pdfaPilot

callas pdfaPilot

callas

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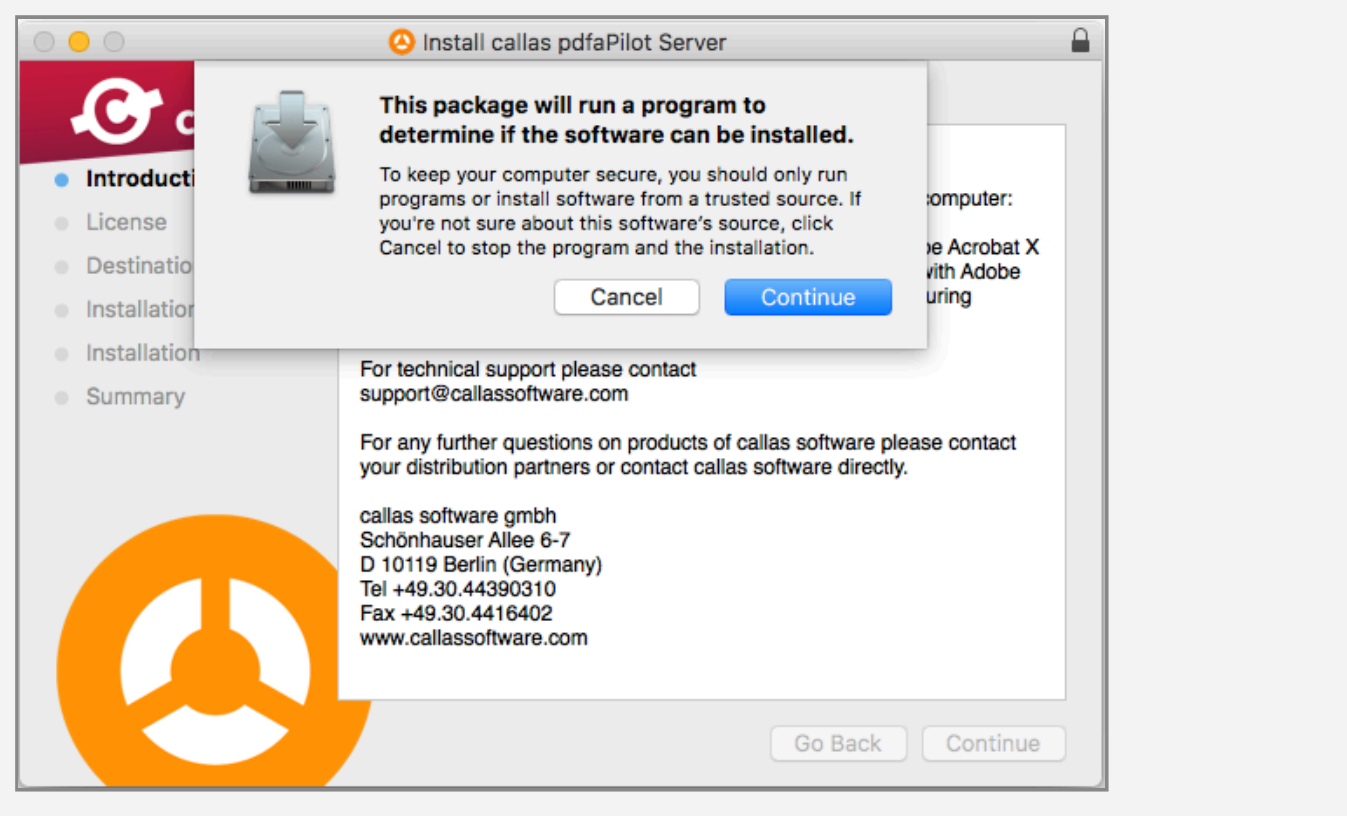
1.1 Installation of pdfaPilot Desktop or Server on Mac

Installation on Mac

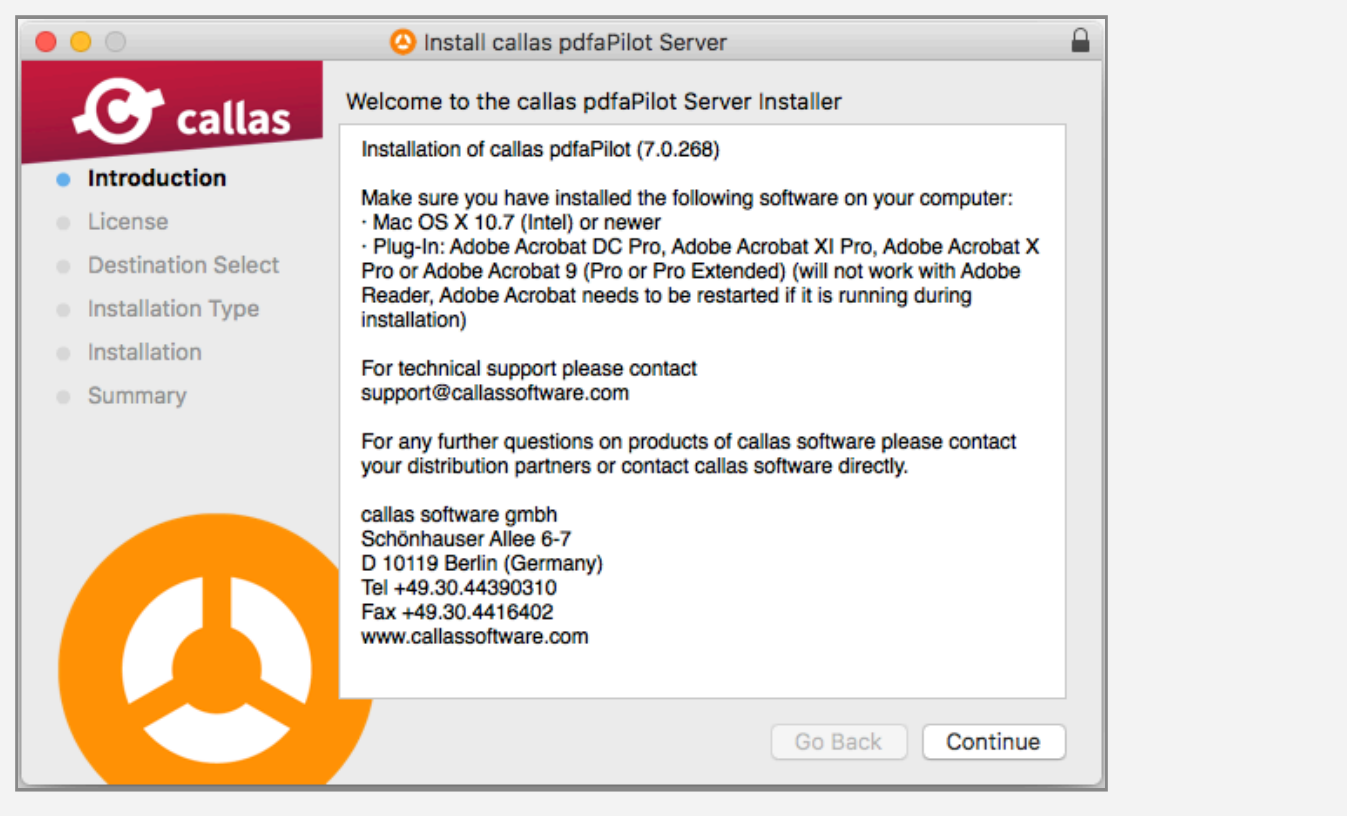
To install the application, double click the pdfaPilot icon.

System Check



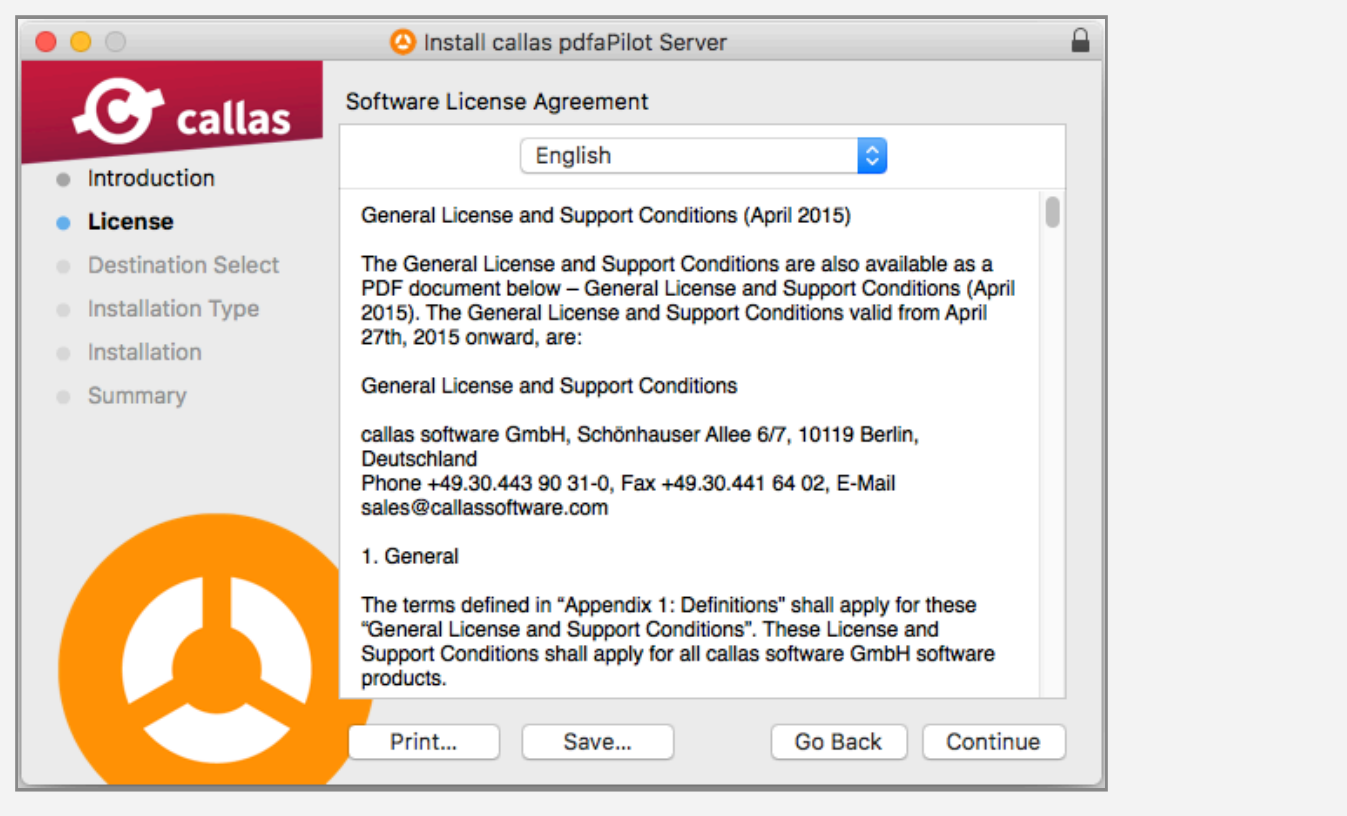
The package will then check the integrity of the installer.

Introduction Screen



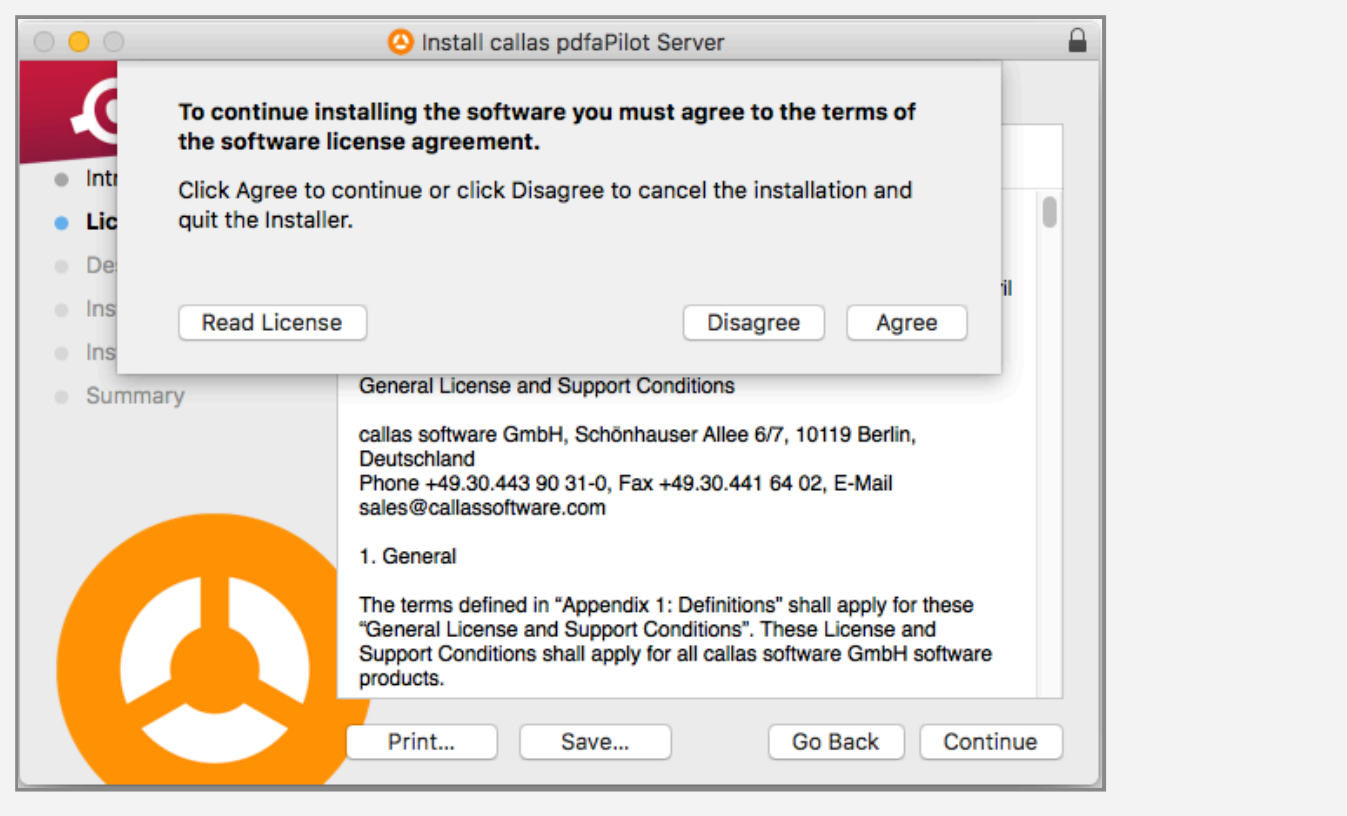
Please check that your system supports the requirements

License Dialog



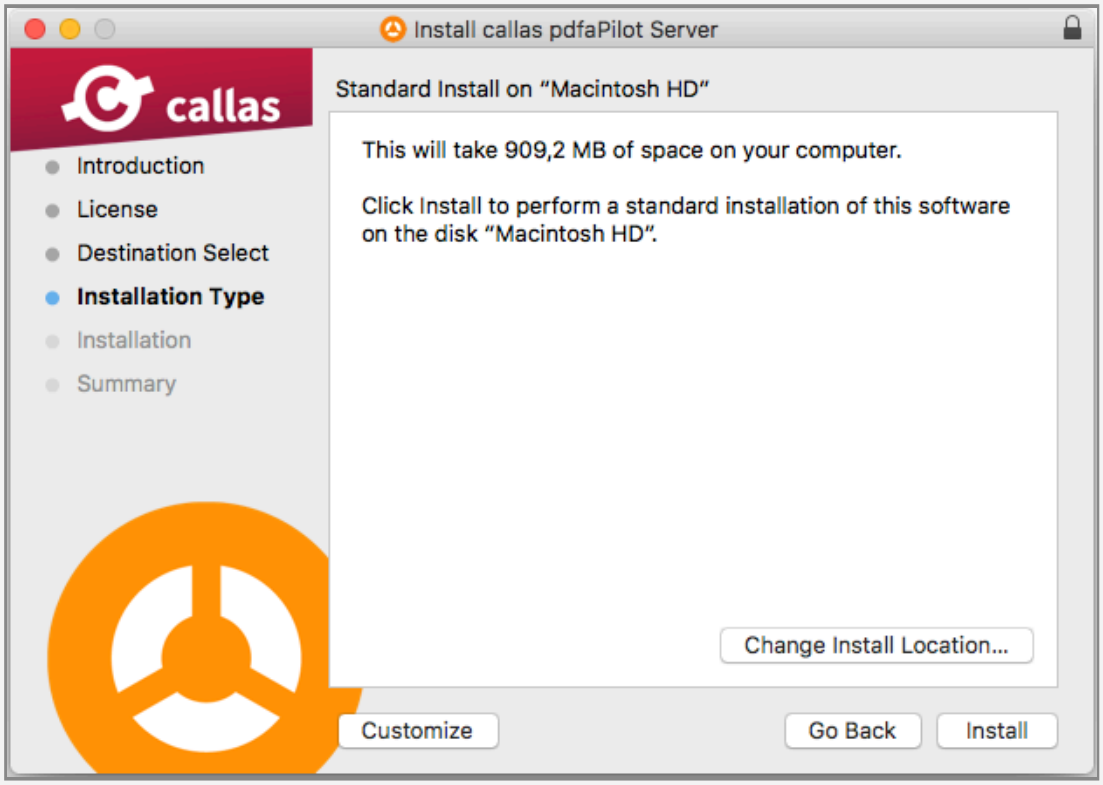
Please read the License agreement

Agree to the terms of agreement

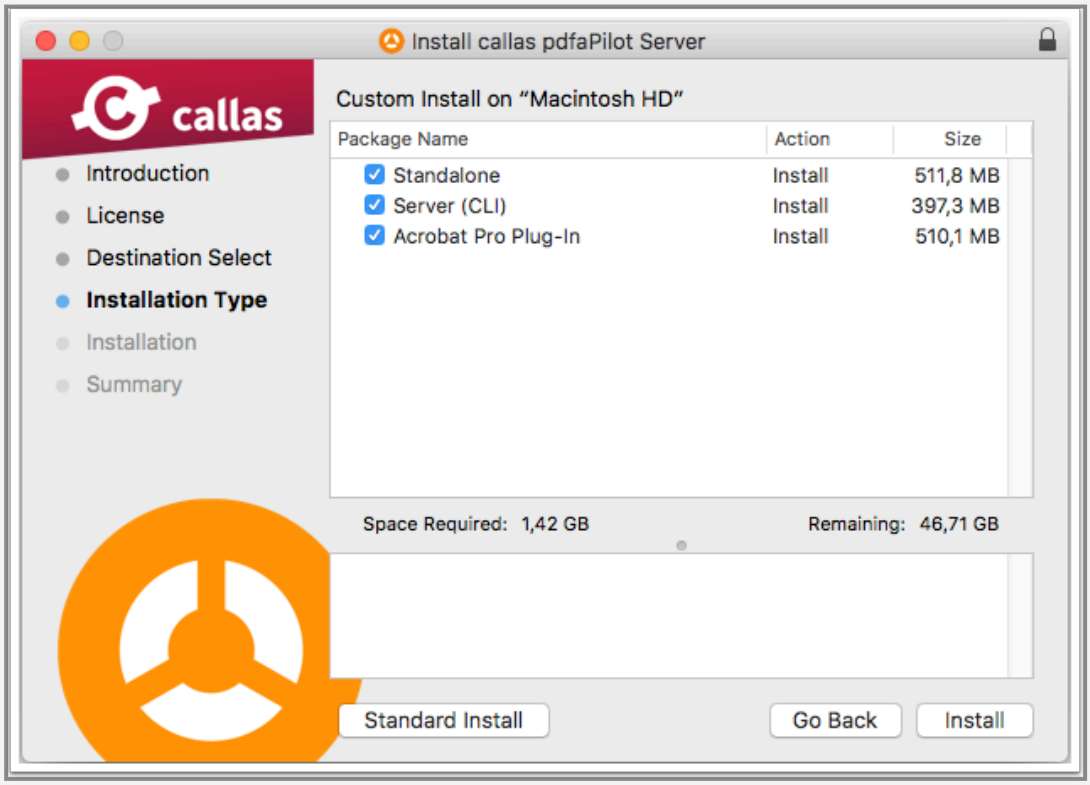


Click on "Continue" if you wish to accept the terms and and install the software.

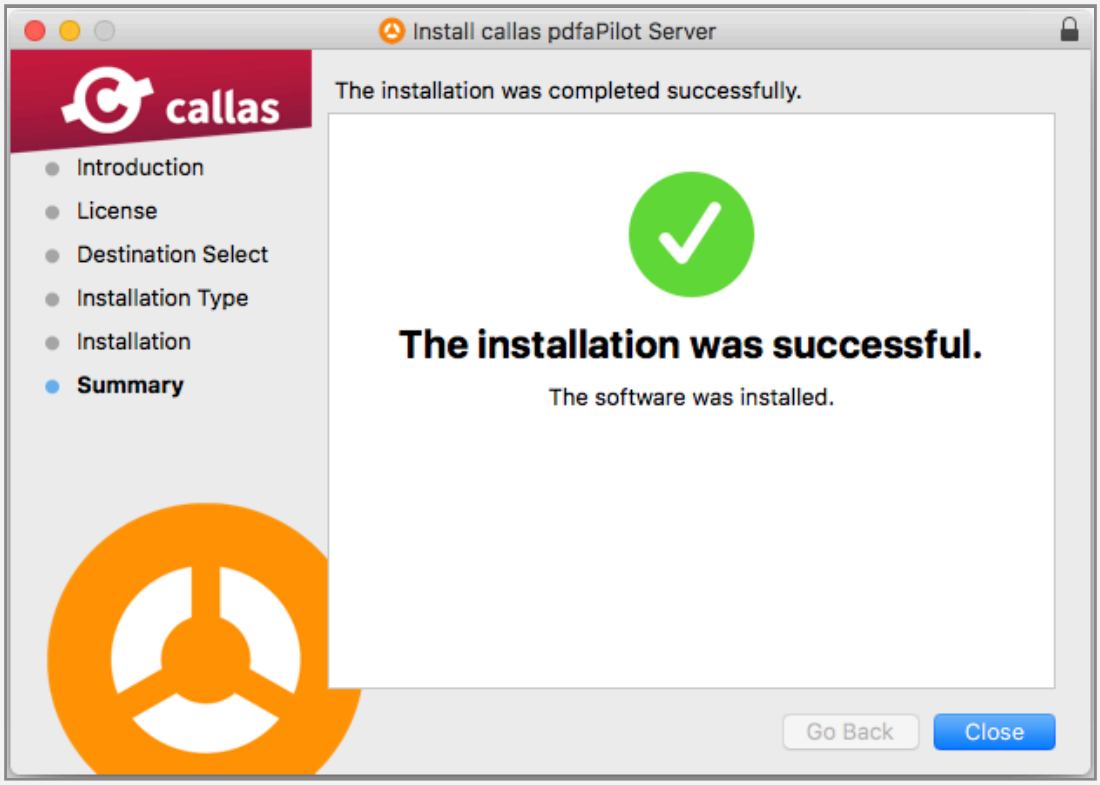
Installation type



It is possible to Install the Desktop version and the Plugin version together or only the Standalone version. If you do not wish to install the Plugin, click on "Customize" and uncheck the "Plugin" installation.



Installation was successful



1.2 Installation of pdfaPilot Desktop or Server on Windows

Unattended installation

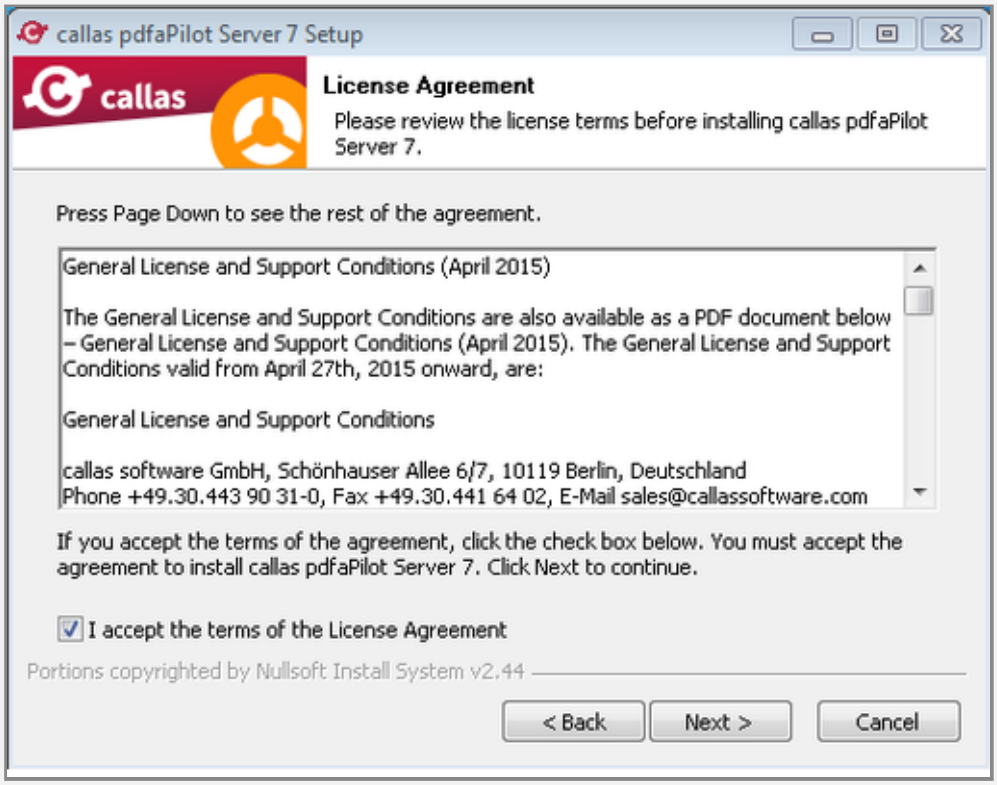
It is also possible to run the installtion without any user interaction.

With the additional parameter /S the application will be installed at the default location on Program Files.

