

## Stage One Computing A/S

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## User Manual



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## 1 Purpose

The purpose of the user manual is to describe in details how the program is operated. The document will contain information regarding all the operation of the program.

## 2 Scope

The scope of the functions is the program SOCopy version 2.0.X.X.

## 3 soCopy program

### 3.1 System Description

The program SOCopy is a copying program that verifies, using the SHA512 algorithm, its execution and can create a PDF/A report showing the results.

### 3.2 New functions

In the SOCopy version 2.0.X.X a couple of new functions have been added. The SOCopy is no longer a single program, but a suite containing the SOCopy program and the SOCopy GUI interface.

## 4 Program parameters

The program takes parameters, telling it how to perform. The application can be called using arguments designed for version 1.0.0.0 of the application. The application can also be called with arguments as pr. version 1.1.0.x. The new way to call SOCopy depends on using named arguments. SOCopy looks at the incoming arguments, and if the arguments fit the 1.0.0.x profile, it will try that. If not, SOCopy will parse the arguments and use 1.1.0.x scheme to run. The arguments/parameters are listed in the table below:

| Paramater  | Description   | Example  | Required |
|--|---|--|----------|
| <b>Arguments calling 1.0.0.0</b> (arguments in 1.0 are not named, but are location determined, so source must be parameter one, and so on) |   |  |          |
| <b>Source</b>  | This is a text indicating the source for the copying. The source is wild-char enabled.  | C:\logfiles\*.*  | Yes      |
| <b>Destination directory</b>   | This parameter holds the destination directory. The destination directory must NOT hold any of the source files or the program will fail.                                   | C:\tmp   | Yes      |
| <b>Copy sub-directories</b>  | This indicates if the sub-directories should be included in the source. It can be:<br>-sTrue<br>-sFalse   | -sTrue   | No       |
| <b>Path for PDF/A</b>  |   | c:\tmp\result.pdf  | No       |
| <b>Arguments calling 1.1.0.x</b>   |   |  |          |
| <b>H   ?   help</b>  | Help. When one of these parameters is given, the application displays a help text. The app does not perform any other action than this.                                     | SOCopy -?  | No       |
| <b>S   S   strue   sTrue   subdirs</b>   | Subdirs. This parameter indicates, that the application shall copy subdirectories and the files associated with these. This is mutually exclusive of -sFalse. (No sub-dirs) | SOCopy -src=c:\temp\a.txt -dest=c:\destdir\ -sTrue -report=c:\myreportdir\thisresult.pdf | No       |

|  |  |  |  |
|--|--|--|--|
| <b>sFalse   sFalse</b>                         | No subdirs. This parameter makes sure, that the application does not copy sub-directories. This is mutually exclusive of -s (SubDirs). | SOCopy -src=c:\temp\a.txt -dest=c:\destdir\ -sFalse -report=c:\myreportdir\thisre sult.pdf | No   |
| <b>source=   src=</b>                          | Source files. This required  | SOCopy -src=c:\temp\a.txt -dest=c:\destdir\ -sTrue -report=c:\myreportdir\thisre sult.pdf  | Yes  |
| <b>destination=   destinationpath=   dest=</b> | Destination. This is the destination path for the files and directories.   | SOCopy -src=c:\temp\a.txt -dest=c:\destdir\ -sTrue -report=c:\myreportdir\thisre sult.pdf  | Yes (not if used with SHA512)                      |
| <b>report=</b>                                 | The PDF/A report name.   | SOCopy -src=c:\temp\a.txt -dest=c:\destdir\ -sTrue -report=c:\myreportdir\thisre sult.pdf  | No   |
| <b>SHA512</b>                                  | Make a SHA512 hash sum check   | SOCopy -src=c:\temp\a.txt -SHA512  | No (unless used only with src to get the hash sum) |

An equal sign after the parameter name indicates that the parameter is compulsory.

## 5 Error codes

The error codes are:

| Exit-code  | Type  | Description  | Exceptions   |
|------------|---|--|--|
| <b>0</b>   | The application has completed operations as expected. | APPERROR_NOERROR:<br>The application has completed operations as expected. |  |
| <b>210</b> | Arguments   | APPERROR_NOARGS  | Command requires two arguments; a source file and a destination directory. The third optional parameter is \"-s\" indicating to include subdirectories. A filename for the documenting PDF/A can be added as a fourth parameter. |
| <b>211</b> | Arguments   | APPERROR_SUBDIRARGTRUEANDFALSE   | The argument -s cannot be both true and false.   |
| <b>212</b> | Arguments   | APPERROR_ARGSNUMBEROFARGUMENTS   | Command requires two arguments; a source file and a destination directory. The third optional parameter is \"-s\" indicating to include subdirectories. A filename for the documenting PDF/A can be added as a fourth parameter. |
| <b>213</b> | Arguments   | APPERROR_SUBDIRARGNOTTRUEORFALSE   | Third parameter must be either -sTrue or -sFalse.  |

