



TrusCont

Trusted Content Delivery

TSFD Protection Toolkit Version 1.3

TrusContTM

TSFD Protection Toolkit

Version 1.3

User's Manual

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1. Introduction

Thank you for choosing TrusCont security solutions. TrusCont products are specifically designed for secure distribution and delivery of digital contents.

TrusCont Secure Flash Drive (TSFD) is a sophisticated USB flash memory disk that contains built in security enhancements such as copy protection. Unlike standard USB flash memory disks, the TSFD includes a powerful internal microcontroller, which is programmed to secure the content stored on it.

TSFD is a powerful hardware based copy protection solution for securing software and other digital content. One of the major advantages TSFD has comparing to traditional dongles is its large memory capacity, ranging from 1GB to 8GB. This allows software publishers to actually distribute their software on the TSFD itself, and much more – documentations, video guides and other accompanying materials can all fit into the huge storage capacity of the TSFD.

1.1 TSFD Key Features

- Hardware based copy protection for Software (32bit program) and documents
- Large storage capacity (up to 8Gb)
- Read only option – prevent end user from deleting the TSFD content
- CD-ROM Partition Emulation
- Easy to use duplication software – TrusCont TSFD Protection Toolkit

1.2 Terms and Definitions

- **TSFD** – TrusCont Secure Flash Drive – A USB device that acts as a combination of a storage device and a dongle
- **TrusCont Protection Toolkit ("Toolkit")** – TrusCont software utility for publishing content using TSFD devices. Using the Toolkit the content publisher can easily select the content he wishes to publish, select the files to protect and record the information to TSFD devices.
- **Project** – A Project defines the information concerning a specific title such as its name, source files and the files to be protected, which is required by the Toolkit in order to apply copy protection to the specific title and record it to TSFD devices.

2. Installing TrusCont TSFD Protection Toolkit

2.1 System Requirements

Before starting the installation process, please make sure your system meets the following minimum system requirements:

- Pentium III or higher CPU
- 7Mb of free Hard Disk space
- 10Gb of free Hard Disk space for temporary files during the production process
- 256 MB of system memory (RAM)
- USB 2.0 interface
- Internet Explorer 6.0 or higher
- Nero Burning Rom version 6.X or later (excluding version 6.6.1.4) required for CD-ROM partitions support (<http://www.nero.com>)
- Adobe Acrobat / Acrobat reader required to view this user manual
- **Supported OS:** Windows 2000 (with Service Pack 4), Windows XP, Windows XP x64, Windows Vista, Vista x64

2.2 Starting the installation

TrusCont TSFD Protection Toolkit installation package consists of a single installation file. To obtain a copy of the Toolkit installation file, contact your local TrusCont representative or refer to TrusCont website (<http://www.truscont.com>). To start the installation process, save the installation file to your local Hard Disk and double click it. Follow the on-screen instruction to complete the installation.

2.3 Starting TSFD Protection Toolkit

The installation process will automatically create shortcuts to the Toolkit on your desktop and in the programs menu under Start -> Program Files -> TrusCont -> TSFD Protection Toolkit. Click on of the shortcuts to start the program.

3. Using TrusCont TSFD Protection Toolkit

3.1 Overview

The TSFD Protection Toolkit assists you in protecting and publishing your valuable content on TSFD devices using just a few simple steps:

- **Creating a Project** – The first step is creating a "project", which defines your publication to the Toolkit – the files you wish to publish, which files to protect, etc.
- **Saving a Project for Future Use** – After creating a project you can save it for future productions. This allows you to start or resume production of the same project at a later stage without repeating the creation process.
- **Starting Duplication** – Start recording your new project (or a saved project) to TSFD devices.

3.2 Creating a New Project

3.2.1 Preparing Your Content

To ensure proper creation of your project, please organize your content using the following guidelines:

- ☒ **Verify the functionality of your title** – The TSFD protection process doesn't change the functionality of your files in any way. Verify that your title works as planned before using the Toolkit.
- ☒ **Organize your files on your local computer** – Using files stored on removable drives is blocked in order to avoid potential interruptions of the project creation process due to potential connectivity failures.
- ☒ **Make sure your files are not being used** – Make sure your project files are not open in any other software and remain unchanged through the project creation process.
- ☒ **Do not use files that are already protected** – Files recorded on TSFD devices may already be protected. It is not possible to reapply the copy protection on files that are already protected. Always use source files located on your computer.

3.2.2 Starting a New Project

Open TrusCont TSFD Protection Toolkit and follow these simple instructions:

- A. Wait for the welcome page to appear then click next.
- B. On the 'Select Task' page select 'New Project' then click next.

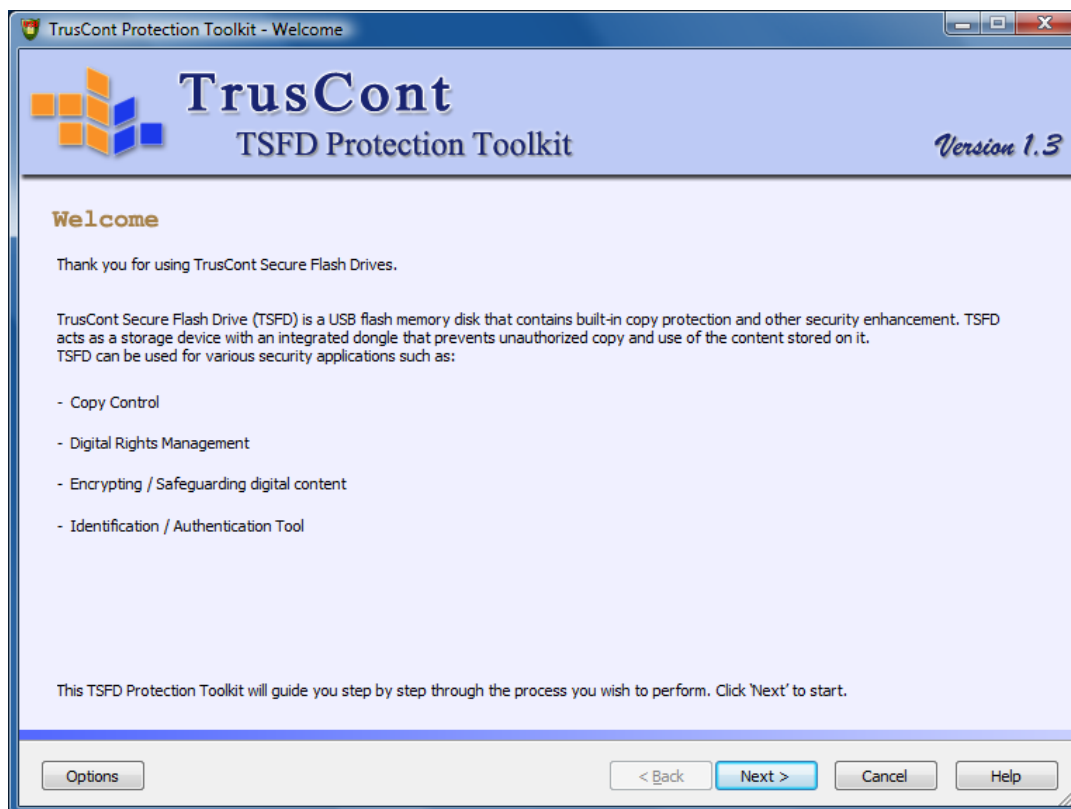


Figure 1: Select task Page

- C. On the 'Select Task' page select 'New Project' then click next.
- D. The 'Edit Project' page will appear. Proceed to the next section, *Editing a Project*, to add files and folders to your project.