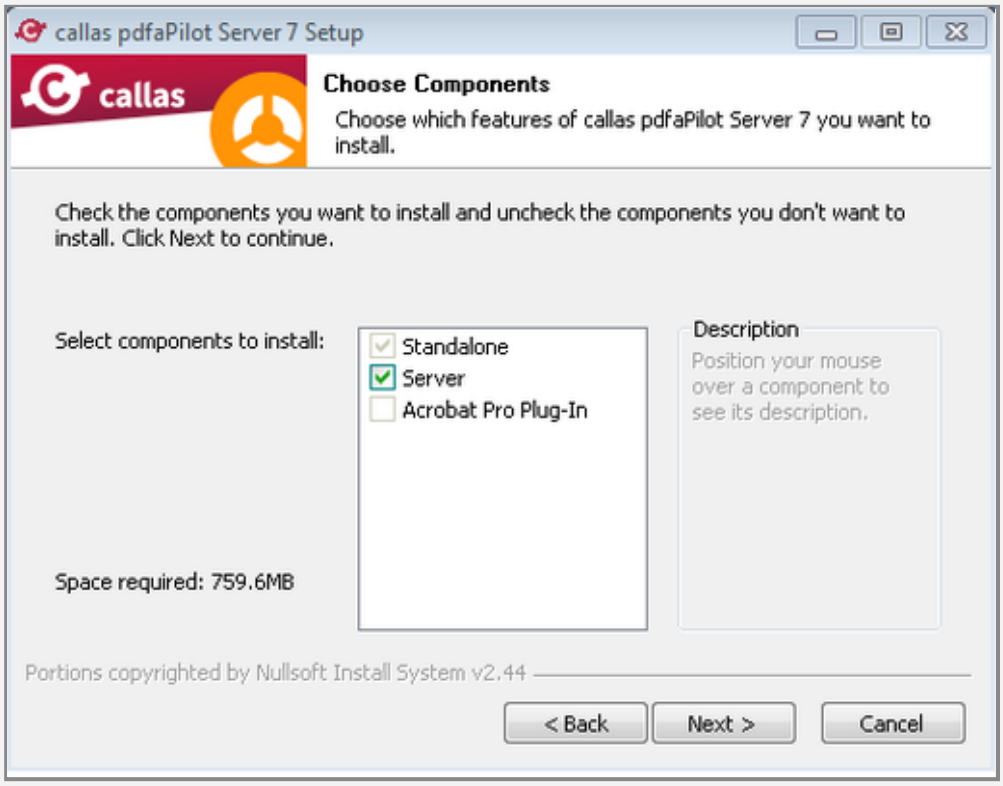
```
C:\>"C:\Users\Administrator\Desktop\callas pdfaPilot 7.exe" /S
```

Installation with user interaction

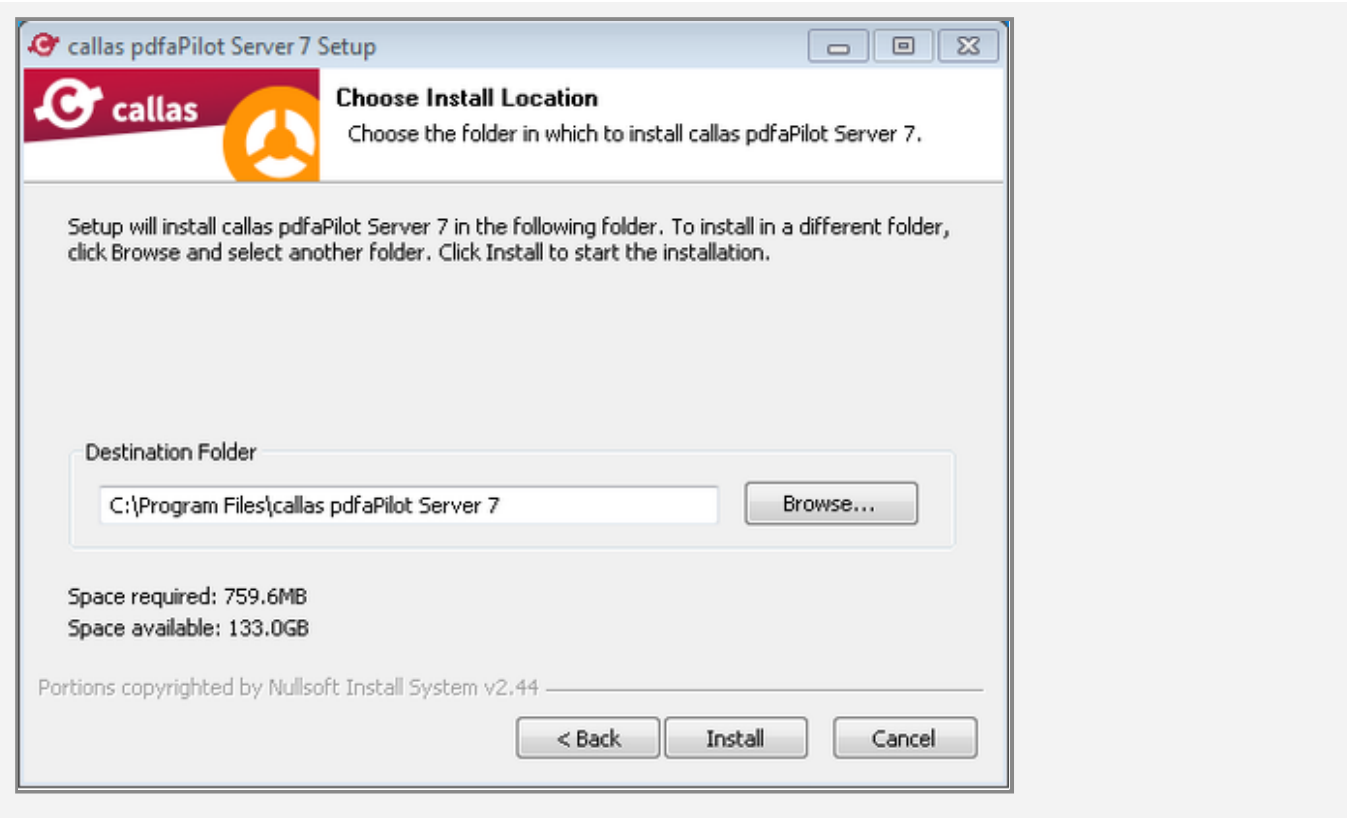
Short Introduction, continue with "Next".



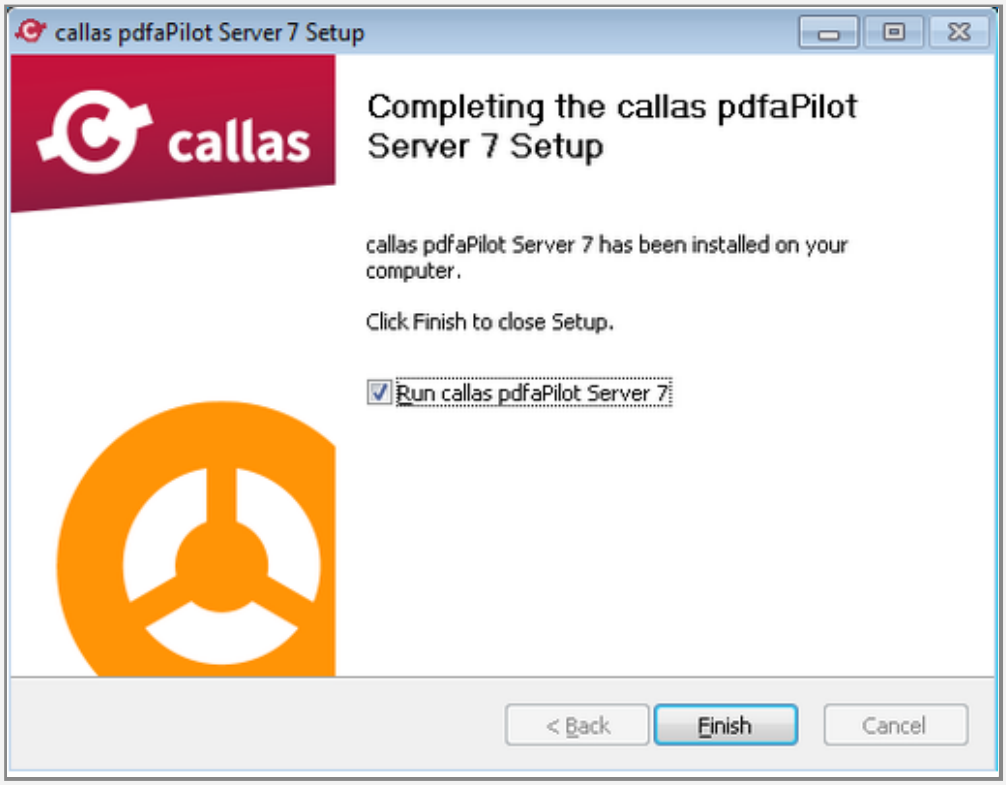
Please read the License and Support Conditions carefully and click on "Next" if you agree.



Now select the components you want to install.



You can install the application on the default location in program files, else this can be changed by clicking on "Browse..." and setting path to the custom location.



Installation of pdfaPilot is now finished. Clicking on "Finish" will run pdfaPilot Desktop Standalone.

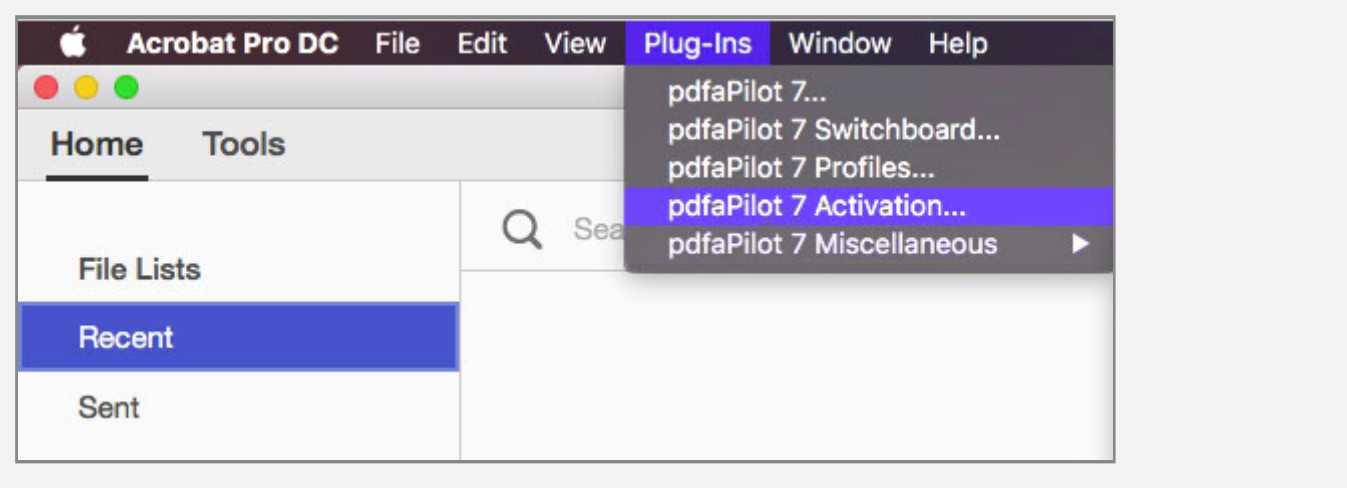
1.3 Activation and Deactivation of pdfaPilot

Main application window

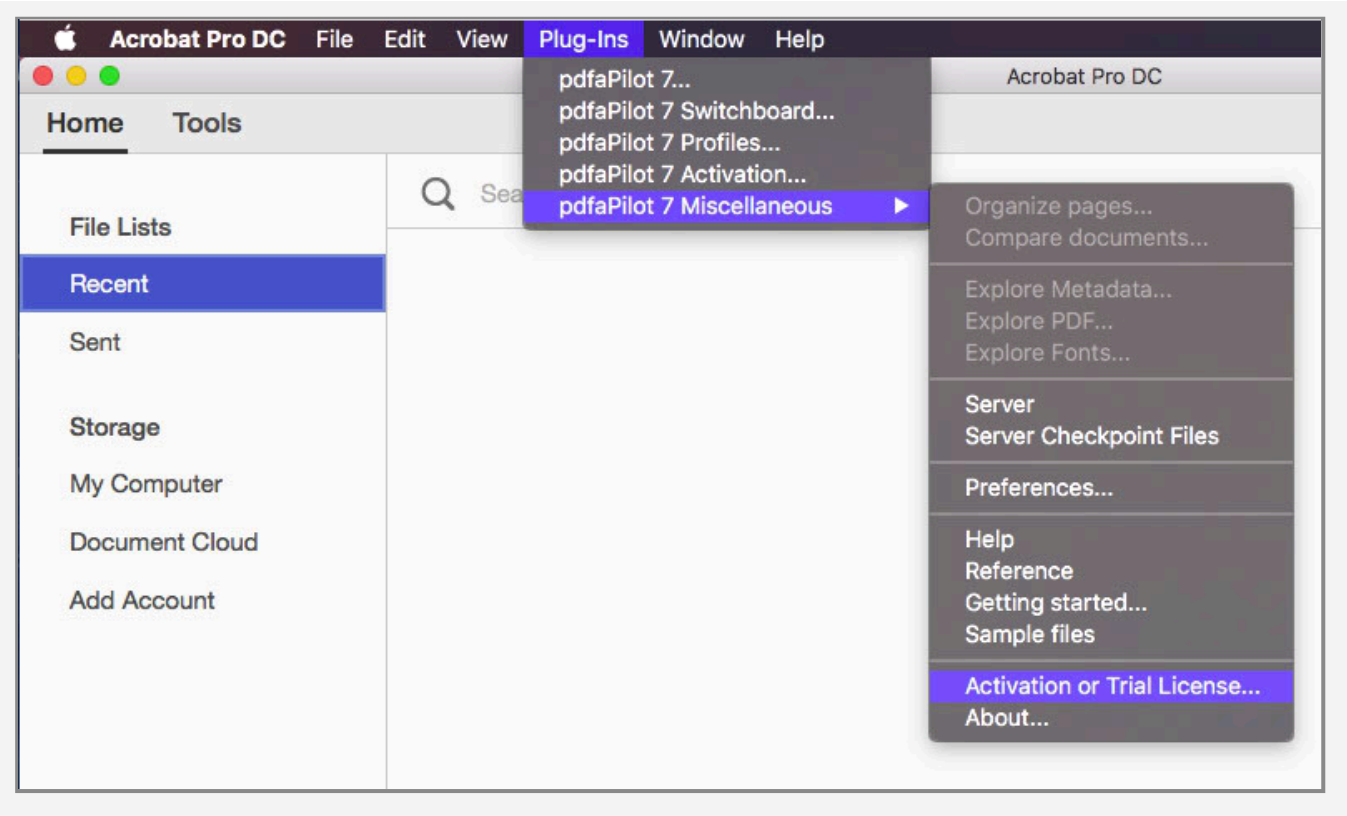
To use any callas product on a computer, you need to activate it first. This is true if you have bought a license key but also if you want to run the trial software. This article explains how the normal activation procedure for pdfaPilot Desktop and DeviceLink Add-on Desktop works and which steps you have to go through.

Launch the application. You will see the main window with a blue bar at the top.

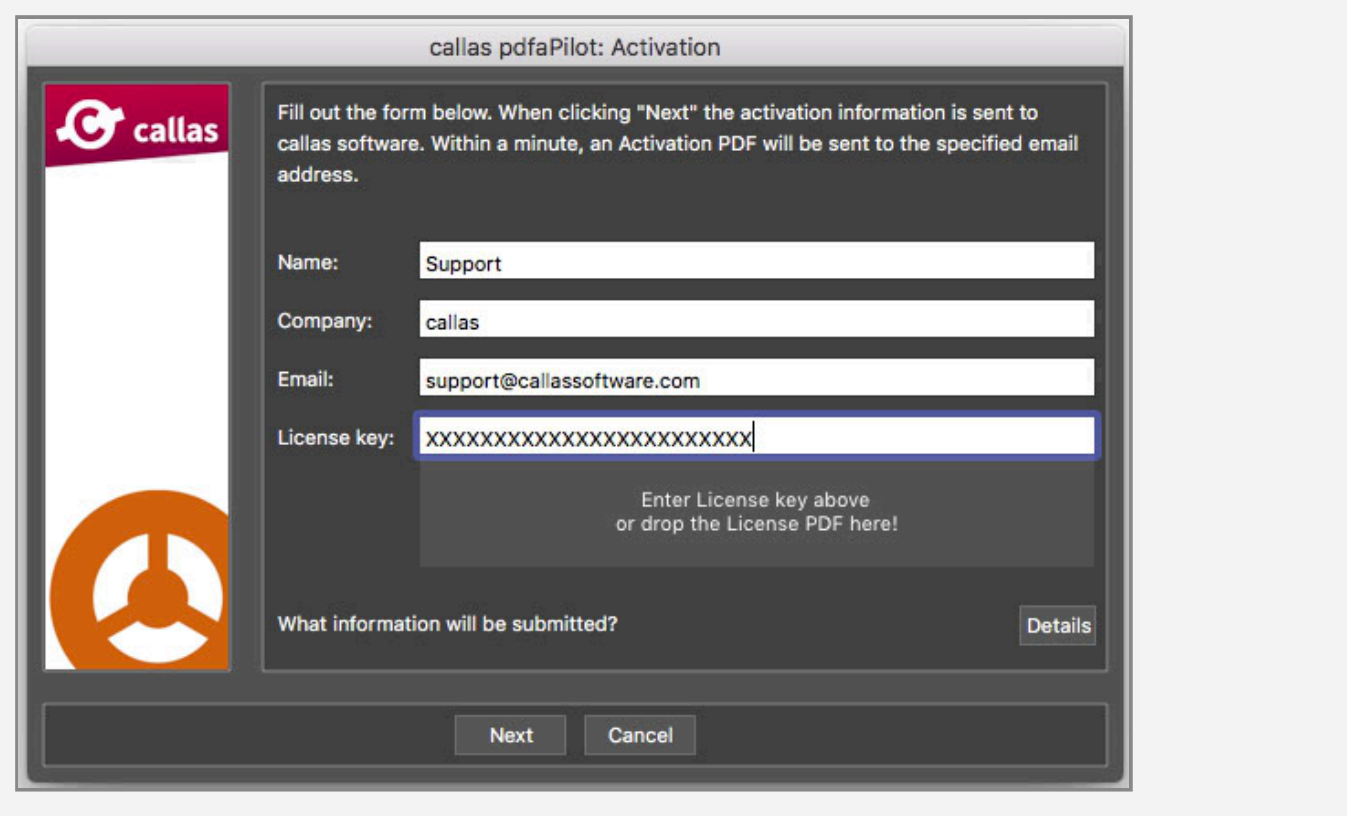
Activation with the Acrobat Plugin



Alternatively go to this sub menu



1. Activate the full version



If you have bought a license for callas pdfaPilot Desktop, click on the "Activate full version" button; you will need a valid license key. You'll need to fill out the window in step 2. If you simply want to try the product, click on "Activate trial version". You'll need to fill out the window in step 3.

The activation window appears. Here you have to fill out your name, company, email address and a valid license key. The email address is important because it will allow you to receive the activation file.

When you have filled out your details, click the "Next" button. You then see the following dialog window.

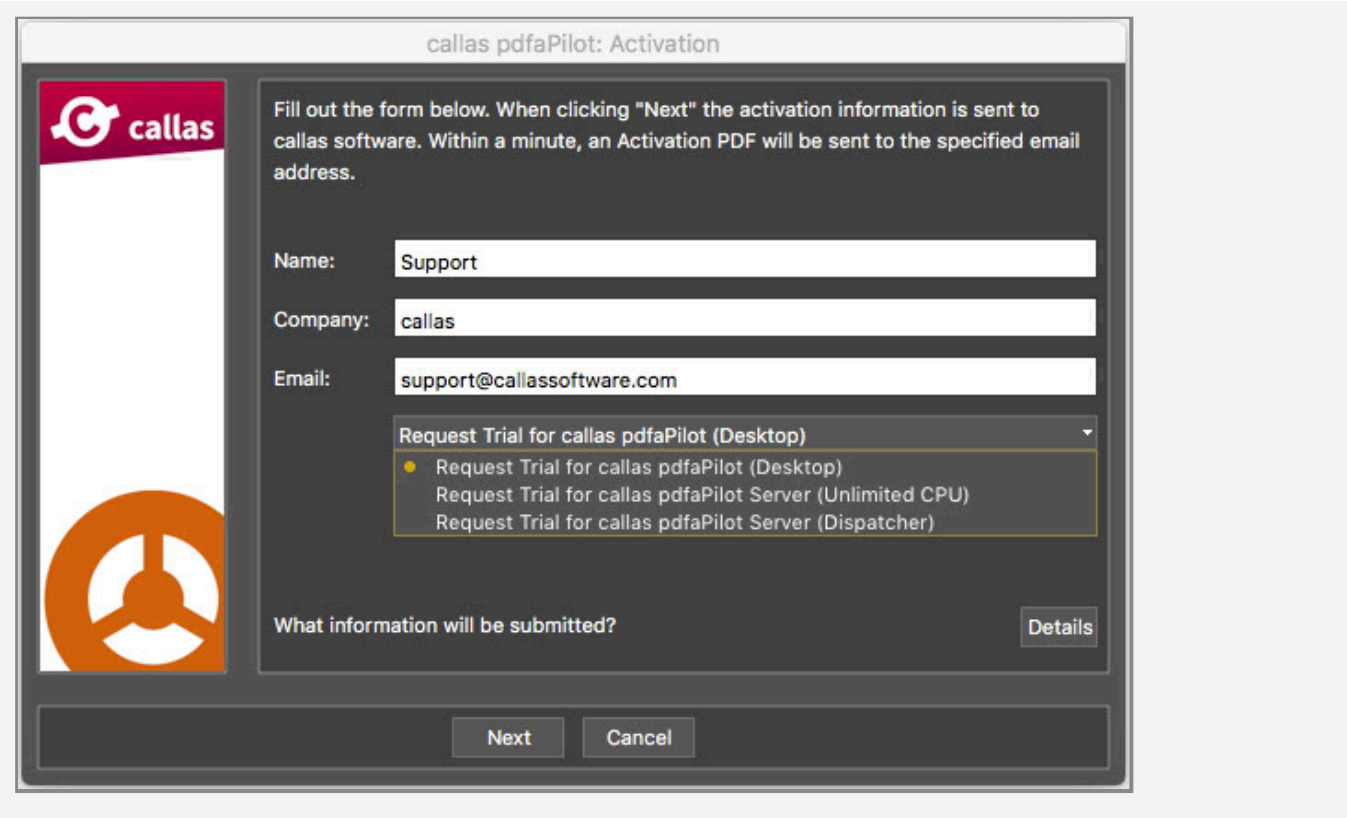
No internet available

You can check what information is sent to callas by clicking the “Details” button. You can also use the “Details” button to get the activation information and manually send it to the

callas activation server. The information displayed contains instructions on what you need to do in that case.

Only the complete text block with beginning "@@" is needed but its also possible to send the full text from the dialog.

2. Request a trial version



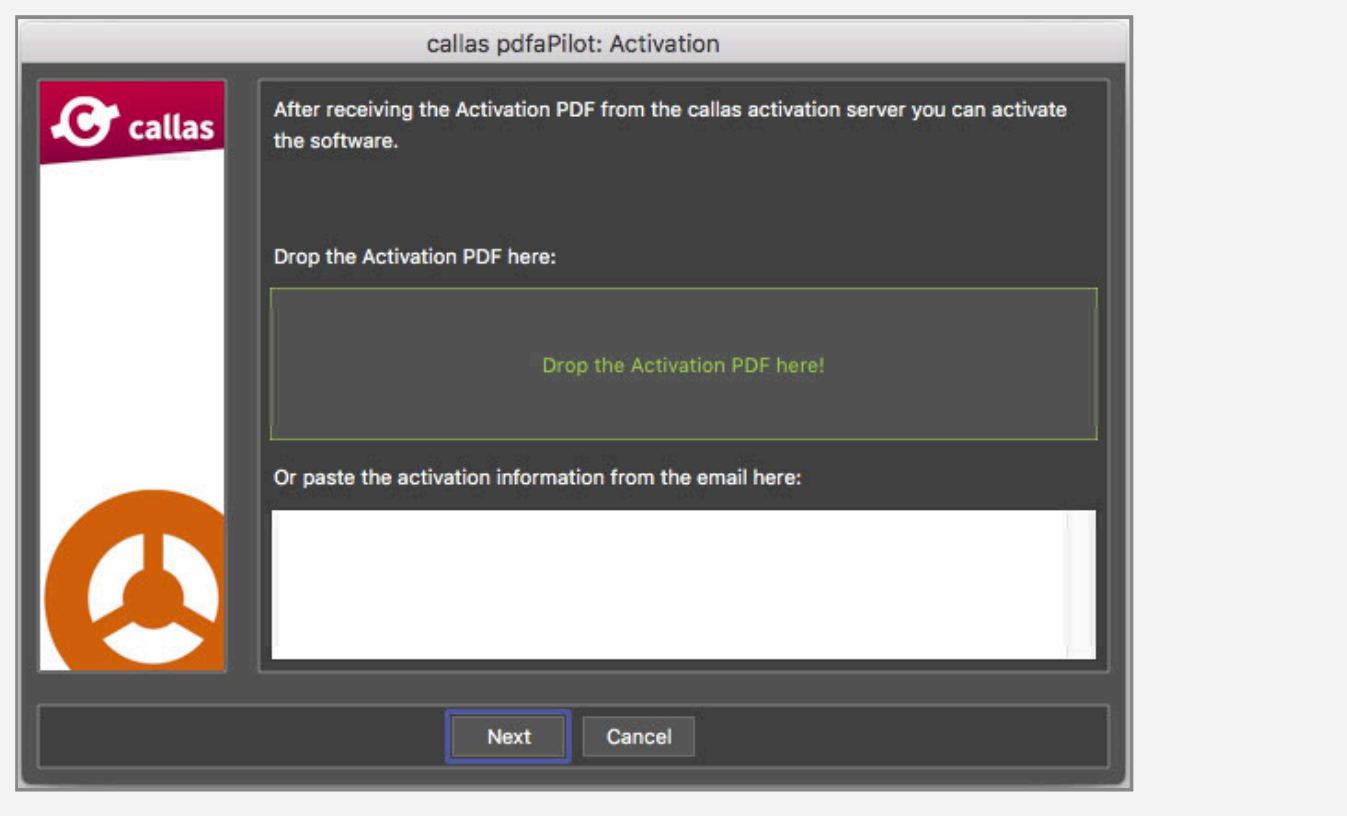
The activation server will send you a reply to your e-mail address

After submitting your details, it will typically take only a few minutes to receive an email from callas software.

