained on USB drives. In cases like this, it would be necessary to be logged in to the computer with greater access rights, typically an administrator account.

The System Diagnostics tool uses the same mechanisms and software packages to run. By executing the System Diagnostics as a normal user, you will verify whether the SDS will run without problems.

*Please remove this box when adaptation of this manual is complete.*

**Note to NPM**

The following sections, 4-8, are written so that they can be integrated into the Test Administrators manual.

*Please remove this box when adaptation of this manual is complete.*

To run the PISA tests, insert a USB drive into each computer to be used for the assessment. Ensure all applications are closed on the computer. Then open Windows Explorer and locate and run the executable file in the root of the USB called "PISAmenu.exe". The window shown in Figure 2 will appear when you double click that file.

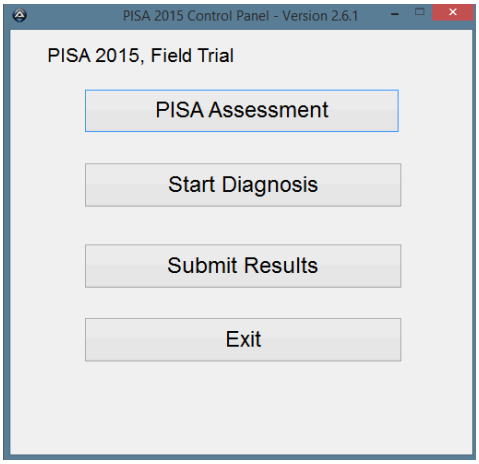



**Figure 2: SDS control panel**

The SDS package includes a copy of the PISA System Diagnostics, which you should use to check the compatibility of a computer with the SDS. Running the PISA assessments and questionnaires on a computer that does not meet the minimum requirements as measured by the System Diagnostics is not supported. More information about the SDS can be found on the PISA Portal at

/ Materials / 2015 Field Test Resources / CBA Delivery Software / CBAManual_SysDiagnostic_FT15.docx

Click the Start Diagnosis button shown in Figure 2 to launch the application. The first step in the System Diagnostics is to run a memory scan to check for any viruses. If one is found, a message will be displayed and the process will stop.

Please note that while the virus scan is running, the computer's local antivirus software may detect the virus scan software being used for PISA (ClamWin Free Antivirus) as a virus. **This is normal and should be ignored**. Below is an example of the screen that appears when Trend Micro™ OfficeScan™ is the local antivirus software. Dialogue screens and options will vary depending on the type of antivirus software installed locally.

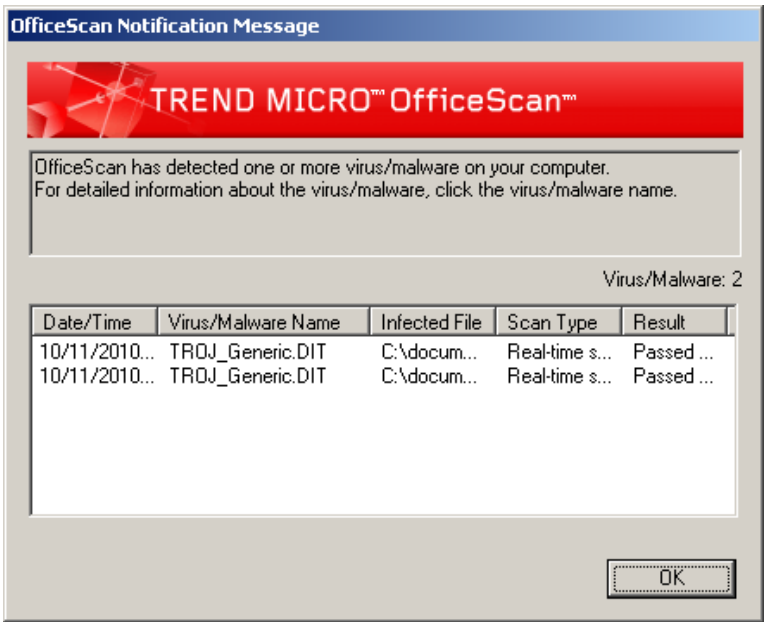



**Figure 3: Trend Micro OfficeScan detecting ClamWin as virus**

In this example, the local virus scanner (Trend Micro OfficeScan) has detected the Systems Diagnostic virus scanner (ClamWin Free Antivirus) as a virus. If this occurs click 'OK' and the virus scan will continue.