3.2.3 Editing a Project

The 'Edit Project' page has two main panels. The left panel is a tree view of all the files and folders on your project. These are the files and folders that will eventually be recorded to the TSFD devices. The right panel contains a table that lists only the files of your project corresponding to the supported file types. These are the files on your project that can be protected.

The columns of the table specify the copy protection options for each individual file that can be protected. Use the instructions in the following subsections to edit your project then click next to proceed.

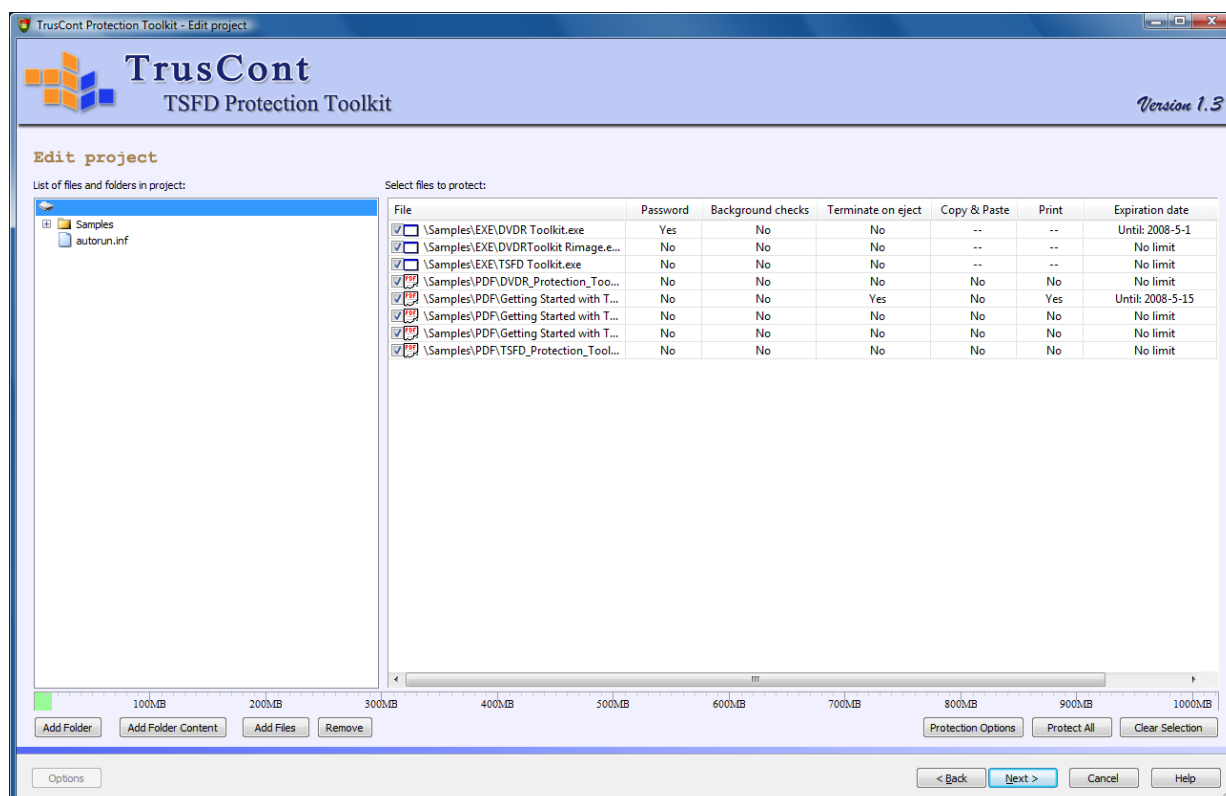


Figure 2: Edit Project Page

3.2.3.1 Adding Files and Folders

There are three methods for adding files and folders to your project – Adding a folder, adding a folder contents and adding files. Each can be achieved by clicking the corresponding button at the bottom of the page (see figure 2).

Add Folder – Use this button to add an entire folder, including all its files and sub-folders to your project. The 'Add Folder' dialog box will appear. The folder will be added under the folder that is selected on the left panel. If you wish to add the folder to the root of your project, select the disk icon. Otherwise select the sub-folder under which you wish to add another folder.

Add Folder Contents – Use this button to add an entire folder contents. The contents of the folder that you select will be added under the folder that is selected on the left panel, but the folder itself will not be created.

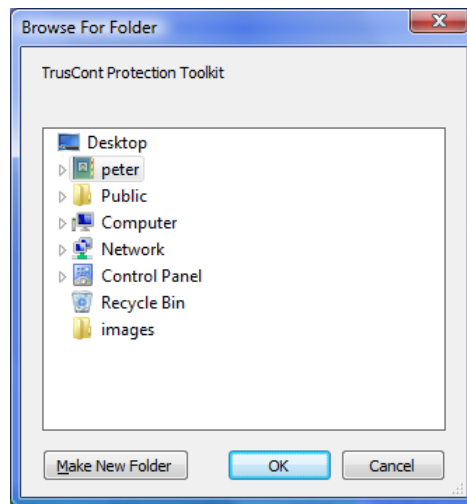


Figure 3: Add Folder Dialog

Add Files – Use this button to add files to a folder within your project. The 'Add Files' dialog will appear. Select the files you wish to add and click 'Open'. The files you select will be added under the folder which is selected on the left panel.

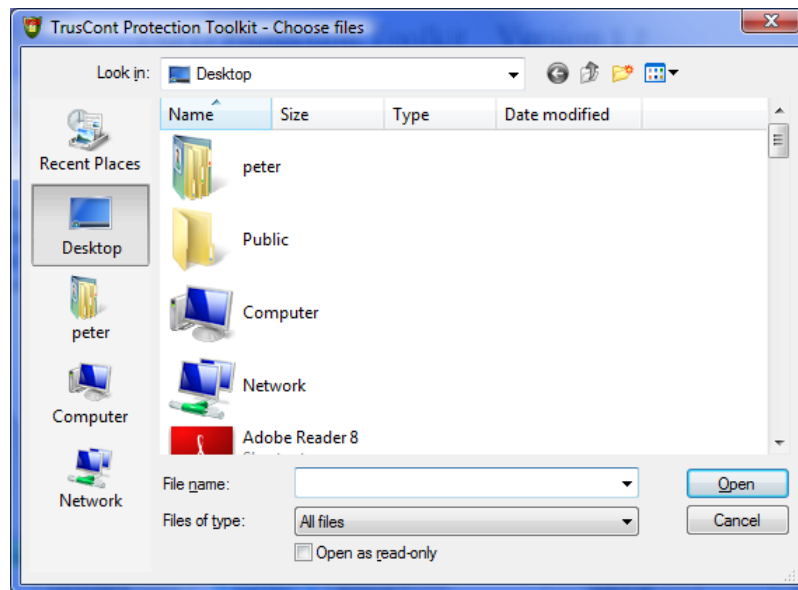


Figure 4: Add Files Dialog

3.2.3.2 **Removing Files and Folders**

To remove files or folders from your project, select the file or folder you wish to remove and then click the 'Remove' button. You can also right-click any file or folder on the left or right panels and click 'Remove' from the popup menu.