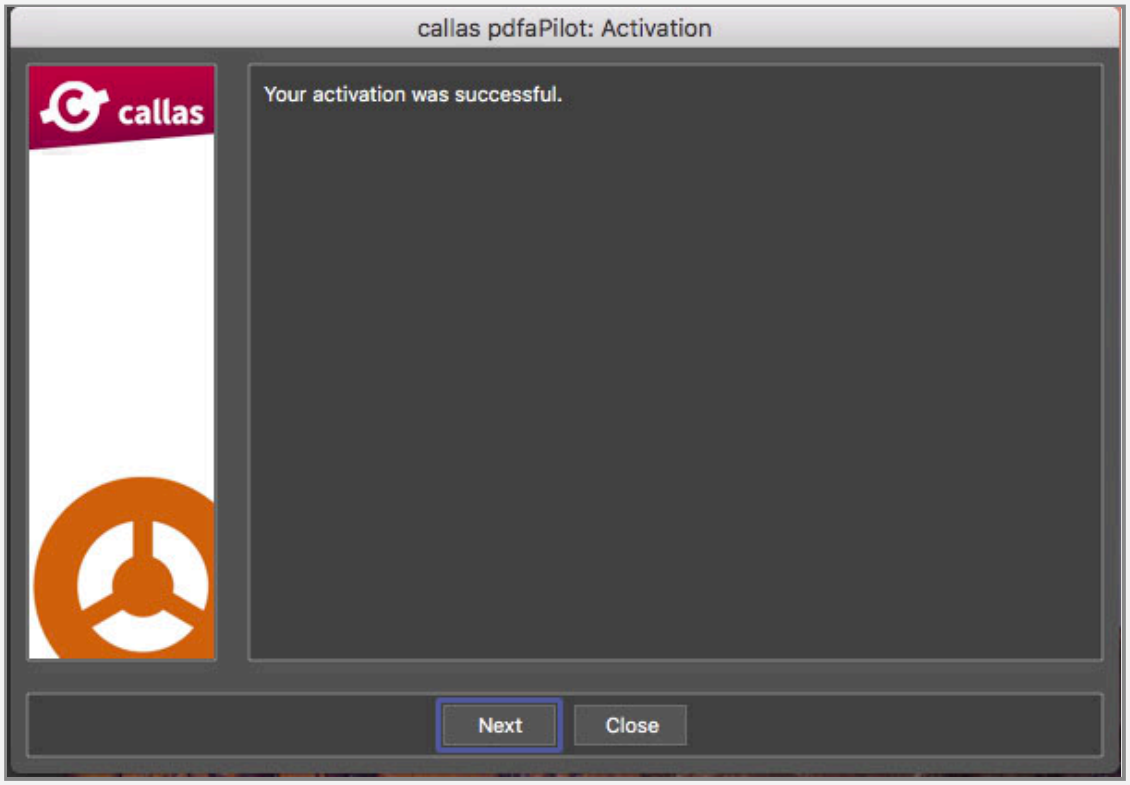
If no response is received or in the event of an error, please contact support@callassoftware.com to determine the exact cause.

Please note:
The Activation.pdf (or the content of the e-mail) can only be used for activation for 48 hours.
After this timeframe, a new Activation.pdf has to be requested from the activation server.

3. Insert activation PDF



The email will have an Activation.pdf attached. Simply drag-and-drop this attachment on top of the activation window and you'll be all set (dragging-and-dropping is usually safer than trying to copy and paste).



After this procedure, your callas pdfaPilot Desktop license will be activated.

Deactivation

Deactivation

As the activation (and the resulting license file) is bound to the hardware, it is necessary to deactivate a license on one machine before an activation takes place on a new machine.

1. Launch the application.
2. Go to "Help > About callas pdfaPilot".
3. Click "Deactivate".
4. Choose the product "callas pdfaPilot (Desktop)".
5. Fill out your email address.
6. Click "Next".
7. Click "Yes".

After the procedure, your callas pdfaPilot Desktop license will be deactivated.

NOTE: The deactivation procedure is the same for DeviceLink Add-on Desktop (in step 3 you have to select the product "callas DeviceLink Add-on (Desktop)").

Problem with product activation on Windows?

- Open Windows Explorer and type "%appdata%" in the navigation area.

- Copy the "License.txt" file you received from callas into the folder for pdfaPilot.

- Restart pdfaPilot

1.4 Multi-user system (Activating additional users on the same system)

pdfaPilot *can be operated by multiple users on the same computer.*

We'll show you where to copy the license file to in order to allow multiple users to access pdfaPilot.

Copying the license file

pdfaPilot licenses are only bound to a given system, not to specific users.

The license file can be copied under **Activate** in the User Preferences for the currently active user.

To allow other users to work with this license, you must manually copy the **License.txt** file into the User Preferences for the other user.

The folder path from which the **License.txt** file can be retrieved and to which it should be copied is as follows:

MacOS:
/Users/<USERNAME>/Library/Preferences/callas software/callas pdfaPilot <VERSION>

Windows:
C:\Users\<USERNAME>\AppData\Roaming\callas software\callas pdfaPilot <VERSION>

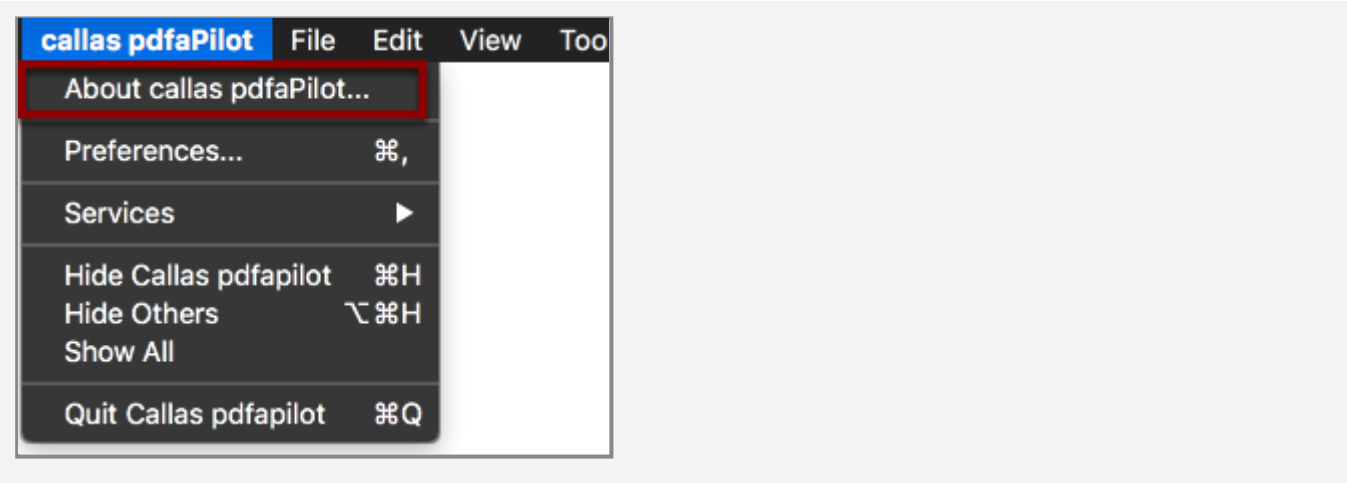
CLI/Server activation for all users on one system

If the pdfaPilot CLI/Server version shall be activated for all users on a system, there are various possibilities. Details can be found in the CLI manual under "Activating pdfaPilot CLI".

1.5 Migrating the pdfaPilot to another computer (Deactivation)

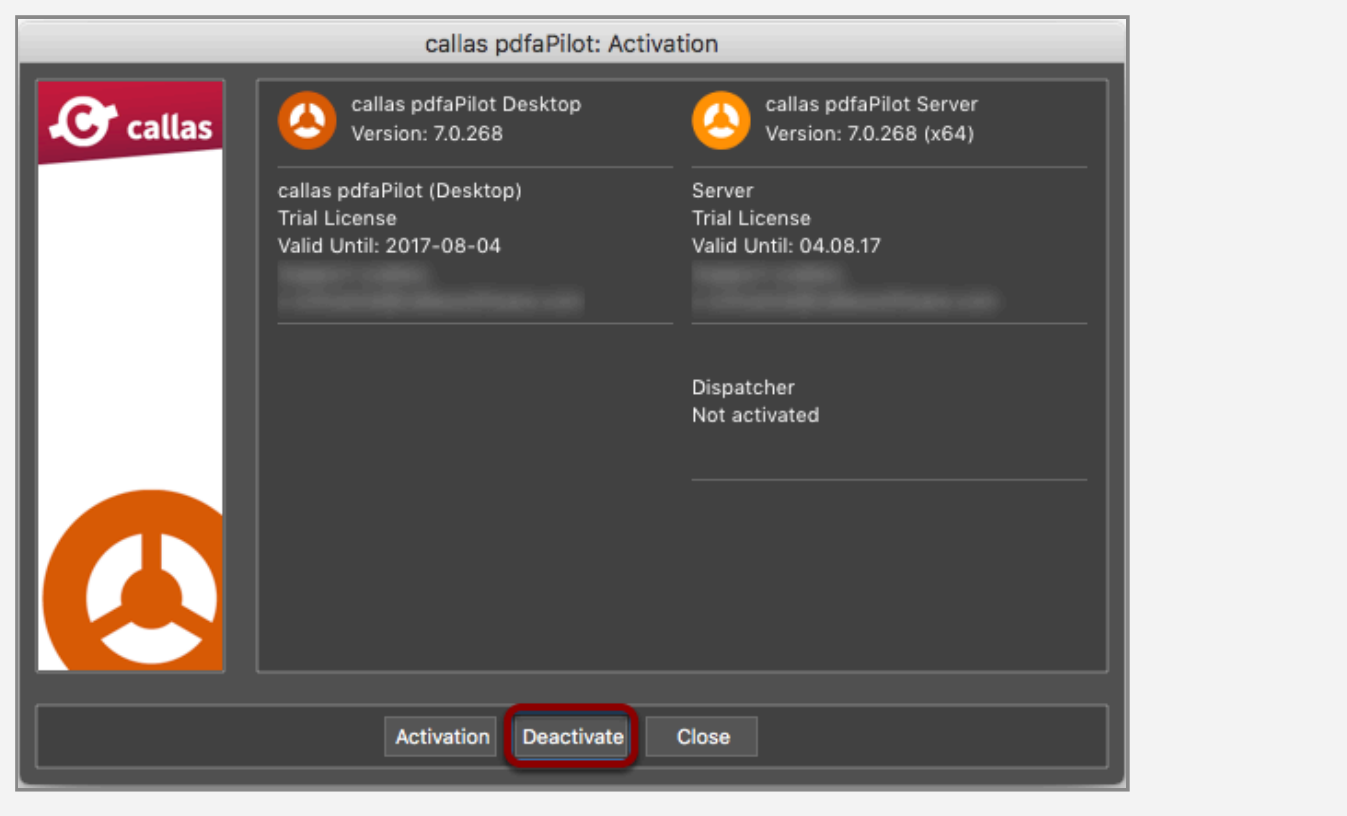
If you wish to use pdfaPilot on another computer - for example, because you have acquired a new device - you must first deactivate the application on the last computer used.

Open the “About pdfaPilot” menu item



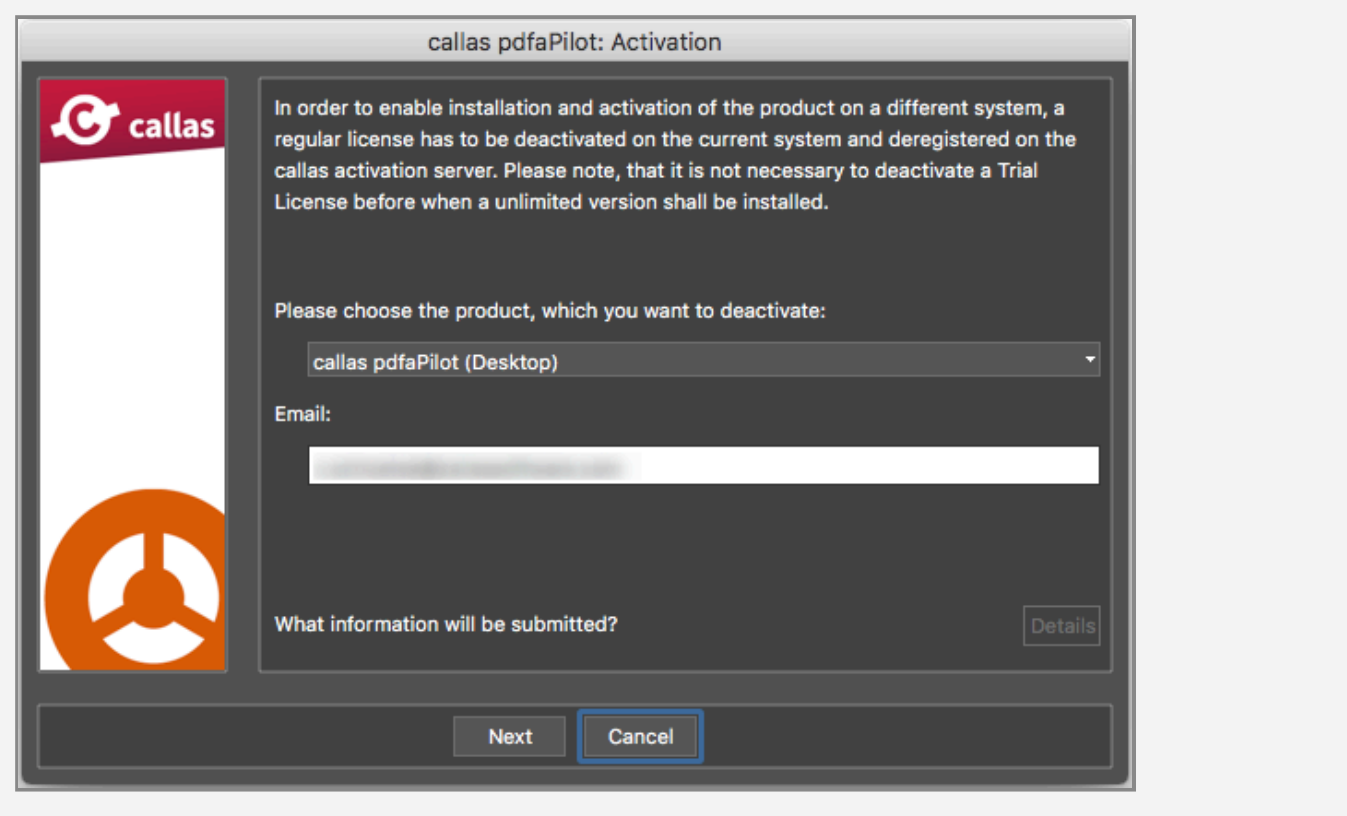
Options to **Activate** and **Deactivate** pdfaPilot can be found under the following menu item: **About callas pdfaPilot...**

The “Activate” window



In the Activate window, you can deactivate the pdfaPilot by clicking **Deactivate**.

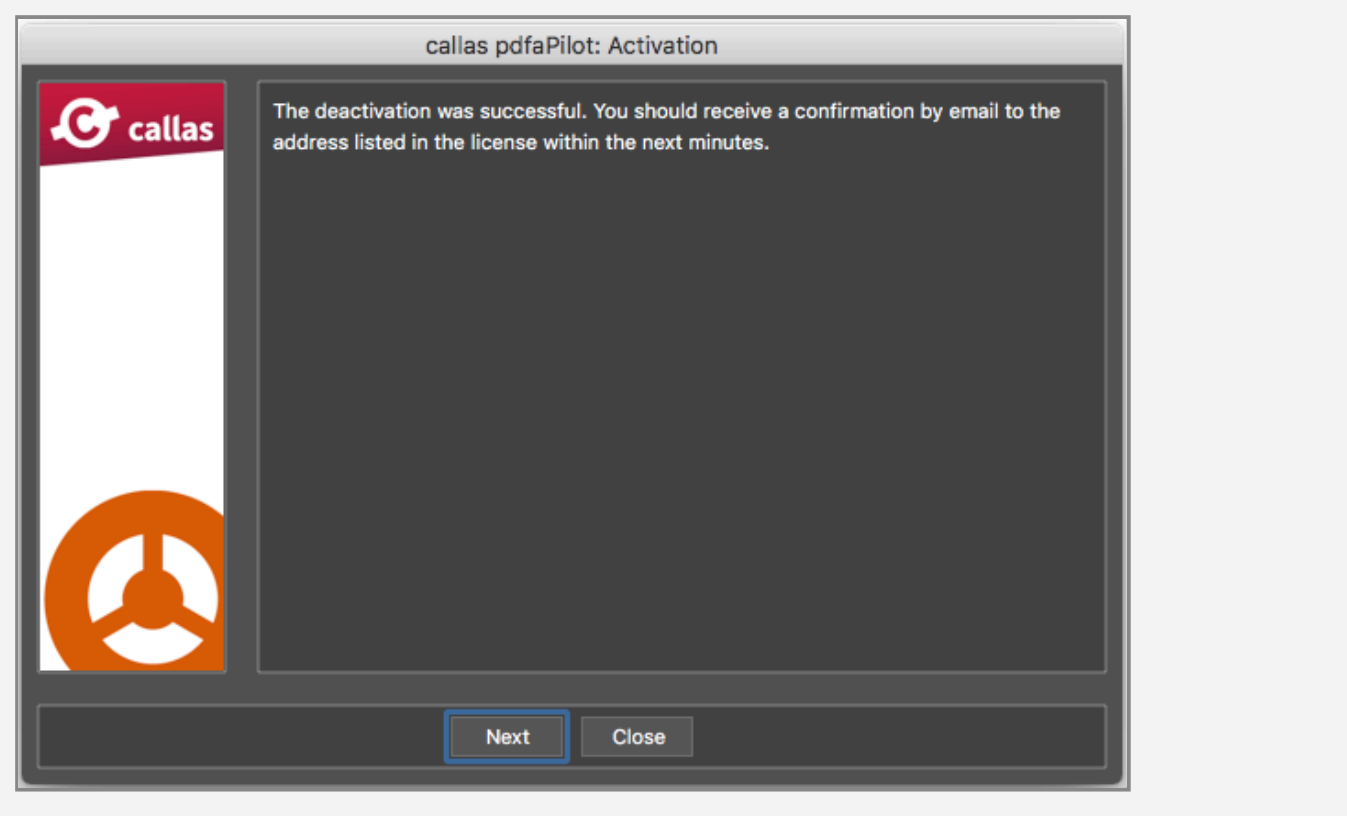
Deactivating license: Product and email



In the dialog which opens, you can select the **software to deactivate** (if you use multiple callas software products) and, if necessary, change the **email address** to which the confirmation message will be sent.

Click **Continue** to start the process.

Notification and deactivation email



pdfaPilot will report **Successful Deactivation** and inform you that an **email confirmation** has been sent.

This **email** will also contain a new **key code** which you can use to activate pdfaPilot on another computer.

To learn how to activate pdfaPilot, visit the support article [Activation procedure: callas pdfaPilot Desktop](#).

Move your pdfaPilot settings to another machine

- Your pdfaPilot settings are stored in the following location:

Windows XP and Windows Vista:
C:\Documents and settings\USERNAME\Application data\callas software\callas pdfaPilot 9

Windows 7:
C:\Users\USERNAME\AppData\Roaming\callas software\
callas pdfaPilot 9

Mac OS X:
/Users/USERNAME/Library/Preferences/callas software/
callaspdfaPilot 9

- Replace "USERNAME" in the path above with your username, and copy the contents of this folder to the same location on other computer.

1.6 Uninstalling the pdfaPilot Acrobat plugin

The pdfaPilot plugin can be easily deleted in just a few steps. We'll show you where the relevant packages can be found depending on the operating system and Acrobat version.

Removing the pdfaPilot Plugin on MacOS

The pdaPilot plugin for Acrobat can be easily removed by deleting the **pdfaPilot7.acroplugin** package in the callas software subfolder in the Plugins directory for Acrobat, under Mac.

Acrobat DC

Please note that as of Acrobat DC, Adobe has changed the folder in which it stores third-party plugins:
/Library/Application Support/Adobe/Acrobat/DC/Plug-ins/callas software

Acrobat XI and older

For Acrobat XI and older, meanwhile, the plugin can be found in the following folder:
/Applications/Adobe Acrobat XI Pro/Adobe Acrobat Pro.app/Contents/Plug-ins/callas software

Removing the pdfaPilot Plugin on Windows

On **Windows**, the plugin can be found in the subfolder of the plugin directory for the current **Acrobat** version:
Acrobat\plug_ins\callas software

The folders and files contained within can be identified by their name, e.g. *"pdfaPilot 8", "pdfaPilot 9".*

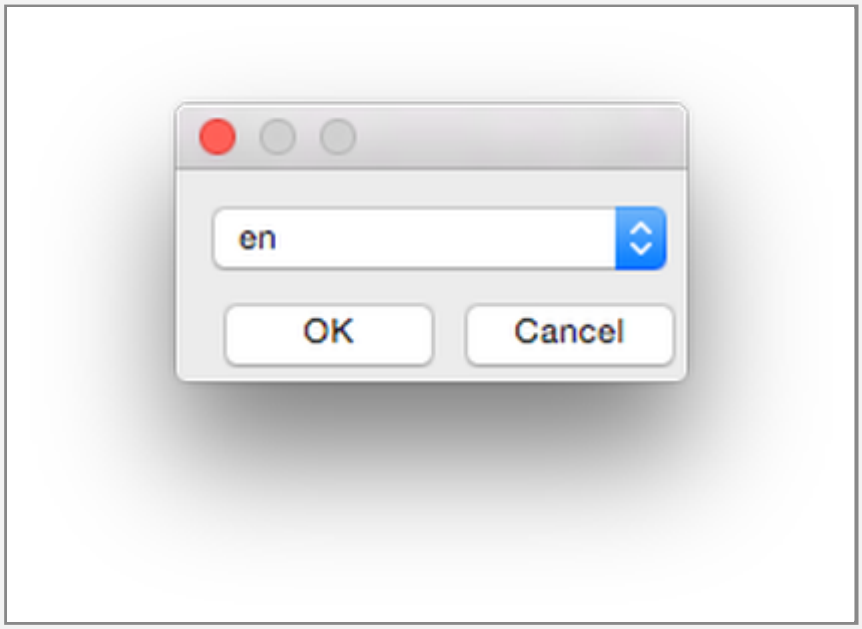
Delete them to remove the plugin.

1.7 Change language of user interface (desktop only)

Normally, pdfaPilot Desktop will launch in the same language in which the the operating system is running (or English if the language in which the operating system running is not supported by pdfaPilot). It is possible to switch the language of the user interface to any other language supported by pdfaPilot Desktop. In order to do so, **press the Cmd/Ctrl key while launching pdfaPilot**.

A small dialog will appear, with a popup menu indicating the codes of the available languages, for example "de" for German or "fr" for French.

After selecting the desired language, simply click OK, and pdfaPilot Desktop will launch in the selected language.

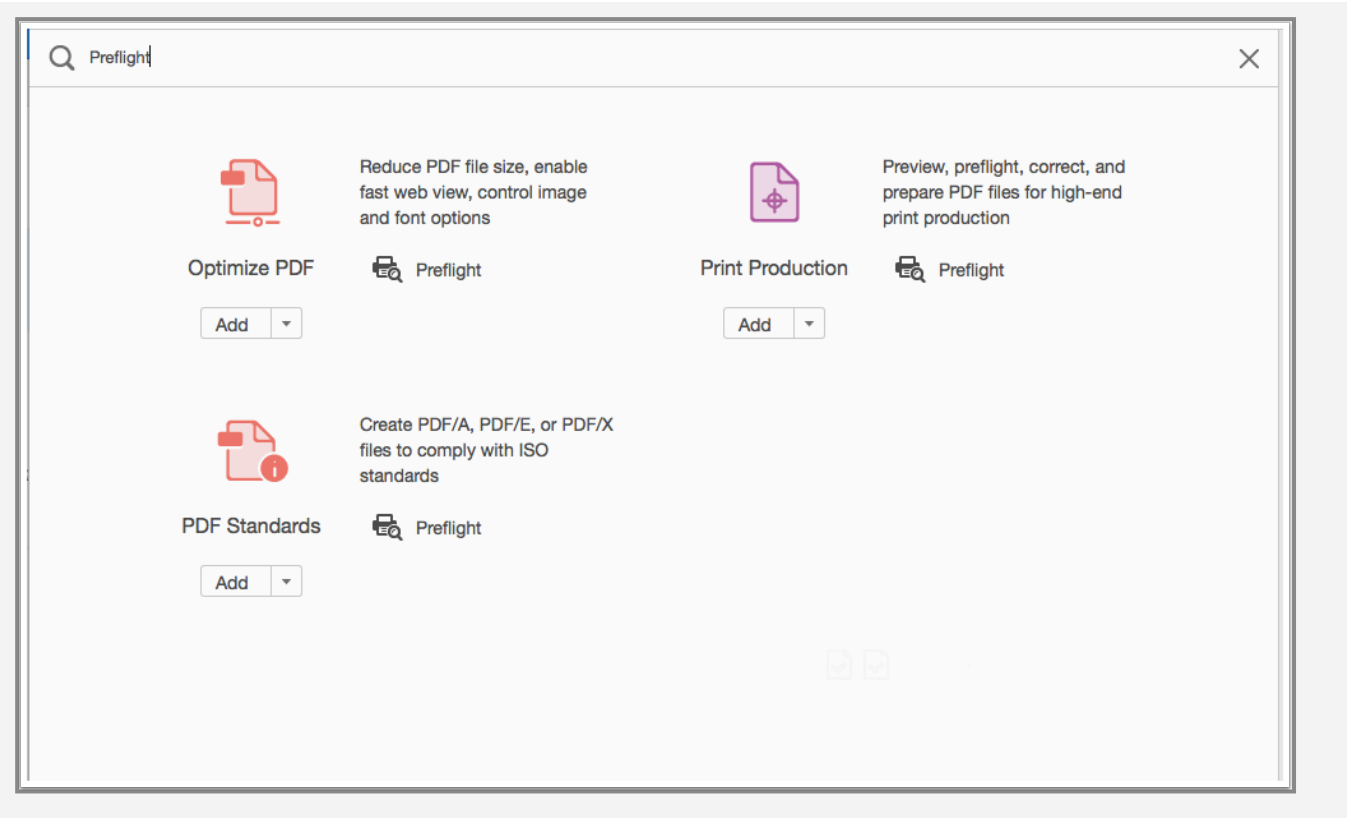

en
OK
Cancel

1.8 Using pdfaPilot and Preflight in Acrobat Pro parallel

A lot of users want to use the Acrobat Preflight functionality as well as the high number of additional tools from pdfaPilot simultaneously.
This tutorial explains, how this parallel usage of Acrobat Preflight (a development of callas software, which has been integrated by Adobe as a part of Adobe Acrobat Pro since 2003) and callas pdfaPilot works.