Next, in the background, programs will be started to support the diagnosis process. On some computers, warnings from the Windows Firewall or virus detection software may appear. You should allow the program to continue executing. After the program has started, a screen similar to the one shown in Figure 4 will display in a Web browser:

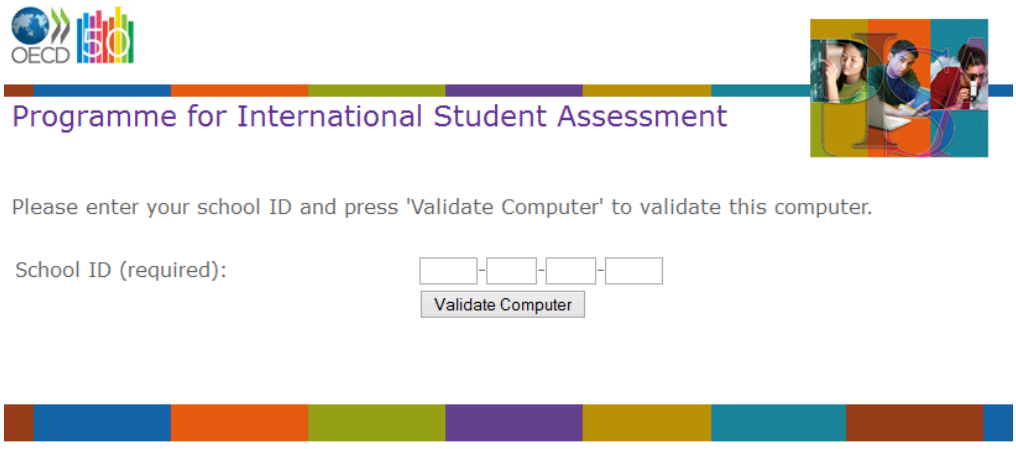



**Figure 4: System Diagnostic initial page**

On this screen you are asked to enter the School ID for the school in which the test is being administered. This code is mandatory and provided to you by <NC>.

**Note to NPM**

The System Diagnostics is intended to be run on computers in schools that have been sampled for the Field Trial. They should have School IDs assigned by KeyQuest. It is possible to run the System Diagnostics on computers without a valid School ID. While it is necessary to provide an ID value, this value is not checked, so you can use any numbers that you would like.

*Please remove this box when adaptation of this manual is complete.*

Click on the "Validate Computer" button to check the current computer. This will run a test of the CPU, memory, Operating System, and other hardware and software factors. Once the checks are completed, a report similar to the one shown in Figure 5 will be shown.

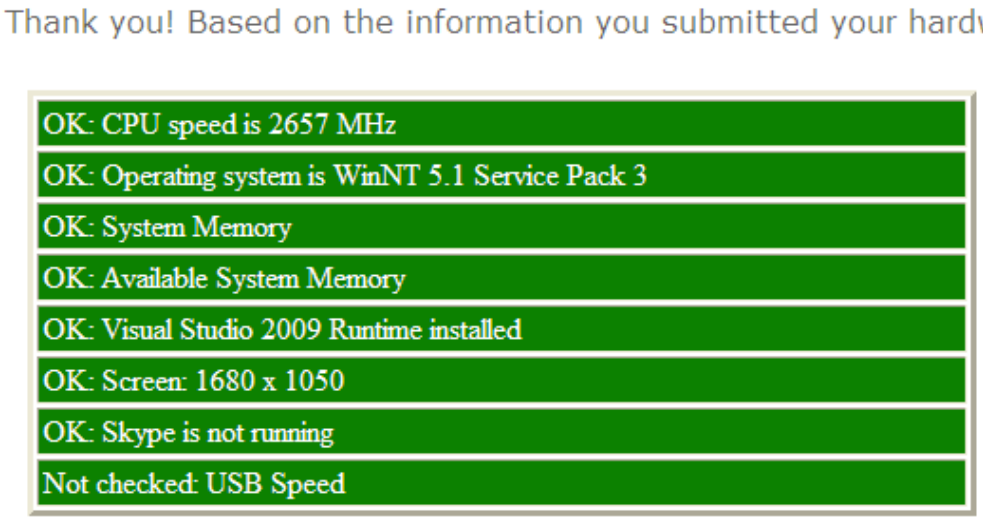



**Figure 5: Diagnosis interface – successful basic check**

If all tests in the check are highlighted in green and labeled "OK," the computer is suitable for running the PISA 2015 Student Delivery System. If any of the tests appear in red and are labeled "Failed," the computer may not be suitable. An example of the diagnosis interface when the computer has failed a test is shown in Figure 6 below.

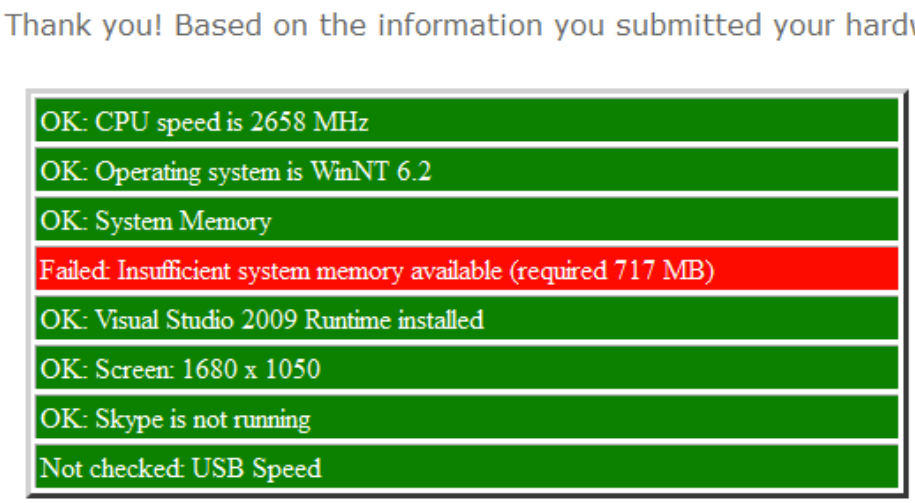



**Figure 6: Diagnosis interface - memory test failed**

In such cases, you may be able to take actions such as closing running programs to free up memory, or changing the display settings to increase the screen resolution. You should discuss what can be done with technical support staff from the school.

