



SDS Kiosk 2.0

User Guide

softthinks™
TECHNOLOGIES

Welcome to the SDS Kiosk 2.0 User Guide!

SDS Kiosk is a unified and multiplatform (Windows, iOS, Android, Windows Phone) solution for hardware and software diagnostics. It includes features that can be used in system setup, tune-up and repair, backup, recovery, migration and data restoration, secure wipe, image and application deployment, refurbishing and resell.

Please Note: This product is scalable and customizable, so some features described in this document may not be available in your version of the product and the screenshots may not match exactly your workflow. Also, some customizations of your product version may not be described in this document.

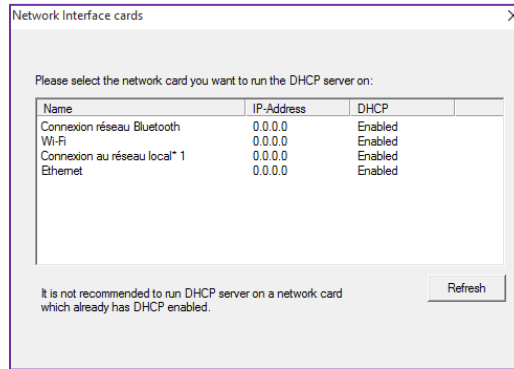
For SDS Kiosk 1.x users, this update brings the following changes:

1. New use case oriented flows
2. PC Setup
3. PC Tune Up
4. PC Open Box
5. PC Trade-in
6. PC Repair
7. More efficient antivirus, updated on a regular basis
8. Antimalware, updated on a regular basis
9. Advanced and customized hardware tests
10. Summary Report (for the customer)
11. Full report (archived on the Kiosk)
12. Windows 10 Recovery

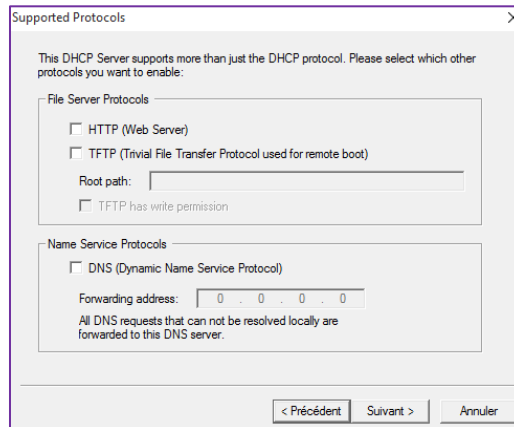
Beyond the benefits of the SDS Kiosk product itself, you now have access to a web portal entirely configurable where all actions done on the kiosks are centralized and available. This will also give you the capability to easily extract statistics for your Kiosk solutions (see SDS Dashboard – User Guide).

If you have a USB key created for booting PCs with a previous product version, you need to update it by plugging it into the console (see the appendix “How to configure DHCP on a non server edition of Windows

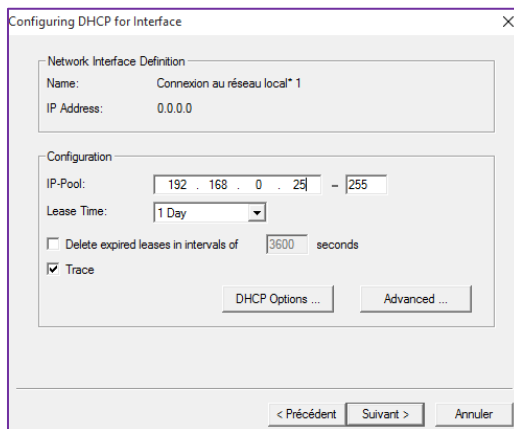
1. Download DHCP Server from <http://www.dhcpserver.de/cms/>
2. Copy the folder dhcprv2.5.2 to remoteinstall folder
3. Launch dhcprwiz.exe
4. Click on “Next >” button
5. Select your LAN card, and click on “Next >” button:



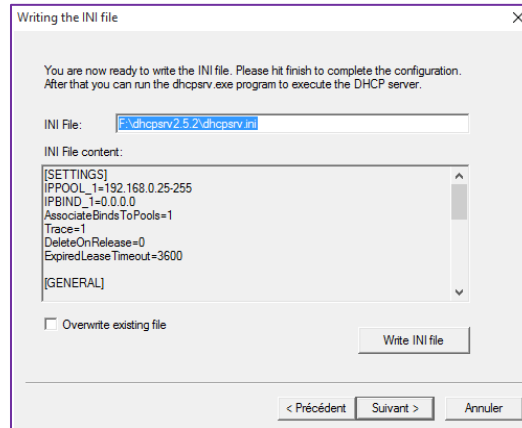
6. In the “Supported Protocols” screen, don’t select anything and click on “Next >” button:



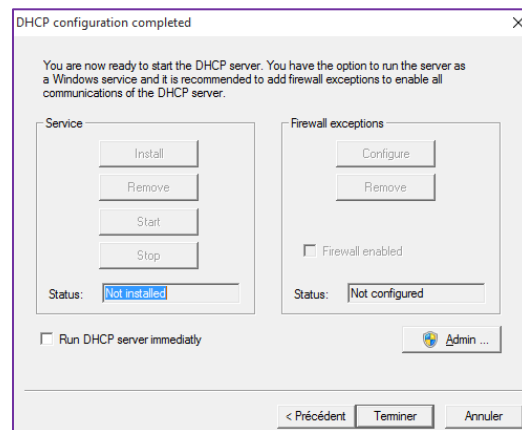
7. Select you IP range and click on “Next” button:



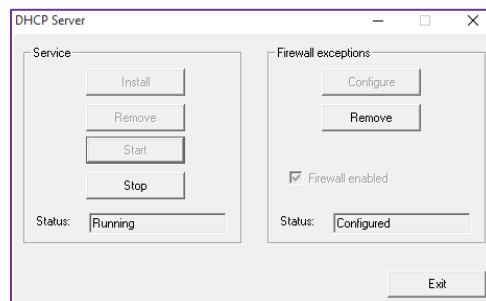
8. Check the option “Overwrite existing file”, click on “Write INI file” and then click on “Next >” button:



9. Check the option "Run DHCP server immediately", click on "Admin..." button and then on "Finish" button:














10. The DHCP service is now running:



Update of the boot USB key").

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Hardware Prerequisites

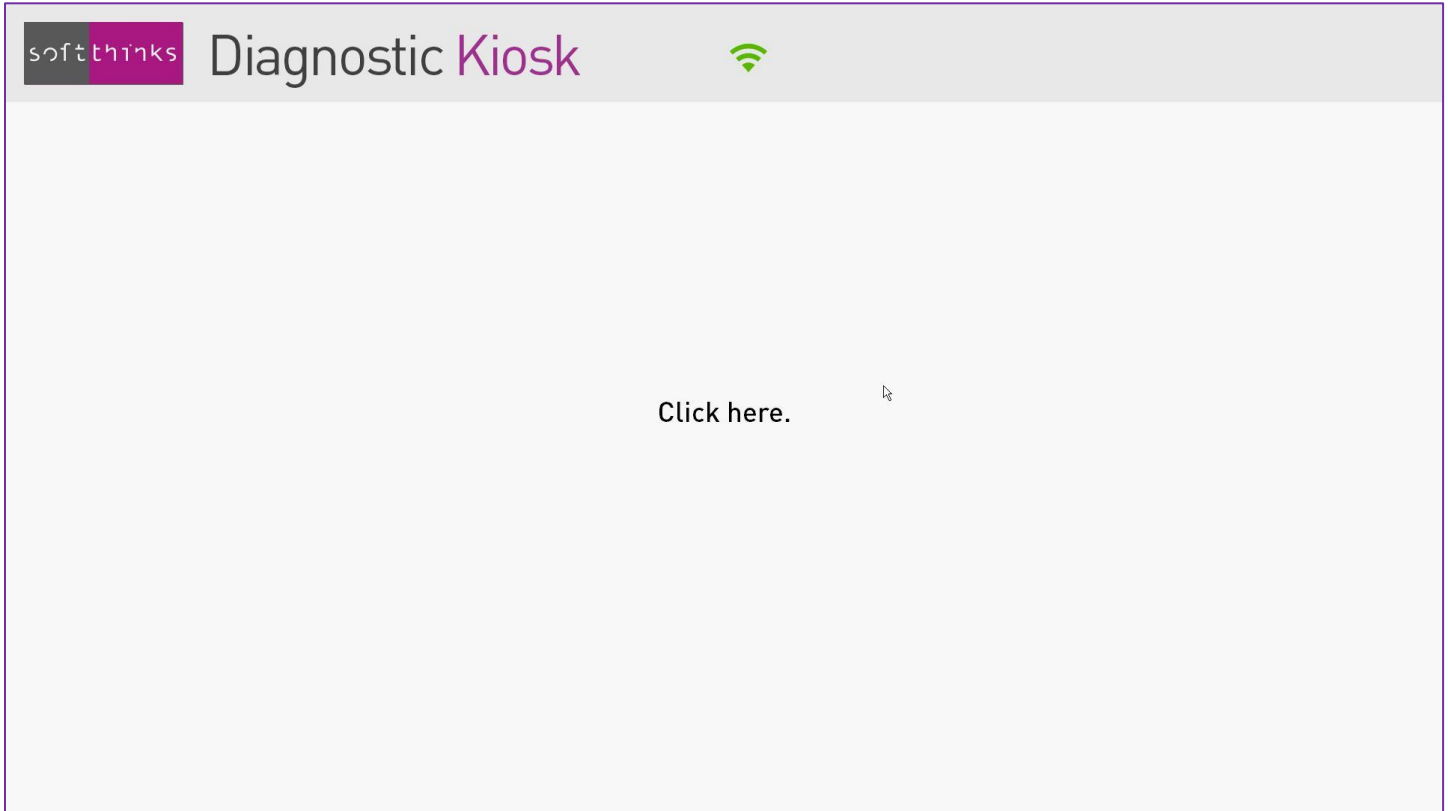
- ✓ CPU: Intel Celeron Dual Core processor
- ✓ RAM: 4GB min
- ✓ Storage: 120GB HDD (40GB for the system and application, 70GB for smartphones and tablets ROMs) and more for PC images
- ✓ 1 gigabit network port
- ✓ HDMI port
- ✓ At least 3 USB ports (1 for the mobile hub and 2 for keyboard & mouse)
- ✓ Wi-Fi

Software Prerequisites

- ✓ Windows 10 or Windows Server (Latest version recommended or at least Windows Server 2012 R2)
- ✓ Active Directory domain services and DNS Server DNS installed et configured (for Windows Server only)
- ✓ DHCP Server DHCP installed et configured (Cf. [How to configure DHCP on a non server edition of Windows](#) for Windows 10)
- ✓ Windows Deployment Services (WDS) installed et configured (for Windows Server only)
- ✓ WDS remote installation folder shared with Full Control for Everyone and labelled "reminst"
- ✓ Latest Windows Assessment Deployment Kit (Windows ADK) installed (to download from <https://developer.microsoft.com/en-us/windows/hardware/windows-assessment-deployment-kit>)
- ✓ SQL server configured on the server where you want to store usage statistics (not required if you want to use SDS Dashboard)

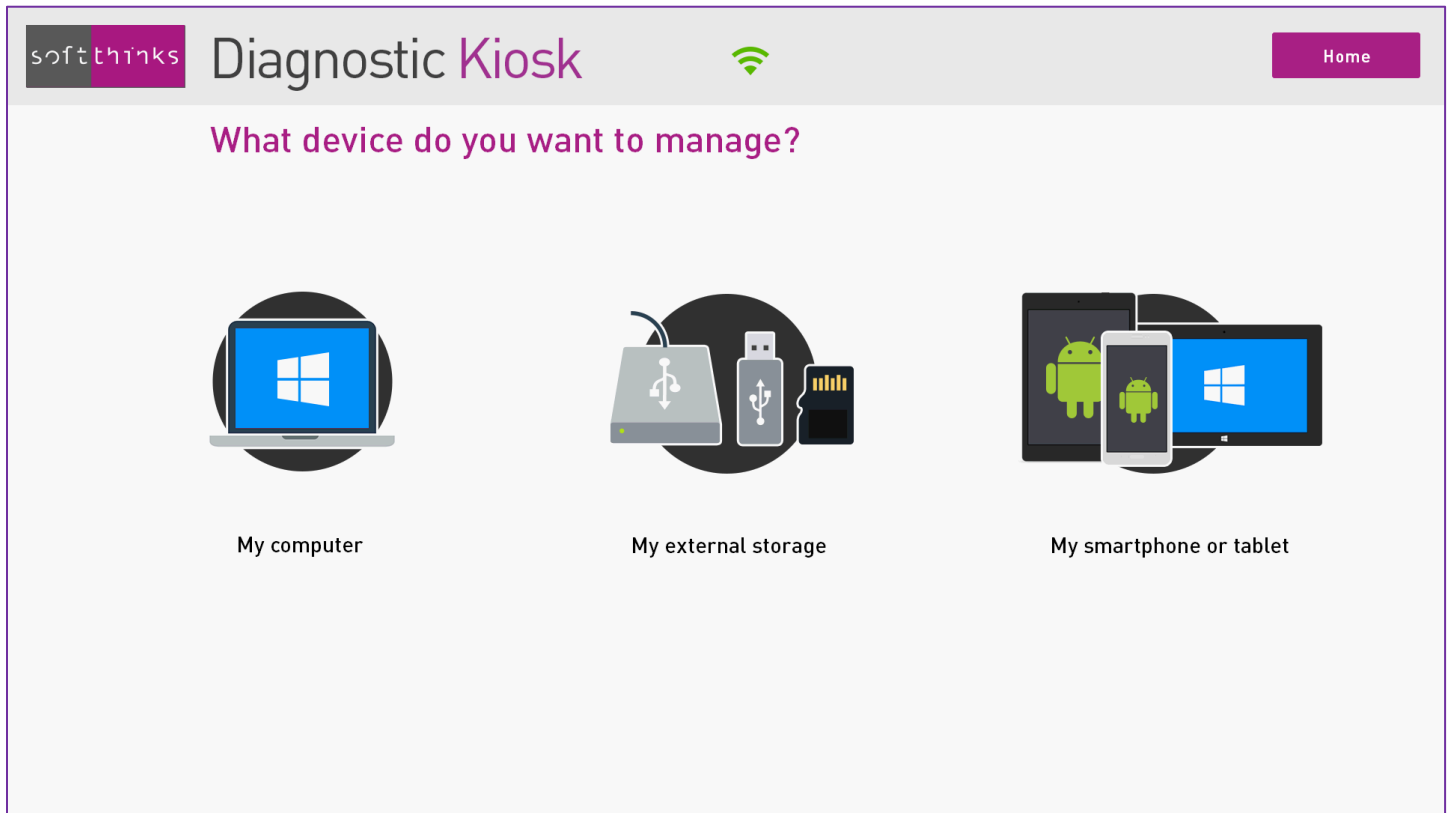
Note: Please note that there is no PXE boot with a non-server edition of Windows but you can boot from a bootable USB key plugged on an Ethernet + USB ↔ USB adaptor.

When started, the software displays the screen below:



You are then prompted to select the device to manage. It can be:

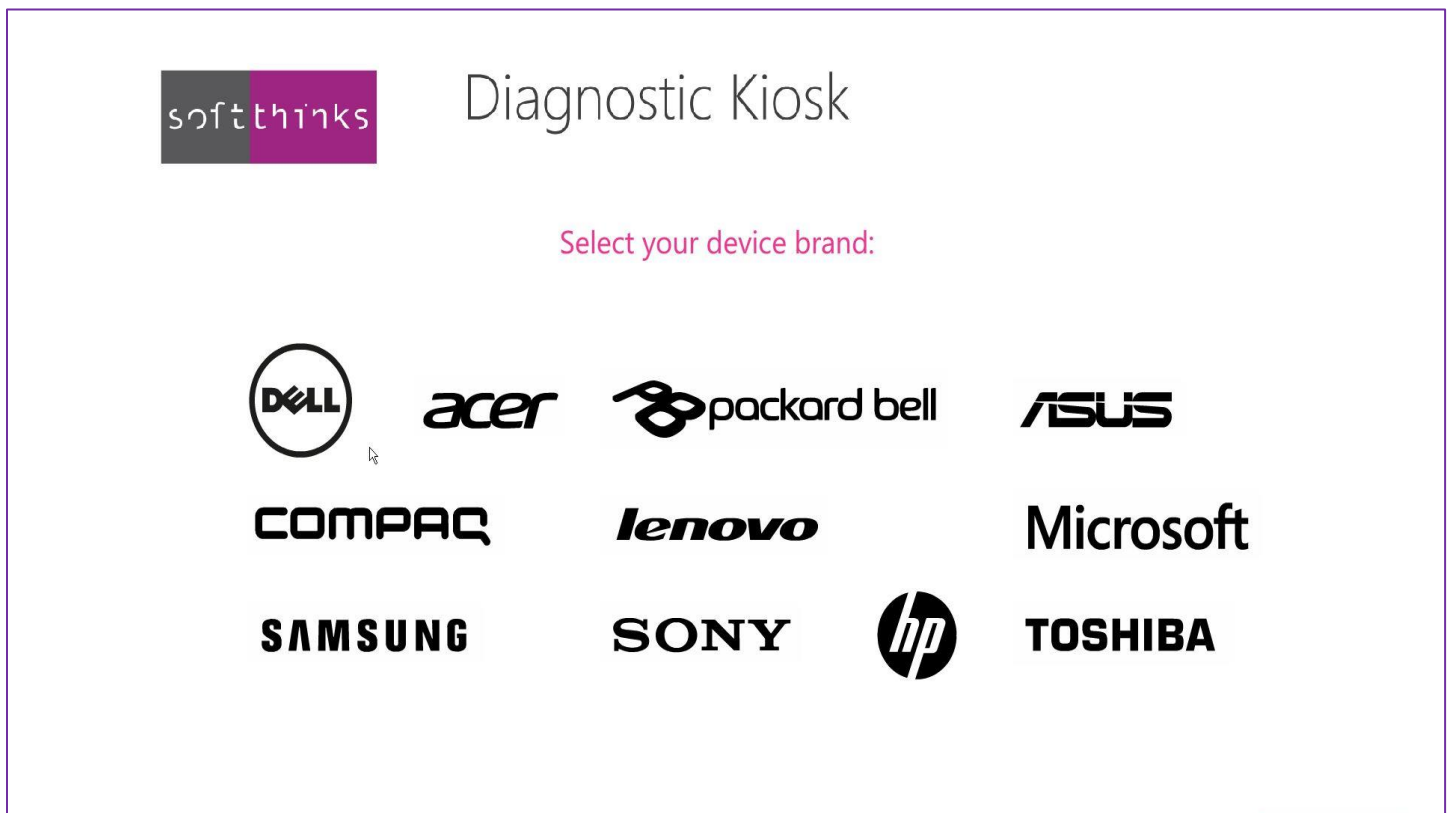
- A desktop PC, laptop or tablet under Windows (excluding Windows RT)
- A USB key or an external USB drive
- A smartphone or a tablet under Android, iOS, Windows Phone, Windows RT, Blackberry



PART 1: PC & TABLETS UNDER WINDOWS


The customer PC has to be connected to the Kiosk through the network port. When the connection is detected, the PC display is mirrored on the server screen for more comfort. The PC has first to be configured to boot to the USB key provided with the kiosk or in PXE mode; this action is done in the BIOS.

If you need assistance to configure the BIOS for booting on the network, click on the brand of the device to be treated and follow the instructions displayed on the screen. This enables us to give you instructions specific to this device. Note that the BIOS setup is different for every brand and device type.




These step-by-step instructions are helpful instructions only. It is also possible to connect a PC of another brand that is not listed on the screen.

After having selected the brand, please indicate if it is a desktop PC, a laptop or a tablet under Windows:




Diagnostic Kiosk


Select your device type:



Desktop




Laptop



Touch pad


Back

And follow the the steps indicated (they depend on the brand and device type):



Diagnostic Kiosk

- Plug the power cable into the power outlet.
- Then plug the network cable into one of the available ports on the side of your computer.



Next



Diagnostic Kiosk

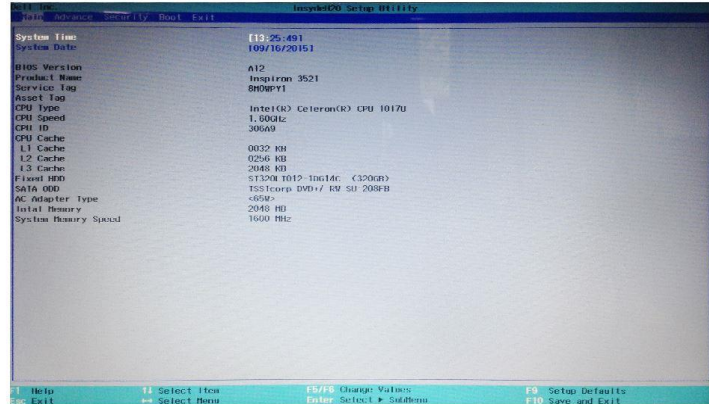


A

Press the On/Off button to power on your computer. Upon power up, press intermittently the "F2" key.

B

Release "F2" when you get the following screen.



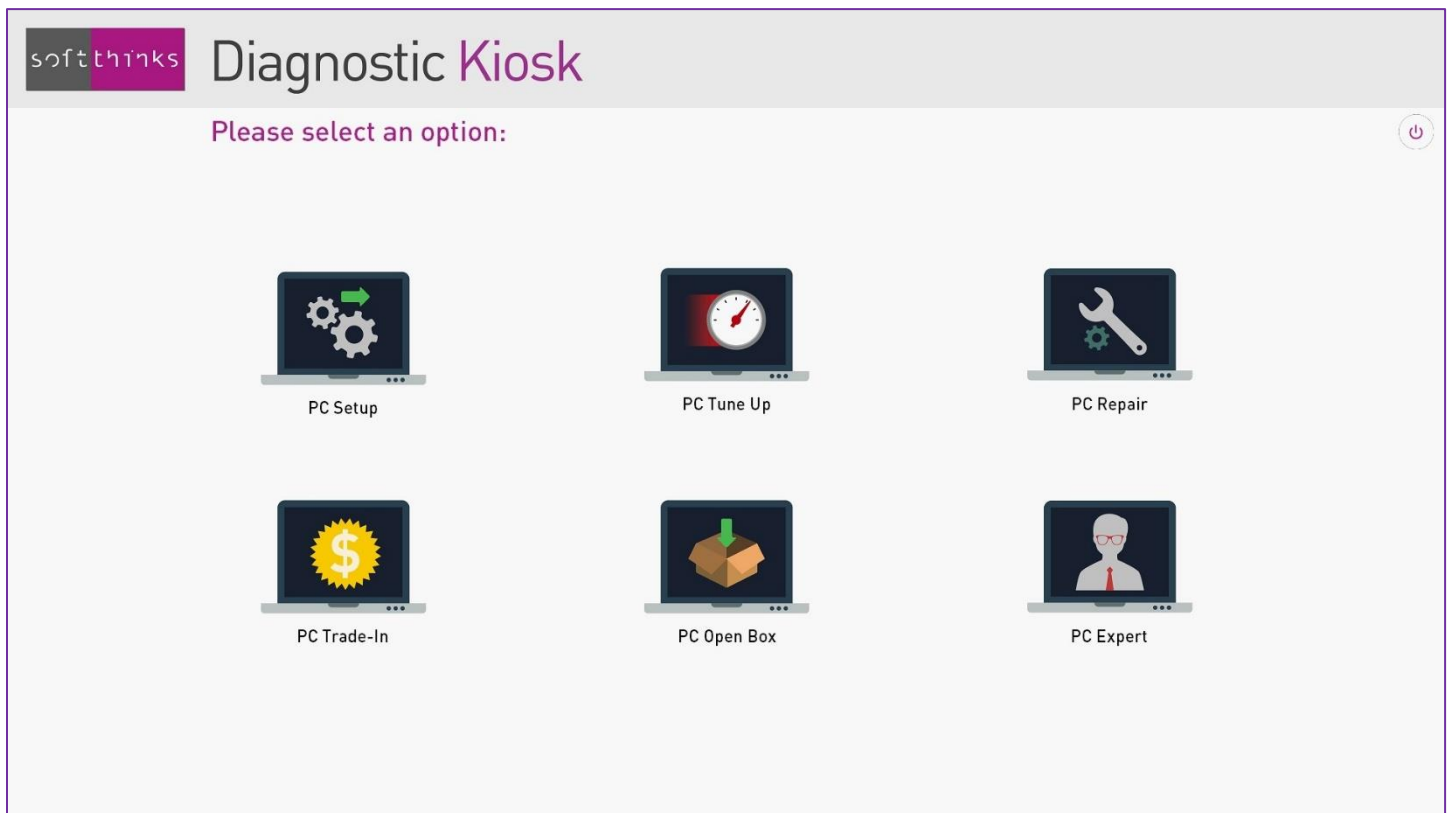
Next

At this point follow the instructions given on the customer PC screen in order to boot correctly and choose, if prompted, the 64-bit SDS version (the 32-bit version should be used only in case of compatibility issue).


Once the PC is started and detected by the kiosk, both kiosk and PC screens will display the most common use cases:

- Configure a new PC (PC Setup).
- Optimize the performance of a PC (PC Tune Up).
- Repair a PC (PC Repair).
- Refurbish a recently purchased PC brought back by the customer within the return period (PC Open Box).
- Sell an old PC (PC Trade-In).

PC Expert enables direct access to all the kiosk tools.



Depending on the customization made for the retailer, you may be prompted to enter a Service Record Number, an operator ID or any other useful information before reaching this screen. This information will be stored in the product database and will be available through the web portal.

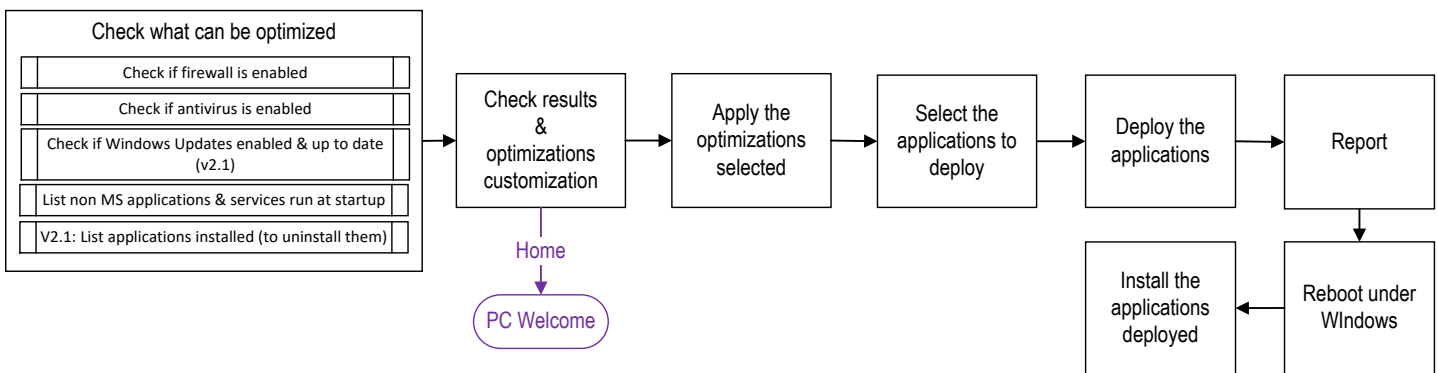
In some screens, the icon in the upper right corner showing a house  enables you to come back to this screen (it may be disabled during a process that cannot be interrupted).

PC Setup

When buying a new PC or tablet, some customers need help to get started with their new device and to be reassured in regard to data protection and security. Most of the time, they also ask for advice for applications to install.

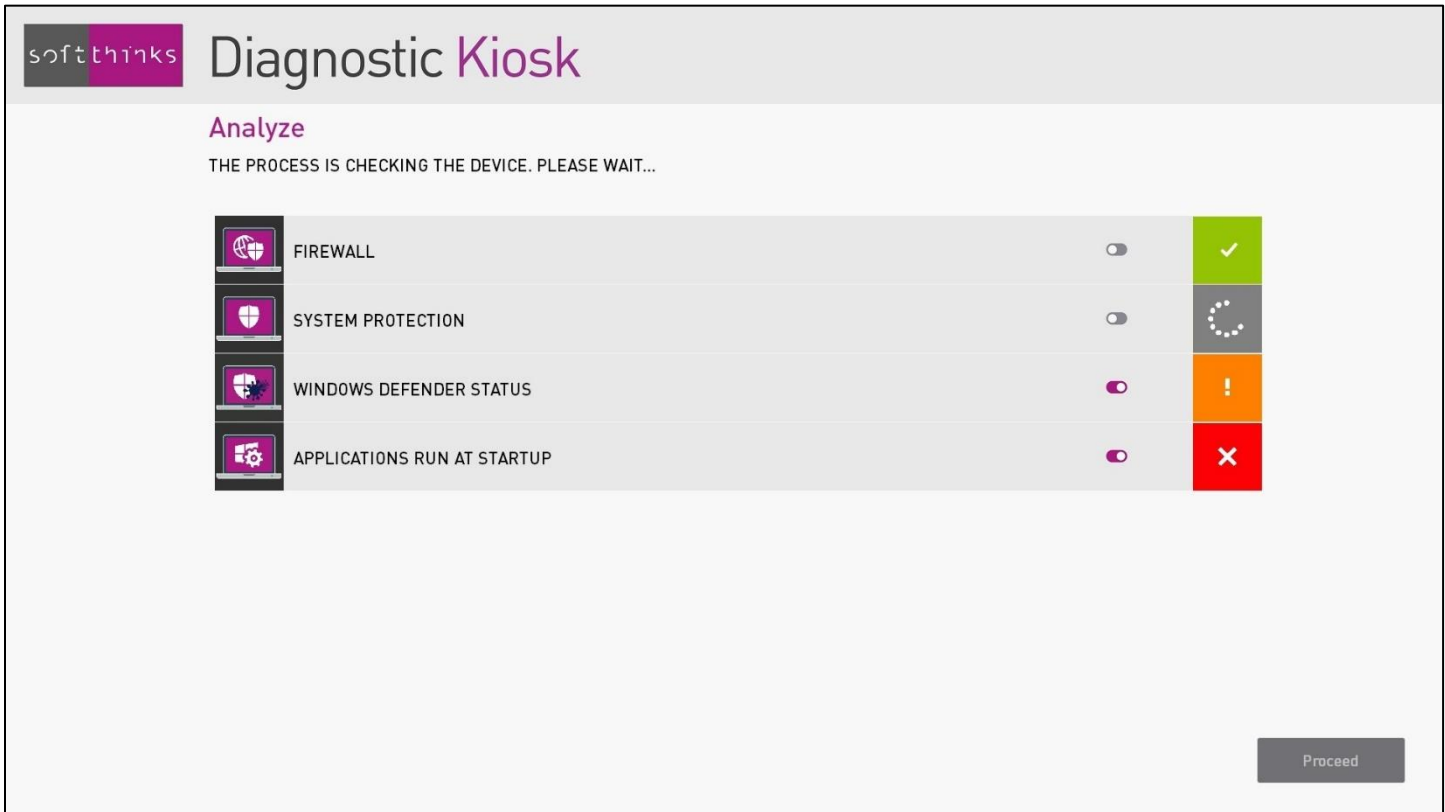
The feature PC Setup will cover those needs:

- Verification of security settings (firewall, Anti-Virus...)
- Configuration of automated Windows updates and installation of available updates (v2.1)
- Identification and deactivation of applications launched at startup that may impact PC performance
- Identification and uninstallation of applications that the customer does not want to use anymore (v2.1)
- Selection and installation of applications provided by the retailer
- Creation of an additional user account (this may be disabled in the script)



After clicking on the “PC Setup” tile, an automated analysis of all the parameters to check and optimize is launched:

1. FIREWALL: check that the Windows firewall is enabled.
2. SYSTEM PROTECTION: check the the Windows “Restore Points” feature is enabled.
3. WINDOWS DEFENDER STATUS: check that the Windows antivirus is enabled.
4. APPLICATIONS LAUNCHED AT STARTUP: identify applications launched at Windows startup.



During the analysis, the picture on the right shows if the item is already configured as needed (✅) or if an optimization is possible (⚠️).

Once the analysis is completed, you can see the result for each item:



Diagnostic Kiosk

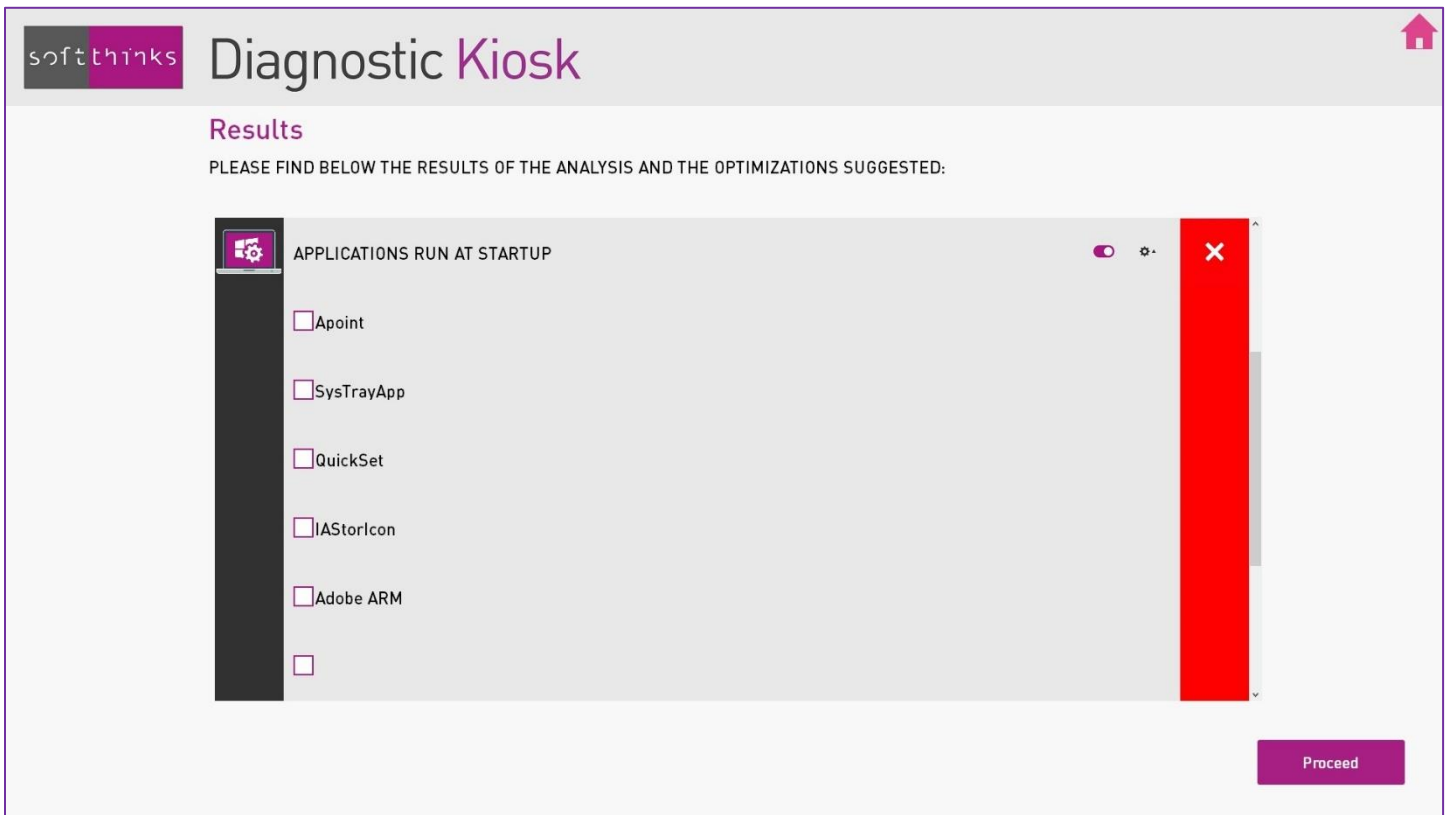
Results

PLEASE FIND BELOW THE RESULTS OF THE ANALYSIS AND THE OPTIMIZATIONS SUGGESTED:

	FIREWALL	
	SYSTEM PROTECTION	
	WINDOWS DEFENDER STATUS <input type="checkbox"/>	
	APPLICATIONS RUN AT STARTUP <input type="checkbox"/> ⚙️	

[Proceed](#)

If an optimization is possible, you can choose to apply it or not using the  button and in some cases to configure it using the  button. In the example below, you can select the applications that you don't want to launch at startup:




The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title is a 'Results' section with the instruction: 'PLEASE FIND BELOW THE RESULTS OF THE ANALYSIS AND THE OPTIMIZATIONS SUGGESTED:'. A modal window titled 'APPLICATIONS RUN AT STARTUP' is open, featuring a settings icon, a toggle switch, a gear icon, and a close button. The list of applications includes:

- Apoint
- SysTrayApp
- QuickSet
- IAStorIcon
- Adobe ARM
-

A 'Proceed' button is located at the bottom right of the modal window.





When you have selected and configured the optimizations you want, click on the "Continue" button to perform them and once they have been successfully applied their status becomes green:



Diagnostic Kiosk

Results after optimization

PLEASE FIND BELOW THE RESULTS AFTER OPTIMIZATION:

	FIREWALL	✓
	SYSTEM PROTECTION	✓
	WINDOWS DEFENDER STATUS	✓
	APPLICATIONS RUN AT STARTUP	✓

You have then the option to install applications preimported in the SDS database:

Diagnostic Kiosk

Application selection
Select the application(s) you want to install during deployment.

Search: Refresh

Application	Application
CCLEANER	
FILEZILLA	
google chrome 32 bit	
google chrome 64	
GoogleChrome	
LIBRE OFFICE	
office 2015	
steam	
VLC	

Size of the application selected: 0.00 MB
 Type:
 Language:
 Operating system:

Nb of applications: 0
 Total space required: 0.00 MB

Skip OK

Select in the left side list the applications to install and move them to the right using the > button.

You can also search for a specific application using the search field.

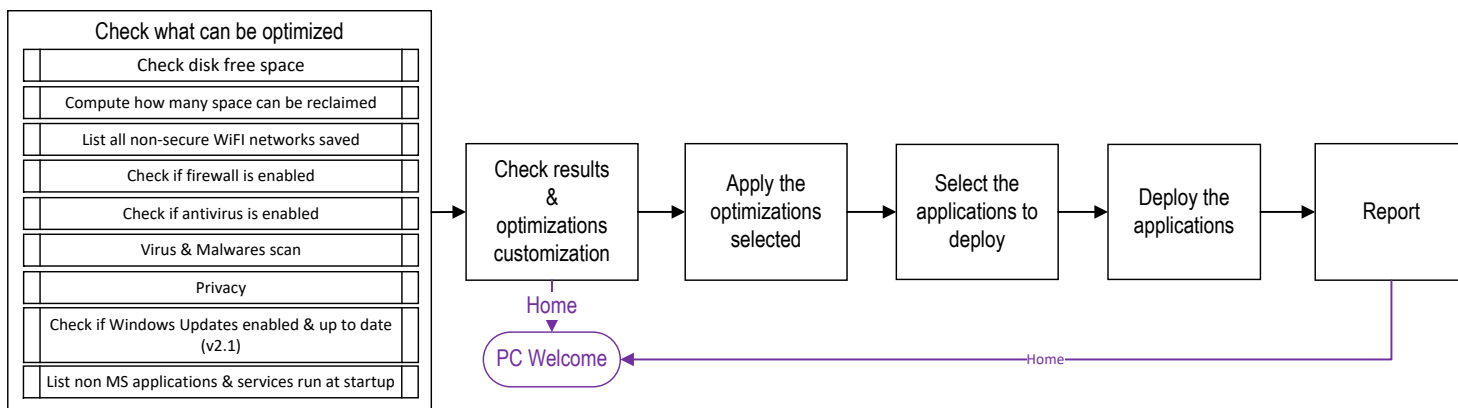
The selected applications will be copied to the customer's PC and they will be installed at the next startup of the PC.

PC Tune Up

A customer may bring back a PC bought several months ago because he finds it too slow or because he is worried about the security or confidentiality of his data.

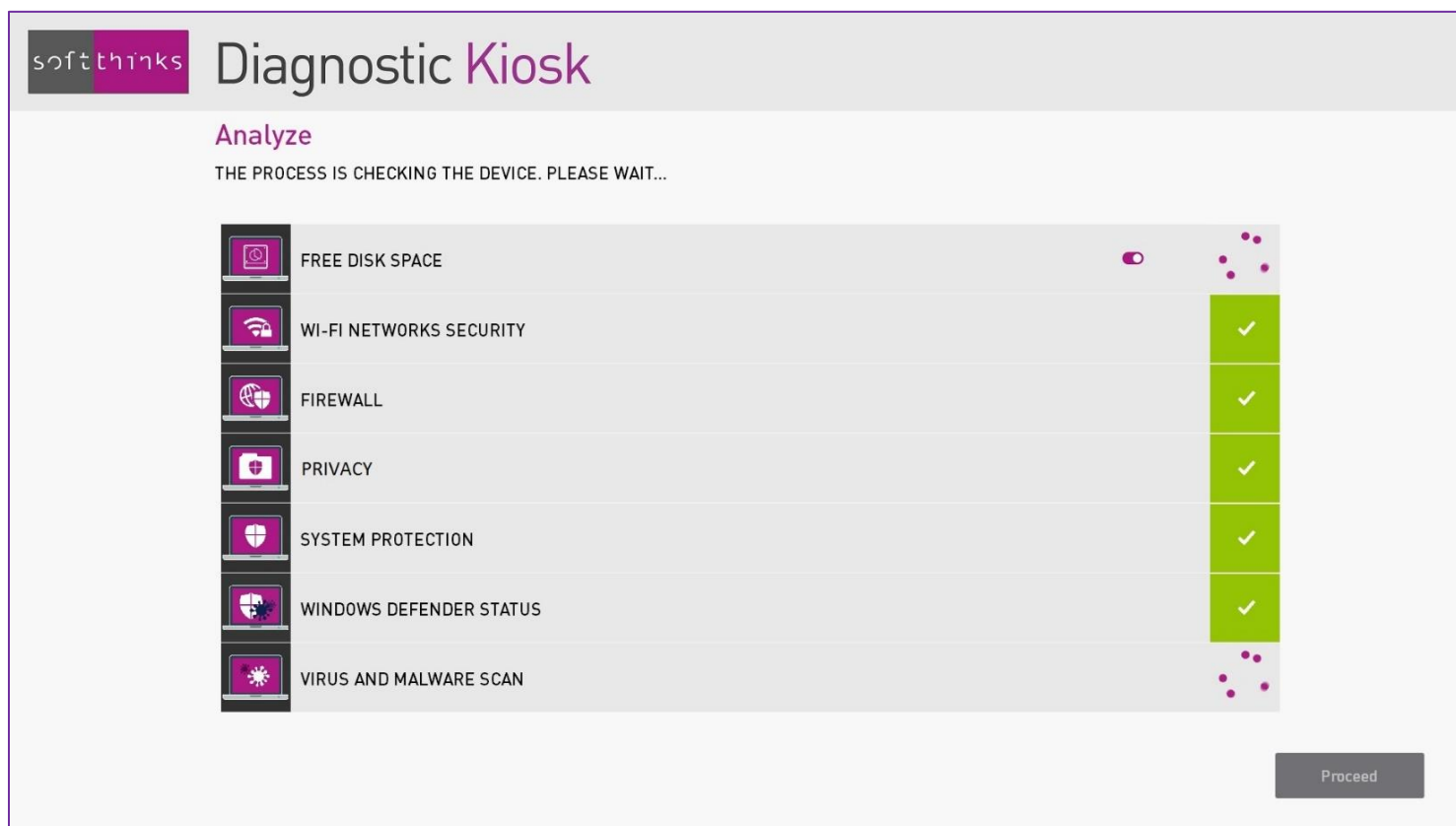
The purpose of PC Tune Up module is to recover the original performance of the PC and to ensure that the PC is secure.

- Verification and optimization of the storage space.
- Identification and deactivation of applications launched at startup that may impact PC performance.
- Verification of security settings (firewall, Wi-Fi...).
- Removal of browsing history, cookies, files recently used...
- Configuration of automated Windows updates and installation of available updates.
- Removal of viruses and malware.
- Selection and installation of applications provided by the retailer.



After clicking on the “PC Tune Up” tile, an automated analysis of all of the available optimizations is launched:

1. FREE DISK SPACE: detection of free disk space and of files that could be deleted without risk in order to free some storage space (estimations by file type and by file location)
2. PRIVACY: removal of browsing history, cookies, files recently used...
3. WI-FI NETWORKS SECURITY: identification of the unsecure Wi-Fi networks to which the PC has been connected, in order to prevent a future automated connection
4. FIREWALL: check that the Windows firewall is enabled
5. SYSTEM PROTECTION: check the the Windows “Restore Points” feature is enabled
6. WINDOWS DEFENDER STATUS: check that embedded Windows Anti-Virus is enabled
7. ANTIVIRUS & ANTIMALWARE: search for viruses and malware
8. APPLICATIONS LAUNCHED AT STARTUP: identify applications launched at Windows startup



In the course of the analysis, the animation to the right is replaced by a picture that shows if the item is already configured as needed (✓) or if an optimization is possible (ⓘ).


About "FREE DISK SPACE", the status indicated is "critical" if it's below 1 GB, and "warning" if more than 15 GB of disk space could be freed (these thresholds are configurable: [Analysis setup and optimization of free disk space](#)). By clicking on ⚙️, you can unselect the file types that the customer would like to keep (for each file type, you will see the total size of the corresponding files).

About "WI-FI NETWORKS SECURITY", the status indicated is "warning" if some unsecure Wi-Fi networks have been detected in the connection history. By default, no network is selected but this behavior can be inverted ([Configuration of Wi-Fi networks security optimization](#))

The search for "ANTIVIRUS & ANTIMALWARE" being a possibly very long process, it is possible to cancel it by clicking on the ⏹ button during the analysis. As the process cannot be cancelled during its initialization that lasts about 1 minute, this button will not be visible during this step.















It is also possible to configure the folders to analyze and to restrict the search to the system and applications folders. However, some user data or software installed at locations other than those intended may be infected. That's why we advise to always perform a complete analysis a better user experience and increased confidence in the retailer. However with this in mind, if you want to change the default behavior, you can follow the instructions in the appendix ([Antivirus and antimalware setup](#)).

When the analysis is completed, the results are displayed:

softthinks Diagnostic Kiosk 

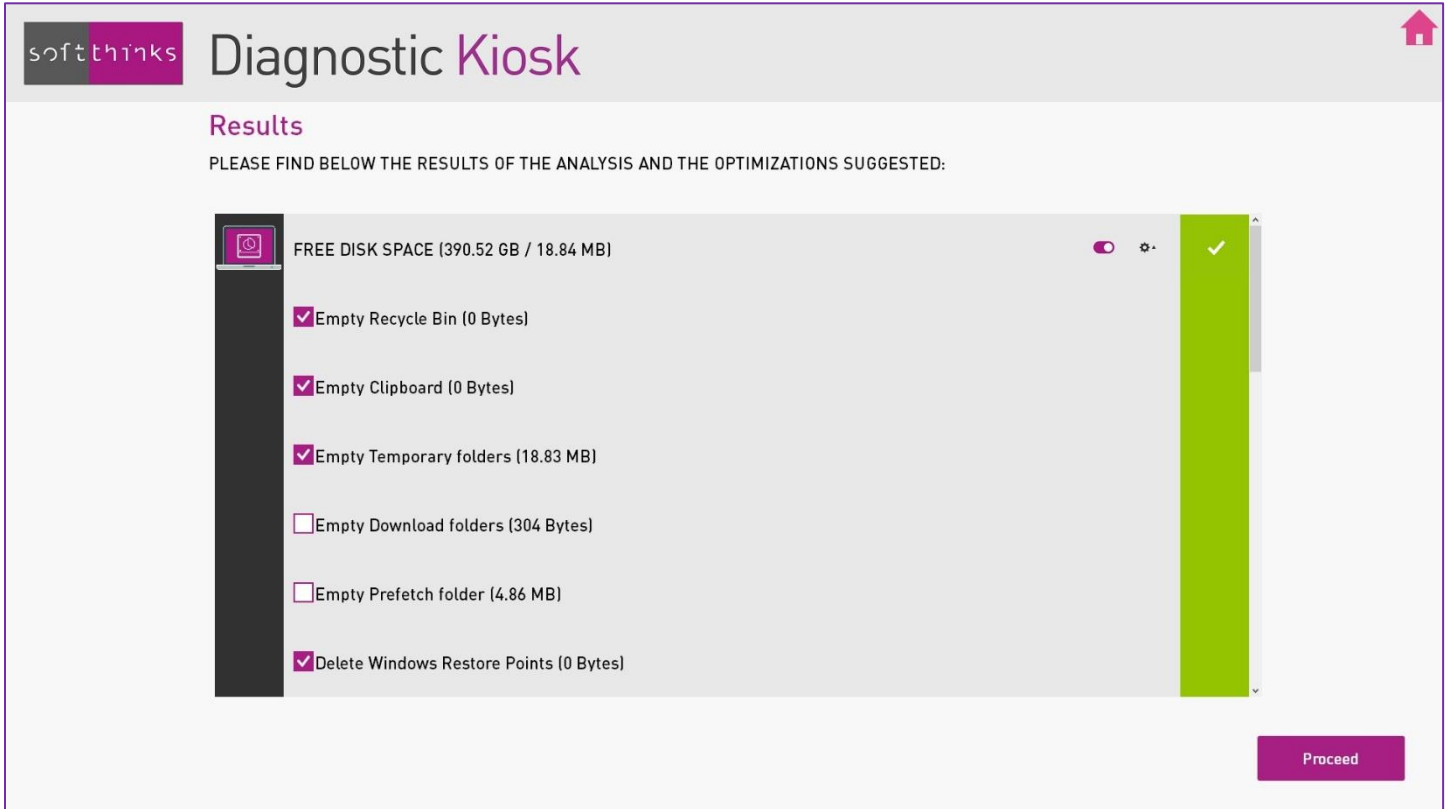
Results

PLEASE FIND BELOW THE RESULTS OF THE ANALYSIS AND THE OPTIMIZATIONS SUGGESTED:

	FREE DISK SPACE (390.52 GB / 18.84 MB) 🔴 ⚙️	
	WI-FI NETWORKS SECURITY	
	FIREWALL	
	PRIVACY	
	SYSTEM PROTECTION	
	WINDOWS DEFENDER STATUS	
	VIRUS AND MALWARE SCAN (0 threats found.)	

[Proceed](#)

You can choose the optimizations you want to apply (all are preselected by default) and you can configure them if you want:



The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title is the word 'Results' in a purple font. Underneath, it says 'PLEASE FIND BELOW THE RESULTS OF THE ANALYSIS AND THE OPTIMIZATIONS SUGGESTED:'. The main content area is a light gray box with a dark gray sidebar on the left. The sidebar contains a list of optimization items, each with a checkbox and a description. The items are: 'Empty Recycle Bin (0 Bytes)', 'Empty Clipboard (0 Bytes)', 'Empty Temporary folders (18.83 MB)', 'Empty Download folders (304 Bytes)', 'Empty Prefetch folder (4.86 MB)', and 'Delete Windows Restore Points (0 Bytes)'. The first three items have checked checkboxes, while the last two have unchecked checkboxes. To the right of the list, there is a green vertical bar with a white checkmark at the top. In the bottom right corner of the gray box, there is a purple button labeled 'Proceed'.

FREE DISK SPACE (390.52 GB / 18.84 MB)

- Empty Recycle Bin (0 Bytes)
- Empty Clipboard (0 Bytes)
- Empty Temporary folders (18.83 MB)
- Empty Download folders (304 Bytes)
- Empty Prefetch folder (4.86 MB)
- Delete Windows Restore Points (0 Bytes)

Proceed

Once all selected optimizations are completed, their results are displayed:

The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title, the section is titled 'Results after optimization' with the instruction 'PLEASE FIND BELOW THE RESULTS AFTER OPTIMIZATION:'. A table lists seven optimization categories, each with a status icon (a green checkmark) on the right. At the bottom right of the table area is a purple 'Next' button.

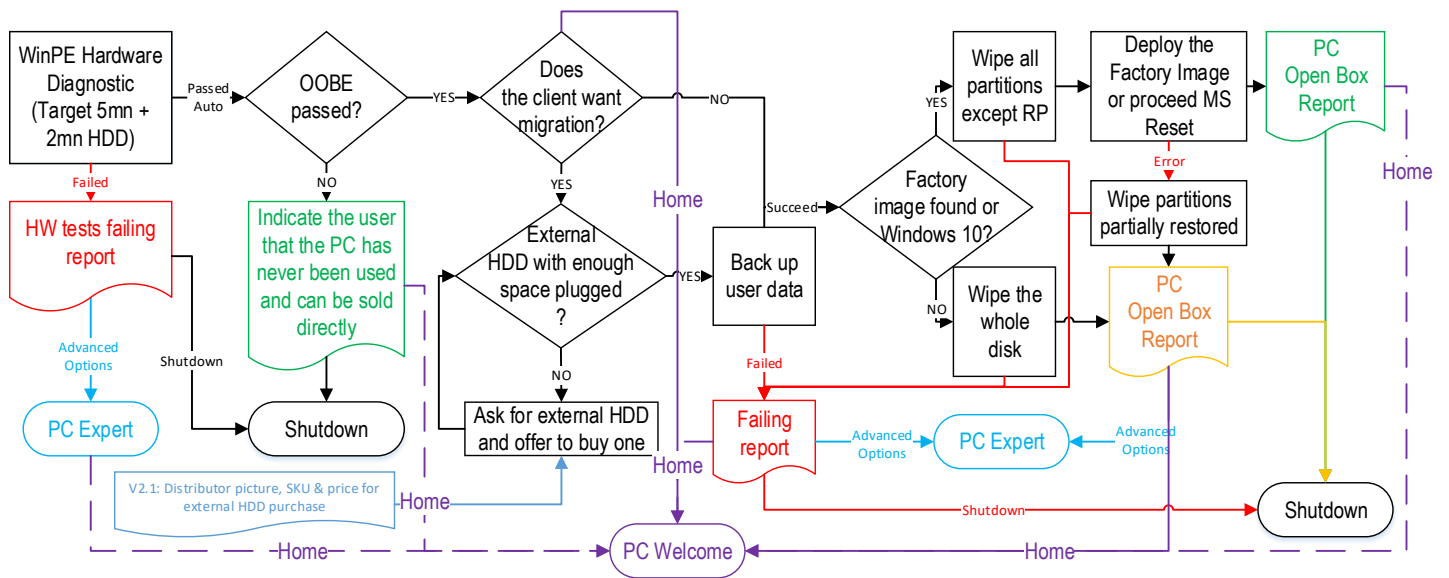
Icon	Category	Status
	FREE DISK SPACE (390.54 GB)	✓
	WI-FI NETWORKS SECURITY	✓
	FIREWALL	✓
	PRIVACY	✓
	SYSTEM PROTECTION	✓
	WINDOWS DEFENDER STATUS	✓
	VIRUS AND MALWARE SCAN (0 threats found.)	✓

[Next](#)

PC Open Box

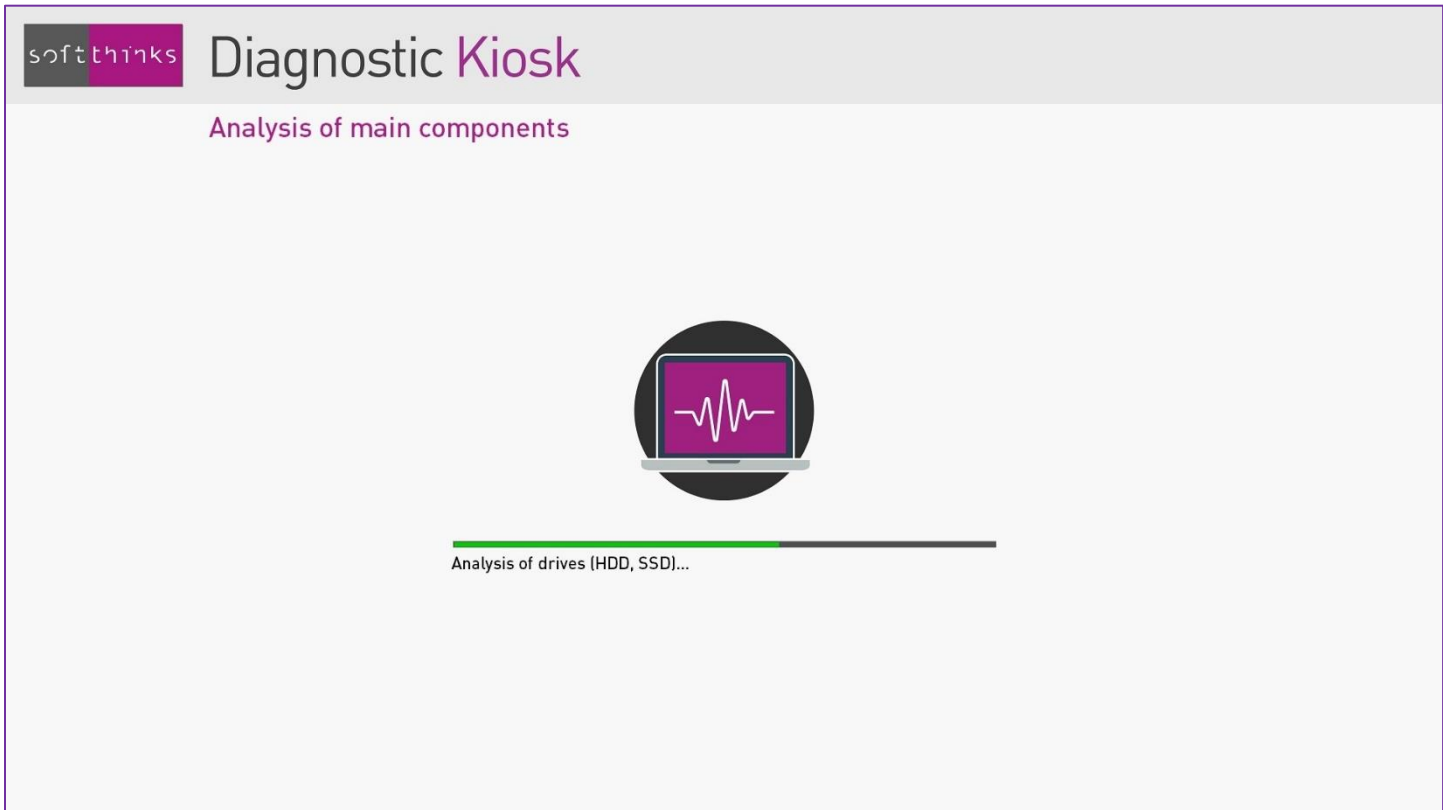
When a customer has changed his mind, and brings back a PC during the legal period, it is necessary to ensure that this PC works perfectly and that it does not contain any user data, before being able to resell it.

This is the goal of the module "PC Open Box" which performs quick hardware tests (which can be customized, as described in the chapter [Quick hardware test duration setup](#)), checks if the PC has been used (if not, it can be resold directly as is), deletes user data after having given him the option to back it up on external storage. It then recovers the system thanks to the factory image if it is present and usable.



When you click on the “PC Open Box” tile, the kiosk will automatically launch hardware tests of the main PC components:

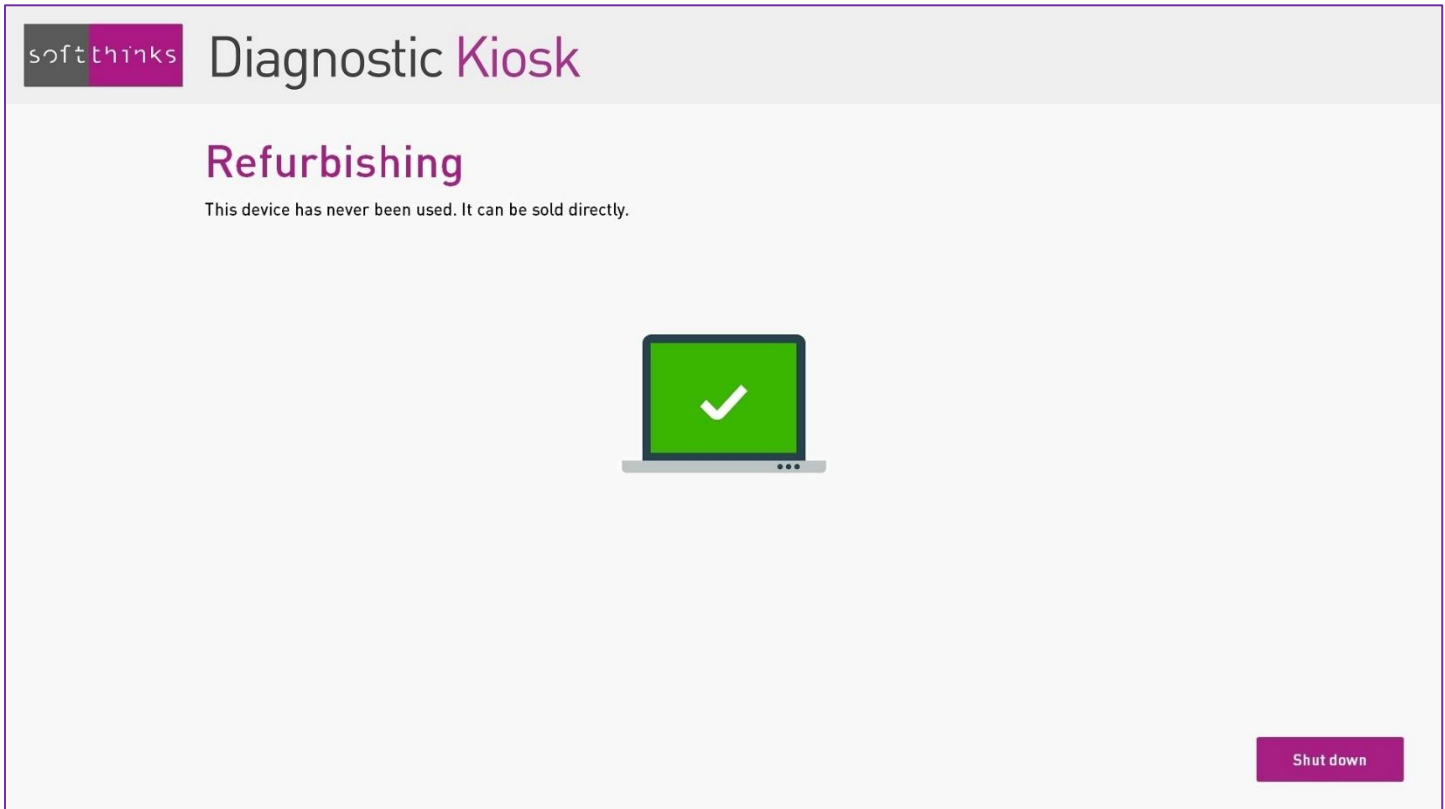
- Internal storage (HDD/SSD)
- Processor
- Memory
- Mother board



Note: you can configure the duration of the quick hardware tests (5 to 10 minutes per component, by default). Please refer to the appendix [Quick hardware test duration setup](#).

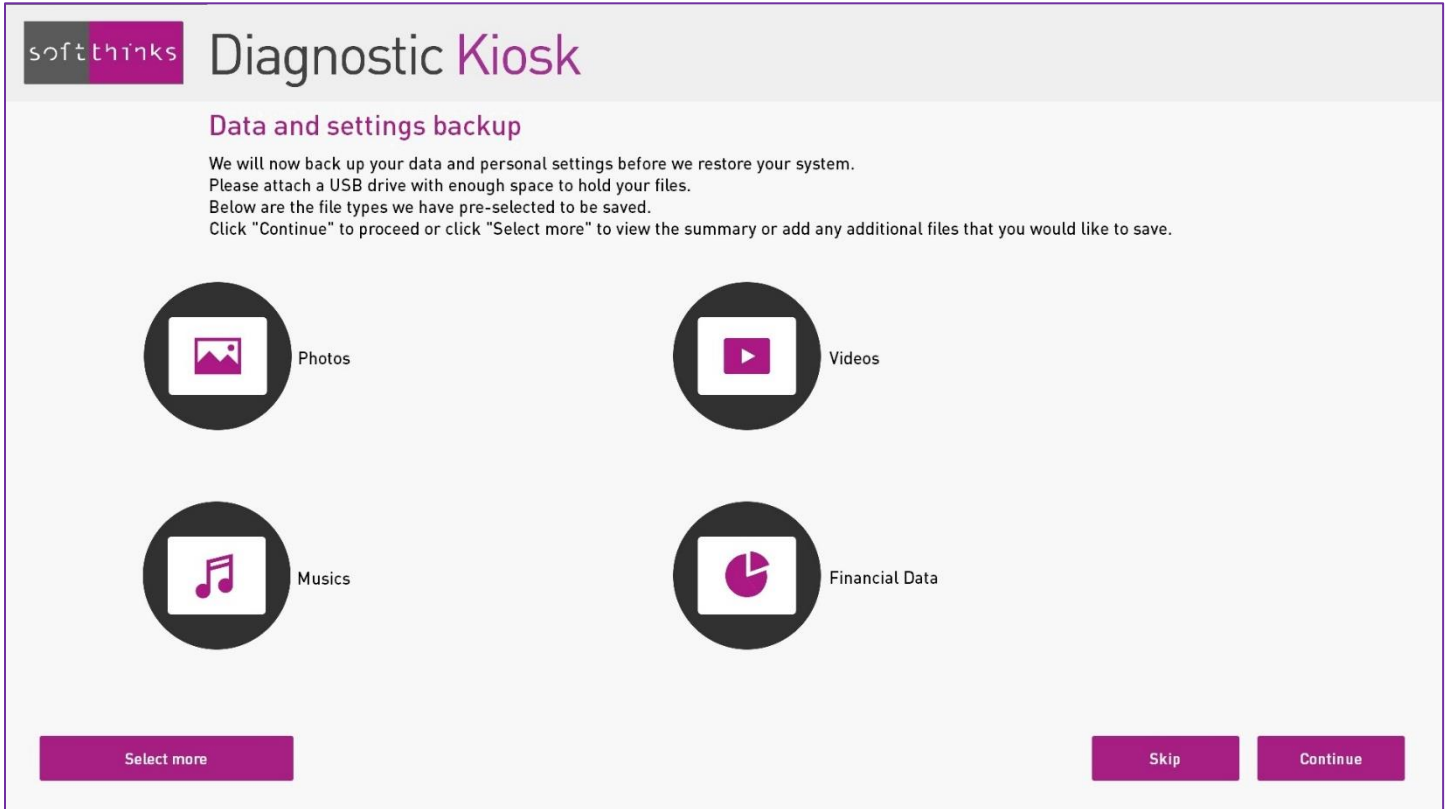
If an issue has been detected during these tests, the following screen will indicate the component that has failed the test, the refurbishing process will be stopped and a report will be generated. You will then have the option to switch to PC Expert mode for performing other more advanced hardware tests, backing up user data or using any other tool available.

If no hardware issue has been detected, we will check if the PC has been used (if not, it can be resold directly as is):



Technical note: *it is considered that a PC has never been used if the OOBE (Out Of Box Experience) has not been performed and if no system recovery has been done.*


You can back up user data, if you want:





softthinks Diagnostic Kiosk


Data and settings backup

We will now back up your data and personal settings before we restore your system.
Please attach a USB drive with enough space to hold your files.
Below are the file types we have pre-selected to be saved.
Click "Continue" to proceed or click "Select more" to view the summary or add any additional files that you would like to save.