| Exit-code | Type      | Description   | Exceptions  |
|-----------|-----------|---|---|
| 214       | Arguments | APPERROR_SUBDIRARGNOTNOTALLOWEDWHENRENAME                                   | Cannot copy subdirs when renaming file.   |
| 220       | File      | APPERROR_DESTINATIONFILEEXISTS  | Destination file {0} already exists! The file was not created!/copied!                |
| 221       | File      | APPERROR_DESTINATIONSUBDIREXISTS  | Destination sub-directory {0} already exists! The directory was not created!          |
| 222       | File      | APPERROR_DESTINATIONDIRNOTEXISTS  | Destination directory does not appear to exist.                                       |
| 230       | File      | APPERROR_SHA512NOTSAME  | File copy is not equivalent to original.  |
| 240       | PDF       | APPERROR_REPOREXISTS  | A file with the proposed PDF file name already exists.                                |
| 255       | General   | APPERROR_GENERALERRORCODE:<br>An exception has occurred in the application. | Some .NET exception has occurred in the application. The exception text is displayed. |

## 6 Batch calling

The program can be incorporated into a batch run. The program will return an exit code that informs about the application execution result. A result of 0 (zero) indicates success. A result above 0 (zero) indicates that there has been an error. See the table in [5] "Error codes".

### 6.1 Batch example 1

This example calls the program, creates a PDF with the result, and reacts to the exit result:

```
@echo off
soCopy c:\temp\a.txt c:\tmp\ -sTrue c:\tmp\result.pdf
@if "%ERRORLEVEL%" == "0" goto good

:fail
    echo Execution Failed
    echo Error return value = %ERRORLEVEL%
    goto end

:good
    echo Execution succeeded
    echo Return value = %ERRORLEVEL%
    goto end

:end
```

### 6.2 Batch example 2

The following example sets up a batch routine that can be called with the four parameters of SOCopy. It will create a subdirectory in the destination folder with the date as a name and use that as the destination. A report (logBackup.pdf) will be placed in this folder. If the execution goes well, it will delete the source files.

```

@echo off

SET soCopyDate = %DATE%

MD p:\logbackups\%soCopyDate%

soCopy c:\logfiles\*.* p:\logbackups\%soCopyDate% -sTrue
p:\logbackups\%soCopyDate%\logBackup.pdf

@if "%ERRORLEVEL%" == "0" goto good

:fail
    echo Execution Failed
    echo Error return value = %ERRORLEVEL%
        msg * The soCopy execution Failed
    goto end

:good
    del c:\logfiles\*.* /s
    echo Execution succeeded
    echo Return value = %ERRORLEVEL%
    goto end

:end

```

## 7 Limitations

The program has certain limitations due to the framework, the OS, or to the version.

### 7.1 Wildchar

The source parameter is wild-character enabled. This means that you can use the "?" and the "\*" to use as a joker when specifying the source files. The exact workings of these wild characters is defined by the OS.

### 7.2 ACL

The access control list of the files and directories copied are only copied if the users or groups exist in both places, i.e. the implicated computers are part of the same domain. If this is not the case, the application has no way of knowing the true nature of the two parts.

### 7.3 Hash checksum

The checksum for the files is based on the files content. This does not contain a checksum checking the file attributes. This means that we cannot be completely sure that the metadata for the files is correct.

### 7.4 Anti virus/malware

As there are multiple manufacturers of anti-virus software it is impossible for SOCopy to inform all such software developers of the application. Therefore it is imperative, that the local implementation of SOCopy is accepted by the anti-virus software. Please refer to the anti-virus software in order to ensure this.

### 7.5 .NET version

SOCopy is an application that historically has grown in functionality, and will continue to do so. This causes the need for using some of the more modern .NET functionality. As this need progresses the version of .NET used increases. SOCopy started out using .NET 3.5, but version 1.1.0.0 uses version 4.5 of the framework. The current version of SOCopy (2.X) uses .NET

version 4.7.1. This has the consequence that Windows XP is no longer supported for SOCopy (from version 1.1 and on). Microsoft has officially ended Windows XP support on April 8<sup>th</sup>, 2014.

## 7.6 Filenames

SOCopy supports long filenames with all the complicated combinations that are allowed by the OS. Please remember to use quotation marks to enclose filenames that make use of spaces and other characters. Please take care when working with file names, that make use of quotation marks, single or double. These characters need to be escaped. Please refer to the OS manual for help with this.

## 8 Abbreviations and word explanations

| Word/abbreviation | Meaning                                  |
|-------------------|--|
| DS                | Design Specification                     |
| FS                | Functional specification (this document) |
| QA                | Quality Assurance                        |
| SOC               | Stage One Computing                      |
| URS               | User Requirement Specification           |

## 9 Change log

*Document change log.*

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