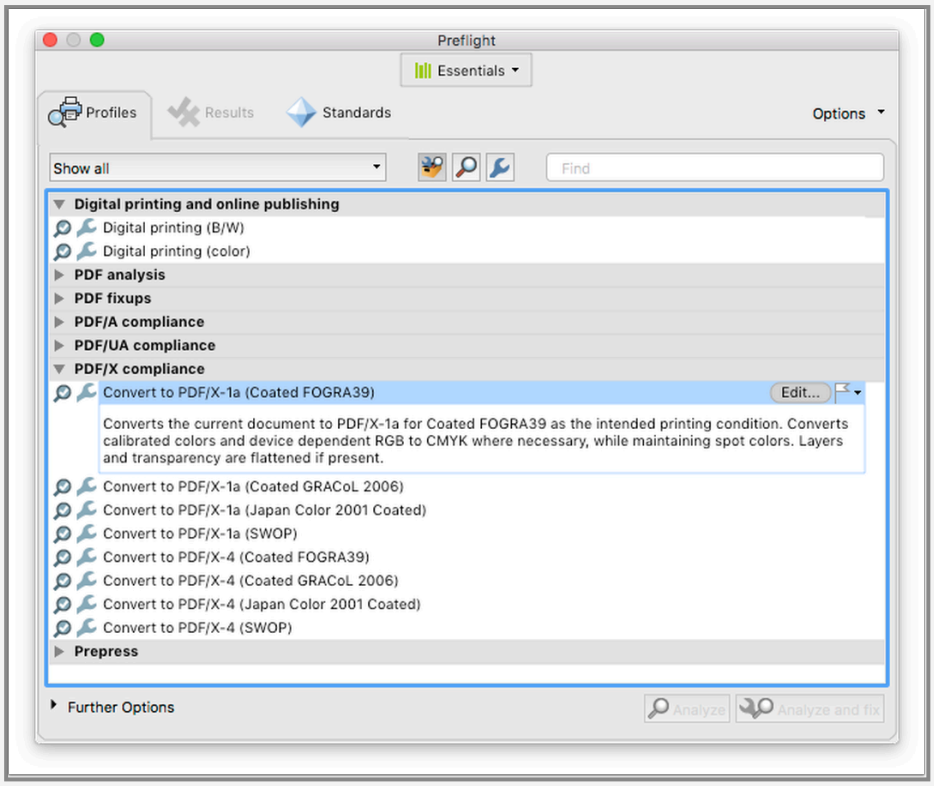
Open Acrobat-build-in Preflight

The Preflight functionality in Acrobat Pro can be found using the "Tools" bar for example or with the shortcut "CMD, Shift + X" (in MacOS) or "CTRL, Shift + X" (using Windows).



The Preflight Profiles window

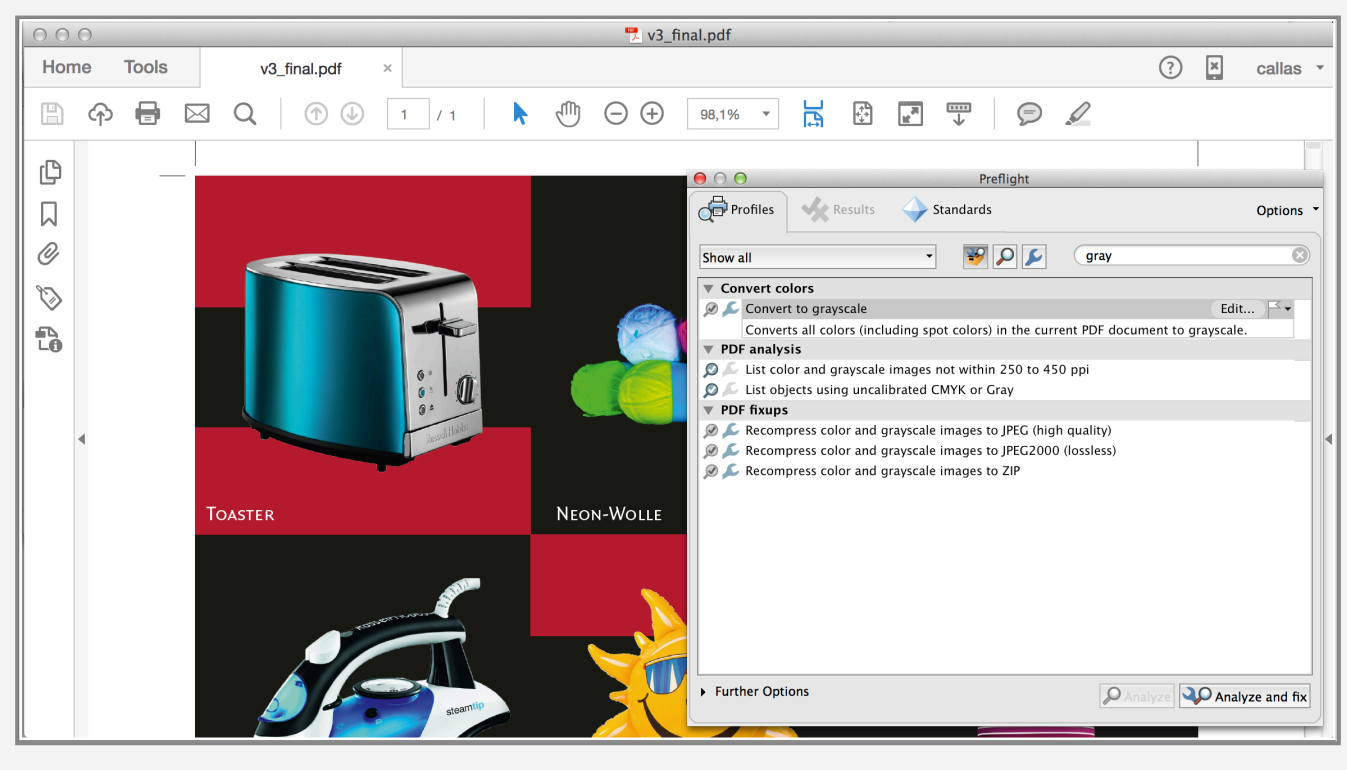
The Profile window lists a number of Profiles, Checks and Fix-ups. Also a separate "Standards" area gives easy access for conversion of PDF files into PDF-based ISO standards.



Process a PDF

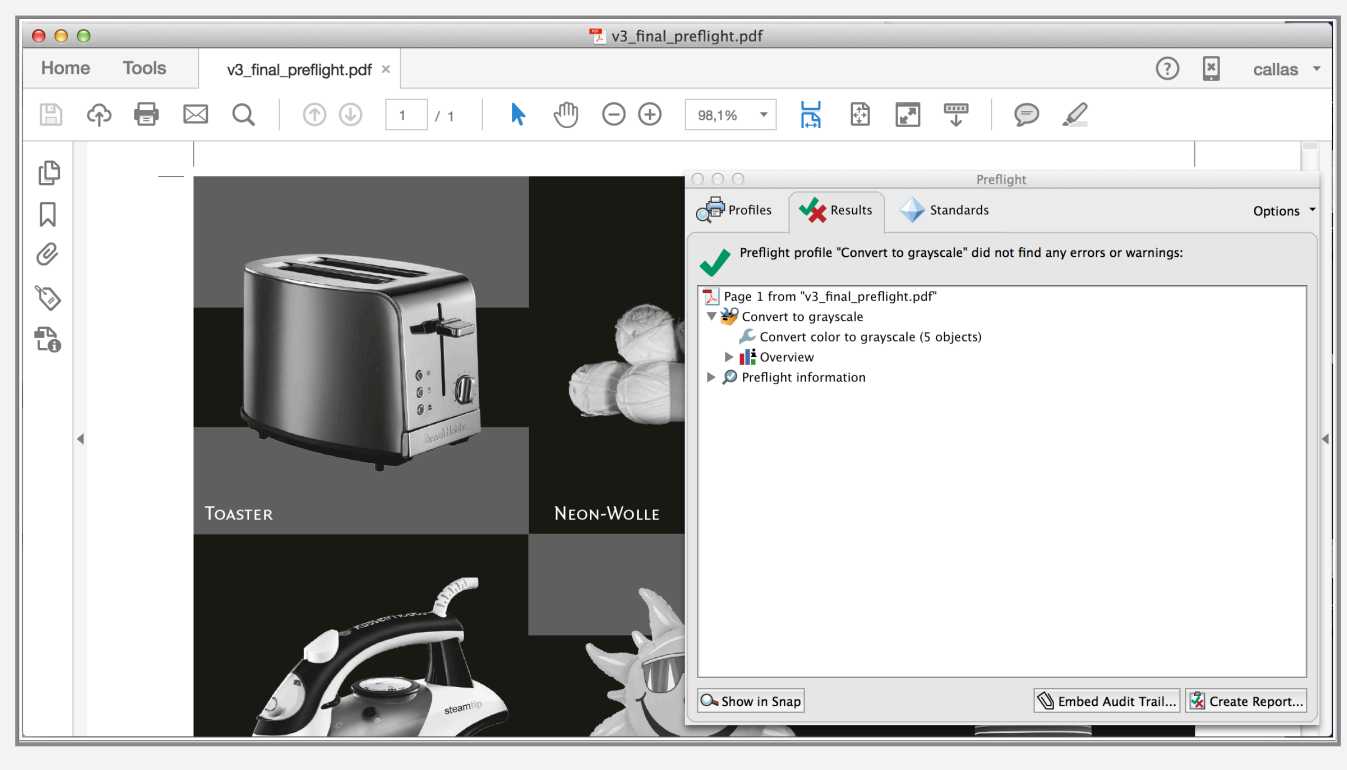
When a PDF is open, a conversion or analysis can be executed on that file.

Using Profiles, which only contain checks and/or validation of standards (and with Checks within the respective group), only the "Analyze" button is active. When a Profile contains Fixups and conversions into a PDF standard (and for single Fixups of course), also kann auch "Analyze and fix" can be used.



Result dialog

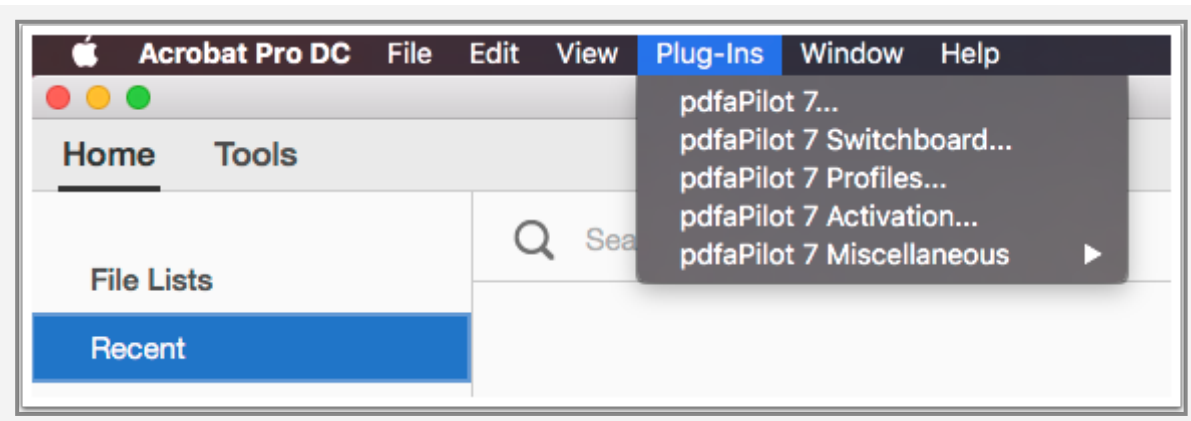
After processing, the result is shown and can be reviewed.
A click on the "Profiles" tab within this window allows further processing or analysis.



pdfaPilot as an Acrobat Pro Plug-In

Using the pdfaPilot installer, a Desktop version and a Plug-In for Acrobat Pro will become installed (the latter of of course only if Acrobat Pro is installed on the respective system).

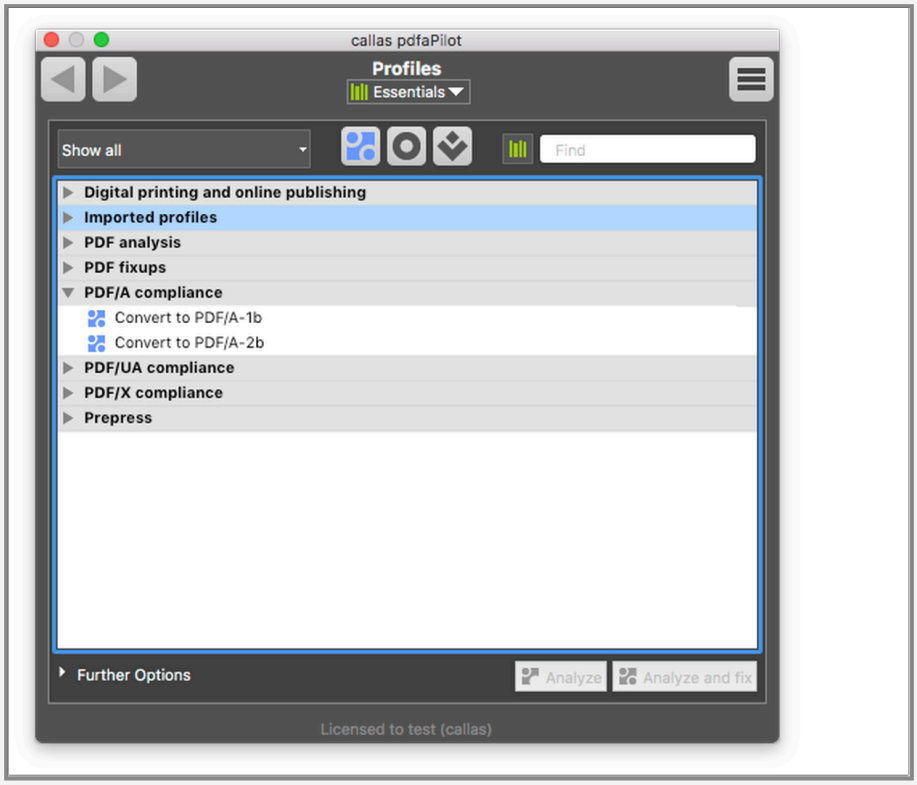
pdfaPilot can be found using the "Plug-Ins" menu or within the "Tools" sidebar.



Open the pdfaPilot Profiles window

A click on the "pdfaPilot Profiles" entry opens a window with a number of predefined Profiles, Checks and Fixups (as well as ProcessPlans).

You will notice that the Preflight Profile window looks quite similar to the one of pdfaPilot.
The reason for this is quite simple: Adobe uses technology from callas software for the Preflight functionality in Acrobat Pro.



Why using pdfaPilot AND Acrobat Preflight?

There are several functions available in pdfaPilot (Plug-In and Standalone) only, which are not part of Acrobat Preflight:

- ProcessPlans
- Custon reports (based on HTML-Template)

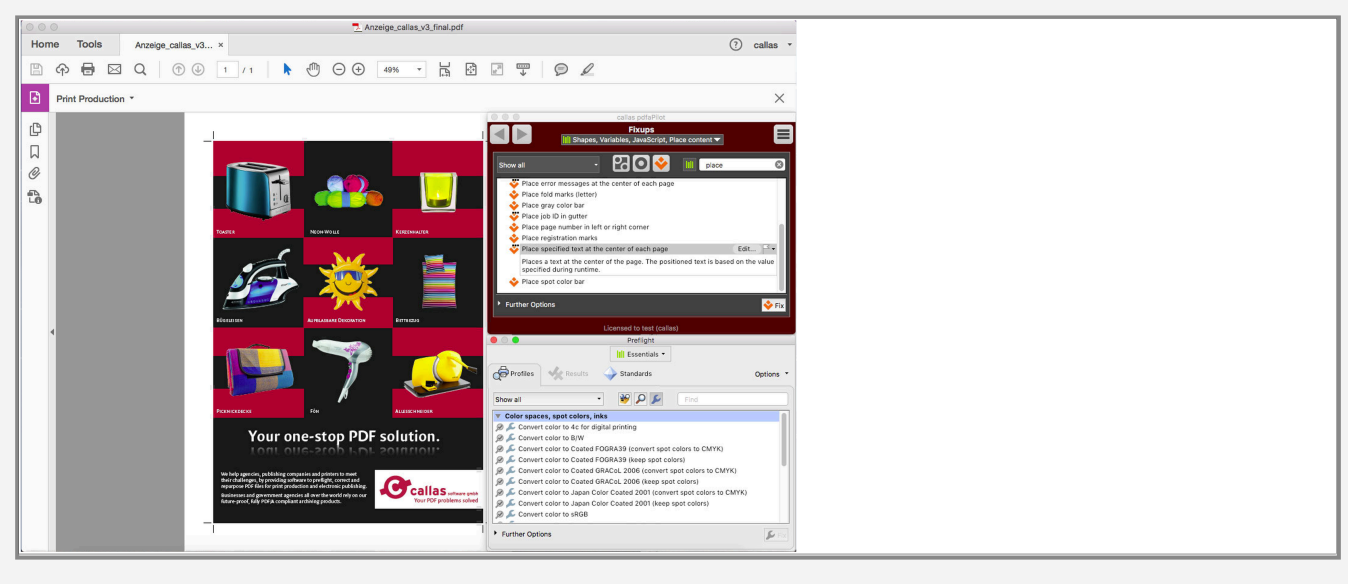
- Several Fixups like:
- Place text

- Place barcode
- Place page number
- Place content (based on HTML-Template)
- Convert colors to n-channel

In general, pdfaPilot has a more frequent update interval than Acrobat Preflight.
Therefore new features, adjustments and fixes are earlier available in callas software products.

Running Preflight and pdfaPilot in parallel

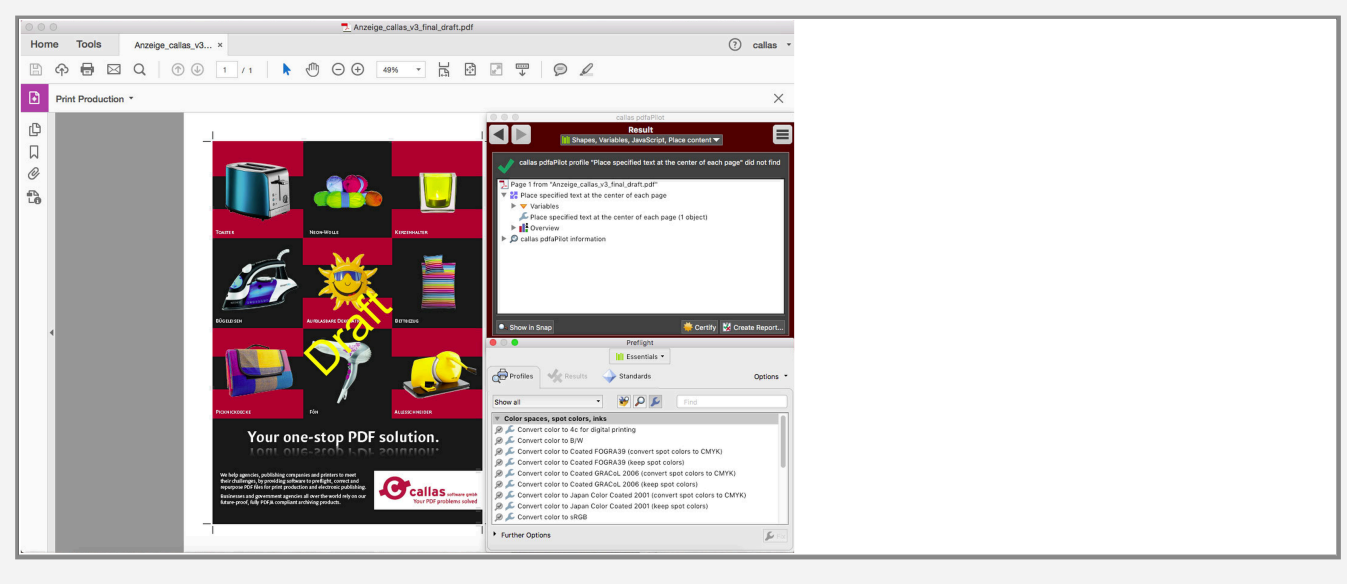
You can use Acrobat Preflight and callas pdfaPilot Plug-In in parallel.



Using pdfaPilot-only features

Using the pdfaPilot Plug-In allows to use pdfaPilot-only features like placing custom content using a Fixup.

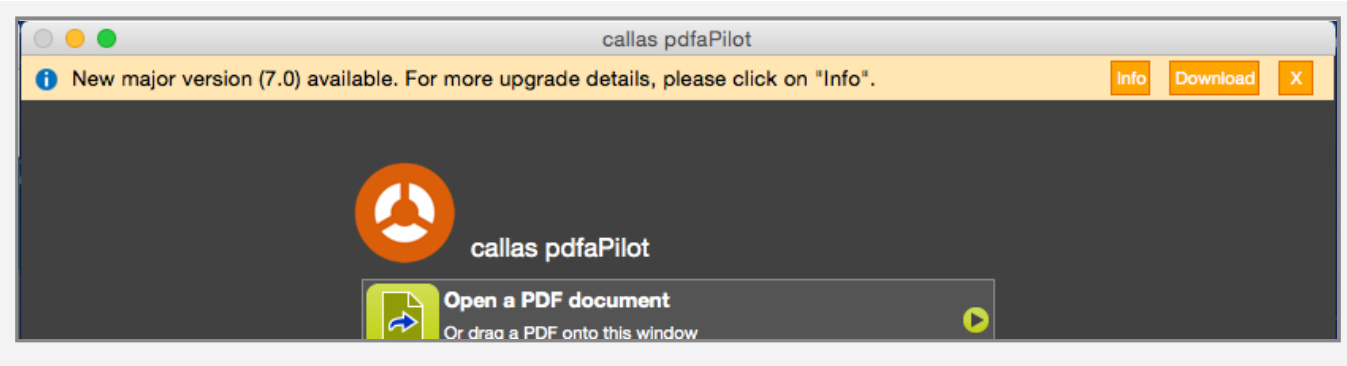
For example placing a text, a barcode, numbering pages or a custom content (using a HTML template) as additional content into the PDF.


Anzeige_callas_v3_final_draft.pdf
Home
Tools
Anzeige_callas_v3...
callas
Print Production
Draft
Your one-stop PDF solution.
callas pdfaPilot
Result
Shapes, Variables, JavaScript, Place content
callas pdfaPilot profile "Place specified text at the center of each page" did not find
Page 1 from "Anzeige_callas_v3_final_draft.pdf"
Place specified text at the center of each page
Variables
Place specified text at the center of each page (1 object)
Overview
callas pdfaPilot information
Show in Snap
Certify
Create Report...
Preflight
Essentials
Profiles
Results
Standards
Options
Show all
Find
Color spaces, spot colors, inks
Convert color to 4c for digital printing
Convert color to B/W
Convert color to Coated FOGRA39 (convert spot colors to CMYK)
Convert color to Coated FOGRA39 (keep spot colors)
Convert color to Coated GRACoL 2006 (convert spot colors to CMYK)
Convert color to Coated GRACoL 2006 (keep spot colors)
Convert color to Japan Color Coated 2001 (convert spot colors to CMYK)
Convert color to Japan Color Coated 2001 (keep spot colors)
Convert color to sRGB
Further Options

1.9 Notifications about available updates

In pdfaPilot Standalone we inform you about available software updates.
How can you customize these notifications? We will show you in this tutorial.

Update notification for major versions



As soon as a new major version is available for download, a notification bar in the main window of the Standalone version is shown. This functionality is not available in the Acrobat Pro PlugIn.

You can either download this update directly using the "Download" button or hide this notification using the "X". When you hide the notification you'll be asked if you want to be notified with the next start of the software or if you do not want any information about this update anymore.
These settings can also be set in the preferences (more information further down in this tutorial).

Additionally, you can switch to the callas software homepage for more information about the update.

Additional information about the installation of new major versions

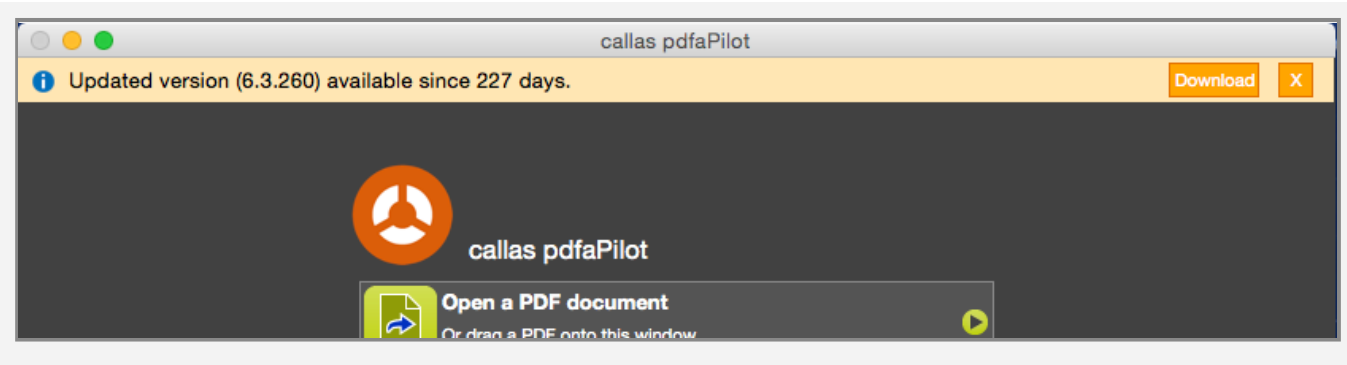
New major versions contain a bigger number of new functions as well as significant improvements regarding processing.
Major versions are installed in parallel to existing versions - so you can continue to use them.