3.2.3.3 Marking Files for Protection

While the left panel of the 'Edit Project' page lists all the files and folders of your project, the right panel lists only the files which can be protected using the Toolkit. When the root folder on the left panel (the disk icon) is selected, the right panel lists all the protectable files of your project. When a sub-folder is selected, the right panel lists only the protectable files within the selected folder and the sub-folders under it.

On the right panel, check the boxes next to the files that you wish to protect. These files will be functional only if the TSFD device on which they are recorded is connected to the end user's computer. The rest of the files will remain unprotected and the end user will be able to copy and use them from his local Hard Drive even if the TSFD device is not connected to his local computer.

To select all files listed on the right panel, click the 'Protect All' button. To clear all selections click the 'Clear Selection' button.

3.2.3.4 Protecting Digitally Signed Program Files

Some files may be digitally signed. Digital signatures are often used on program files for various purposes such as validating the file's content. When applying copy protection to program files, the files are changed. If the files are digitally signed, then digital signature can no longer be used in order to validate the file. The functionality of the file is not affected. However, some operating systems, such as Windows Vista and Windows XP may require end users for confirmation of running the protected files.

3.2.3.5 Customizing Copy Protection Options for Individual Program Files

It is also possible to customize the copy protection behavior for individual files. To customize the copy protection behavior of a specific program file double click the specific file from the right panel, or right-click the file and select 'Option' from the pop-up menu.

Protection box title

Whenever a user tries to run a protected file without the original TSFD connected, the protection system displays a message box containing a standard error message. This field allows you to customize the title text of this message box.

Protection box text

This field allows you to change the text of the message that will be displayed whenever a user tries to run the protected file without the original TSFD connected to his computer.

Allow execution from another media

This option is enabled by default. It allows the end user to copy the protected files to his local Hard Drive or any other media for performance or other purposes. However, the original TSFD must be connected to the local computer in order to run the file. If this option is turned off, the user can run the protected file only directly from the original TSFD.

Background Checks

This option is disabled by default. If enabled, the copy protection system will perform periodic security checks as long as the protected file is running in the computer memory. In case the original TSFD is disconnected from the computer, the copy protection system will suspend the operation of the protected file and display a warning message asking the user to re-plug the original TSFD.

Terminate on Eject

This option is disabled by default. It works in a similar way to the background checks. However, this option causes the protected program to terminate immediately in case the TSFD is disconnected from the computer.

Password

You can also protect your files by using a password. Just type in the password you wish to apply to your file. Whenever an end user will try to run the protected file, the copy protection system will display a dialog box asking for the password.

Important Note: The password cannot start or end with space characters. Spaces at the beginning or/and end of the password are automatically truncated.

Expiration date

Check this option to apply a time limit on your files. Select the date in which your files will expire. After the specified date your files will no longer be usable. Trying to run the protected file after the specified date will display a message indicating the application has expired.

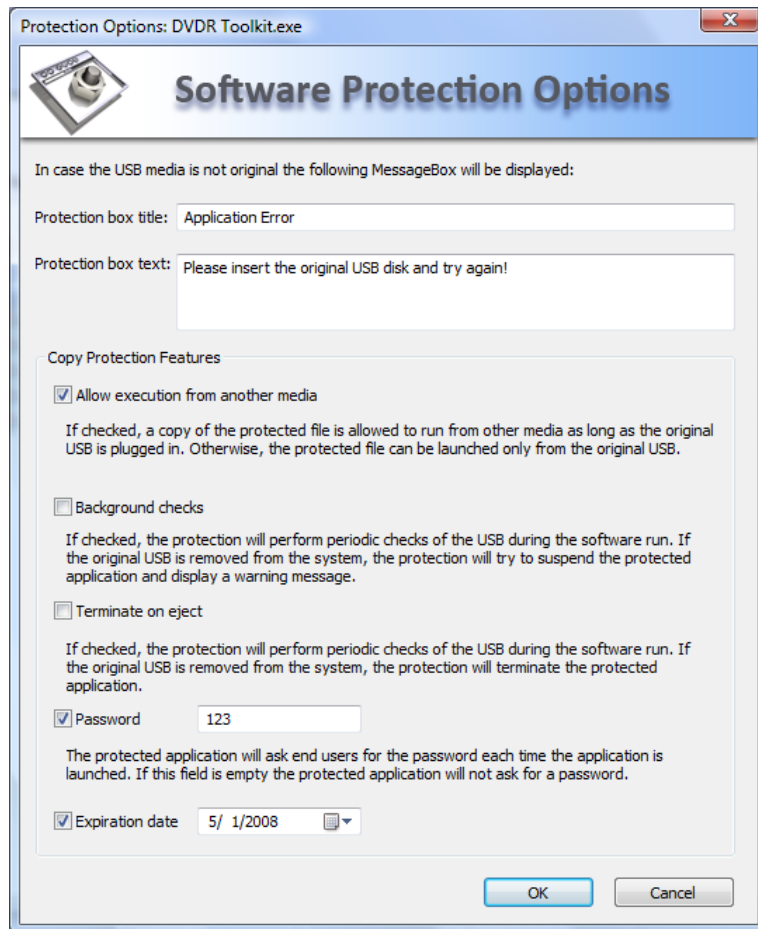


Figure 5: Copy Protection Options for Individual Program Files

3.2.3.6 Customizing Copy Protection Options for Individual PDF Files

For PDF Documents the Toolkit provides several copy protection options in addition to the copy protection options for program files that are configurable also for PDF documents.

Important notes:

- The Toolkit preserves the original PDF file's security attributes. For example, if the original unprotected PDF file has the printing attribute disabled, then the protected PDF file will also have printing disabled, even if you specifically allow printing in the protection options.
- The PDF files are converted to EXE files during the protection process. If your project already contains an EXE file with the same name of your PDF file, and the two files are located within the same folder, this conversion cannot be performed and an error message is displayed.

Enable Copy & Paste

This option is disabled by default. If enabled, it allows end users to copy and paste text and images from the protected documents to other applications.

Allow Printing

This option is disabled by default. If enabled it allows end users to print the protected documents.