## 5. Launching the Test

After the System Diagnostics are completed, the next step is to run the assessments and questionnaires by clicking the PISA Assessment button, shown previously in Figure 2. This will start up the components of the SDS, and at this point you may again get warnings from your Windows Firewall or your anti-virus software about these programs. You should select the response that allows the software to continue running. Please do not block parts of the SDS software, or the system will not run properly.

When the SDS starts, you will first be requested to enter a password:

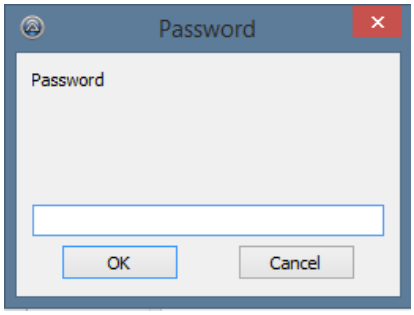



**Figure 7: SDS password prompt**

This password is used for the decryption of the test content that is stored in the SDS database. This password will be provided to you by <NC>. The password will be different for each PISA country. For <country> the password is

<XXX XXX XXX XXX>

Enter this password (with or without the spaces, it does not matter) and click the OK button. Next a copy of Firefox will be launched. This is Firefox Portable, a standalone version of Firefox that is bundled with the SDS software. This Web browser will launch full screen (in "kiosk" mode) and you will not be able to close it in the normal way. See below in Section 6 for instructions for escaping from this window.

When Firefox starts, it launches the beginning of the Test Flow. See Annex A for a full diagram of the Test Flow. The first screen of the Test Flow is where you choose a session:

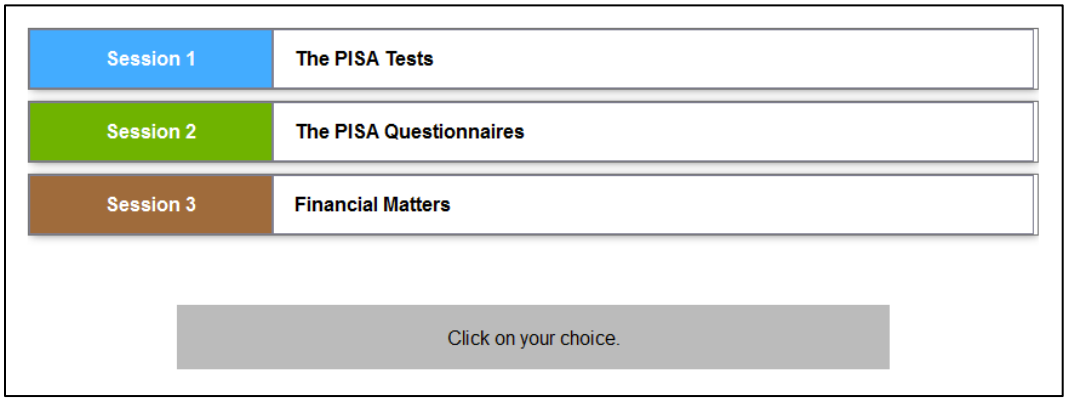



**Figure 8: Session launch screen**

**Note to NPM**

This image and other images from the Test Flow should be replaced with one from your national version. The Session 3 – Financial Matters button will be displayed only if your country is participating in this international option.

*Please remove this box when adaptation of this manual is complete.*

While students could be instructed on which session to run, we recommend that the Test Administrator makes this choice before the students arrive. After the session is selected, students will be asked to login using the ID and password that is provided on their student logon forms.

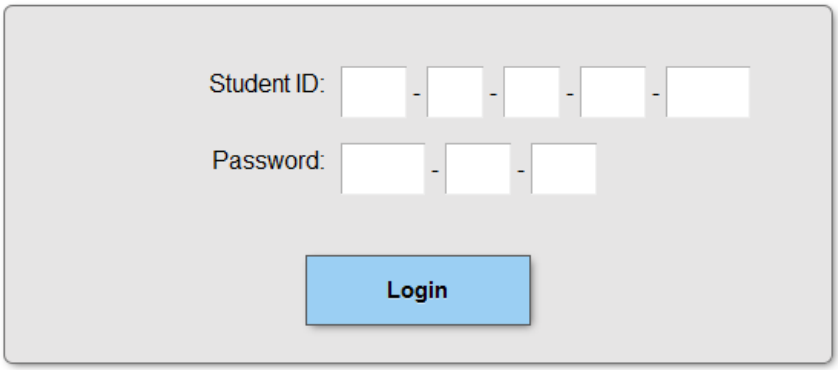



**Figure 9: Student login screen**

Students should enter their student ID and password and then click on the “Login” button.

**Note to NPM**

The following paragraph should be deleted if only one language is configured in the SDS. In this case, there is no language selection screen.