A new license key is necessary for new major versions as well as a new activation.
Owners of a valid software maintenance agreement (SMA) will receive a new keycode from your reseller or integration partner.
If no SMA exists, you can buy an update on the callas software website or at a local reseller. More information is shown using the "Info" button.

After the first start of the software after the update you'll be asked if you want to import your settings (e.g. own Profiles, ProcessPlans, Checks and Fixups) into the new version.

Please note: Profiles or Libraries exported from new major versions cannot be imported in older software versions.
Profiles or Libraries from older versions can be imported into newer versions of course.
If you want to have the possibility to switch back to a previous version, we recommend a backup of your Profiles.
More information about this feature in "Export Libraries" further down.

Update notification for minor versions



As soon as a new minor version is available for download, a notification bar in the main window of the Standalone version is shown. This functionality is not available in the Acrobat Pro PlugIn.

Minor versions are software updates, which not only contain bugfixes and performance improvements but also new functions.
User of the respective major version of the Desktop software can update free of charge. User of the Server/CLI version needs to have a valid SMA.

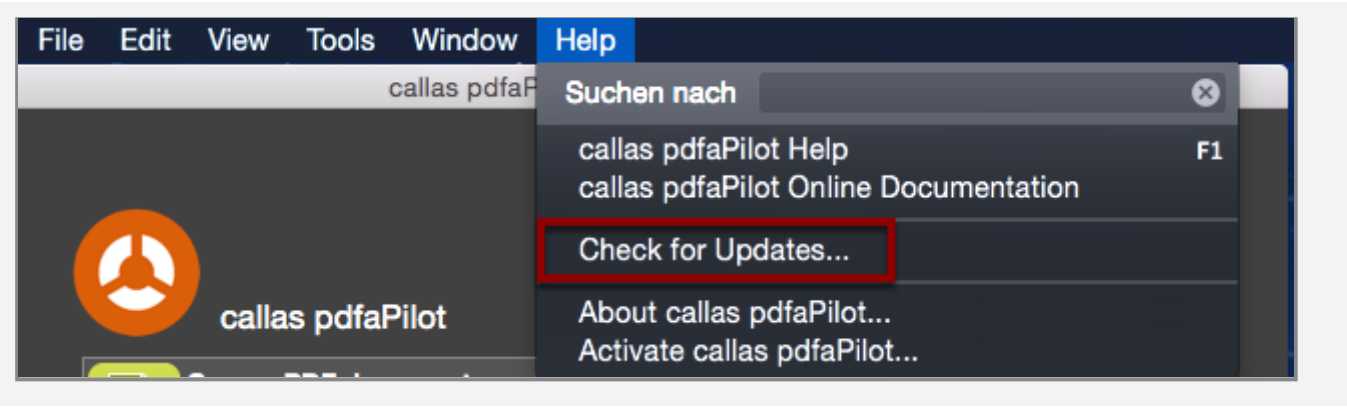
You can either download the version using the "Download" button or hide the notication with the "X" button.
In case you hide the notification, you can choose if you want a reminder at the next software start or if you want to skip this version update.
These settings can also be defined in the preferences of the software (more about this feature later in this tutorial).

Additional information about the installation of new minor versions

New minor versions can offer new Checks and Fixups as well as new settings for existing Checks and Fixups.
Sometimes also new, predefined Profiles, Checks and Fixups are contained (can easily be identified by a suffix behind the name - e.g. "v6.3").

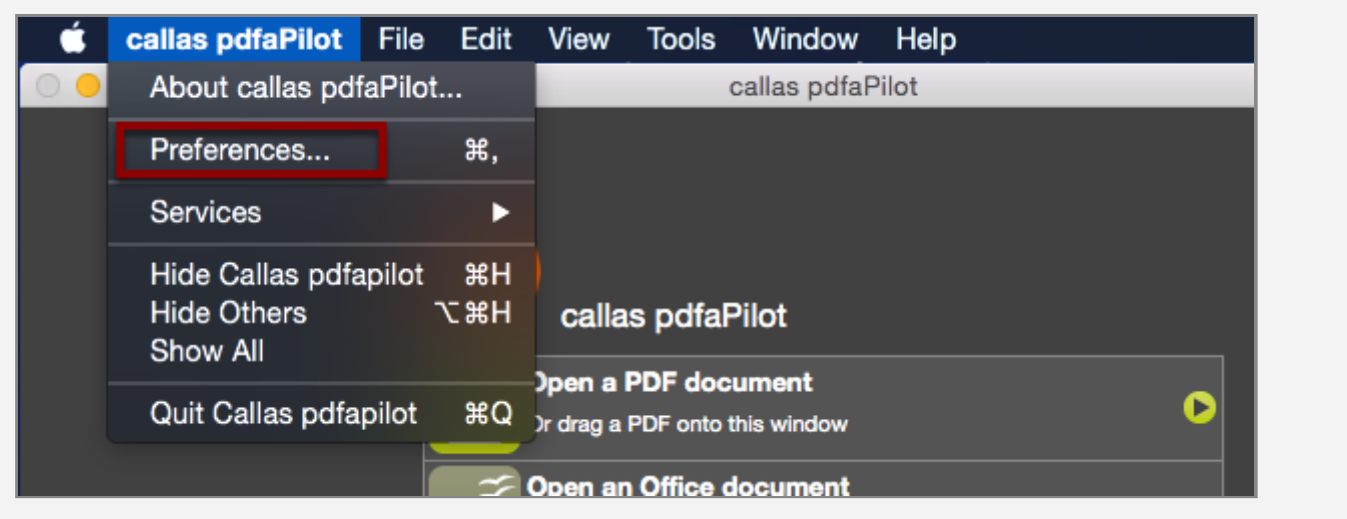
Therefore it is not possible in most cases, to switch back to a previous minor version (e.g. from version 6.3 back to 6.2). Intensive internal regression tests ensure that a customer should not have any problem with an update.
If you want to keep the possibility to switch back to a previous minor version, we recommend a backup of our Profiles. More information in the chapter "Export Libraries".

Manual check for new updates



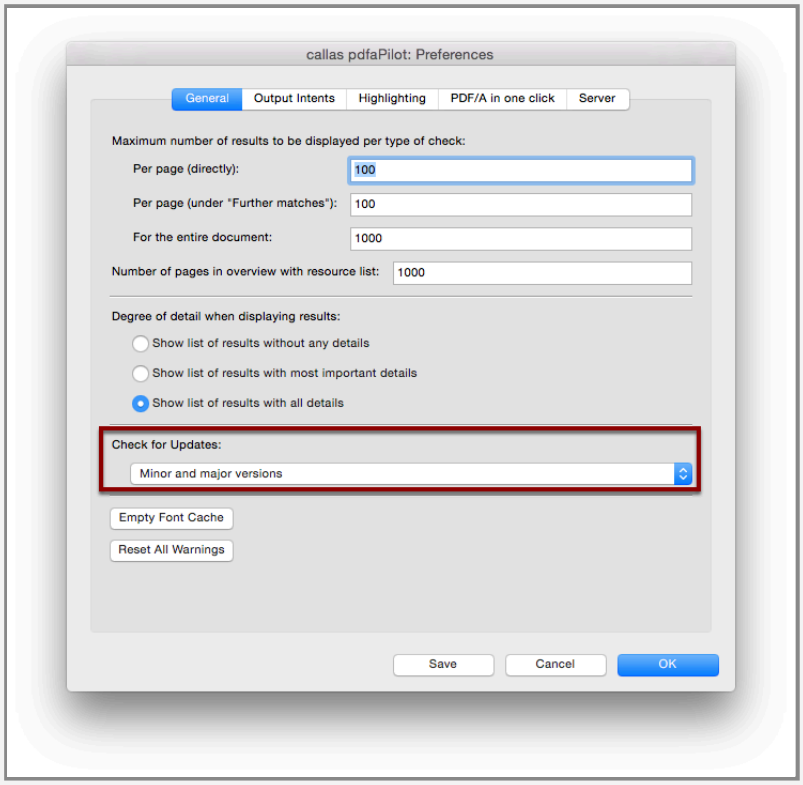
In the "Help" menu you'll find "Check for updates", which will check for the latest available versions.

Go to the update check in the preferences



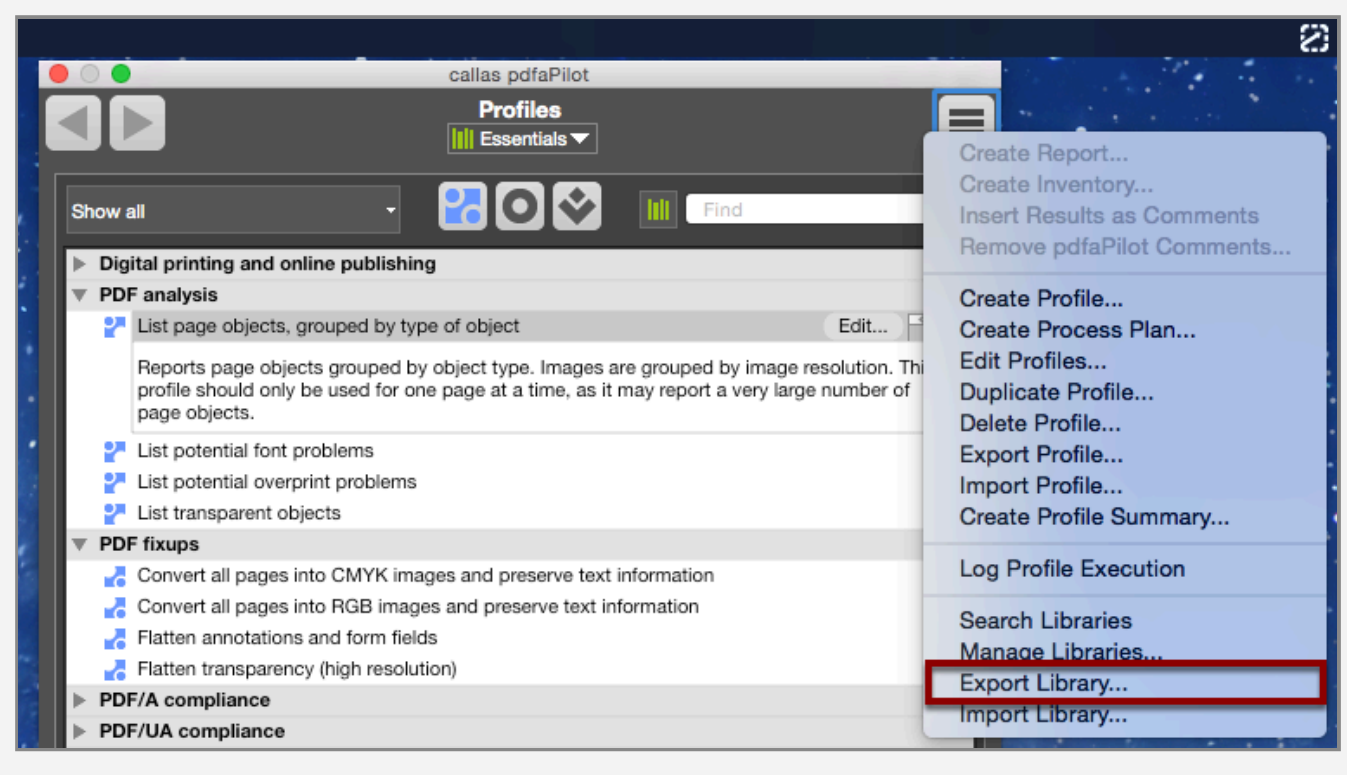
Using the menu bar, you can open the software preferences.

Configure the update check in the preferences



In the "General" tab in the preferences, you can easily define if the software shall check for updates. And if yes: whether it should happen for major versions, minor versions or both.

Export Libraries



You can Backup your set of Profiles using the Profiles window, options button in the upper right corner, "Export Library". This will save your Library into an external file.
If you have more Libraries, each Library must be saved separately.

An exported Library will be stored into the selected folder. You can either import this Library on another computer or use this backup for an import later.

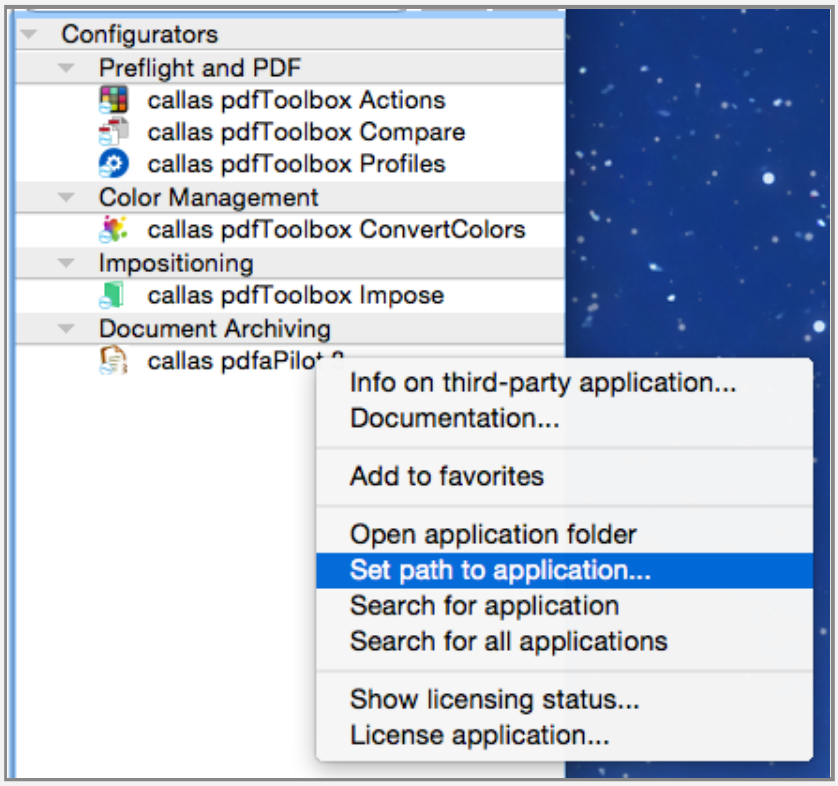
1.10 Update path to pdfaPilot CLI in Switch when installing new version of pdfaPilot

Using callas pdfaPilot Server / CLI in Enfocus Switch

When using pdfaPilot in the Enfocus Switch workflow system pdfaPilot Server/CLI has to be installed on that system.

When an existing version pdfaPilot is updated, Switch won't automatically update the path to the pdfaPilot Server/CLI application.

In order to adjust the path, you have to select the pdfaPilot Configurator element and click on "Set path to application...". Then, set the path to the CLI Version in the file system dialog shown.



1.11 Run as a Service (Windows)

Start as a server, dispatcher or satellite

The callas pdfaPilot Services application is only available for Windows at the moment.

Installation

1. Ensure there is an installation of callas pdfaPilot Server/CLI on the system and the application has been activated successfully.

2. A special executable, which is needed to run pdfaPilot as a service, is located in /cli/var/Service.

Copy the executable into the subfolder "/cli" of the application folder of the server installation.

3. To install, the following command has to be executed on the command line:

```
pdfaPilotService.exe --install
```

Please confirm the security question of Windows if shown.

4. Open the "Services dialog" of Windows. This dialog can easily opened by typing the following string into the search field of the Windows start menu or use the following command on the command line:

Services.msc

5. There should show up 3 new services:

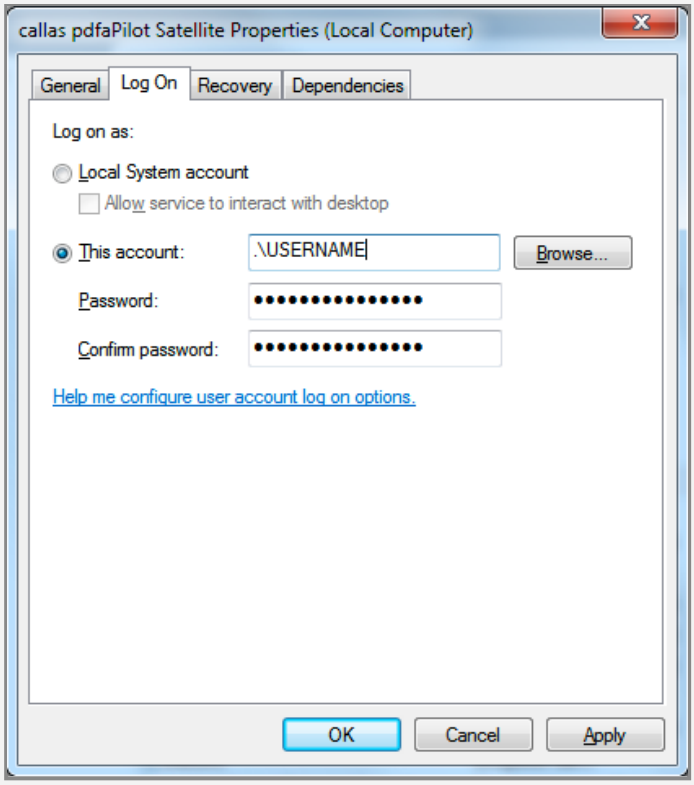
- callas pdfaPilot Server
- callas pdfaPilot Satellite
- callas pdfaPilot Dispatcher

6. Select "pdfaPilot Server" and use the right-click menu item "Action" [or "Properties" depending on the Windows-version] in order to use this service and set in "General" the "Startup Type" to "Automatic" or "Manual".

When "Automatic" is choosen, every started job will continue processing, even when no user is logged on the system. It will even start processing, when the operating system is started.

When using "Automatic", also user details have to be entered into the "Log On" tab.

It must be ensured, that all folders used in the jobsettings can be accessed by the defined user (especially when network paths shall be used by the job).



Configuration of a job

Now a job can be configured using the ServerUI, which can be accessed using the Standalone version (Menu: Tools - Server).

When a job is started, pdfaPilot Standalone can be closed. The services apllication ensures, that the processing will continue even when the user is logging off.

If a job is using network paths for the used folders, it is recommended to use UNC paths (e.g. "\\192.168.1.22\hotfolder\...") as an assigned drive letter (e.g. "H:\hotfolder\...") is user-specific.

Access by remote

It is possible to connect to a Server running as a service by remote via the local network.

Start pdfaPilot standalone, select menu: "Tools" - "Server" and choose

"Connect with remote server".

Enter the IP of the remote server where the service is running.

After connecting all jobs on the remote server are shown and can be started, stopped or even modified. (Hotfolder paths of any server jobs (IN, OUT, etc.) have to be configured so that they are valid from the service's perspective (the system where the service is running) - and not from the perspective of the controlling standalone application.)

Uninstall or change to a new major version

If the Service is no longer needed and the entry shall be removed or when the Service entry has to be updated because of a new major version (e.g. when upgrading from version 7 to version 8), it is recommended to uninstall the service using the following command:

```
pdfaPilotService.exe --uninstall
```

The pdfaPilotService.exe has to be in the same directory like the pdfaPilot.exe (like when installing the Service).

Troubleshooting

If network paths are used for processing jobs, the user should have sufficient rights to access them.

There may be special requirements for converting Office files to PDF when using pdfaPilot as a service. Check http://www.callassoftware.com/goto/tbx_ENU_topdf for the latest details.

Note: In general it is recommended to grant the respective service user administrator privileges. If this level of rights can not set due to internal regulations, some additional settings within the operating system are recommended. Additional settings with limited user rights

1.12 Create a Daemon using Mac

com.callassoftware.pdfapilotserver.agent.plist

Other than a Service using Windows, a so-called Daemon using Mac can either be started when a User is logged in or (alternatively) when the system is started:

Copy the attached plist file to the following location:

/Library/LaunchAgents

(for run at Login)

or to

/Library/LaunchDaemons

(for run at Boot)

The agent will be activated with the follwing call:

Terminal:

```
launchctl load /Library/LaunchAgents/
com.callassoftware.pdfapilotserv-
er.agent.plist
```

Using the following call, the agent can be deactivated:

Terminal:

```
launchctl unload /Library/LaunchAgents/
com.callassoftware.pdfapilotserv-
er.agent.plist
```

If a Server-Job is active, this Job will start as soon as the sytem is started and files in the respective hot folders will be processed.

1.13 Create a Daemon using Linux

ReadMe_systemd_ptb_service_template.txt

systemd.ptb.service.template

This ReadMe as well as the template to install a Daemon using Linux can also be found inside the installation package in the following folder:

etc/systemd

systemd pap service usage/installation example

note: Requires root permissions

*note: the systemd specific **privateTemp** setting *must not* be used inside the service description*

note: the whole <install_dir> path including all higher level directories need to have at least read-and-execute permissions

Recommendation: unpack the installer below a non-userspecific directory (such as e.g. /opt)

*note: a --cachefolder option *must* be used, *even* if the user executing the service actually has a home directory*

note: the <install_dir> must be owned by the user executing the service. For example if /opt/callas/pdfaPilot-CLI is used as <install_dir>, then the appropriate chown command would be

```
sudo chown -R nobody:daemon /opt/callas/pdfaPilot-CLI
```

note: the same applies to the cachefolder.

HOWTO:

(1) cp systemd.pap.service.template to pap.service (locally)

(2) edit pap.service and adjust the given path specs (e.g. INSTALL_DIR --> real installation directory)

(3) setup a cache folder (note: must be owned/writable by the executing user, e.g. by running 'sudo chown nobody:daemon <given_cache_folder>')

(4) copy the service description to the systemd service directory

```
sudo cp pap.service to /lib/systemd/system
```

*note: /lib/systemd/system/pap.service must be a regular file and *not* a symbolic link*

note: 'sudo systemctl daemon-reload' is needed whenever /lib/systemd/system/pap.service is changed

(5) check if the service is working as expected ...

```
sudo systemctl daemon-reload
sudo systemctl start pap
systemctl status pap

sudo systemctl stop pap
systemctl status pap

sudo systemctl restart pap
systemctl status pap
```

(6) when everyting is working as excpected ...

(7) set pap service to auto start on reboot

```
sudo systemctl enable pap
```

now, when the system reboots next time it will automatically also start the pdfaPilot in --server mode.

(8) to disable the pap service on next reboot...

```
sudo systemctl disable pap
```

2. callas pdfaPilot - First steps

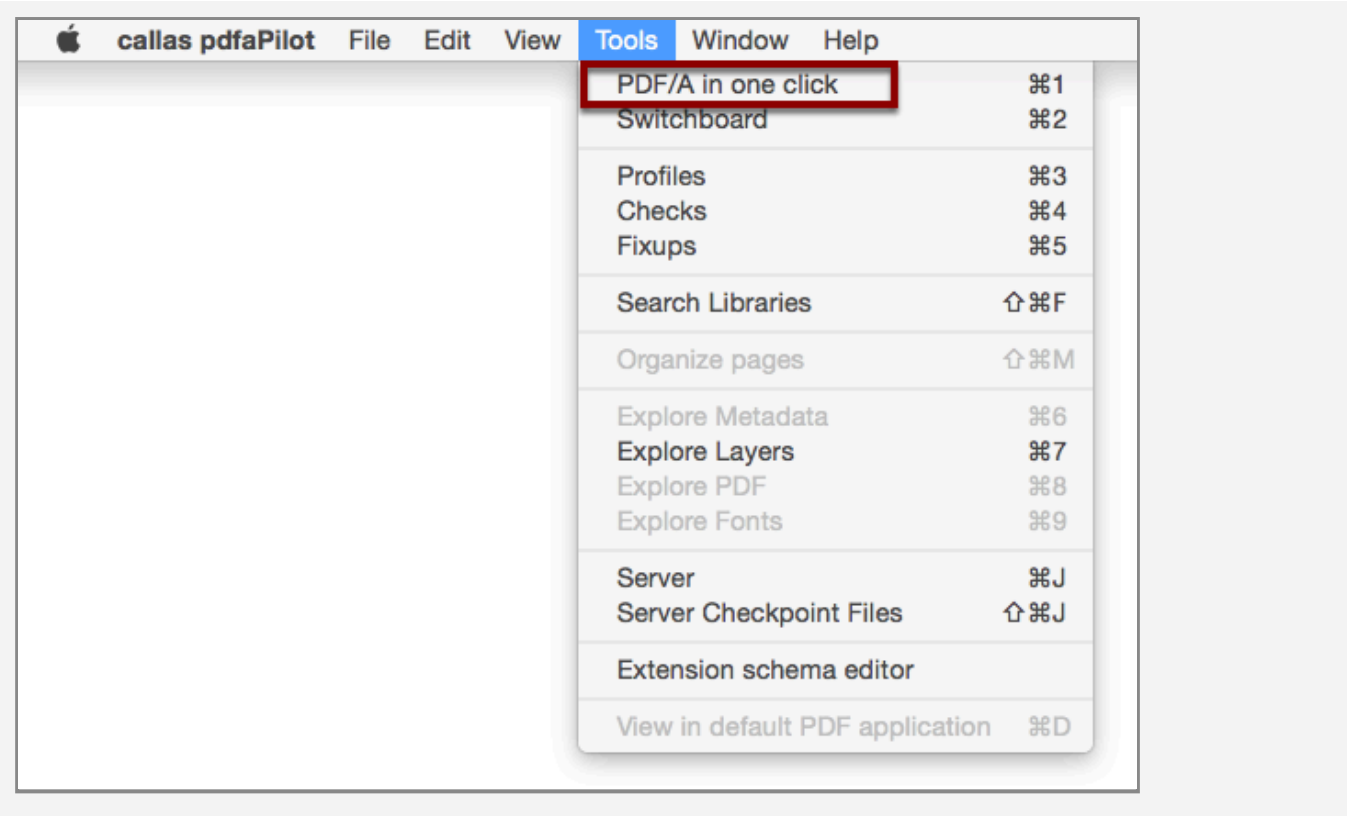
2.1 Analyzing and converting files using “PDF/A in one click”

Validating and creating PDF/A files is incredibly easy with pdfaPilot. Open the “PDF/A in one click” dialog to do exactly what it says: convert files to PDF/A or validate them with a single click.