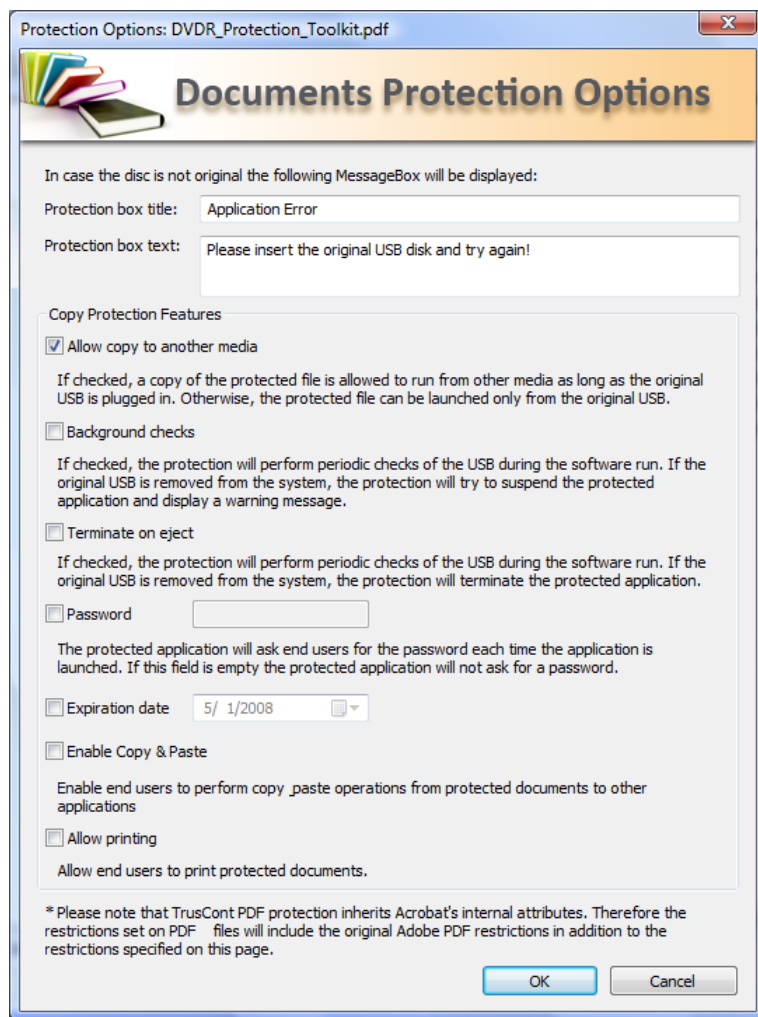


Figure 6: Copy Protection Options for Individual PDF Documents

3.2.3.7 Customizing Copy Protection Options for Multiple Files

To set copy protection options for multiple files, click the protection options button then select the file type for which you wish to set the protection options. The Toolkit will apply the protection options to all the files of the type you have selected and are marked for protection.

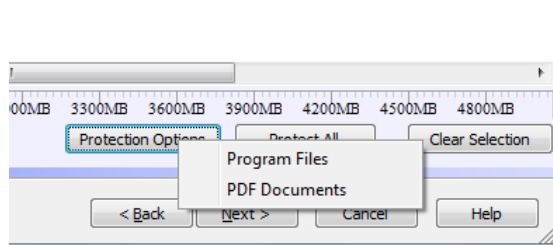


Figure 7: Setting Protection Options for Multiple Files

3.2.3.8 **Clearing a Project**

To clear your project, right click the disk icon on the left panel and select 'Clear Project' from the popup menu. Selecting this option will remove all the files and folders from your project and clear the list of files to protect on the right panel.

3.2.4 **Naming a Project**

Once you have finished editing you project, click next to proceed to the 'Volume Information' page.

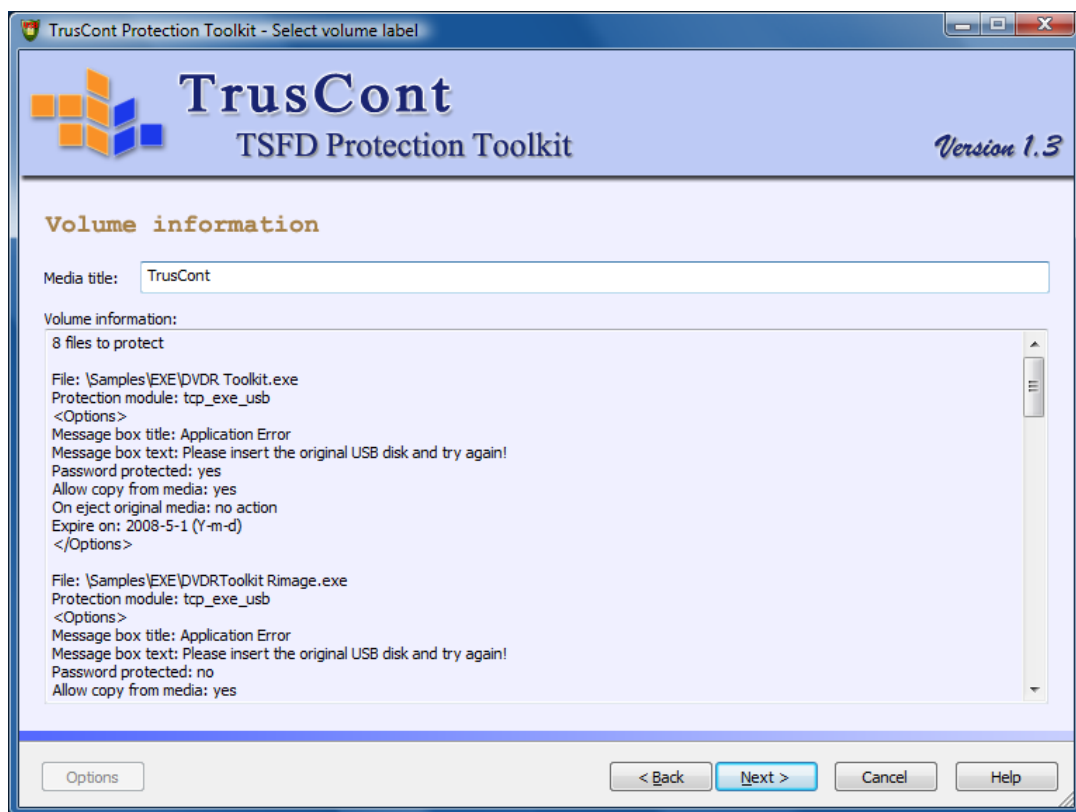


Figure 8: Volume Information Page

The 'Volume Information' page allows you to change the 'Volume Label' (media title). The volume label is the caption that is usually displayed next to the drive letter in windows explorer and 'My Computer'.

3.2.5 **Saving & Duplicating Your Project**

When you finish creating your project you can start recording it immediately to TSFD devices by selecting the 'Start Duplicating' task (see figure 6). For

additional instructions on duplicating your project please refer to the instructions in section 3.4 – *Opening Existing Projects for Duplication*.

You can also save your project for future use in case you plan to record additional TSFD devices with the same content. To save your project, follow the instructions below. Please note that the Toolkit only saves a file that describes your project. Your project's files are not copied from their original location and it is essential that it will not be changed or moved if you wish to use the same project in the future.