 Photos

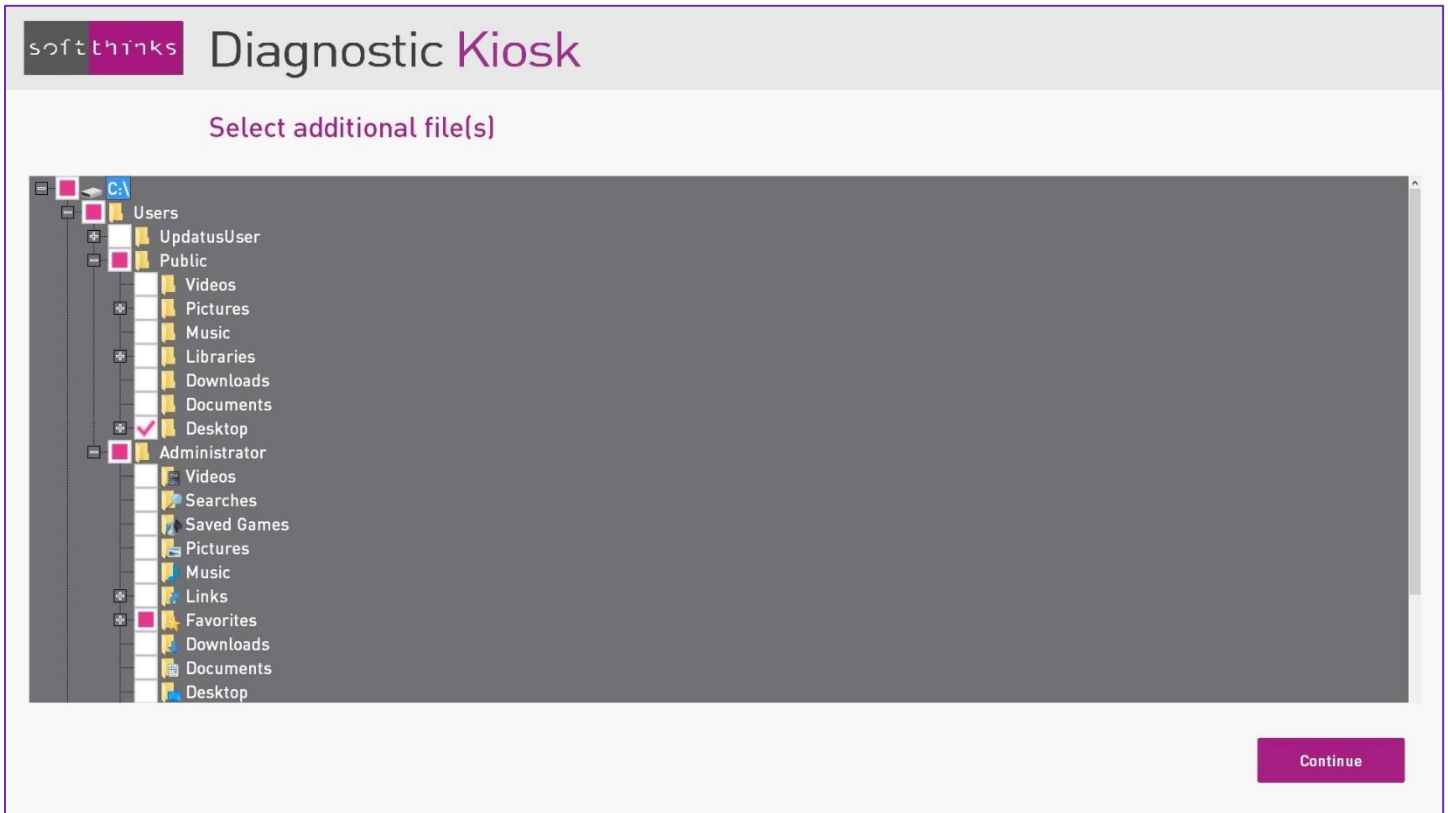
 Videos

 Musics

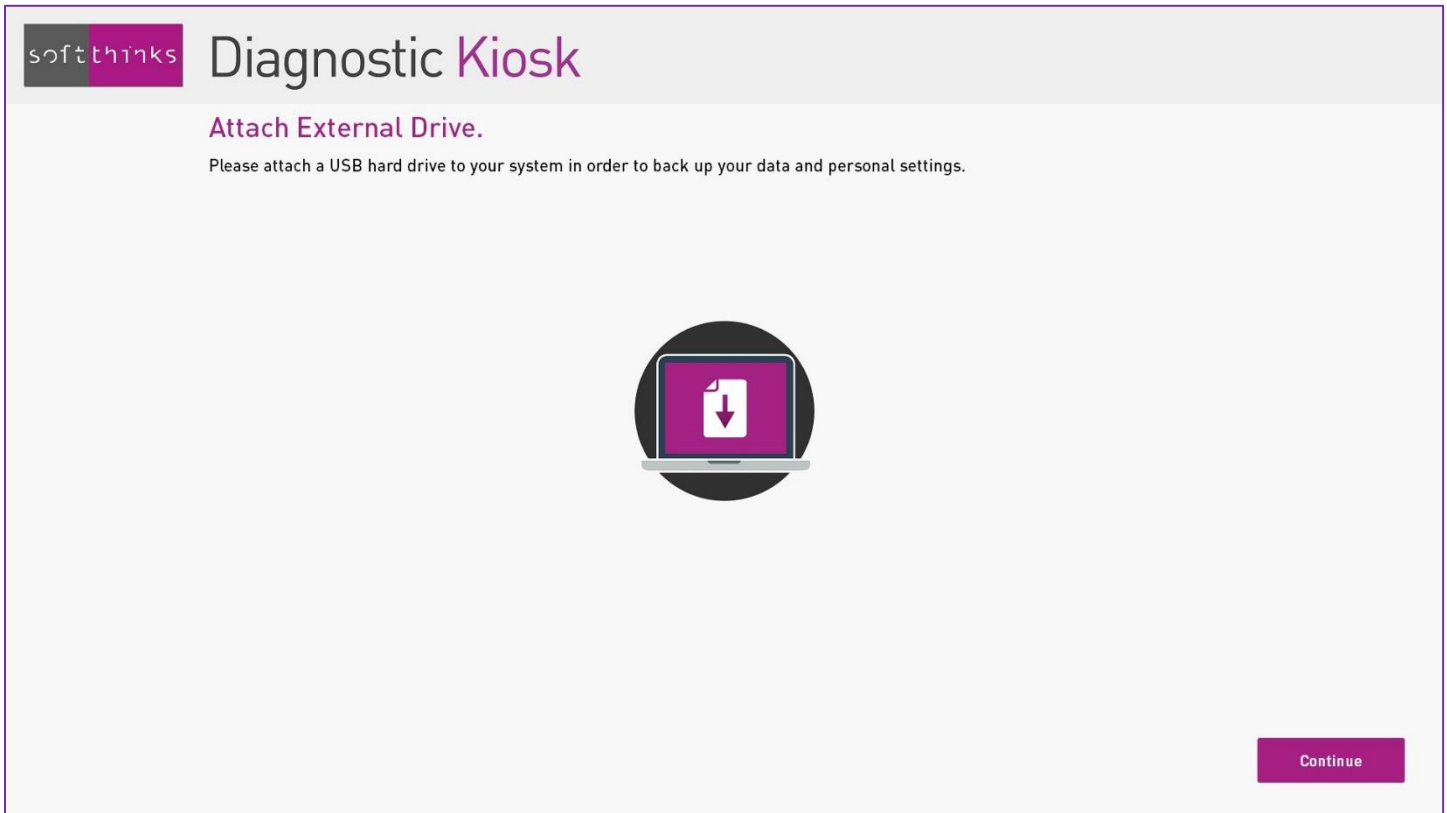
 Financial Data

Select more Skip Continue

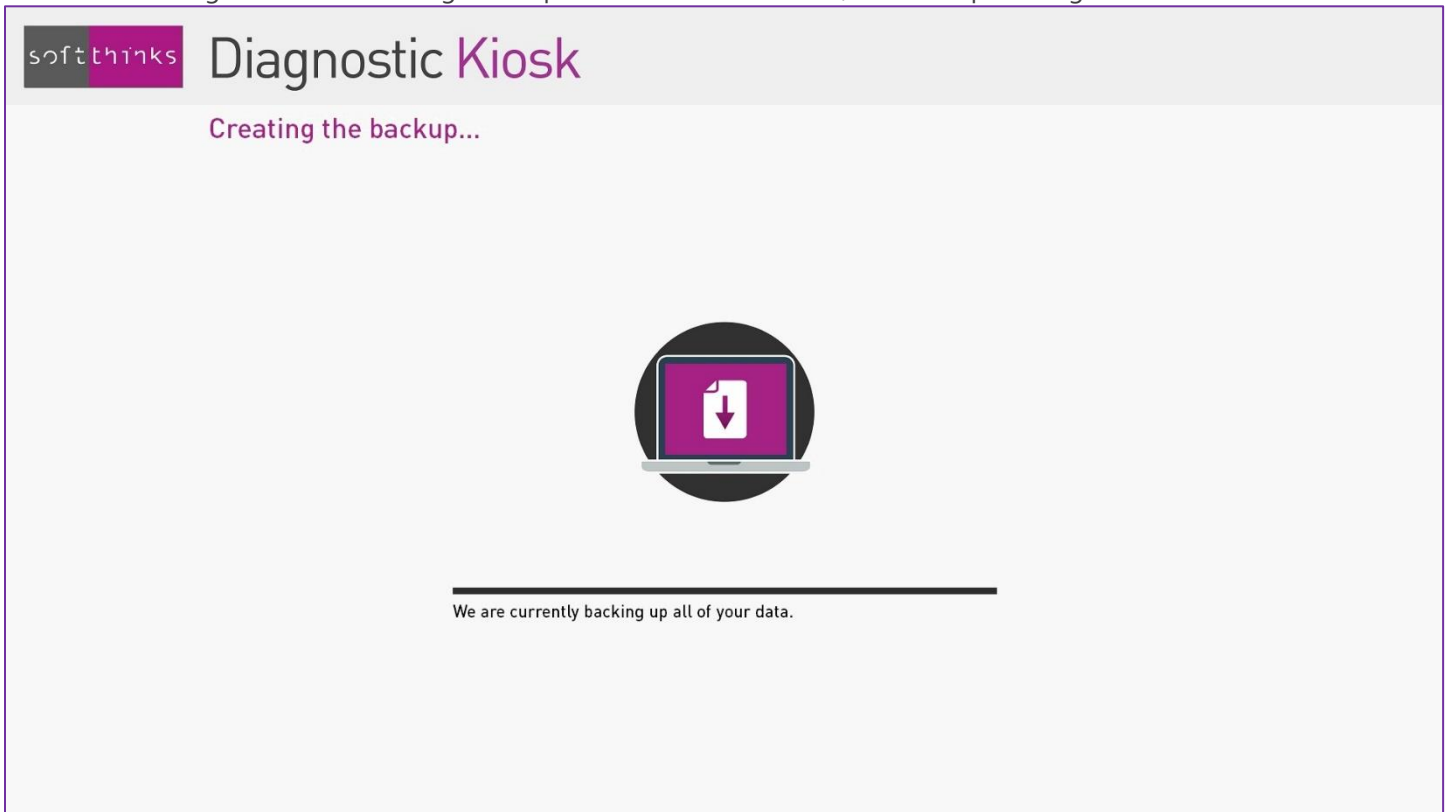
Photos, videos, audio files and financial data are backed up by default, as well as some user settings (wallpaper...) but if you want to add more files, or eventually remove some pre-selected files, click on "Select more":



Then click on "Continue". You will be prompted for an external storage device. If there is not enough free space, you will be asked to connect a USB device of higher capacity:




Once a USB storage device with enough free space has been connected, the backup will begin:

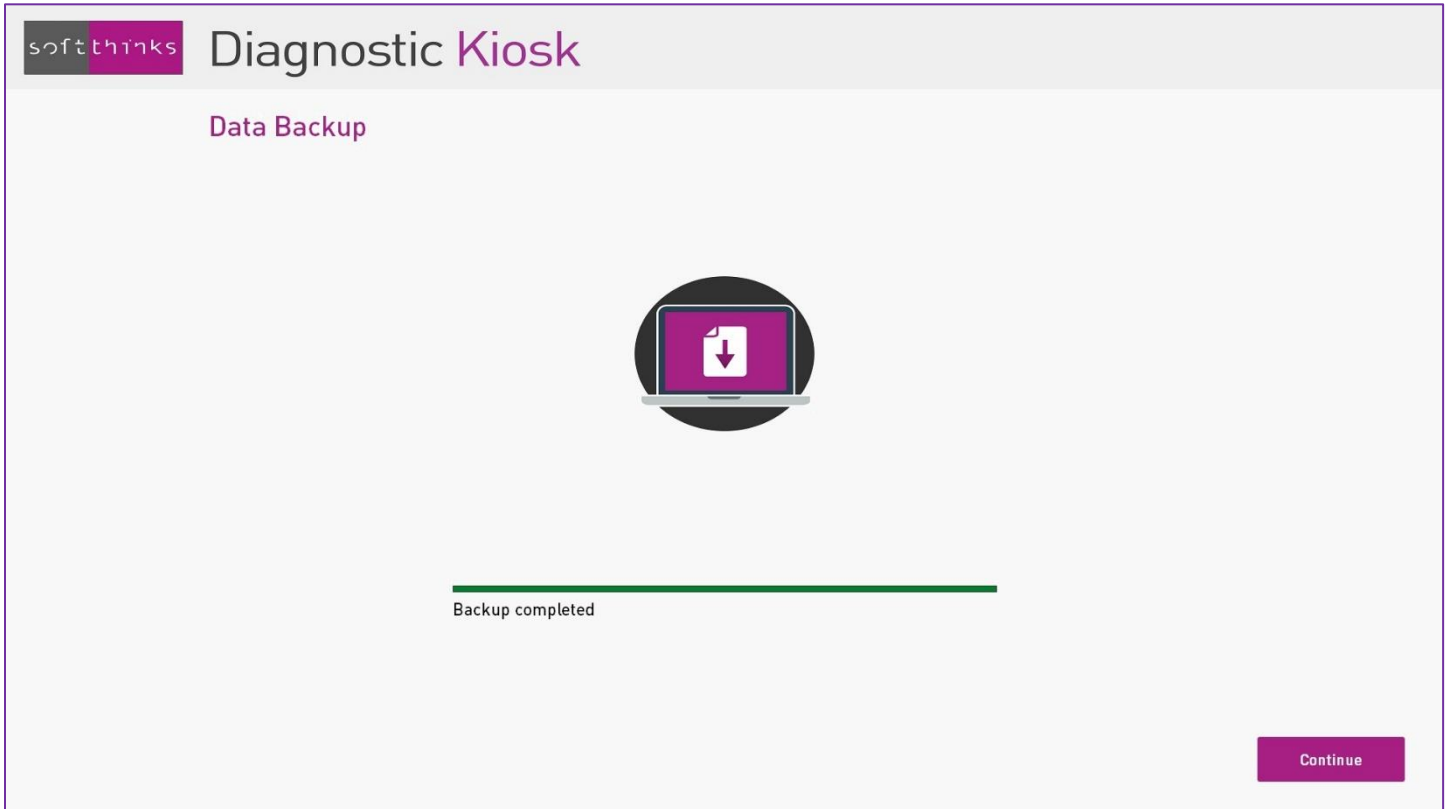


softthinks Diagnostic Kiosk

Creating the backup...




We are currently backing up all of your data.



softthinks Diagnostic Kiosk

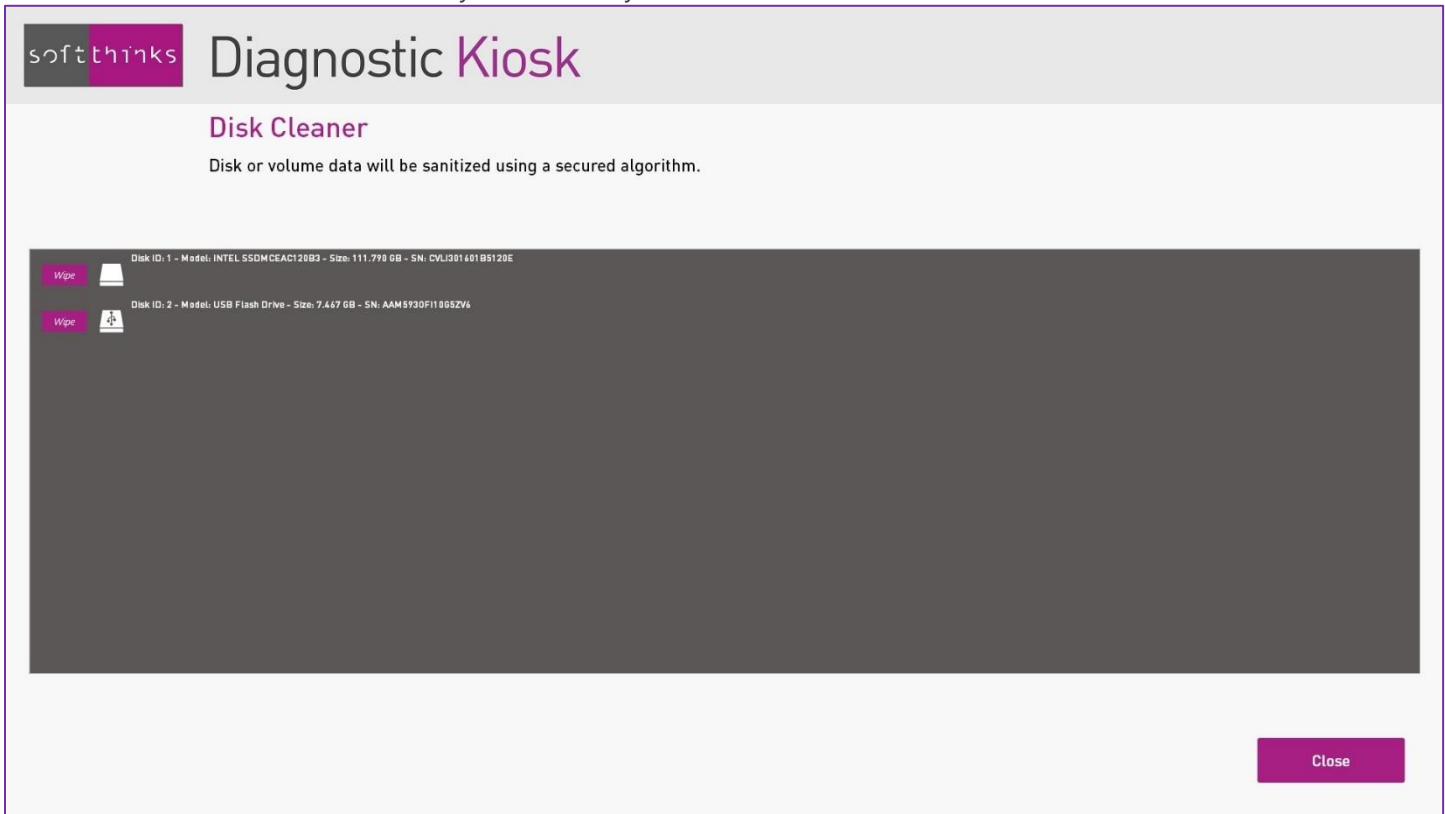
Data Backup



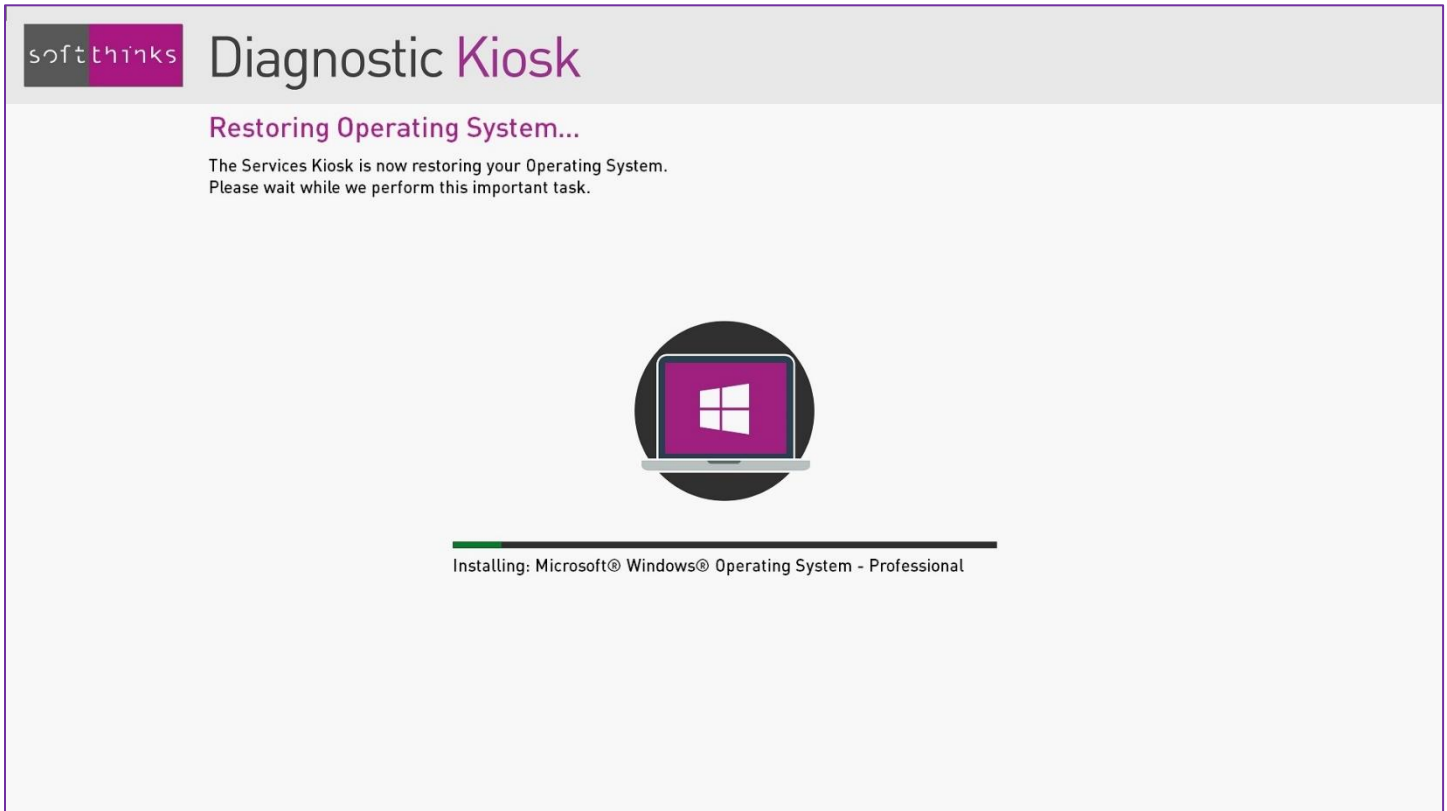
Backup completed

Continue

The content of all partitions (except the recovery partition) will be securely erased (ADISA certified algorithm) in order to ensure that the PC does not contain any user data anymore:



If a system image has been found, it will be restored to the system in its initial state:

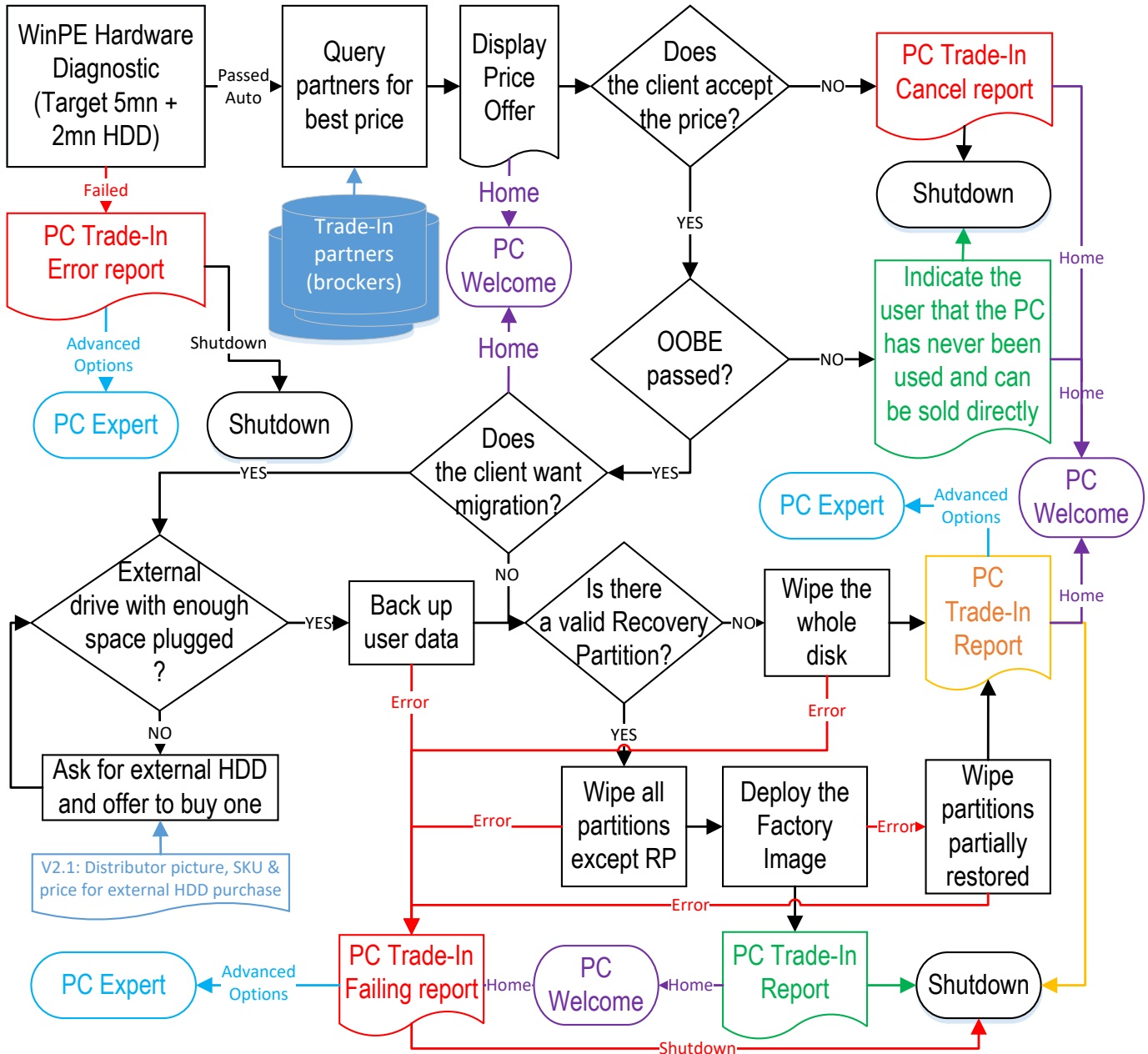


Technical note: *if any error occurs during the system recovery or if we detect after recovery that the image had not been captured in factory, we will also erase the recovery partition containing this image.*

PC Trade-in

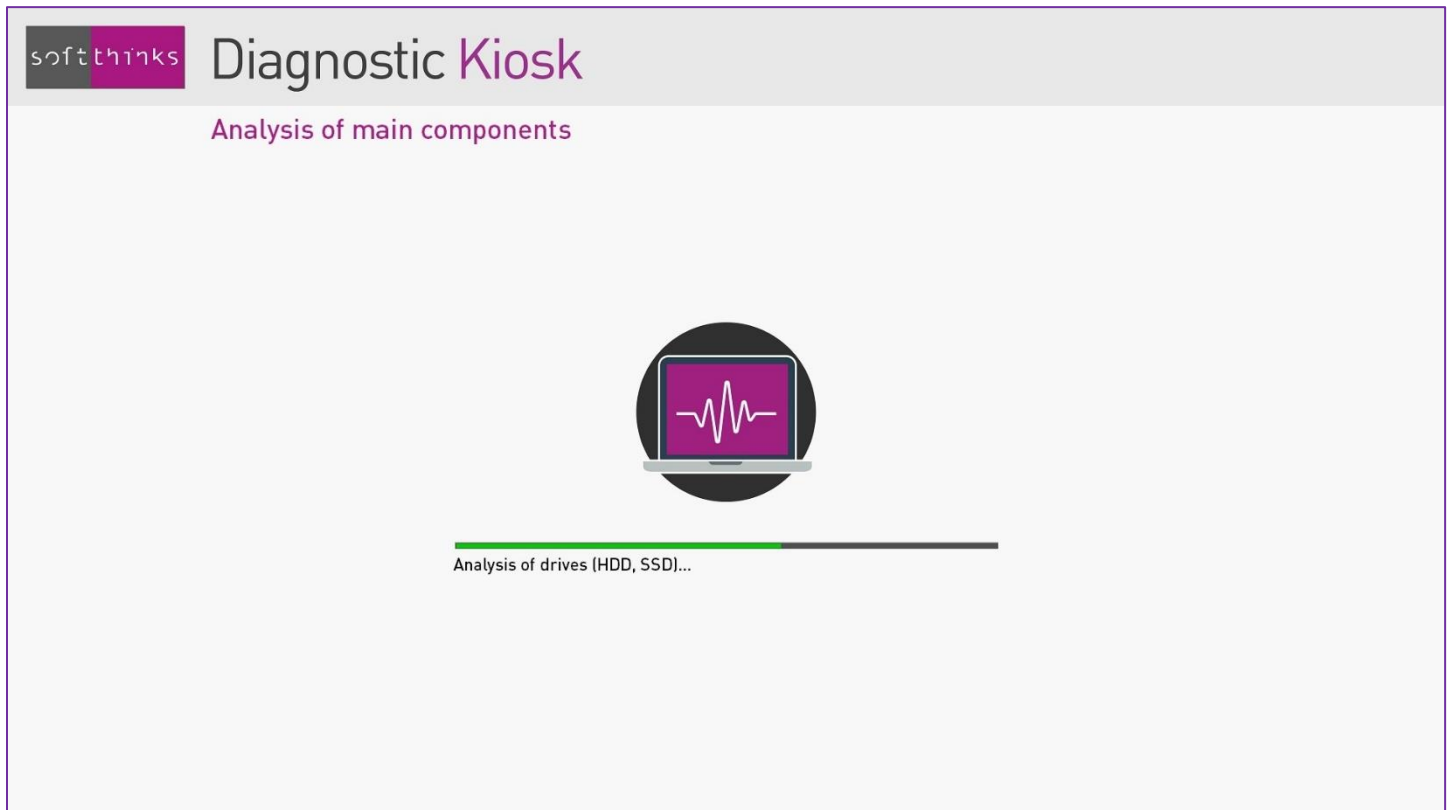
When a customer buys a new device, he might be interested in having a discount if the retailer refurbishes his old device.

This is the purpose of the module "PC Trade-in". It is available based on the module "PC Open Box" with the addition of a value estimate for the repurchase of the old device and its acceptance or refusal by the customer.



When you click on the the “PC Trade-in” tile, the kiosk will automatically launch hardware tests of the main PC components:


- Internal storage (HDD/SSD)
- Processor
- Memory
- Mother board




Note: you can configure the duration of the quick hardware tests (5 minutes per component, by default). Please refer to the appendix [Quick hardware test duration setup](#).


If an issue has been detected during these tests, the following screen will indicate the component that has failed the test, and the trade-in process will be stopped and a report will be generated. You will then have the option to switch to PC Expert mode for performing other more advanced hardware tests, backing up user data or using any other tool available.

If no hardware issue has been detected, we will collect all the information we can silently from the process and display them in the screen below. We will the ask you to answer the any question requiring a manual/visual control for evaluating the device state that can affect the repurchase value:



Diagnostic Kiosk





Trade-In

CPU:	Intel(R) Core(TM) i7-3610QM CPU @ 2.30GHz
MOTHERBOARD:	Dell Inc. - A7E3T2 - X01
BIOS VERSION/DATE:	A17 - 05/19/2015
RAM DETECTED:	4096 MB
MANUFACTURER:	Dell Inc.
PRODUCT:	Inspiron 7720 (Inspiron 7720)
VERSION:	
SERIAL:	PN5N793
NIC SPEED/NAME:	100 Mbps - Realtek PCIe FE Family Controller, V=9.1
GRAPHIC RES:	1920 x 1080 (32 bits - 96 DPI) (1) - GK107M [GeForce GT 650M]
SOUND CARD:	(2) - GK107 HDMI Audio Controller+7 Series/C210 Series Chipset Family High Definition Audio Controller
OPTIC DRIVE:	Optiarc , DVDRWBD BC-5540H, 201A (F)
FIXED DISK:	ST9750420AS - 698.64 GB (C,D - GPT) INTEL SSDMCEAC120B3 - 111.79 GB (E - MBR)


Is the device fully functional?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Are there physical damages?	<input type="radio"/> Yes <input checked="" type="radio"/> No
Is the screen functional, without dark spots and not broken or cracked?	<input checked="" type="radio"/> Yes <input type="radio"/> No
Does the device include the correct AC power adaptor/power cord, and battery (if relevant)?	<input checked="" type="radio"/> Yes <input type="radio"/> No

Next


This question list is configurable (number of questions, wording, answers with 2 or 3 choices) as it will depend on the partnerships for PC repurchase.


In order to get the best possible value estimate of the old device, the information about the device, the results of the hardware tests and the responses to the questions above will be transmitted to the retailer partners and the highest estimate will be submitted to the customer. As this repurchase value estimate process depends on the partnerships, it will require a specific customization for integrating the APIs of these partners. That's why this process is not implemented, but simulated, in the generic version of Kiosk 2.0.

When all data required for the repurchase value estimate has been collected, we then we display the best repurchase offer:



Diagnostic Kiosk





Trade-In

CPU:	Intel(R) Core(TM) i7-3610QM CPU @ 2.30GHz
MOTHERBOARD:	Dell Inc. - A7E3T2 - X01
BIOS VERSION/DATE:	A17 - 05/19/2015
RAM DETECTED:	4096 MB
MANUFACTURER:	Dell Inc.
PRODUCT:	Inspiron 7720 (Inspiron 7720)
VERSION:	
SERIAL:	PN5N793
NIC SPEED/NAME:	100 Mbps - Realtek PCIe FE Family Controller, V=9.1
GRAPHIC RES:	1920 x 1080 (32 bits - 96 DPI) (1) - GK107M [GeForce GT 650M]
SOUND CARD:	(2) - GK107 HDMI Audio Controller+7 Series/C210 Series Chipset Family High Definition Audio Controller
OPTIC DRIVE:	Optiarc , DVDRWBD BC-5540H, 201A (F)
FIXED DISK:	ST9750420AS - 698.64 GB (C,D - GPT)
	INTEL SSDMCEAC120B3 - 111.79 GB (E - MBR)

Your Estimated Trade-In Value: XXXX \$

Do you accept this quote?

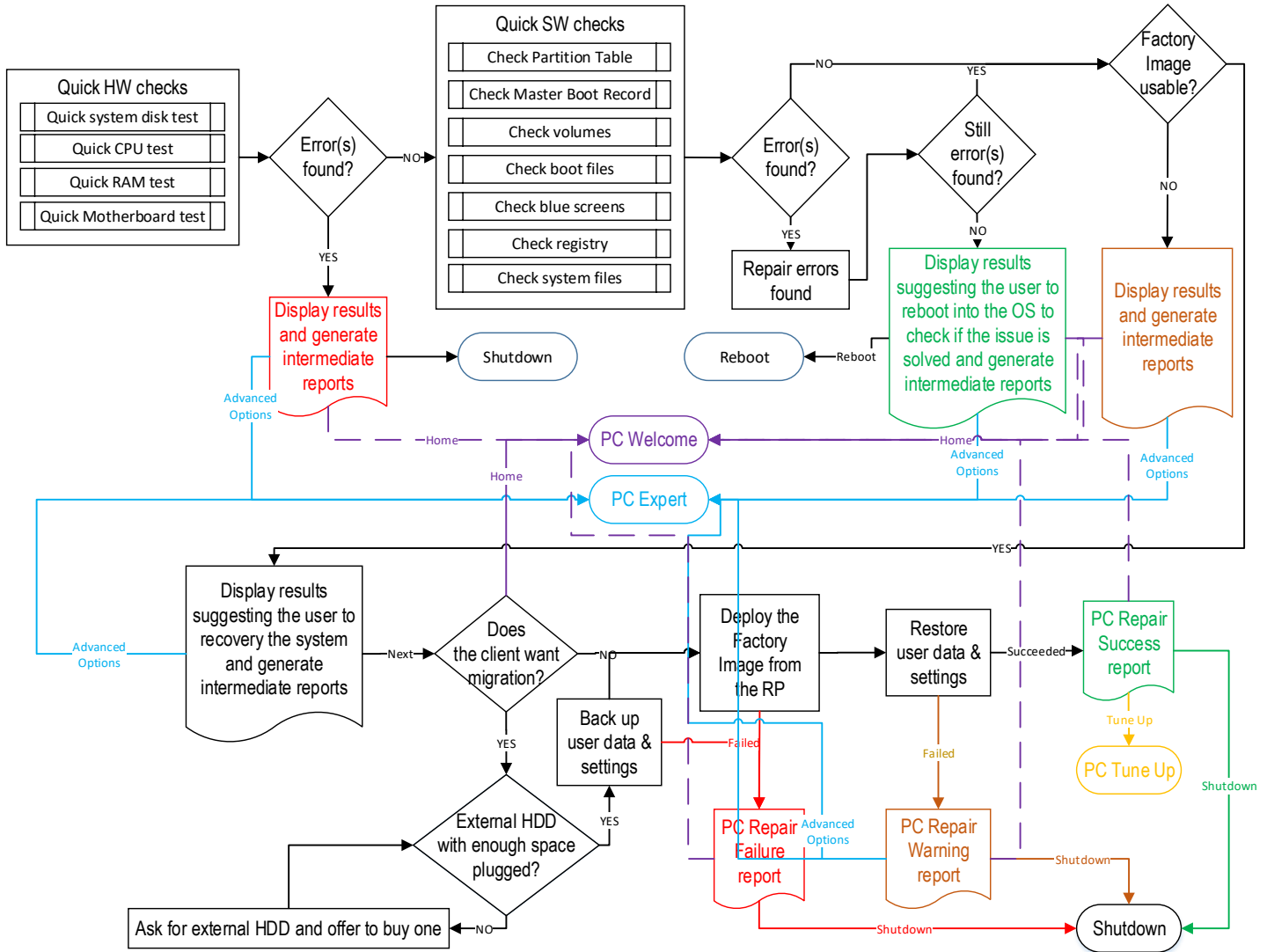
If so, you will be offered to back up your data before we completely wipe your device with certified and secure method.

I decline
I accept

If the customer accepts this quote, we will check if the PC has been used and if not we will refurbish it as described above in the chapter "PC Open Box".

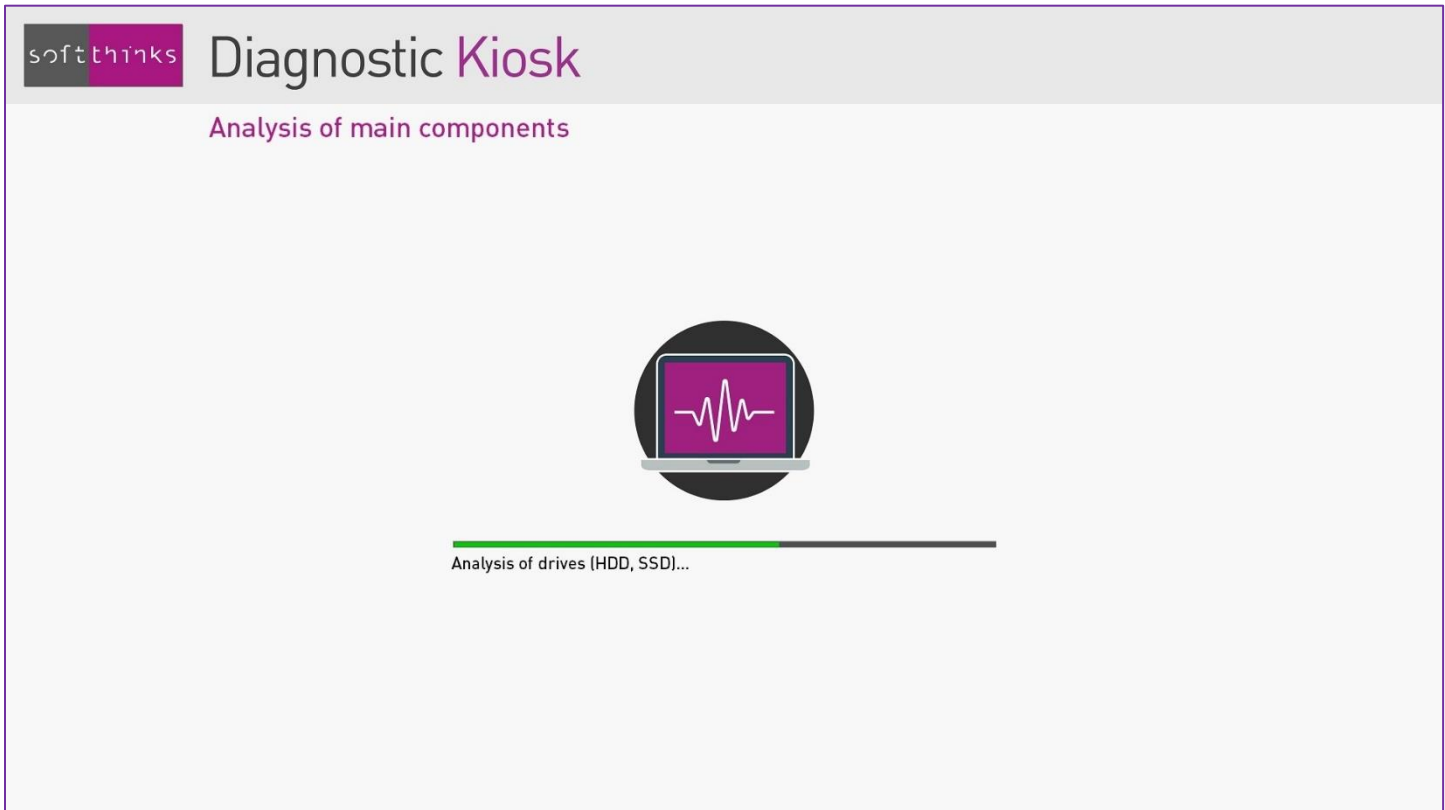
PC Repair

If the PC connected to the kiosk does not work well, the "PC Repair" flow will perform analysis and apply the most relevant corrections to fix the problems identified.



The kiosk will first automatically launch hardware tests of the main PC components:

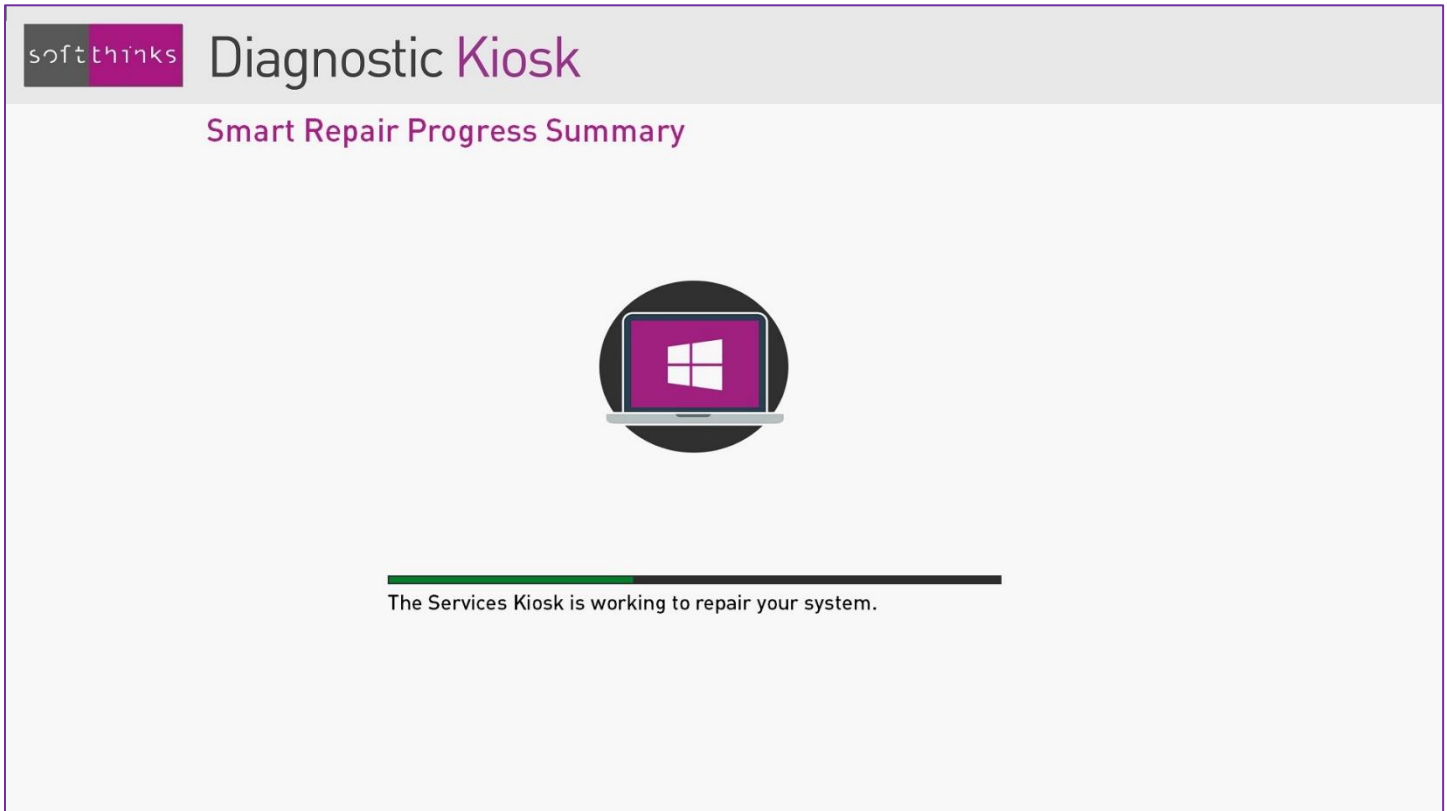
- Internal storage (HDD/SSD)
- Processor
- Memory
- Mother board



Note: By default these tests take about 20 minutes. You can configure the duration of the quick hardware tests (5 to 10 minutes per component, by default). Please refer to the appendix [Quick hardware test duration setup](#).

If an issue has been detected during these tests, the following screen will indicate the component that has failed the test, the repair process will be stopped and a report will be generated. You will then have the option to switch to PC Expert mode for performing other more advanced hardware tests, backing up user data or using any other tool available.

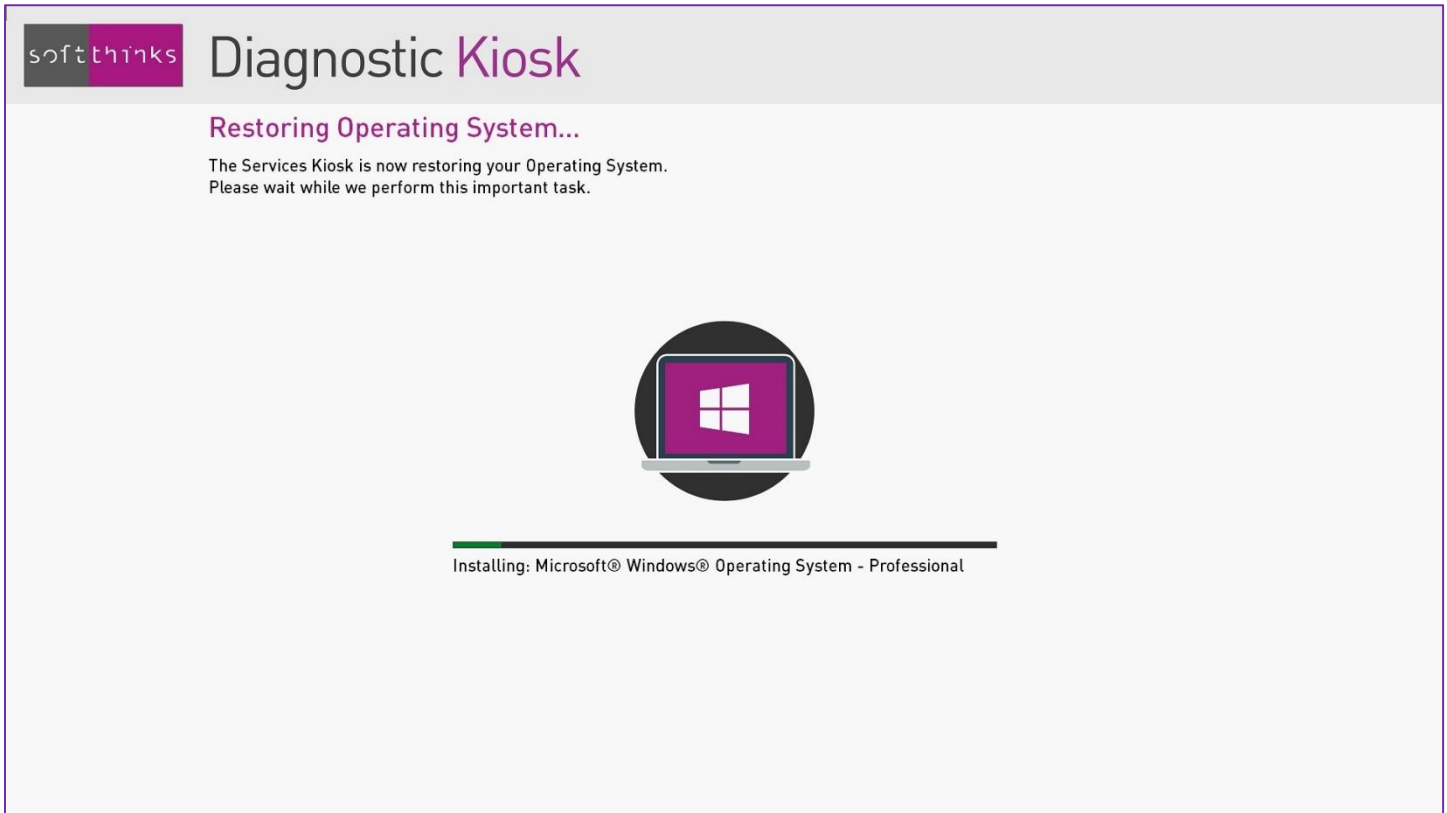
We will then analyse the system in search of the most commonly encountered issues and correct them:



Note: Please refer to the appendix [Smart Repair](#) for more technical details.

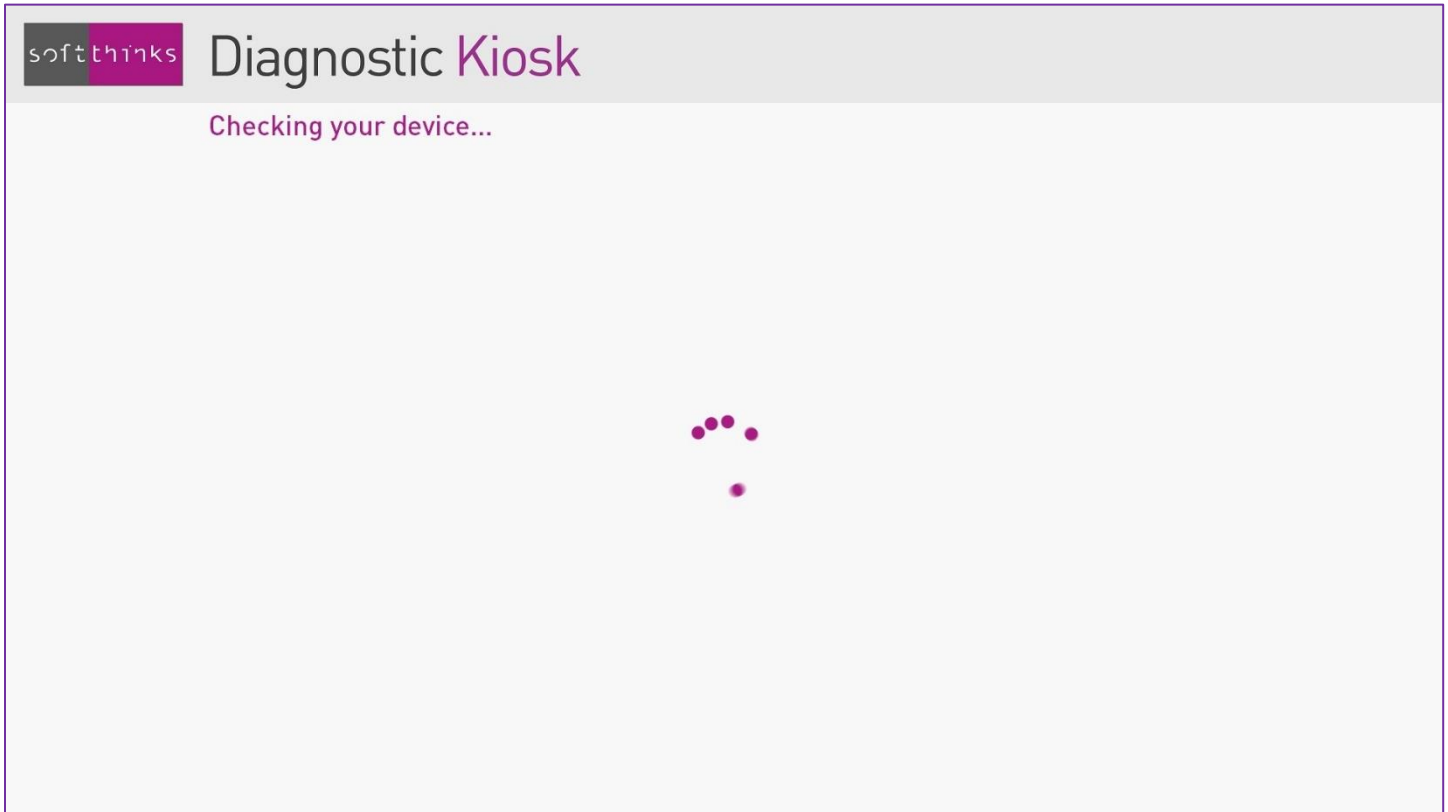
If software issues have been detected and fixed, you will be then asked to reboot the PC and check that everything is now functional, knowing that there may be other issues that require a full system recovery.

If you want to continue the process, or if no issue has been detected or could be fixed, the operating system will be restored. We will back up user data if the user selects it (Please refer to the chapter [Backup and migration of user data and settings](#)):



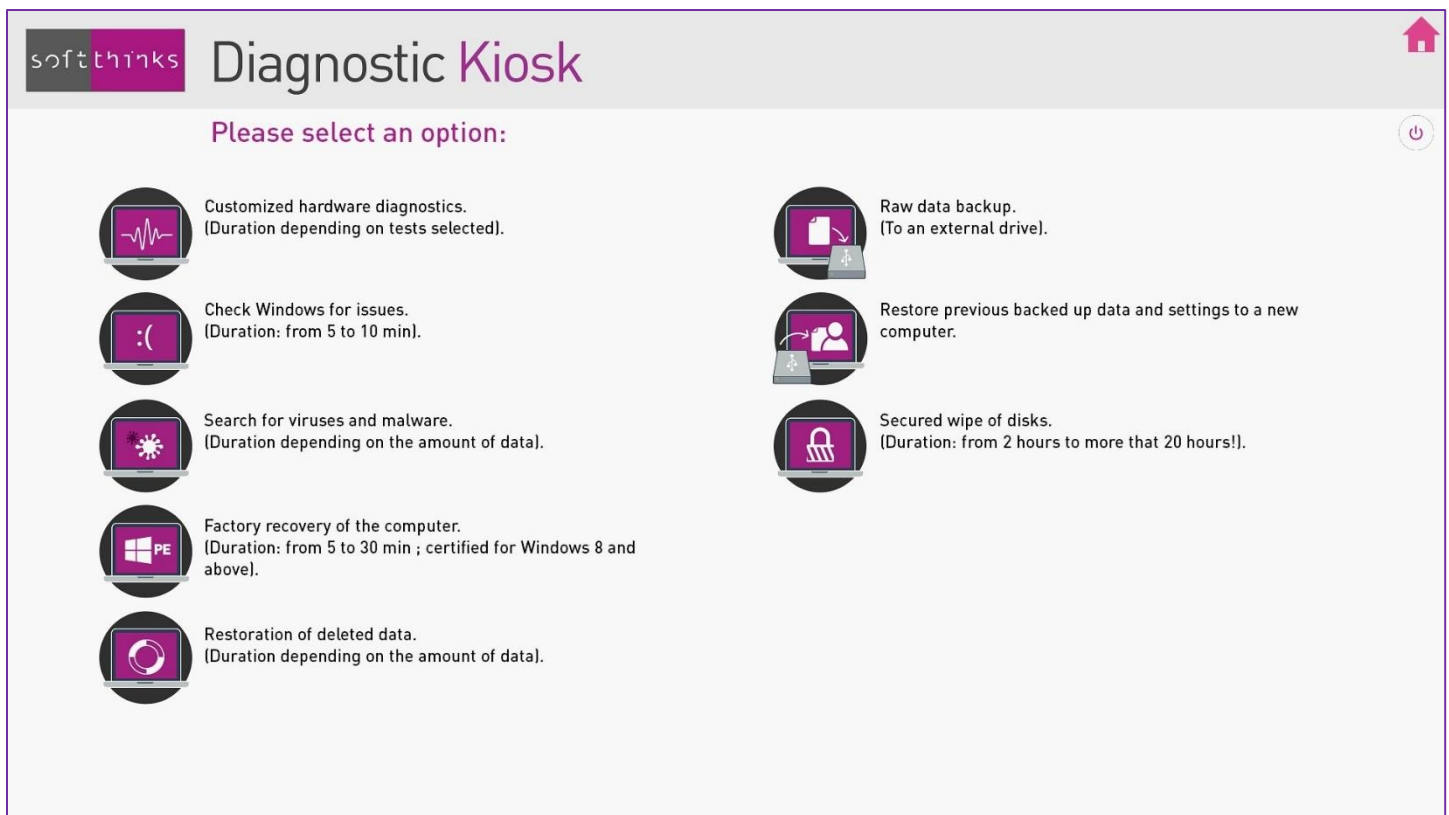
PC Expert



When you click on the "PC Expert" tile, a quick analysis of the PC is launched to determine the possible actions:





By default, 9 tools are available (with new features in bold, compared to version 1.0):

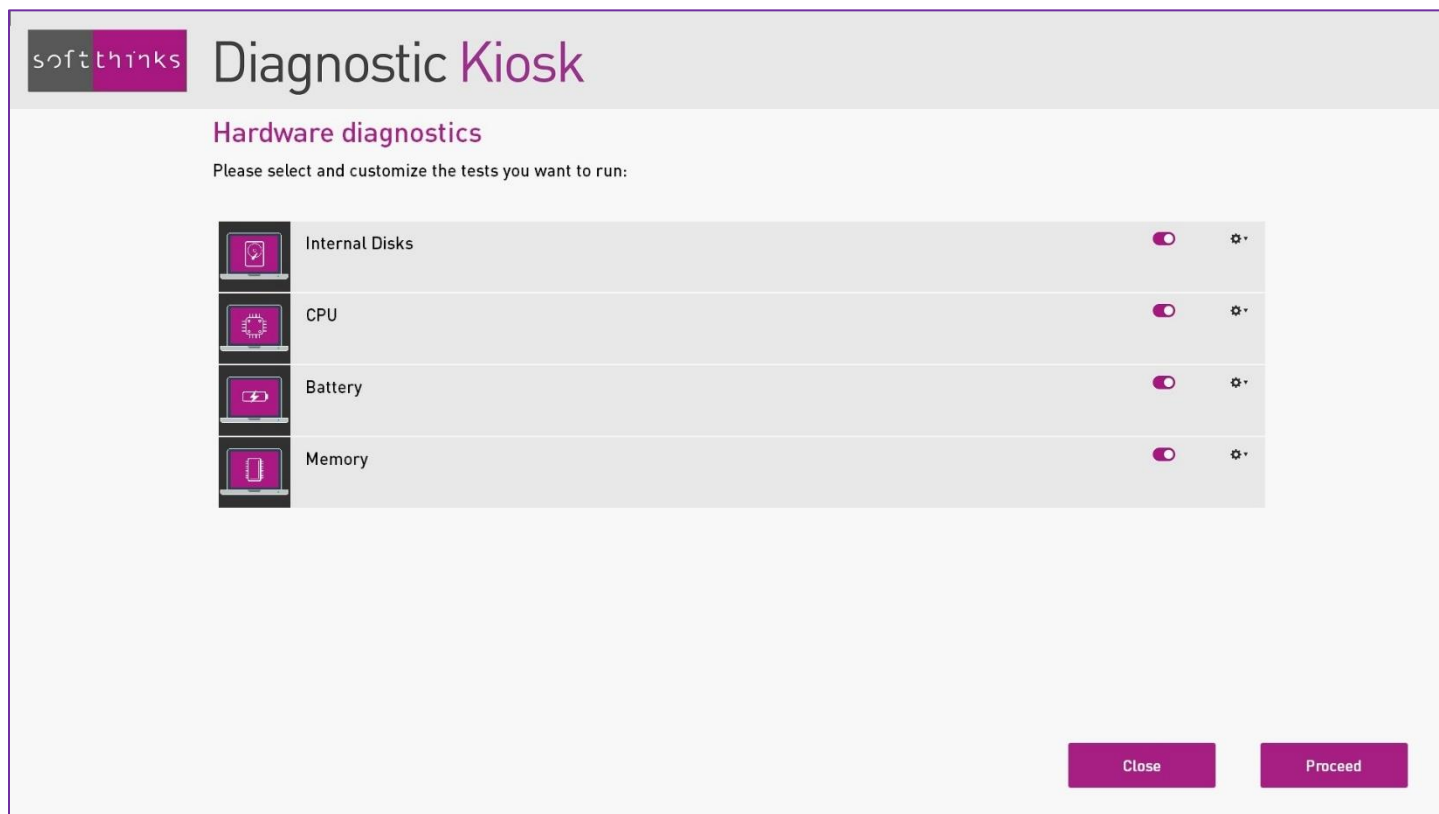
1. **Custom hardware diagnostics** (versus quick hardware diagnostics in version 1.x).
2. Search for errors in Windows.
3. Search for viruses **and malware**.
4. Restoration of deleted data.
5. Backup and migration of user data and settings.
6. Raw data backup.
7. Data recovery to another computer.
8. Secure wipe of disks.
9. System recovery (from Windows 7 to 8.1) **or system reset (for Windows 10)**.



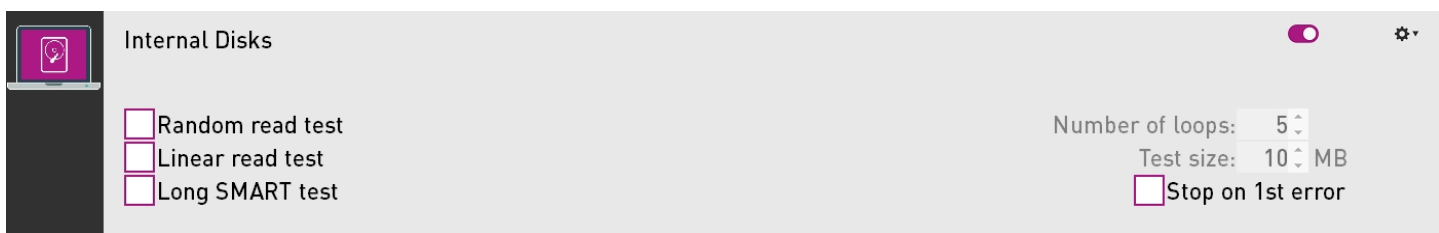
Once the action completed and the report displayed, you will be back to this screen in order to be able to launch other actions. You can go back to the start screen by clicking on the  button or exit from the application and switch off the PC by clicking on the  button.

Custom hardware diagnostics

This tool enables you to perform advanced and customized tests of PC components such as system disk, processor, memory and battery. Those are the most common test ran but you can potentially run any test available though the BurnInTest engine from Passmark as we will see later. You can decide for each of these components if you want to test it or not, using the button , and you can configure this test using the button .

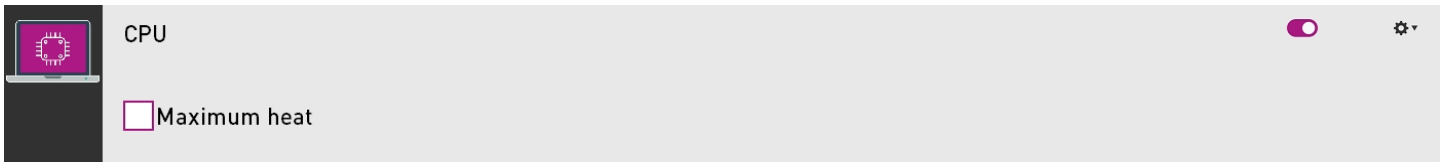


Internal disks



Those tests are using a proprietary engine but if you want you can use BurnInTest Disk Test Suite (Cf. [BurnInTest Disk Test Suite](#)).

CPU



Based on PassMark Software testing of a set of CPU algorithms for different systems, the “Maximum heat” test has been produced that aims to generate the highest CPU temperature possible by BurnInTest. This test is aimed at checking that the cooling system is capable of doing its job with the system CPU under extreme load, especially when the CPU has been overclocked.

For other details please refer to Appendix [BurnInTest CPU test](#).

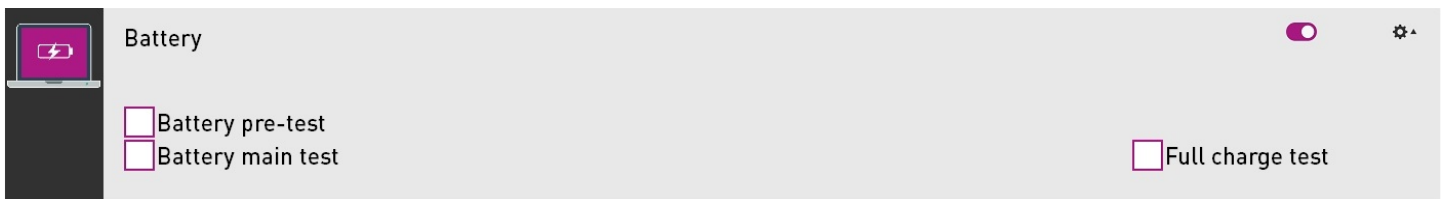
Memory



The Memory test, tests the reliability of the RAM installed in the computer. As BurnInTest runs within windows some of the available RAM is being used by windows and any other applications running. Any memory that is not already in active use will be tested by the Memory test.

For other details please refer to Appendix [BurnInTest Memory test](#).

Battery



This test checks the battery's level (mWh) and compares this to a threshold value. The threshold value can be specified in absolute, or percentage terms relative the the batteries designed capacity. Threshold exceeded errors will be raised if the battery level drops below the threshold specified.

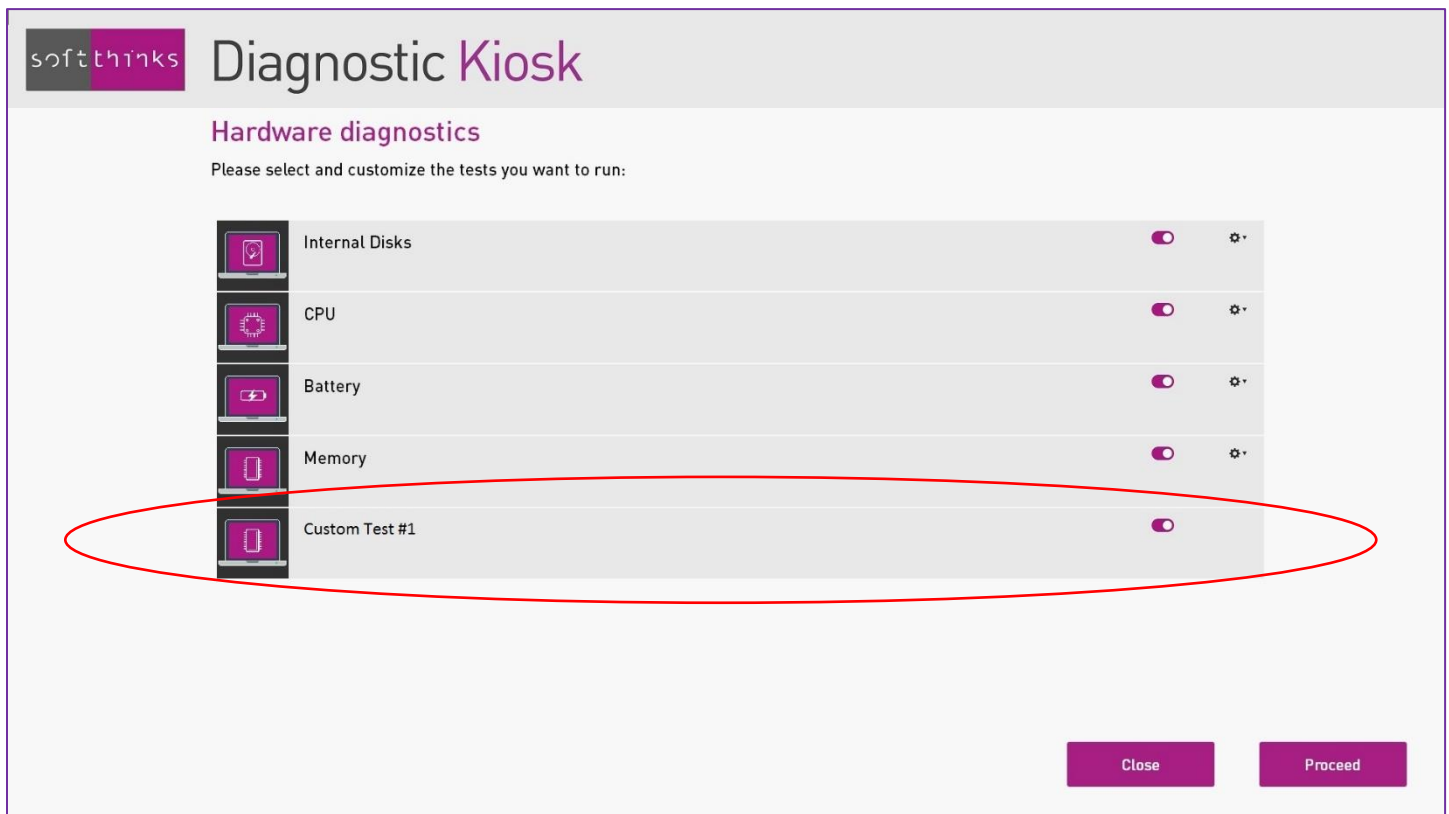
These checks can be carried out before the main tests as a pre-test, and/or during the main tests.