Opening “PDF/A in one click”

“PDF/A in one click” is opened differently depending on whether you are using pdfaPilot as a standalone solution or as an Acrobat plug-in.

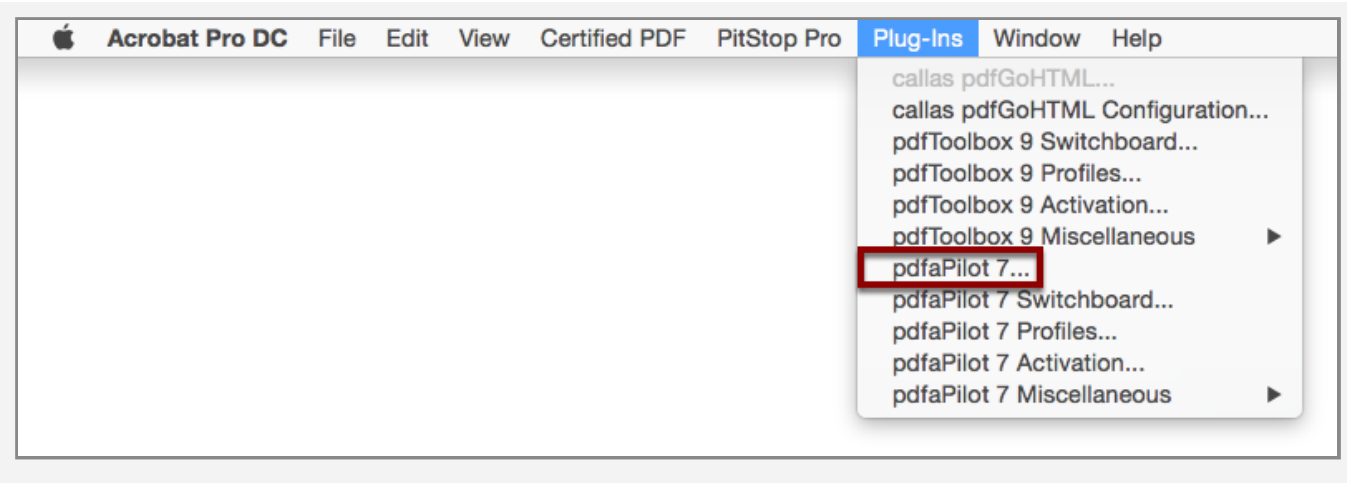
Starting “PDF/A in one click” in the standalone pdfaPilot



You can open **PDF/A in one click** by opening **Tools > PDF/A in one click** in the menu.

Alternately, you can use the keyboard shortcut **Cmd+3**.

Opening “PDF/A in one click” in the pdfaPilot Acrobat plug-in

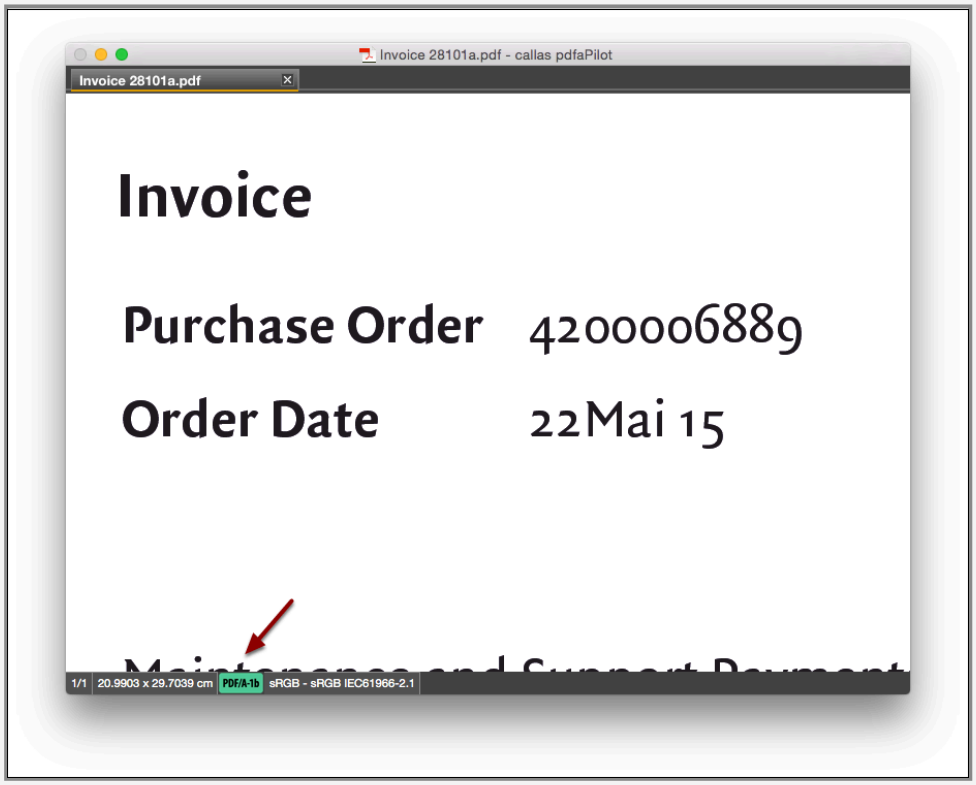


In Acrobat, you can access pdfaPilot’s **PDF/A in one click** function via **Plug-Ins > pdfaPilot <version number>** in the menu.

The **PDF/A in one click** window will then be displayed.

Case 1: The validated PDF file is PDF/A compliant

Open a PDF file in pdfaPilot.

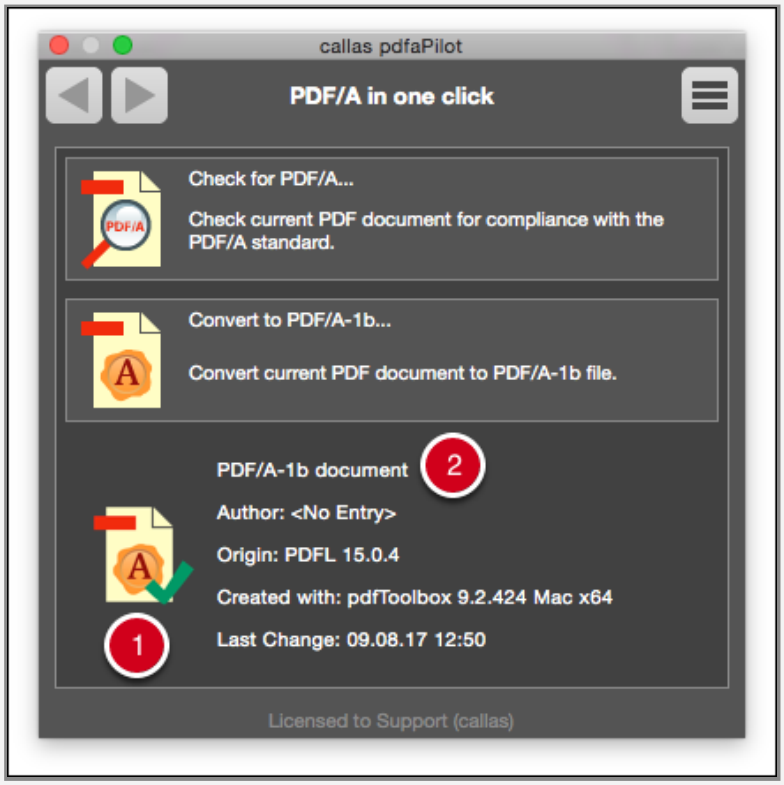


At the bottom of the file window, you will immediately be shown a notification if the current PDF document is a PDF/A document.

Here, pdfaPilot is reporting that the PDF document has been identified as a **PDF/A-1b** file.

The following test will inspect the file thoroughly.

1. The lower section of the dialog shows general file information as well as its PDF/A status. The current file has not yet been verified.
2. If you want to find out whether your file already complies with the PDF/A standard, click “Check for PDF/A...”



If the PDF file is checked and found to be PDF/A-compliant, pdfaPilot will report this in the window that opens.

1. A green check mark indicates that the PDF/A check returned a positive result.
2. pdfaPilot will also inform you of the document’s PDF/A level.

Case 2: The validated PDF file is not PDF/A compliant

If the file features any properties which are not permitted under PDF/A, these will be indicated in a brief overview at the end of the validation process.

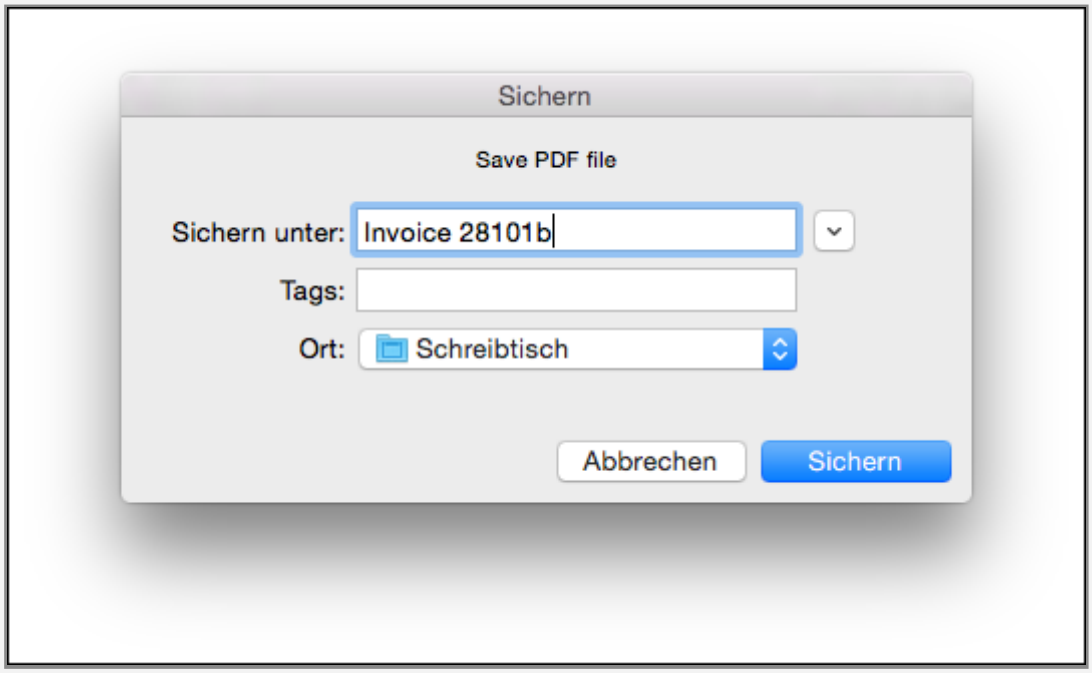
Click on an entry in the list to see the details of the problems that have been found.

These types of PDF files can usually be converted to PDF/A.

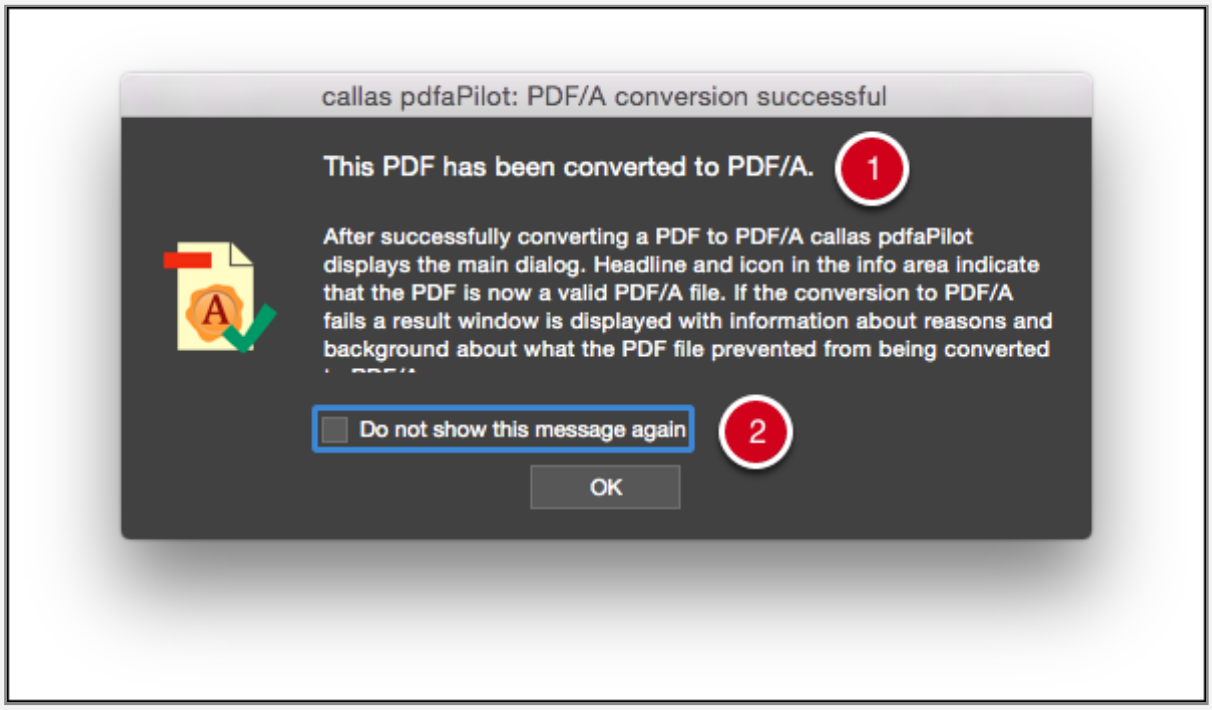
The preset level is PDF/A-b.

This can be changed in the Preferences menu.

Most problems can be easily solved by clicking on the **Convert to PDF/A-1b** button towards the bottom of the window.



A dialog will appear, allowing you to enter a **name** and **location** for the newly created PDF file.

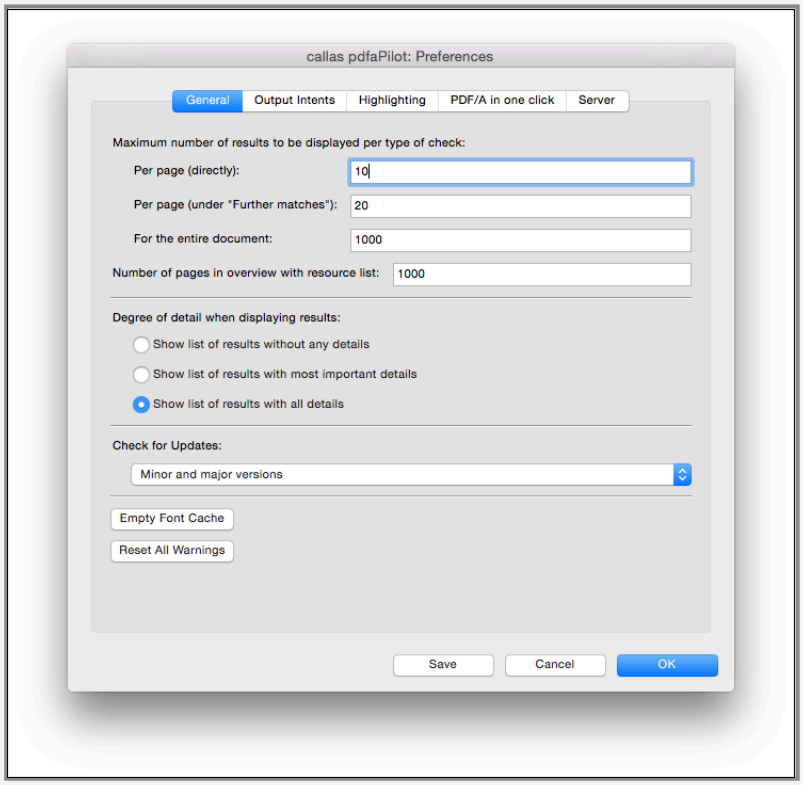


1. A message will appear informing you that the file was successfully converted.
2. You can check the box at the bottom to prevent the message from being shown again.

2.2 Preferences

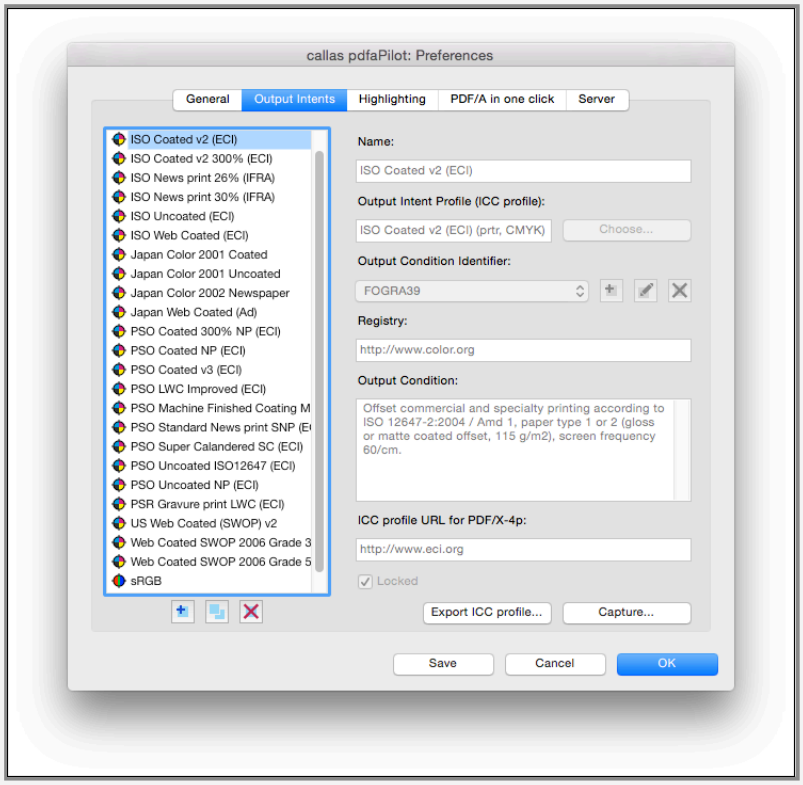
The Preferences dialog offers level-of-detail settings for customizing power-tool results, lets you specify how to highlight problems when generating a report, and provides an editor for creating and adjusting output conditions (OutputIntents). It also allows you to specify the PDF/A level to which PDF files will be converted if they fail to pass the initial check.

General



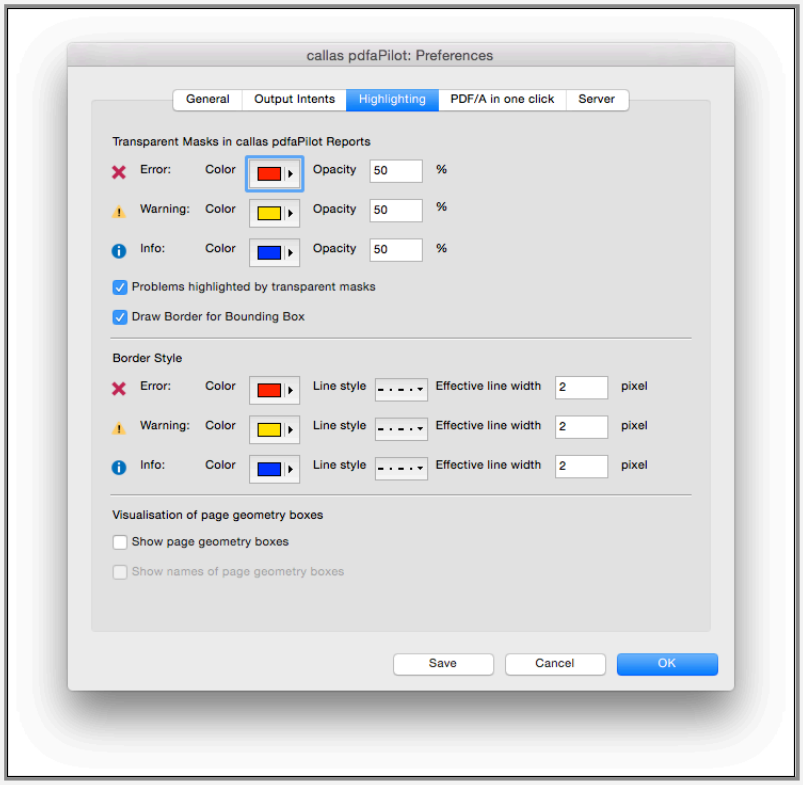
1. You can limit the maximum number of results to show per page or per document.
2. The level of detail when displaying results can be customized.
3. You can choose whether or not to check for updates.
4. You can also empty the font cache and reset all warnings within pdfaPilot.

OutputIntents



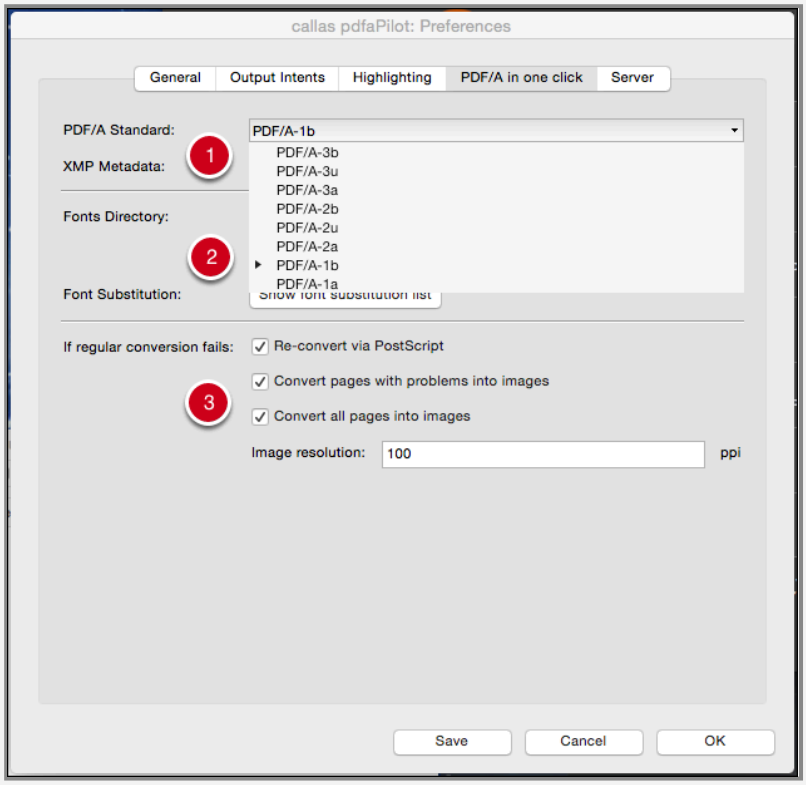
Here you can create, edit or export OutputIntents (output conditions) as well as extracting ICC profiles.

Highlighting



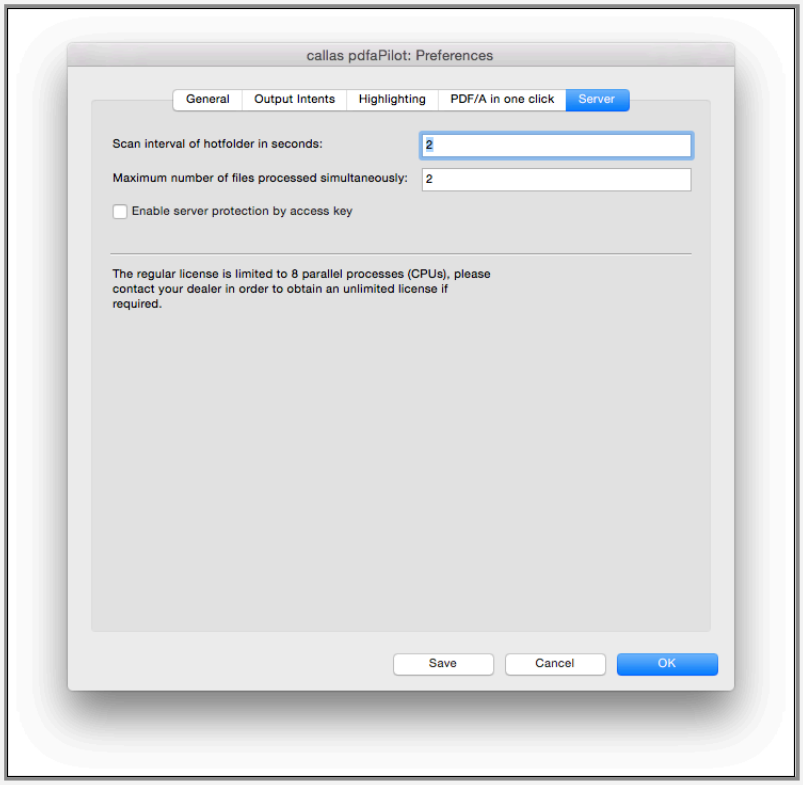
This tab lets you specify the color and style for highlighted objects within a PDF document or the transparent masks in a PDF mask report.

PDF/A in one click



1. This window lets you set the **desired PDF/A standard** as well as other detailed conversion settings when using the “PDF/A in one click” function.
2. The next section in this tab deals with fonts and font substitution.
3. You can also choose which steps to take if regular conversion to PDF/A fails (Re-convert via PostScript, Convert all pages with problems into images, Convert all pages into images.)