1. Select the 'Save Project' option and click next.

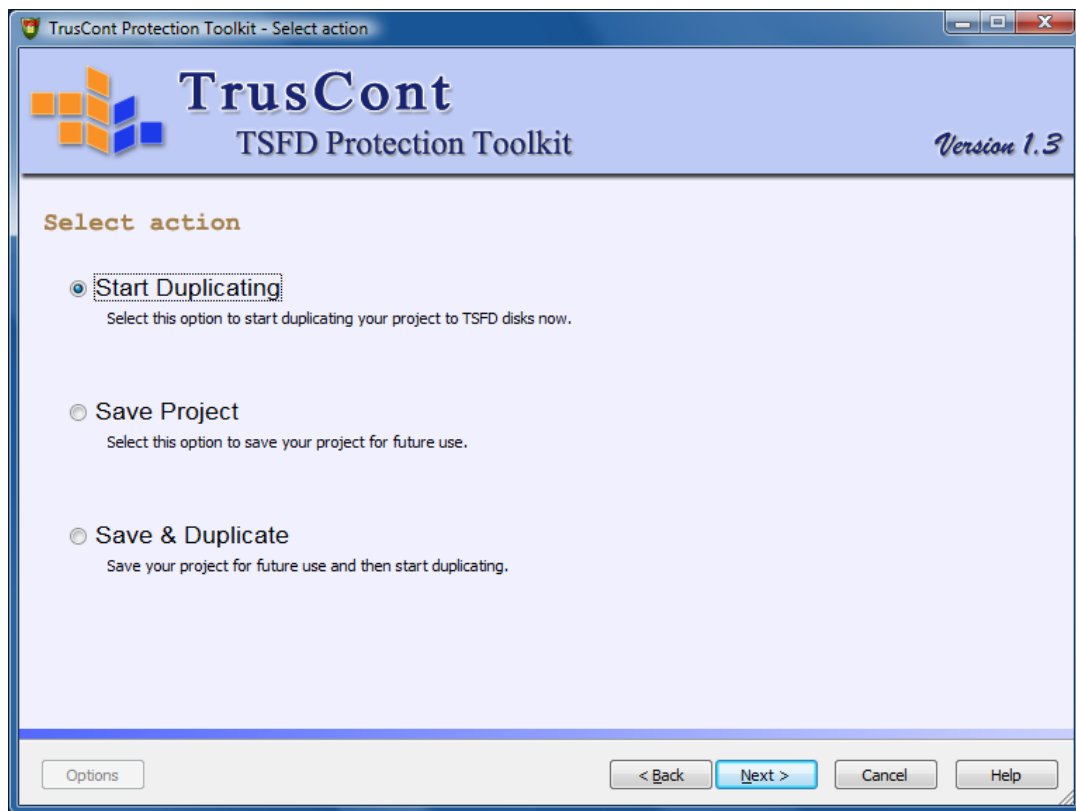


Figure 9: Saving and Duplicating New Projects

-
2. The 'Save Project' page will appear.

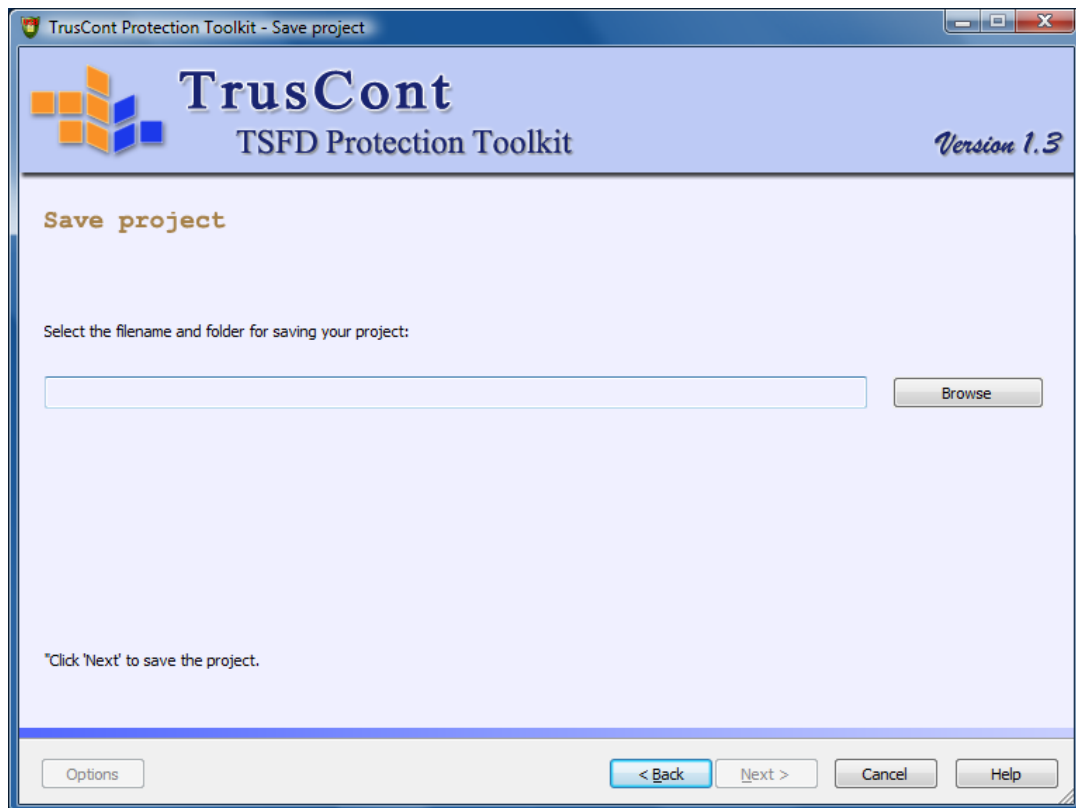


Figure 10: Save Project Page

-
-
3. Click the browse button to open the 'Save As' dialog and select the folder and filename under which your project will be saved.
4. Click 'Save' on the 'Save as' dialog then click 'Next' on the 'Save Project' page.

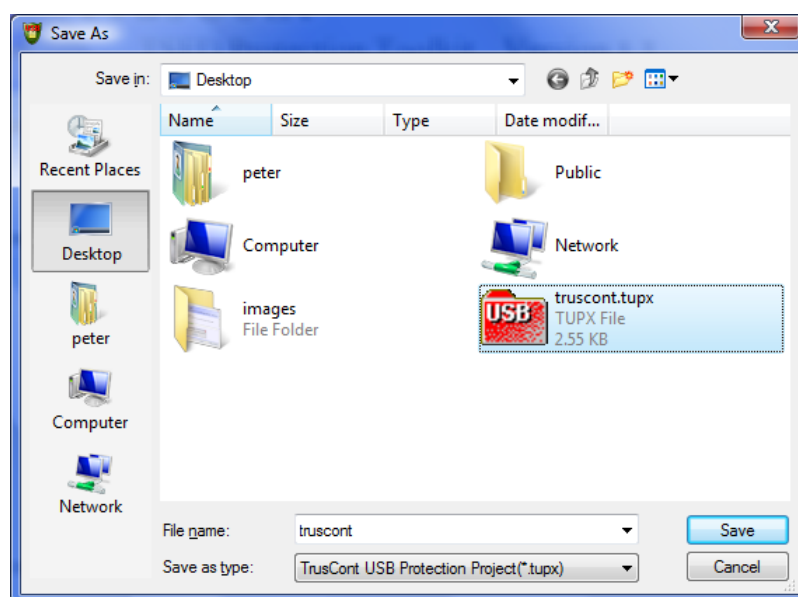


Figure 11: Save As Dialog

3.3 Modifying Saved Projects

To modify an existing project follow these simple instructions:

- A. Run the Toolkit, wait for the welcome page to appear then click 'Next'.
- B. Select 'Modify Existing Project' and click 'Next'.
- C. Click 'Browse', select the project you wish to modify then click 'Next'.
- D. Refer to section 3.2.3 – *Editing a Project* – for additional instructions on editing your project.