The Battery information will be logged in an interim result summary (e.g. every minute) and in the final result summary.

Specific test or test sequence

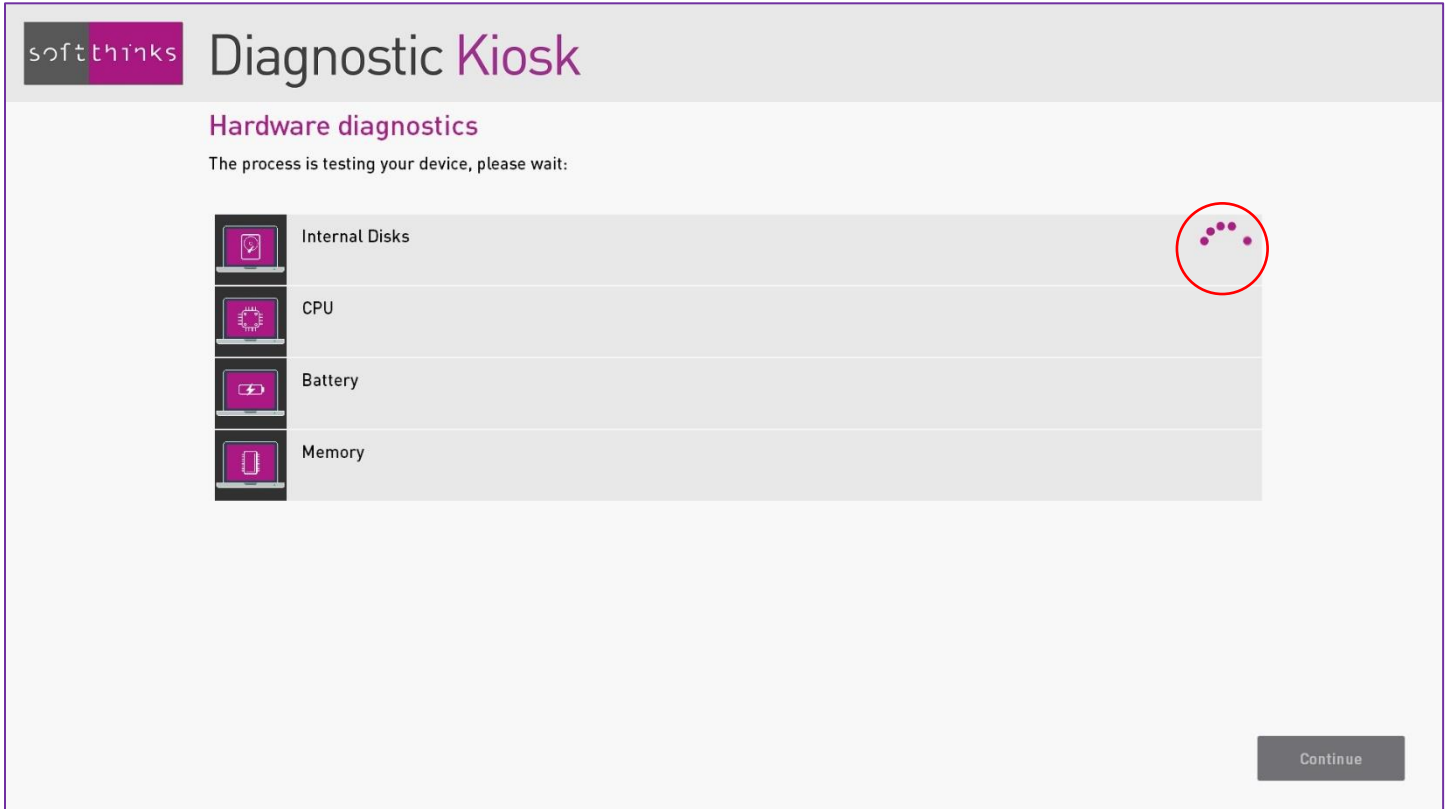
The Kiosk hardware diagnostics are using the BurnInTest engine from PassMark. This means that you can also test optical drives (CD, DVD and Blu-ray), sound cards, graphics cards (GPGPU, Video RAM, 2D graphics, 3D graphics and video playback), network ports, printers, microphones, webcams, battery's, tape drives, USB ports (USB 3.0 and 2.0), Serial ports and Parallel ports (with the use of loop back plugs). If you have specialized hardware that BurnInTest does not test out of the box, you can write your own test and integrate it with BurnInTest. For example, PassMark has produced plugin tests for Touchscreens and Keyboards.

If you wish to execute specific hardware tests present in the BurnInTest application but not available by default through the kiosk interface, or if you wish to create a test sequence that you frequently run, you can generate those tests from the BurnInTest application and they will be automatically added to those already available in the kiosk:

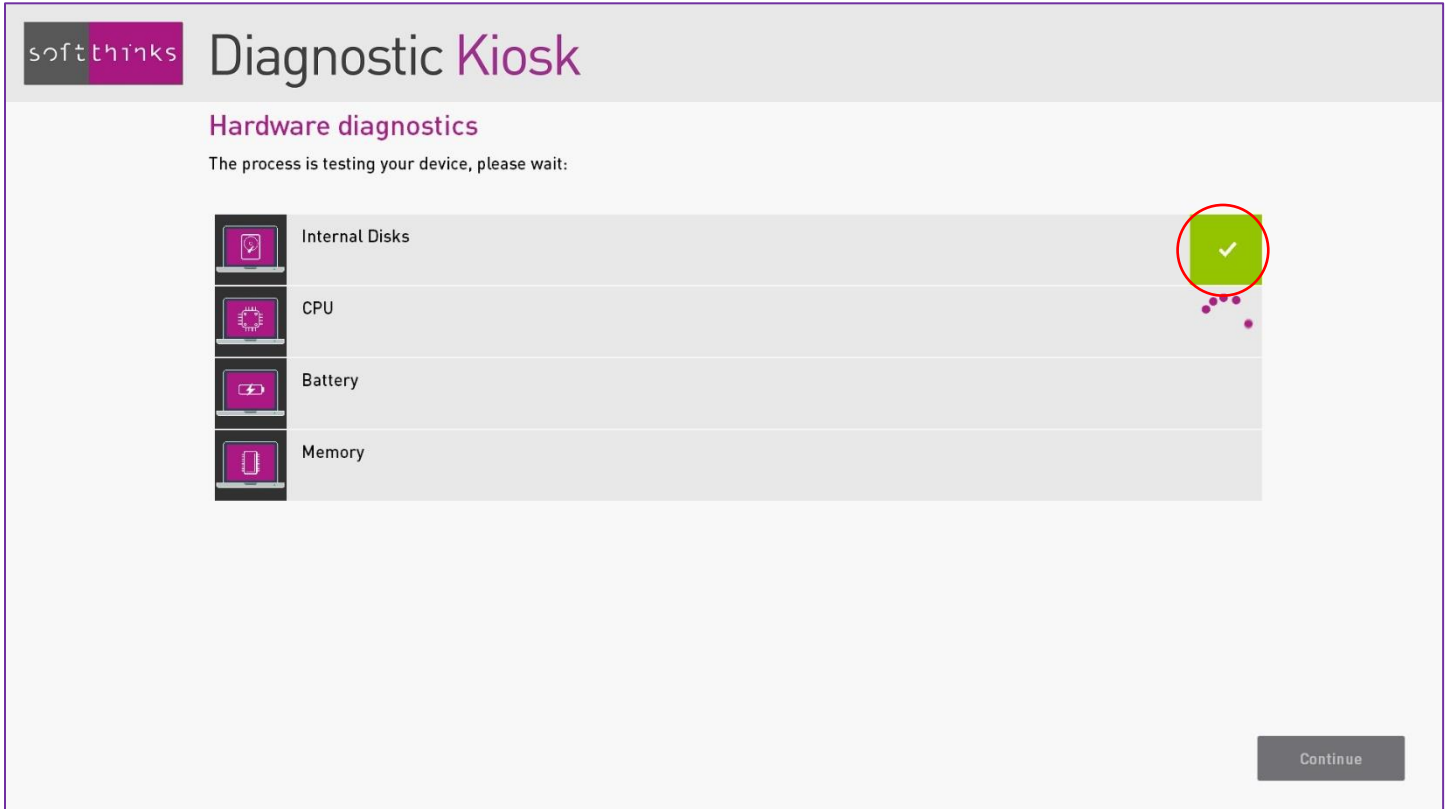


Please see the appendix [Add more custom hardware diagnostics](#) if you wish to add your own tests.

Once you have selected and configured your tests, click on **“Continue”** and the tests will be executed one after the other:



When the tests are completed, the icon at the right of each test indicates if an issue has been detected or not:



A report is then generated with the results of the custom tests (see the chapter [Reports](#) for more details):

softthinks Diagnostic Kiosk

Report
Information

	TECHNICIAN:		PRODUCT:	Inspiron 3521 (Inspiron 3521)
	DATE:	24/01/2017 - 09:46:48	MANUFACTURER:	Dell Inc.
	ID:		SERIAL NUMBER:	DM0WPY1
			CPU:	Intel(R) Celeron(R) CPU 1017U @ 1.60GHz
			MOTHERBOARD:	Dell Inc. - 0X2H5X - A00
			RAM DETECTED:	8192 MB
			INTERNAL DISK:	ST320LT012-1DG14C - 298.09 GB (C - GPT)
			OPTICAL DRIVE:	USB Flash Drive - 7.47 GB (D - MBR)
				TSSSTcorp, DVD+-RW SU-208FB, D200 (E)

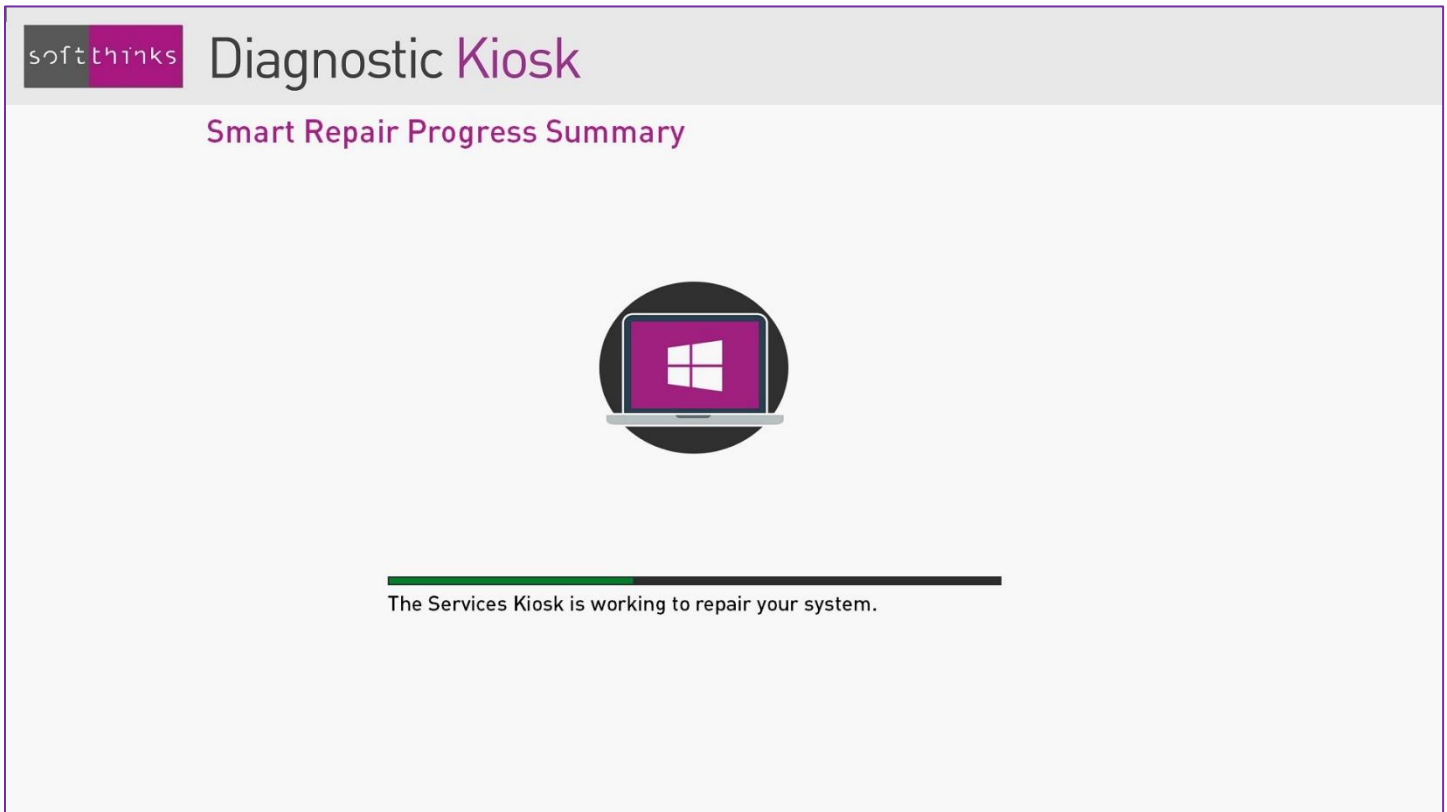
Intervention report

	Customized memory diagnostic Standard, Default	
	Customized CPU diagnostic CPU	

Quit

Search for errors in Windows (SmartRepair)

This feature repairs the most common issues of the operating system (boot sectors, partition table...) which prevents a PC from booting. This is a simple procedure that can fix many software failures and it is the preferred procedure to run on any PC that crashes while loading Windows.



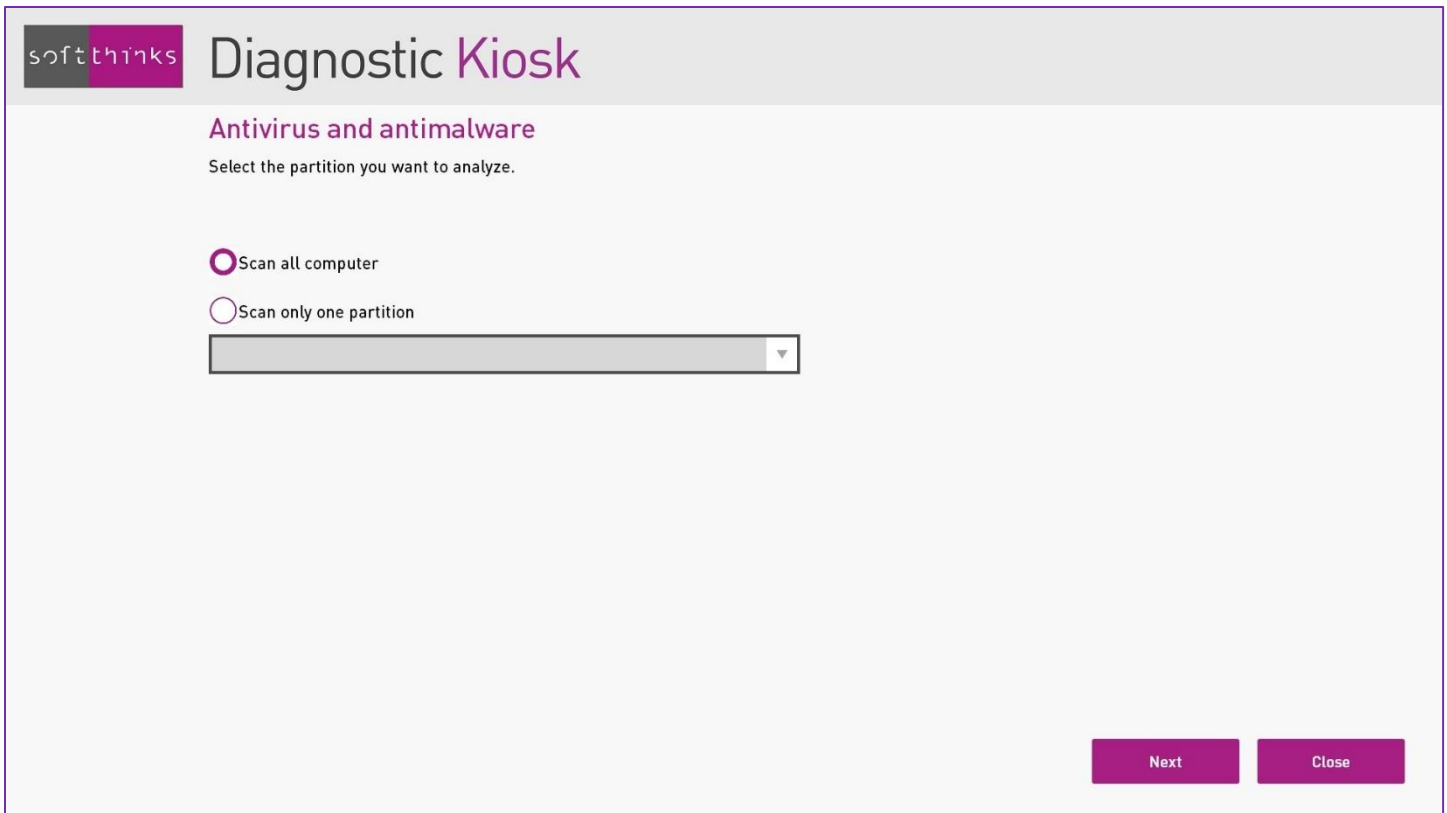
Note: See the appendix "Smart Repair" for more technical details.

If everything is OK, all items are green. If not and one of the items reports an error, the kiosk will give you the option to repair this item by clicking on "Repair".

The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title is the section 'Smart Repair Results' with the text 'The Services Kiosk has performed the following checks of your system:'. In the center is a circular icon of a laptop with the Windows logo on the screen. Below the icon are four items, each with a green checkmark: 'Partition Table', 'Drives', 'Master Boot Record', and 'Boot Files'. At the bottom right is a purple 'Continue' button.

Search for viruses and malware

The kiosk allows you to search for viruses and malware on the PC and to delete them. Performing this through the kiosk provides the benefit of an intervention without booting the system; repairs are then potentially more effective.

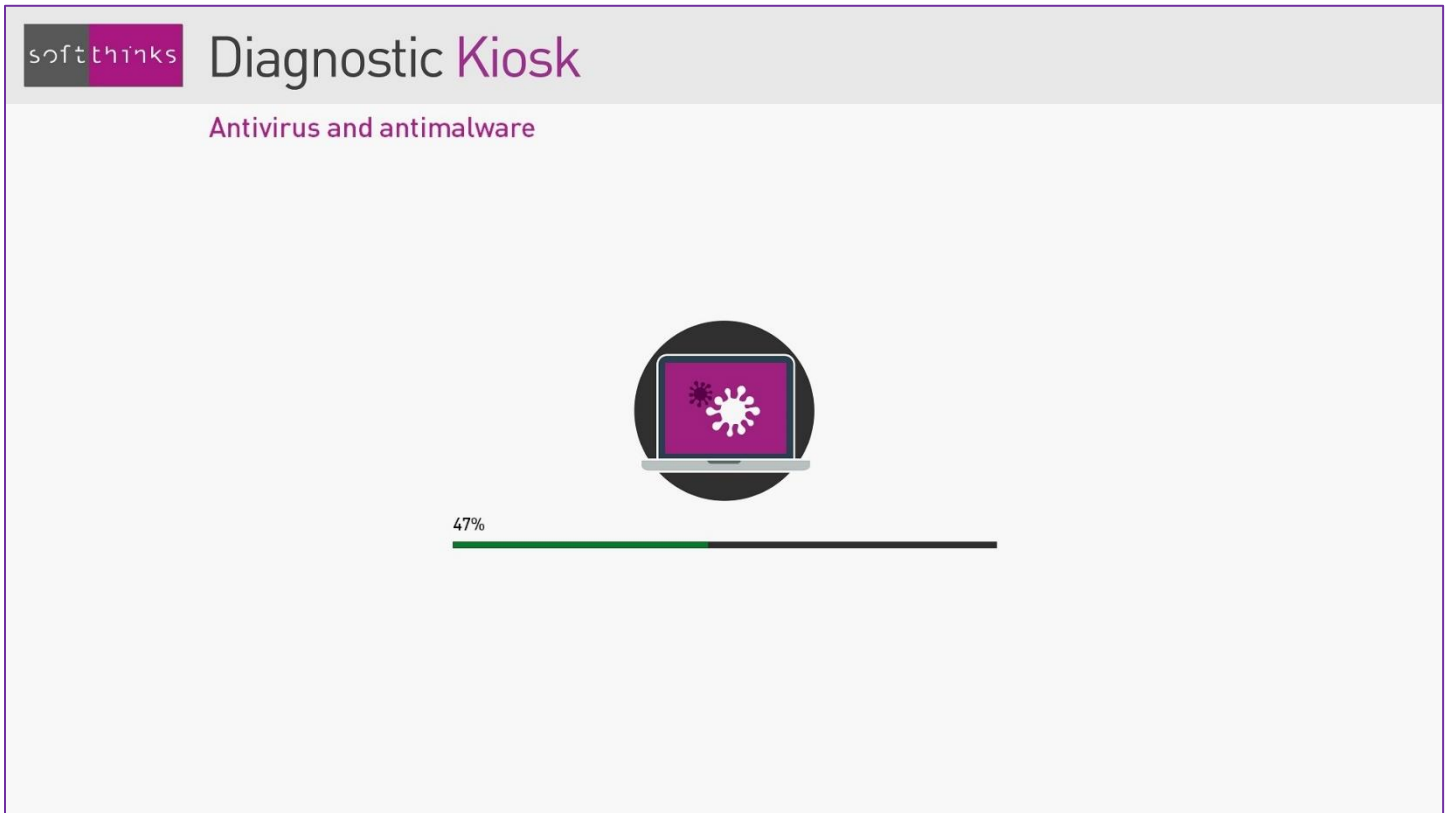


The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below this, the section is titled 'Antivirus and antimalware'. A sub-instruction reads 'Select the partition you want to analyze.' There are two radio button options: 'Scan all computer' (which is selected) and 'Scan only one partition'. Below the second option is a dropdown menu. At the bottom right of the interface are two buttons: 'Next' and 'Close'.

The kiosk also gives you the option to choose which partitions to scan:

The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title is the section 'Antivirus and antimalware' with the instruction 'Select the partition you want to analyze.' There are two radio button options: 'Scan all computer' (unselected) and 'Scan only one partition' (selected). Below the second option is a dropdown menu showing 'OS [C:]'. At the bottom right, there are two buttons: 'Next' and 'Close'.

After selecting one or more partitions, click on "Next". There will be a delay while loading the database of the antivirus and antimalware before the scan starts:



If any infected files have been detected, you will be able to delete them:

The screenshot shows the 'Diagnostic Kiosk' interface with the title 'Antivirus and antimalware'. It displays a table of detected files with columns for 'Files', 'Virus detected', and 'Severity'. Two files are listed: '\\?F:\UltraVNC-102-Setup-Fr.exe' and '\\?F:\eicar2.zip'. The first file is detected as 'not-a-virus:RemoteAdmi...' and the second as 'EICAR-Test-File', both with a severity of 'Infected'. At the bottom of the interface, there are two buttons: 'Delete' and 'Close'.

Files	Virus detected	Severity
\\?F:\UltraVNC-102-Setup-Fr.exe	not-a-virus:RemoteAdmi...	Infected
\\?F:\eicar2.zip	EICAR-Test-File	Infected

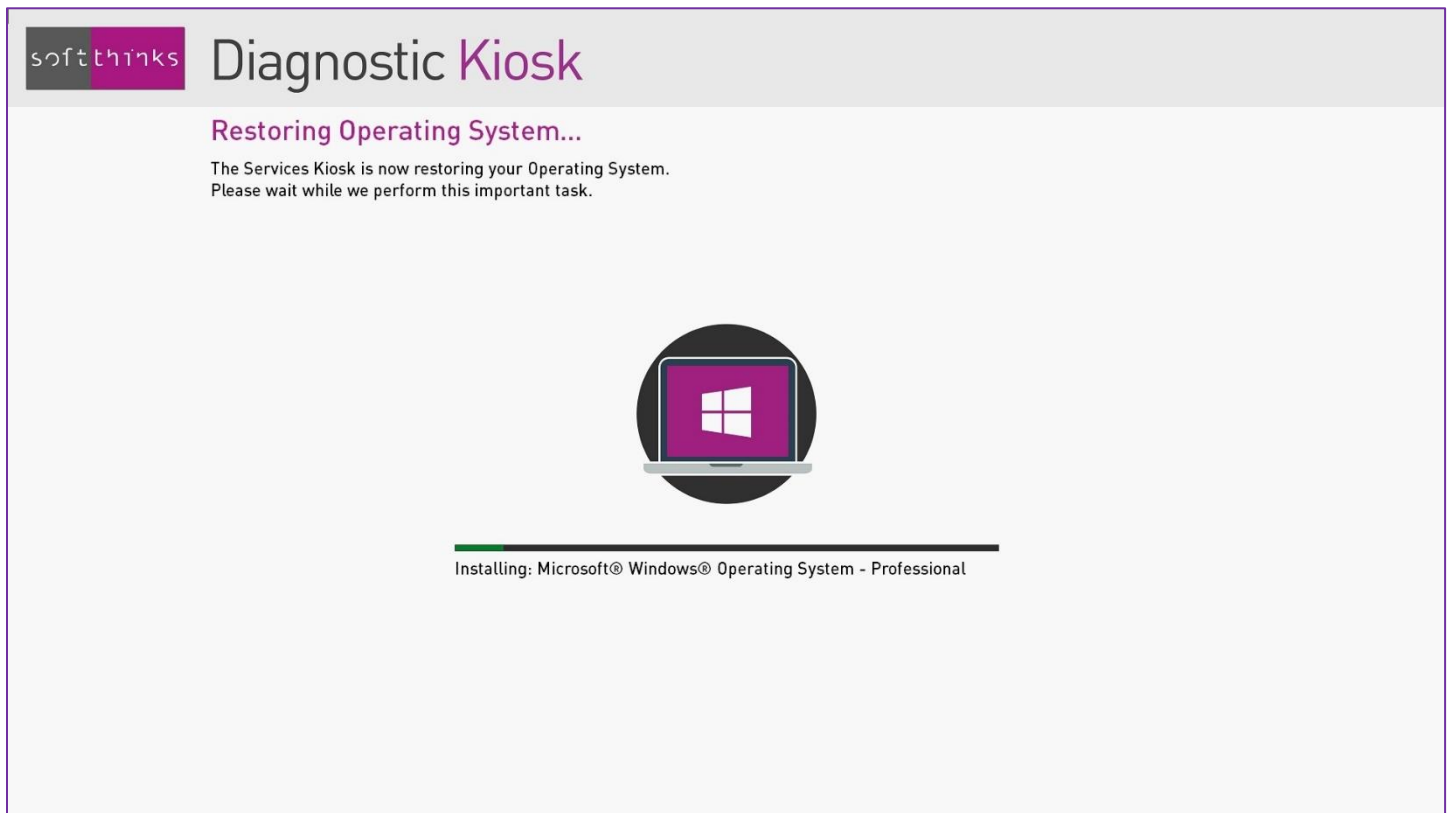
Factory recovery of the PC

Choose this option to restore the PC to its initial state.

The kiosk can detect the presence of the PC recovery partition, and to use it to image the system again. (only for Windows 8 or later).

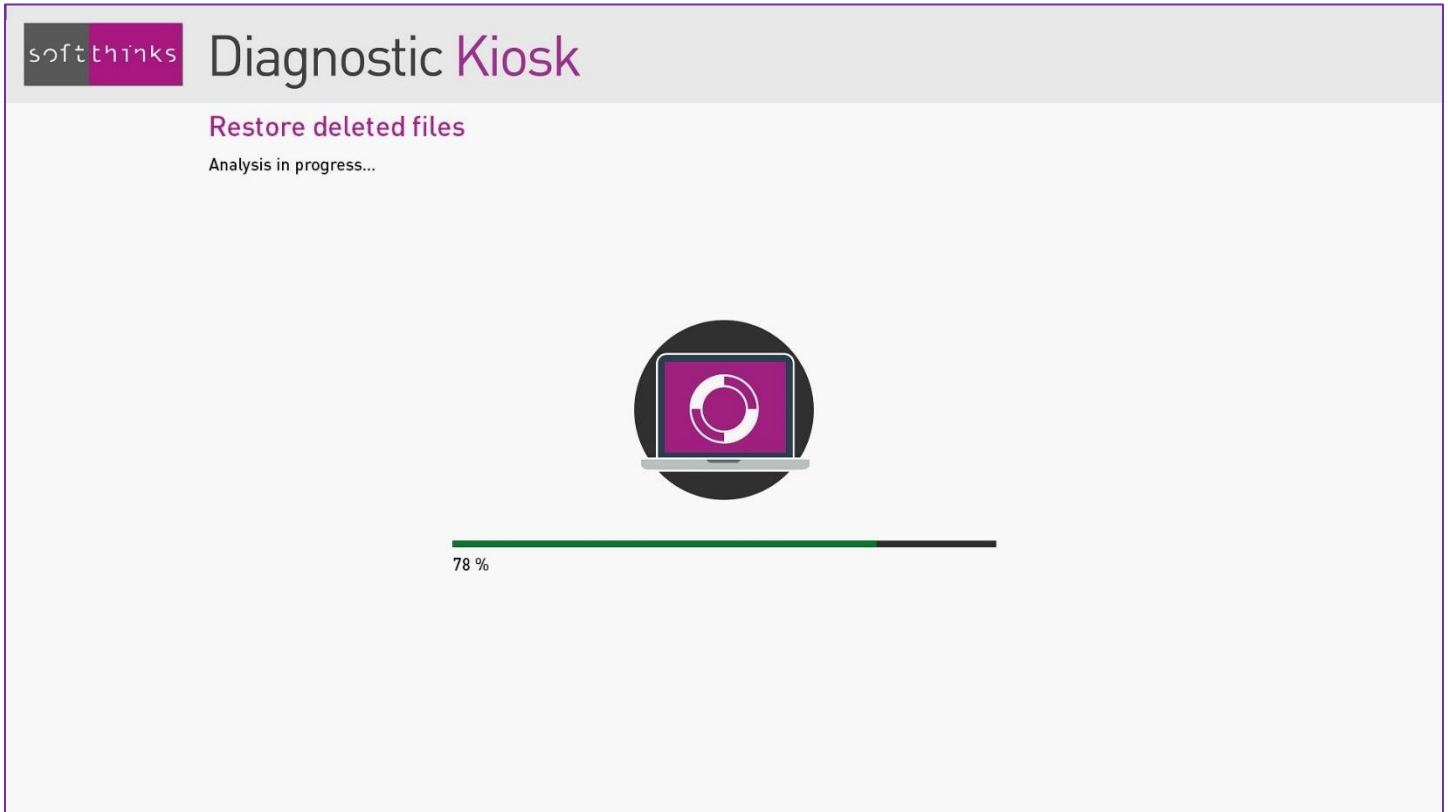
If no data backup has been performed, we will give you the option to create one before recovering the system (Cf. [Backup and migration of user data and settings](#)).

The interface guides you through the process and stops on its own if the prerequisites are not fulfilled (for instance, a power supply not connected).

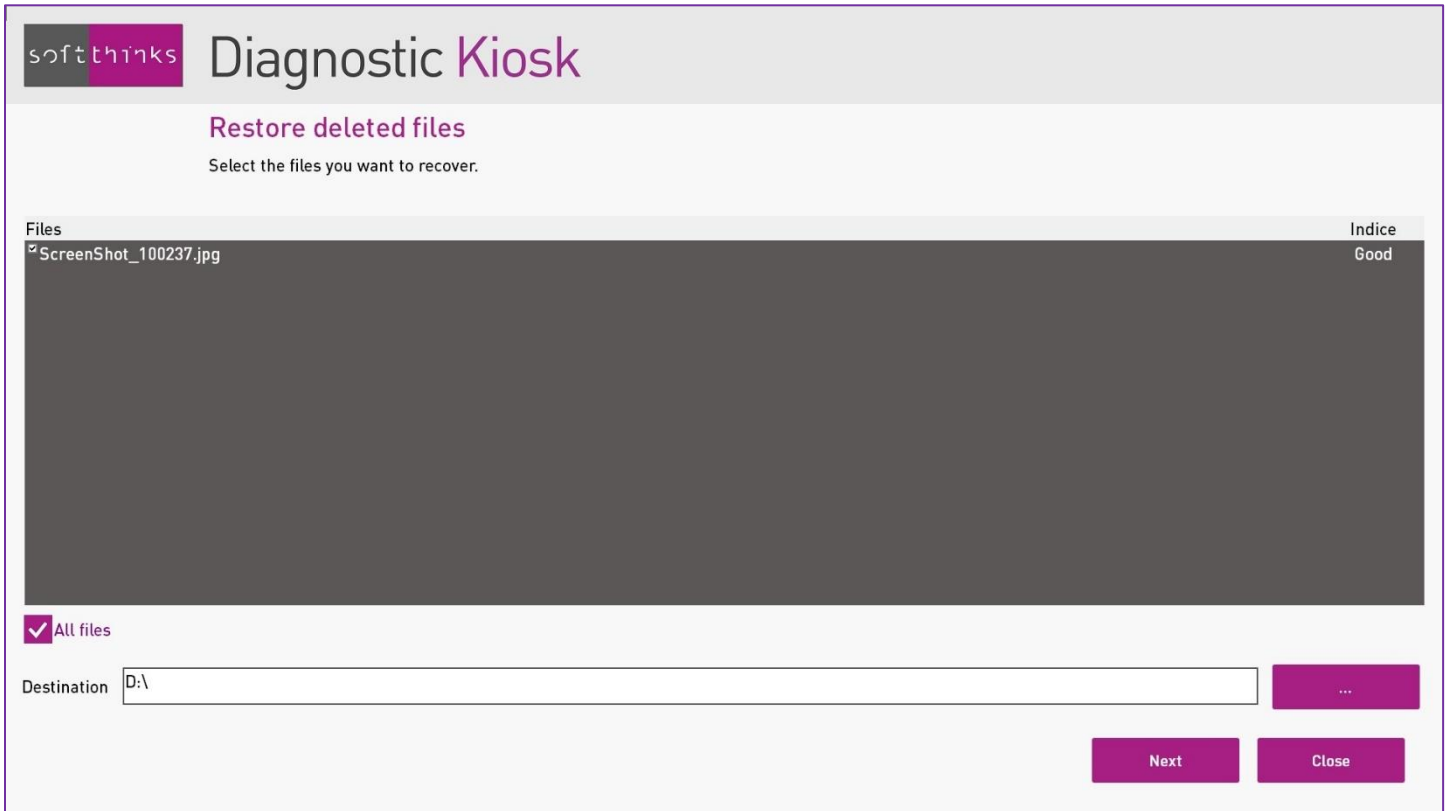


Restoration of deleted data (Undelete)

This feature allows you to restore files accidentally deleted. It will first analyze the PC storage:



And then will display the list of the files which can be restored with a recoverability index:



The screenshot displays the 'Diagnostic Kiosk' interface for restoring deleted files. At the top, the title 'Restore deleted files' is shown, followed by the instruction 'Select the files you want to recover.' Below this is a table of files:

Files	Indice
ScreenShot_100237.jpg	Good

Below the table, there is a checkbox labeled 'All files' which is checked. A 'Destination' field contains the text 'D:\', followed by a button with three dots. At the bottom right, there are two buttons: 'Next' and 'Close'.

You can either select files individually or click on "All files" to select all of them, and then choose the target directory before clicking on "Next".

***Note:** We strongly recommend restore your files to another location in order to avoid any overwriting of the files to restore; the kiosk will warn you about this, should the case happen.*



Diagnostic Kiosk

Restore deleted files

All files have been successfully recovered.



Close

Backup and migration of user data and settings

The migration gives you the ability to backup user data and settings (wallpaper, etc...) to restore them later:

softthinks Diagnostic Kiosk

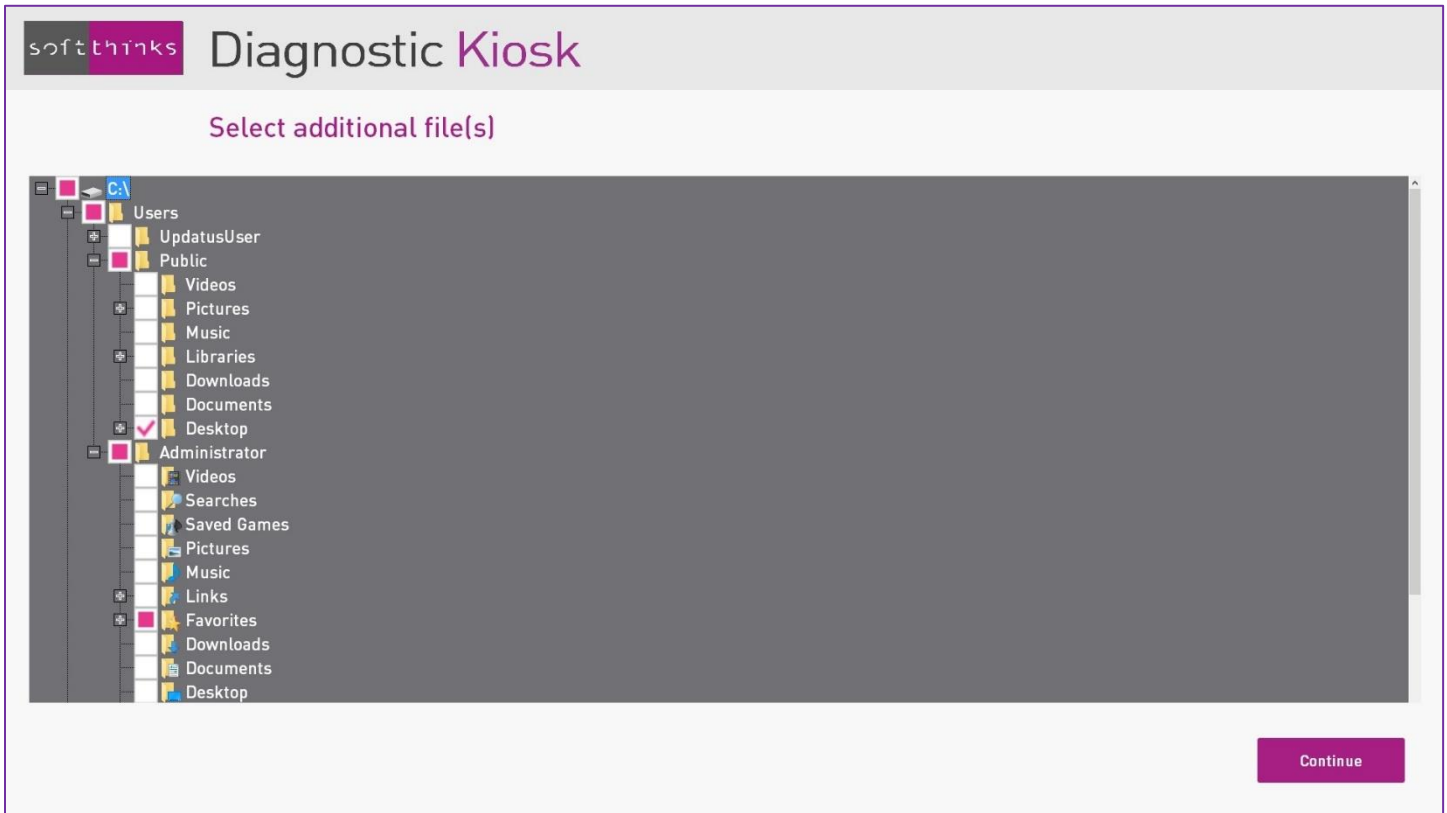
Data and settings backup

We will now back up your data and personal settings before we restore your system.
Please attach a USB drive with enough space to hold your files.
Below are the file types we have pre-selected to be saved.
Click "Continue" to proceed or click "Select more" to view the summary or add any additional files that you would like to save.


- Photos
- Videos
- Musics
- Financial Data

Select more Skip Continue

Photos, videos, audio files and financial data are backed up by default, as well as some user settings (wallpaper, etc...) but if you want to add more files, or eventually remove some pre-selected files, click on "Select more":




Then click on "Continue". An external storage device is required. If there is not enough free space, you will be asked to connect a storage device with more free space:



Diagnostic Kiosk

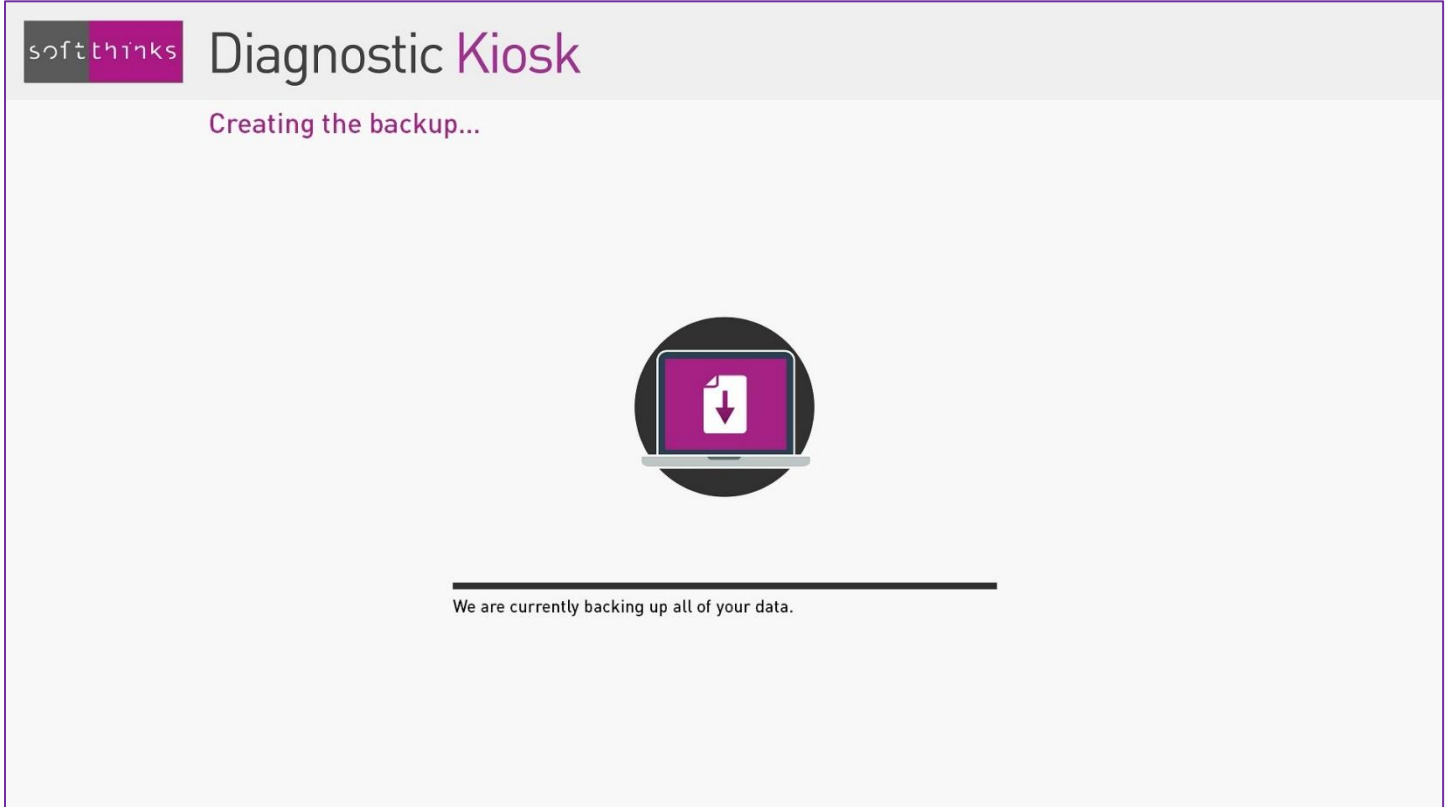
Attach External Drive.

Please attach a USB hard drive to your system in order to back up your data and personal settings.

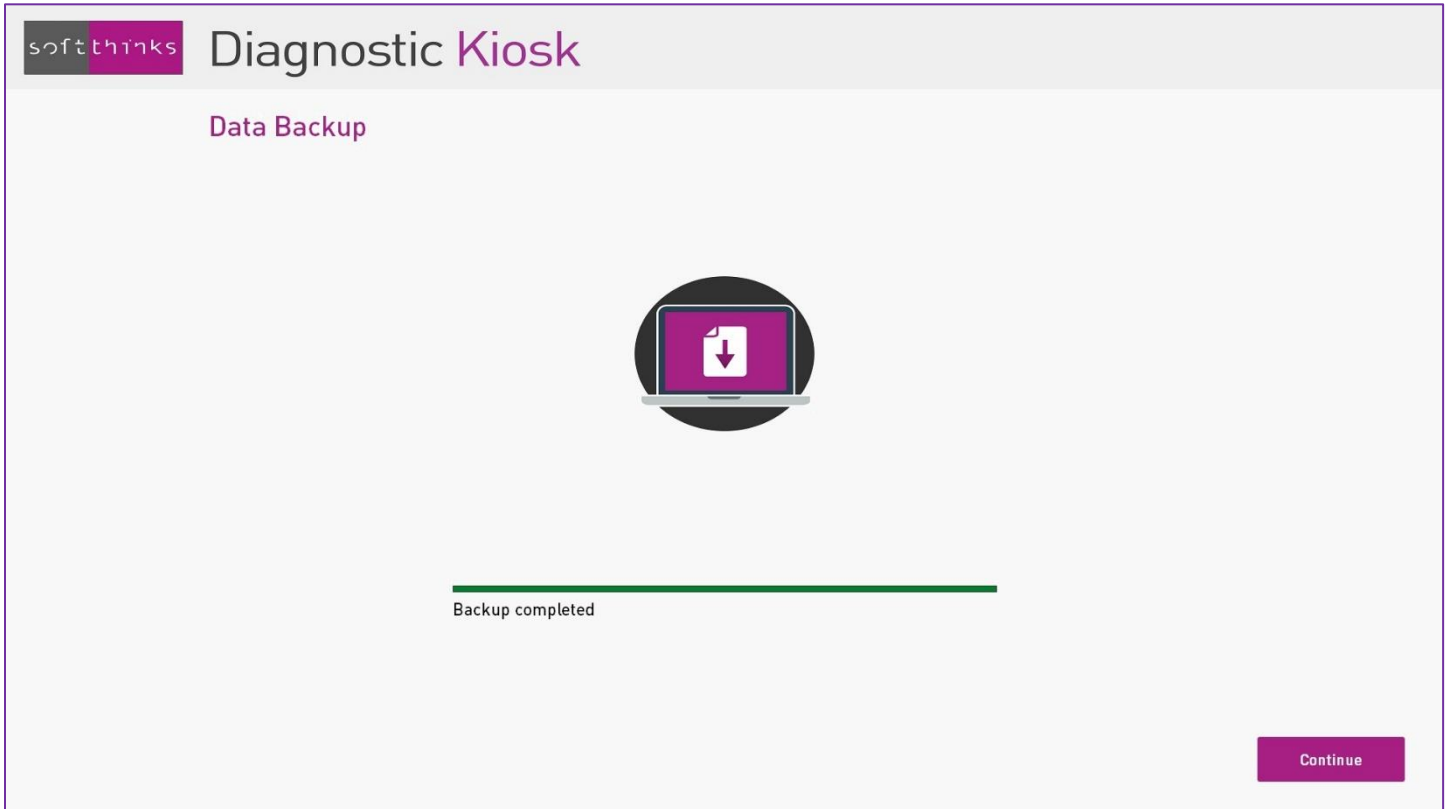


[Continue](#)

Once an external storage device with enough free disk space has been plugged in, the backup will start:



The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title, the text 'Creating the backup...' is displayed. In the center, there is a circular icon of a laptop with a document and a downward arrow on its screen. Below this icon is a horizontal progress bar that is almost completely filled with a black line. Underneath the progress bar, the text 'We are currently backing up all of your data.' is shown.



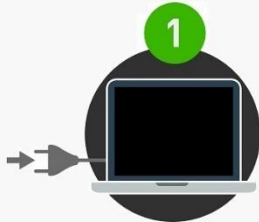
The screenshot shows the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk'. Below the title, the text 'Data Backup' is displayed. In the center, there is a circular icon of a laptop with a document and a downward arrow on its screen. Below this icon is a horizontal progress bar that is completely filled with a green line. Underneath the progress bar, the text 'Backup completed' is shown. In the bottom right corner, there is a purple button labeled 'Continue'.



Diagnostic Kiosk

All files have been backed up.

The Services Kiosk has performed the task successfully.



1
Shutdown your old computer and remove the cables coming from the kiosk.



2
Connect your new computer and attach to it the USB hard drive containing the backup.

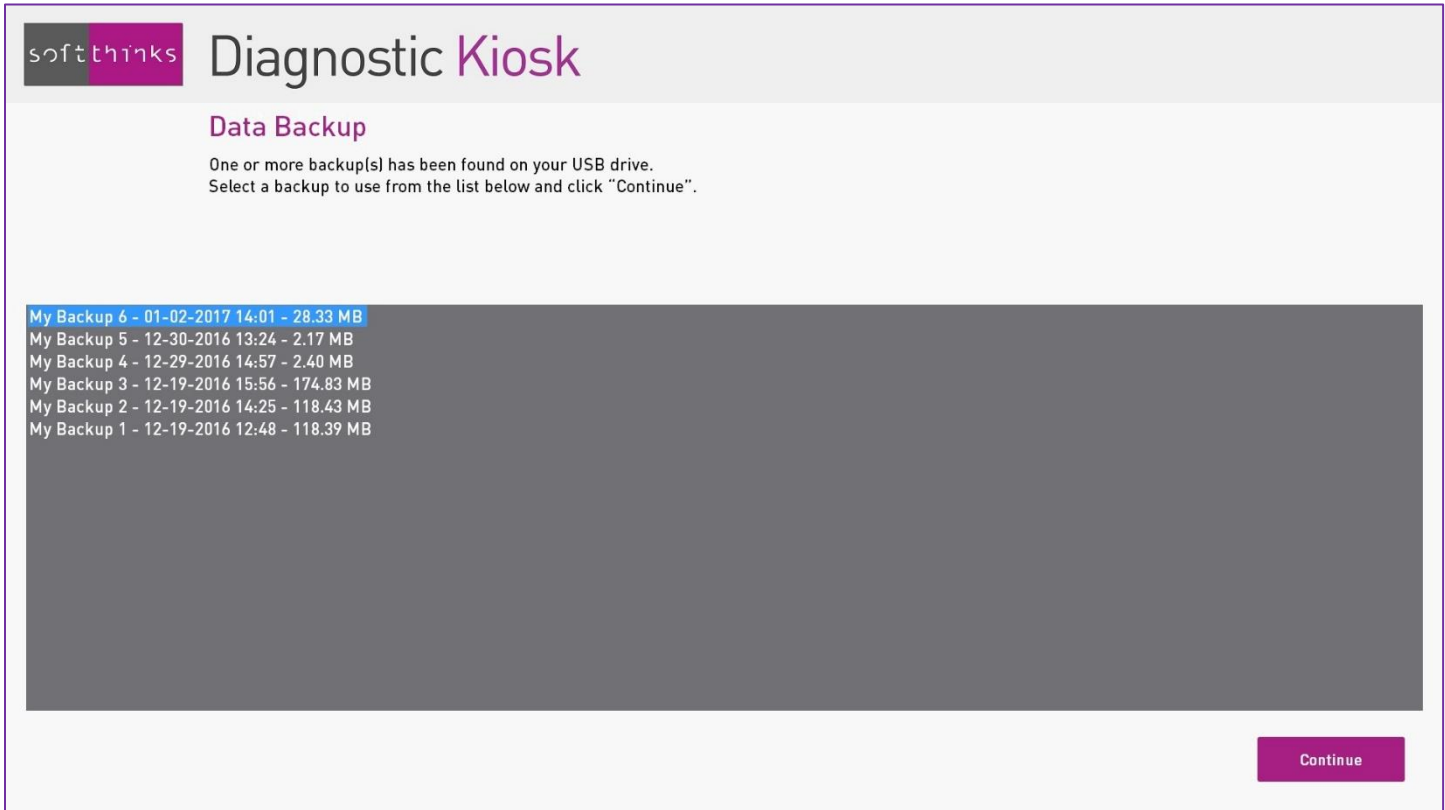


3
Power on your new computer and follow the instructions on the Services Kiosk and select the option for the recovery of your user data and settings backup.

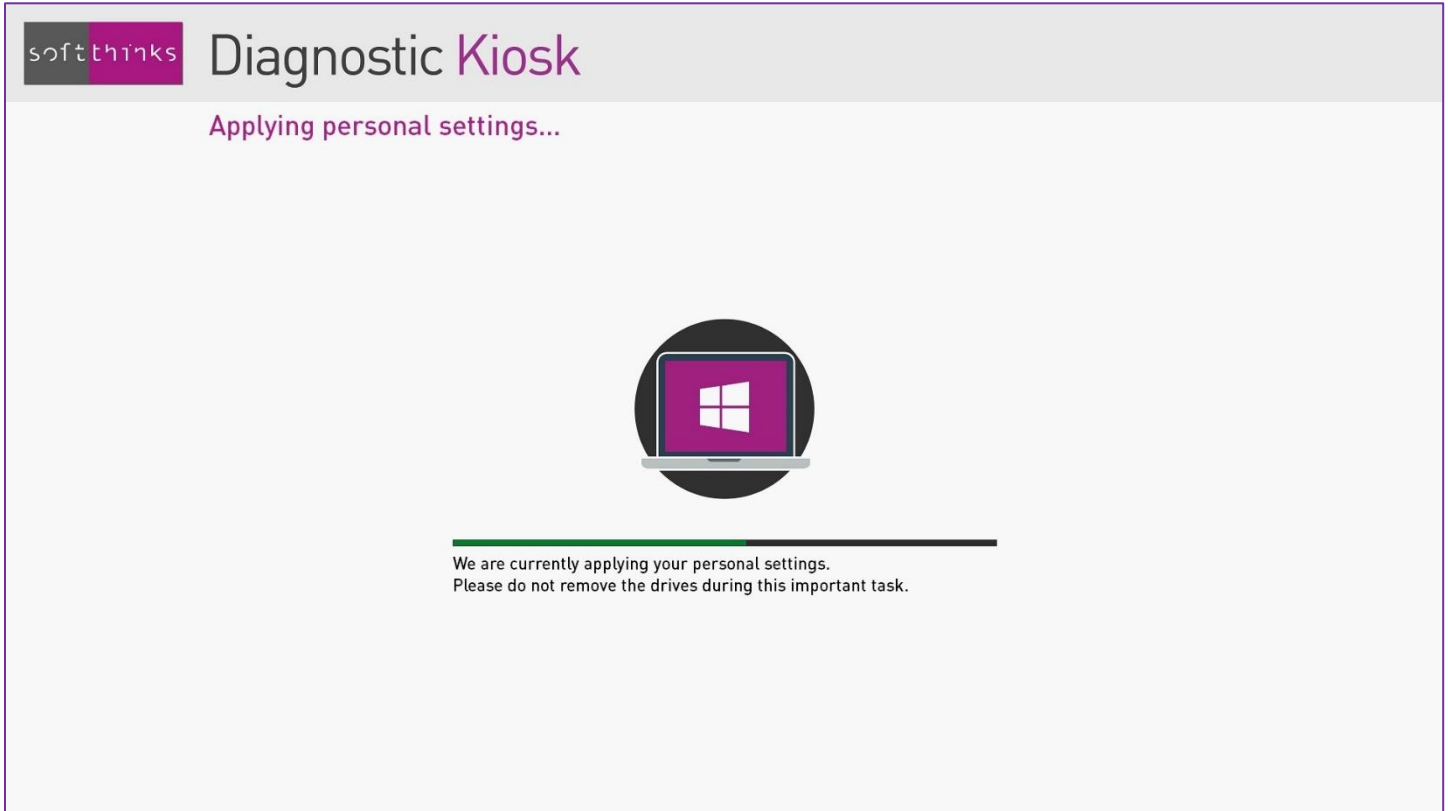
Continue

Recovery of user data and settings to a new device

We need to connect the external drive containing the backup to restore and select it in the list of the backups found:

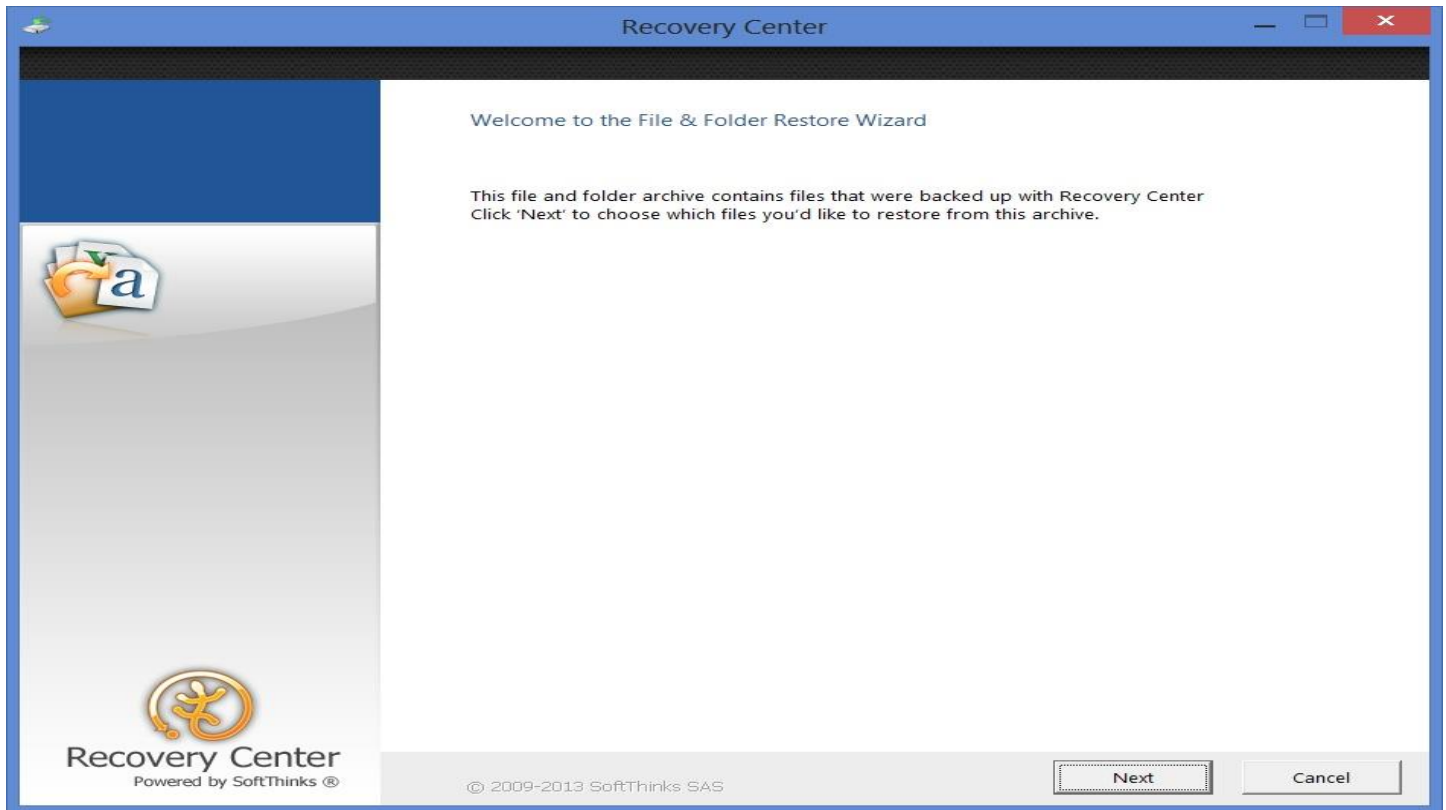


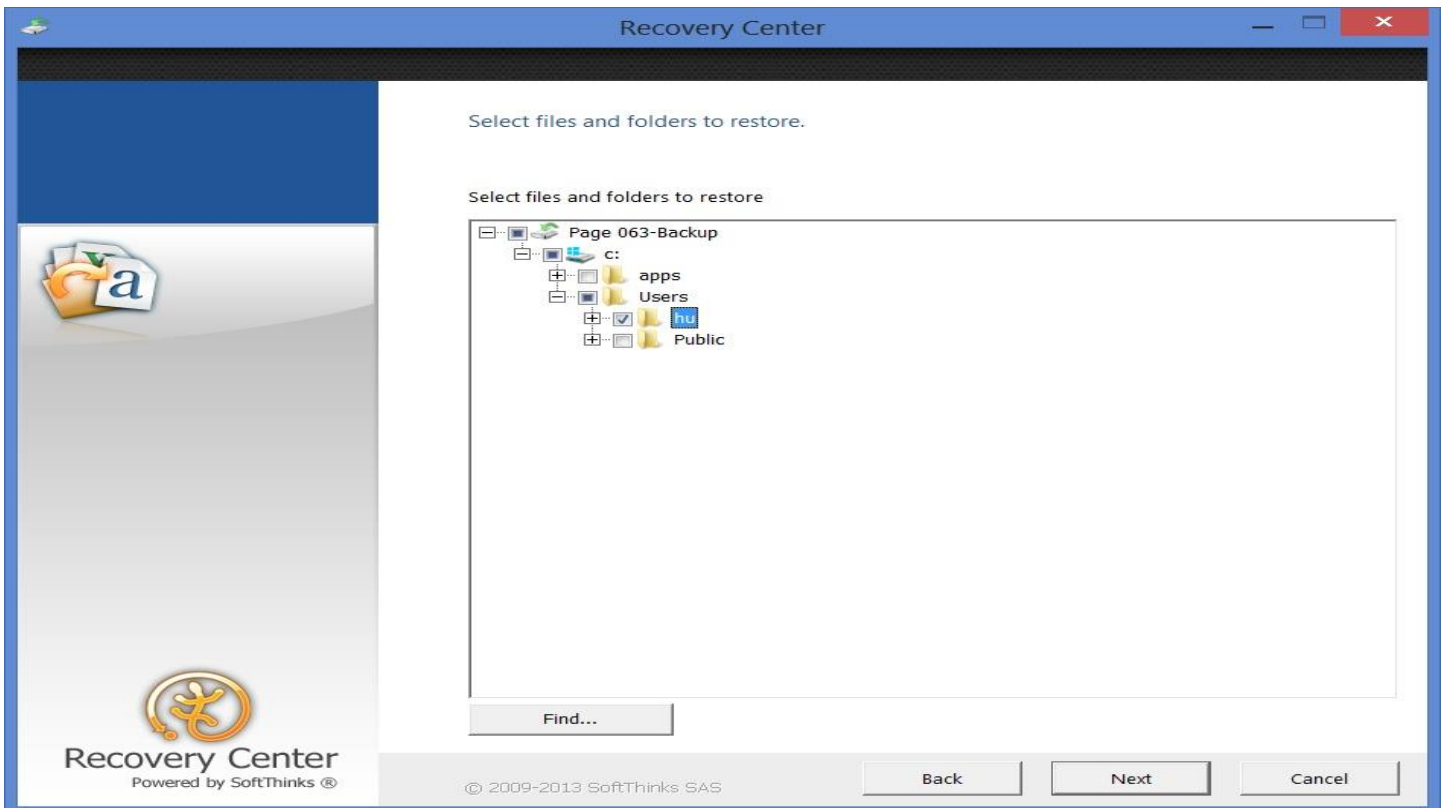
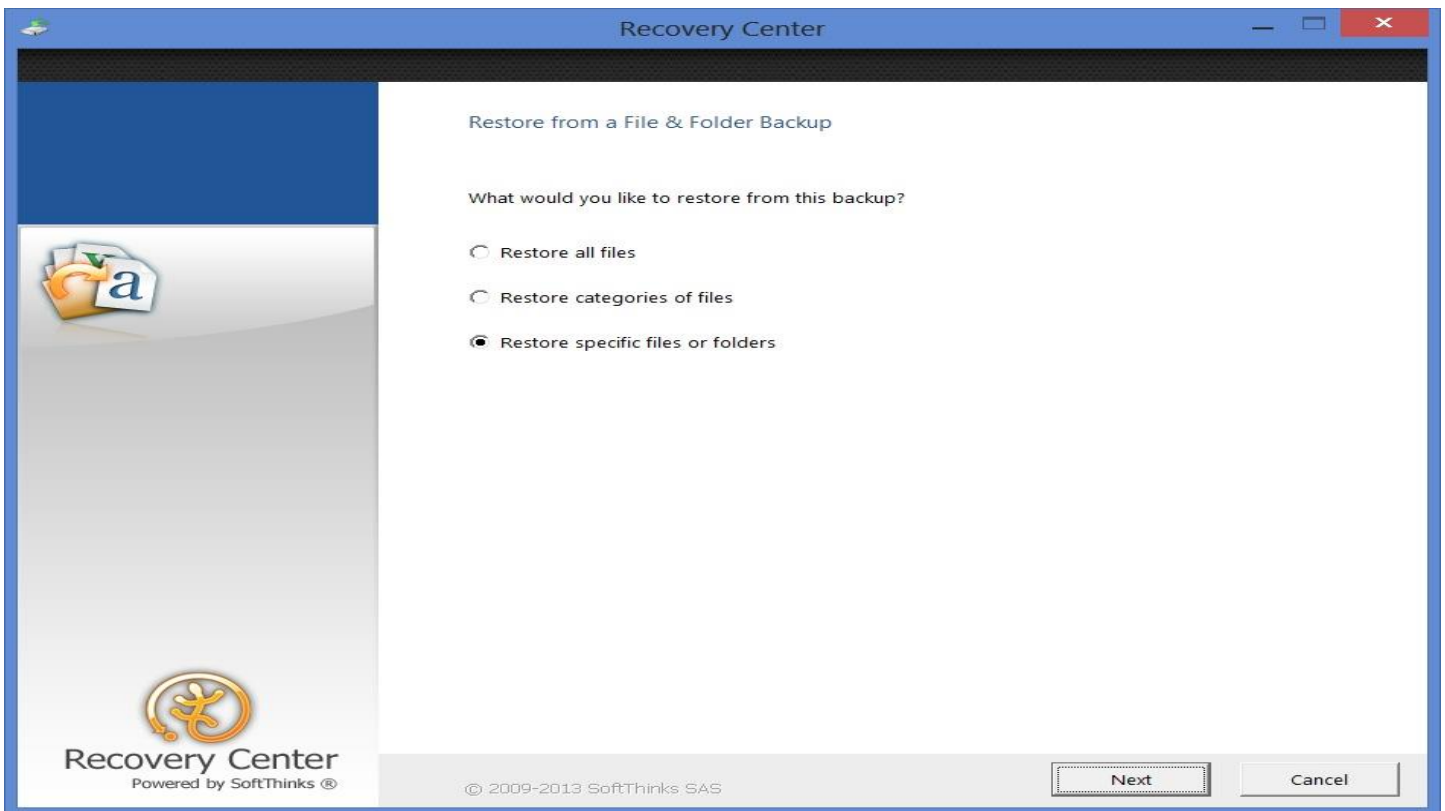
Select the backup to restore and click on "Continue" and the recovery will begin.