Server

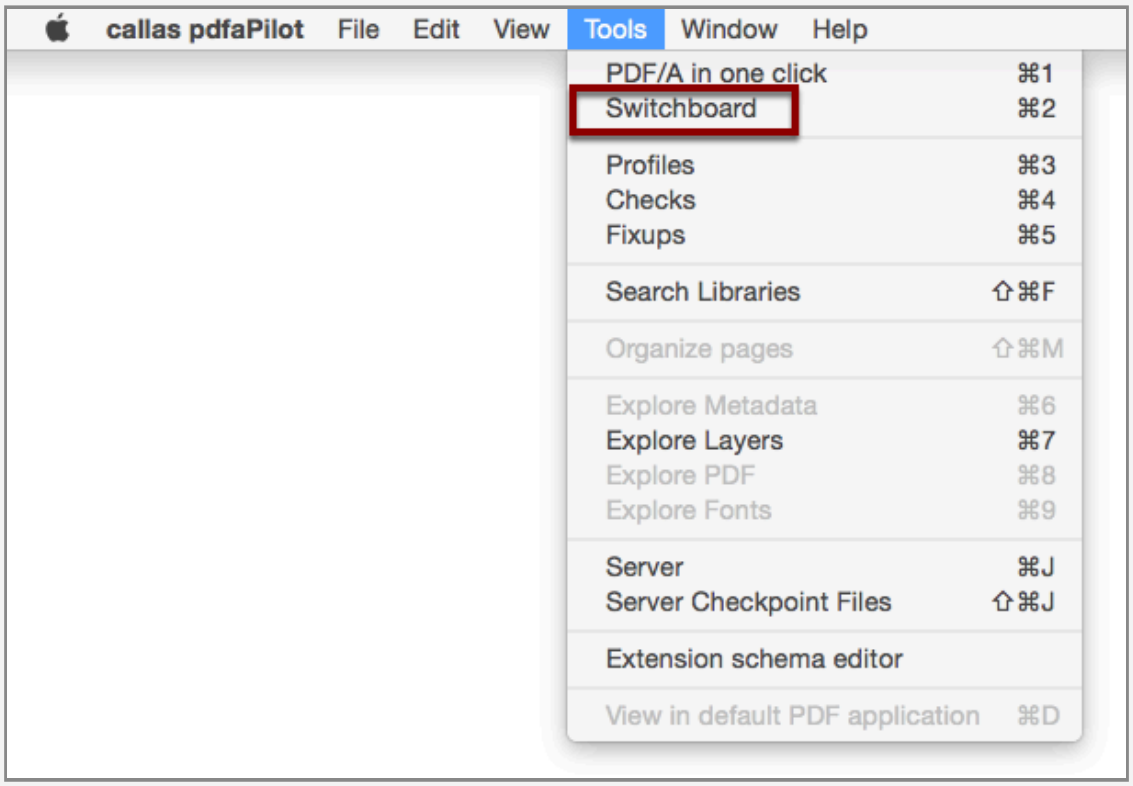


This tab lets you configure the settings for the server version of pdfaPilot.

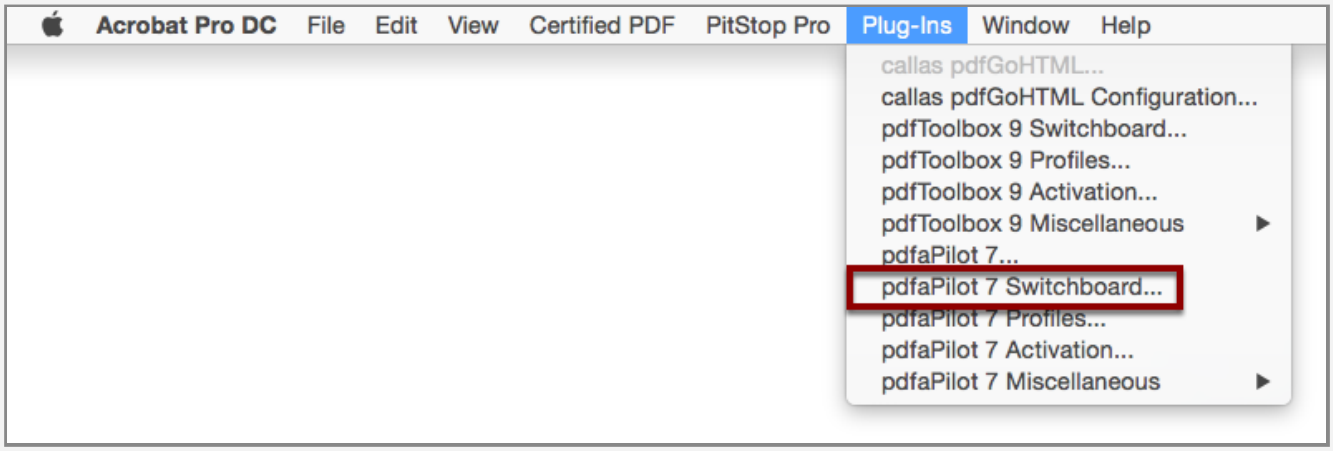
2.3 The Switchboard: An overview

As well as the automatic Fixups applied by pdfaPilot when converting files to PDF/A, the software also offers a wide range of other actions for manipulating a PDF file. Many of these can be accessed via the Switchboard.

In pdfaPilot's standalone edition, you can open the Switchboard via **Tools > Switchboard** in the **menu** or use the keyboard shortcut **Cmd+2** (Windows: Ctrl+2).



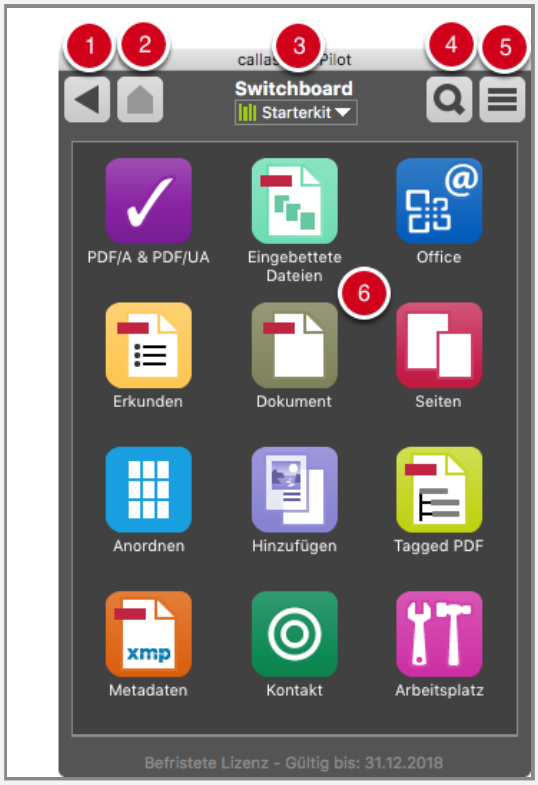
If you are using pdfaPilot as an Acrobat plug-in, open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard**.



The pdfaPilot **Switchboard** window will be displayed.

The Switchboard - Structure

The Switchboard has a very simple, clear user interface, letting you get straight to work.



1. The arrow button will always take you back to the previous section.

2. The home symbol opens the main window.
3. The central drop-down menu at the top lets you choose between a range of libraries (such as PDF standards and Prepress.)
4. The magnifying glass opens the search tool for when you want to find a specific Action by name.
5. The button in the top right can be used to manage libraries.
6. The main section contains the various groups for different types of tasks.

The groups

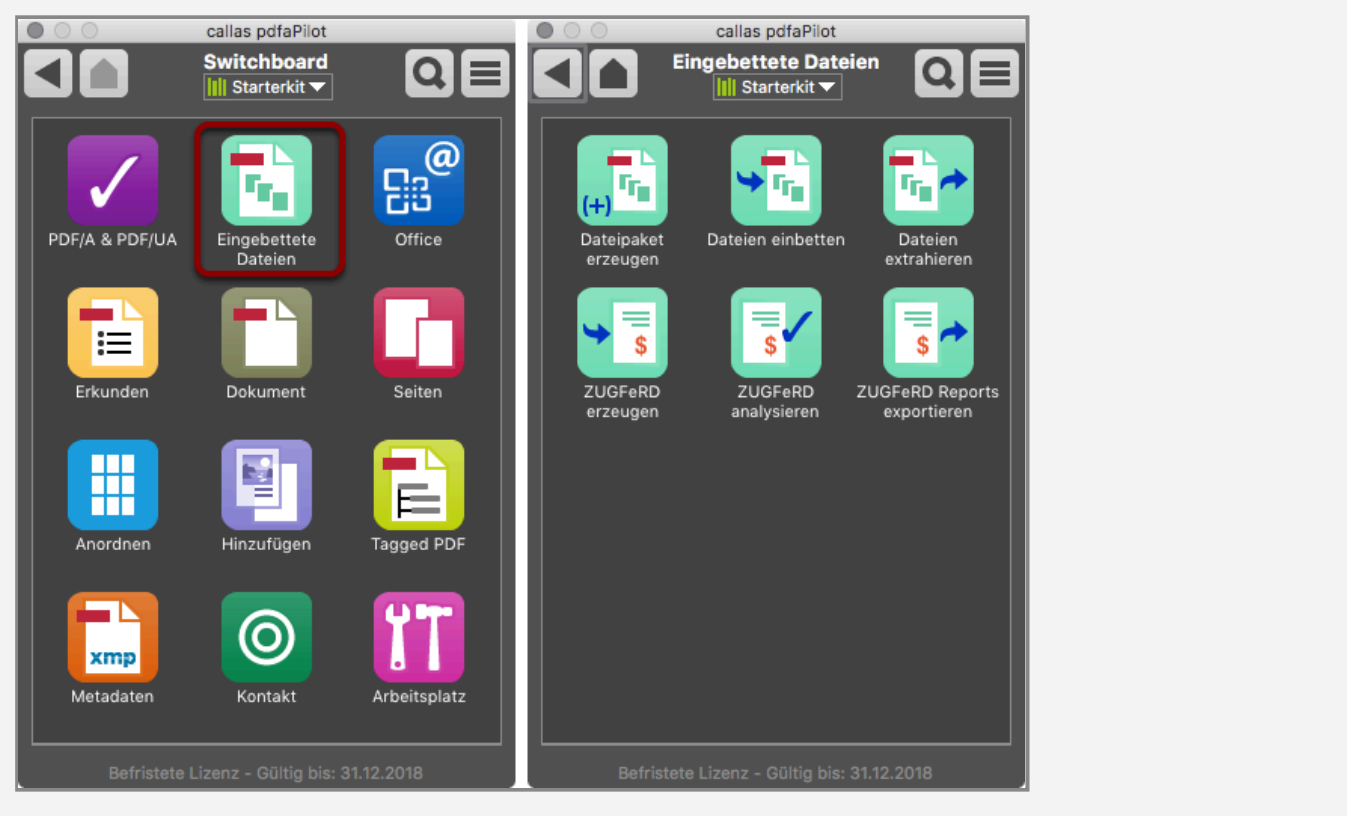
The main window shows the various **groups** of Actions.

Each group, in turn, contains a range of **Actions**. These can be accessed by clicking on the group's symbol.

“PDF/A & PDF/UA” group

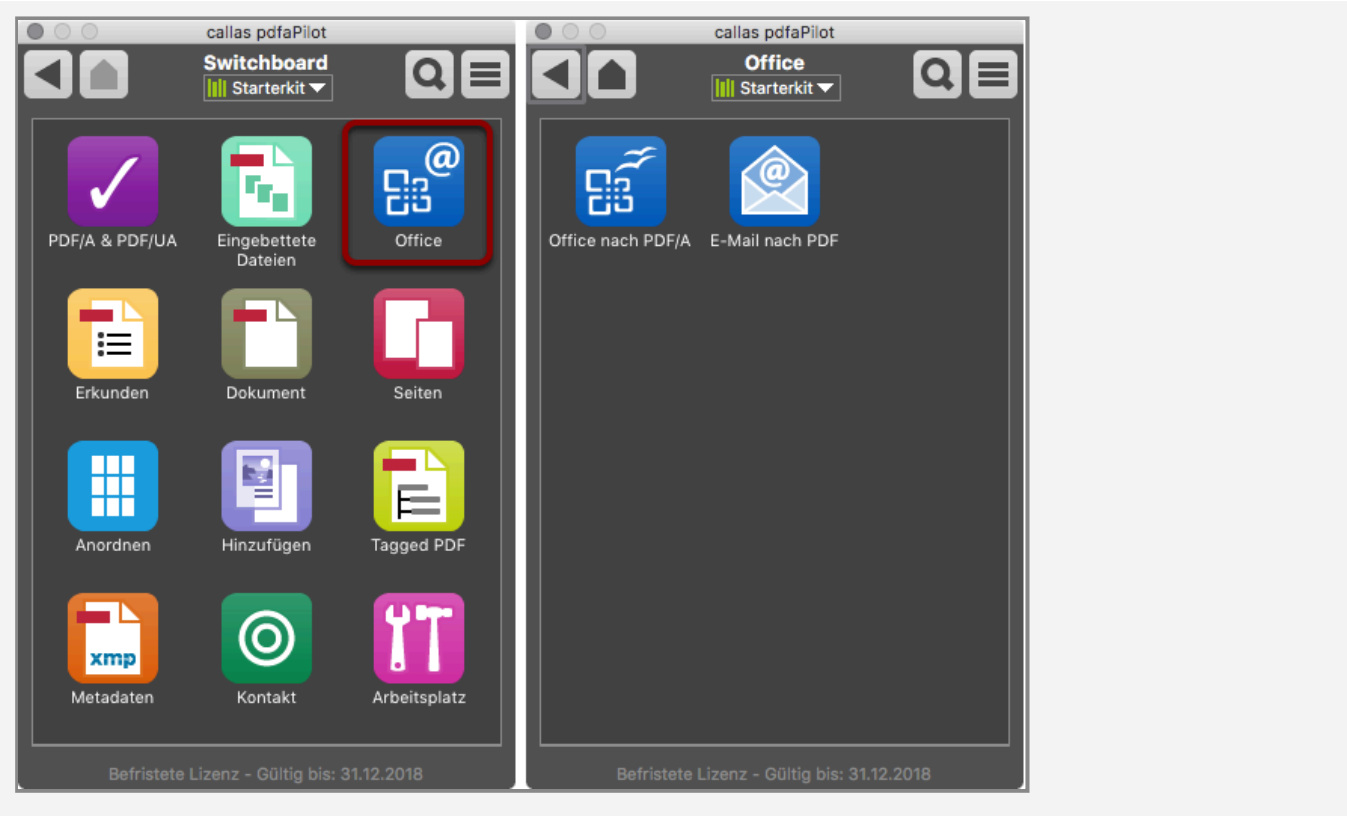
The Actions in this group are used to convert and optimize the **PDF/A** (long-term archiving) and **PDF/UA** (universally accessible PDF) standards.

“Embedded files” group



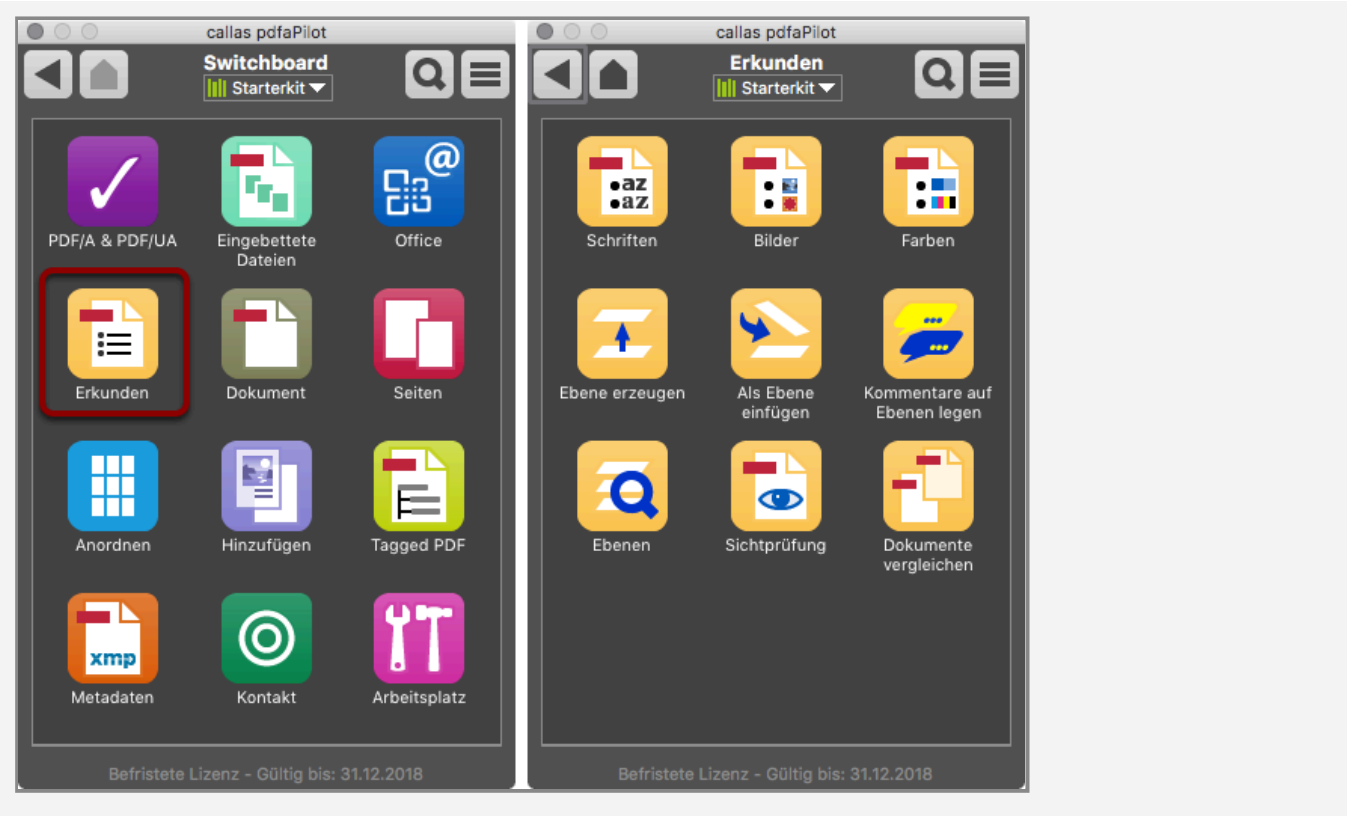
The **Embedded files** group offers a range of Actions for embedding and extracting files.

“Office” group



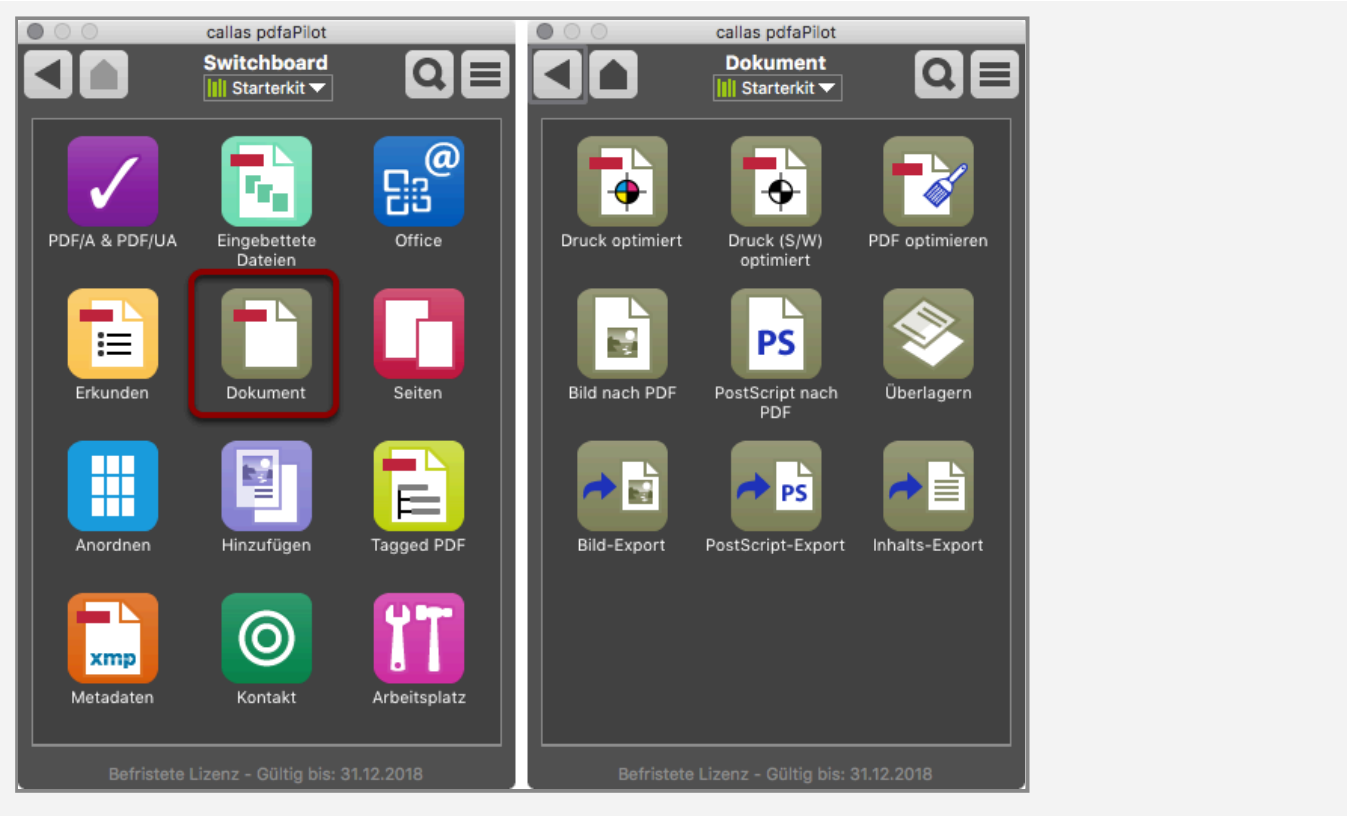
The actions in the **Office** group let you convert Office files and emails into PDF/A format.

“Explore” group



The **Explore** group provides a range of actions used to create different types of reports based on your files. Other actions involve layers and comments.

“Document” group



The **Document** group includes Actions used to change the properties of a document.

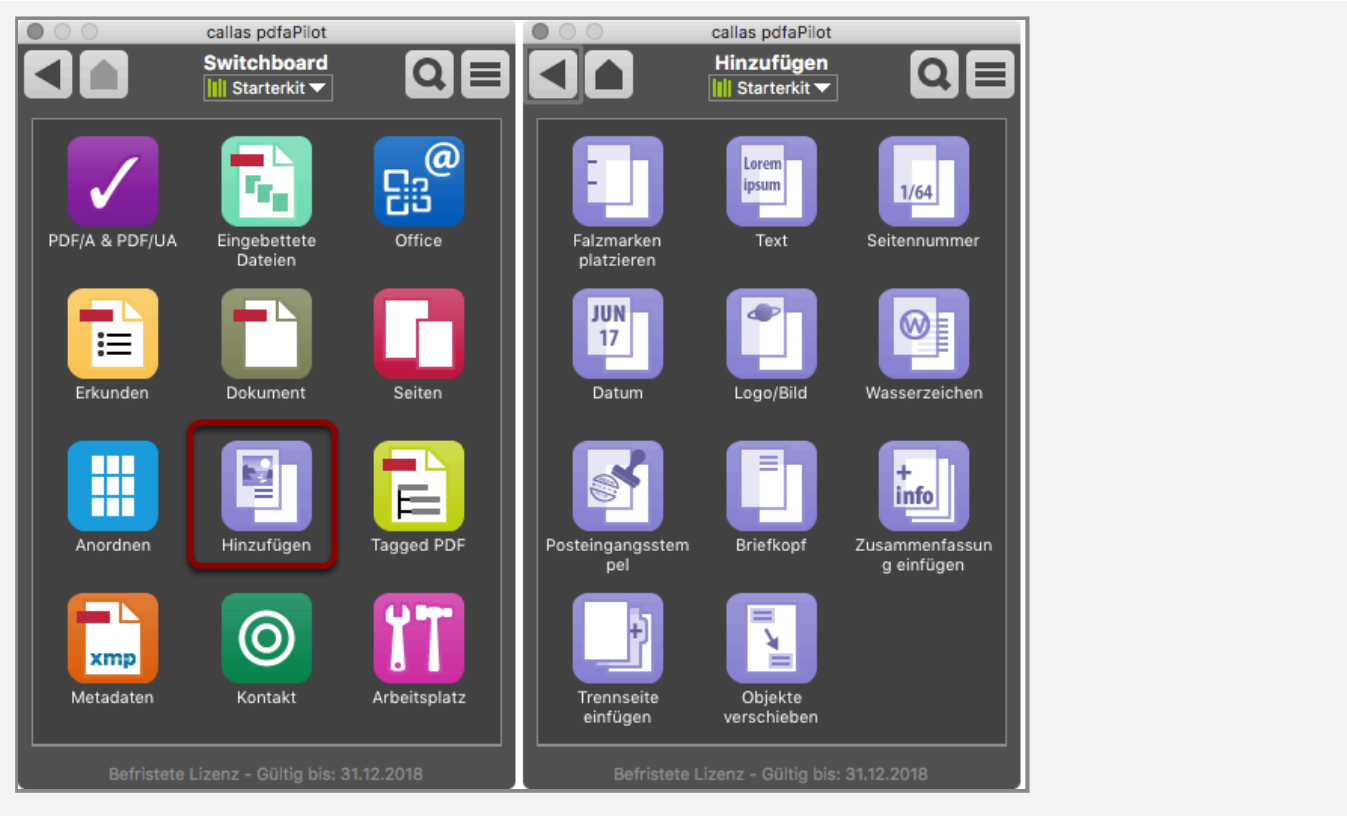
“Pages” group

The **Pages** group provides Actions used to change the page layout or order.

“Arrange” group

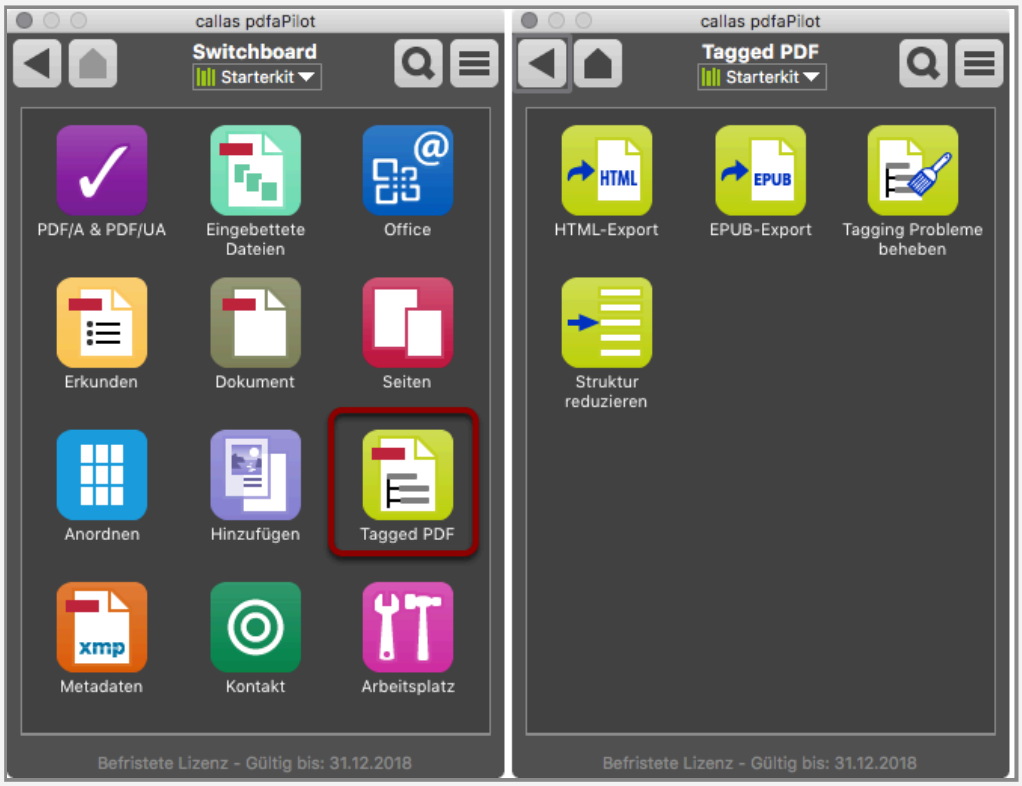
The **Arrange** group contains Actions used for imposition.