3.4 Opening Existing Projects for Duplication

- A. Run the Toolkit, wait for the welcome page to appear then click 'Next'.
- B. On the 'Select Task' page choose 'Open Existing Project' and click 'Next'.
- C. The 'Open Project' page will appear. Click 'Browse' to select the project you wish to duplicate.
- D. Click 'Next' to move to the 'Select Target' page.

3.4.1 Selecting the Target TSFD device

The Toolkit automatically detects all TSFD devices connected to your host computer. The devices detected are listed in the drop-down list box next to the 'Select Device' label. If the list is empty, connect one or more TSFD devices to your computer and click 'Refresh'.

Note: TSFD devices are not visible when running the Toolkit under the windows Guest account.

3.4.2 Duplicating on Multiple Devices

If you wish to record more than one device in a single process, check the checkbox with the label 'When done automatically duplicate on the next TSFD device detected'.

3.4.3 Partitions Configuration

The TSFD Protection Toolkit enables you to divide the TSFD memory into 2 separate partitions. The first partition is where your project files will be stored. The first partition can be configured as a CD-ROM partition, a read-only partition or a read/write partition. If the first partition is configured as a CD-

ROM partition or a read only partition, a second read/write partition can be configured.

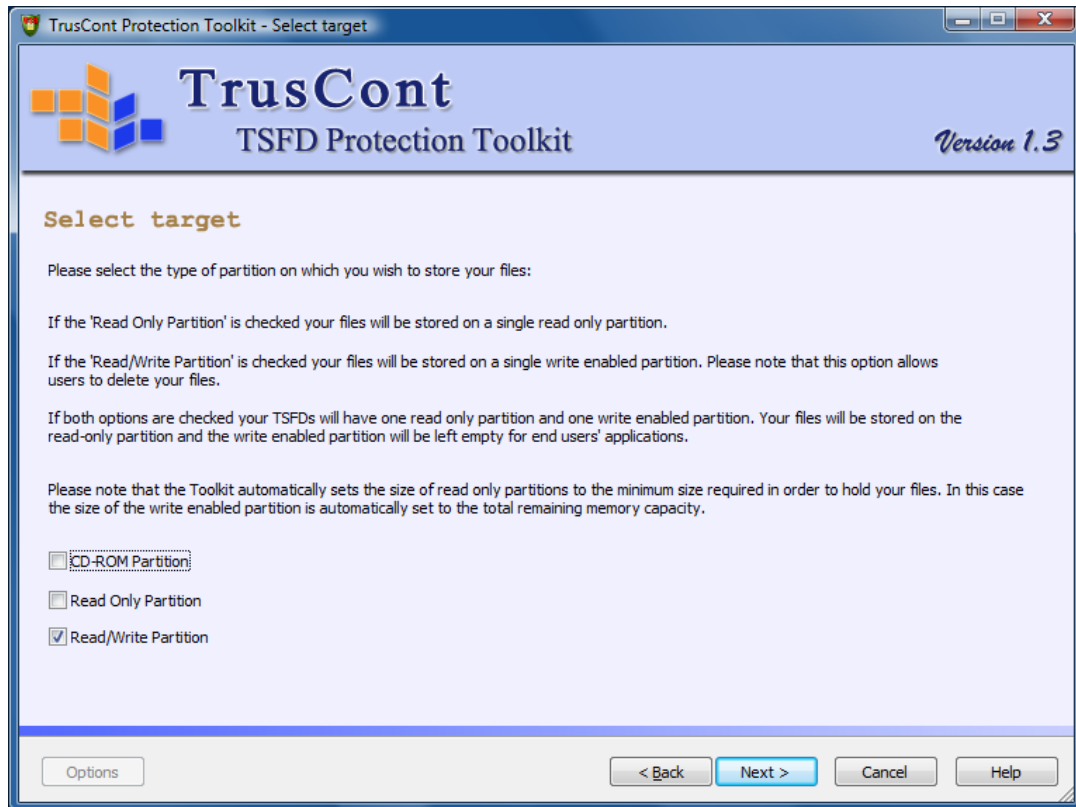


Figure 12: Select Target Page

3.4.3.1 CD-ROM Emulation & Autorun Support

If the first partition is configured as a CD-ROM, the first partition of the TSFD will be detected as a CD-ROM when connecting it to a computer. Your project files will automatically be stored on the CD-ROM partition. Since CD-ROM is a read only medium, your files cannot be deleted.

Windows operating systems have an autorun feature enabled by default for CD-ROM devices. This enables you to set an autorun feature on your TSFD by simply including an autorun.inf file in your project.

3.4.3.2 Read Only Partitions

The read only partition option protects your files from deletion. You cannot have both read only and CD-ROM partitions on the same device. If you check the read only partition, the CD-ROM partition will automatically be cleared.

3.4.3.3 **Read Write Partitions**

If only a single read/write partition is selected the Toolkit will automatically allocate the total capacity of the TSFD to a single read/write partition and store your project files on it. If you choose to configure a read only or a CD-ROM partition in addition to the read/write partition, the Toolkit will first allocate to the read only or CD-ROM partition the minimum capacity required to store your project's files on it. The remaining capacity will then be allocated to the read/write partition.

3.4.3.4 **Possible Partitions Configurations**

The following table lists all the possible partitions configurations. Please note that your project's files will always be stored on the first partition regardless of its type. The second partition you may configure will not contain any files.

#	Partition 1	Partition 2
1	Read-Only	--
2	Read/Write	--
3	CD-ROM	--
4	Read-Only	Read/Write
5	CD-ROM	Read/Write

3.4.4 **Confirming Overwrite and Starting the Duplication**

Before starting the duplication process the Toolkit displays a standard warning message indicating all TSFD devices on which you record will be overwritten and all information that may be contained in it will be permanently deleted. Click 'Next' to confirm and start the duplication process.