Raw data backup

With this feature, only the data is backed up, not the user settings. Therefore, the screens are the same as for the “Backup and migration of user data and settings” option. But the data restoration process is different since it’s done through the single auto-executable file, generated on the drive selected as target for the backup, which has its own UI and doesn’t require the Kiosk and can be run on any Windows PC:





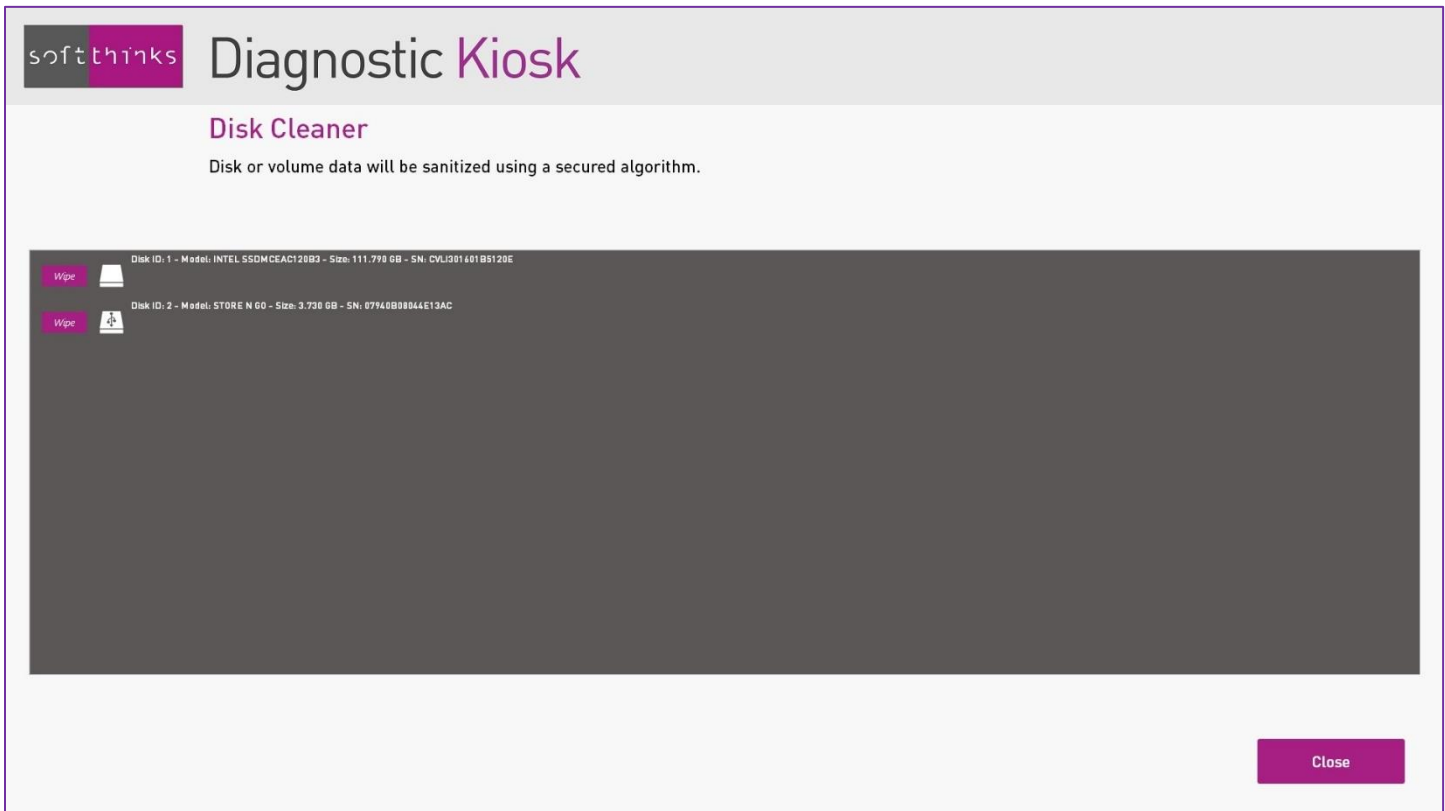
Secure wipe of disks

This feature offers you to securely (**ADISA** certification) wipe a hard disk drive, for instance in order to resell it, after secure erasure of the data of all former users.

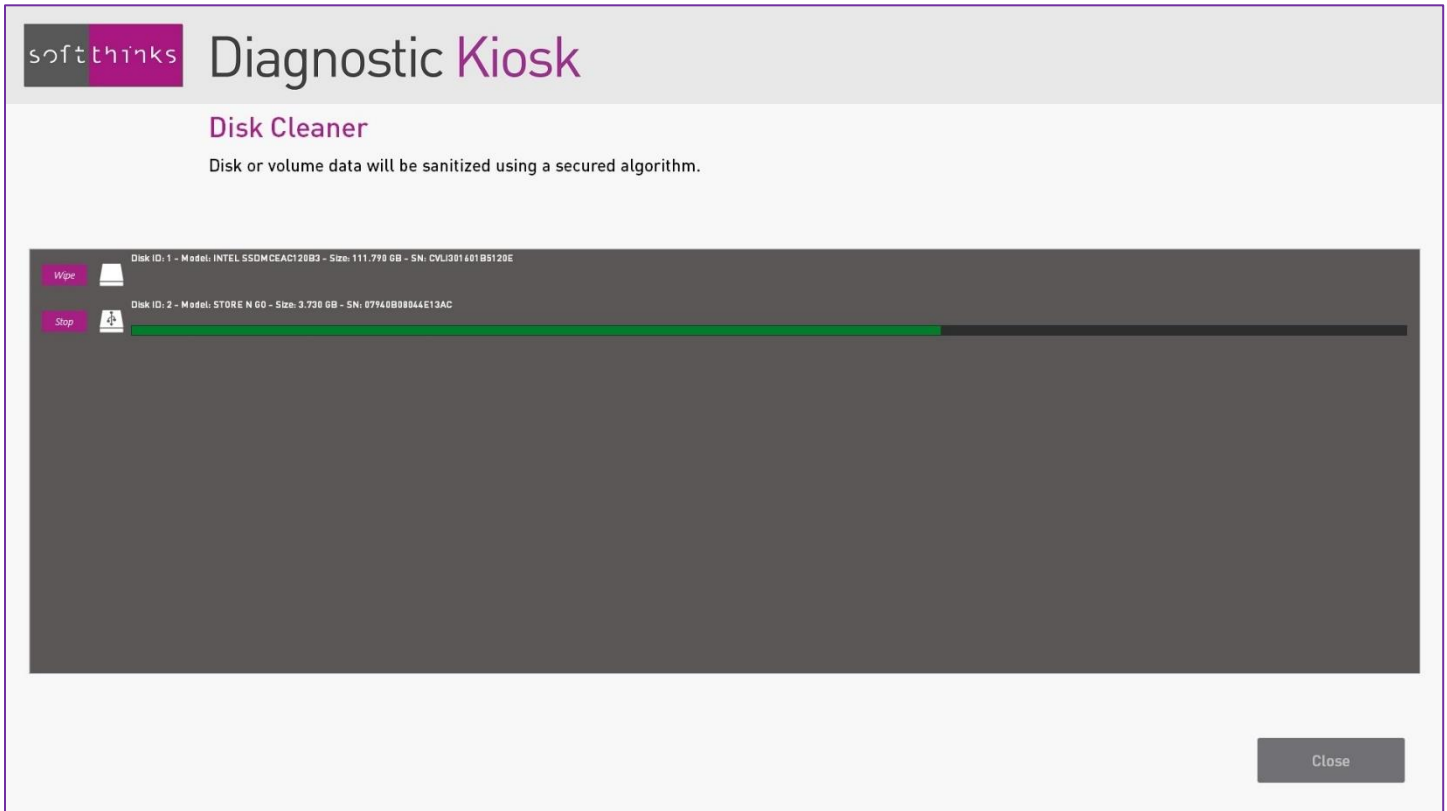
Beware that this process is irreversible and potentially long, but it is the only one ensuring a 100% secured wipe.

If no data backup has ever been performed, we will give you the option to create one before wiping the system.

The interface will display the list of the disks present in the device. Click on "Wipe" button in the front of each disk you want to wipe:



You can stop wiping a disk at any time by clicking on the “Stop” button in the front of this disk:



Reports

Synthetic report

After completion of every action, an incremental report is displayed:

The screenshot displays the 'Diagnostic Kiosk' interface. At the top left is the 'softthinks' logo. The main title is 'Diagnostic Kiosk' with a home icon in the top right corner. Below the title, the word 'Report' is displayed in a purple font, followed by 'Information' in a smaller black font.

The central area contains a white box with the following details:

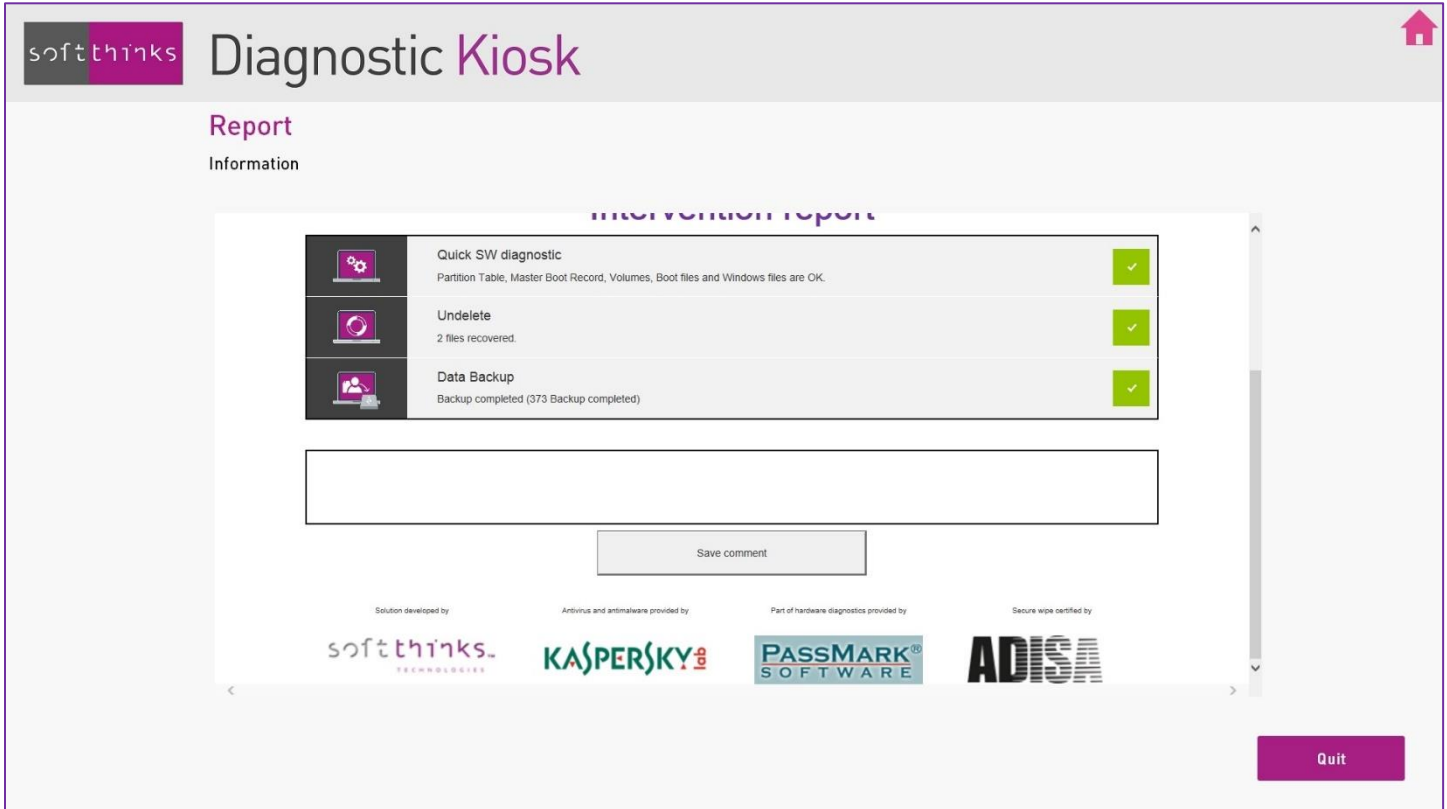
- TECHNICIAN:** (blank)
- DATE:** 03/01/2017 - 10:27:01
- ID:** (blank)
- PRODUCT:** Inspiron 7720 (Inspiron 7720)
- MANUFACTURER:** Dell Inc.
- SERIAL NUMBER:** P1NSN793
- CPU:** Intel(R) Core(TM) i7-3610QM CPU @ 2.30GHz
- MOTHERBOARD:** Dell Inc. - A7E3T2 -X01
- RAM DETECTED:** 4096 MB
- INTERNAL DISK:** ST9750420AS - 698.64 GB (C.D - GPT)
INTEL SSDMCEAC120B3 - 111.79 GB (E - MBR)
STORE N GO - 3.73 GB (F - MBR)
- OPTICAL DRIVE:** Optiarc , DVD RW BD BC-5540H, 201A (G)

Below this information is the 'Intervention report' section, which lists three completed actions:

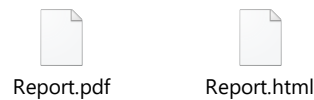
Icon	Action	Status
	Quick SW diagnostic Partition Table, Master Boot Record, Volumes, Boot files and Windows files are OK.	✓
	Undelete 2 files recovered.	✓
	Data Backup Backup completed (373 Backup completed)	✓

At the bottom right of the interface is a purple 'Quit' button.

You have the option to enter a comment that will be included in the final report left on user's PC and archived on the Kiosk:



The final report is automatically exported in the HTML and PDF formats on the desktop of the PC. A copy is also archived in the kiosk:



Full report

You would also need a detailed report to archive in order to respond to any questions that the end user would have and that tracks this device if the user brings it back later.

This report will consist in an archive (ZIP file) containing the synthetic customer report as well as all HW test reports and any other internal logs generated.

Below is an example of HW test report:

```
PassMark BurnInTest Log file - http://www.passmark.com
=====
```

```
Date: 09/14/16 11:31:43
```

```
BurnInTest V8.0 Pro 1019 (64-bit)
```

System summary:

```
Windows 8.1 Ultimate Edition build 9600 (64-bit),
1 x Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz,
5.9GB RAM,
699GB HDD, 22GB SSD,
CD-RW/DVDRW,
```

General:

```
System Name: MININT-F528CEV
Motherboard Manufacturer: ASUSTeK COMPUTER INC.
Motherboard Name: S551LN
Motherboard Version: 1.0
BIOS Manufacturer: American Megatrends Inc.
BIOS Version: S551LN.209
BIOS Release Date: 07/08/2014
```

CPU:

```
CPU manufacturer: GenuineIntel
CPU Type: Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz
Codename: Haswell
CPUID: Family 6, Model 45, Stepping 1
Socket: FCBGA1168
Lithography: 22nm
Physical CPU's: 1
Cores per CPU: 2
Hyperthreading: Enabled
CPU features: MMX SSE SSE2 SSE3 SSSE3 SSE4.1 SSE4.2 DEP PAE Intel64 VMX AES AVX AVX2 XOP FMA3
Clock frequencies:
- Measured CPU speed: 1696.1 MHz
- Base Clock: 100.0 MHz
- Multiplier range: Min: x8, Max non turbo: x17
Cache per CPU package:
- L1 Instruction Cache: 4 x 32 KB
- L1 data cache: 4 x 32 KB
- L2 cache: 4 x 256 KB
- L3 cache: 3 MB
```

Memory

```
Total Physical Memory: 6027MB
Available Physical Memory: 4839MB
Memory devices:
ChannelA-DIMM0:
- 4096MB, 1600MHz,
ChannelA-DIMM1:
- Not populated
ChannelB-DIMM0:
- 2048MB, 1600MHz,
- Serial#: 1E237DC4
```

ChannelB-DIMM1:
- Not populated

Memory SPD:

Disk volumes

C: Local Drive, \\?\Volume{89912d91-6911-4d93-850d-d0c9b89311f9}\, SoftThinks, NTFS, (693.09GB total, 675.58GB free)
D: Optical drive, \\?\Volume{8ffe633b-7ab1-11e6-9f6e-806e6f6e6963}\
E: Local Drive, \\?\Volume{76825600-0194-48bf-9813-4aeb7d54b419}\, RECOVERY, NTFS, (5.32GB total, 2.07GB free)
N: Networked, SDS, NTFS
R: Local Drive, Boot, NTFS, (0.38GB total, 0.37GB free)
X: Local Drive, \\?\Volume{d9b257fc-684e-4dcb-ab79-03cfa2f6b750}\, Boot, NTFS, (0.38GB total, 0.37GB free)

Disk drives

Physical disk 0: size 698.64GB, Fixed
Physical disk 1: size 22.37GB, Fixed

Optical drives

D: MATSHITA DVD-RAM UJ8E2 S (CD-RW/DVDRW)

Network

Realtek PCIe GBE Family Controller (Speed: 1Gb/s) (MAC: 10:C3:7B:B6:D7:C0)

Ports

DETAILED EVENT LOG

LOG NOTE: 2016-09-14 11:31:43, Status, PassMark BurnInTest V8.0 Pro 1019 (64-bit)
LOG NOTE: 2016-09-14 11:31:44, Status, Main Tests started
LOG NOTE: 2016-09-14 11:36:50, Status, Test run stopped

RESULT SUMMARY

Test Start time: Wed Sep 14 11:31:43 2016 (Accumulated results start time: Wed Sep 14 11:31:43 2016)
Test Stop time: Wed Sep 14 11:36:50 2016 (Accumulated results stop time: Wed Sep 14 11:36:50 2016)
Test Duration: 000h 05m 07s (Accumulated results duration: 000h 05m 07s)

Test Name	CPU	Cycles	Operations	Result	Errors	Last Error
TEST RUN PASSED		19	322 Billion	PASS	0	No errors

SERIOUS ERROR SUMMARY FOR THE LAST TEST RUN

PassMark BurnInTest Log file - <http://www.passmark.com>
=====

Date: 09/14/16 11:37:05

BurnInTest V8.0 Pro 1019 (64-bit)

System summary:

Windows 8.1 Ultimate Edition build 9600 (64-bit),
1 x Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz,
5.9GB RAM,
699GB HDD, 22GB SSD,
CD-RW/DVDRW,

General:

System Name: MININT-F528CEV
Motherboard Manufacturer: ASUSTeK COMPUTER INC.
Motherboard Name: S551LN
Motherboard Version: 1.0
BIOS Manufacturer: American Megatrends Inc.
BIOS Version: S551LN.209

BIOS Release Date: 07/08/2014

CPU:

CPU manufacturer: GenuineIntel
CPU Type: Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz
Codename: Haswell
CPUID: Family 6, Model 45, Stepping 1
Socket: FCBGA1168
Lithography: 22nm
Physical CPU's: 1
Cores per CPU: 2
Hyperthreading: Enabled
CPU features: MMX SSE SSE2 SSE3 SSSE3 SSE4.1 SSE4.2 DEP PAE Intel64 VMX AES AVX AVX2 XOP FMA3
Clock frequencies:
- Measured CPU speed: 1696.3 MHz
- Base Clock: 100.0 MHz
- Multiplier range: Min: x8, Max non turbo: x17
Cache per CPU package:
- L1 Instruction Cache: 4 x 32 KB
- L1 data cache: 4 x 32 KB
- L2 cache: 4 x 256 KB
- L3 cache: 3 MB

Memory

Total Physical Memory: 6027MB
Available Physical Memory: 4844MB

Memory devices:

ChannelA-DIMM0:
- 4096MB, 1600MHz,
ChannelA-DIMM1:
- Not populated
ChannelB-DIMM0:
- 2048MB, 1600MHz,
- Serial#: 1E237DC4
ChannelB-DIMM1:
- Not populated

Memory SPD:

Disk volumes

C: Local Drive, \\?\Volume{89912d91-6911-4d93-850d-d0c9b89311f9}\, SoftThinks, NTFS, (693.09GB total, 675.58GB free)
D: Optical drive, \\?\Volume{8ffe633b-7ab1-11e6-9f6e-806e6f6e6963}\
E: Local Drive, \\?\Volume{76825600-0194-48bf-9813-4aeb7d54b419}\, RECOVERY, NTFS, (5.32GB total, 2.07GB free)
N: Networked, SDS, NTFS
R: Local Drive, Boot, NTFS, (0.38GB total, 0.37GB free)
X: Local Drive, \\?\Volume{d9b257fc-684e-4dcb-ab79-03cfa2f6b750}\, Boot, NTFS, (0.38GB total, 0.37GB free)

Disk drives

Physical disk 0: size 698.64GB, Fixed
Physical disk 1: size 22.37GB, Fixed

Optical drives

D: MATSHITA DVD-RAM UJ8E2 S (CD-RW/DVDRW)

Network

Realtek PCIe GBE Family Controller (Speed: 1Gb/s) (MAC: 10:C3:7B:B6:D7:C0)

Ports

DETAILED EVENT LOG

LOG NOTE: 2016-09-14 11:37:05, Status, PassMark BurnInTest V8.0 Pro 1019 (64-bit)
LOG NOTE: 2016-09-14 11:37:07, Status, Main Tests started
LOG NOTE: 2016-09-14 11:42:11, Status, Test run stopped

RESULT SUMMARY

Test Start time: Wed Sep 14 11:37:05 2016 (Accumulated results start time: Wed Sep 14 11:31:43 2016)
 Test Stop time: Wed Sep 14 11:42:11 2016 (Accumulated results stop time: Wed Sep 14 11:42:11 2016)
 Test Duration: 000h 05m 06s (Accumulated results duration: 000h 10m 13s)

Test Name	Memory (RAM)	Cycles	Operations	Result	Errors	Last Error
TEST RUN PASSED		13	117 Billion	PASS	0	No errors

 SERIOUS ERROR SUMMARY FOR THE LAST TEST RUN

PassMark BurnInTest Log file - <http://www.passmark.com>
 =====

Date: 09/14/16 11:42:28

BurnInTest V8.0 Pro 1019 (64-bit)

System summary:

Windows 8.1 Ultimate Edition build 9600 (64-bit),
 1 x Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz,
 5.9GB RAM,
 699GB HDD, 22GB SSD,
 CD-RW/DVDRW,

General:

System Name: MININT-F528CEV
 Motherboard Manufacturer: ASUSTeK COMPUTER INC.
 Motherboard Name: S551LN
 Motherboard Version: 1.0
 BIOS Manufacturer: American Megatrends Inc.
 BIOS Version: S551LN.209
 BIOS Release Date: 07/08/2014

CPU:

CPU manufacturer: GenuineIntel
 CPU Type: Intel(R) Core(TM) i3-4010U CPU @ 1.70GHz
 Codename: Haswell
 CPUID: Family 6, Model 45, Stepping 1
 Socket: FCBGA1168
 Lithography: 22nm
 Physical CPU's: 1
 Cores per CPU: 2
 Hyperthreading: Enabled
 CPU features: MMX SSE SSE2 SSE3 SSSE3 SSE4.1 SSE4.2 DEP PAE Intel64 VMX AES AVX AVX2 XOP FMA3
 Clock frequencies:
 - Measured CPU speed: 1696.0 MHz
 - Base Clock: 100.0 MHz
 - Multiplier range: Min: x8, Max non turbo: x17
 Cache per CPU package:
 - L1 Instruction Cache: 4 x 32 KB
 - L1 data cache: 4 x 32 KB
 - L2 cache: 4 x 256 KB
 - L3 cache: 3 MB

Memory

Total Physical Memory: 6027MB
 Available Physical Memory: 4847MB

Memory devices:

ChannelA-DIMM0:
 - 4096MB, 1600MHz,
 ChannelA-DIMM1:
 - Not populated
 ChannelB-DIMM0:
 - 2048MB, 1600MHz,
 - Serial#: 1E237DC4
 ChannelB-DIMM1:
 - Not populated

Memory SPD:

Disk volumes

C: Local Drive, \\?\Volume{89912d91-6911-4d93-850d-d0c9b89311f9}\, SoftThinks, NTFS, (693.09GB total, 675.58GB free)
 D: Optical drive, \\?\Volume{8ffe633b-7ab1-11e6-9f6e-806e6f6e6963}\
 E: Local Drive, \\?\Volume{76825600-0194-48bf-9813-4aeb7d54b419}\, RECOVERY, NTFS, (5.32GB total, 2.07GB free)
 N: Networked, SDS, NTFS
 R: Local Drive, Boot, NTFS, (0.38GB total, 0.37GB free)
 X: Local Drive, \\?\Volume{d9b257fc-684e-4dcb-ab79-03cfa2f6b750}\, Boot, NTFS, (0.38GB total, 0.37GB free)

Disk drives

Physical disk 0: size 698.64GB, Fixed
 Physical disk 1: size 22.37GB, Fixed

Optical drives

D: MATSHITA DVD-RAM UJ8E2 S (CD-RW/DVDRW)

Network

Realtek PCIe GBE Family Controller (Speed: 1Gb/s) (MAC: 10:C3:7B:B6:D7:C0)

Ports

 DETAILED EVENT LOG

LOG NOTE: 2016-09-14 11:42:28, Status, PassMark BurnInTest V8.0 Pro 1019 (64-bit)
 LOG NOTE: 2016-09-14 11:42:29, Status, Main Tests started
 LOG NOTE: 2016-09-14 11:52:39, Status, Test run stopped

 RESULT SUMMARY

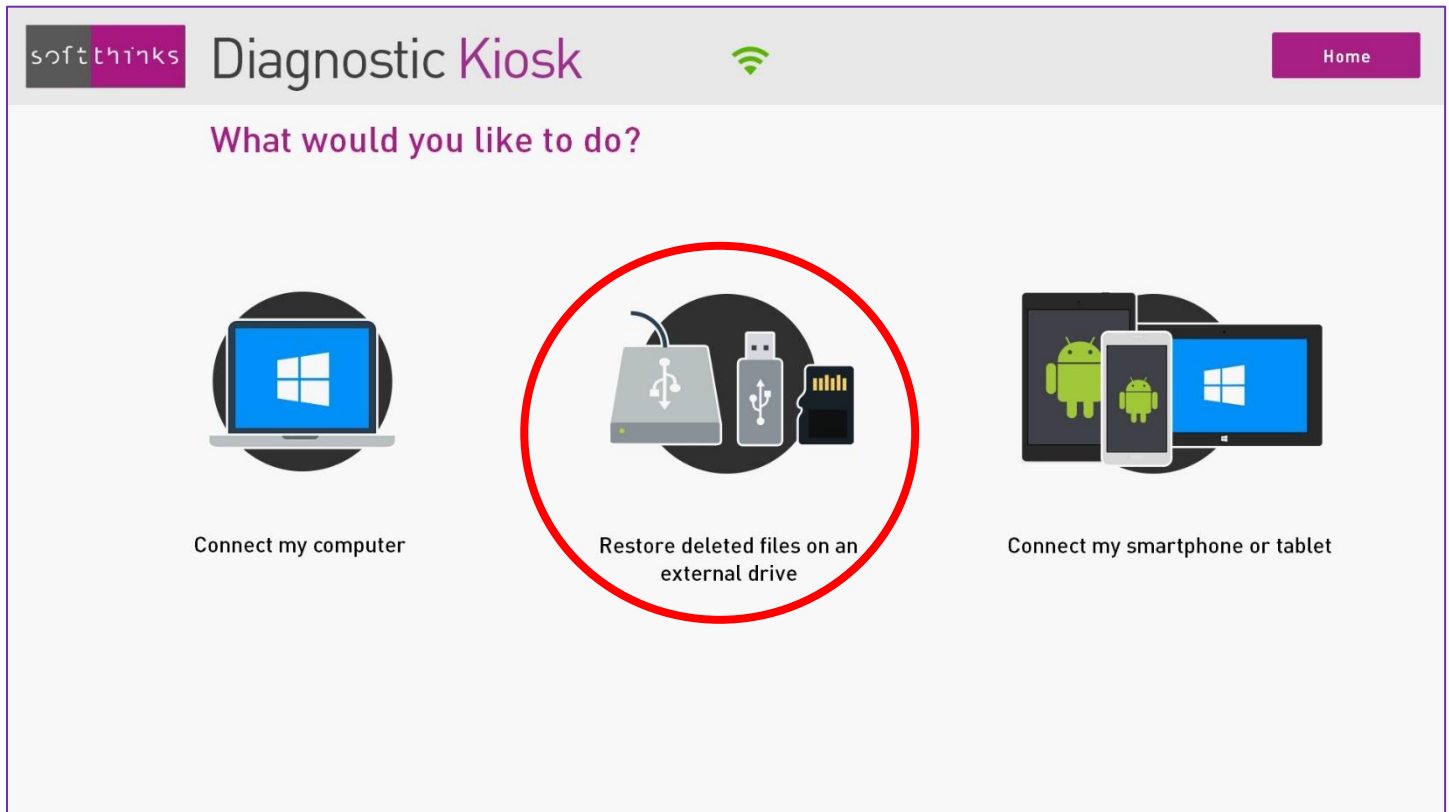
Test Start time: Wed Sep 14 11:42:28 2016 (Accumulated results start time: Wed Sep 14 11:31:43 2016)
 Test Stop time: Wed Sep 14 11:52:39 2016 (Accumulated results stop time: Wed Sep 14 11:52:39 2016)
 Test Duration: 000h 10m 11s (Accumulated results duration: 000h 20m 24s)
 Temperature CPU 0 average (Min/Current/Max): 49.0C / 57.5C / 60.5C
 Temperature CPU 0 core 0 (Min/Current/Max): 50.0C / 58.0C / 61.0C
 Temperature CPU 0 core 1 (Min/Current/Max): 48.0C / 57.0C / 60.0C
 Temperature HDD 0 () (Min/Current/Max): 29.0C / 30.0C / 30.0C

Test Name	Cycles	Operations	Result	Errors	Last Error
CPU	49	1.447 Trillion	PASS	0	No errors
Memory (RAM)	18	169 Billion	PASS	0	No errors
Temperature	-	-	PASS	0	No errors

TEST RUN PASSED

 SERIOUS ERROR SUMMARY FOR THE LAST TEST RUN

PART 2: USB KEYS AND EXTERNAL HARD DISK DRIVES

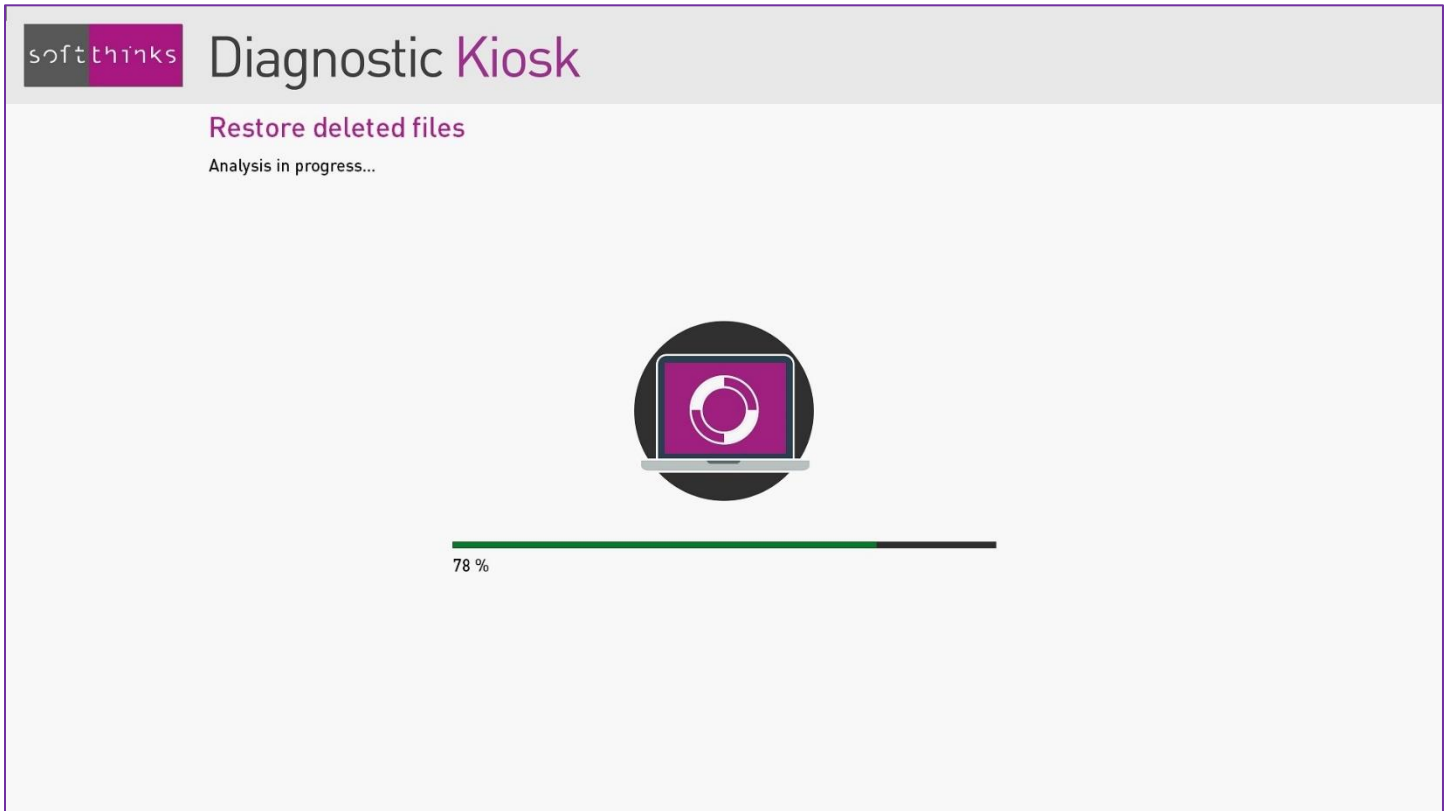


Plug the USB key or disk on a USB port of the kiosk

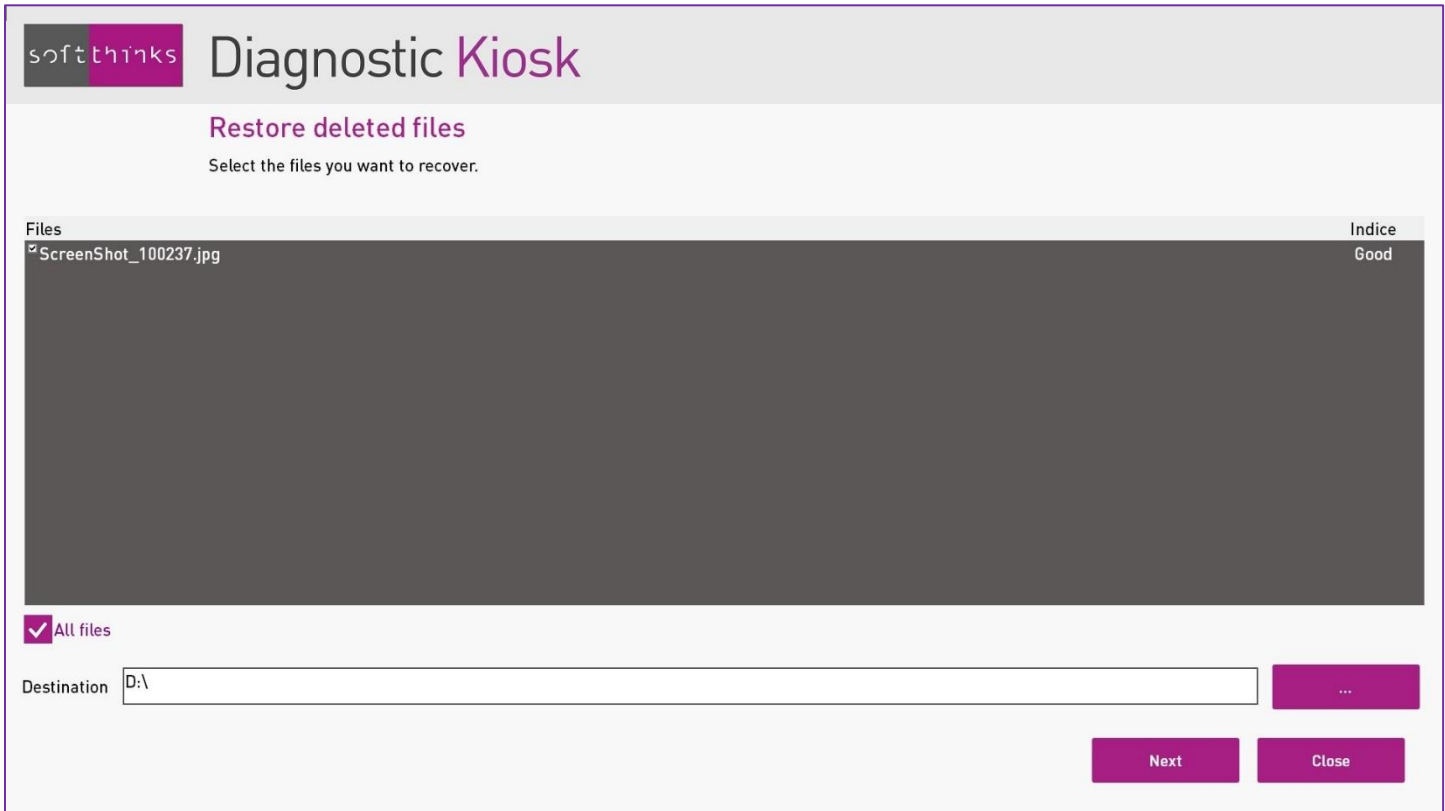
If the USB key or disk contains several partitions, you will be invited to choose the ones into which you want to search for deleted files (only partitions from an external drive will be shown):

The screenshot shows a software window titled "Diagnostic Kiosk" with the softthinks logo in the top left. The main heading is "Restore deleted files" with a sub-instruction: "Select the partition you want to analyze." There are two radio button options: "All partitions" (unselected) and "One partition" (selected). Below the "One partition" option is a dropdown menu currently displaying "Data [D:]". In the bottom right corner, there are two buttons: "Next" and "Close".

The USB key or external hard disk drive will be scanned for deleted files:



And then display the list of the files which can be restored with a recoverability index:



You can either select files individually or click on "All files" to select all of them, and then choose the target directory before clicking on "Next".

Note: We strongly recommend you to restore files to other media in order to avoid any overwriting of the files to restore; the kiosk will warn you about this, should this case happen.



Diagnostic Kiosk

Restore deleted files

All files have been successfully recovered.



Close

PART 3: SMARTPHONES & TABLETS UNDER ANDROID / IOS / WINDOWS PHONE / WINDOWS RT

The kiosk has a module dedicated to the diagnostic and backup of Android, iOS and Windows Phone devices.

In order to operate correctly, the kiosk requires an Internet connection (preferably through Wi-Fi) and the hub below plugged to AC power and to the Kiosk:

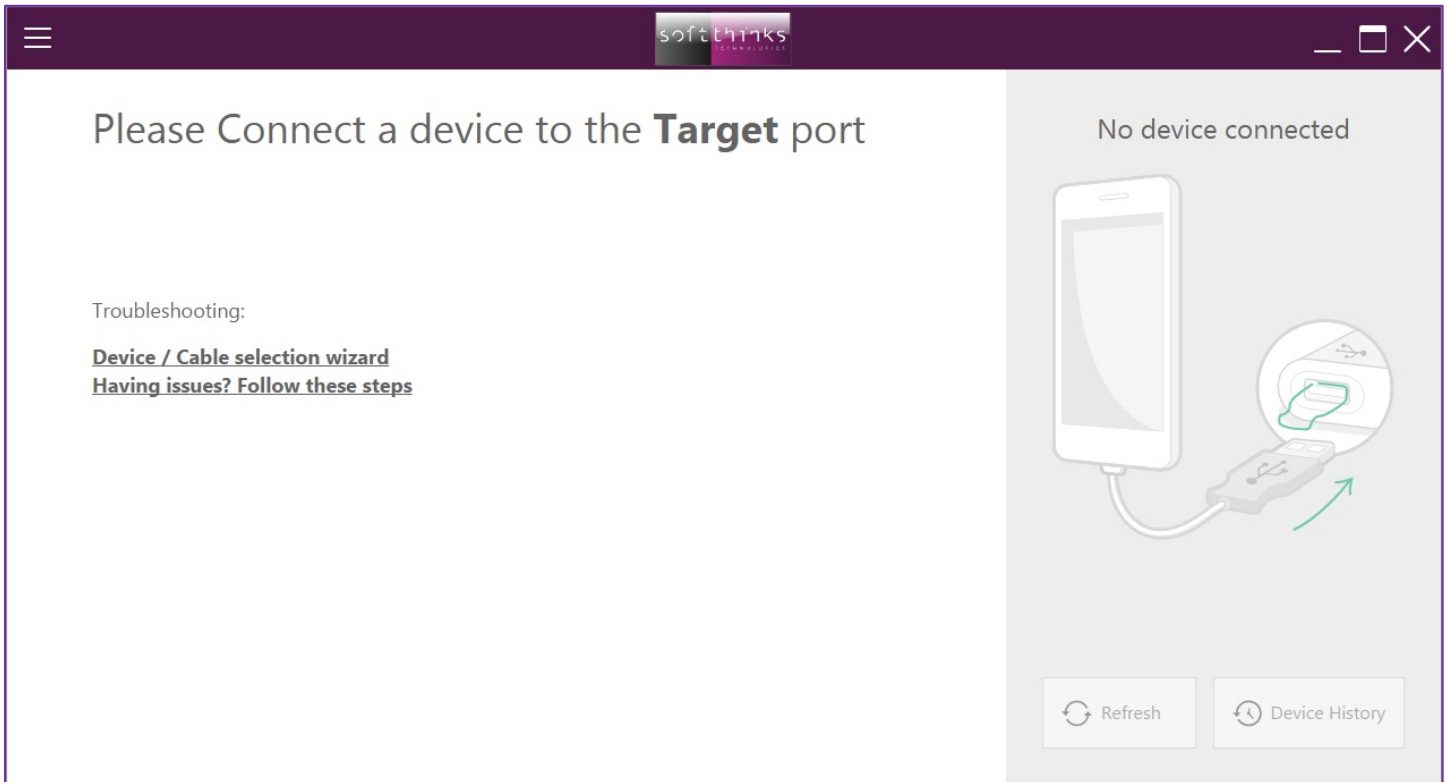


Always connect the hub to the AC adaptor and the power outlet first.

This should be done before connecting the hub to the Kiosk.

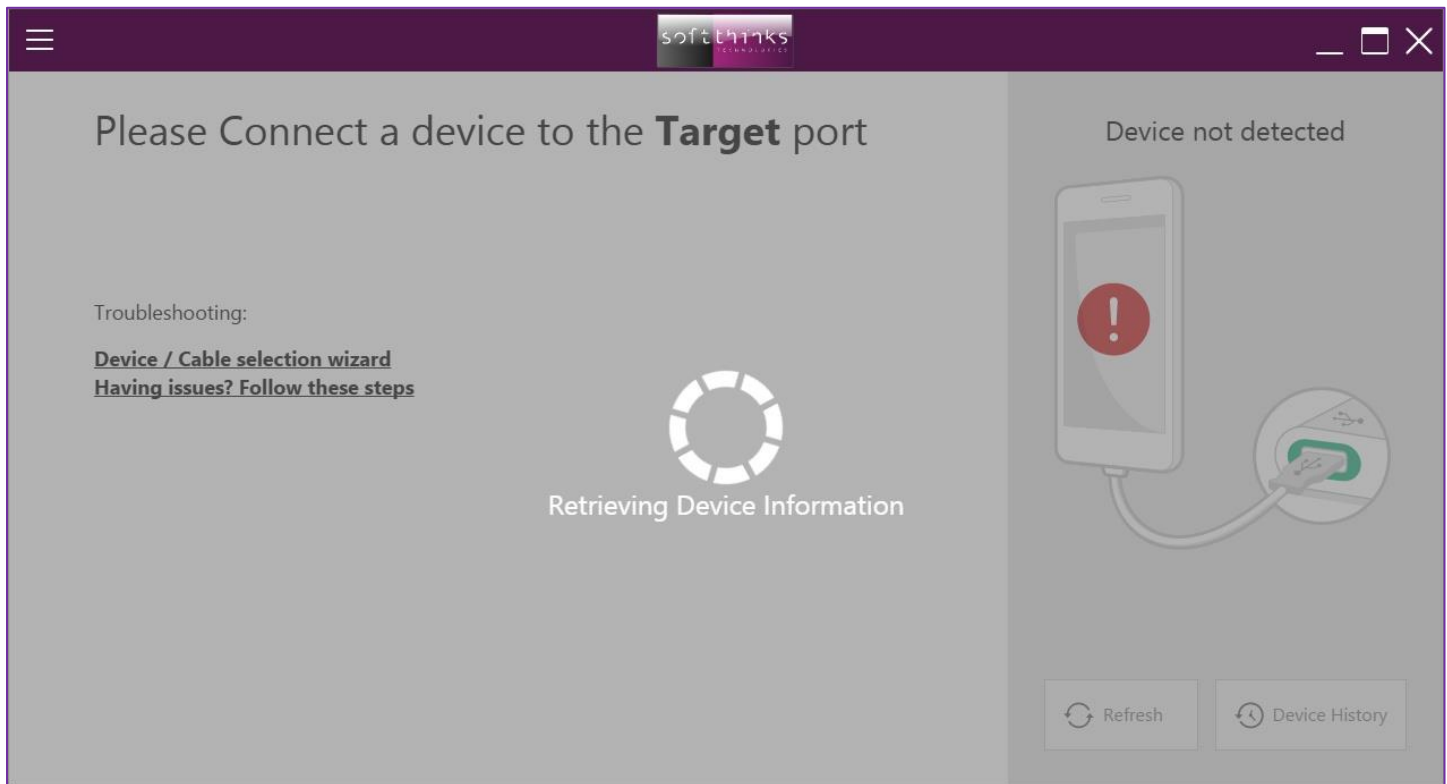
After connecting a new hub to the Kiosk, please allow the PC to configure the new windows drivers for the hub and allow communication to take place across the USB interface. This should take place automatically but may require a few minutes.

The first step consists of plugging in the device to treat on the port specified by the software (source or target) of the USB hub:



If the message on the right indicates "No box connected" please refer to [A "No box connected" message appears on the user interface](#) in the troubleshoot guide.

When you plug the device into the **Target** port as instructed, the kiosk will grab all hardware information in order to identify it:



If you have an issue getting the device to detect, please check that the USB hub is connected and that there is no issue with the cable used to connect the device to this hub.

If the issue remains, click on the links "Device / Cable selection wizard" or "Having issues? Follow these steps" or consult [No Device Recognition](#) in the troubleshoot guide.

Once the device is detected and identified, you might have to go through some manual operations in order to allow the kiosk to interact with it:

The screenshot shows a software interface with a purple header bar containing a menu icon, the 'softthinks' logo, and window control icons. The main content area is split into two panels. The left panel, titled 'Action Required', contains instructions for connecting a device to the 'Target' port. The right panel, titled 'Samsung Device Detected', shows a graphic of a smartphone with a warning icon and the Android logo, along with 'Refresh' and 'Device History' buttons.

Action Required
Follow the below instruction on the **Target** port

Instructions:

1. Turn on USB Debugging mode.
2. Make sure that the device is unlocked and startup wizard is complete.
3. If a User Authorization request appears on the device, check the "Always allow from this computer" check box and click "OK".

How to setup USB Debugging?
Please select the android version according to your device.

- > [Android 4.0 Versions or newer](#)
- > [Android Versions older than 4.0](#)

On-Device Mobile Security and Anti-Virus applications will block USB

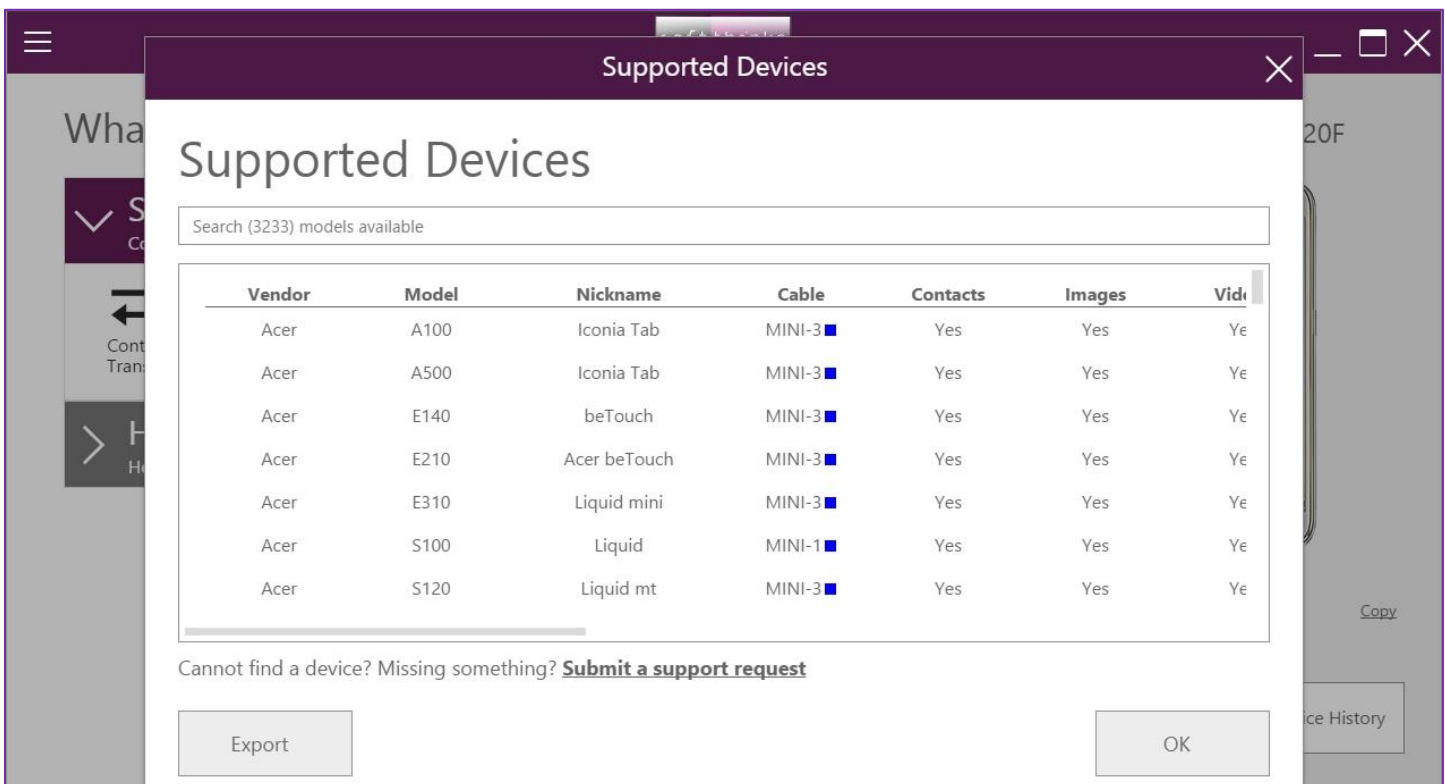
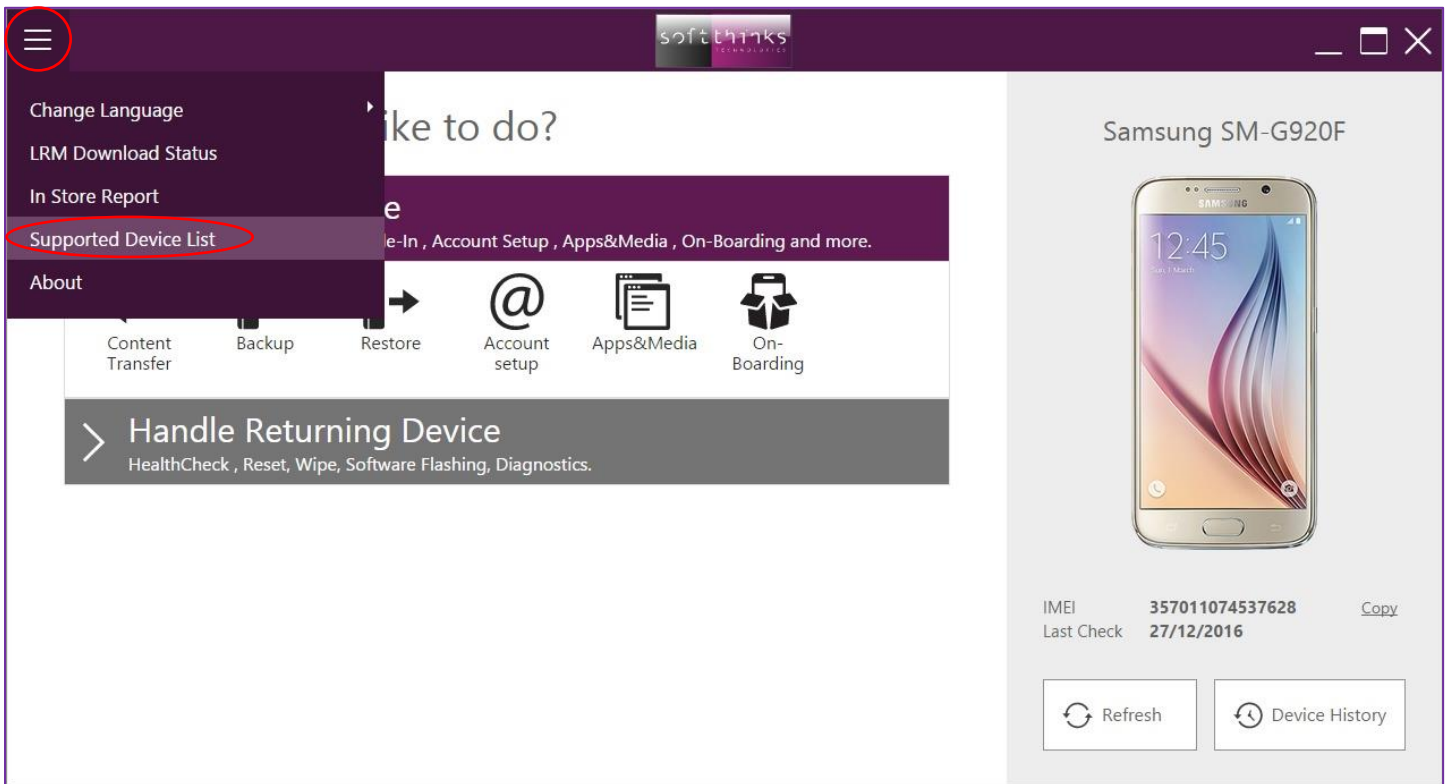
For further instructions click [here](#)

Back

Samsung Device Detected

Refresh Device History

Some models distributed marginally (very low volume) may not be correctly managed. We invite you to check the list of supported devices using the menu "List of supported devices" in the upper left hand corner:



The menu in the upper left hand corner gives you access to other items such as the repository of cable usage and the statistics module of device usage:

✕
In-Store Report

Workstation Report Summary

Review activities from a selected Time Frame.

Time Frame

Quick Selection

Last 7 days

OR

Custom Selection

From

📅

To

📅

Generate Report

Note: that transactions made within the past two hours may not appear in this report.

Extended Info Report

Finish

UAT

Time Frame: 10/4/2015 - 11/4/2015
Total Activities: 117
Total Workstation Count: 3
Success Rate: 99%

Activity Vs. Time

Activity Types by Percentage

Tx Types	Percentage
HealthCheck	20%
HW Diagnostics	16%
Apps	13%
Fix Issues	10%
WOW Process	10%
Transfer	6%
Backup	6%
Recycling	5%
Restore	3%
Reset	2%
...	...

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After detection and configuration of the device, a SAMSUNG SM-G920F in the example below, it will appear on the right side of the main screen, with its IMEI, and if it has already been treated in the past, you will be able to view everything that has been done on it by clicking on the "Device History" button:

The screenshot shows the main interface with a purple header. On the left, under "What would you like to do?", there are two main sections: "Setup New Device" (with sub-options: Content Transfer, Backup, Restore, Account setup, Apps&Media, On-Boarding) and "Handle Returning Device" (with sub-options: HealthCheck, Reset, Wipe, Software Flashing, Diagnostics). On the right, a device card for "Samsung SM-G920F" is displayed, showing a smartphone image, IMEI (357011074537628), and Last Check (27/12/2016). At the bottom right of the device card, there are two buttons: "Refresh" and "Device History", with the latter circled in red.

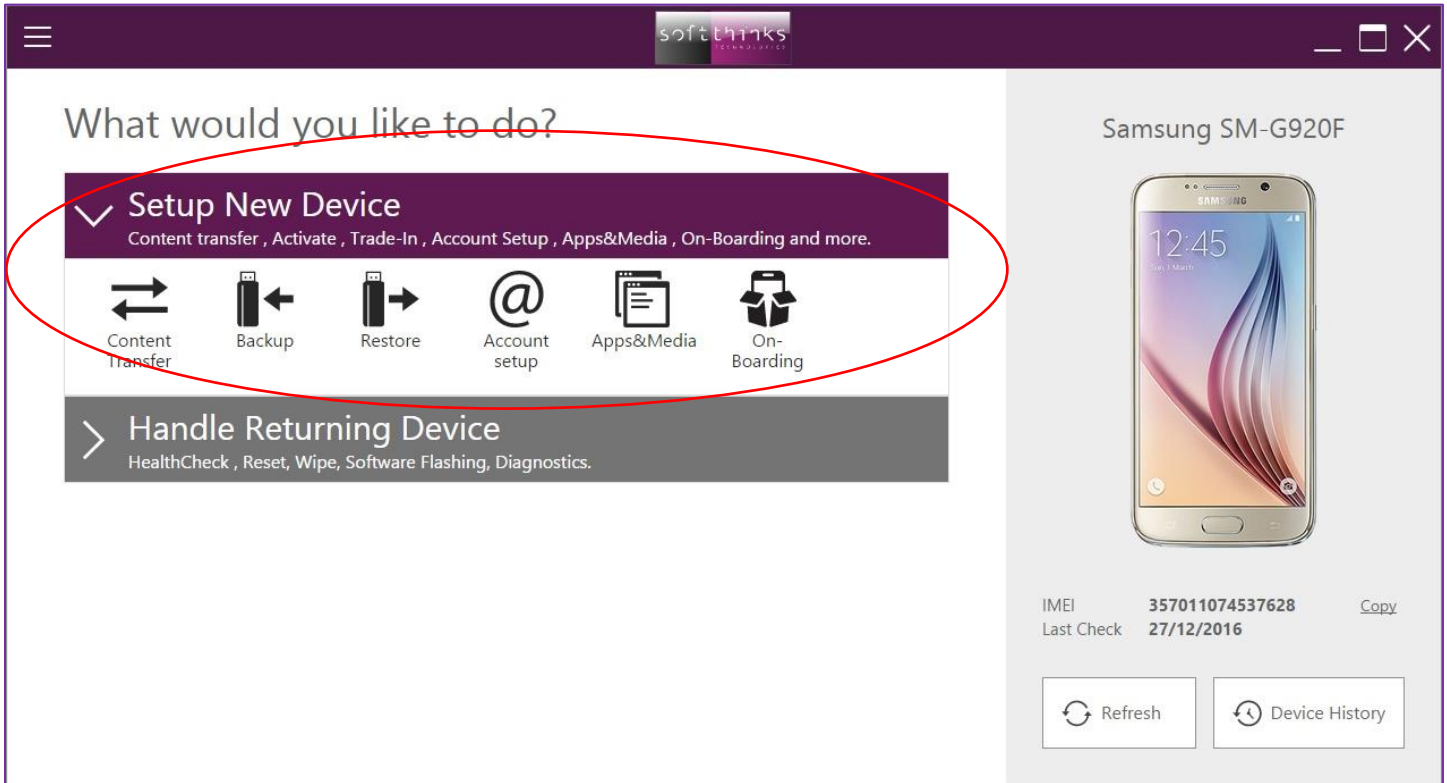
The screenshot shows a "Device History" window for "Samsung SM-G920F History". It contains a table with the following data:








Action Performed	Result	Date	Time	Store Name
Diagnostics	Canceled	06/01/2017	16:16:21	SoftThinks HQ Test Nicolas
Restore(Target)	Succeeded	06/01/2017	11:18:21	SoftThinks HQ Test Nicolas
Reset Process	Succeeded	05/01/2017	12:14:50	SoftThinks HQ Test Nicolas
HealthCheck	Succeeded	05/01/2017	11:29:23	SoftThinks HQ Test Nicolas
WOW Process	Canceled	05/01/2017	10:28:03	SoftThinks HQ Test Nicolas
Restore(Target)	Canceled	04/01/2017	18:06:19	SoftThinks HQ Test Nicolas
WOW Process	Canceled	04/01/2017	17:50:36	SoftThinks HQ Test Nicolas

At the bottom right of the window, there is a "Finish" button.

Setup a new device

This section includes all tools and process that you need to configure a new device:



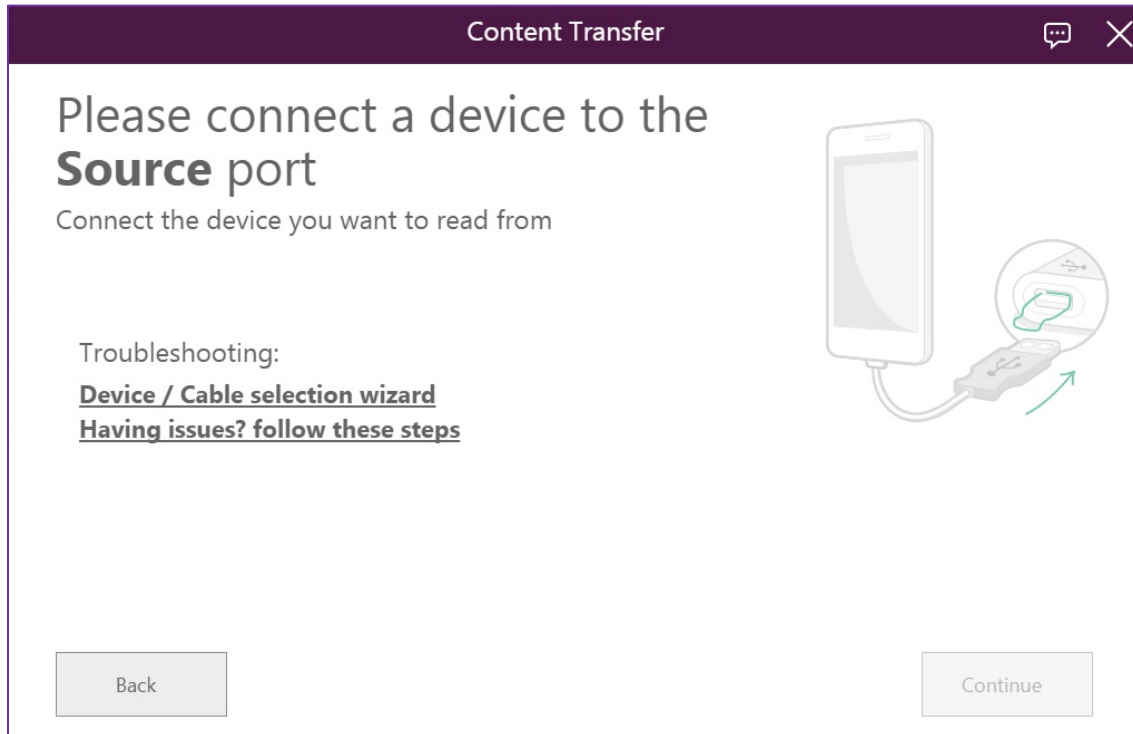
-  Content  Content Transfer
-  Backup
-  Restore
-  Account setup
-  Apps & Media
-  On-Boarding



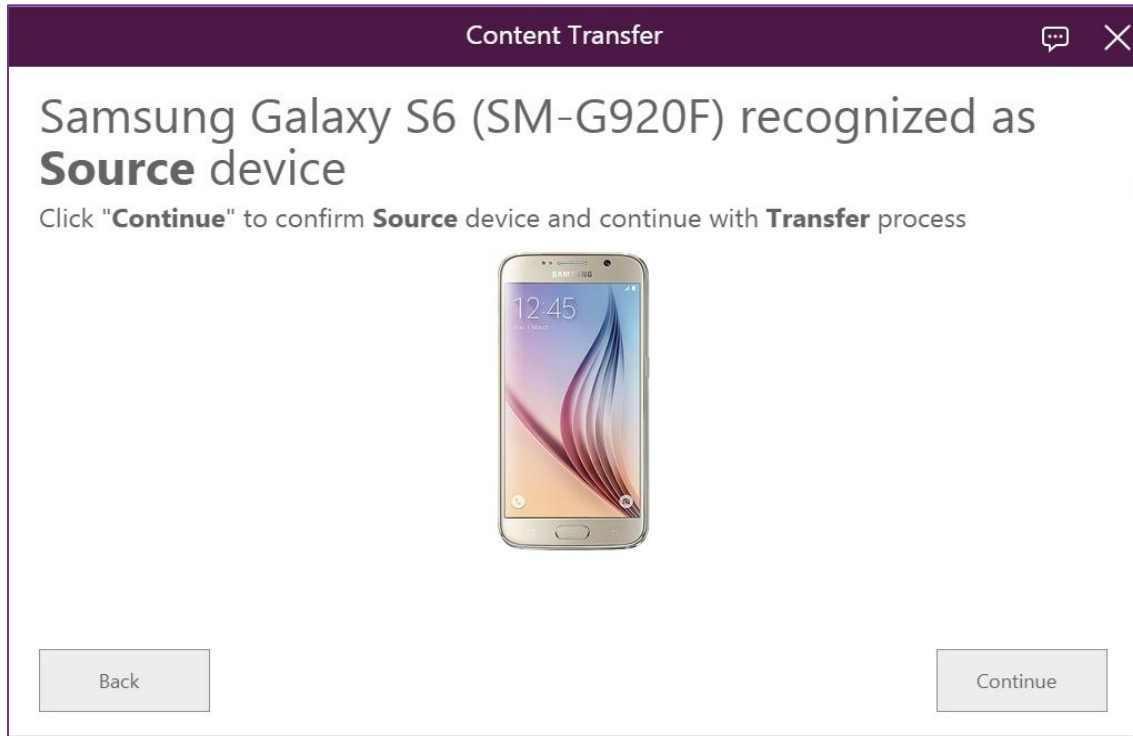
Content Transfer

This module offers you to transfer contents (contacts, SMS, musics, videos) from one device to another, independently of the operating systems.