*Please remove this box when adaptation of this manual is complete.*

Following the login page, the Test Flow may display a screen asking students to choose the language for the session. The student can choose from the languages that have been enabled in this copy of the SDS. The student will be asked to confirm his or her language selection at this point. . Where only one language of administration will be used, this screen will not display.

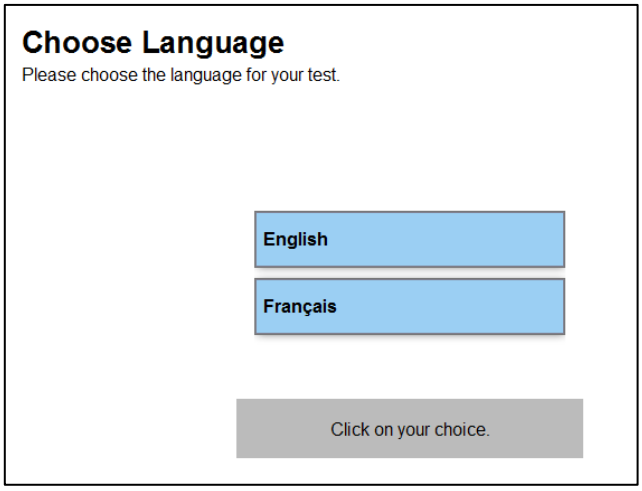



**Figure 10: Choose language screen**

Following the language choice, the Test Flow continues with the introductions, assessments and questionnaires assigned to the student.

Once the testing session is complete, the Test Administrator should use the escape sequence (see Section 6 below) to unlock the keyboard, press ALT+TAB to access the PISA 2015 control panel, click on the “Exit” button and remove the USB from the computer.

## 6. Escape Sequence

The Student Delivery System runs with a locked down keyboard that prevents students from using Alt-Tab and other means to exit the test. This is not an absolute keyboard lock. For instance, Ctrl-Alt-Del still works. However, the lock will prevent casual mischief. There is a way to bypass this lock, using the emergency escape sequence.

- Press F7 at any time and you will be prompted for a password.
- Use 7472 and after clicking OK, the keyboard will be unlocked.
- After that, you can use Alt-Tab to switch to another program. You can switch to the PISA application (the window above) and exit all parts if you want by clicking the Exit button.

To re-enable the keyboard locking, press the F8 key.

## 7. Troubleshooting and addressing problems

If for some reason the system stops responding or the screen gets corrupted, you can use the following methods to resolve the problem. (All of these require you to use emergency escape sequence to unlock the keyboard first.)

a) Click anywhere in the testing window, and then press the F5 key. This will cause the Web browser to reload the page. This is the fastest method and usually works.

b) Use Alt-Tab to switch to the PISA Menu application. Click the Exit button to shut down the components of the SDS. Then run the PISA Menu application again, going through the normal startup steps. If you use the same ID and password as before, you will return to the place you last left (after going through the Test Flow steps to start the test or questionnaire).

c) If all else fails, use Ctrl-Alt-Del. This will allow you to shutdown and restart the computer. After restarting, you can launch the PISA Menu application again. If you use the same ID and password as before, you will return to the place you last left.

## 8. Managing assessment results

**Note to NPM**

This section contains information about uploading of results to a central server over the Internet. This functionality can be disabled (see section 9 below). If it is disabled, this section should be removed.

*Please remove this box upon completion of this section*.

When a session is completed, the SDS will attempt to upload the results of the session to a central server over the Internet. Where this is not possible, perhaps because the computer is not connected to the Internet or the school's firewall blocks the upload operation, the result files are still saved on the USB drive. It is recommended that at the end of each day, the test administrator attempt to synchronize the results on the USB drives with the central server. This section describes the process for doing this operation.

To begin the results management process, the test administrator launches the PISAMenu.exe application and clicks the "Submit Results" button shown in Figure 2. A Web page like the one shown in Figure 11 will be shown.

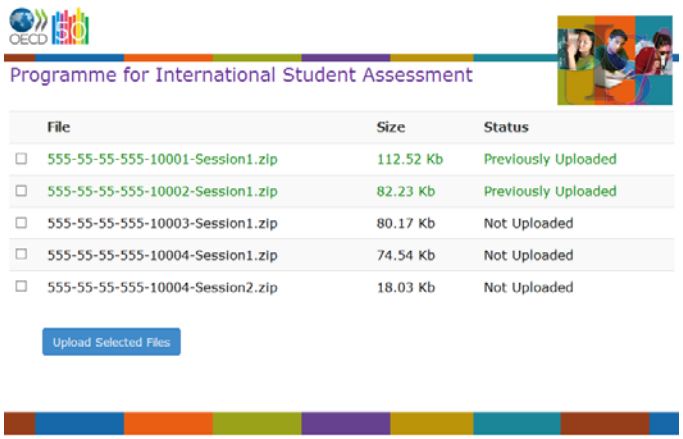



**Figure 11: Results synchronization screen**

Select those results that are listed as "Not uploaded" by checking the box next to each option. Then click the "Upload Selected Files" button to send these to the server. If the upload succeeds, you will receive a message saying "Upload successful." If there is an error in the upload process, the message will state "File could not be uploaded." In this case, you should try uploading at a later time.