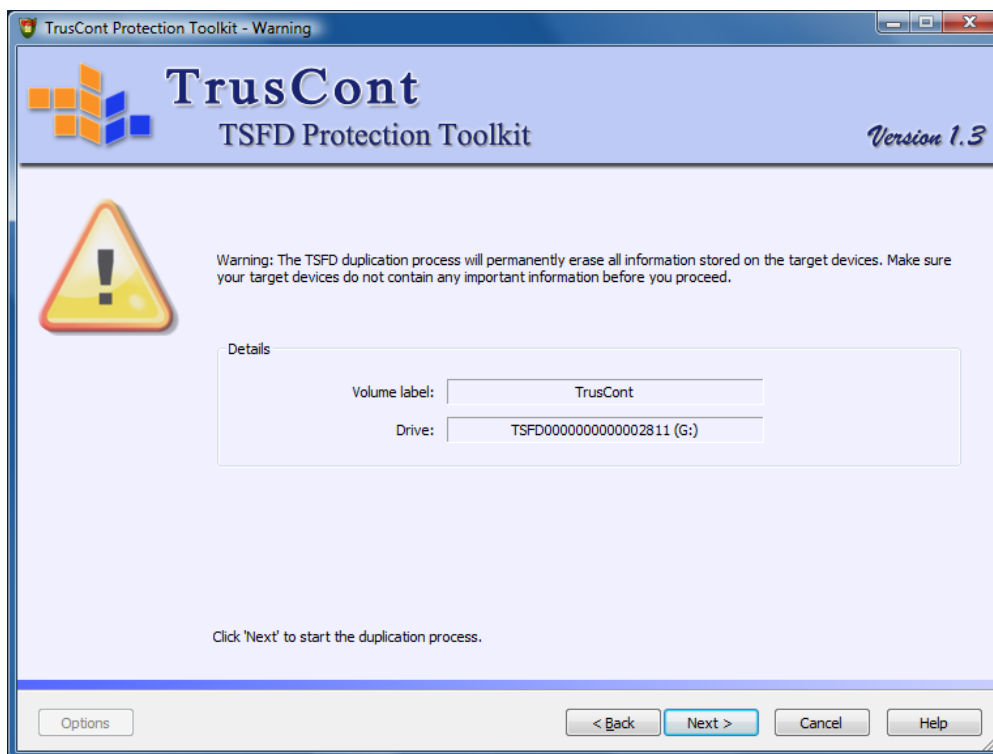


Figure 13: Overwrite Warning Page

Wait for the recording process to finish. If you choose to duplicate on multiple devices, at the end of each recording session the Toolkit will automatically start recording on the next device it detects until no more TSFD devices can be detected. Of course you can interrupt the recording loop at any time.

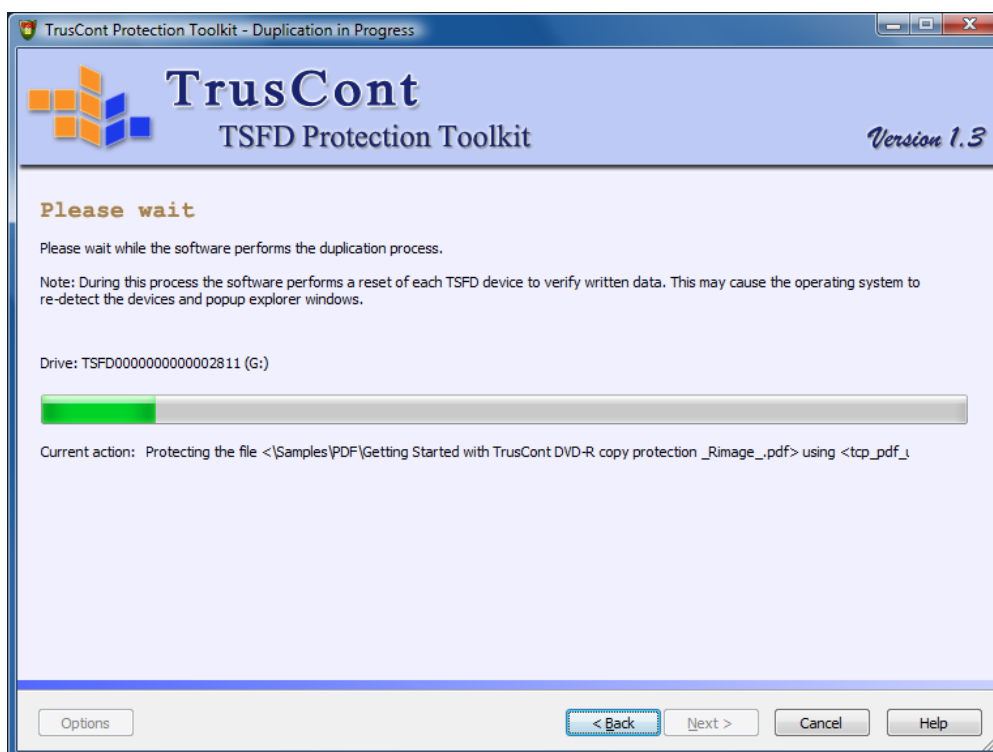


Figure 14: TSFD Recording Process

3.5 Using the Toolkit's Project File Association

Installing the Toolkit on your computer also associates the TrusCont TSFD Project File types with the Toolkit. This allows you to open a saved project by simply double-clicking it. In this case the Toolkit will be launched, open your project and skip directly to the 'Edit Project' page allowing you to modify it before proceeding with the duplication process.

4. Troubleshooting & Known Issues

A. Symptom

On the 'Edit Project' page, some files on the right panel appear with a “lock” icon and cannot be marked for protection:

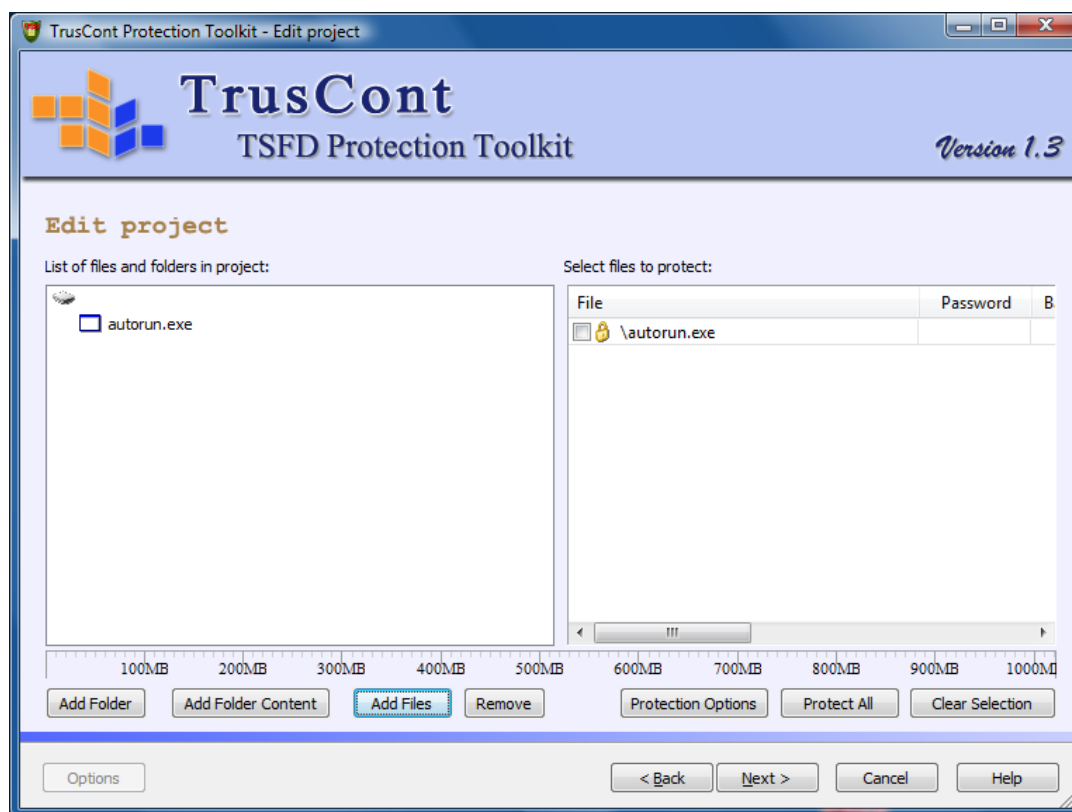


Figure 15: Previously Protected Files Indication

Resolution

The files that appear with a “lock” icon are actually files that have been protected in a previous operation. The copy protection cannot be reapplied on already protected files. Remove these files from your project and use the original unprotected copies of the files.