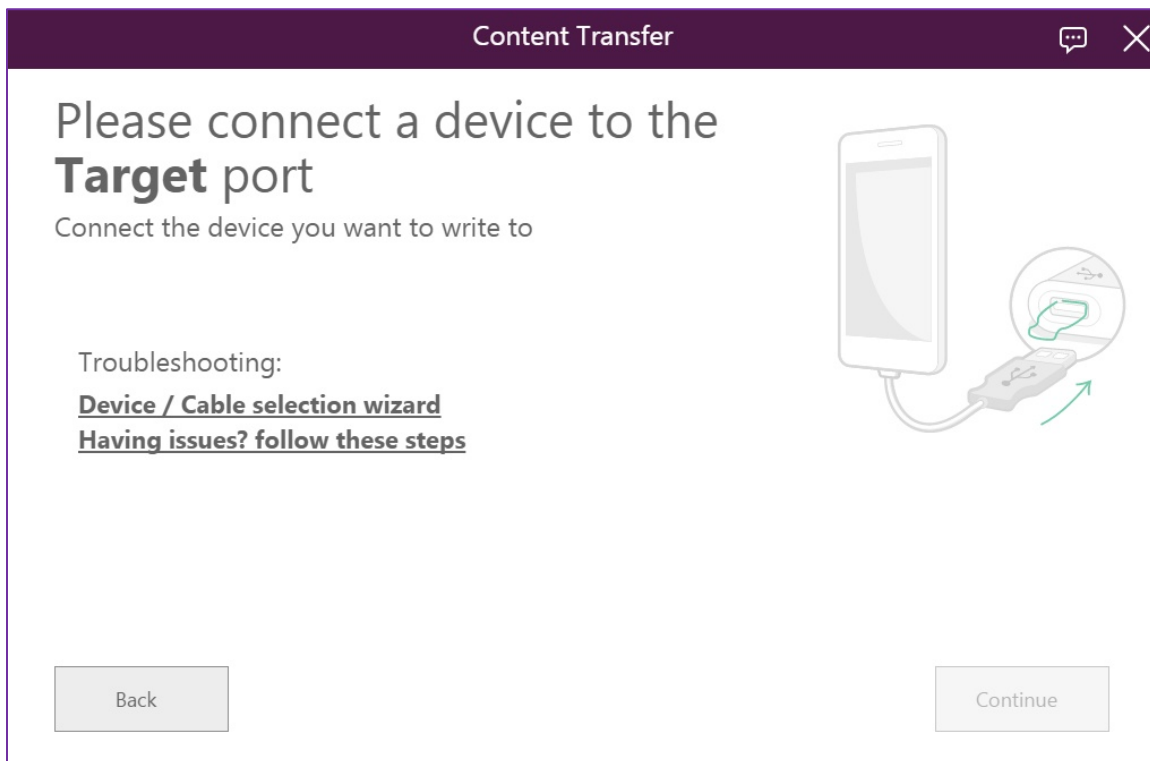
1. Connect the device containing the data to transfer on the **"Source"** port of the hub:



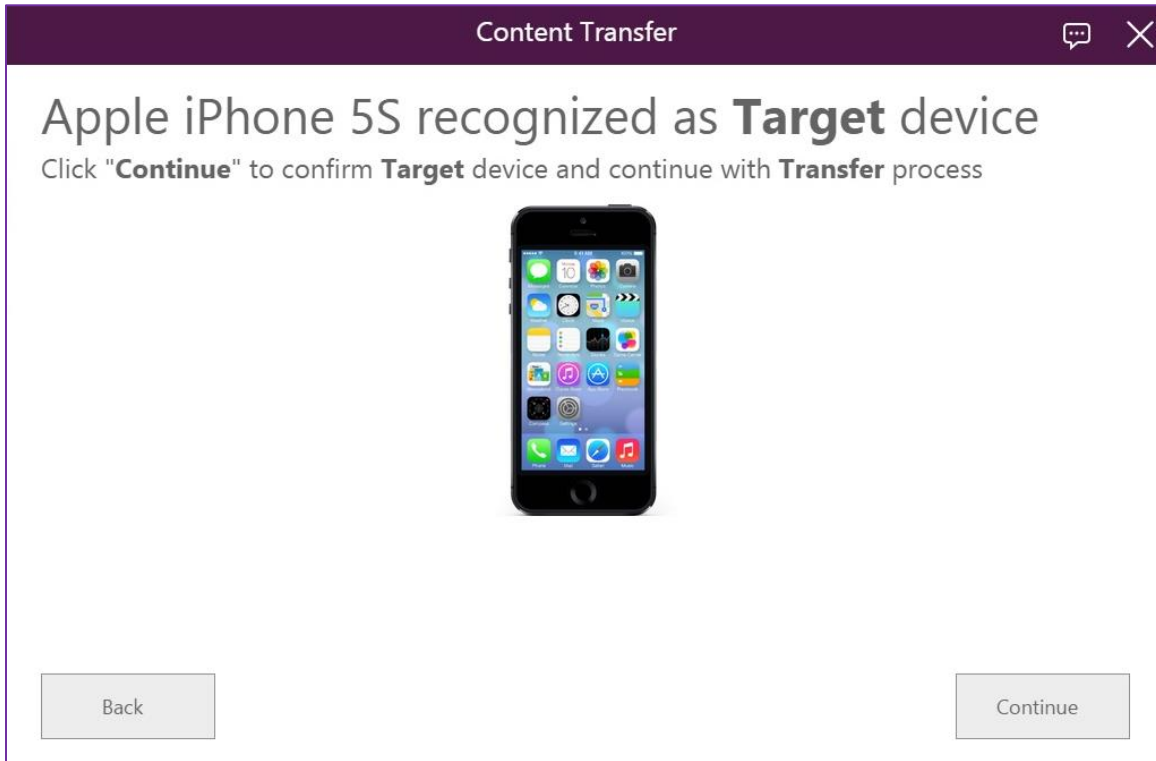
- Click "Continue" to confirm the device was detected on **Source** port and continue the Transfer process:



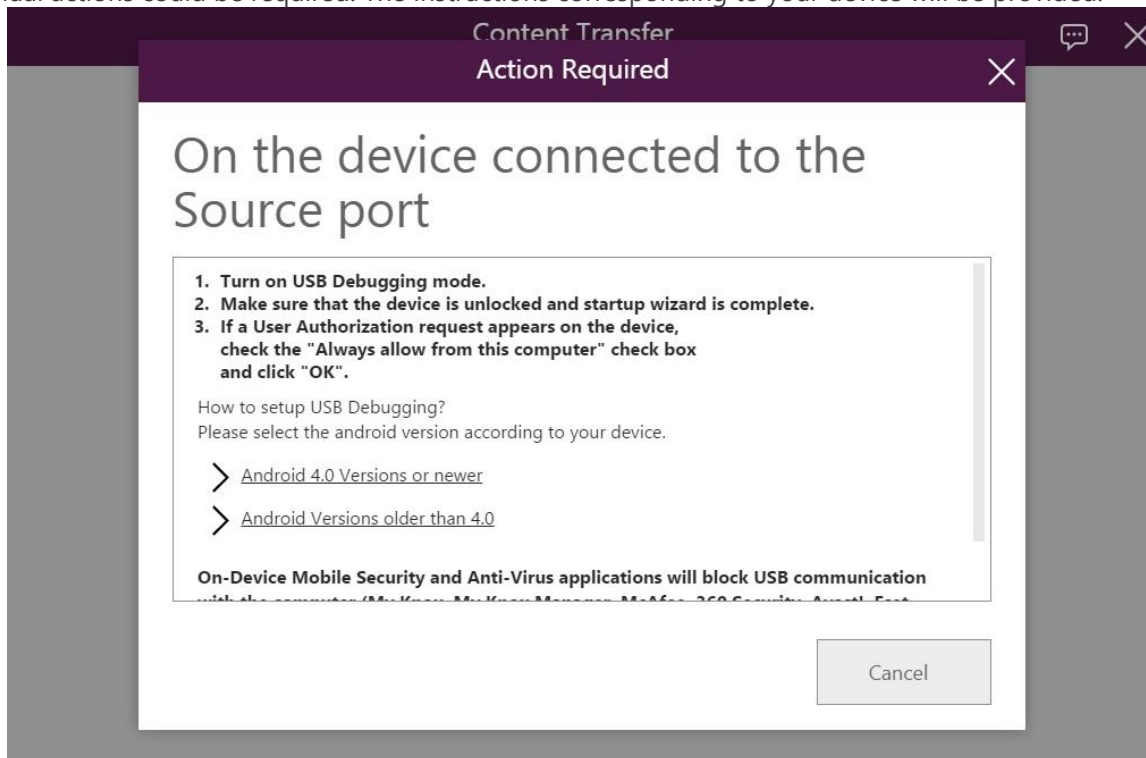
- Plug the new device, to which you want to transfer your contents to, into the **Target** port (if you already plugged it go directly to step 5):



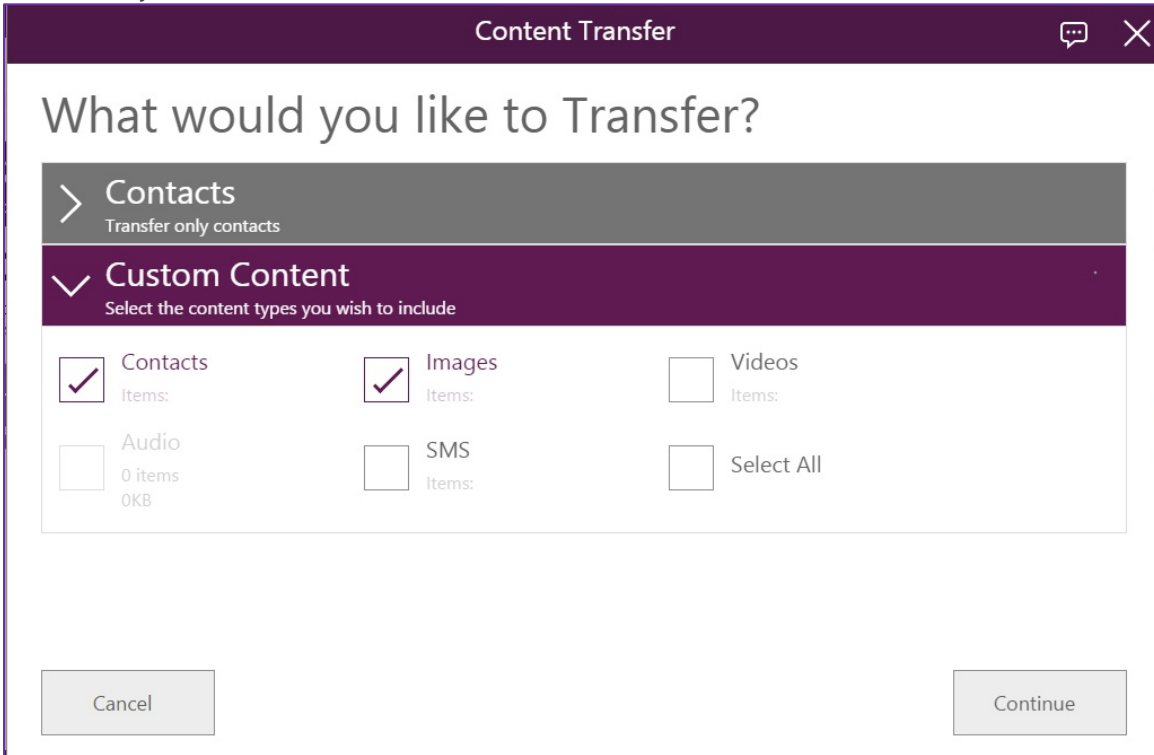
4. Confirm the device:



5. Depending on the operating system of the device plugged into the **Source** Port (Android in our example), some manual actions could be required. The instructions corresponding to your device will be provided:



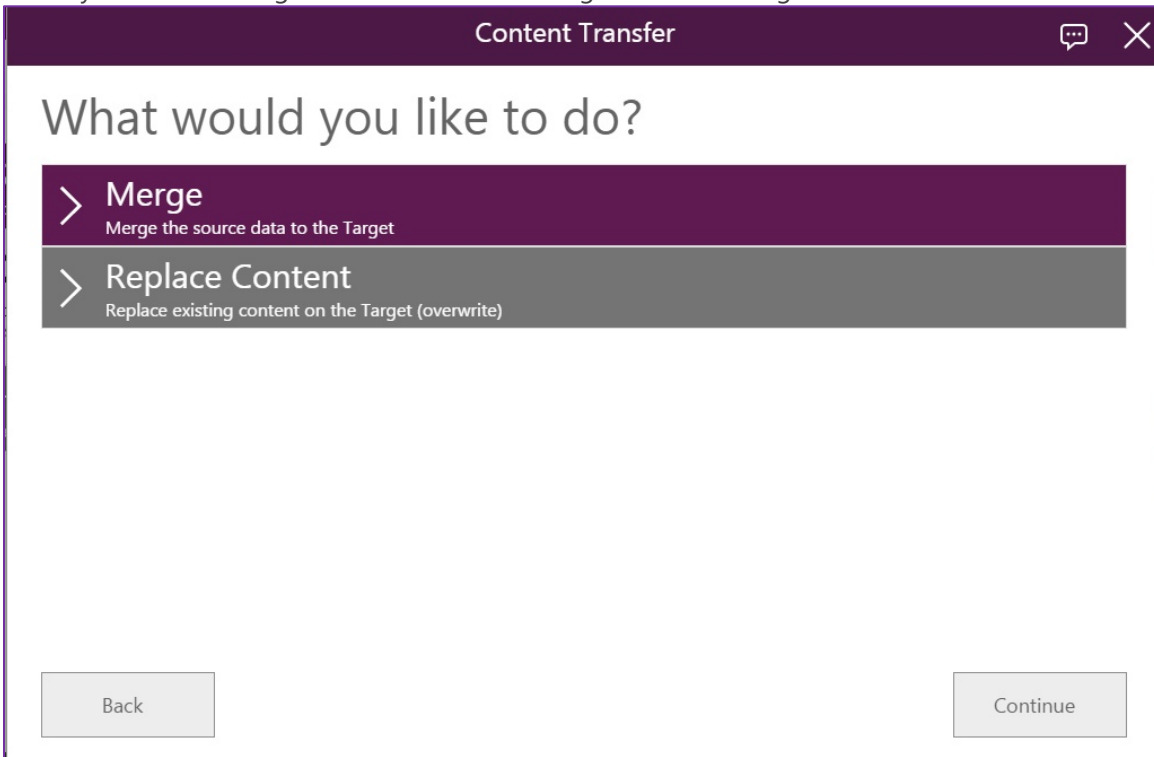
6. Select the data you want to transfer:



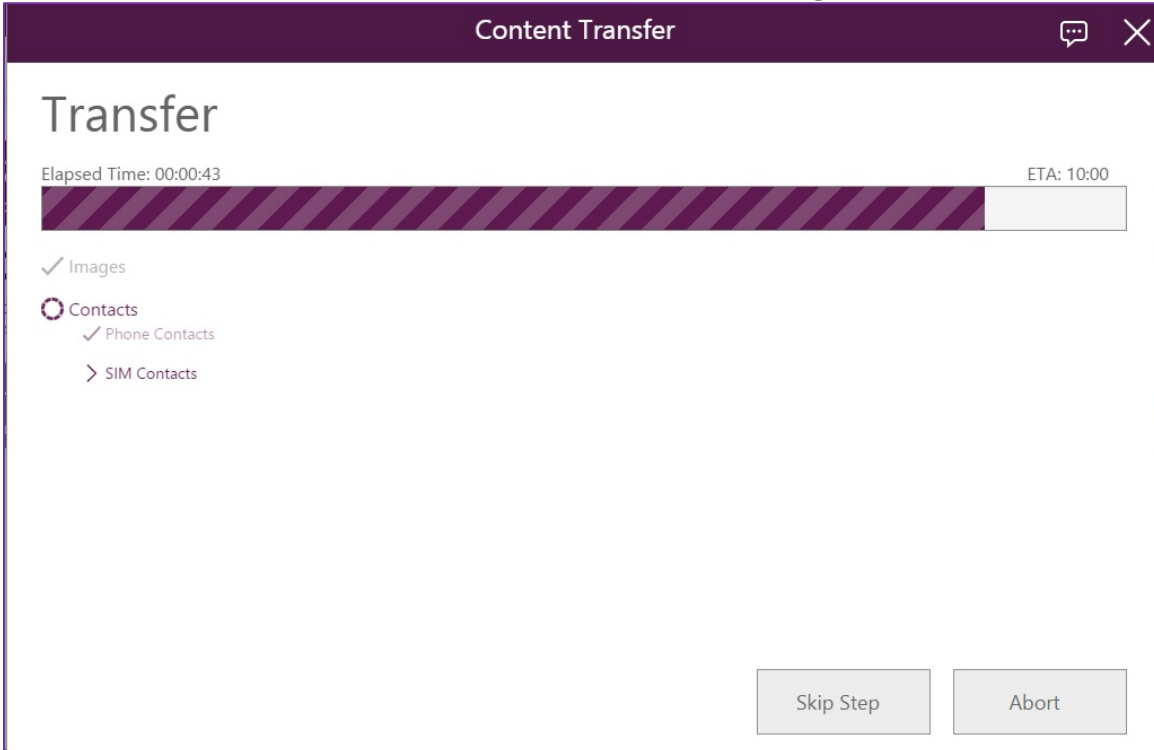
For each file type (contacts, photos, videos, audio files and SMS), the number and the size of the files will be displayed.

Note: Music files cannot be transferred under iOS because of the restrictions of this operating system. Contacts are collected from the SIM card, from the device memory and from the user account.

7. Indicate if you want to merge or overwrite the existing data on the target device:



8. All selected data is then transferred from the "Source" device to the "Target" device:



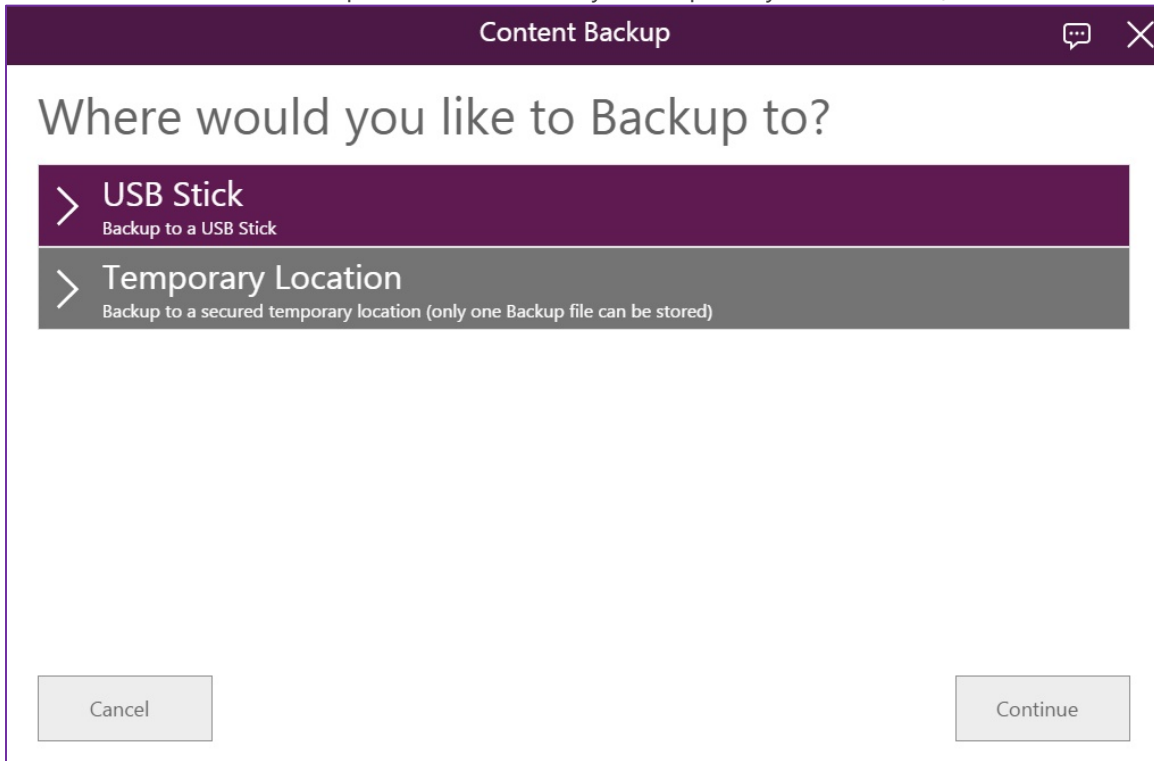
9. Once the transfer is complete, a report will be displayed with a summary of all the actions made on the device.



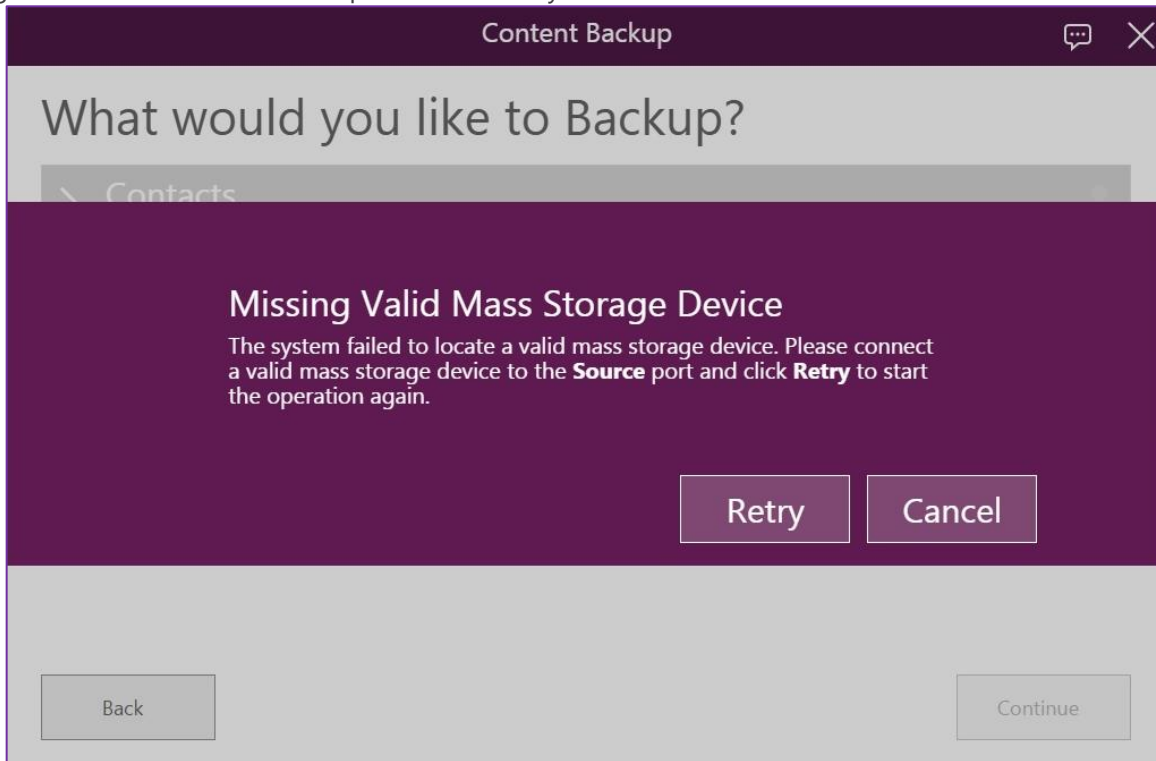
Backup

The “Backup” feature allows you to back up data for a future recovery, for instance before sending the device for repair or before a delicate intervention.

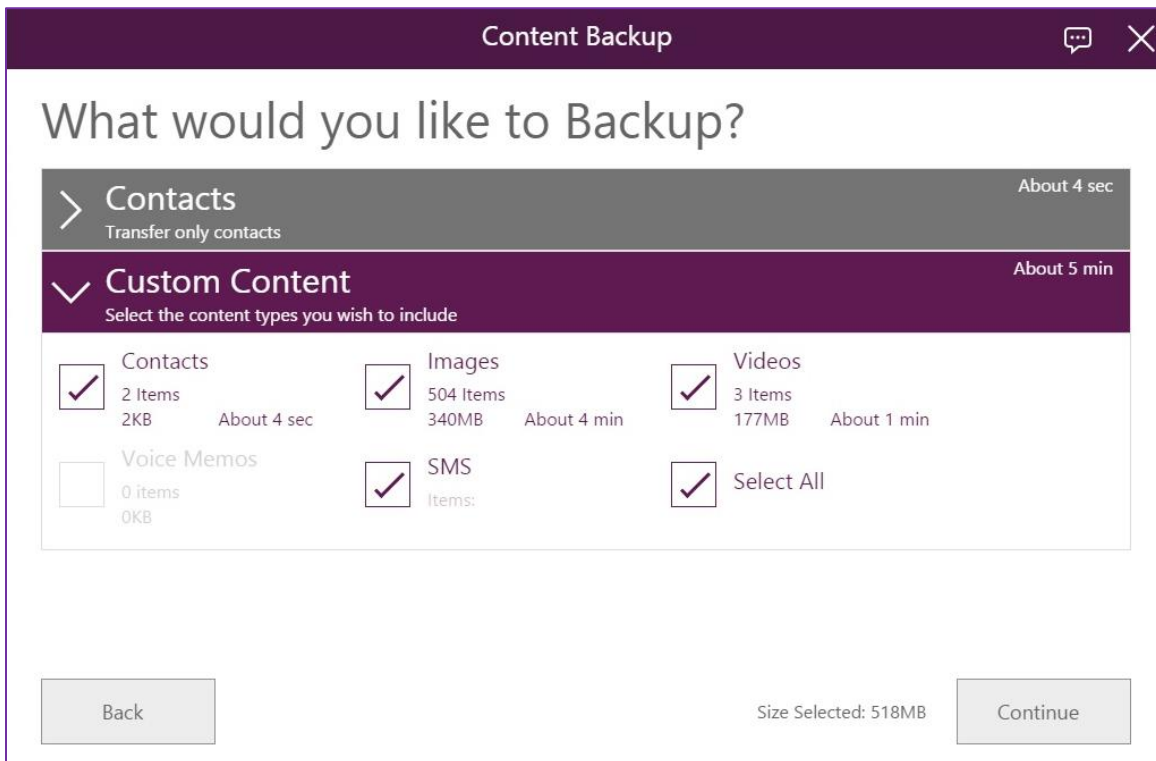
1. Choose where to store the backup, either on a USB key or temporarily on the kiosk (USB Stick in this example):



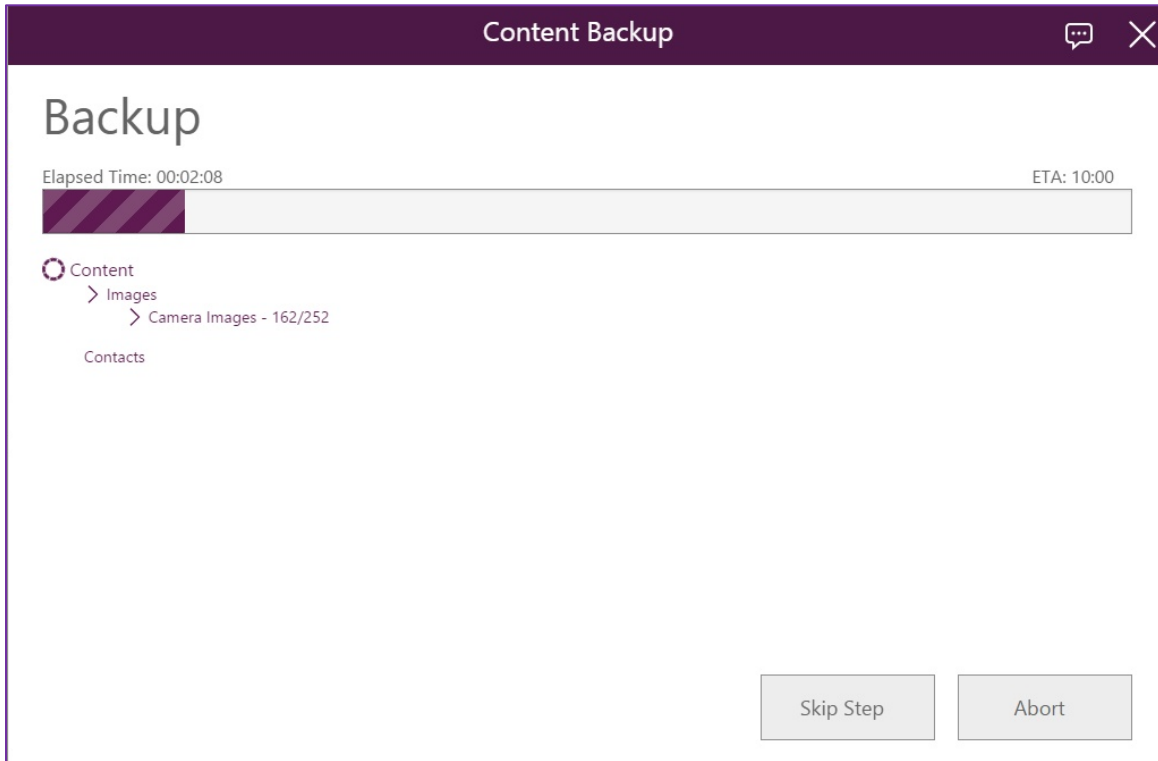
2. Plug the USB Stick to the **Source** port if not already done:



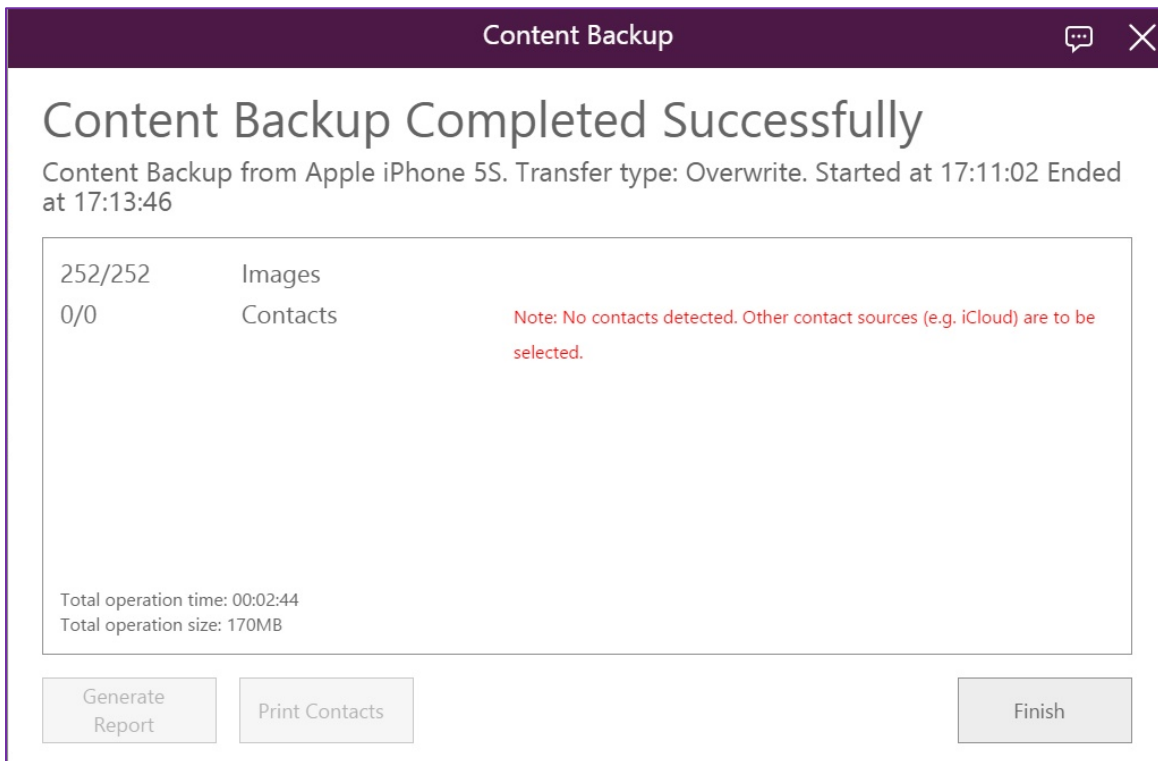
3. Select the data you want to back up:



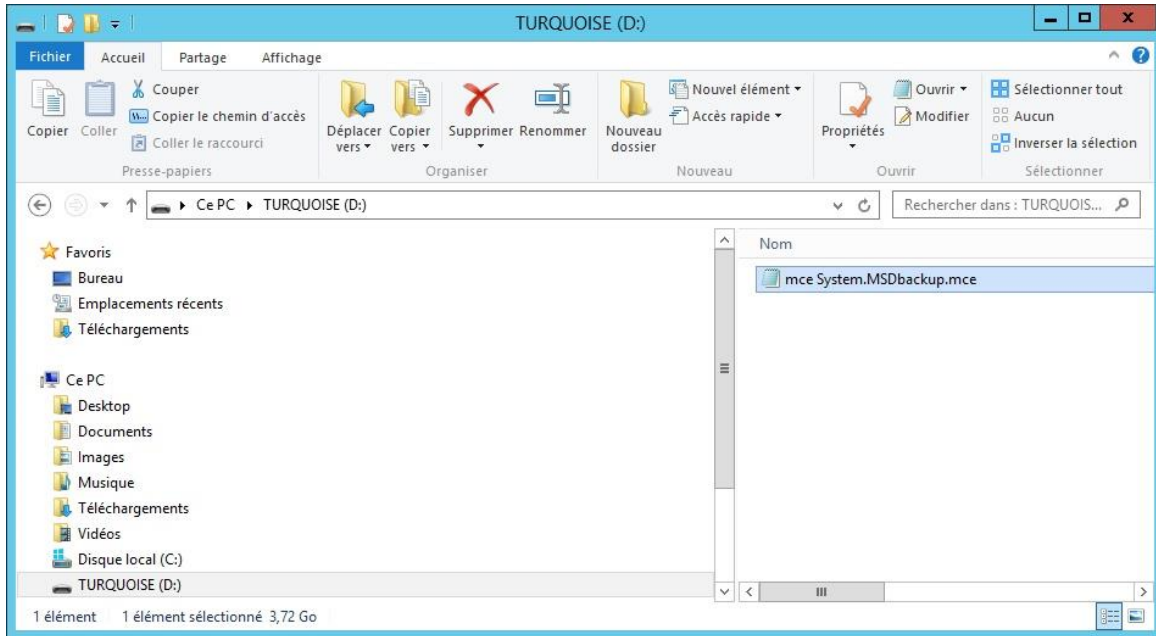
- All selected data is then backed up to the chosen location:



- When the backup has completed, a report will be displayed:



6. Backed up data is stored in a single encrypted file:





Restore

The backup can be restored on any device. However, if this device does not match the model of the source device, the module asks you to check that the data is actually the data of the customer.

1. Select the data you want to restore:

Content Restore
⋮ ×

What would you like to Restore?

> Contacts
Transfer only contacts

✓ Custom Content
About 1 min

Select the content types you wish to include

Contacts
Items:

Images
252 Items
170MB

Videos
0 items
0KB

Audio
0 items
0KB

SMS
0 items
0KB

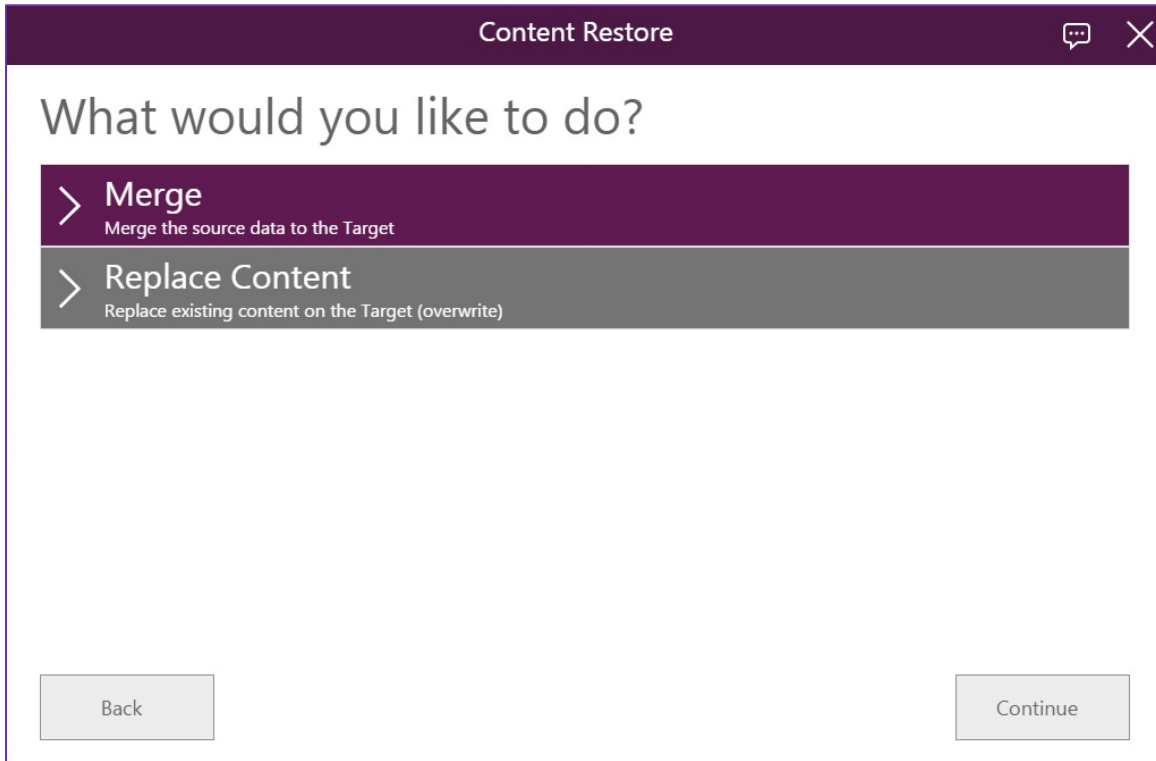
Select All

Cancel

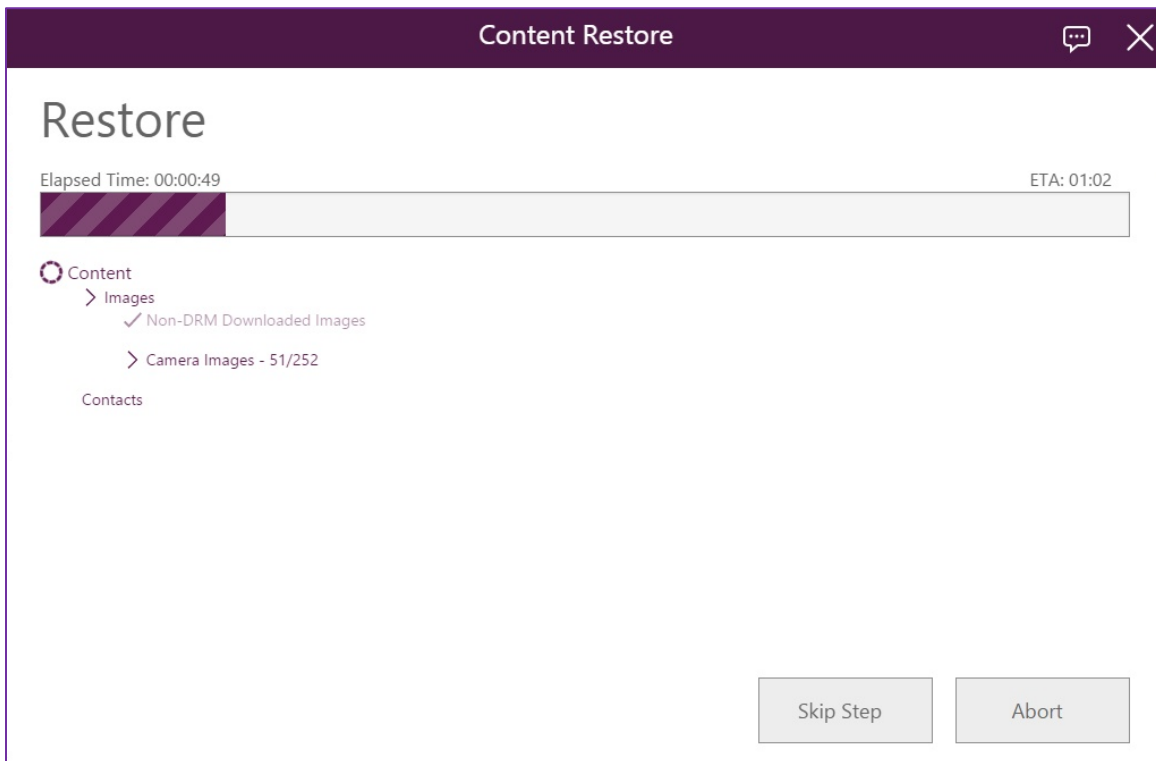
Size Selected: 170MB

Continue

- Indicate if you want to overwrite the existing data on the target device or merge it:

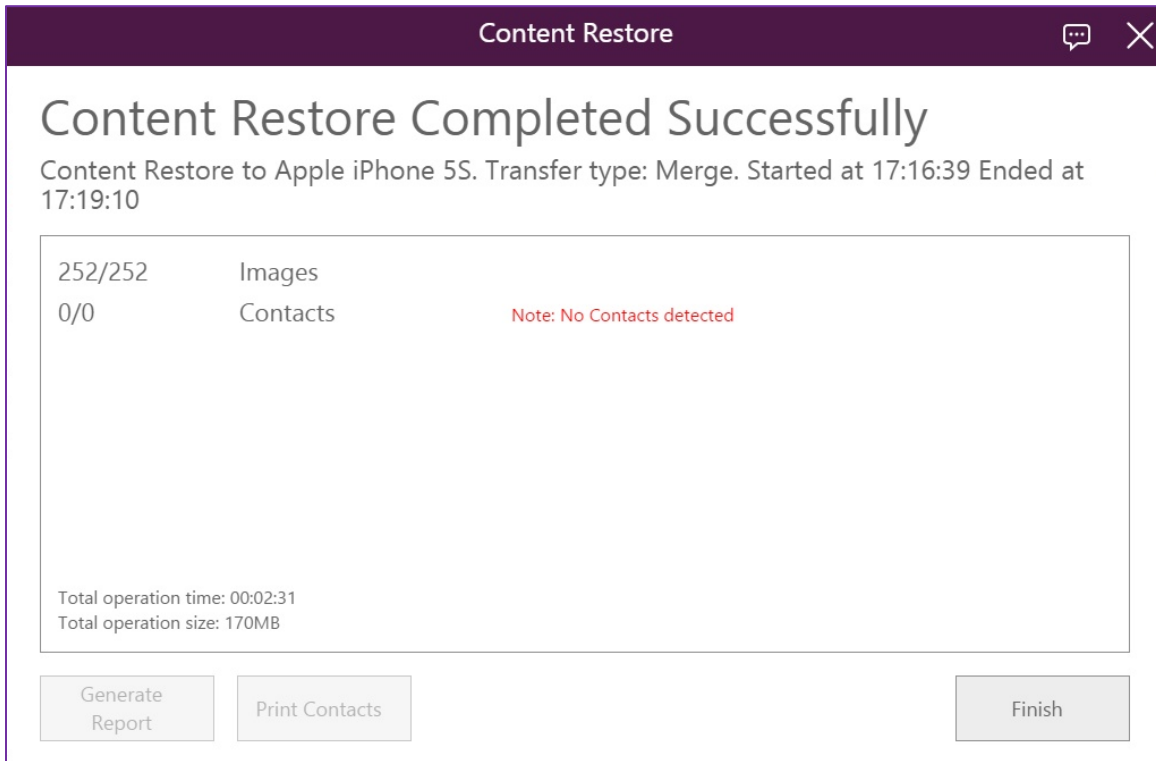


- All selected data are then restored on the device plugged on the "Target" port:

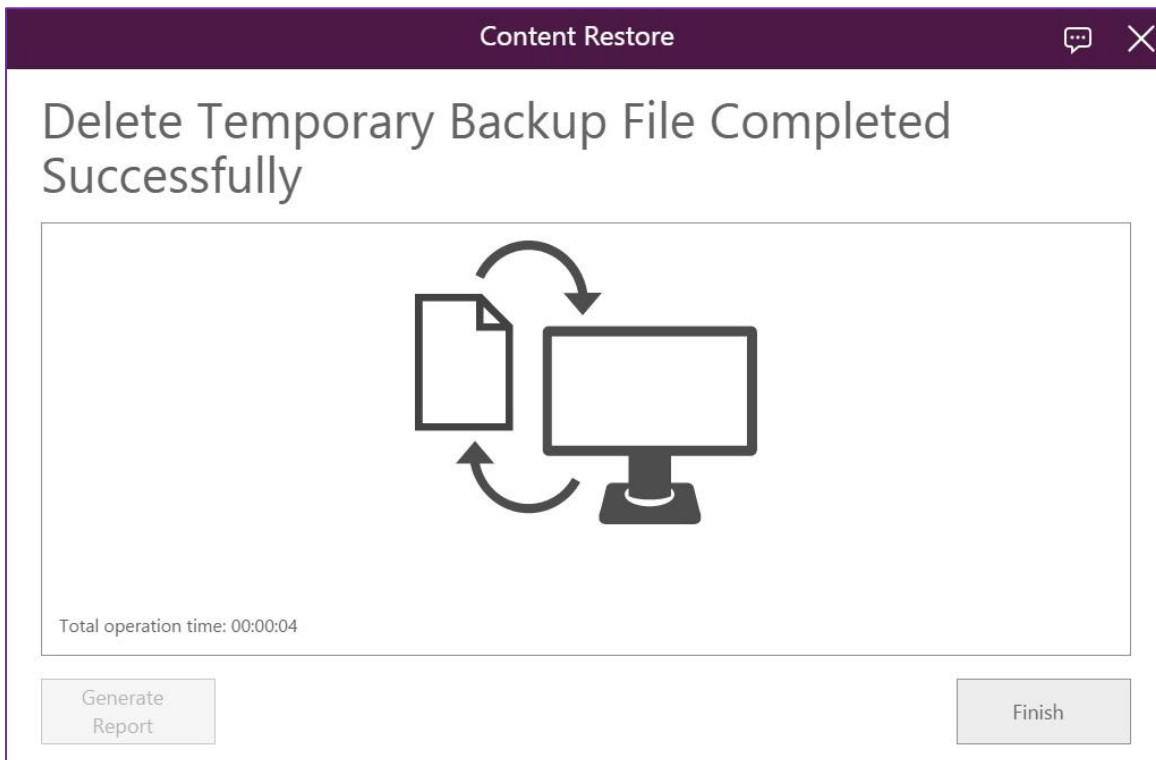
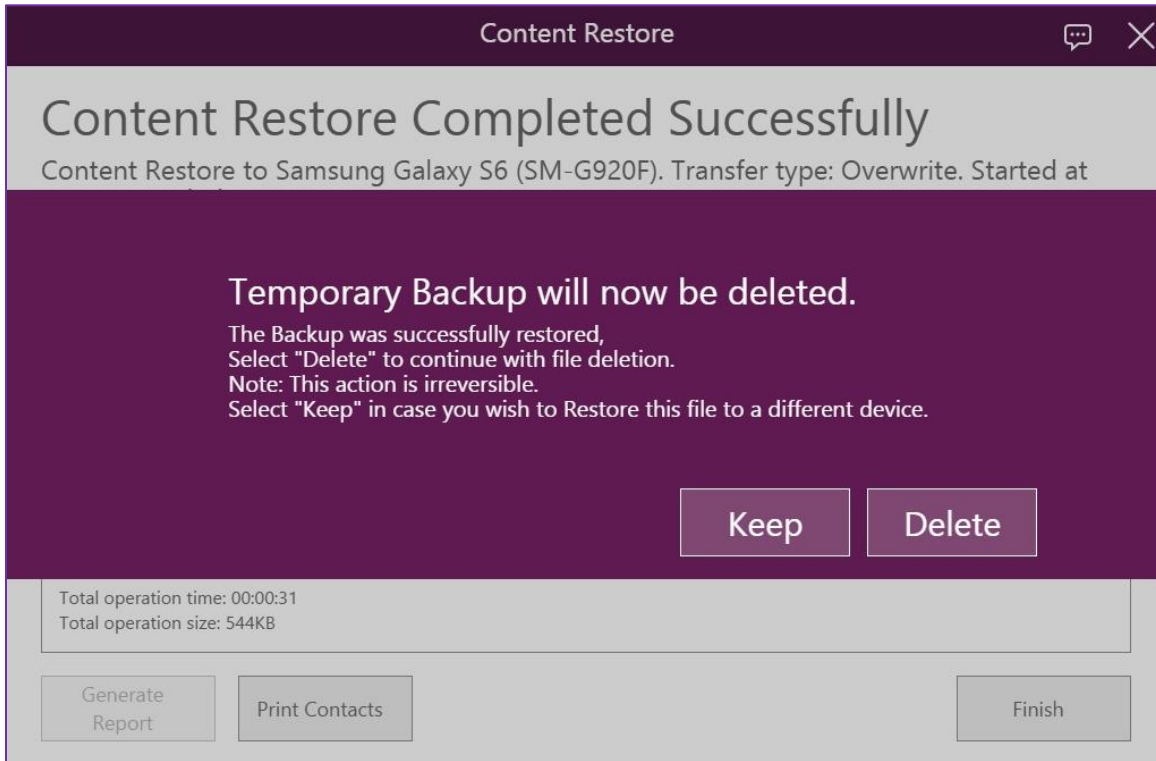


Note: Depending on the operating system of the target device and of the selected data, you may be asked to perform an action on the device during this process.

- When the backup is completed, a report is displayed and you are asked if you want to delete the backup if it has been stored in the kiosk:



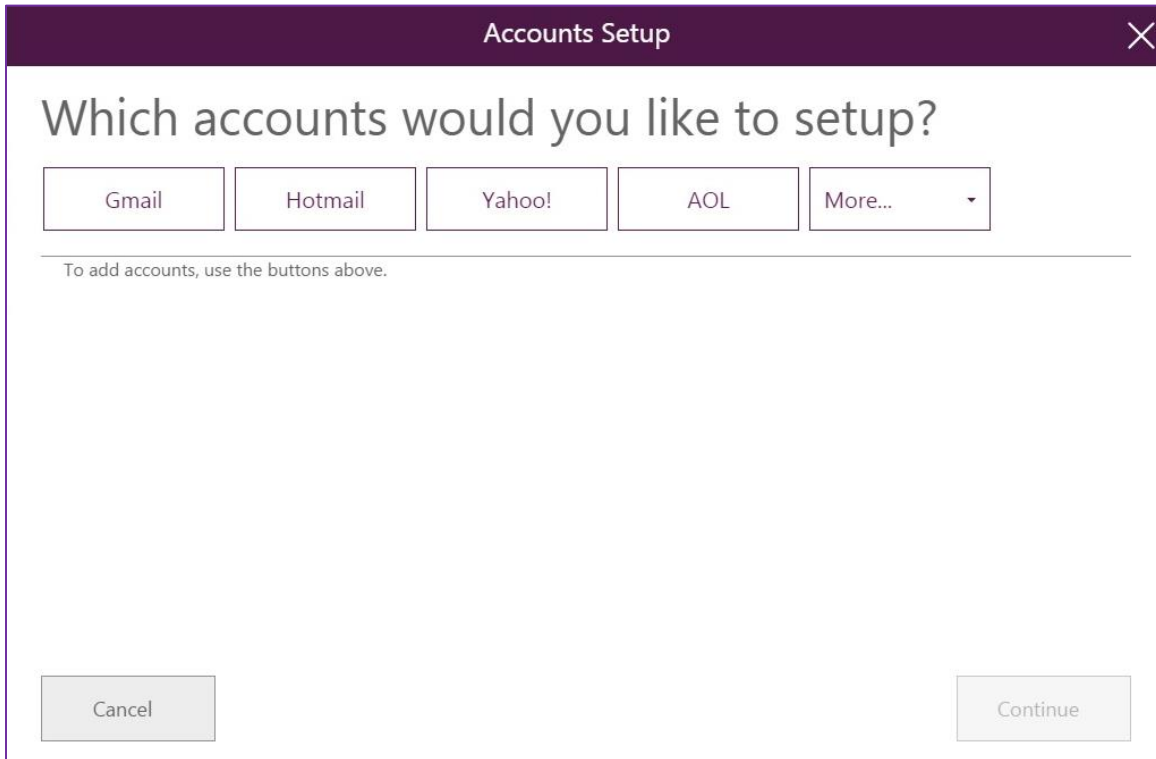
- If the backup selected was stored locally, you will be asked if you want to delete it:



@ Account setup

This option pre-configures email accounts (Outlook, Google...) directly through the interface. For this purpose, you need a Wi-Fi connection on the device to configure and the account information.

1. Click on the account type you want to configure or, if missing, on "More...":



2. Enter the email address and password:

The screenshot shows a dialog box titled "Accounts Setup" with a close button (X) in the top right corner. The main heading is "Which accounts would you like to setup?". Below this heading are five buttons: "Gmail", "Hotmail", "Yahoo!", "AOL", and "More..." with a dropdown arrow. The "Hotmail" button is highlighted. Below the buttons, the "Hotmail" section is expanded, showing a close button (X) in the top right corner. It contains two input fields: "Email Address" with the text "partagesoftthinks@outlook.fr" and "Password" with a masked password "*****". At the bottom of the dialog, there is a "Cancel" button on the left, "1 Account selected" in the center, and a "Continue" button on the right.

3. By default, the Kiosk can automatically configure the account with just the email address and password. However, if the email account domain is not recognized or natively supported, it is possible to configure it manually:

The screenshot shows a dialog box titled "Accounts Setup" with a close button (X) in the top right corner. The main heading is "Which accounts would you like to setup?". Below this heading are five buttons: "Gmail", "Hotmail", "Yahoo!", "AOL", and "More..." with a dropdown arrow. The "More..." button is highlighted. Below the buttons, the "Other Email" section is expanded, showing a close button (X) in the top right corner. It contains two input fields: "Email Address" with the text "partagesoftthinks@outlook.fr" and "Password" with a masked password "*****". Below the input fields, there is a red warning message: "Domain not recognized, please check spelling [or click here to enter custom configuration.](#)". At the bottom of the dialog, there is a "Cancel" button on the left, "1 Account selected" in the center, and a "Continue" button on the right.

Accounts Setup
✕

Which accounts would you like to setup?

Gmail

Hotmail

Yahoo!

AOL

More... ▾

Email Address

Password

Incoming Server

Outgoing Server

Service Type

Incoming Security

Cancel

1 Account selected

Continue


4. After filling in all the required parameters, the email account configuration starts:

Accounts Setup
✕

Setting up accounts

Please wait while the selected accounts are being processed.
Do not disconnect the device!

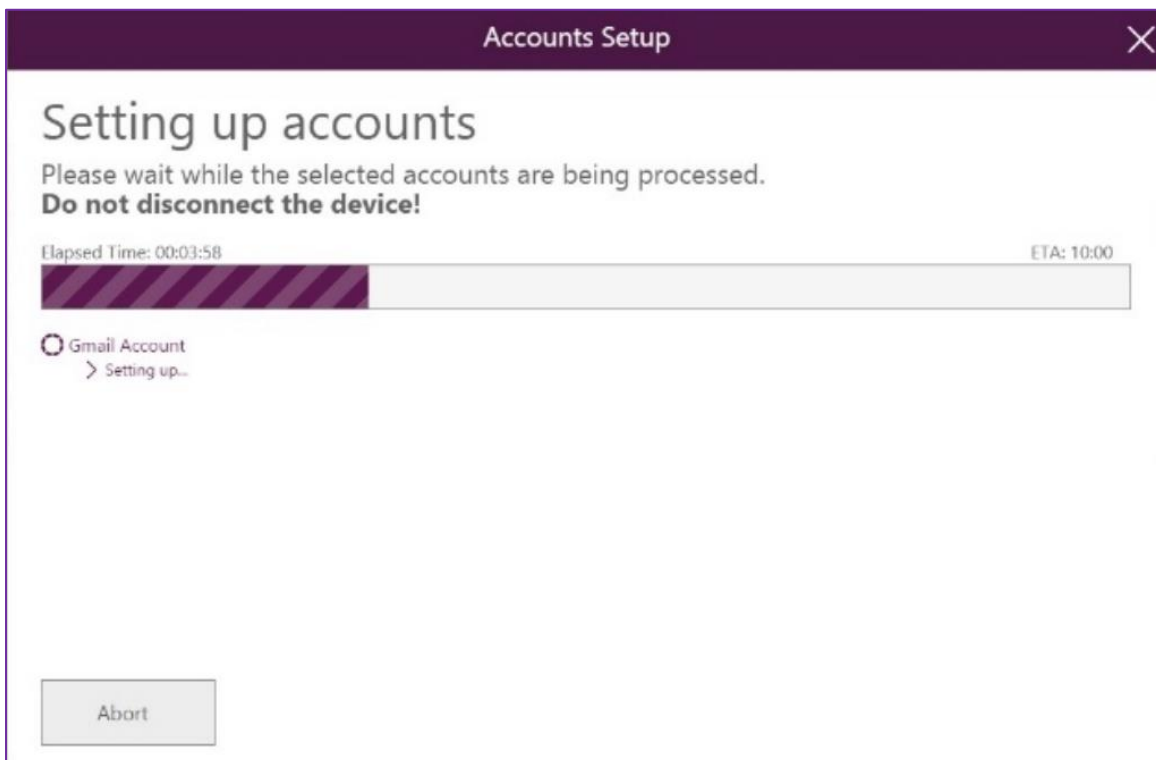
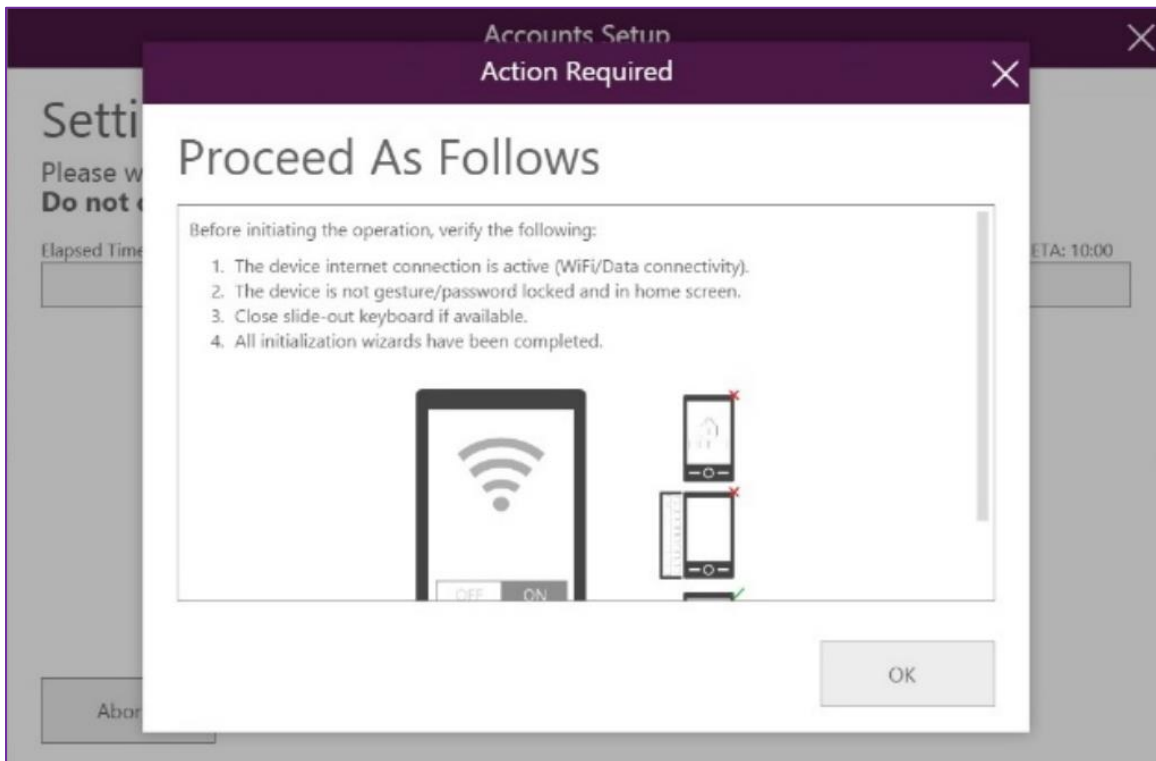
Elapsed Time: 00:00:01
ETA: 10:00

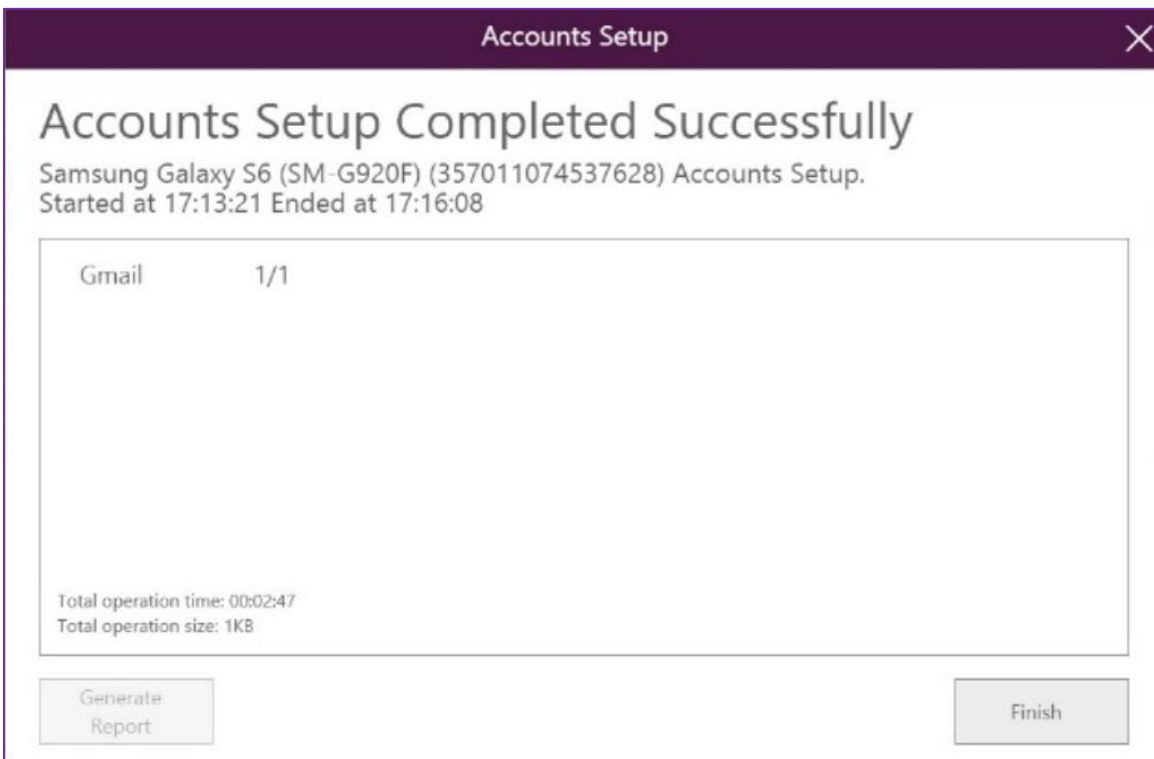
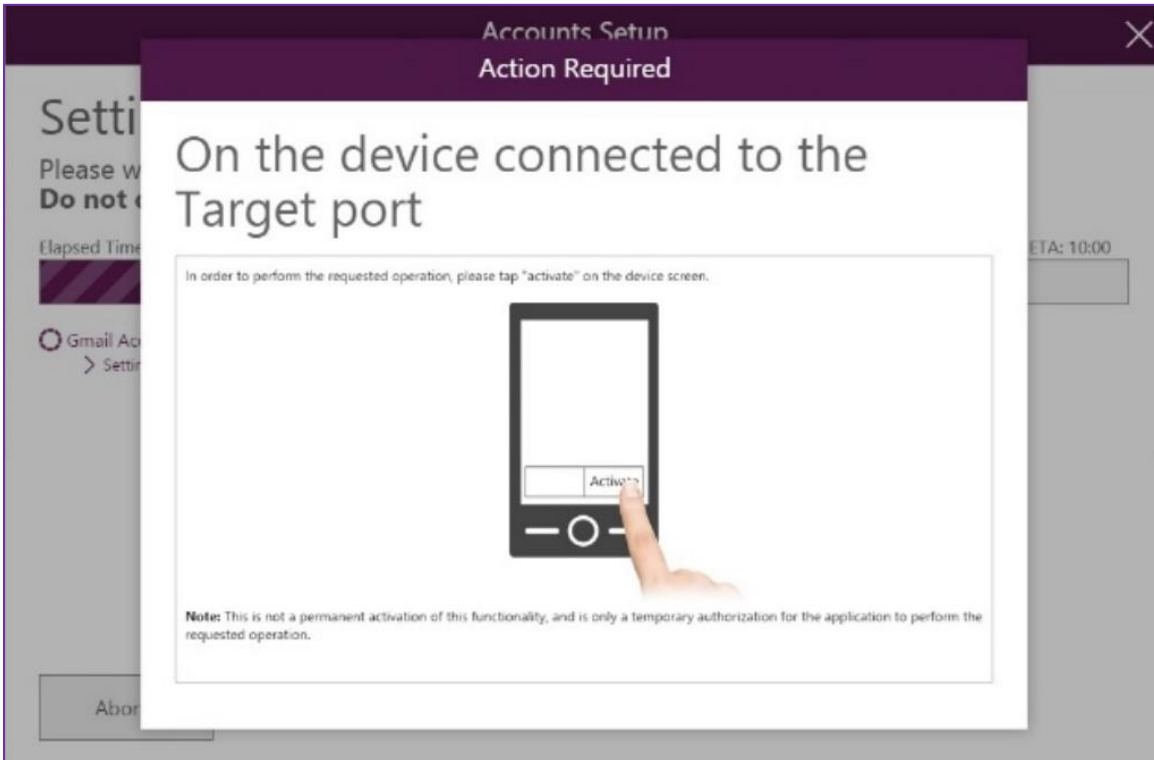


Initiating Process

Abort

5. Depending on the operating system of the target device, you may be asked to perform an action on the device before this process begins and also during this process:





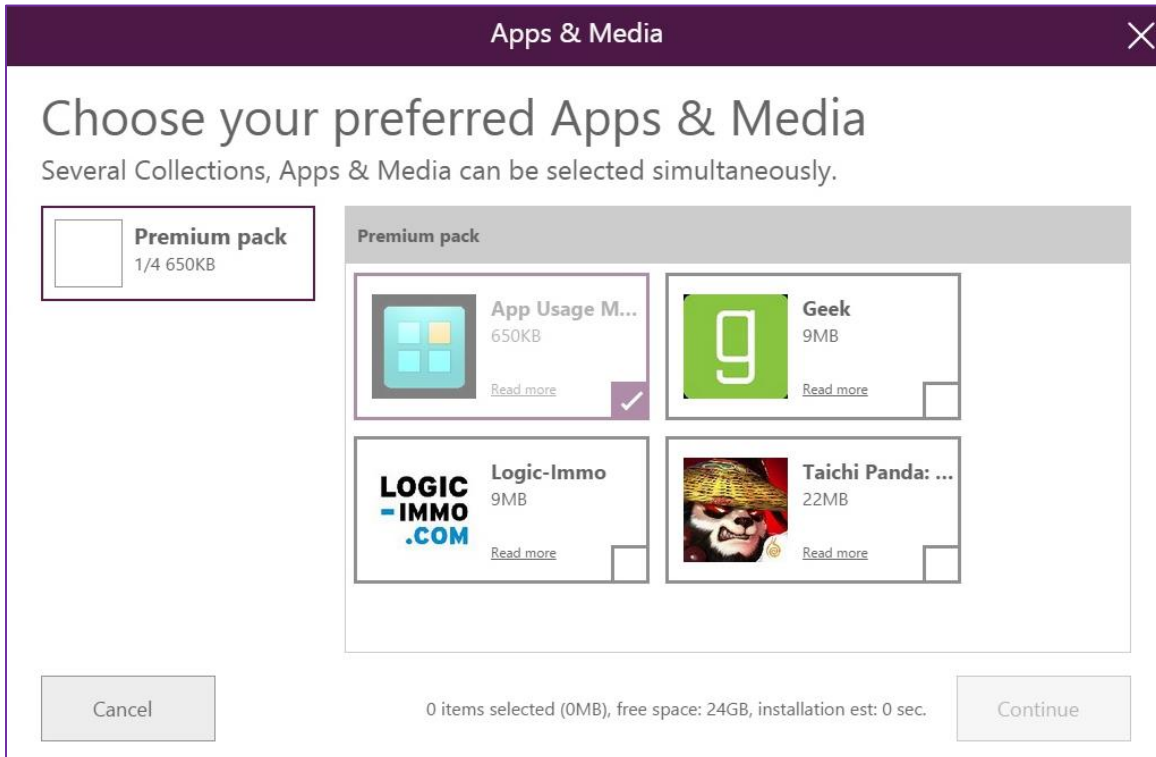


Apps & Media

This module contains applications that, once installed and launched by the user, trigger cashback for the retailer.

The principle is simple; the kiosk proposes to install a selection of applications that, once used by the customer, generate an income for the retailer. Nevertheless, these applications remain 100% free of charge for the customer, without additional advertising.

These applications are renewed on a regular basis. They are preloaded on the kiosk to save bandwidth.



Apps & Media

Loading Apps & Media

Please wait while the selected content is being processed.
Do not disconnect the device!