## 9. Customization of the SDS

**Note to NPM**

This section contains information about the customization options for the SDS. Please make sure that these instructions are given to the IT specialist who will be responsible for configuration and duplication of the SDS within your country.

*Please remove this box upon completion of this section*.

For the PISA 2015 Field Trial, several customization options exist, allowing administrators to enable/disable the memory virus scan, physical drive virus scan, diagnostics tool, administrator submission tool, which languages are offered to the student in each section, and the ability to save assessment results locally or attempt to submit the results to a centralized server. The following is a list of files that can be used to configure this functionality. The configuration files are simple INI format files, with name/value pairs. They can be edited with any text editor.

### *PISA Menu Configuration*

This section describes how to configure the virus scanning, PISAMenu.exe buttons and the results management server location.

File Name: PISAmenu.ini

File Location: root folder

Configurable Content:

| Line | Purpose | Possible Values |
|---|---|---|
| SkipMemoryVirusScan = <False/True> | Determines if the memory should be scanned for viruses when starting the diagnostics tool or SDS. We recommend setting this to False, so that the virus scan runs. | True – The memory scan will not be performed<br>False – The memory scan will be performed |
| SkipStickVirusScan = <True/False> | Determines if the physical disk (typically the USB drive) should be scanned for viruses when starting the diagnostics tool or SDS. We recommend setting this to True, so the virus scan does not run. | True – The virus scan will not be performed<br>False – The virus scan will be performed |
| DiagnosisButton = <True/False> | Determines if the "Start Diagnosis" button is enabled in the PISA menu. Disabling this is not recommended if the SDS is used with school computers. If you are using dedicated laptops, this could be disabled. | True – The button is enabled<br>False – The button is not enabled |
| PisaButton = <True/False> | Determines if the "PISA Assessment" button is enabled in the PISA menu. This is typically only disabled if only the System Diagnostics are to be used. | True – The button is enabled<br>False – The button is not enabled |
| UploadButton = <True/False> | Determines if the "Submit Results" button is displayed in the PISA menu | True – The button is displayed<br>False – The button is not displayed |
| uploadURL="http://xxx.yyy.zz /PISAUpload" | The URL to use for uploading result files. It is possible to host the upload site on a server at the national center. This will improve performance and provide more control over the files that have been collected. The software requires PHP on the server and sufficient storage for the uploaded files. If you are interested in exploring this possibility, please contact PISA2015-Core2@ets.org. | A valid URL in double quotes |

### *Language Configuration*

The national SDS packages come with all national languages that will be used in the Field Trial. If more than one language is available for a given session, the student will be asked to choose the language at the

beginning of the testing session. Through configuration options, it is possible to limit the languages that are offered to the student. If only one language is configured, the language choice screen that is shown in Figure 10 is not shown.

In most cases, the language to be used is known ahead of time based on the participating school . If this is the case, we recommend that countries provided different language versions of the USB drives so that the choice of language is preconfigured and matches the language of the school in which the assessment is being administered.

File Name: languages.ini

File Location: root folder

Configurable Content:

| **Line** | **Purpose** | **Possible Values** |
|---|---|---|
| cognitive= <comma separated list of languages> | Determines which languages are shown for Session 1, the PISA Assessments. | A comma separated list of language and country codes (e.g., eng-ZZZ,fra-ZZZ) |
| questionnaires= <comma separated list of languages> | Determines which languages are shown for Session 2, the PISA Questionnaires. | A comma separated list of language and country codes (e.g., eng-ZZZ,fra-ZZZ) |
| financial= <comma separated list of languages> | Determines which languages are shown for Session 3, the Financial Literacy assessment. Note that if you are not participating in Financial Literacy, this can be ignored. | A comma separated list of language and country codes (e.g., eng-ZZZ,fra-ZZZ) |

### *Localization of the PISAMenu Control Panel and Systems Diagnostic*

**Note to NPM**

This section contains some information about the localization of the Student Delivery System. Please make sure that these instructions are given to your national adapter.

This section can be removed before the manual is given to Test Administrators for reference when they are running the SDS on their computers.

*Please remove this box upon completion of this section*.

For the PISA 2015 Field Trial, most of the text in the PISAMenu control panel, the System Diagnostics interface, the file upload page and the related message boxes is localizable but will not be internationally verified.

The translation of the interface and messages is managed via an XLIFF file, which is manipulated just like the XLIFF files for the CBA units in the tests. The English source versions of the XLIFF files are included in the USB key image. The file is in the top level directory of the USB key and is named "translations.xlf" as shown in Figure 1. Note that there is no French source version of the XLIFFs – all localization of these widgets must be done based on the English source version.