B. Symptom

On the 'Edit Project' page, some files on the right panel appear with a 'No-Entry' sign icon and cannot be marked for protection:

Resolution

The files that appear with a 'No-Entry' sign icon are not supported by the current version of the Toolkit. The current version supports protection of 32 bit executable files only. If

the files that appear with a 'No-Entry' sign are 32 bit executables then it may have non-standard structures.

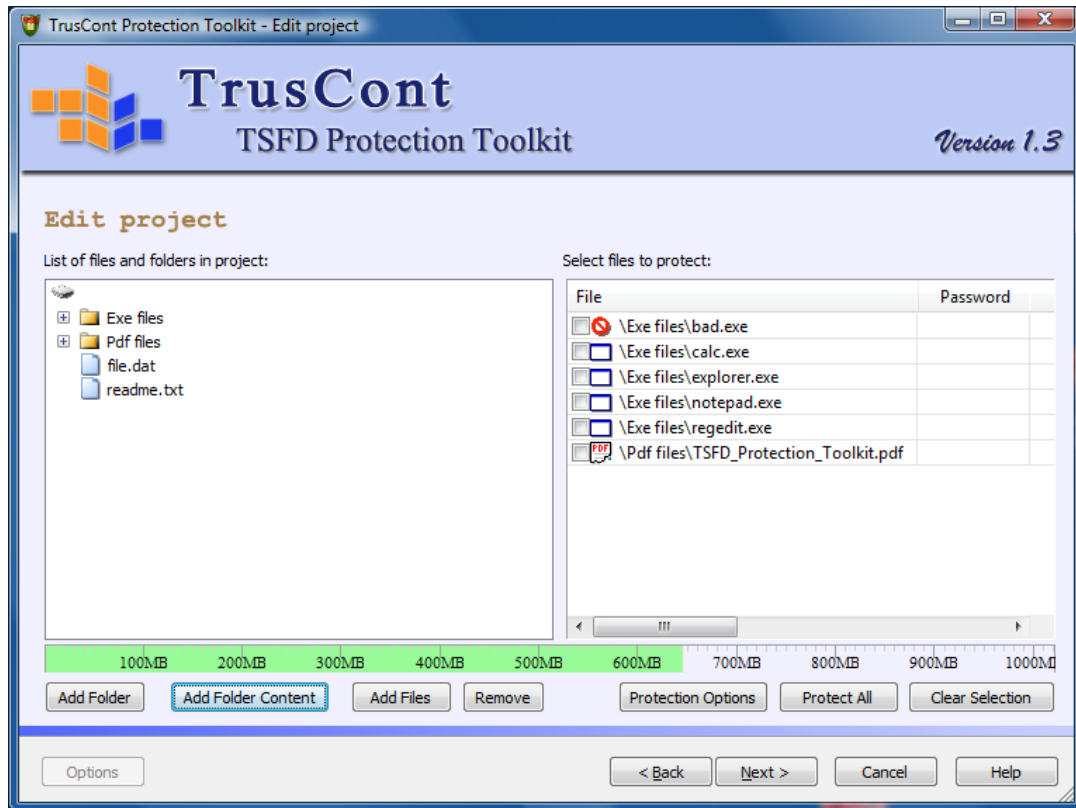


Figure 16: Unsupported Files Indication

C. Symptom

On the 'Edit Project' page, when clicking the 'Select All' button, the following message appears:

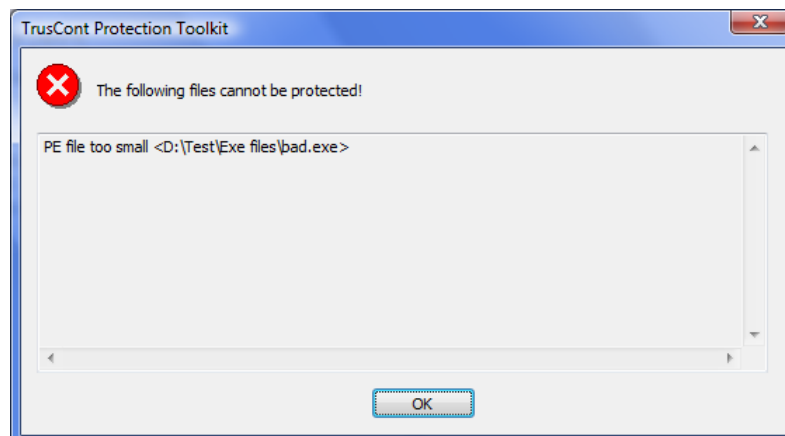


Figure 17: Unsupported Files Notification

Resolution

This message appears when you click the 'Select All' button and your project contains some executable files that cannot be protected. The message notifies you that some of the files you may wish to protect couldn't be protected.

Some files are not built strictly according to the PE file format specification (windows program files format). Some deviations from the specification may prevent the Toolkit from applying the copy protection on such files. Usually the Toolkit can detect such deviations and prevent you from marking such files for protection.

Please note that in rare occasions Toolkit may encounter such deviations only when actually trying to apply the copy protection (depending on the actual deviation). In this case you may encounter the above message just before starting the duplication process. If the problematic file(s) are not critical to protect, retry the process without protecting these files. Otherwise, please contact TrusCont support for additional assistance.

D. Symptom

When opening a saved project one of the following error messages appear:

- a) Failed to open project. The file <filename> was changed.
- b) Cannot open the file <filename>. The system could not find the file specified.

Resolution

When opening a saved project the Toolkit verifies the existence and integrity of the project's files. The above error messages indicate that at least one file was either changed or removed since the project was last saved. It is recommended that you reorganize your project's files, test their functionality and recreate your project using the Toolkit.

E. Symptom

When selecting a file to protect in the 'Project Edit' page the following error message appears:

"Failed to protect the file <filename>. Error: Code section too small."

Resolution

Applying the copy protection on a program file involves in injecting the copy protection software code to the program file. If the file's software code is too small this operation cannot be performed. Please note that even though the file may be very large, it may contain large resources such as graphics and text, the actual files size is usually not an indication to the file's software code size. If the specific file is critical to protect, please contact TrusCont support for further assistance.

Additional Support Information

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