Elapsed Time: 00:00:11 ETA: 10:00

✓ Preparing

⊙ Items 0/2

Finalize

Abort

Apps & Media

Apps & Media Loading Completed Successfully

Samsung Galaxy S6 (SM-G920F) (357011074537628) Apps & Media.
Started at 17:23:50 Ended at 17:24:38

0/2 Apps&Media Note: Android tracking link - processing fails

Total operation time: 00:00:48

Generate Report Finish

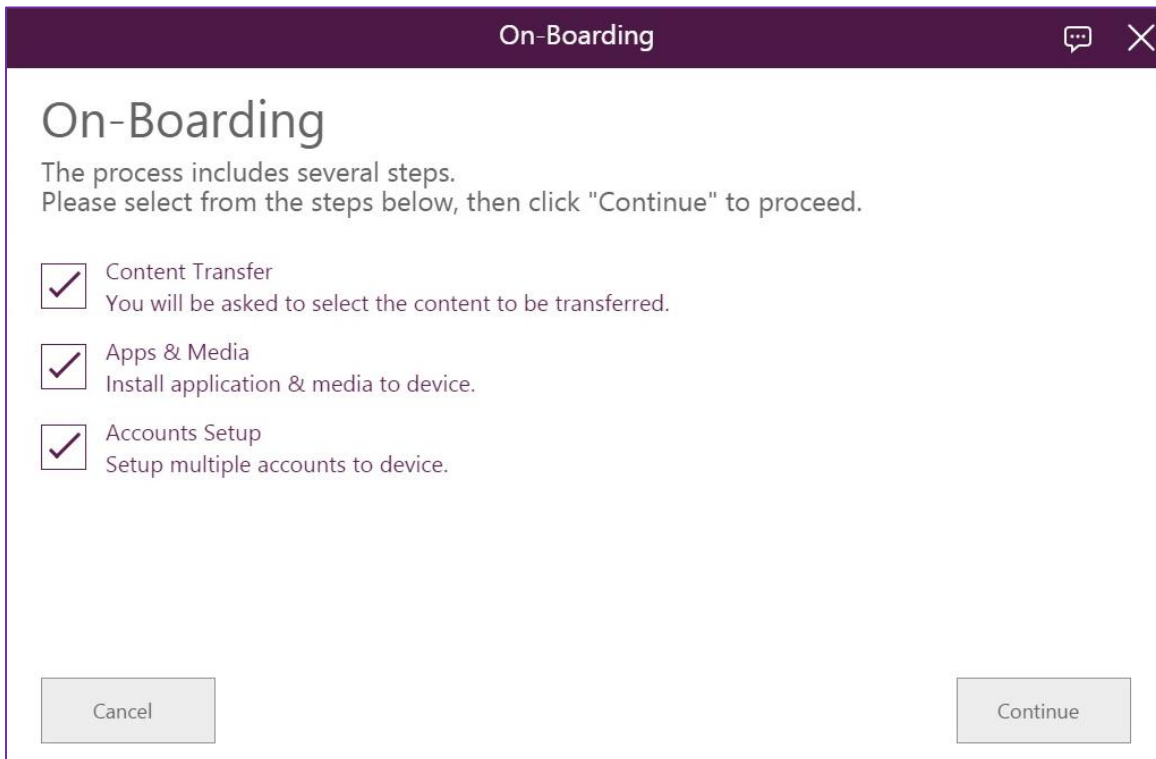


On-Boarding

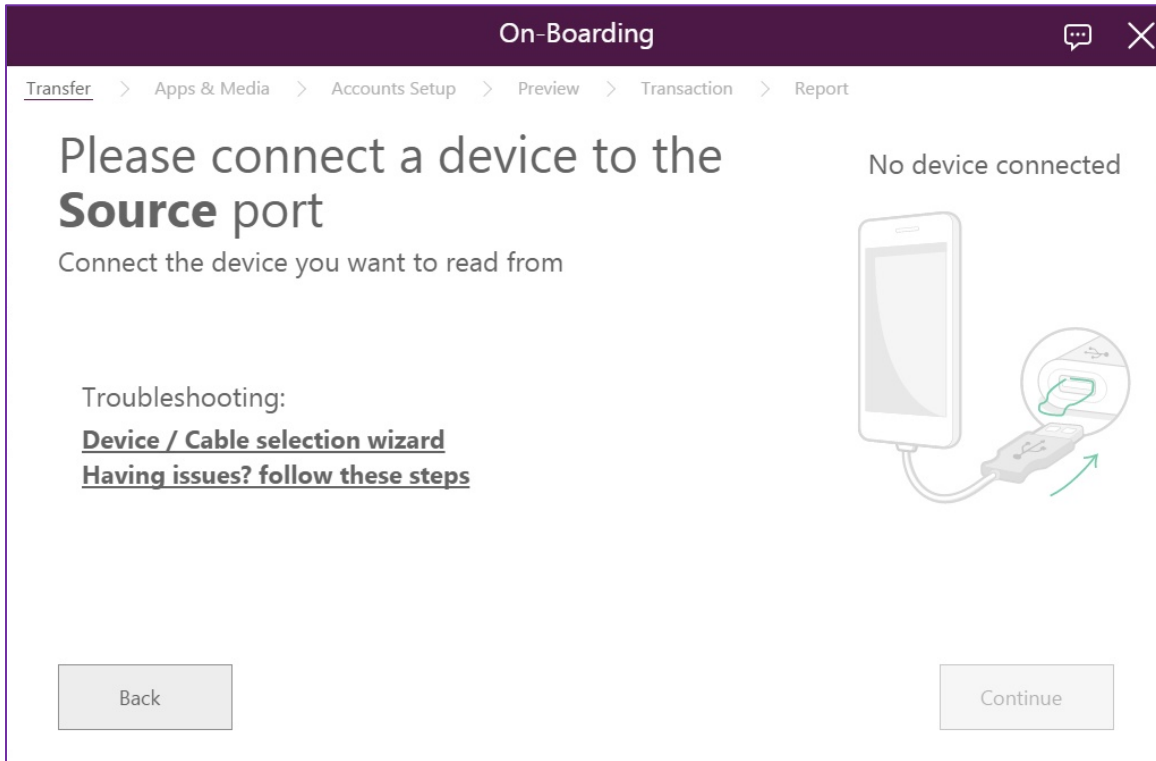
This feature groups in a single module: data transfer, applications installation and account configuration. This module automates these steps.

We will consider in the flow below that the new device is already plugged into the **Target** port. If not, you will be asked to plug it during the process.

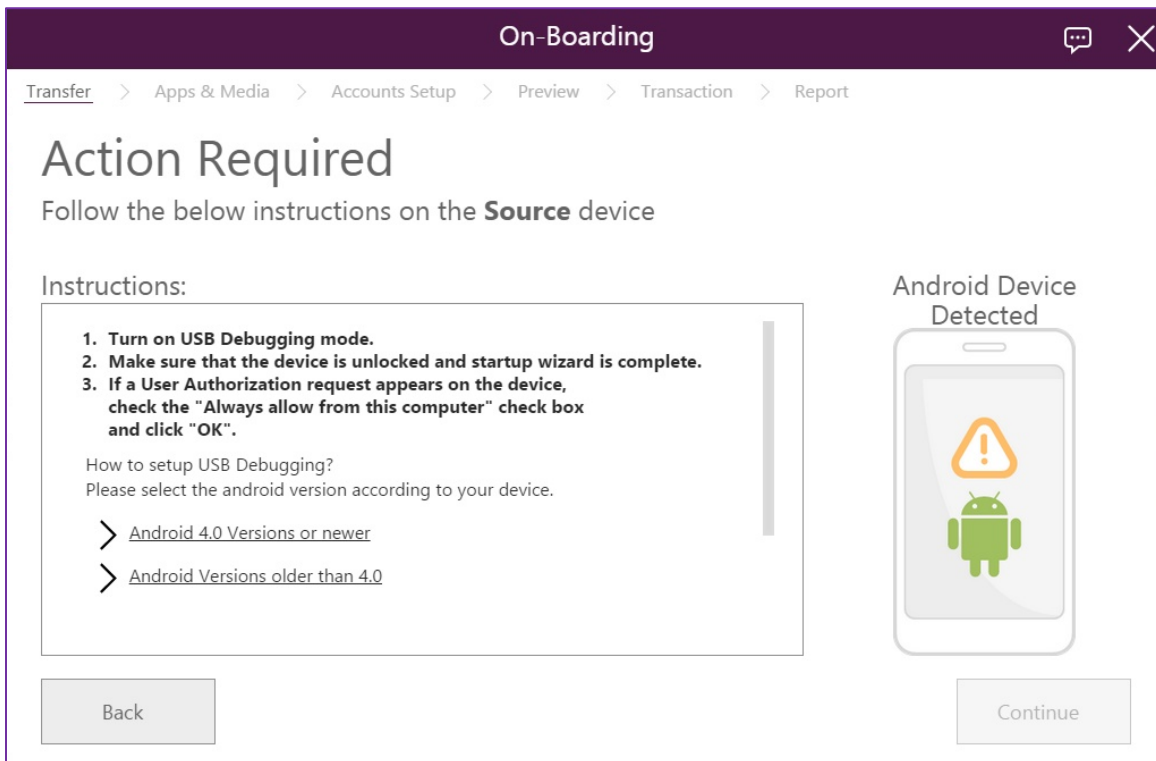
1. First select the actions you want to perform:

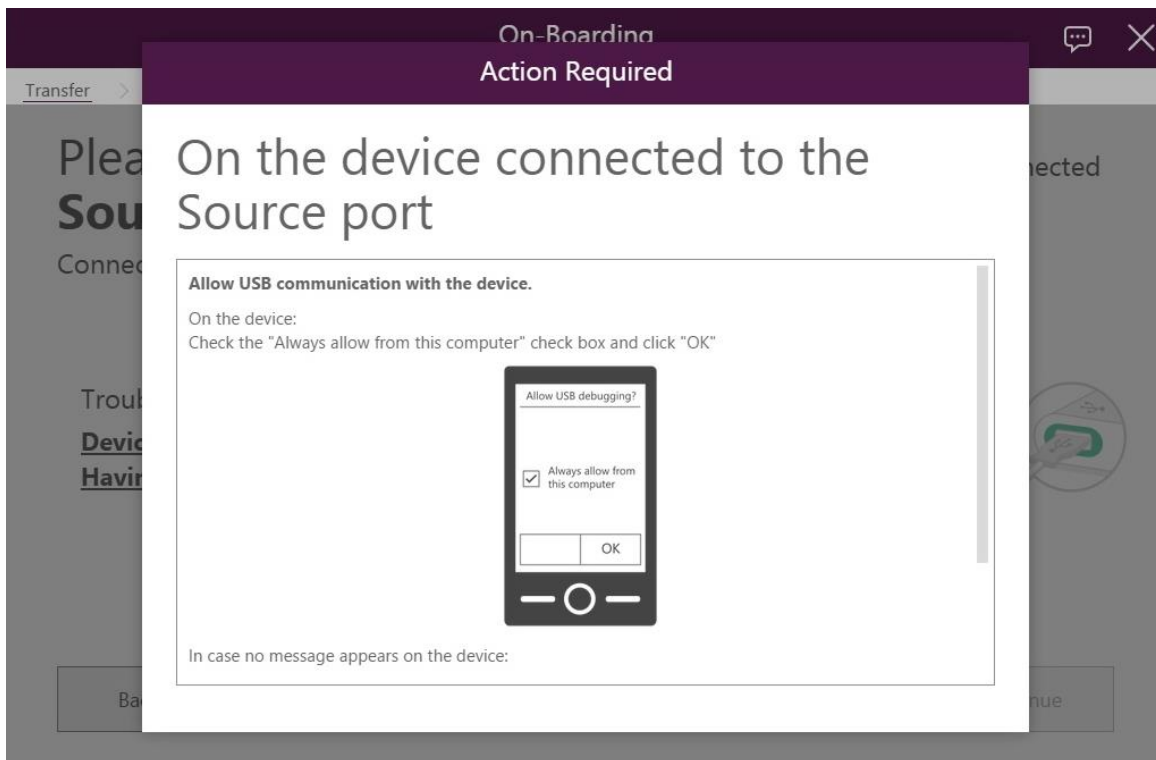


2. Ensure that the device is connected to the **"Source"** port of the hub:

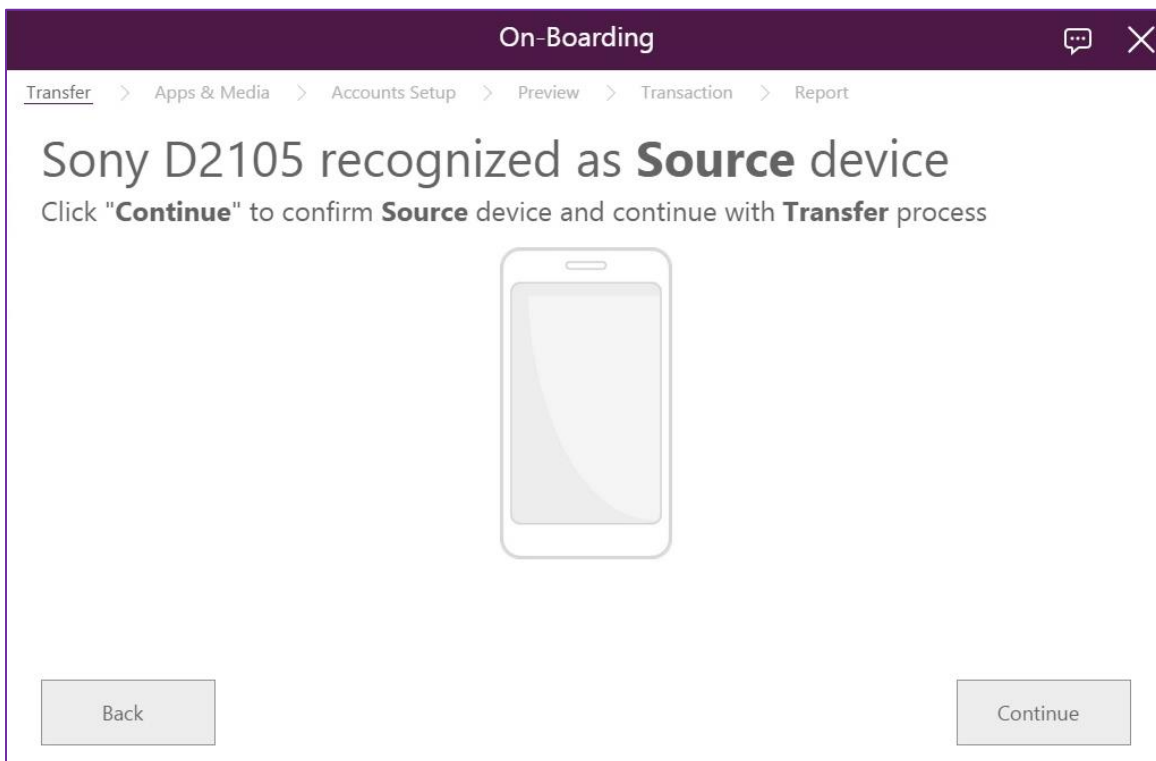


3. Depending on the device you connected you may need to make some adjustments in order to allow the Kiosk to access it and identify it:

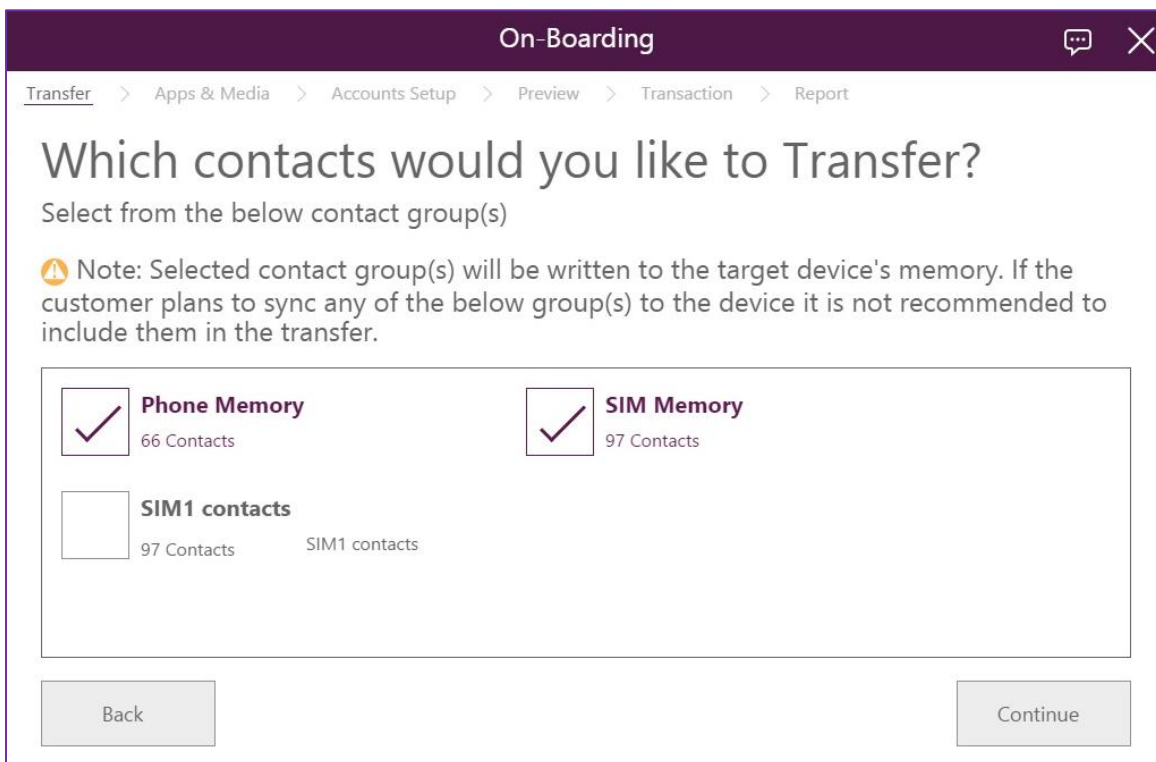
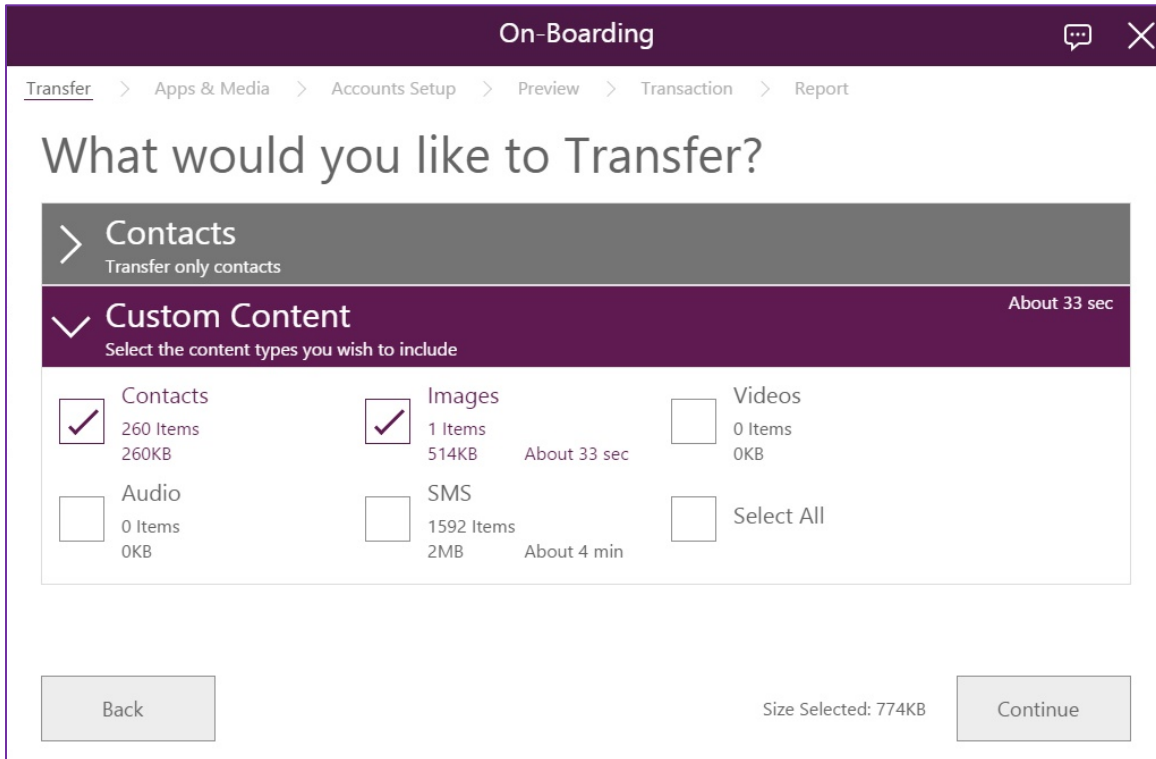




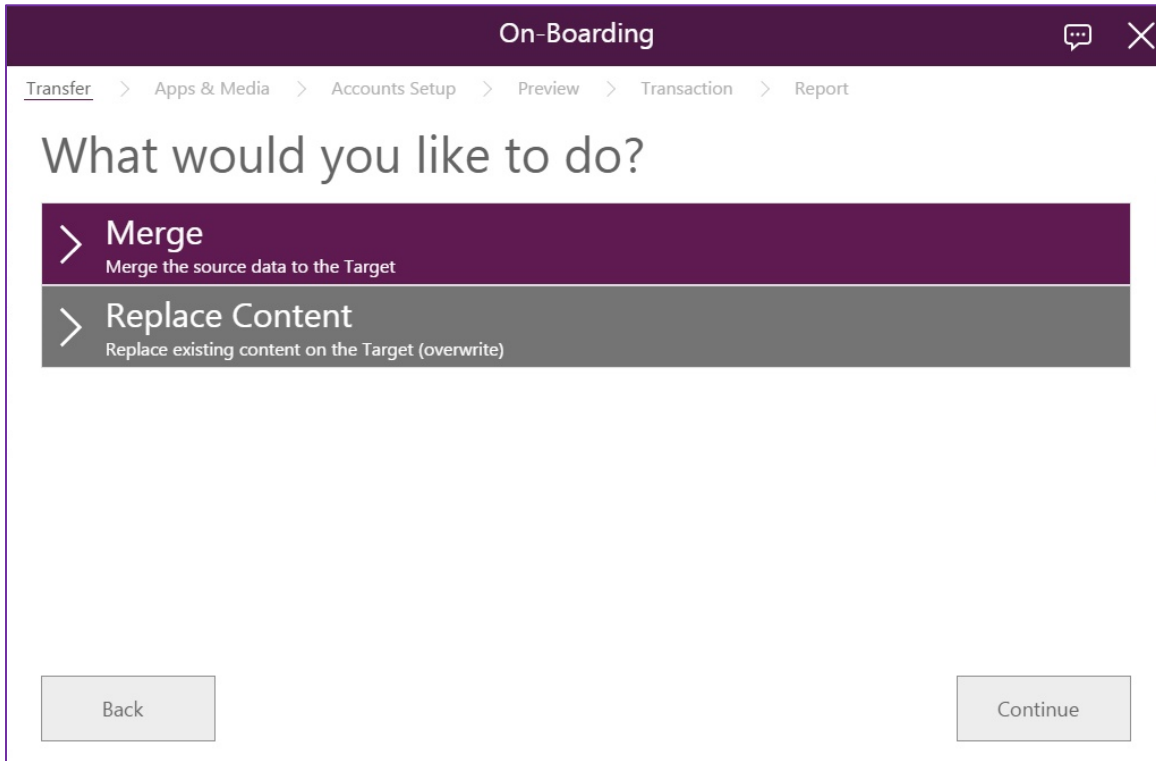
4. Confirm the device identified on the **Source** port:



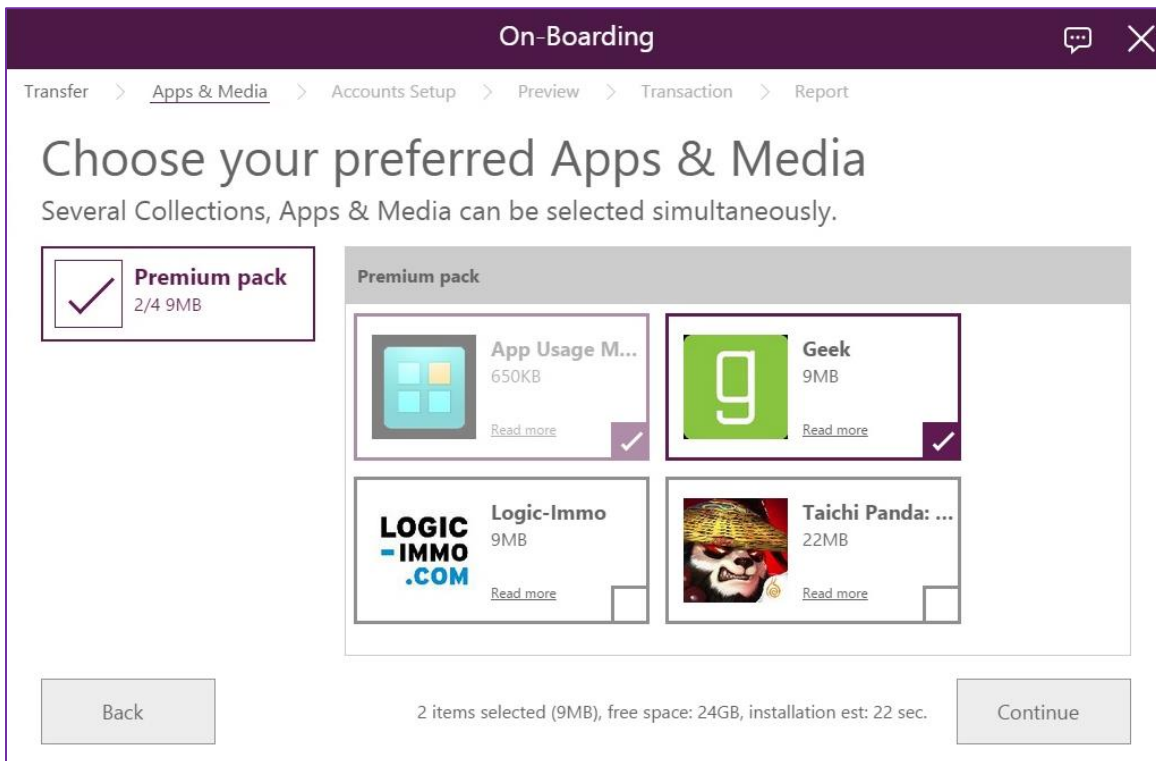
5. Select the content you want to transfer:



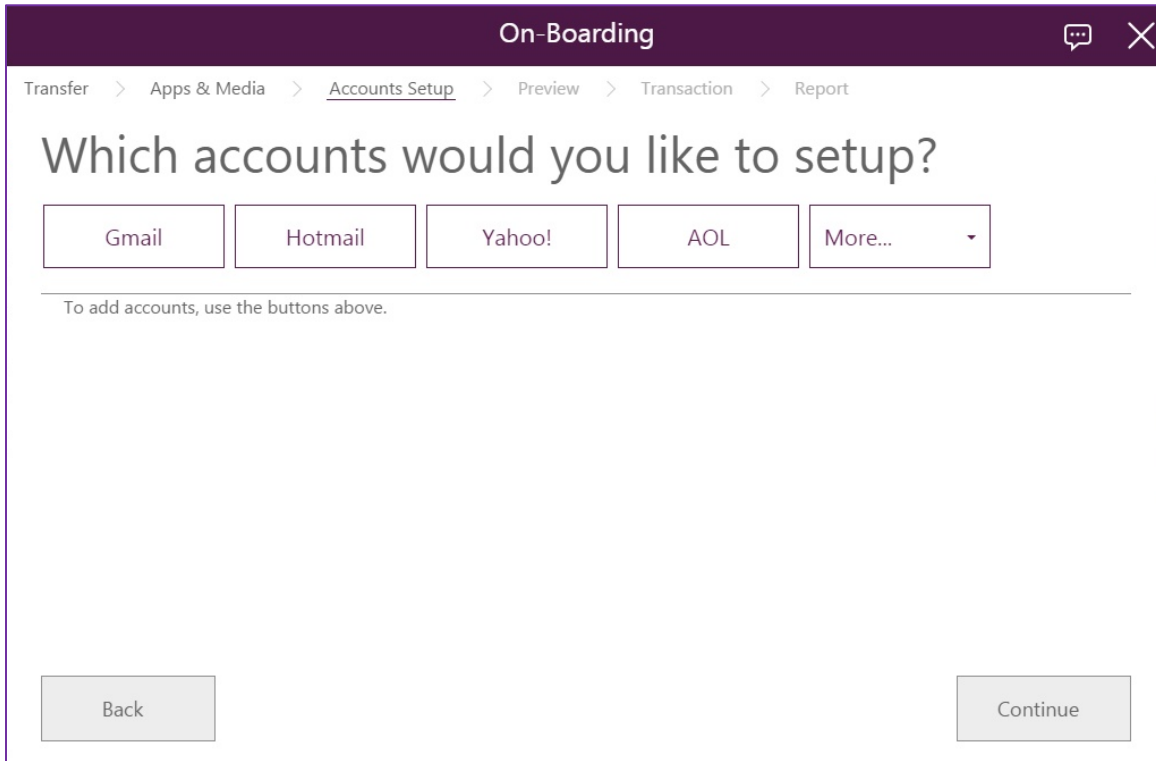
6. Indicate if you want to merge the content to the existing data on the target device or overwrite it:



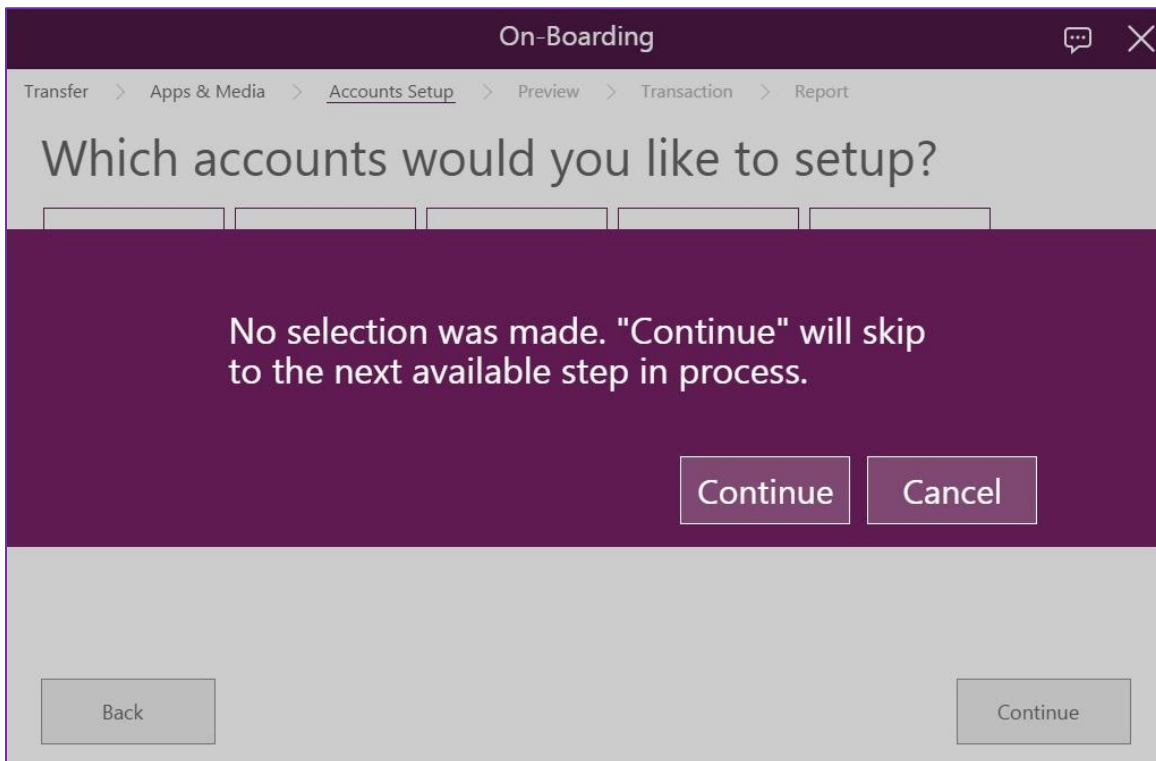
7. Select the applications you want to install on the device:



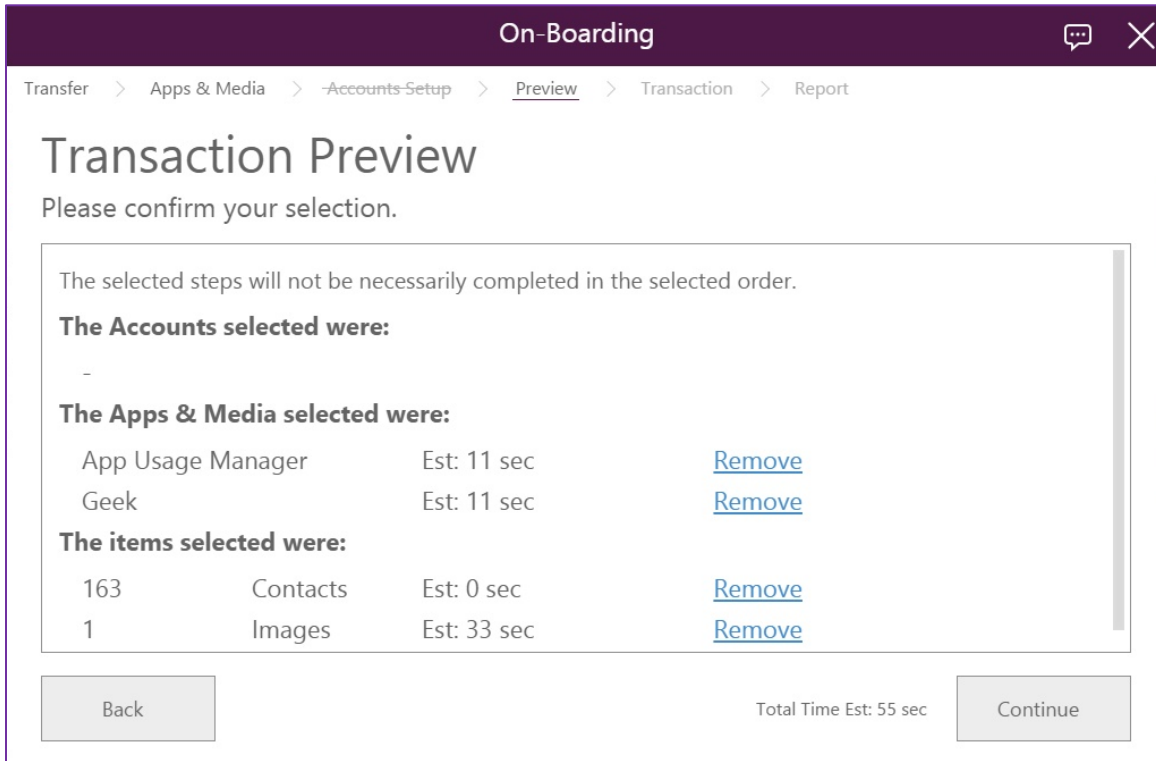
8. Setup the accounts:



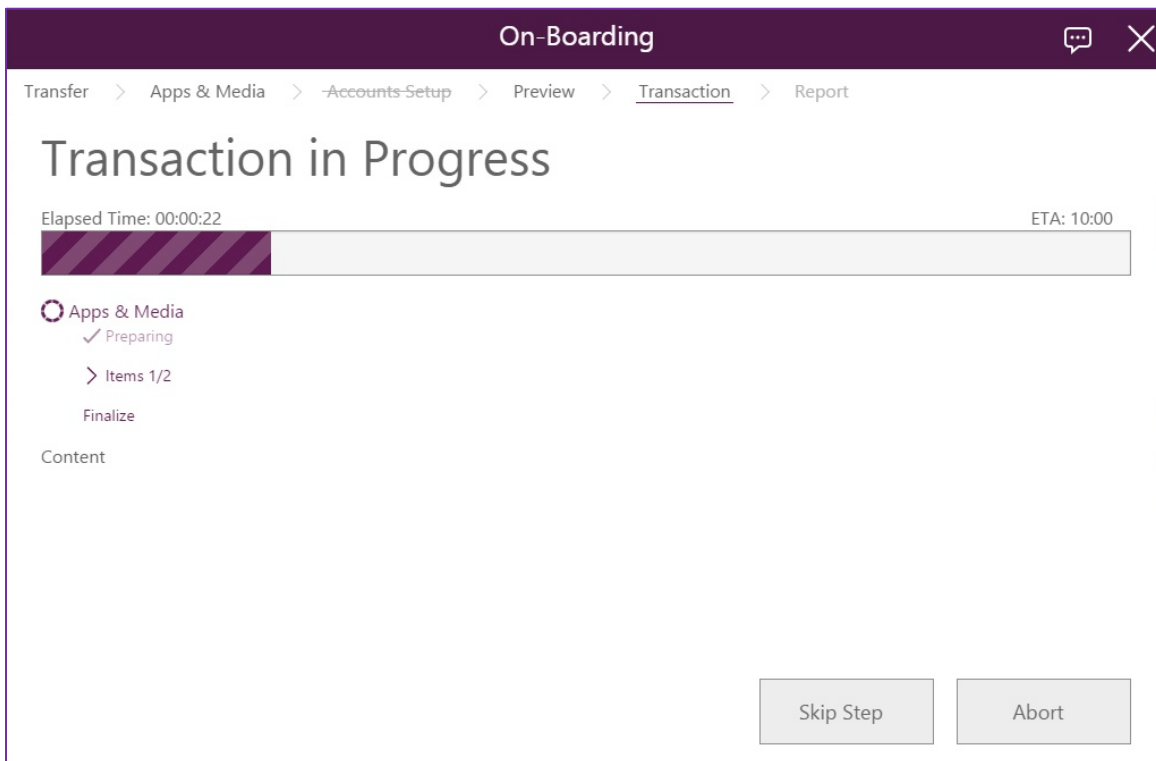
9. If you don't setup any account before clicking on the "Continue" button, you will be asked to confirm:



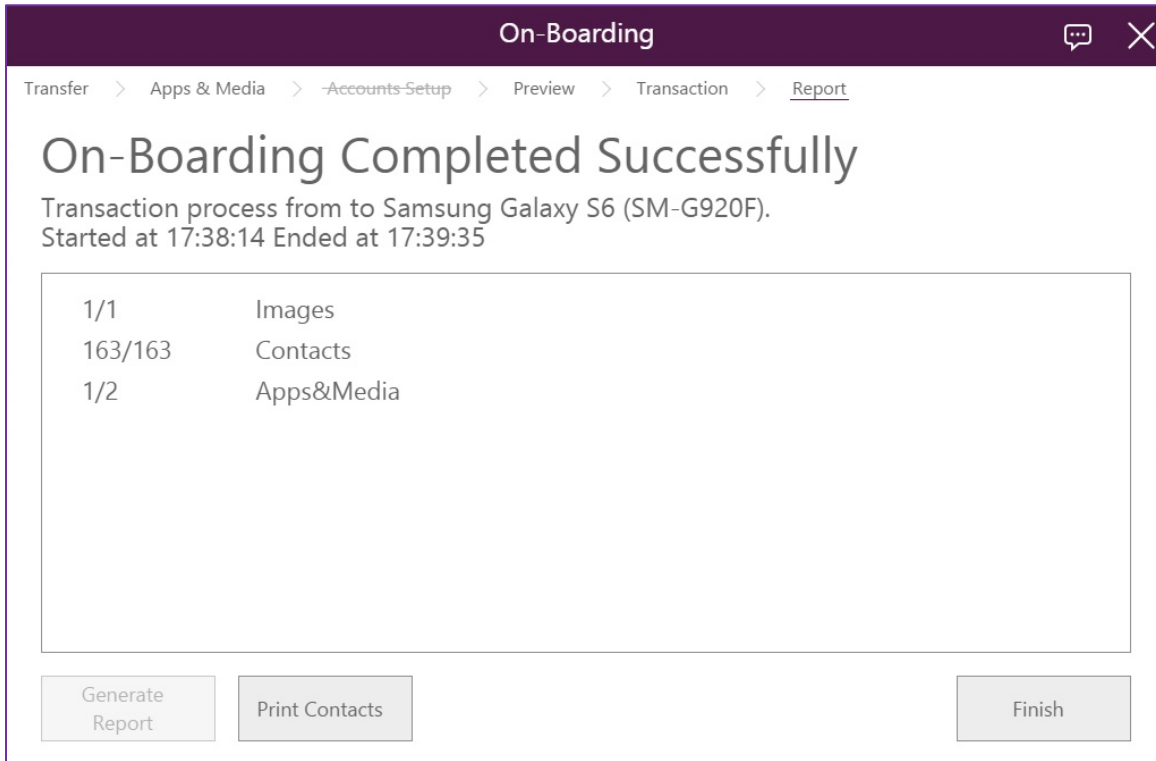
10. A preview of all actions and selected data is then displayed, with an estimate of the time needed for each step:



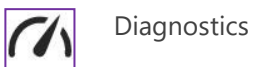
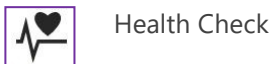
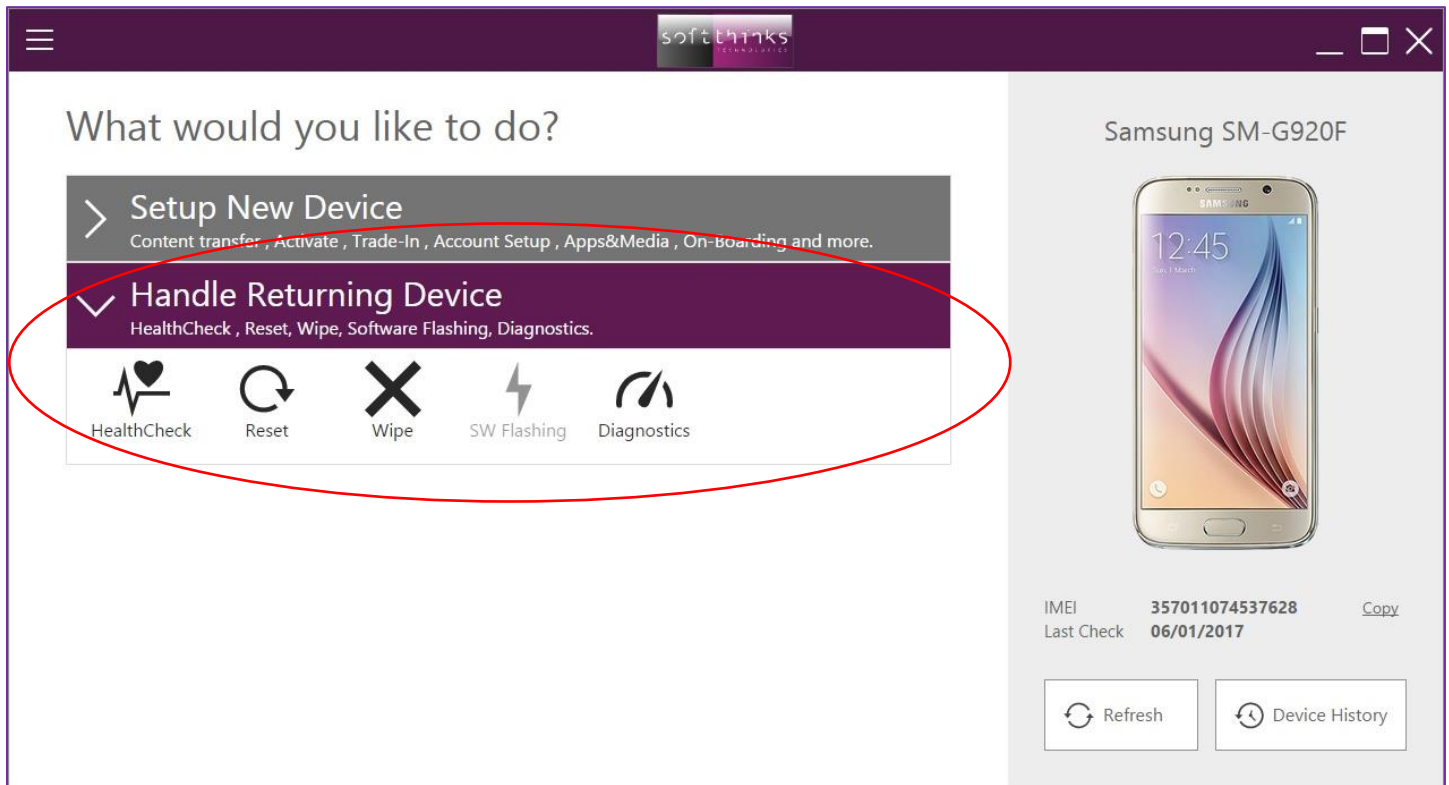
11. After confirmation of your selection, the process starts:



12. When all actions are completed, a report is displayed. It is possible to edit the report and to print or export contacts:



Handle Returning Device




Health Check

This module lists out all of the information about the phone. Depending on the system, we can show information about the phone, its memory, its battery and its operating mode. This may be useful, for instance, for identifying a jailbroken device. It also provides you with recommendations to optimize the device usage. Moreover, it also enables identification of issues such as, the abuse of the battery by an application. This faulty application is then designated and the kiosk enables us to uninstall it through the interface.

Mobile Health Check
✕

SAMSUNG GALAXY S6 (SM-G920F)




IMEI
357011074537628

Last Checked
09/01/2017

Refresh

History

Print Checklist



SOFTWARE +

Version In Use 6.0.1/G920FXXS4D...

Device Carrier Generic DE

Rooted No

Factory Reset Protection Off

BATTERY +

Battery Health Good

Charging Yes (Fully Charged)

Level Remaining 100%

Hardware Utilization

Screen	36%
Idle	25%
Radio	21%
Wi-Fi	12%
Other	6%

Top 3 Consuming Applications

Beaming S...	2%	Close	Remove
Hangouts	1%	Close	Remove

SERVICES +

Mobile Number

Current Network Iliad-GSM

Service Status Emergency Only

Data Connection Status Disconnected

Connections

Link Download Speed

Test

STORAGE +

Fix detected issues

Finish

Each item can be detailed by clicking on the "+", such as for the battery:

BATTERY ✕

General Information

Health Good

Presence Present

Level Remaining 100%

Charging Yes (Fully Charged)

Power Source USB

Temperature Good (27°C)

Technology Li-ion

Capacity 2550mAh

Average Battery Life

Auto Brightness | █

Wi-Fi | █

Bluetooth | █

Hardware Battery Utilization

■ Screen	36%
■ Idle	25%
■ Radio	21%
■ Wi-Fi	12%
■ Other	6%

Top 5 Consuming Applications

Beaming Service	2%	Close	Remove
Hangouts	1%	Close	Remove

Battery Actions

[Set Auto Brightness On](#)

[Set Screen Off Timeout To 15 sec](#)

[Turn Off Wi-Fi](#)

[Turn Off Bluetooth](#)

...or for the storage:

STORAGE ✕

General Information

Remaining Internal Memory

Remaining On Device Storage 94%

Memory Card Present Not Available

Remaining On Memory Card

Internal and On Device Memory

■ Movies	0.00%	0KB
■ Music	0.01%	3.31MB
■ Images	0.00%	1.08MB
■ Docs	0.00%	0KB
■ Apps&M...	4.34%	1.10GB
■ Others	1.46%	380.18MB
<hr/>		
Total		25.41GB
Free Space		23.92GB

Top 5 Consuming Applications

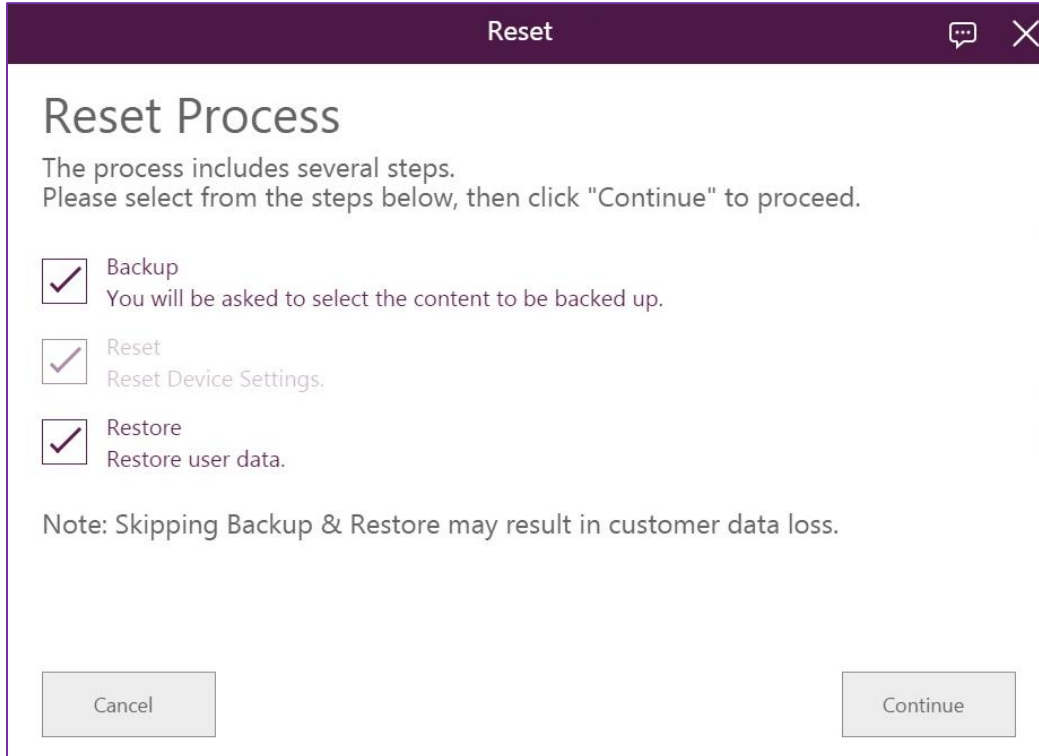
Maps	86.72MB	Close	Remove
Galaxy Apps	55.36MB	Close	Remove
Email	49.88MB	Close	Remove
S Health	45.54MB	Close	Remove
Google+	40.90MB	Close	Remove

Storage Actions

 Reset

The kiosk can reset the device and gives the option to save the data before and to restore it after.

1. Indicate if you want to back up the data before the reset and restore it after:



Reset

Reset Process

The process includes several steps.
Please select from the steps below, then click "Continue" to proceed.

- Backup
You will be asked to select the content to be backed up.
- Reset
Reset Device Settings.
- Restore
Restore user data.

Note: Skipping Backup & Restore may result in customer data loss.

Cancel Continue

2. Confirm the conditions below:

The screenshot shows a mobile application window titled "Reset". At the top, there is a breadcrumb trail: "Reset Setup > Backup Selection > Preview > Transaction > Report". The main heading is "Pre-Reset Conditions" with the instruction "Confirm the details below in order to process." Below this, there are three checklist items, each with a checked checkbox:

- I understand the recommended battery level to perform the operation is higher than 50%.
- I understand that the Reset operation will restore the device to its factory settings.
- I understand that some user-generated or installed content may remain on the device.

At the bottom of the screen, there are two buttons: "Back" on the left and "Continue" on the right.

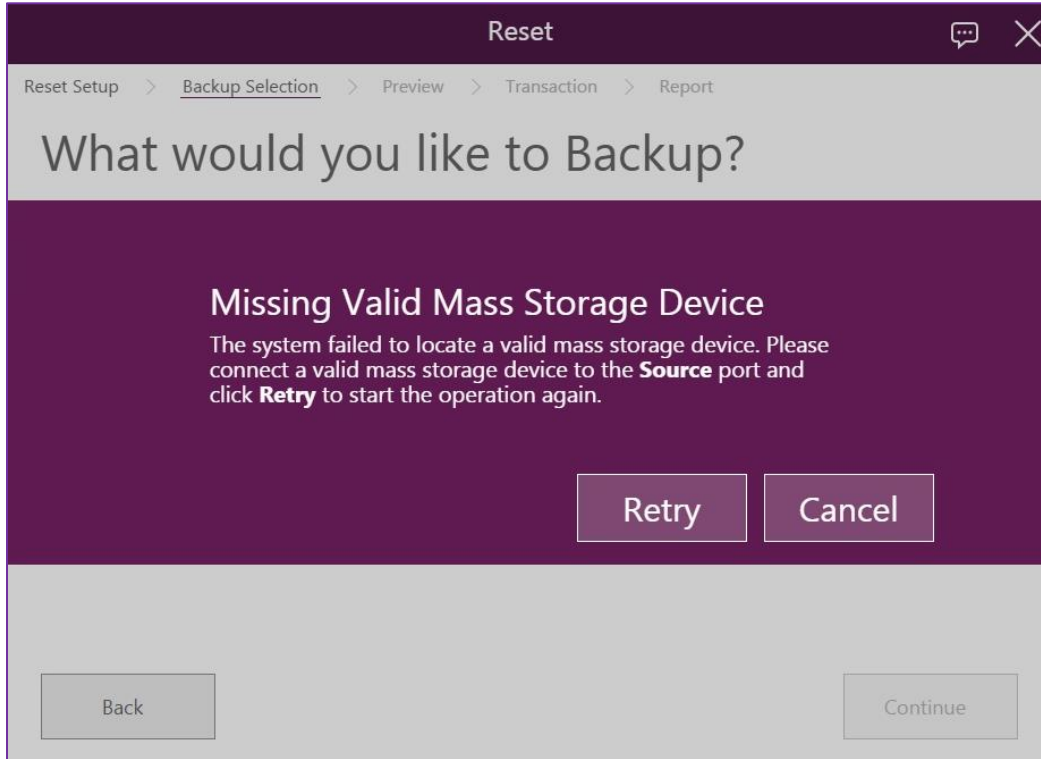
3. Indicate where you want to store your backup. We will choose the USB Stick in the process below:

The screenshot shows the same "Reset" application window, now at the "Backup Selection" step. The breadcrumb trail is "Reset Setup > Backup Selection > Preview > Transaction > Report". The main heading is "Where would you like to Backup to?". There are two selectable options, each with a chevron icon on the left:

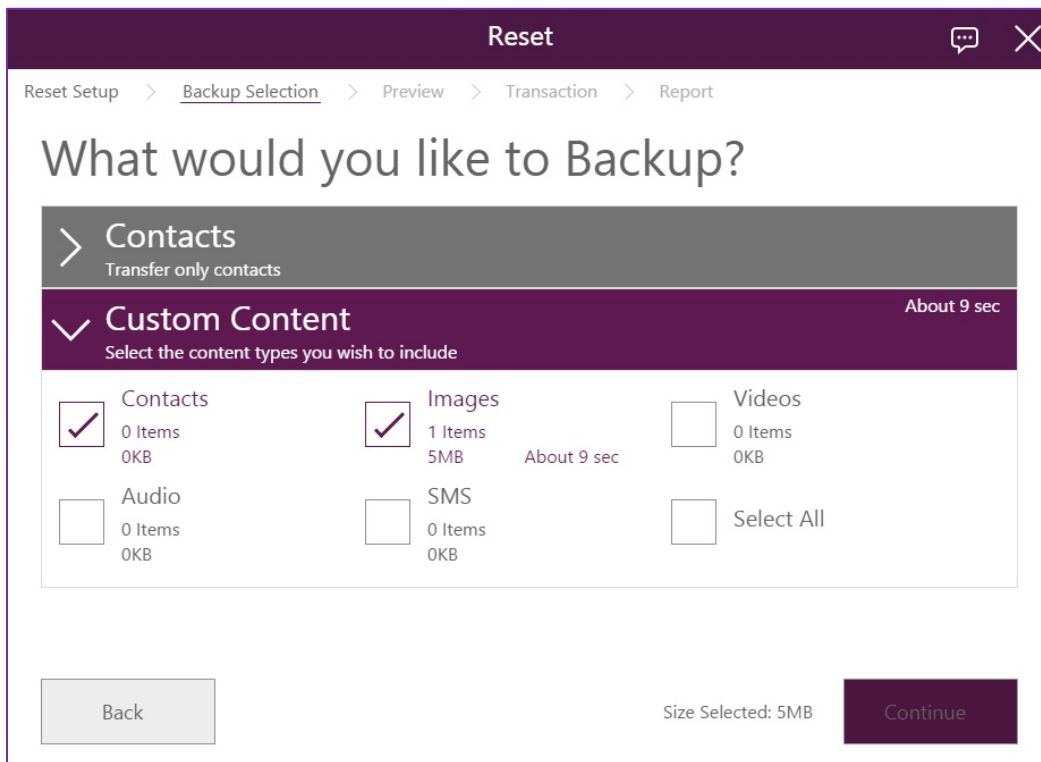
- USB Stick**
Backup to a USB Stick
- Temporary Location**
Backup to a secured temporary location (only one Backup file can be stored)

At the bottom of the screen, there are two buttons: "Back" on the left and "Continue" on the right.

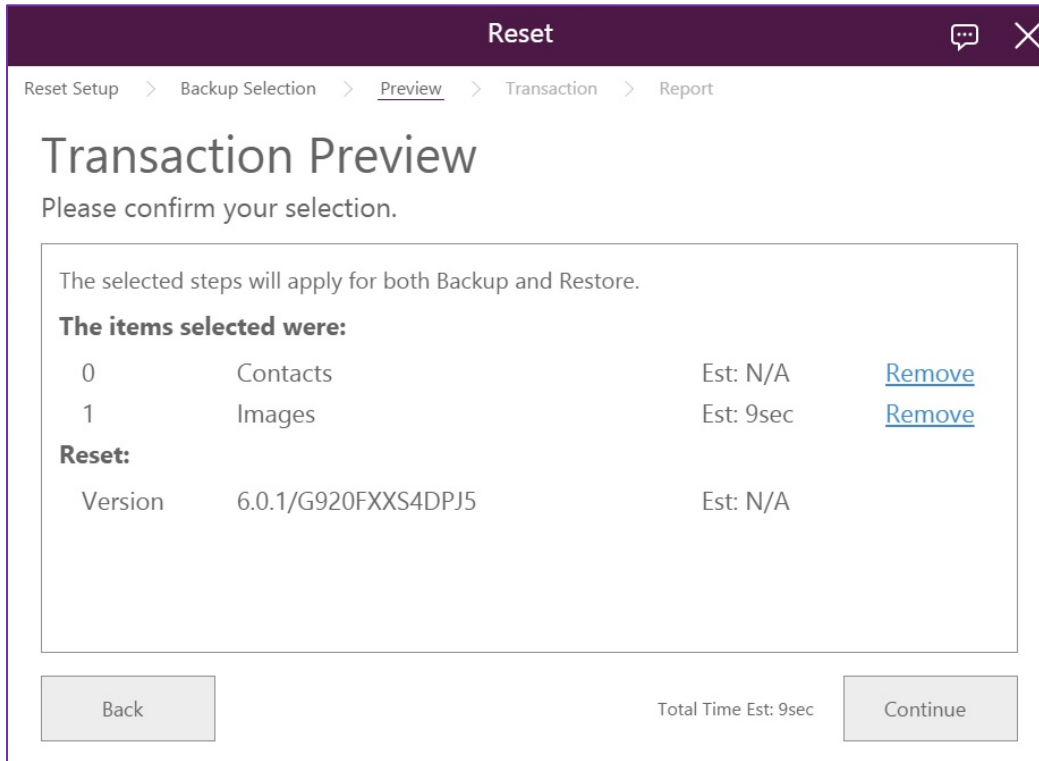
4. You will be asked to plug in a USB drive to store the data to backup if you chose this option:



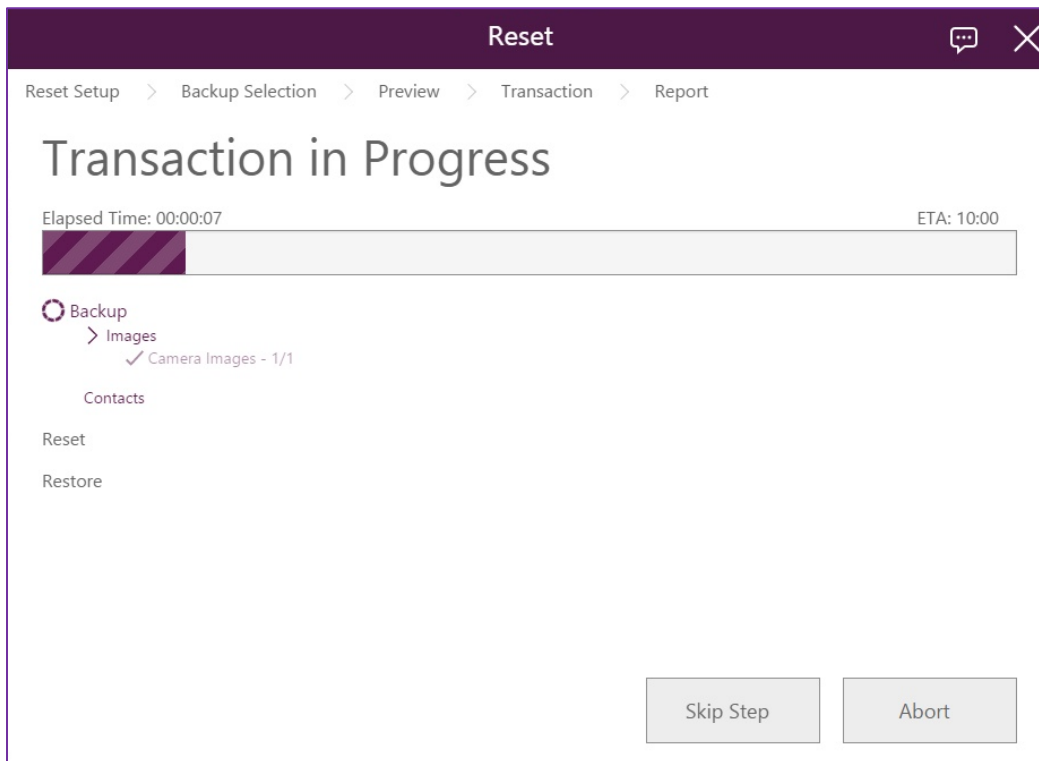
5. Select the Data you want to back up:



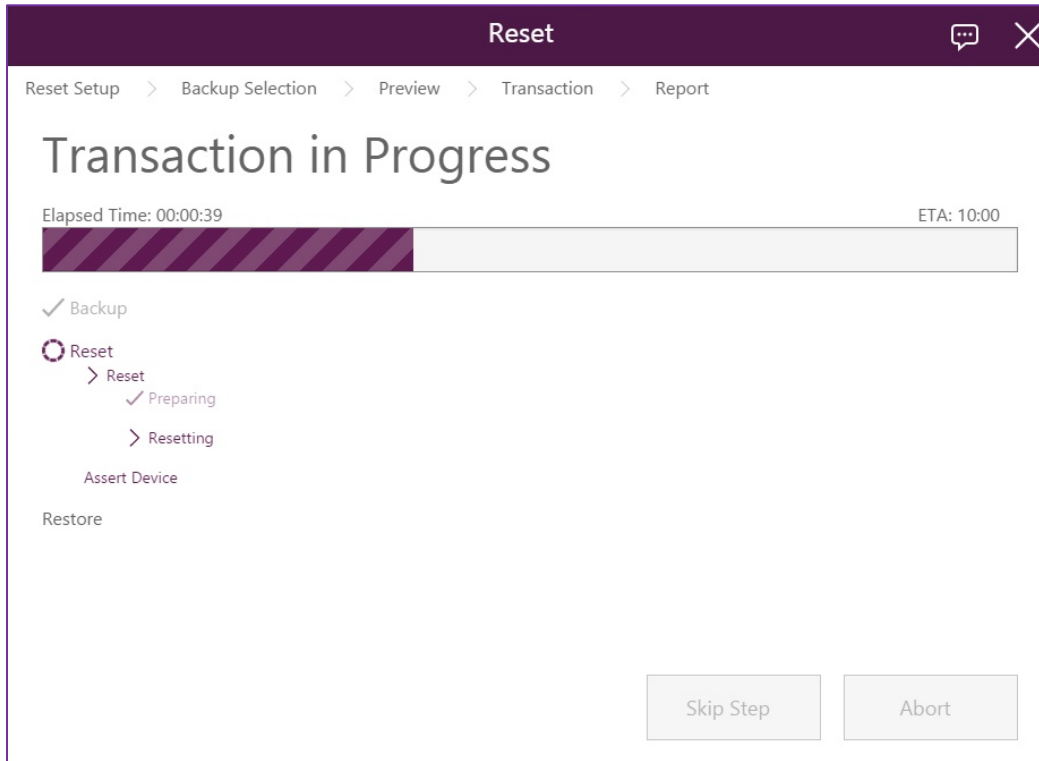
6. Confirm your selection:



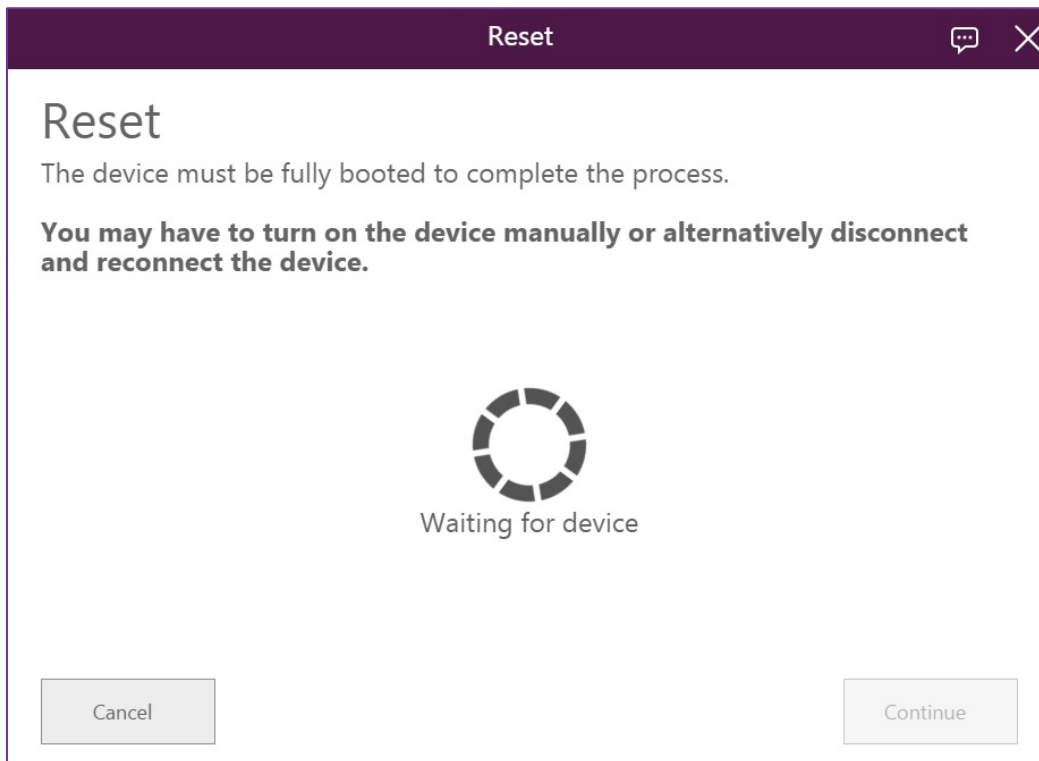
7. The data selected is being backed up:



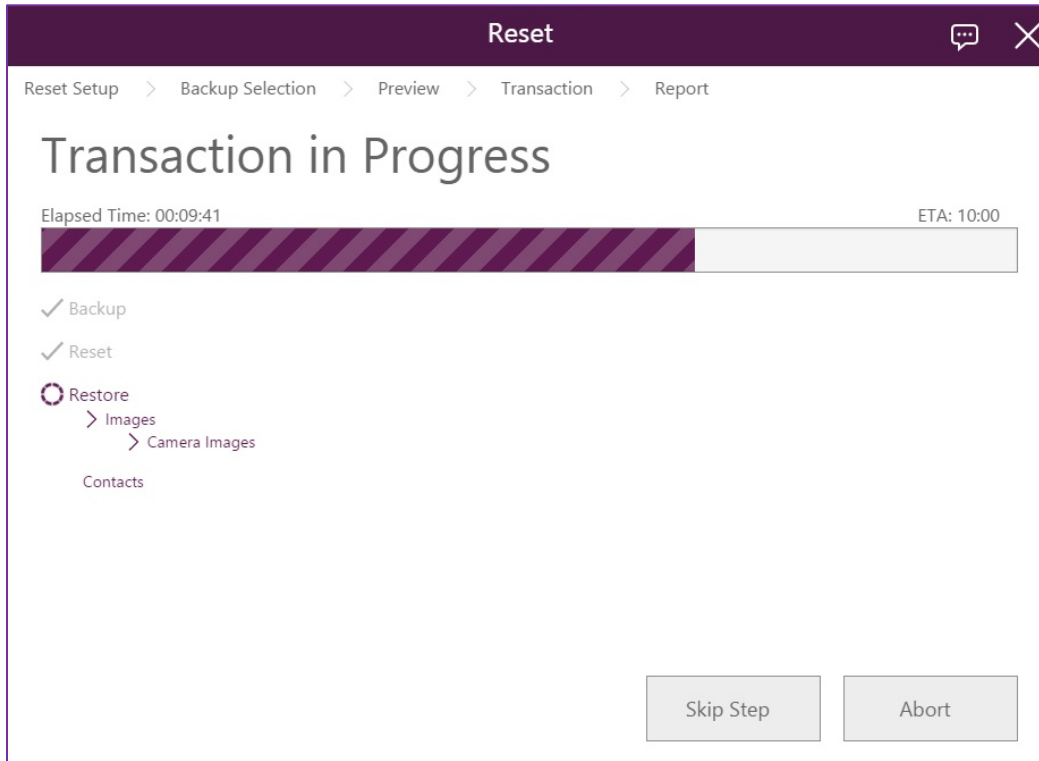
8. The reset process begins :



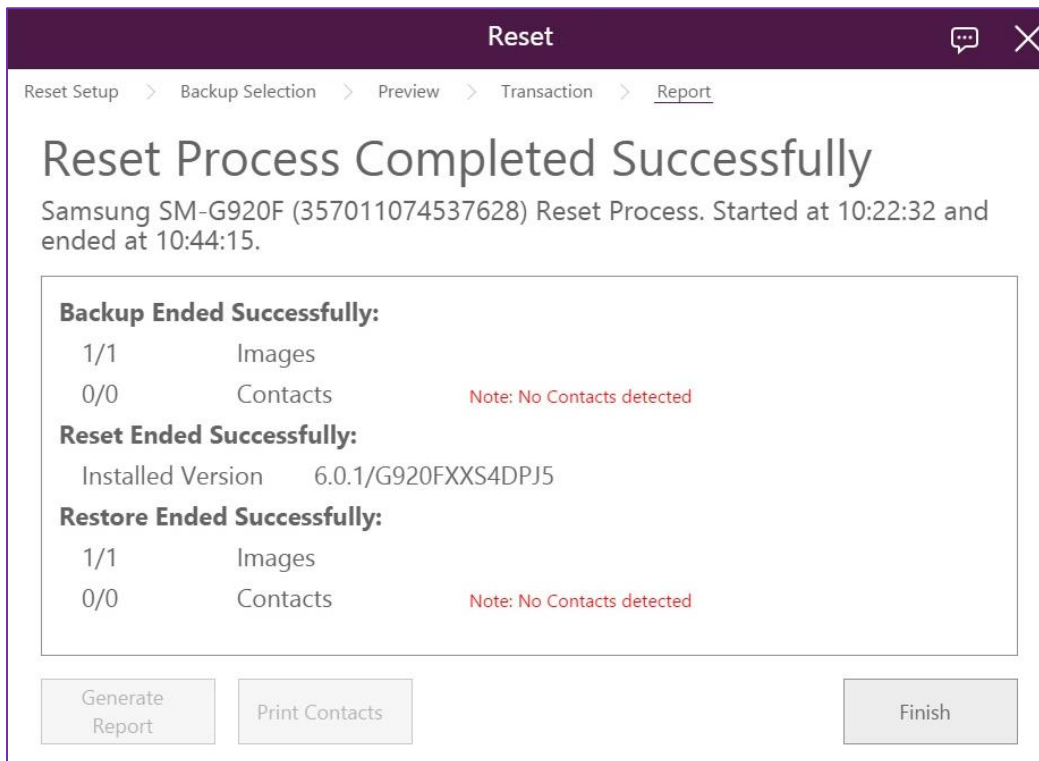
9. At the end of the reset process the device will need to be rebooted :



10. The data will be restored if you selected this option:

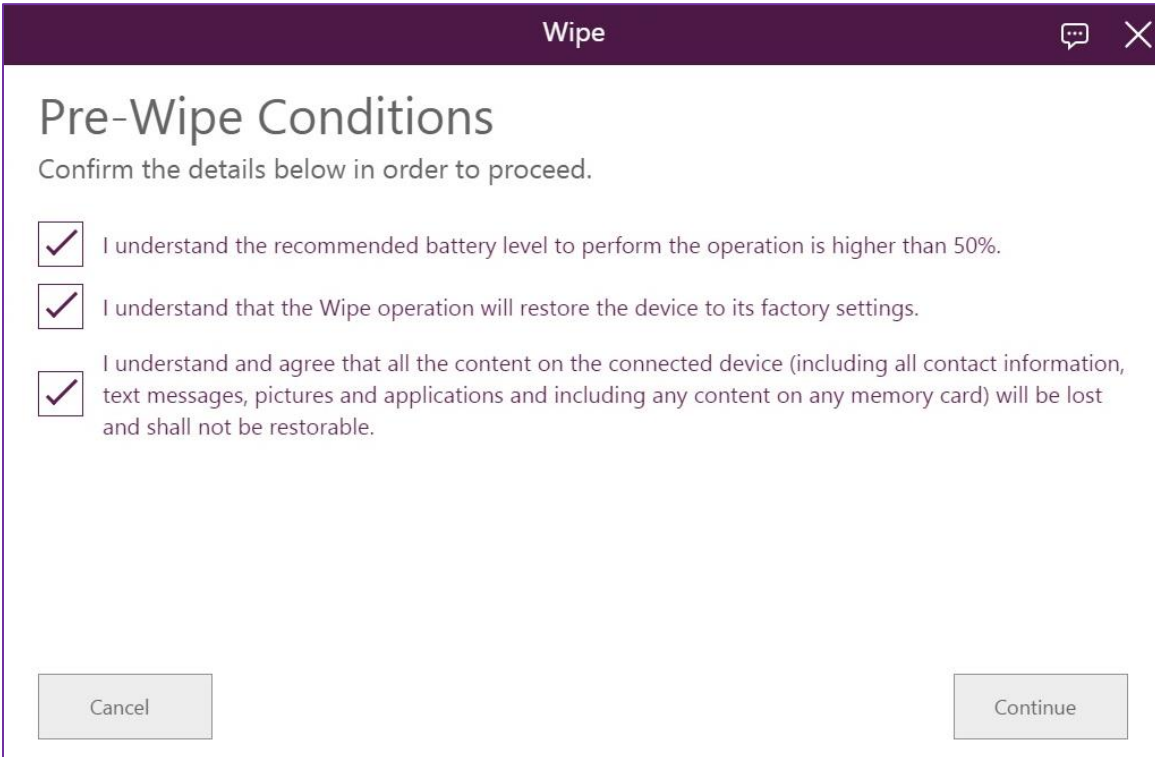


11. Once the complete process finished, a report is displayed:



 Wipe

The interface offers to securely erase the data on the phone, including on the SD card. When the wipe is completed, a reset is performed to restore the original system.