The process for localization is as follows:

- The English source version of the XLIFF is taken from the USB key.
- The national adapter opens the XLIFF in the Open Language Tool (OLT). (OLT can be downloaded from the PISA Portal, in the directory Materials/2015 Field Test Resources/Translation.) The English source version of the text will appear in the left panel and the right panel of the OLT.
- The national adapter overwrites the text in the right panel with the national version.
- When all text has been translated the national adapter saves the XLIFF file.
- The translated XLIFF file should be copied to the USB key using the same name as the original. When the System Diagnostics application starts up, it will read the new XLIFF file and integrate the new translations.
- If you are translating to a language that is right to left, you will need to edit the file \CBA\conf\properties.ini.orig.txt. Change the setting for "direction" to the value "rtl."
- The SDS XLIFF file is an extension of the file used for the System Diagnostics software. You should be able to share a substantial number of translations between the two applications.

Table 3 includes information about texts that are localizable. It includes screenshots and comments about specific aspects in them.

**Table 1: Screenshots with text that is localizable**

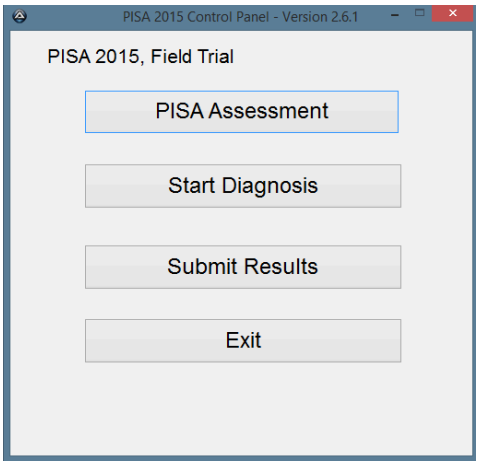
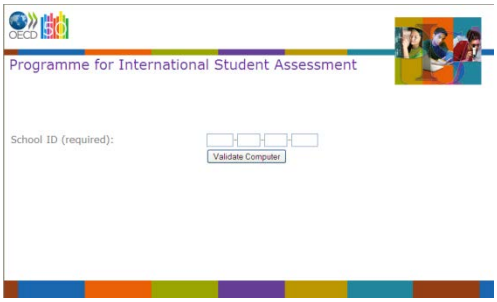
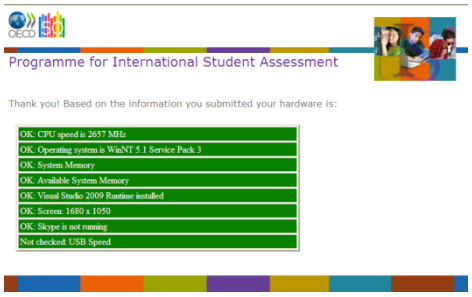
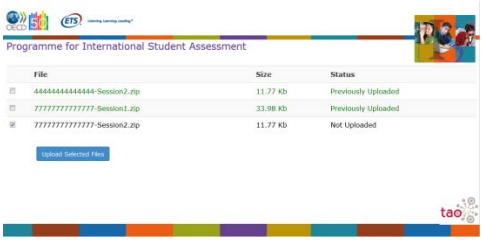
| Element of Widget | Screenshot | Comment |
|---|---|---|
| Diagnostic delivery control panel |  | All text in screenshot can be localized |
| Diagnostics start page |  | The School ID and Validate button label can be localized |
| Diagnostics report page after systems diagnosis has been run |  | The “Thank you” message and the elements of the report can be localized |
| Results submission page for after students have completed the assessments |  | The column headers, buttons, and status text can be localized |

Table 4 lists all the text included in the XLIFF file, along with a description of where these are displayed in the SDS .

**Table 2: Text included in the XLIFF file**

| XLIFF Text | Description |
|---|---|
| Please enter your school ID and press 'Validate Computer' to validate this computer | Message displayed on the Diagnostics start page |
| Unable to save your information: | Displayed if the collected information cannot be saved to the USB key. This is not a critical error, as the information is saved only for debugging purposes. |
| Thank you! Based on the information you submitted your hardware is | Statement shown above the report of the status of the tests |
| School ID (required) | Label for the school ID fields on the start page |
| Validate Computer | Button on the start page to begin the diagnostics |
| OK: CPU speed is %s MHz | Message if CPU processor speed is OK. DO NOT CHANGE %s. The actual speed will be substituted. |
| Failed: CPU speed is %s MHz | Message if CPU processor speed is NOT OK. DO NOT CHANGE %s. The actual speed will be substituted. |
| OK: Operating system is | Message if operating system is OK |
| Failed: Operating system %s is other than Win XP, Win Vista, or Win 7 | Message if operating system is NOT OK |
| OK: System Memory | Message if computer memory is OK |
| Failed: Insufficient memory installed (required 512 MB) | Message if computer memory is NOT OK under Windows XP |
| Failed: Insufficient memory installed (required 1024 MB) | Message if computer memory is NOT OK under Windows Vista, 7 or 8 |
| "OK: Available System Memory | Message if available computer memory is OK |
| Caution: Memory available is borderline | Message if available computer memory is NOT OK under Windows XP |
| Failed: Insufficient system memory available (required %s MB) | Message if available computer memory is NOT OK under Windows Vista, 7 or 8 |