The screenshot shows a dialog box titled "Wipe" with a close button (X) and a help icon (speech bubble). The main heading is "Pre-Wipe Conditions" with the instruction "Confirm the details below in order to proceed." Below this are three checked checkboxes:

- I understand the recommended battery level to perform the operation is higher than 50%.
- I understand that the Wipe operation will restore the device to its factory settings.
- I understand and agree that all the content on the connected device (including all contact information, text messages, pictures and applications and including any content on any memory card) will be lost and shall not be restorable.

At the bottom, there are two buttons: "Cancel" on the left and "Continue" on the right.

Wipe

Please wait while the device is being wiped.

The device might restart during and after Wipe process is finished.

Do not disconnect the device!

Elapsed Time: 00:00:02 ETA: 10:00

- ✓ Prepare
- Work
 - > Wipe
- Finalize


Wipe

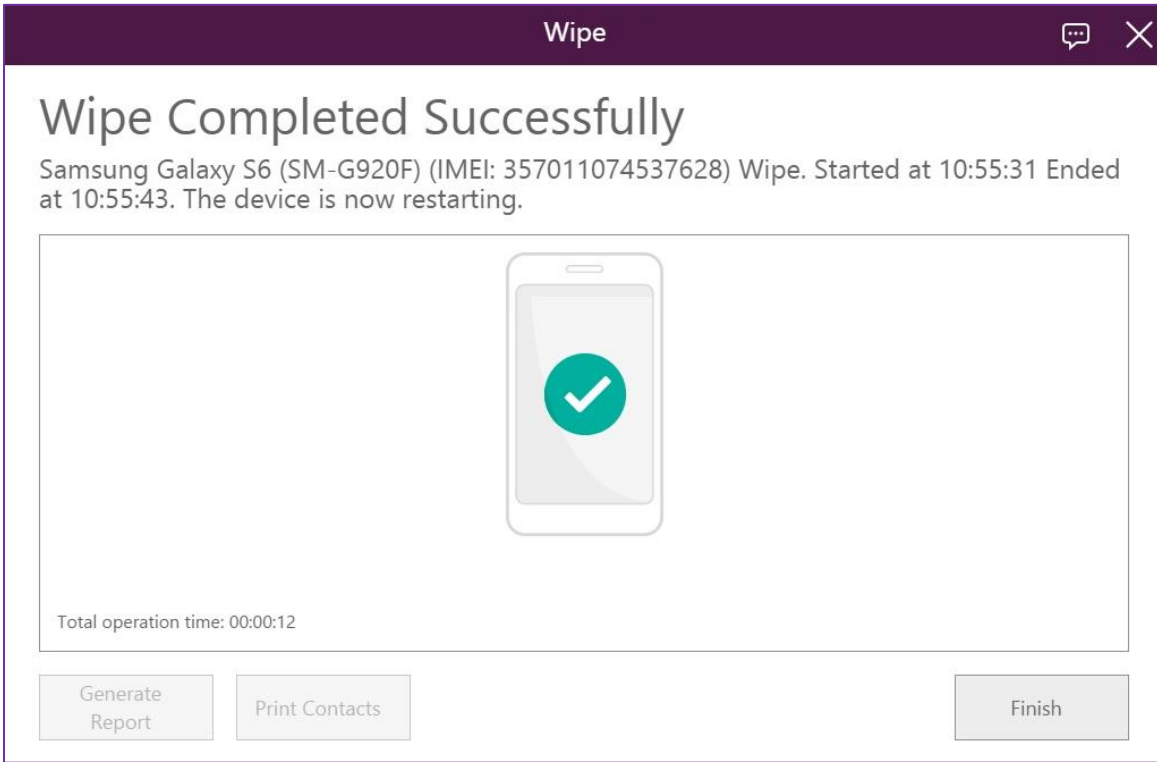
Wipe Confirmation

Device wipe was completed successfully.

Please wait for the device to be fully booted.

To finalize process, all inserted external cards (SD/SIM etc.) are to be securely removed and destroyed. This will ensure no user-generated content or previously installed content is stored on the device.



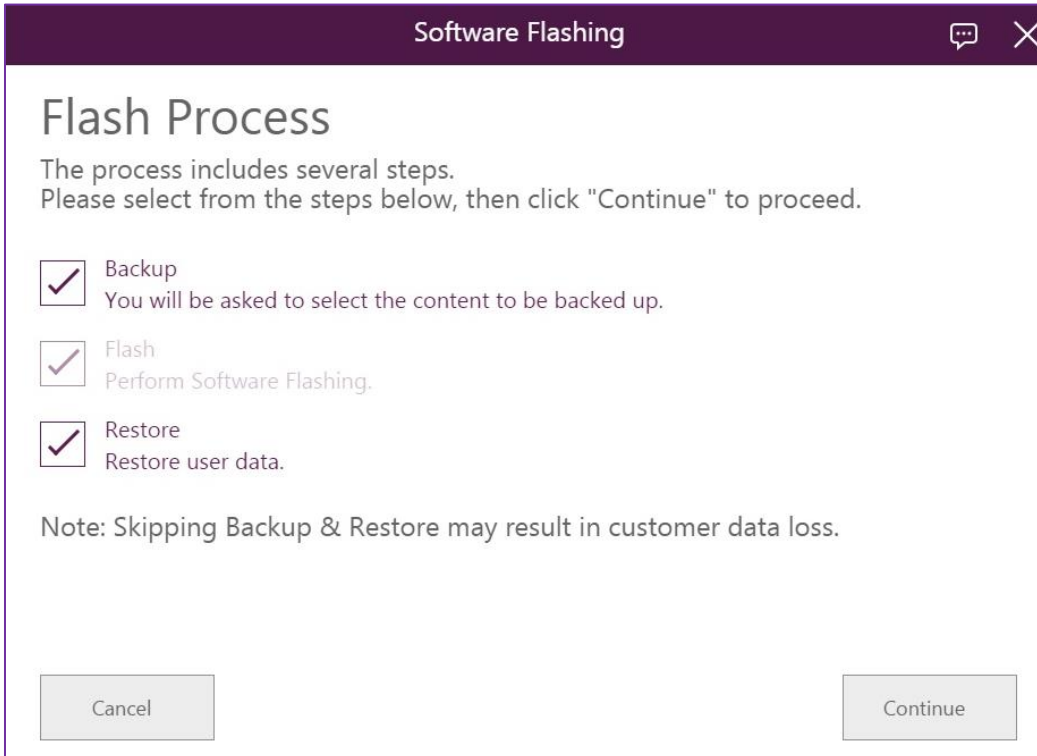


 ROM flashing

In case of a major issue with the device which can not be resolved with the other options, this module flashes the ROM memory of the phone (depending on the ROM types supported).

If you encounter any issue during this process, please refer to [Software Flashing issues](#) in the troubleshoot guide.

1. Indicate if you want to back up the data before flashing the ROM and restore them after:



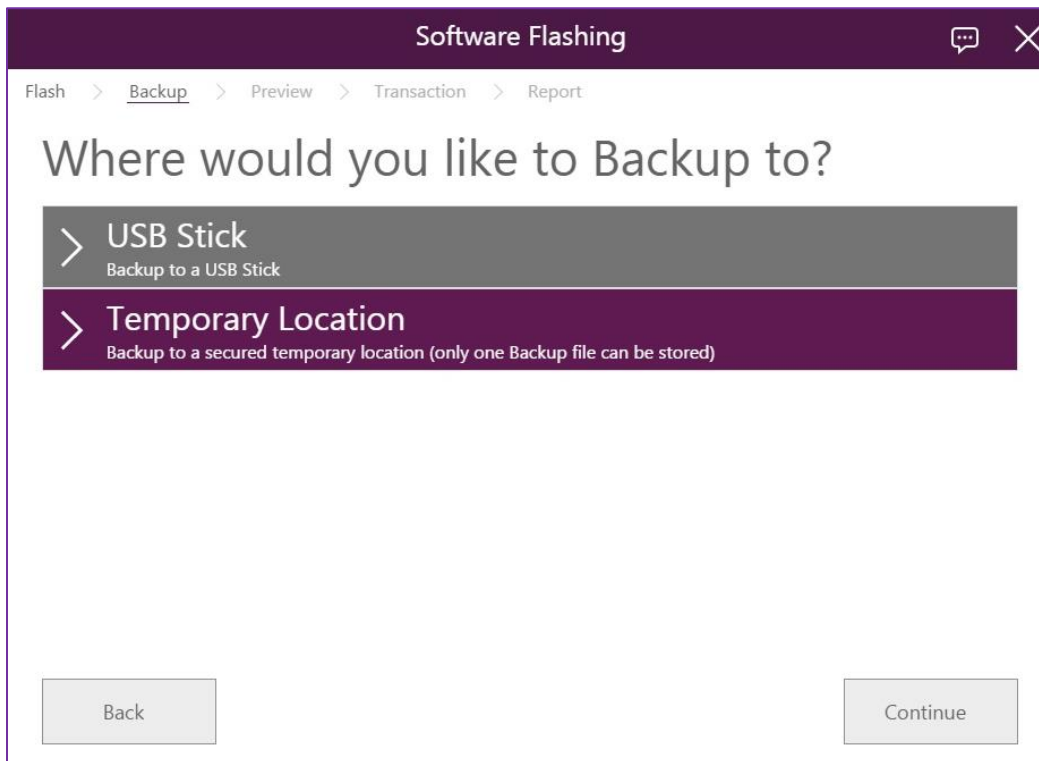
The screenshot shows a dialog box titled "Software Flashing" with a dark purple header. The main content area is white and contains the following text and elements:

- Flash Process**
- The process includes several steps.
Please select from the steps below, then click "Continue" to proceed.
- Three checked checkboxes with corresponding text:
 - Backup
You will be asked to select the content to be backed up.
 - Flash
Perform Software Flashing.
 - Restore
Restore user data.
- Note: Skipping Backup & Restore may result in customer data loss.
- At the bottom, there are two buttons: "Cancel" on the left and "Continue" on the right.

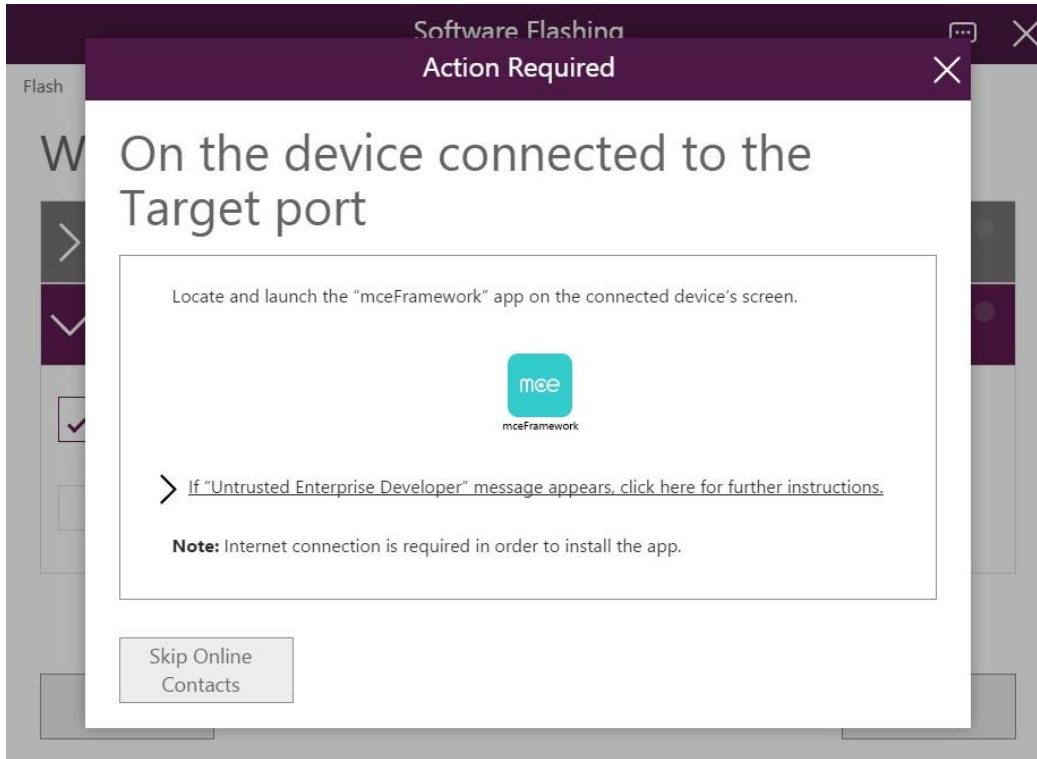
2. Confirm the conditions below:



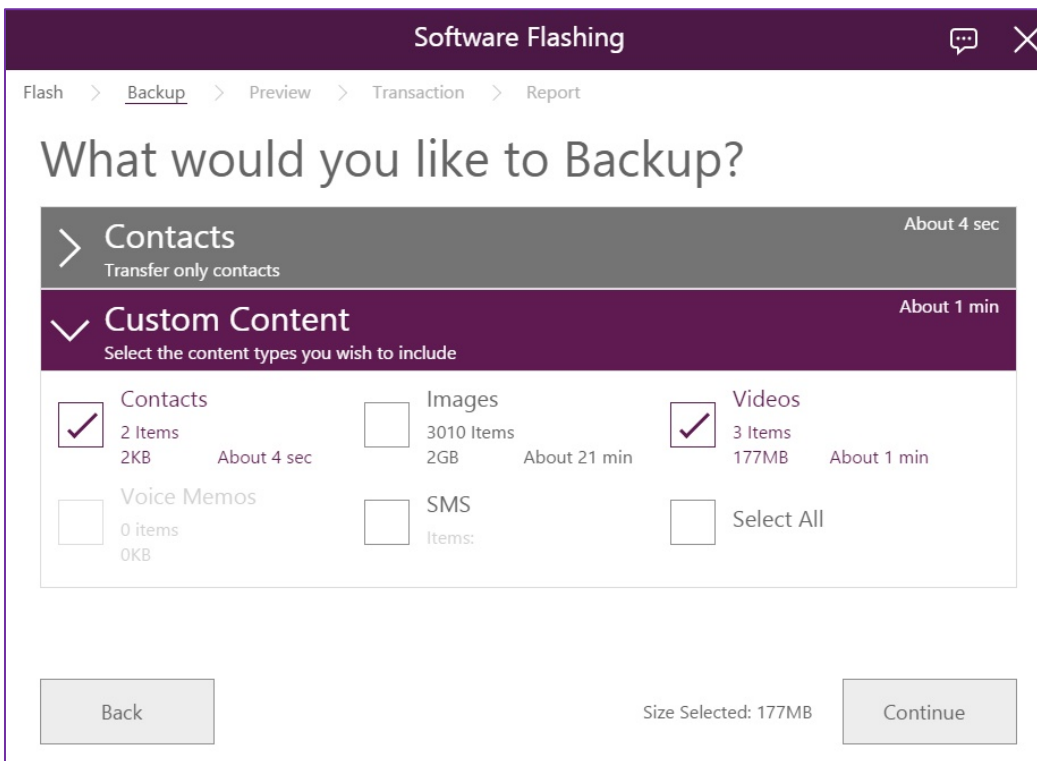
3. If you have chosen to back up the data (else you can go directly to step 9), please select the backup target, meaning a USB Stick or a temporary location on the Kiosk. In our case, we will describe the 2nd option:



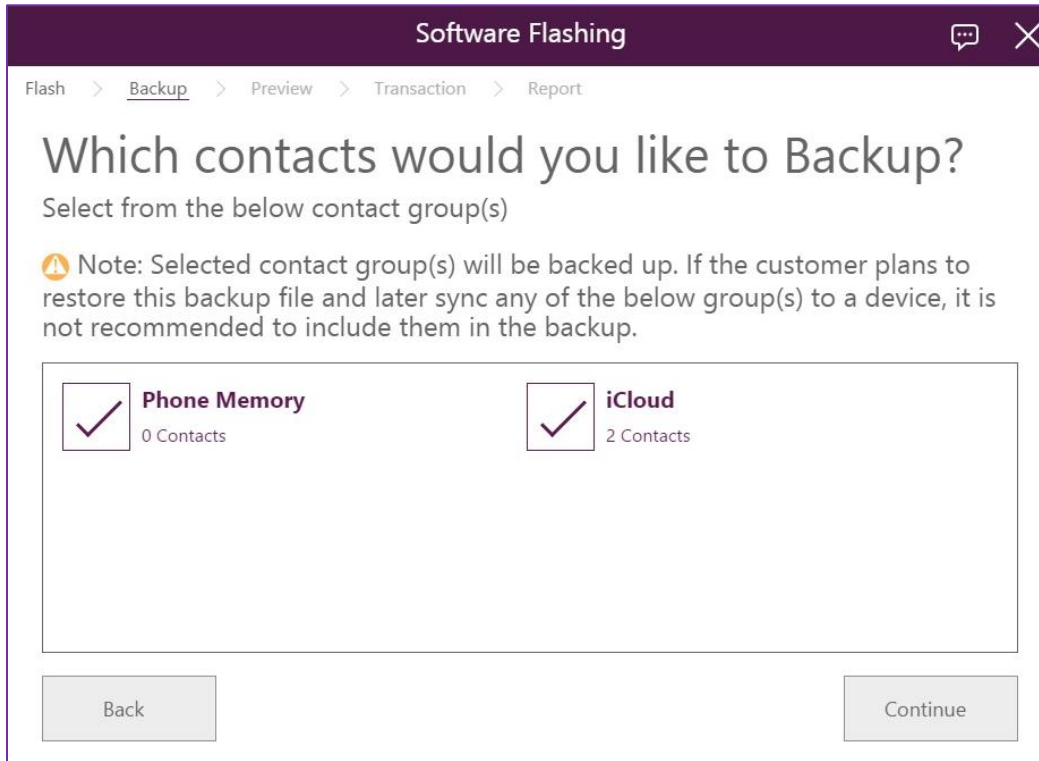
4. Depending on the device plugged you might have to make some settings changes on it:



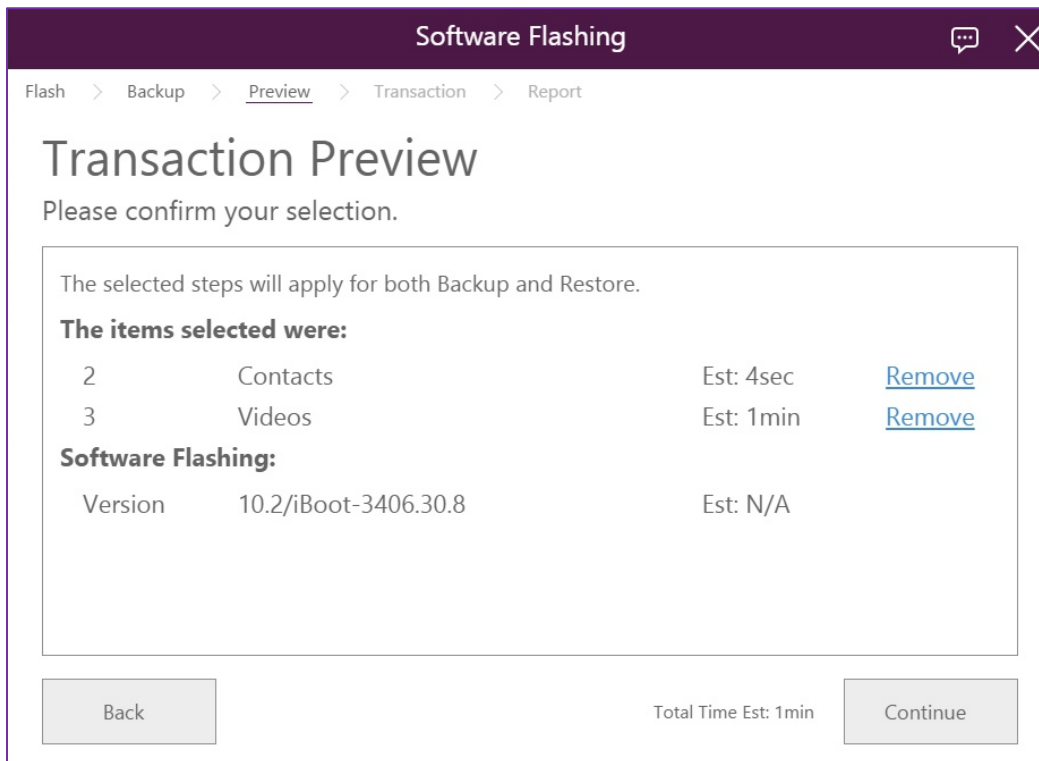
5. Select the data you want to back up:



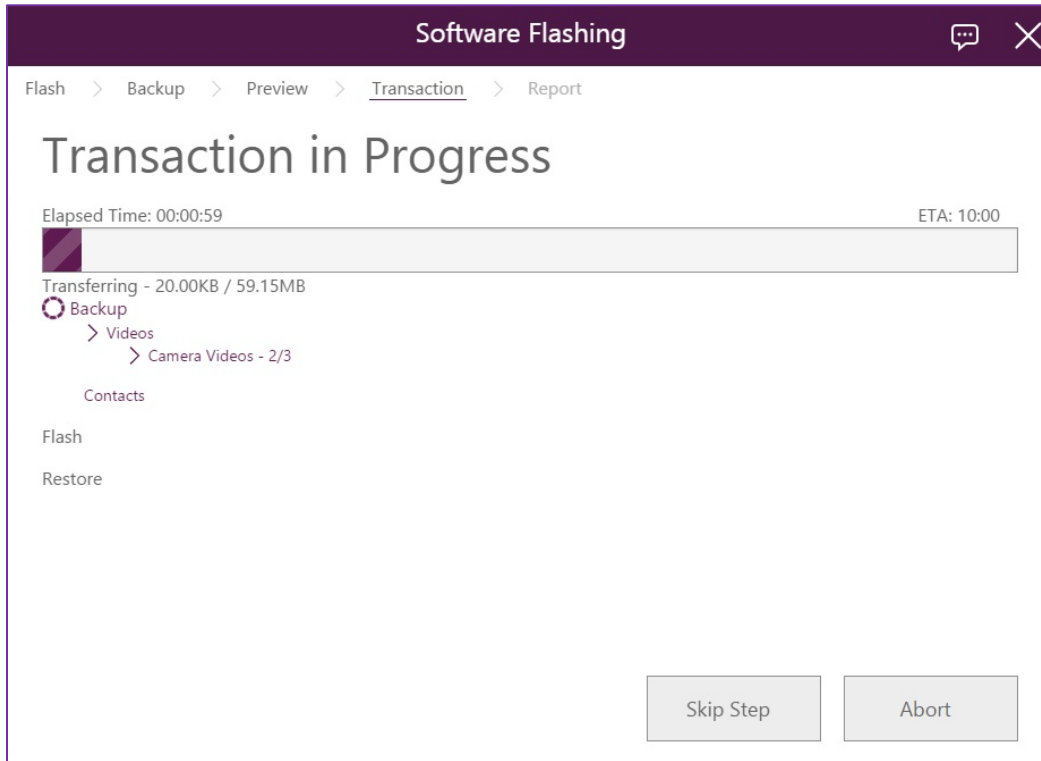
6. Depending on the device operating system you might have to choose contact groups:



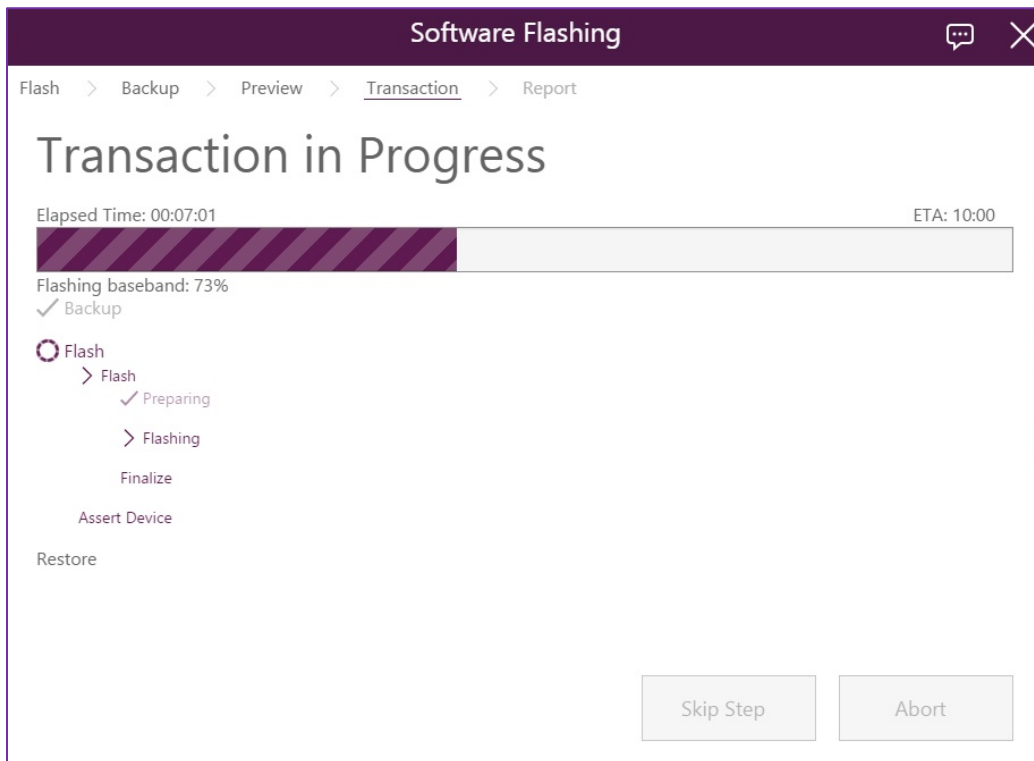
7. Confirm your selection:



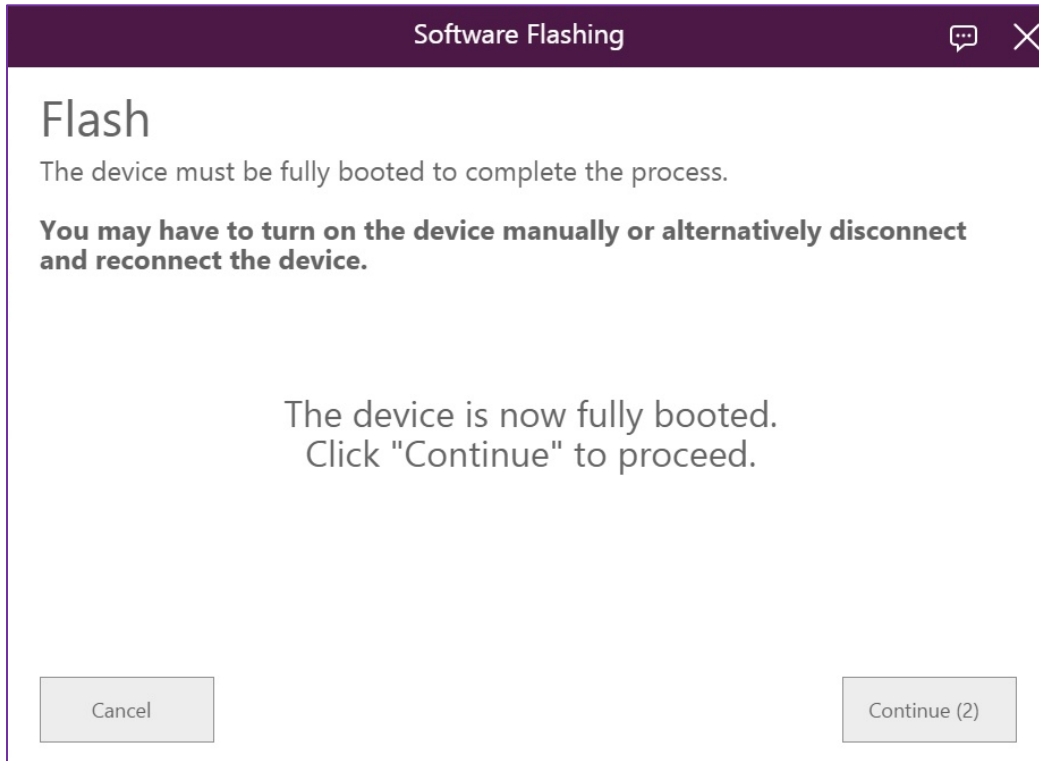
8. The process begins with the data backup if the option was chosen:



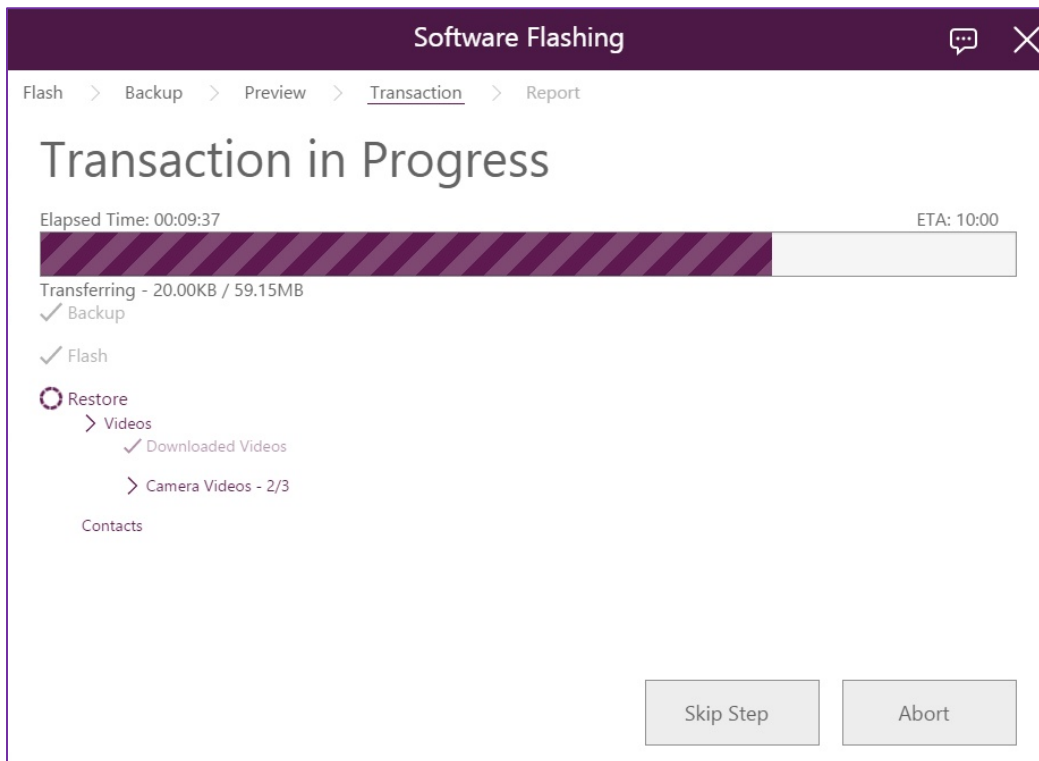
9. The ROM will be flashed in 3 steps:



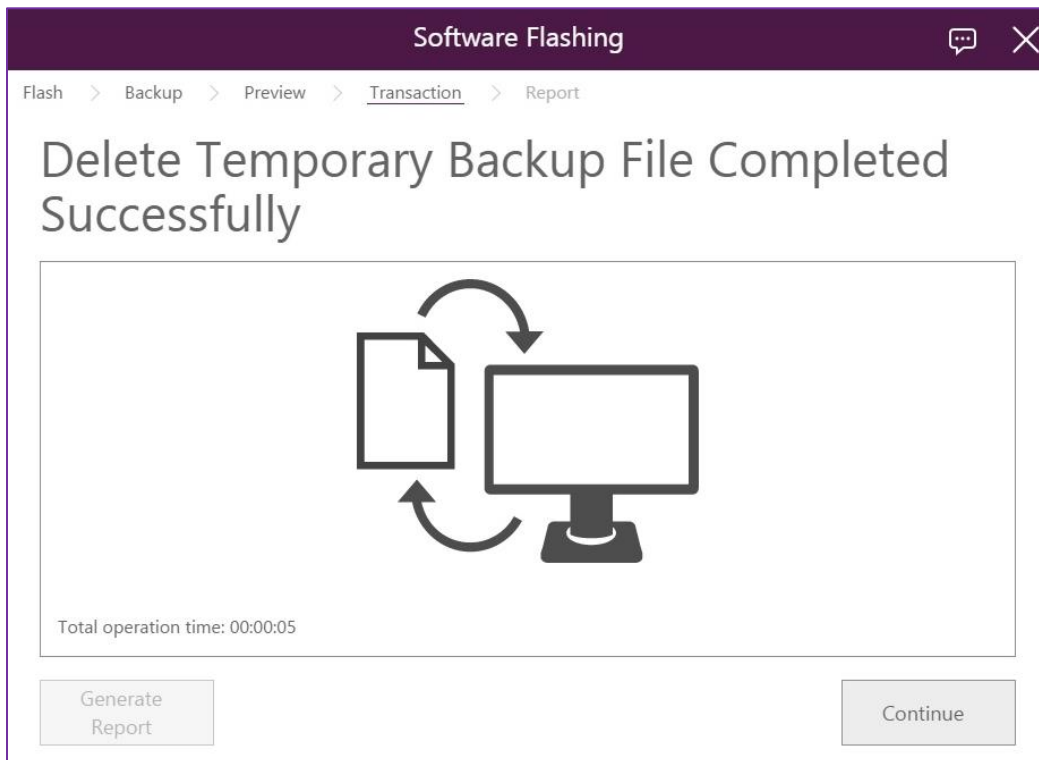
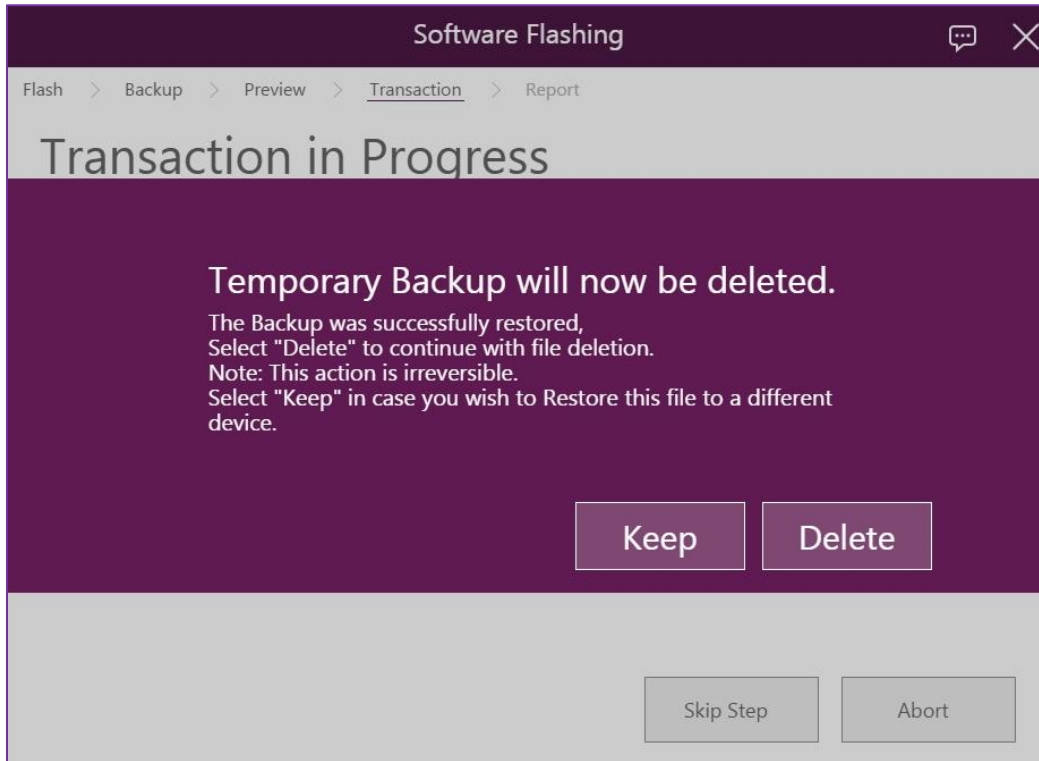
10. Then the device will have to be rebooted:



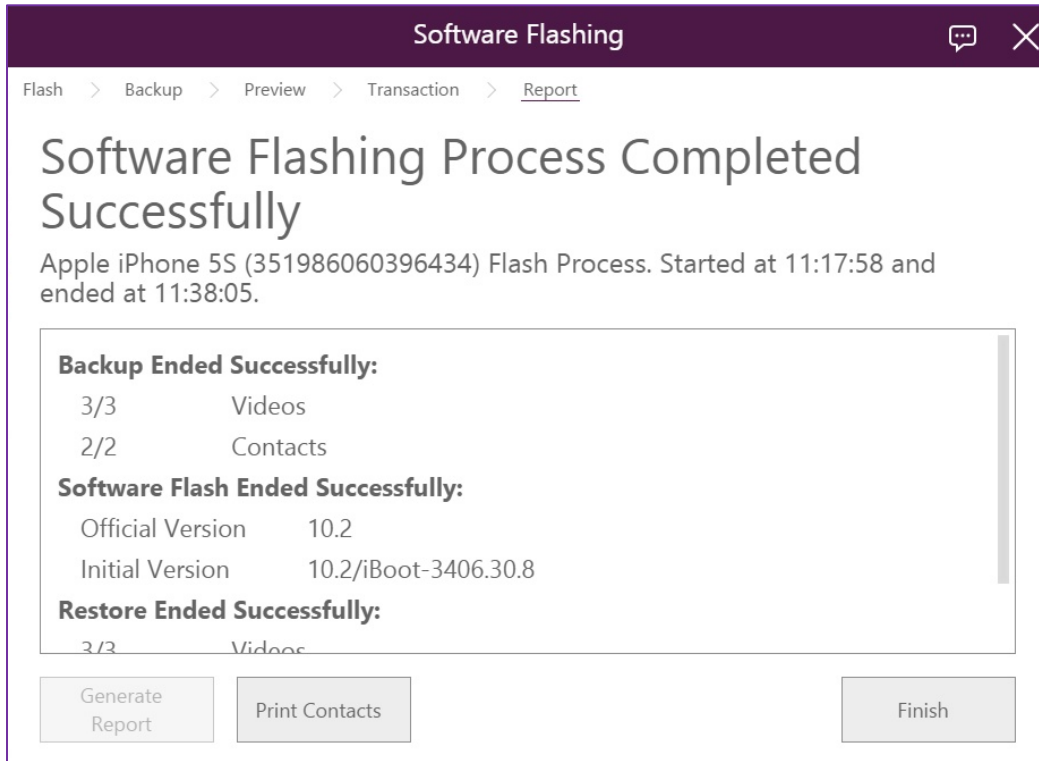
11. If you selected to restore the data, this operation will run:



12. The temporary backup file created will be deleted if desired:

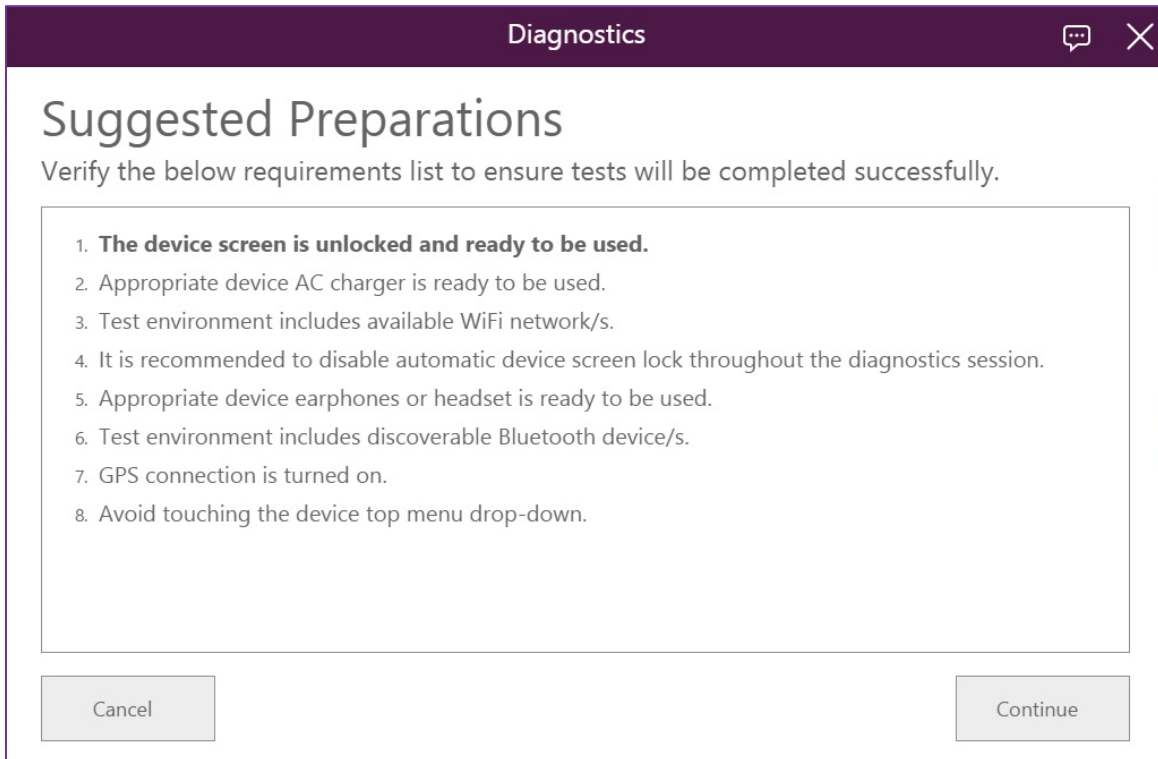


13. Finally the report will be displayed:



 Diagnostics

This module will test the hardware. These tests may be automatic or not, and are different depending on the system and the type of equipment being tested.



Diagnostics
⋮
✕

Which tests would you like to conduct?

Several categories can be selected simultaneously.

Select All (50 diagnostics)

Audio

Battery

Camera

Connectivity

Display

General

Audio

Select All (5 diagnostics)

Headset Test (00:24)

Loudspeaker Test (00:16)

Microphone 1 Test (00:23)

Microphone 2 Test (00:23)

Back

Total tests: **50** Estimated test time: **04:36**

Start Tests

Diagnostics
⋮
✕


Diagnostics In Progress

Running automatic and manual tests.

- Headset Test
- Loudspeaker Test
- Microphone 1 Test
- Microphone 2 Test
- Vibration Test
- AC Charging Test

Microphone 1 Test 3 / 50

The system is recording sound and will playback for review. See on device instructions.



Skip Test

Abort

Diagnostics
⋮
✕

Diagnostics In Progress

Running automatic and manual tests.

- Battery Technology
- Battery Temperature
- Battery Temperature Test
- Battery Voltage
- Battery Voltage Test
- USB Detection Test
- Front Camera Test

Battery Voltage
14 / 50

Running Automatically.

Skip Test

Abort

Diagnostics
⋮
✕

Diagnostics In Progress

Running automatic and manual tests.

- Dead Pixels Test
- Screen Dimming Test
- Screen Discoloration Test
- Swipe Gesture Test
- Touchscreen Test
- Zoom Gesture Test
- Applications Overload Test

Swipe Gesture Test
32 / 50

Swipe the device screen with your finger (Left, Right, Up and down, in any order).
Note: Swipes are to be short and quick.

Skip Test

Abort

Diagnostics
⋮ ✕

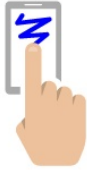
Diagnostics In Progress

Running automatic and manual tests.

- Screen Dimming Test
- Screen Discoloration Test
- Swipe Gesture Test
- Touchscreen Test
- Zoom Gesture Test
- Applications Overload Test
- CPU Overload Test

👁️ Touchscreen Test
33 / 50

Paint over the entire screen using your finger.



Skip Test
Abort

Diagnostics
⋮ ✕


Diagnostics In Progress

Running automatic and manual tests.

- Applications Overload Test
- CPU Overload Test
- Up Time
- Up Time Test
- User Installed Apps
- Physical Buttons Test
- RAM

★ Up Time Test
38 / 50

Running Automatically.



Skip Test
Abort

Diagnostics [Close] [Help]

Diagnostics In Progress

Running automatic and manual tests.

- ✓ User Installed Apps
- ✓ Physical Buttons Test
- ✓ RAM
- ⚙️ RAM Available
- Available Sensors List
- Humidity Sensor Test

RAM Available 42 / 50

Skip Test Abort

Diagnostics [Close] [Help]


Diagnostics In Progress

Running automatic and manual tests.

- ⚠️ Humidity Test
- ✓ Light Sensor Test
- ✓ Pressure Sensor Test
- ⚙️ Pressure Test
- Proximity Sensor Test
- SIM Telephone Number

Pressure Test 48 / 50

Running Automatically.


AUTO

Skip Test Abort

Diagnostics
⋮
✕

Diagnostics In Progress

Running automatic and manual tests.

- Pressure Sensor Test
- Pressure Test
- Proximity Sensor Test
- SIM Telephone Number

SIM Telephone Number
50 / 50

Running Automatically.

Skip Test

Abort

Diagnostics
⋮
✕

Diagnostics Report: 48/50 Passed

Samsung Galaxy S6 (SM-G920F) (IMEI: 357011074537628) Diagnostics. Started at 09:58:21
Ended at 10:18:45. Failed tests may be retried.

Audio 5/5

Headset Test
 ✔

Loudspeaker Test
 ✔

Microphone 1 Test
 ✔

Microphone 2 Test
 ✔

Vibration Test
 ✔

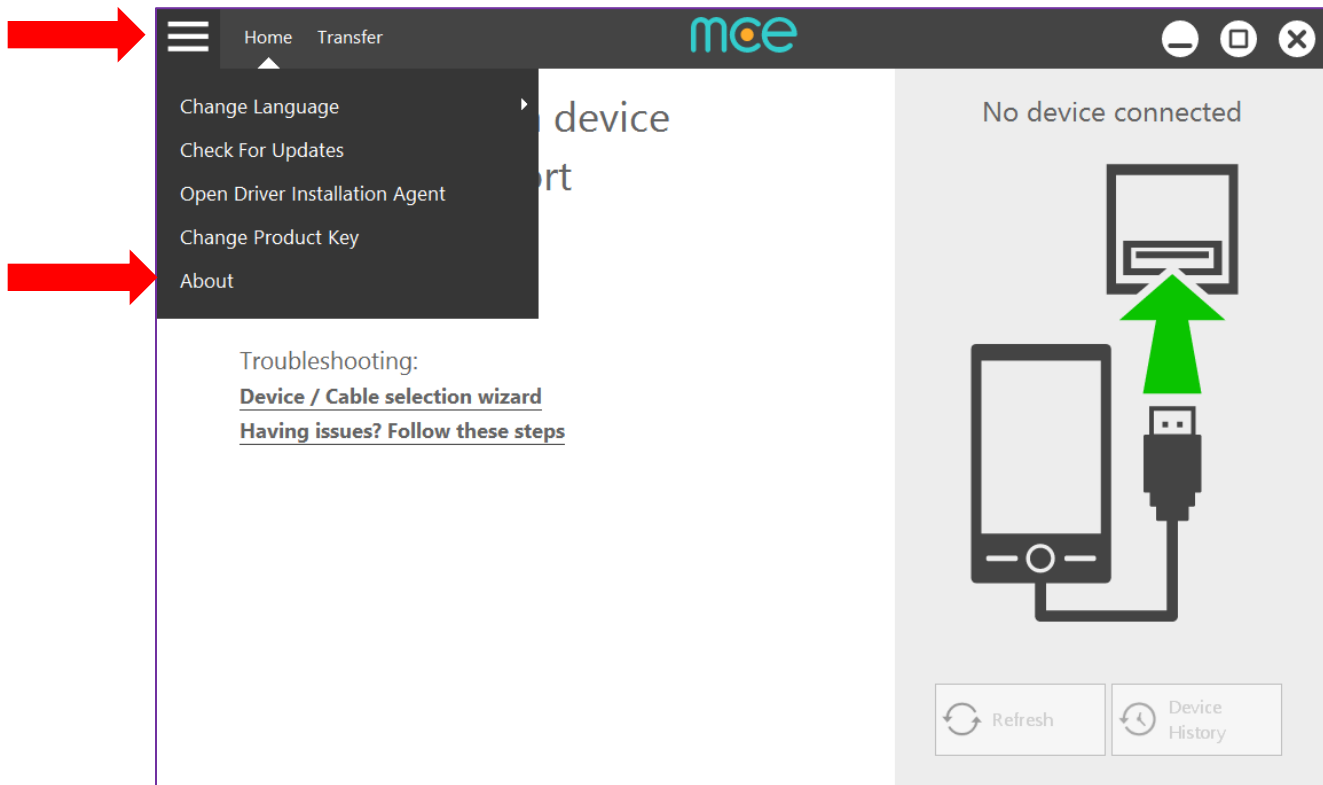
Retry Selected

Finish

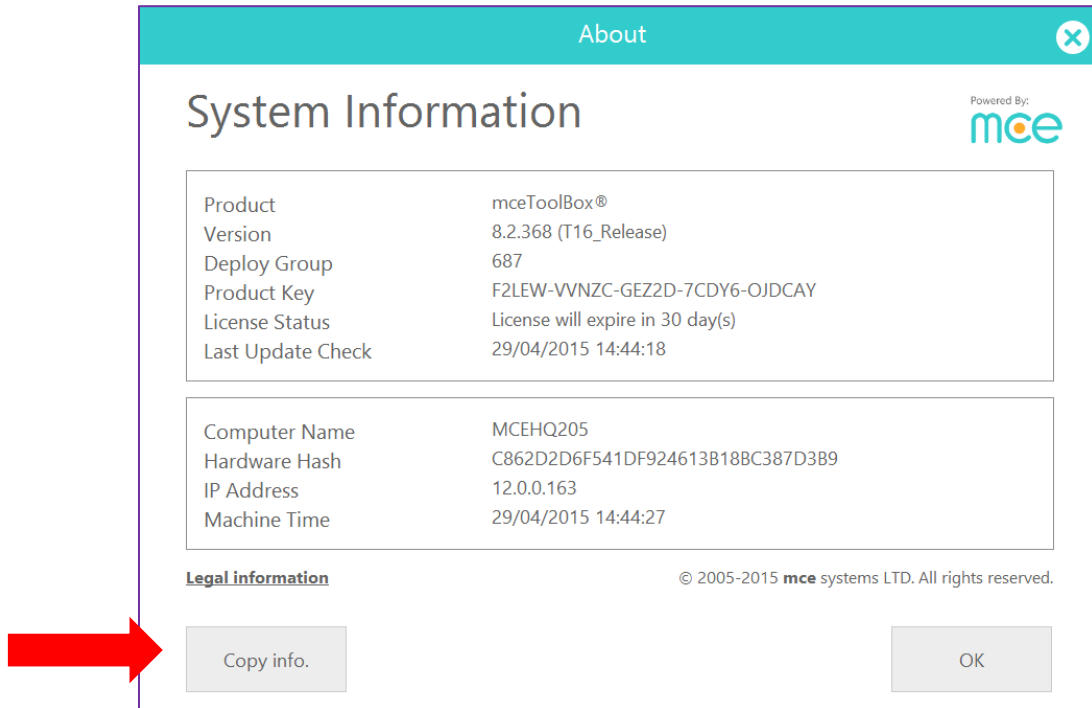
Troubleshoot guide

In any case of an escalation to the support, please provide the following information:

1. A copy of the 'About Information' from the PC
 - a. Click on upper left menu and then on "About" item:

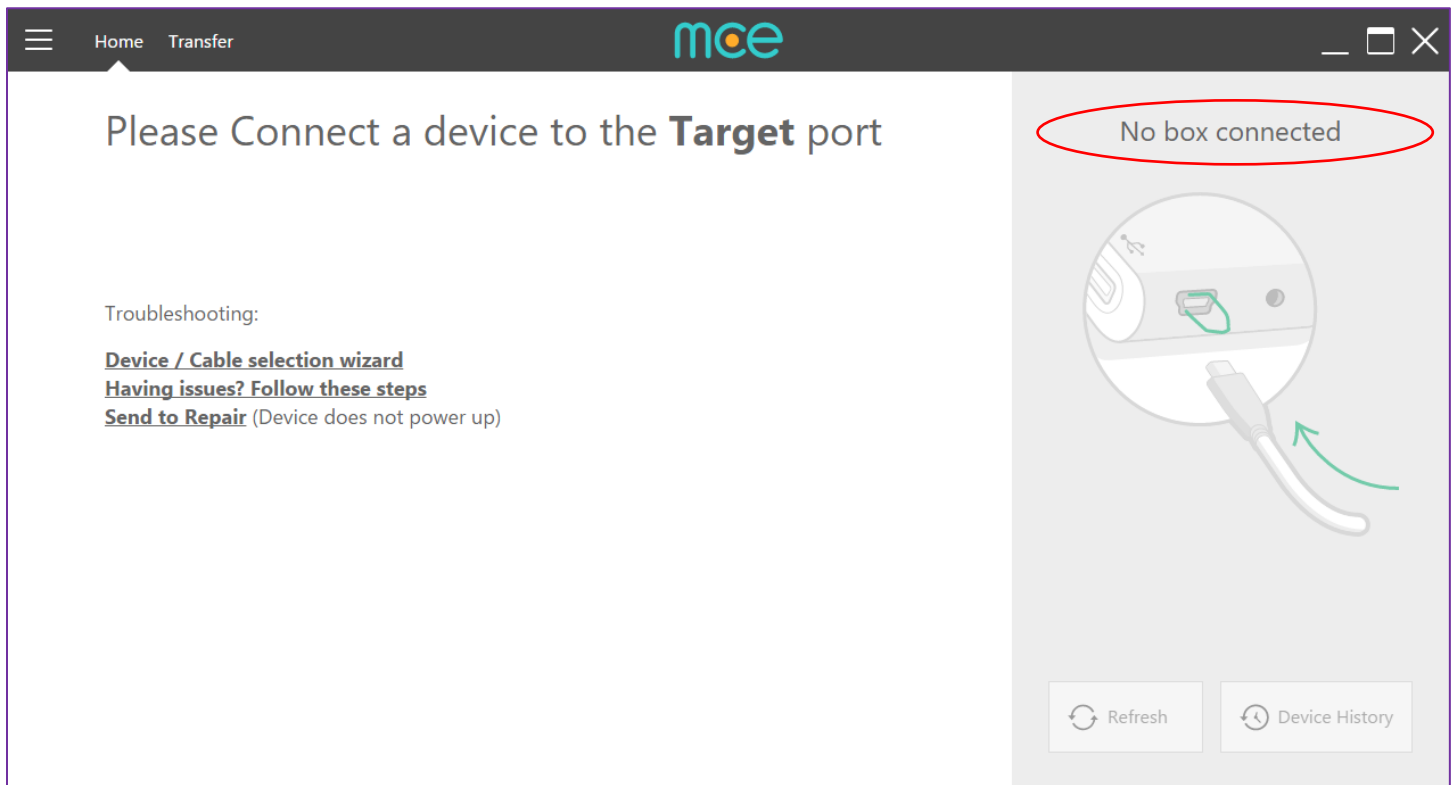


- b. Click on "Copy Info" inside the About window and paste it in an email):



2. Store contact information:
 - a. Store name/ID:
 - b. Contact name:
 - c. Phone number:
 - d. Email addresses (If available):
 - e. Full Address:
3. Mobile device model and OS version:
4. Any screenshots or images that can be provided of the issue
5. Troubleshooting steps done:

A “No box connected” message appears on the user interface



This indicates that the connection has been lost between the mce Hub and the PC

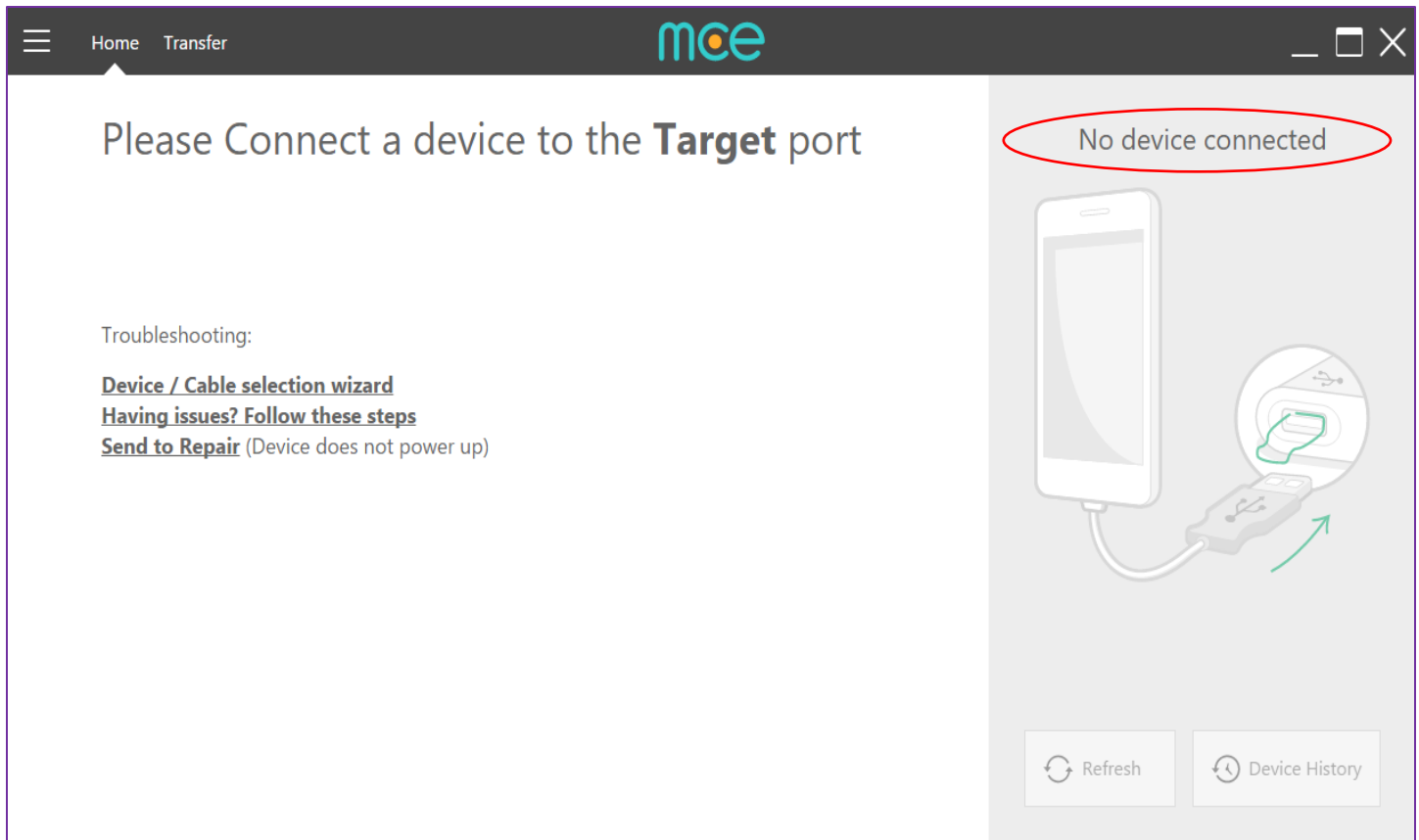
1. Make sure that the AC Adapter is connected to a power outlet.
2. Close the program and re-launch it.
3. Unplug the hub from both the AC Adapter and the USB cable and plug them in again. Make sure to connect the AC Adapter to the hub first. Verify the LED power indicator of the mce Hub is ON. In case the LED power indicator does not turn on, please contact support for a replacement.
4. Try connecting mce hub to a different USB port. If this works, then it may indicate that the PC's USB port is faulty or that the port is not a USB 2.0/3.0 port.
5. In case there is additional hardware at the location, try to replace the AC adapter and the USB cable, and finally substitute the hub itself in order to isolate any hardware issues.
6. If the issue persists, please go to the Hub Connection Box Issues Checklist below and follow the instructions.

Hub Connection Issues Checklist

Please try the following in the order listed for troubleshooting hubs:

1. Re-connect all cables.
2. Open 'Device Manager' (Control Panel>Device Manager), confirm the window has refreshed while connecting the hub.
3. Disconnect the AC adapter but make sure the USB cable is connected. Verify the light on the mce hub is ON.
4. Disconnect the USB cable. Verify the light for the mce hub is ON when ONLY the AC adapter is connected.
5. Make sure the hub is connected to a port at the back of the PC (USB 2.0 or 3.0 port)
6. Verify the AC power adapter is directly connected to an AC outlet (no power strips or other intermediaries)
7. Try a different USB port
8. Try a different wall socket for the AC adapter.
9. Try closing and re-launching the software.
10. If the issue persists, please escalate to support.

No Device Recognition

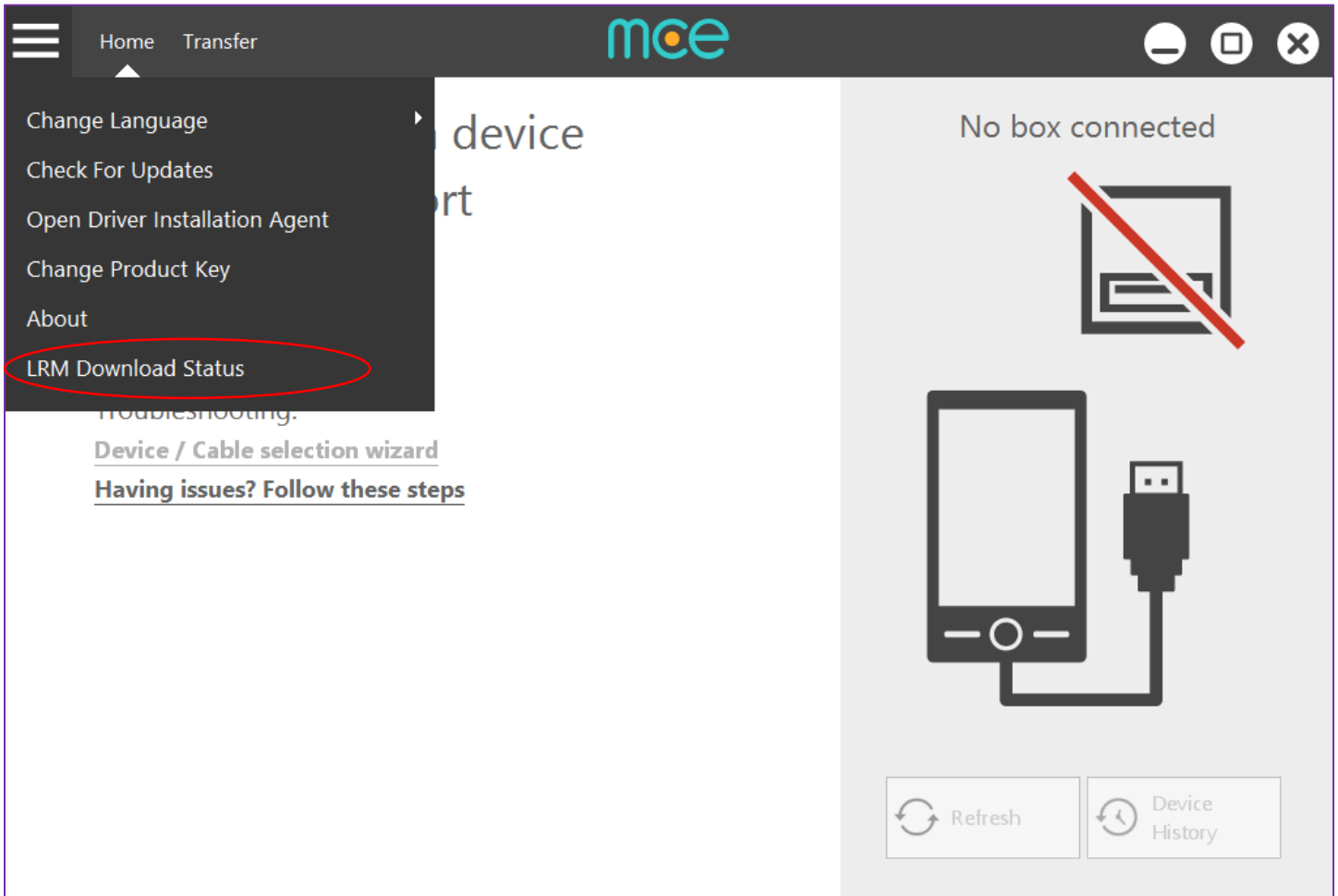


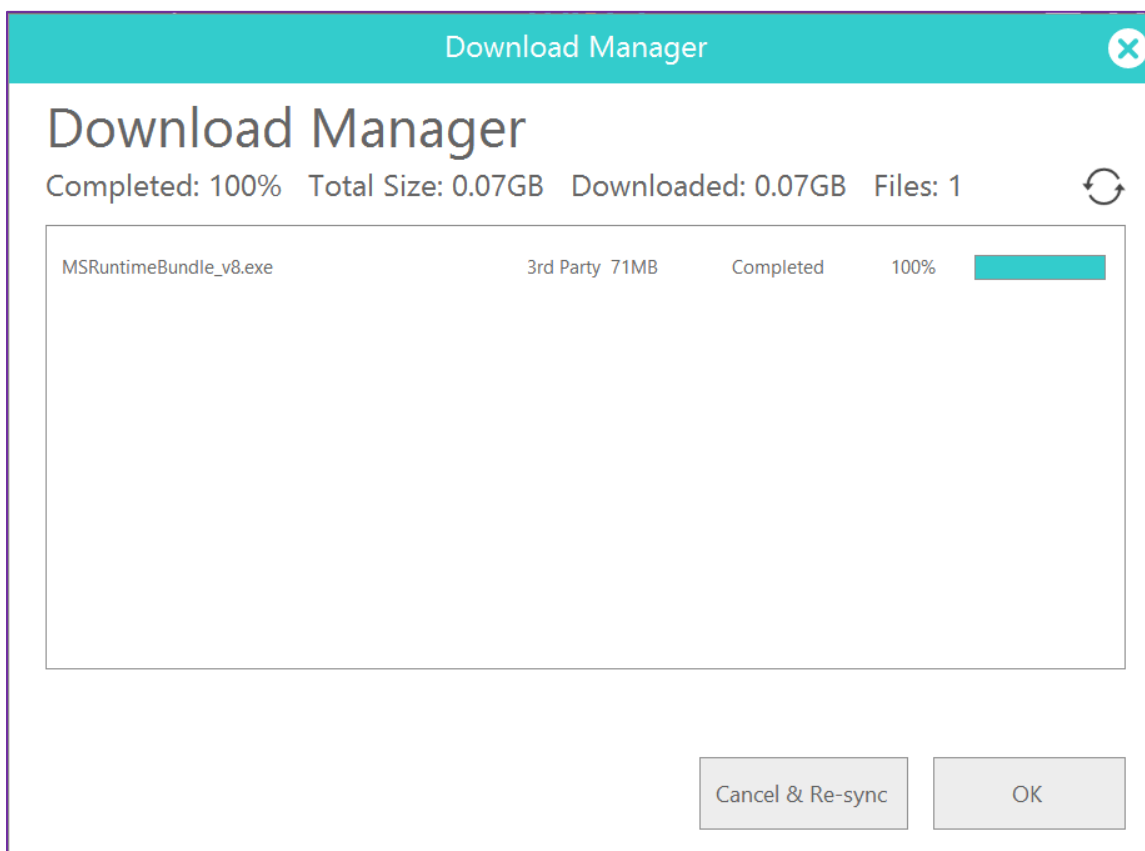
1. Close the application and re-launch it.
2. Disconnect the AC adapter but make sure the A to B (USB to PC) cable is connected. Verify the light on the hub is ON.
3. Disconnect the A to B cable. Verify the light for mce hub is ON when the AC adapter only is connected.
4. Turn the handset off, wait for 20 seconds, reboot the handset, once fully booted plug it in again.
5. Try a different USB cable.
6. Make sure that the USB cable is fully extended and not curled or twisted.
7. Verify if there are any instructions displayed on the mce user interface which indicate that certain settings must be adjusted on the device.
8. Connect the device directly to the computer. After driver installation is complete, please connect the device back to the hub.
9. Verify the user connects the handset to the correct hub port (Source to the left and Target to the right).
10. See if connecting the device to the second port does recognize the device, if only one port recognizes the device, then it is likely that there is a fault in the hub's USB port.
11. In case you have additional hardware at the location, replace individually the AC Adapter, the USB cable and finally, the mce hub to try and isolate any hardware issues.
12. If issue persists, escalate to support and indicate the connected device model and firmware (OS) version.

Software Flashing issues

If you cannot start or complete a software flash, please try the following steps:

1. Verify that ROMs have been downloaded to the PC by opening the LRM (Local Repository Manager) by opening the LRM window. Inside that window you can view the current status of downloads:



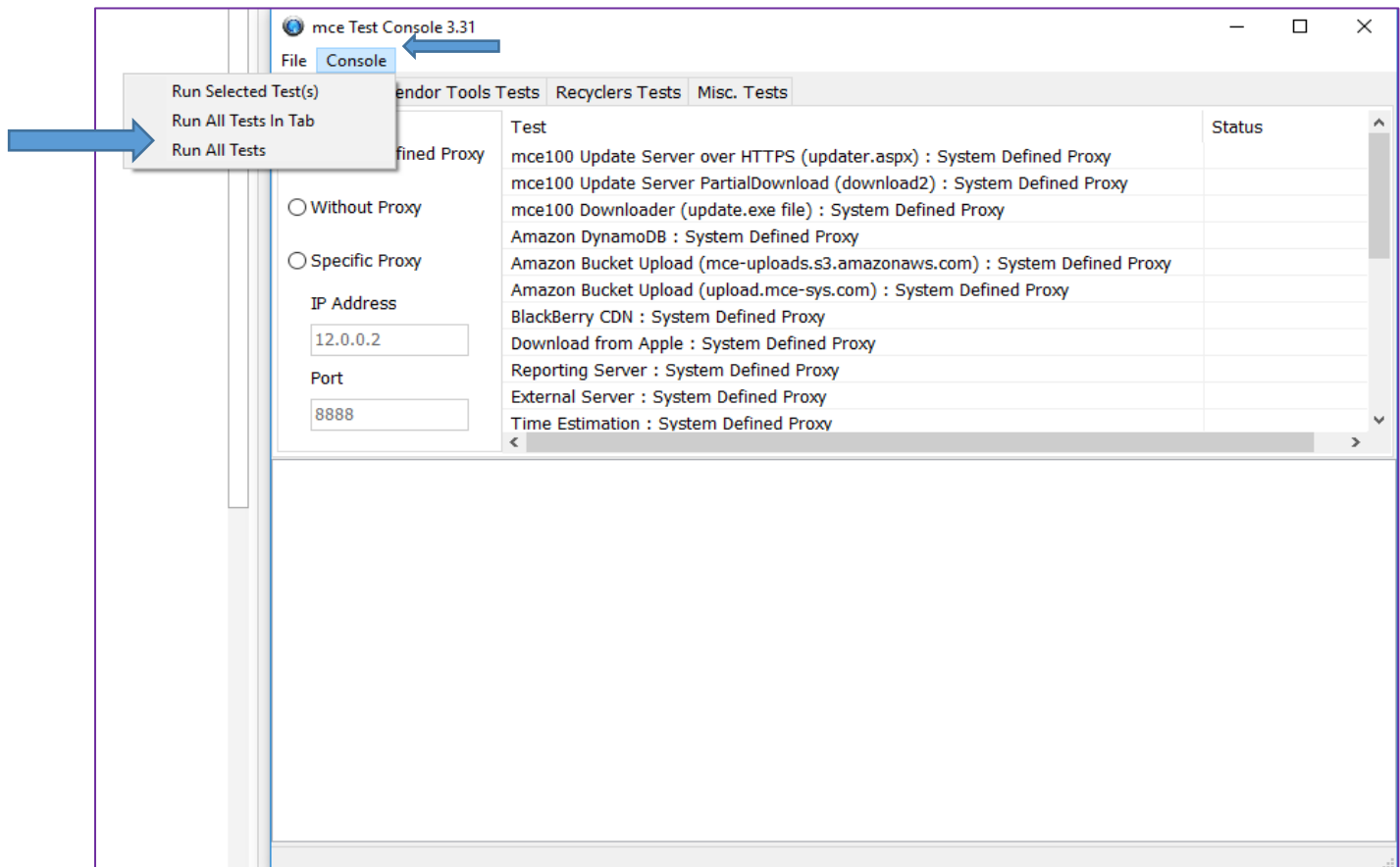


ROMs are typically downloaded during the night. If the PC is off or on sleep mode during the night, it may explain the absence of ROMs available for local flashing. It is normal for the download operation to take several days after the initial installation and for the synchronization to take place (dependent on Internet download speed).

2. If the status bar on the right of any ROM file is not at 100%, click "Refresh" or "Cancel and Re-sync" to re-initiate the download process. This feature is only applicable during your scheduled download time frame. The computer must remain ON until the entire process is completed.
3. In case there is no progress at all in any of ROM downloads, follow Test Console instructions and escalate to support providing the logs.

Network Connectivity issues (“Server Cannot Be Found” Error Message)

1. Verify that the internet connection is working.
2. Try closing and re-launching the mce application
3. Reboot the PC.
4. If the issue persists, collect Test Console Logs – the can be found in C:\Program Files (x86)\MCE-100\mceTestConsole.exe
 - a. Run the tool, click on Console >Run All Tests:



- b. After the tests are finished, click on File > Save Results
- c. Provide the results to the support

Check for Updates fails

1. Verify that the internet connection is working.
2. Try closing and re-launching the mce application
3. Reboot the PC. Then, re-try the “Check for Updates” function
4. If the issue persists, escalate the issue to Tier-2. Please provide the mce Test Console log as part of the escalation.

No License Found

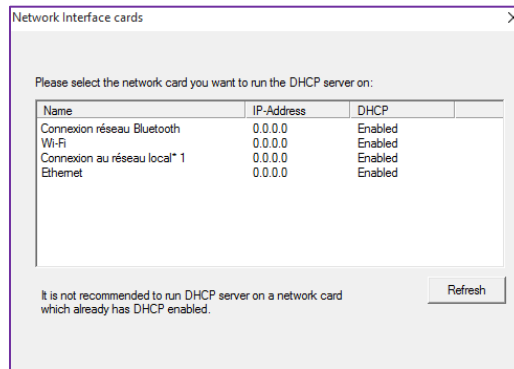
If you receive an error message that there is “No License Found”, please follow these steps:

1. Verify that the internet connection is working.
2. Close the software and re-launch it, then try to activate it by clicking Activate on the home screen.
3. If the issue persists, escalate the issue to the support

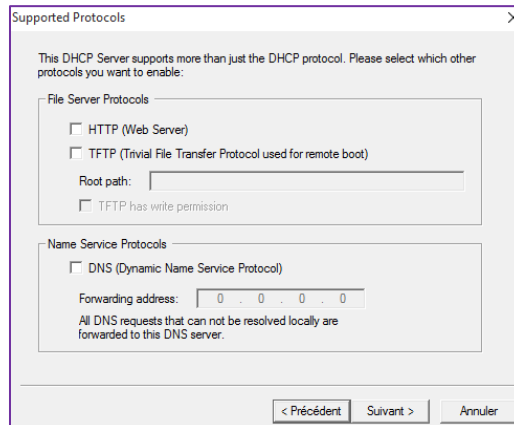
Appendix

How to configure DHCP on a non server edition of Windows

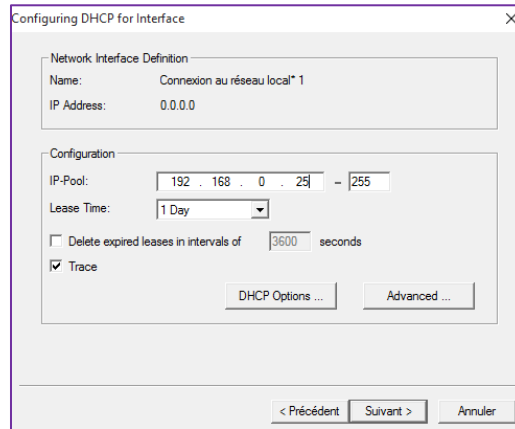
11. Download DHCP Server from <http://www.dhcpserver.de/cms/>
12. Copy the folder dhcpsrv2.5.2 to remoteinstall folder
13. Launch dhcpwiz.exe
14. Click on "Next >" button
15. Select your LAN card, and click on "Next >" button:



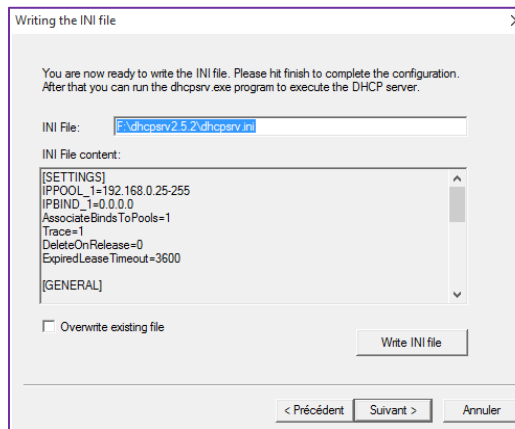
16. In the "Supported Protocols" screen, don't select anything and click on "Next >" button:



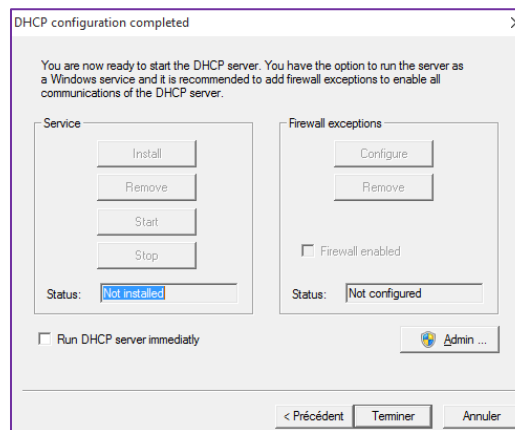
17. Select you IP range and click on "Next" button:



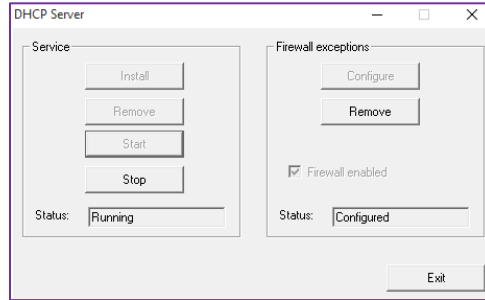
18. Check the option "Overwrite existing file", click on "Write INI file" and then click on "Next >" button:



19. Check the option "Run DHCP server immediately", click on "Admin..." button and then on "Finish" button:



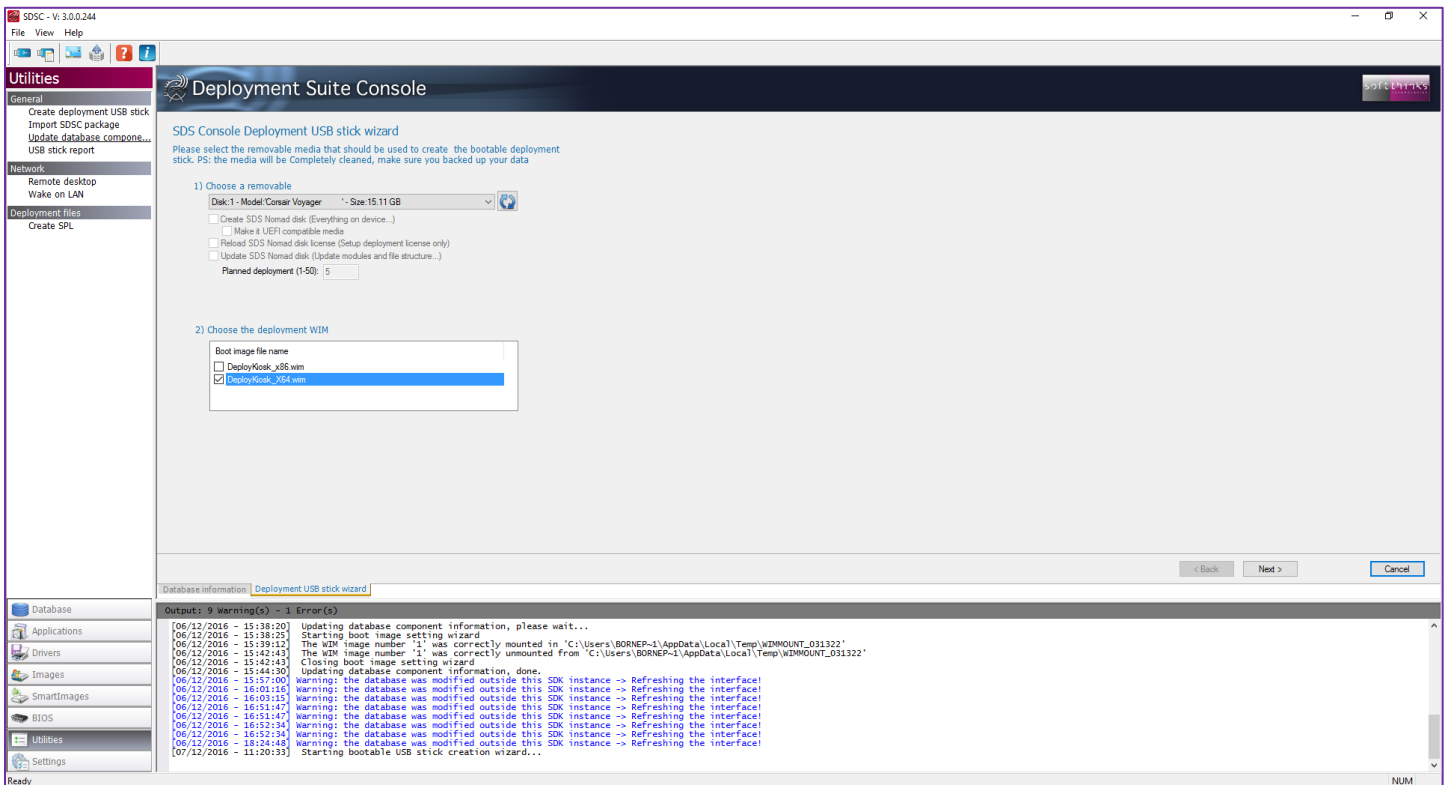
20. The DHCP service is now running:



Update of the boot USB key

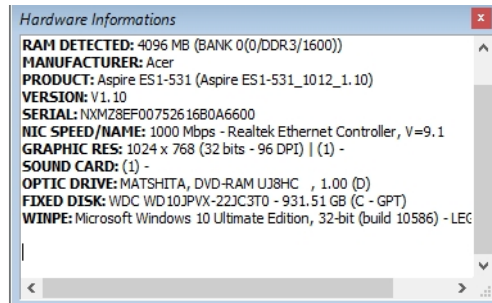
If you have a USB key for booting PCs that was created with a previous product version, you need to update it to benefit from the new features of the kiosk.

For this purpose, launch the SDS console (there is a shortcut on the kiosk desktop), click on “Create Deployment USB stick” in the left side menu and plug the previously created USB key (or a blank USB key), before clicking on “Next”:



Collecting information about the PC connected to the kiosk

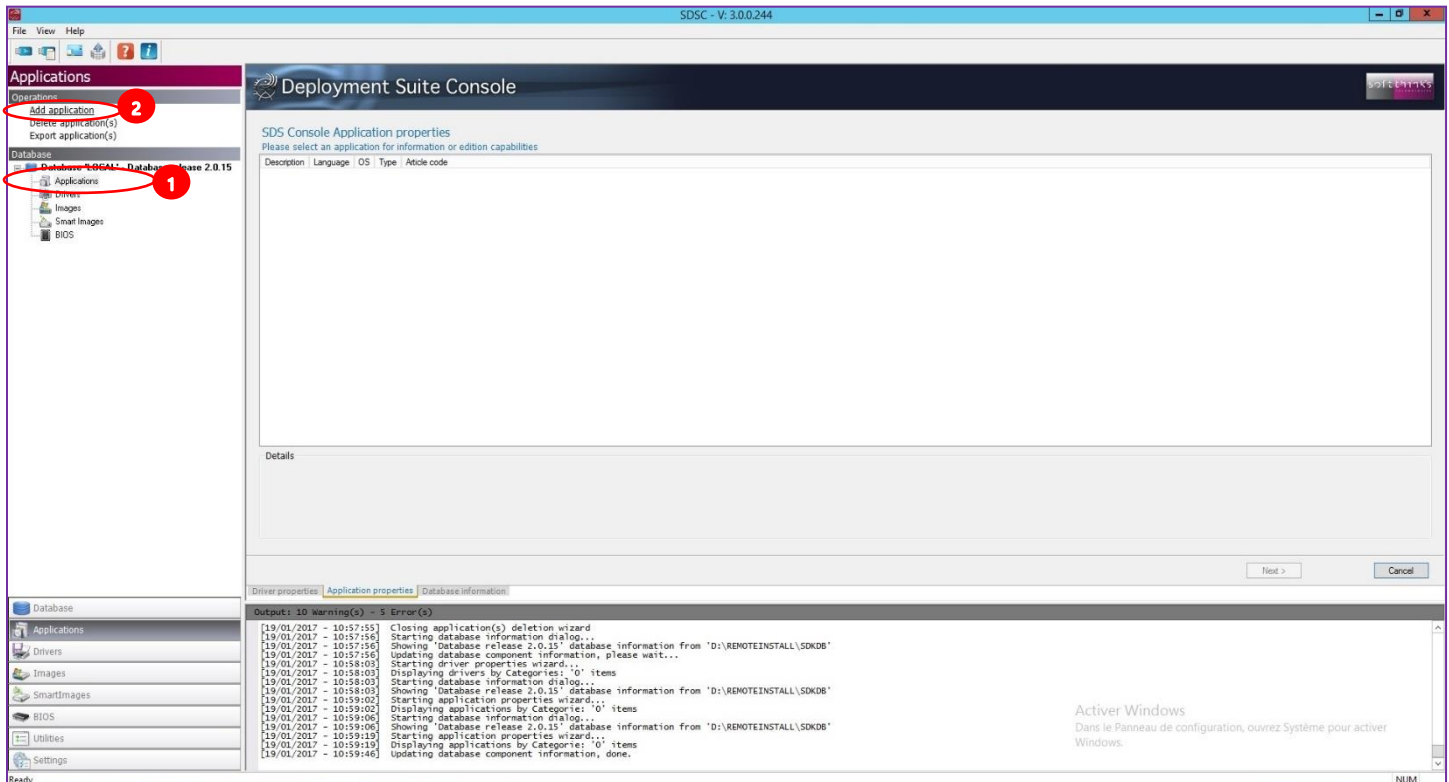
You can get information about the PC at any time by pressing Ctrl + I:



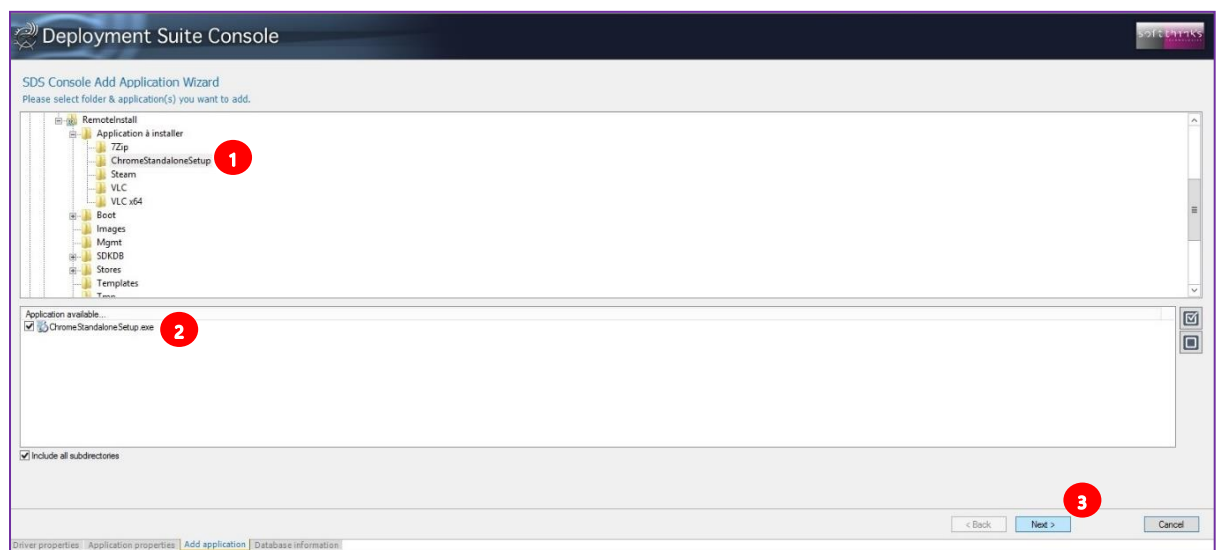
Add applications into Kiosk database

In order to add an application, which would be copied to customer PC by the Kiosk, you will need the standalone installer in a folder, and to follow those steps:

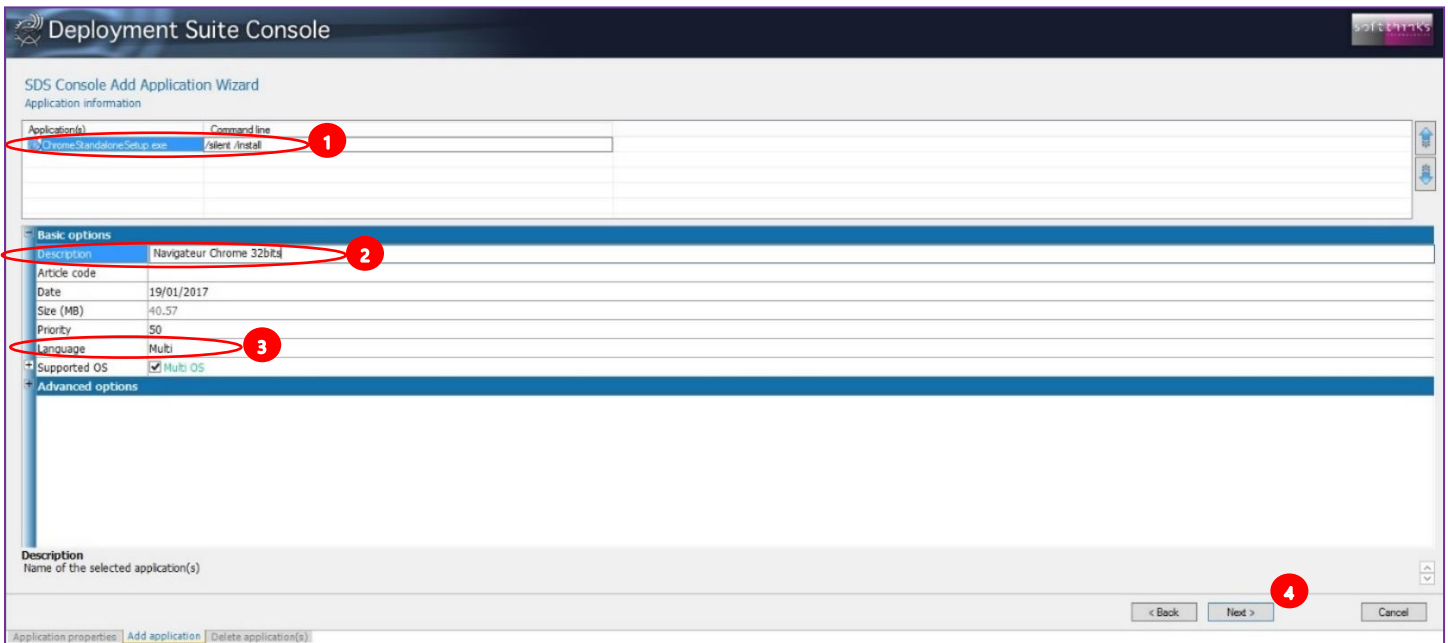
1. Open the console, click on Database « Applications » **1**, and then on the Operation « Add application » **2**:



2. Select the folder containing the installer in the treeview **1**, then the application in the list below **2**, and click on « Next »:



- Specify the installer command line arguments required to install the application silently and automatically without user interaction (/silent for chrome, /S for VLC as examples) **1**, enter the description **2** that you want to be displayed in the kiosk interface, select « Multi » as language **3** (else the application will not appear in the Kiosk) and click on « Next » **4**:

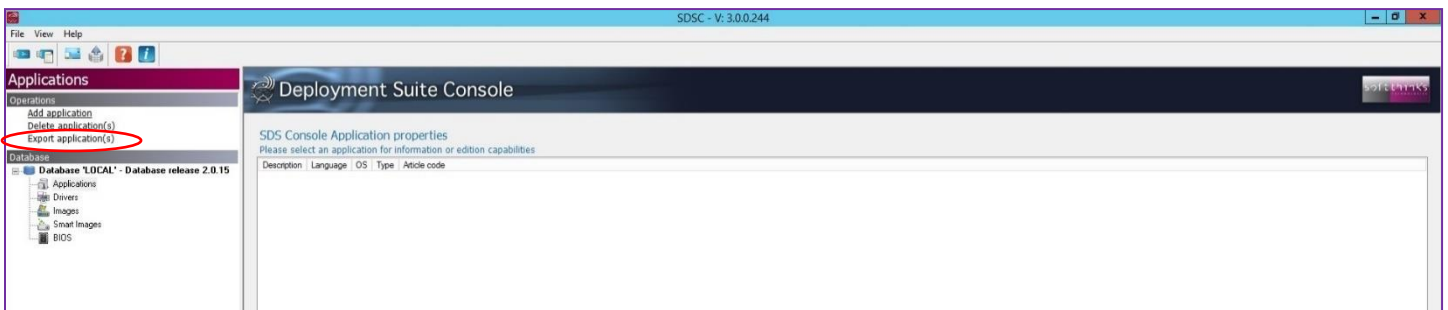


- The console will prepare and import the application into the Database.

You can modify any added applications that were imported by double-clicking on it in the list displayed when clicking on the « Applications » when opening the console. Please note that you can access to the folder containing the application installer by clicking on the application and then on the link at the bottom.

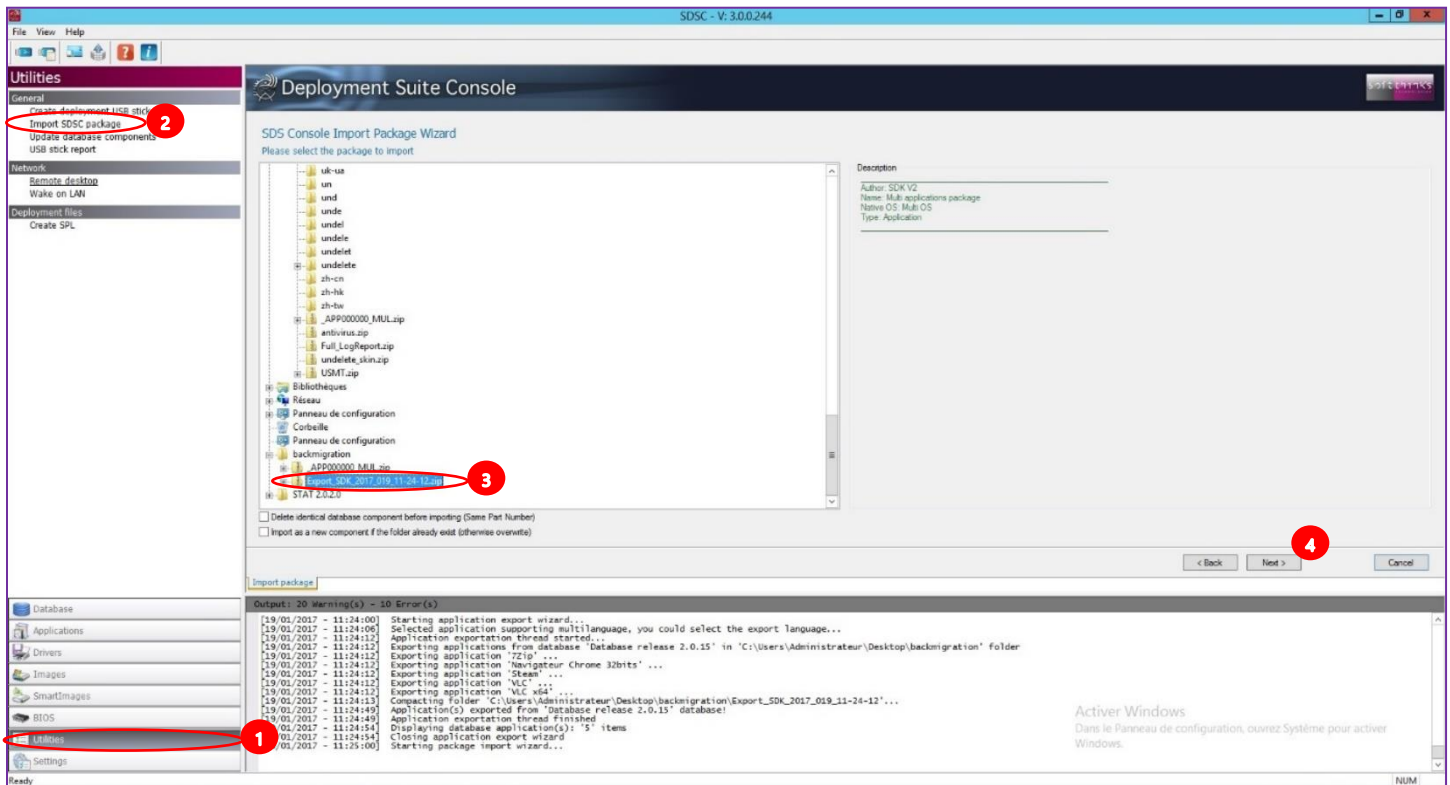
Once all your applications added, you can export them in order to import them into other database (typically Kiosk database in the stores):

- To export, click on the Operation « Export application(s) » in the upper left list, check the applications to export and define the path where you want the applications package to be exported (Check the option « Keep multilanguage »).



The applications package will be exported into a ZIP file.

- To import the applications package on the target database, click on « Utilities » tab **1**, then on « Import SDSC Package » **2**, and select the applications package in the treeview **3** before clicking on « Next » **4** :



BurnInTest Disk Test Suite

This suite contains a number of tests that test the mass storage units (hard disk or otherwise) connected to the computer. This test can be on the File System (e.g. NTFS disk volume C:) or directly to the physical disk (e.g. physical disk 1, not using a file system like NTFS). The physical disk test is available on unformatted disks and formatted disks that do not contain Windows installations or paging files. On WinPE environments, only unformatted disks are supported for the physical disk test.

By default drive C: is used for the hard disk but this can be changed from the Preferences Dialog. Up to 50 drives can be selected for simultaneous testing. From this 50 it is possible to select combinations of available floppy disks, hard disks and flash drives. Drives can be connected via the IDE bus, SATA, eSATA, SCSI, USB, Firewire or any other method supported by Windows.

You can select one of the following test modes or choose to automatically cycle between the patterns. This selection is done in the preferences window. Possible test modes are,

- Default (Cyclic)
- Sequential data pattern (0,1,2...255)
- Random data with random seeking
- High Low frequency data overwrite (10101 then 00001)
- Butterfly seeking
- Binary data pattern 1 (10101010)
- Binary data pattern 2 (01010101)
- Zeros data pattern (00000000)
- Ones data pattern (11111111)
- Random data pattern
- User defined test pattern
- Quick physical drive test
- Physical drive read test

During each test cycle (except Butterfly seeking and Quick physical drive test) a file is created and verified on the disk.

For the physical disk test there is no file system (e.g. NTFS) to write 'visible' files. As such BurnInTest will create 'virtual' files directly to the disk. This will destroy any data on the disk. The physical drive test in general will be much faster than the formatted drive test and provide better results.

The only exception is the Physical drive read test which will only read directly from the physical disk, and hence will not overwrite any data on the disk.

The size of the file is equal to a certain percentage of the disks capacity and all files are created in the root directory of the drives selected. The default file size is 1.0% of the disk size. For small capacity drives, like floppy disks, there is a minimum file size of 32KB. It is possible to change the default file size percentage from the preferences window.

Each test file is filled with a coded number sequence (a Pattern) that is used to verify the correct operation of the disk when the file is verified (read). Files are created in the free space on the disk until the disk is at least 94%* full (we'll refer to this as the 'full' level). When the disk has reached this limit, all the test files are deleted and the test starts again.

(*) 94% is used on disks that have a swap file or a Windows directory. A limit of 94% is used to ensure that some space is kept for use by other applications (including the windows swap file). On disks that do not have a swap file or a Windows directory, between 99.5% and 100% of the disk will be used.

A number of test modes perform additional testing to that described above. These are described below:

Random data with random seeking consists of 2 repeating steps, (1) Writing, reading and verifying a test file with random data and (2) Seeking random locations in the test files and reading or writing data blocks at this location.

(1) BurnInTest generates 7 unique blocks of random data for each disk under test (the block size is determined by the User preferences settings e.g. 16KB). BurnInTest sequentially writes a file using the first block of random data, followed by the second, third, fourth, fifth, sixth and seventh and then the first etc, until the file size specified is reached (e.g. 0.1% of the disk size). After writing this test file with the random test data, the data is read sequentially and verified against the test data written.

(2) Following the writing and verifying of each file, the random seek part of the test starts. BurnInTest will select a test file at random (1..n, where n is the number of the test file that has already been written to disk). It will then select a random block within that test file (i.e. an offset into the file of, block number x block size, eg. 10 * 16KB = 160KB). BurnInTest will seek to this position in the test file and take an action. BurnInTest, at random, will either (i) read and verify a block at this position in the file or (ii) write a block at this position in the file. This process is repeated the number of times specified by the user in the disk preferences "seek count" field.

Steps (1) and (2) are repeated until the disk full level is reached. At this point, all the test files written to disk will be deleted and the process will be repeated.

The Random seeking mode is not supported when the Raw disk test mode is selected.

High Low frequency data overwrite works by first writing a file with a high frequency pattern with each byte set to 0xAA (1010 1010 1010 1010...), then overwriting this with a low frequency pattern 0x08 0x42 0x10 0x84 0x21 (1000 0100 0010 0001 0000 1000 0100 0010 0001) and then verifying that the low frequency pattern has been fully and correctly written. Note: This test pattern will write more data than it reads/verifies, this is the reason the MB Written and MB verified shown on the disk test window may not be equal.

Butterfly seeking works by detecting the hard disk geometry (number of cylinders etc) and then seeking between cylinder 0 and cylinder X and back to cylinder 0. This is repeated the user specified 'seek count' times, before X is incremented by 1. This is repeated until the last cylinder on the Volume is reached. The number of operations reported refers to the number of combined Seek/Read operations. Note (1) that this test is only supported in Windows XP and above on non-Floppy, non-optical drives. (2) Performing a seek in many cases does not move the disk driver head, to ensure the disk drive head is moved to the seek position, a small read (of the Sector size) is done at each seek position. Also, incremental offsets of the sector size are used for the 'X' seek and the return to '0' seek, to ensure that the disk drive cache is overflowed and physical disk seeks consistently occur (once the disk cache has overflowed). (3) Disk drive geometry may be faked or translated by hard disks/ device drivers and may not be the actual drive geometry. (4) The Cylinders, track and sector size used are typically logical values provided by the hard disk. (5) Up to 8 different physical extents per Volume (or Drive letter) are supported in the butterflyseeking test. (6) As with other disk tests, if a physical disk is partitioned into multiple volumes (drives) and testing is simultaneously carried out on these volumes, the nature of the test will change. In the case of Butterfly seeking, the

movement of the physical disk drive head will not reflect butterfly seeking, but something between butterfly seeking and random seeking, as the seeks for volume 1 go from its logical cylinder 0 to X and the seeks for volume 2 go from its logical cylinder 0 to Y are mixed in time. (7) Some disk drive device drivers do not support the supply of disk geometry information that is needed for this test. (8) The Raw disk test option does not support the Butterfly seeking test mode and will be skipped. Error reporting may be configured not to report "Butterfly seeking test not supported for this disk" errors. This can be achieved by editing the Error Classifications file (BITErrorClassifications.txt) for Error Number 160 to NONE. For example, changing the line from:

```
160,"Butterfly seeking test not supported for this disk",INFORMATION,
```

to

```
160,"Butterfly seeking test not supported for this disk",NONE,
```

The default setting is to cycle between the patterns. In this case a new pattern will be selected each time the disk has reached the BurnInTest 'full' level. Where the disk drive is a floppy, CD, DVD, or the operating system is Vista (and later) and the user is not running BurnInTest with 'elevated' administrator privileges, then Butterfly seeking will be skipped in the Cyclic testing and a log message reported.

The Quick physical drive test works by writing, reading and verifying virtual test files to the start of the disk, the end of the disk and a random selection in between. This provides for much quicker disk testing.

The Physical disk read test, tests that all sectors on the physical disk can be read. This can be useful for a number of reasons including testing that a disk is the size that it reports it is (we have seen disks and USB Flash Drives that have this issue).

You can chose to log SMART (Self-Monitoring Analysis and Reporting Technology) errors.

Each of the following settings: Slow drive warning threshold, File size, Test pattern and the logging of SMART errors may be configured differently for each disk drive. The disk drive Duty Cycle setting will be used for all drives when the Duty Cycle Override entry is set blank (no value). If a different duty cycle is required for a particular disk drive, a value may be entered in the Duty Cycle Override entry.

The following settings can be configured differently for each drive: Slow drive warning threshold, File size, Test Pattern and Log SMART errors. To use the general disk drive Duty cycle for each disk just set the Duty Cycle override value to blank (no value), otherwise set the required value per disk. If an error is detected in the coded number sequence then the error count is incremented. The numbers of bytes written and read from the disk are displayed in the test window. The addition of these two values is displayed in the main window.

Disk Self Test

The Disk Self Test (DST) is a set of built-in routines implemented by the vendor to perform failure diagnostics on the disk. The execution of the DST and the retrieval of the test results are defined by the ATA industry standard. Most drives that conform to this standard implements this set of built-in routines.

If the "SMART" option is selected for the disk test, then the DST is run before the standard BurnInTest disk test. If the "-f" command line parameter is also specified, then an extended disk self test is also run. If the DST is not supported by the disk, a message will be logged and the DST skipped.

Disclaimer: It has been observed that some drives that claim to support the Disk Self Test (DST) standard don't, in fact, fully support the specification. Some drives report the percentage progress incorrectly, and some drives report their status incorrectly.

BurnInTest CPU test

The CPU test exercises and verifies a wide range of CPU instructions, at user specified loads. The user selectable sub-categories of the CPU test are:

General purpose instructions (x86) Floating Point Unit (FPU) instructions (x87) CPU extension instructions (x86 extensions).

The specific extension instructions may be selected: MMX, 3DNow!, SSE, SSE2, SSE3, SSE4.1, SSE4.2 and SSE4a. Prime number test Maximum heat test

The numbers displayed in the test window for this test represent how many millions of CPU operations have been performed and verified. Each different CPU test is run for half a second. After all tests have been run the cycle count is incremented. The duty cycle and the CPU speed determine how many operations can be processed during the half second period. Note however that if only the Maximum heat test is selected, then the duty cycle is set to 100% and a single cycle is defined to be 1 trillion CPU operations.

By default, a CPU test is run on each CPU core. The number of CPU tests running a particular subcategory is shown in the test window in the "Threads" column.

The number of CPUs (Packages x cores x threads) that can be tested is up to 256 (where supported by the Operating System). That is, CPUs across multiple "processor groups" can be tested (see Note 2 below).

It is possible to create an error on a user defined CPU temperature threshold being exceeded. It is also possible to automatically stop testing in this scenario.

The sub-categories of this test are described below.

General purpose instructions: This test exercises and verifies correct operation of CPU instructions from the following groups: Integer mathematics (e.g. add, subtract, multiply and divide) Data transfer instructions (e.g. pushing/popping data to/from the stack) Bitwise logical instructions (e.g. bitwise and/or/xor) Shift and rotate instructions (e.g. shift data left x number of bits) Logical instructions (e.g. equals) Control transfer instructions (e.g. jump on x greater than y) String instructions (e.g. copy a text string)

Known and random data sets are used to exercise and verify correct operation. On 32-bit systems, 32-bit data sets are used. On 64-bit systems, 64-bit data sets are used. The random numbers are generated regularly to provide a larger data set, as well as ensure that the CPU caches overflow and that this mechanism is tested.

Floating Point Unit (FPU) instructions: This test exercises and verifies correct operation of CPU instructions from the following groups: Floating Point math (e.g. add, subtract, multiply and divide) Transcendentals (e.g. sine, cosine) Load constants (e.g. load Pi)

Known and random data sets are used to exercise and verify correct operation. On 32-bit systems, 32-bit floating point data sets are used. On 64-bit systems, 64-bit floating point data sets are used. The random numbers are generated regularly to provide a larger data set, as well as ensure that the CPU caches overflow and that this mechanism is tested.

Extension instructions (x86 extensions): This test exercises extensions to the x86 CPU instruction set for a variety of applications, such as multimedia. **3DNow!:** This test exercises and verifies correct operation of CPU 3DNow! instructions, including a sample of moving 3DNow! registers, adding, subtracting, and multiplying. Known and random data sets are used to exercise and verify correct operation. Data sets are pairs of 32-bit floats (eg. x,y), where x and y are 32-bit floats.

MMX: As above, but for MMX instructions. Instructions include moving MMX registers, adding, subtracting, and multiplying. Data set: 64-bit data sets are used. SSE : As above, but for SSE instructions. Instructions include moving SSE registers, adding, subtracting, and multiplying. Data set: groups of 4 x 32-bit floats (e.g. a,b,c,d) where a,b,c and d are 32-bit floats. SSE2: As for the SSE test, but for SSE2 instructions. Data set: pairs of 64-bit floats (e.g. x,y) where x,y are 64-bit floats.

SSE3: As for the SSE2 test, but for SSE3 instructions. Data set: pairs of 64-bit floats.

SSE4.1: As for the SSE3 test, but for SSE4.1. Instructions include a sample of moving registers and multiplication. Data set: pairs of 64-bit integers.

SSE4.2: As for the SSE4.1 test, but for SSE4.2 instructions. Instructions include CRC helper functions. Data set: pairs of 32-bit integers.

SSE4a: As for the SSE4.1 test, but for SSE4.a instructions. Instructions include data extraction functions. Data set: pairs of 64-bit unsigned integers.

AES: A test using the AES instructions.

Notes: 1. MMX stand for "Multimedia Extensions". 2. SSE stand for "Streaming SIMD extensions". 3. SIMD stands for "Single Instruction Multiple Data." 4. Tests are only performed if the CPU supports that test. For example, SSE3 tests will only be performed if the CPU supports SSE3. 5. Known and random data sets are used to exercise and verify correct operation 6. The random test data is generated regularly to provide a larger data set, as well as ensure that the CPU caches overflow and that this mechanism is tested. 7. AES stands for Advanced Encryption Standard.

Prime number This test exercises and verifies correct operation of CPU through the use of a prime number generation algorithm.

Maximum heat Based on PassMark Software testing of a set of CPU algorithms for different systems, a test has been produced that aims to generate the highest CPU temperature possible by BurnInTest. This test is aimed at checking that the cooling system is capable of doing its job with the system CPU under extreme load, especially when the CPU has been overclocked.

Notes: (1) Some CPU operation tests are only supported in the 32-bit version of BurnInTest. These are: 3DNow!, MMX, Push/Pop stack operations, Transcendental's and Load constants.

(2) A normal software application only has access to a single "processor group". BurnInTest has been designed to test CPUs across multiple processor groups and hence test more than 64 logical processors. For more information on a "processor groups" see Microsoft's website, an extract is included below:

"The 64-bit versions of Windows 7 and Windows Server 2008 R2 support more than 64 logical processors on a single computer. This functionality is not available on 32-bit versions of Windows.

Systems with more than one physical processor or systems with physical processors that have multiple cores provide the operating system with multiple logical processors. A logical processor is one logical computing engine from the perspective of the operating system, application or driver. A core is one processor unit, which can consist of one or more logical processors. A physical processor can consist of one or more cores. A physical processor is the same as a processor package, a socket, or a CPU.

Support for systems that have more than 64 logical processors is based on the concept of a processor group, which is a static set of up to 64 logical processors that is treated as a single scheduling entity. Processor groups are numbered starting with 0. Systems with fewer than 64 logical processors always have a single group, Group 0."

BurnInTest Memory test

The Memory test works by writing a pattern numbers in the RAM, then verifying the numbers read from the RAM match this sequence. The pattern used can change automatically from one cycle to the next.

Possible test patterns are,

1. Sequence (0,1,2...)
2. Binary 1 (10101010...)
3. Binary 2 (01010101...)
4. Zeros (00000000...)
5. Ones (11111111...)
6. Cell adjacency test

The Test pattern may be selected to be one of the above test patterns. Alternatively, the default (Cyclic) setting will cycle through each of the test patterns.

The total amount of free RAM is displayed in the Memory Test Window. Some memory is always left available to avoid Out of Memory Errors, and disk thrashing caused by Windows swapping to disk. The MBs Written and MBs Verified fields on the Memory Test Window are cumulative since the start of the test and can be greater than the size of the installed RAM.

For the Memory test, a cycle is defined to be the number of times the above 3 step sequence is completed. The 'operations' count represents the number of bytes read or written.

It should be noted that not all RAM faults will be detected by this test. This is especially the case if Windows or the Windows cache is using a large proportion of the available RAM. RAM faults may show up as system crashes or disk errors however. RAM fault detection is improved by running a RAM pretest, available with the Standard memory test. See RAM test preferences.

How the tests work:

There are 3 steps that the Sequence, Binary 1, Binary 2, Zeros, and Ones (11111111...) tests goes through. These are:

- 1/ Memory allocation. The test will dynamically allocate and release memory depending on how much is currently available. The amount that has been allocated and is under test is displayed in the Test Ram field.
- 2/ Writing the test data from the low address to the high address.
- 3/ Verifying the test data from the low address to the high address.

The Cell adjacency test aims to find the RAM problem of adjacent memory cells being incorrectly changed when writes occur to a memory cell. A known 8-bit data pattern is written to memory from the high address range to the low address range. Then starting at the low address and testing towards the high address, each byte is checked that it was not altered by an adjacent write in the previous writing of memory and a new 8-bit data pattern is written. A final pass is then made starting at the high address and testing towards the low address, with each byte is checked that it was not altered by an adjacent write in the previous writing of memory.

- **Standard memory test**

The standard memory is the normal test for testing memory. See the description in the RAM test preferences window for more details.

- **Torture test (Memory over-allocation & disk swapping test) (BurnInTest Professional only)**

The torture test is a multi-process memory test. Multiple processes are started in their own virtual address space and each process allocates and tests a block of RAM. This avoids the problem of virtual memory fragmentation which the standard test can experience trying to allocate a single large block of RAM. Each process runs asynchronously, so writing and reading of various memory blocks will take place at the same time in different processes. The other advantage over the standard test is the possibility to over-allocate the RAM. (The standard test attempts to prevent this to avoid disk swapping). Over-allocation takes place when more RAM is used by the torture test than is currently available in the system. This then results in Windows disk swapping memory blocks into a paging file on the disk. This continual swapping to and from the disk places a very heavy load on the system. The I/O activity on the disk will increase dramatically but CPU load can actually decrease as more and more time is spent waiting for the paging activity to complete. Depending on the level of over-allocation Windows may need to extend the paging file or may even fail as it runs out of available RAM.

- ***Addressing Windows Extension (AWE) memory test (32-bit BurnInTest Professional only)***

The Addressing Windows Extension (AWE) memory test allows a larger area of memory to be tested on 32-bit versions of Windows. It requires some additional administrator user rights. It will also only work in Window XP. See the description in the RAM test preferences window for more details. The advanced memory test is only available in the Professional version of the software.

Quick hardware test duration setup

Concerning the quick hardware tests, located in the modules “PC Open Box”, “PC Trade-in” and “PC Repair”, you can configure the duration of the tests expressed in minutes by changing the value associated to the “-D” parameter in the command line (in “Param”) of the file **SDSHardwareTest.ini** located in

RemoteInstall\SDKDB\Deploy\Windows\System32\modules for the processor (section “[TEST_CPU]”), memory (section “[TEST_MEM]”), motherboard (section “[TEST_MB]”) and battery (section “[TEST_MBBATTERY]”) diagnostics:

```
[TEST_CPU]
Exe=x:\BurnInTest\bit32.exe
Param=-D 5 -R -X -C cpu.bitcfg
Success_Code=0

[TEST_MEM]
Exe=x:\BurnInTest\bit32.exe
Param=-D 5 -r -x -c ram.bitcfg
Success_Code=0

[TEST_MB]
Exe=x:\BurnInTest\bit32.exe
Param=-D 10 -r -x -c SystemNobatt.bitcfg
Success_Code=0

[TEST_MBBATTERY]
Exe=x:\BurnInTest\bit32.exe
Param=-D 10 -r -x -c System.bitcfg
Success_Code=0
```

For the x64 boot, please also modify the file **SDSHardwareTest.ini** located in

RemoteInstall\SDKDB\Deploy64\Windows\System32\modules. Do not copy/paste the x68 file since the command lines differ (bit.exe for x64 instead of bit32.exe for x68) :

```
[TEST_CPU]
Exe=x:\BurnInTest\bit.exe
Param=-D 5 -R -X -C cpu.bitcfg
Success_Code=0

[TEST_MEM]
Exe=x:\BurnInTest\bit.exe
Param=-D 5 -r -x -c ram.bitcfg
Success_Code=0

[TEST_MB]
Exe=x:\BurnInTest\bit.exe
Param=-D 10 -r -x -c SystemNobatt.bitcfg
Success_Code=0

[TEST_MBBATTERY]
Exe=x:\BurnInTest\bit.exe
Param=-D 10 -r -x -c System.bitcfg
Success_Code=0
```

Smart Repair

Our Smart Repair technology will check the following items and fix them if necessary. They are the most common sources of Windows OS issues:

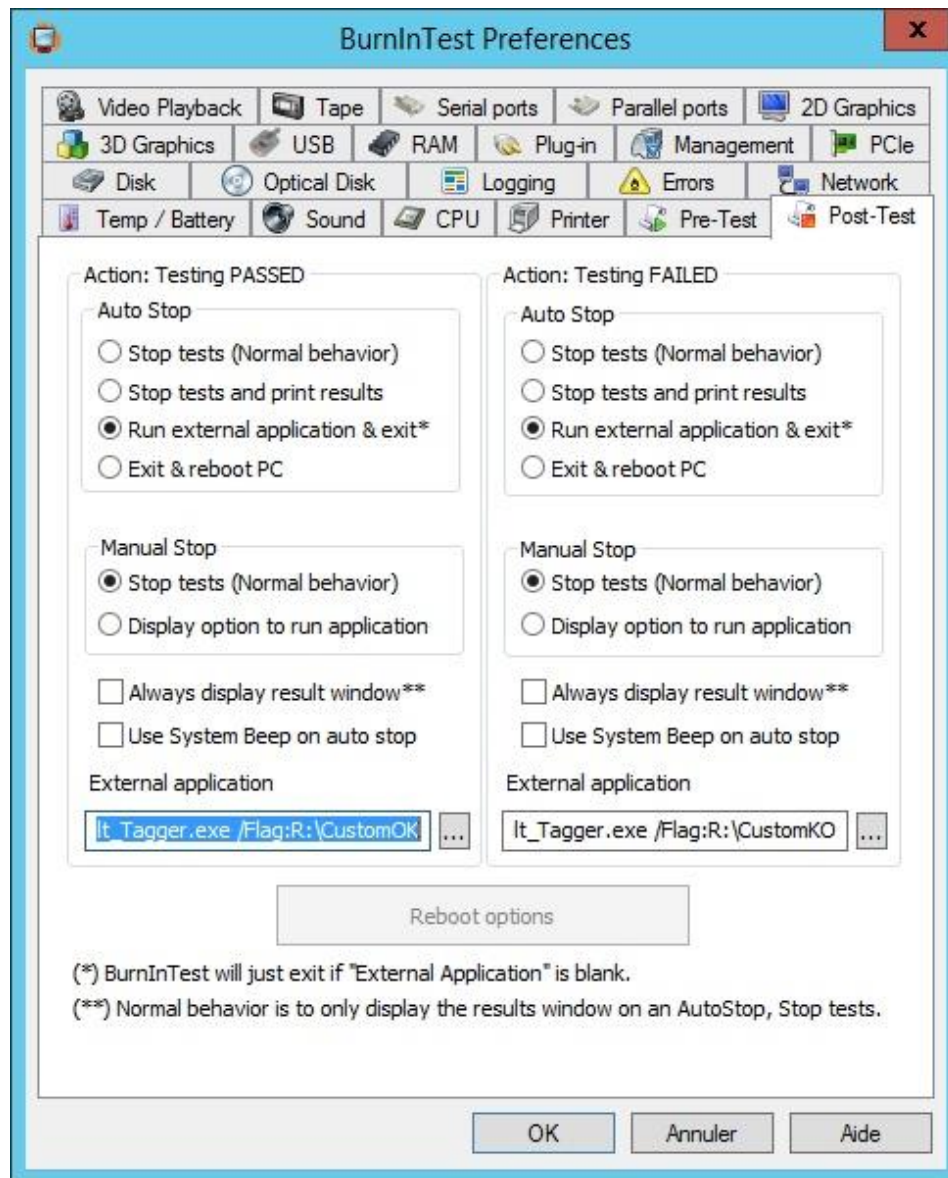
- Validity of the partition table:
 - Check that the partition table is not empty.
 - Check in the Master Boot Record that all partition entries point to valid offsets, that they overlap and that their size is valid.
 - Check that at least one partition is active.
 - Check the EFI partition.
- Integrity of Master Boot Record:
 - Check Master Boot Record offsets from 0 to 0x1B7.
 - Check predefined values of offsets 0x1FE and 0x1FF.
 - Check sectors from 0 to 0x1B7, for MBR disks.
- Presence of accessible partitions:
 - Check all partitions.
- Check the boot files needed for starting Windows.
 - Check BOOT.INI or BCD.
 - Check the presence of a system partition.

Add more custom hardware diagnostics

If you wish to execute specific hardware tests present in the BurnInTest application but not available through the kiosk interface, or if you wish to create a test sequence that you frequently run, you can generate these tests from the BurnInTest application and they will be automatically added to those already available in the kiosk.

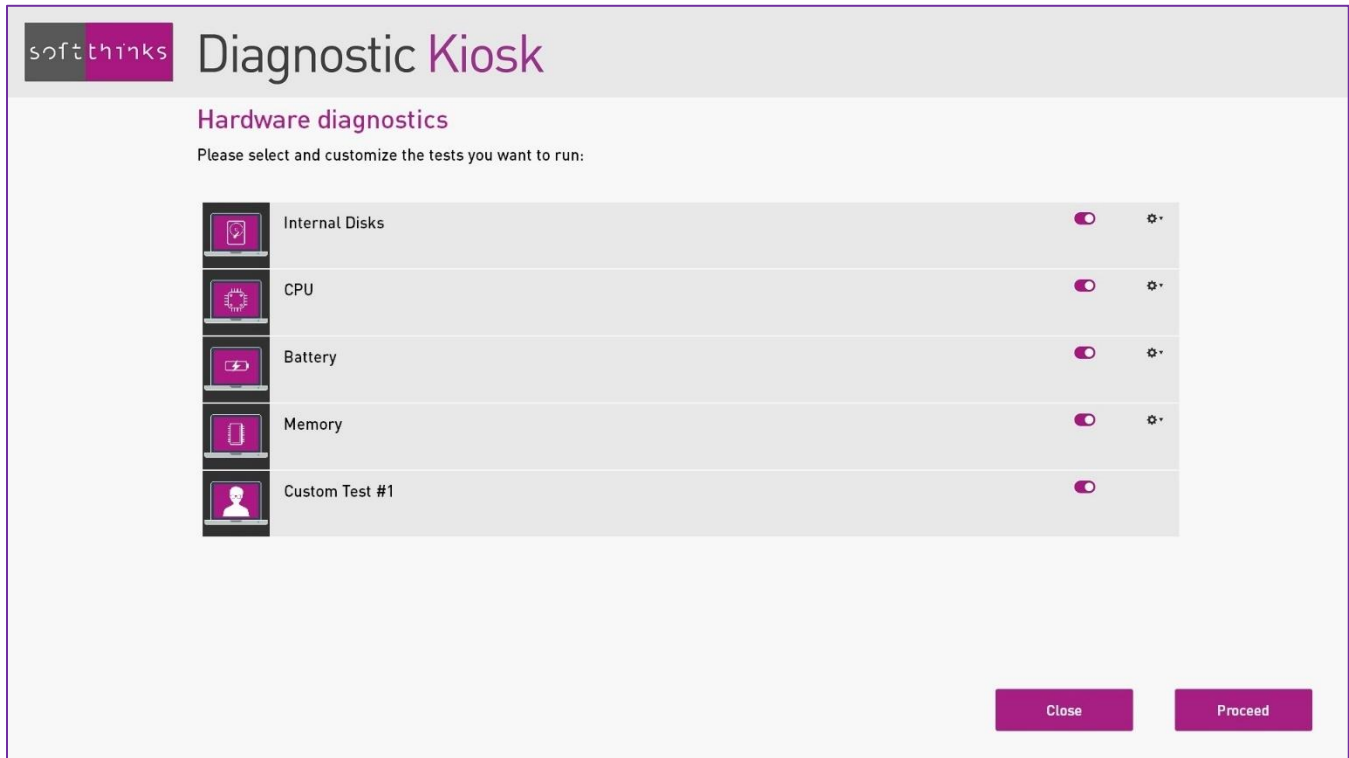
Follow the instructions below in order to generate and integrate these new tests:

1. Launch **RemotInstall\SDKDB\DEPLOY\BurnInTest\bit.exe**
2. Load an existing profile (file "*.bitcfg") from **RemotInstall\SDKDB\DEPLOY\BurnInTest\ScriptTest** using the menu **File -> Load Test Configuration...**
3. Configure the new test profile using the menu **Configuration -> Test Preferences...** specifying in the tab "**Post-Test**", in the fields "**External application**", the following command lines, in case the test succeeds or fails:
 - a. **x:\BurnInTest\Result_Tagger.exe /Flag:R:\CustomOK** in case of success.
 - b. **x:\BurnInTest\Result_Tagger.exe /Flag:R:\CustomKO** in case of failure.



4. Click on **"OK"** to save changes.
5. Finalize the profile by selectioning the test type using the menu **Configuration -> Test Selection & Duty Cycles...**
 - a. Check the feature set previously.
 - b. Uncheck other features.
6. Click on **"OK"** to save changes.
7. Save the profile using an explicit file name (the file name will appear in the interface) in the folder **RemoteInstall\SDKDB\DEPLOY\BurnInTest\CustomScript**
8. Copy this profile **.bitcfg** into the folder **RemoteInstall\SDKDB\DEPLOY64\BurnInTest\CustomScript**

When this procedure is completed, you will see this profile (“Custom Test #1.bitcfg” in our example) appearing next to the predefined profiles, by clicking on **PC Expert → Custom hardware diagnostics**:



Note: Some tests might not run currently in the WinPE environment used by the kiosk (potentially because of missing drivers or other dependencies).

Antivirus and antimalware setup

You can configure the time period when antivirus and antimalware updates are performed by modifying the values below, in the **config.ini** file you can find in the folder **RemoteInstall\SDKDB\AVDB\Kaspersky\Bin**:

```
Start_Hour=  
End_Hour=  
Delay=
```

Please do not change other values.

In the file **SDSCleanup.ini** which is located in the folders **RemoteInstall\SDKDB\DEPLOY\Windows\System32\modules** and **RemoteInstall\SDKDB\DEPLOY64\Windows\System32\modules**, you can specify if you want to analyze all files, none, or a customizable file selection, and if you allow the antivirus analysis to be cancelled:

```
[ANTIVIRUS]  
;set to "Full" for full scan, "Custom" for custom scan, and "Disabled" to bypass the scan  
AllowAnalyzeCancel=YES|NO  
Analyze=Full|Custom|Disabled  
  
[AV_Custom]  
;add here "custom scan" locations (KEYWORDS = $PROGRAMS, $USERS, $WINDOWS), you can add  
specific paths as well  
;predefined program files: Program Files; Program Files (x86); ProgramData  
$PROGRAMS  
;predefined user files: Users\Default; Users\<others>\AppData; Users\<others>\Documents;  
Users\<others>\Downloads  
$USERS  
;predefined windows files: Windows\*.*; Windows\System32; Windows\Downloaded Program  
Files; Windows\Downloaded Installations; Windows\Installer; Windows\ServiceProfiles;  
Windows\SoftwareDistribution; Windows\Syswow64  
$WINDOWS  
;specific extra paths (you can use wildcards for parsing only files)  
c:\Temp\*.*
```

Analysis setup and optimization of free disk space

For the purpose of free disk space optimization, you can decide what file types to delete and some are preselected by default, in the **[DISK_CLEANUP]** section of the **SDSCleanUp.ini** file in the folder

RemotelInstall\SDKDB\DEPLOY\Windows\System32\modules and

RemotelInstall\SDKDB\DEPLOY64\Windows\System32\modules:

```
[DISKCLEANUP]
;all subitems are selected by default, set desired ones to "no" to bypass selection
;Empty Recycle Bin
Item01=yes
;Empty Temporary folders
Item02=yes
;Empty Download folders
Item03=yes
;Empty Prefetch folder
Item04=no
;Empty Windows Error Report folders
Item05=no
;Delete Dump files
Item06=no
;Delete chkdisk files
Item07=yes
;Delete browser Cache files
Item08=yes
;Delete icon/thumbnail cache
Item09=no
```

You can also configure in this section the critical threshods, set at 15 GB (at most) of remaining free disk space for the status "critical", and at 1 GB (at least) of disk space that could be freed for the status "warning":

```
thresholdClean=1024
thresholdFree=15360
```

Configuration of the analysis and the optimization of applications launched at startup

You can also configure in the section **[STARTUP]** of the file **SDS CleanUp.ini** in the folder **RemotelInstall\SDKDB\DEPLOY\Windows\System32\modules** and **RemotelInstall\SDKDB\DEPLOY64\Windows\System32\modules** the criticality thresholds, set at 10 applications (at least) launched at startup for the status "critical", and at 7 for the status "warning":

```
[STARTUP]
;the status will be OK if less than 'thresholdX', WARNING if between 'thresholdX' and
'thresholdY', and CRITICAL otherwise
thresholdX=7
thresholdY=10
```

Configuration of Wi-Fi networks security optimization

Open the Wi-Fi networks found. None of them are selected by default. You can change this behavior and pre-select all networks by setting the value « selectAll » to « yes » in the section **[WIFI]** of the file **SDS CleanUp.ini** in **RemotelInstall\SDKDB\DEPLOY\Windows\System32\modules** and **RemotelInstall\SDKDB\DEPLOY64\Windows\System32\modules**:

```
;WI-FI NETWORKS SECURITY item settings
[WIFI]
;none of the networks will be selected by default, set to "yes" to force their selection by
default
selectAll=no
```

END OF DOCUMENT