| XLIFF Text | Description |
|---|---|
| OK: Visual C++ Runtime installed | Message if the Visual C++ runtime was found installed on the computer |
| Failed: Visual C++ Runtime is required to be installed | Message if the Visual C++ runtime was NOT found installed on the computer |
| OK: Screen: | Message if screen resolution is OK. Actual resolution will be appended to this text |
| Failed: Screen: | Message if screen resolution is NOT OK. Actual resolution will be appended to this text |
| OK: Skype is not running | Message if Skype is not found to be running |
| Failed: Skype should not be running | Message if Skype is found to be running |
| OK: USB Speed %s MB/s | Message if USB read speed is OK. Actual speed will be appended to this text |
| Failed: USB Speed %s MB/s | Message if USB read speed is NOT OK. Actual speed will be appended to this text |
| Not checked: USB Speed | Message if USB read speed was not checked. |
| PISA 2015 Control Panel - Version | The title at the top of the control panel window. The actual version number will be appended to this text. |
| PISA 2015, Field Trial | The title shown inside the control panel window |
| PISA Assessment | The label of the button for launching the PISA assessments. This will be disabled until the actual field trial. |
| Start Diagnosis | The label of the button for starting the system diagnostics |
| Submit Results | The label of the button for starting the administrator site for uploading student test results |
| Exit | The button to exit the PISA 2015 menu application |
| Virus detected | Message shown if the virus scan detects a problem |
| Virus detected on the USB key. | Message shown if the virus scan detects a virus on the USB key |

| XLIFF Text | Description |
|---|---|
| Virus detected in the computer's memory. | Message shown if the virus scan detects a virus in the computer memory |
| See the log file | Message shown if a virus is found. The actual location of the log file will be appended to this text. |
| Start the assessment anyway? | If a virus is found, the diagnostics or assessment can still be run. This message will be shown. |
| Password | For the PISA Field Trial, the test administrator will need to enter a password before starting the test |
| Please enter a valid password | Message shown if the password is not valid |
| Error | General message if an error is encountered |
| Scanning memory for viruses. Please wait... | Message shown while the virus scan is running |
| Scanning USB key for viruses. Please wait... | Message shown while the virus scan is running |
| USB drive has been unexpectedly removed | Message shown if the USB drive was removed during the virus scan |
| Wrong password, please try again | Message shown if an incorrect password is entered |
| File | File column header on the results submission page |
| Size | Size column header on the results submission page |
| Status | Status column header on the results submission page |
| Upload Selected Files | Message displayed on the submit button of the results submission page |
| Not Uploaded | Status message displayed on the results submission page when the file has not yet been uploaded |
| Previously Uploaded | Status message displayed on the results submission page when the file has already been uploaded successfully |
| Uploaded Successfully | Status message displayed on the results submission page when the file has been uploaded successfully |

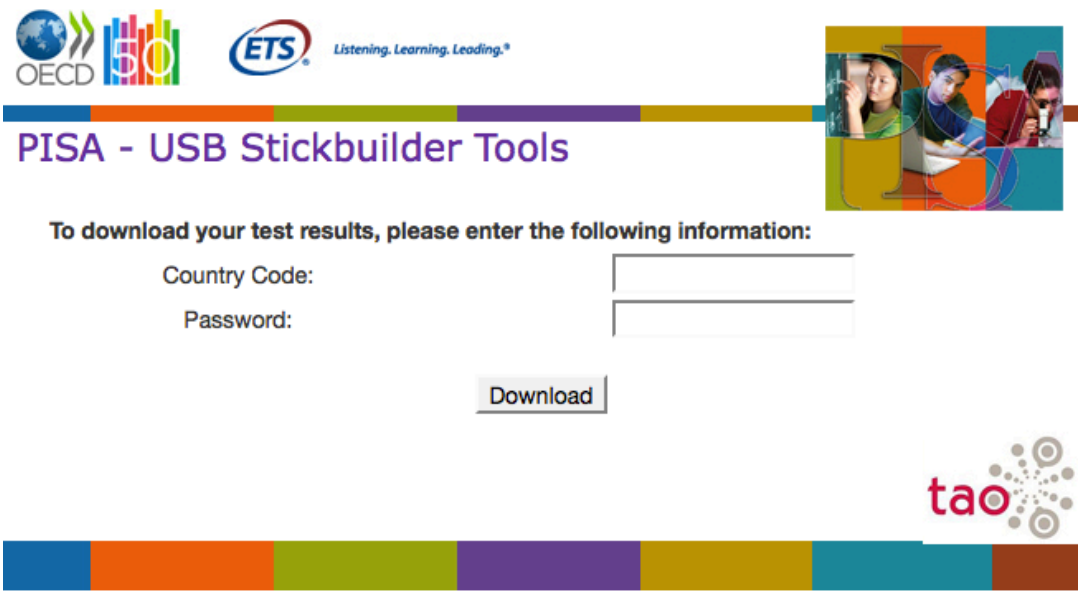
| XLIFF Text | Description |
|---|---|
| File Could Not Be Uploaded | Message displayed on the results submission page when the file could not be uploaded successfully. The most likely cause is the upload server could not be reached due to connectivity issues. |
| Invalid File | Message displayed on the results submission page when the file is not named correctly or is not a zip file |
| Country ID Not Set | Message displayed on the results submission page when the results file name is not in the correct format |
| School ID Not Set | Message displayed on the results submission page when the results file name is not in the correct format |
| Checking status… please wait | Message displayed while the results page checks the submission status of a file |
| Uploading… please wait | Message displayed while a results file is being uploaded |
| No files exist in the export directory | Message displayed on the results submission page if no results exist in the local directory |

## 10. Retrieving Result Files

If you have configured the SDS to upload results to a central server, it is necessary to download these files at a later time for import into the DME system. Assuming that the SDS has been configured with the default server supported by Core 2, you can connect to the following URL for downloading:

http://pisaportal.tudor.lu/PISAUpload/server/download.php

You will be prompted for a country code and password as shown in the image below:




The following steps should take place:

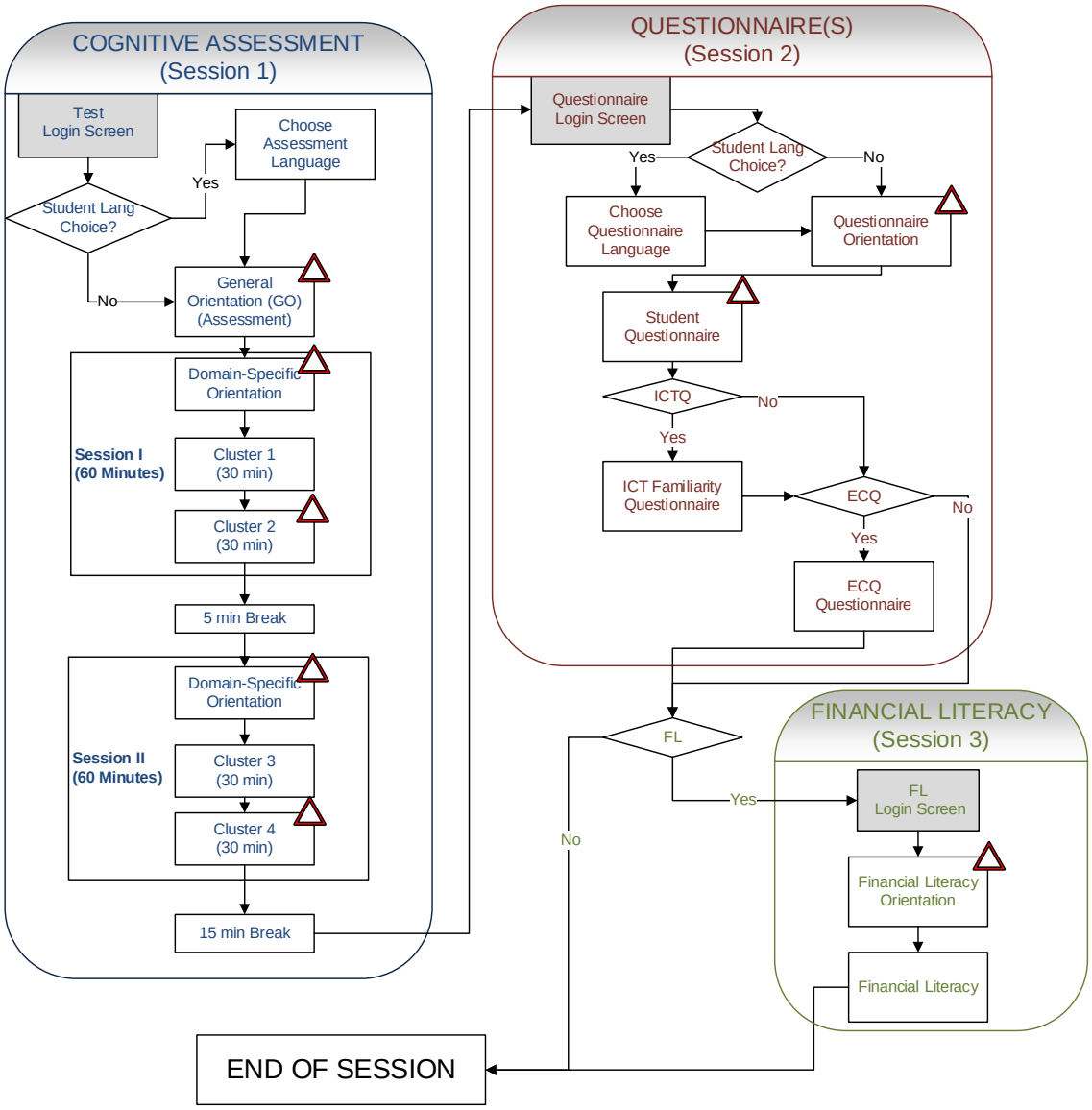
1. Complete the field “Country Code” by entering your three letter country code in all capital letters (e.g., LUX).

2. Complete the field “Password” by entering the 12-digit SDS password that is used when starting the PISA assessments.

3. Click the “Download” button to retrieve a ZIP archive (called “results.zip”) containing all the results that have been uploaded to this point and save it to the hard drive.

4. Unzip this file and copy the individual ZIP files to the DME import directory. Further information about the DME import is in the Data Management Manual.

## Annex A: PISA 2015 FT CBA Test Flow




Indicates that the student should pause at this point until being told to proceed by the test administrator.