“Decorate” group



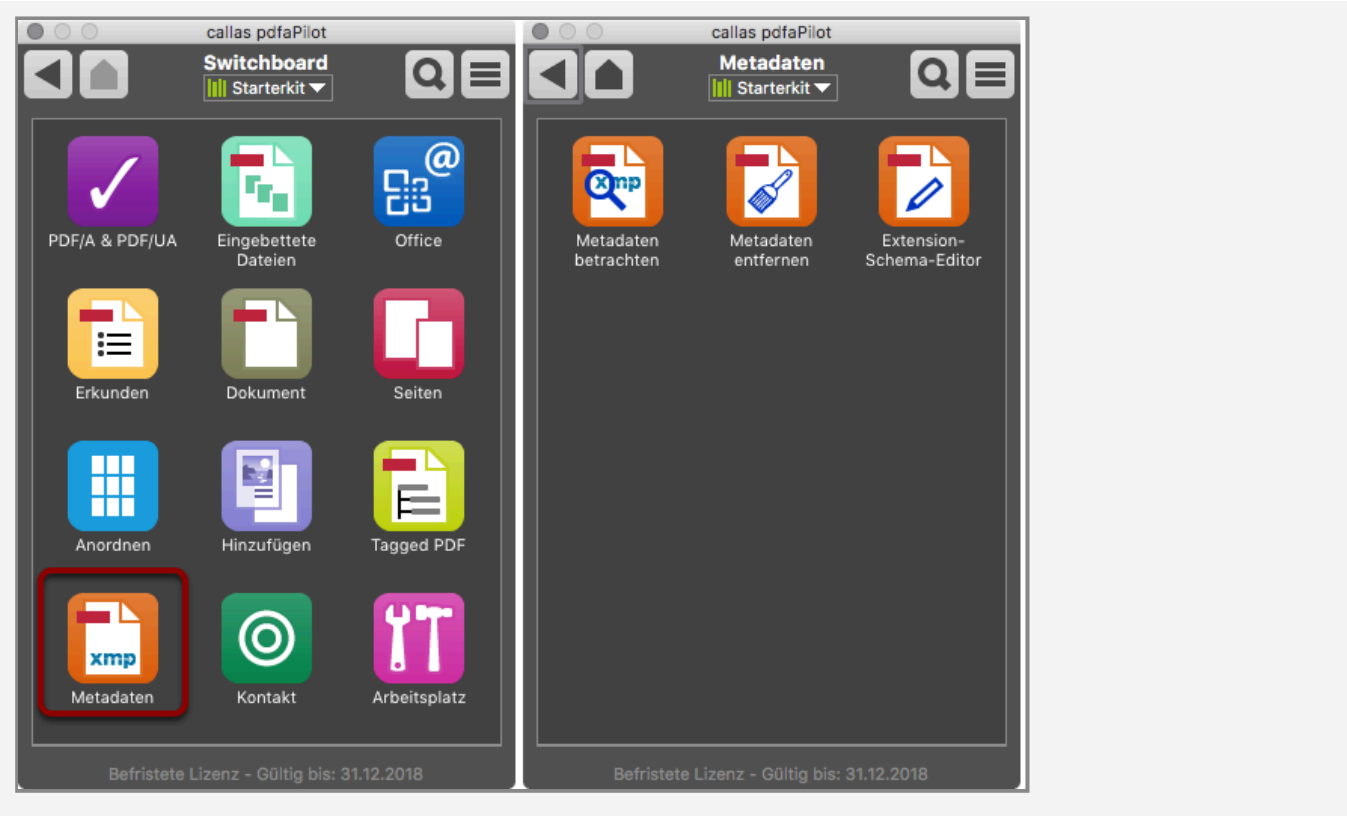
The **Decorate** group contains Actions used to add additional content to PDF files.

“Tagged PDF” group



The **Tagged PDF** group provides Actions for exporting other file formats from structured PDFs or for optimizing structured PDFs.

“Metadata” group



The **Metadata** group includes Actions used to work with XMP metadata.

“Get in touch” group

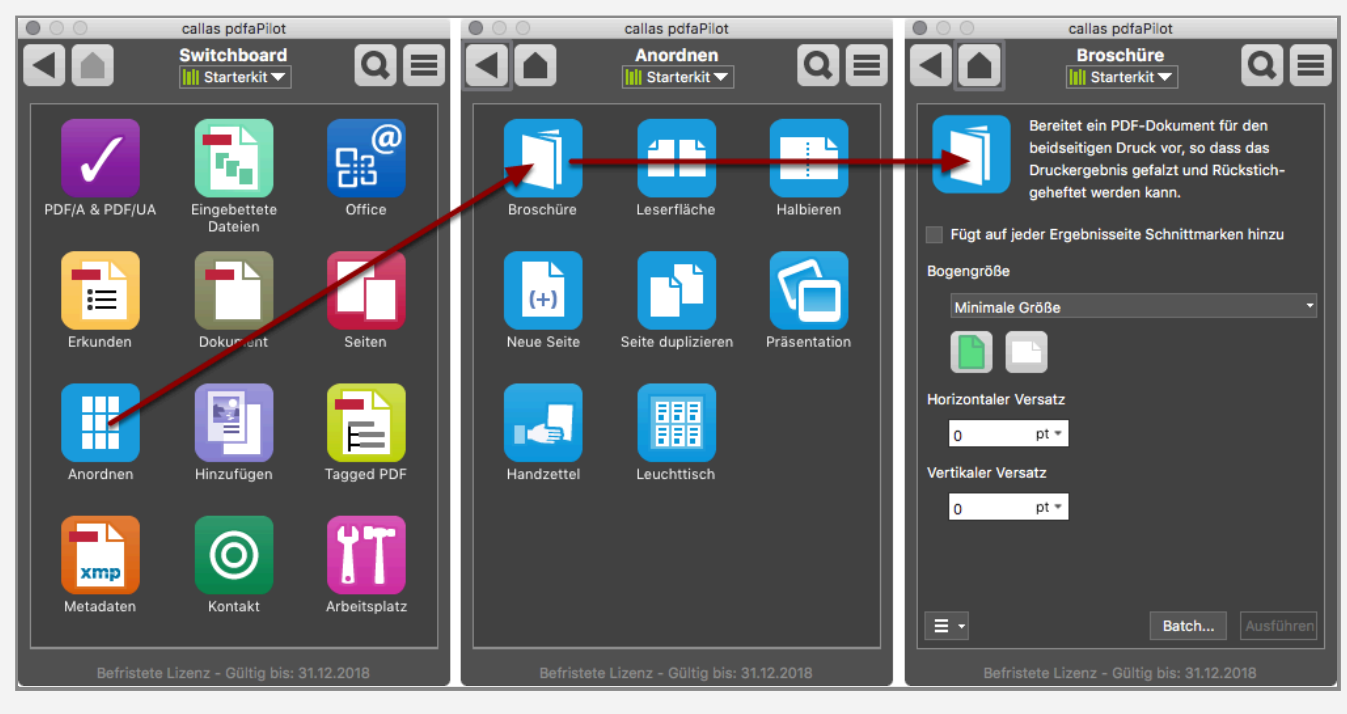
The **Get in touch** group provides Actions used to contact callas support, report bugs or suggest improvements. It also provides access to various tutorials.

“Workspace” group

The **Workspace** group lets you collect your most frequently used Actions together in one place.
To add a Switchboard Action to the Workspace, click on the menu located in the bottom-left corner of the Action window.

An example of an action in use: Create Booklet

Click on an Action to open the relevant settings used to execute the Action.



Example: In the **Arrange** group, you will find the **Booklet** Action, which you can use to turn a multi-page file into a booklet.

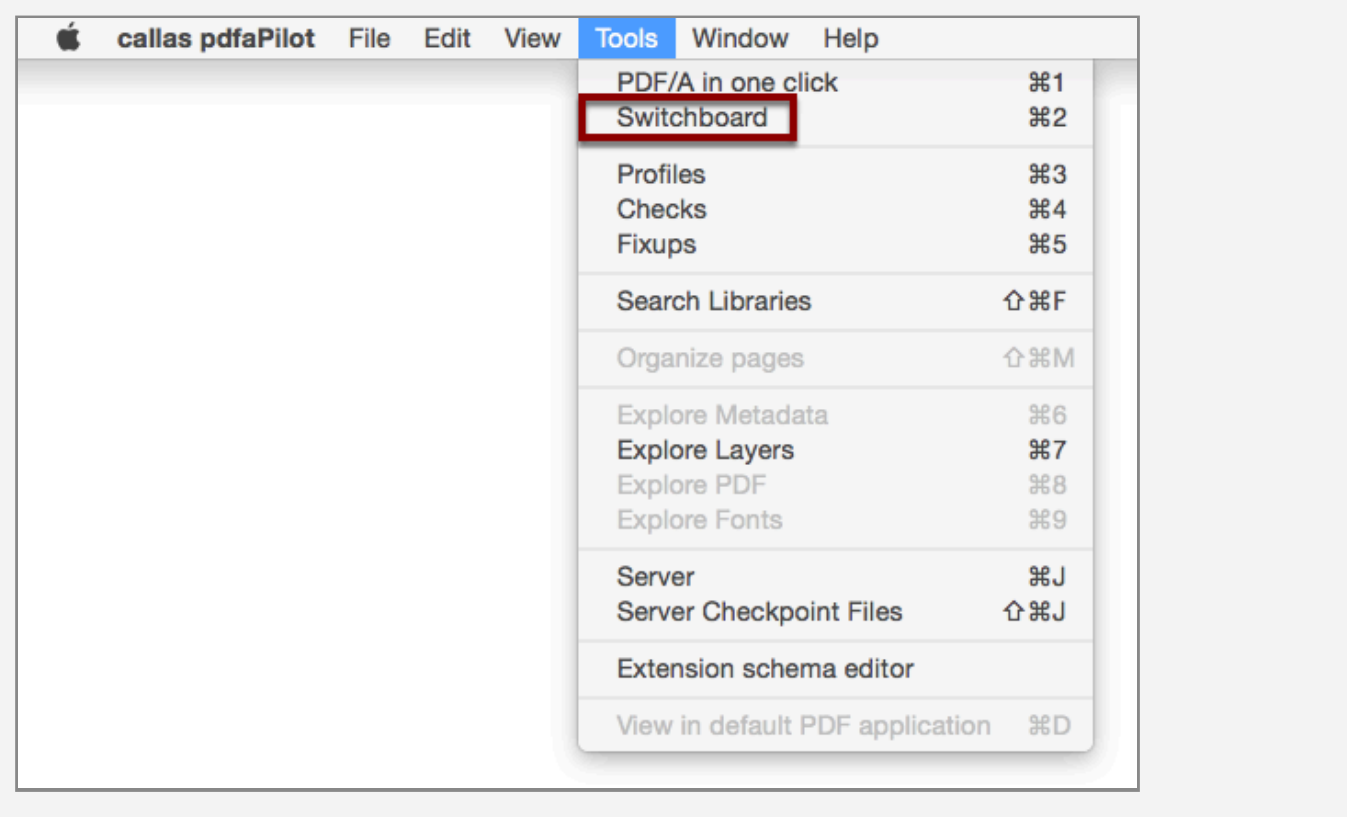
You can specify the set size and the horizontal/vertical offset, as well as specifying whether cut marks should be added to each resulting page.

2.4 Switchboard: PDF/A & PDF/UA

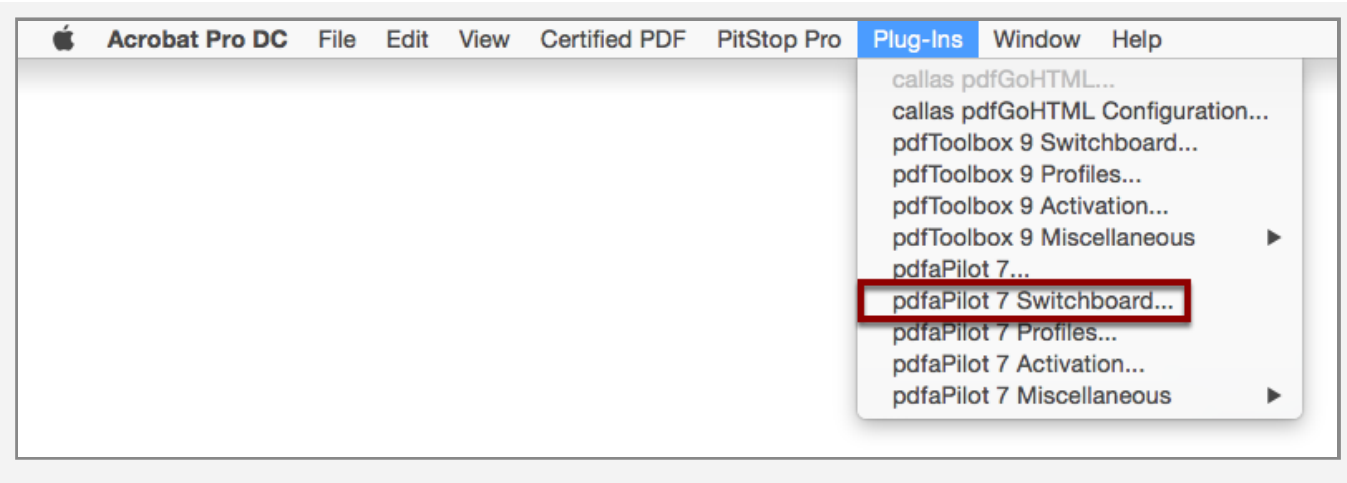
The Actions in the **PDF/A & PDF/UA** group are used to convert and optimize the **PDF/A** (long-term archiving) and **PDF/UA** (universally accessible PDF) standards.

The “PDF/A” Action

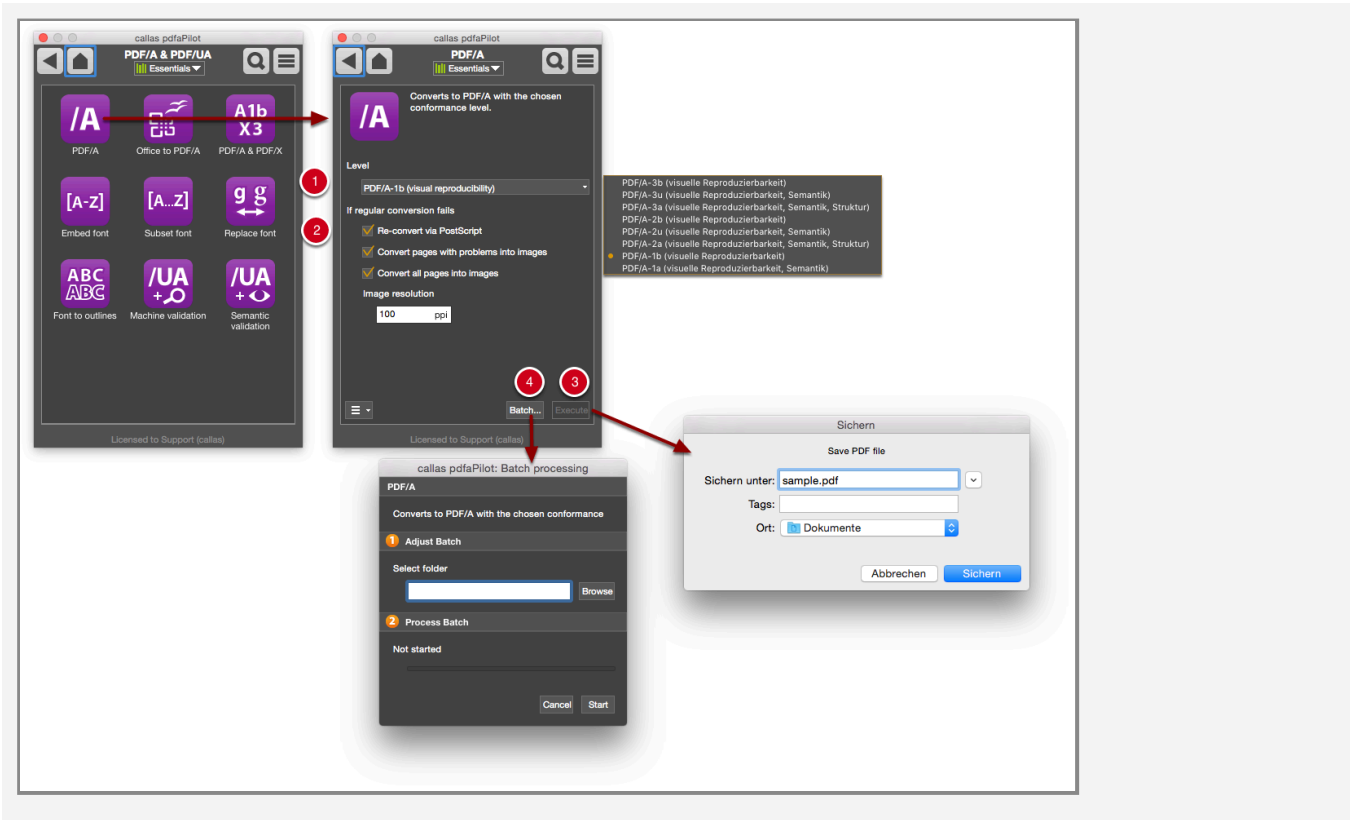
The **PDF/A** Action lets you convert PDF files to PDF/A in line with your desired compliance level.



In **pdfaPilot standalone**, open the switchboard via **Tools > Switchboard** in the menu or use the keyboard shortcut **Cmd+2**.



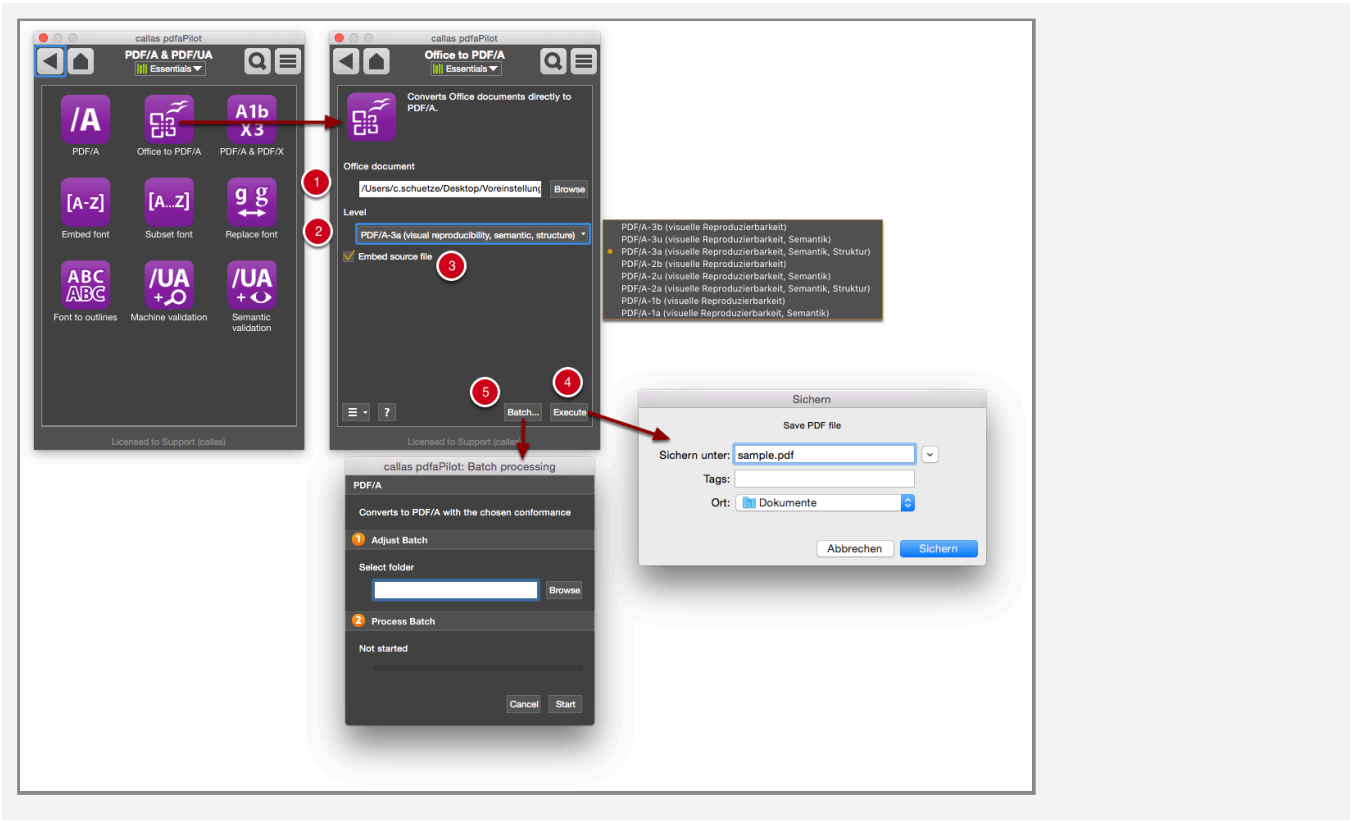
If you are using pdfaPilot as an Acrobat plug-in, you can open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard**.



1. Under **Level**, you can specify the compliance level of the PDF/A file to be created. The effects of each setting are shown in brackets after the name.
2. The **If regular conversion fails** section offers a number of alternatives for processing (**Re-convert via PostScript; Convert pages with problems into images; Convert all pages into images.**)
   - If pages are to be converted into images, the desired **Image resolution** can also be set in ppi.
   - When converting pages into images, the program automatically generates an invisible text copy (where possible) to ensure that the PDF remains searchable.
3. Click **Execute** to convert the current PDF document using the specified settings.
4. Click **Batch** to process batches of PDF files within a single folder using the specified settings.

The “Office to PDF/A” Action

pdfaPilot also allows you to convert Office documents to PDF/A.

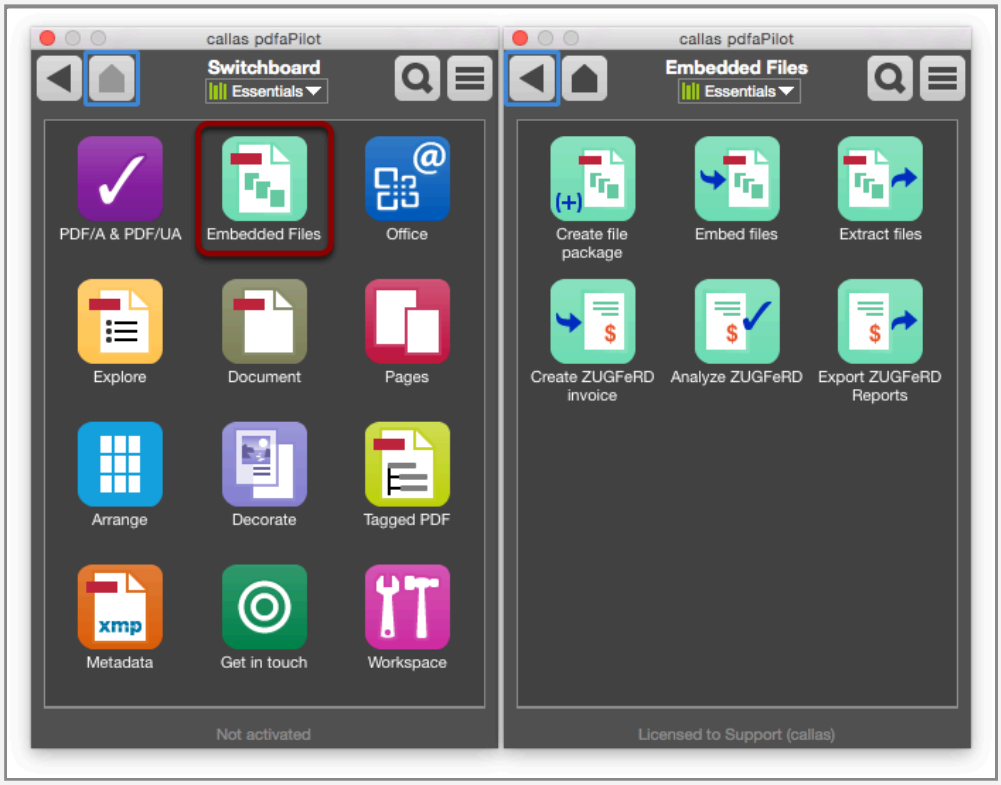


1. Under **Office document**, select the desired file by clicking **Browse** and using Finder or Explorer to locate the file.
2. Under **Level**, you can specify the compliance level of the PDF/A file to be created. The effects of each setting are shown in brackets after the name.
3. The **Embed source file option** is available when converting to PDF/A-3. This means that the original Office document will be embedded into the PDF/A-3 file.
4. Click **Execute** to convert the current PDF document using the specified settings. A **Save** dialog will ask you to enter the name and storage location for the new file.
5. Click **Batch** to process batches of Office files within a single selectable folder using the specified settings.

2.5 Switchboard: Embedded files - Create file package

Acting like containers, PDFs of version 1.7 and above can contain embedded files.

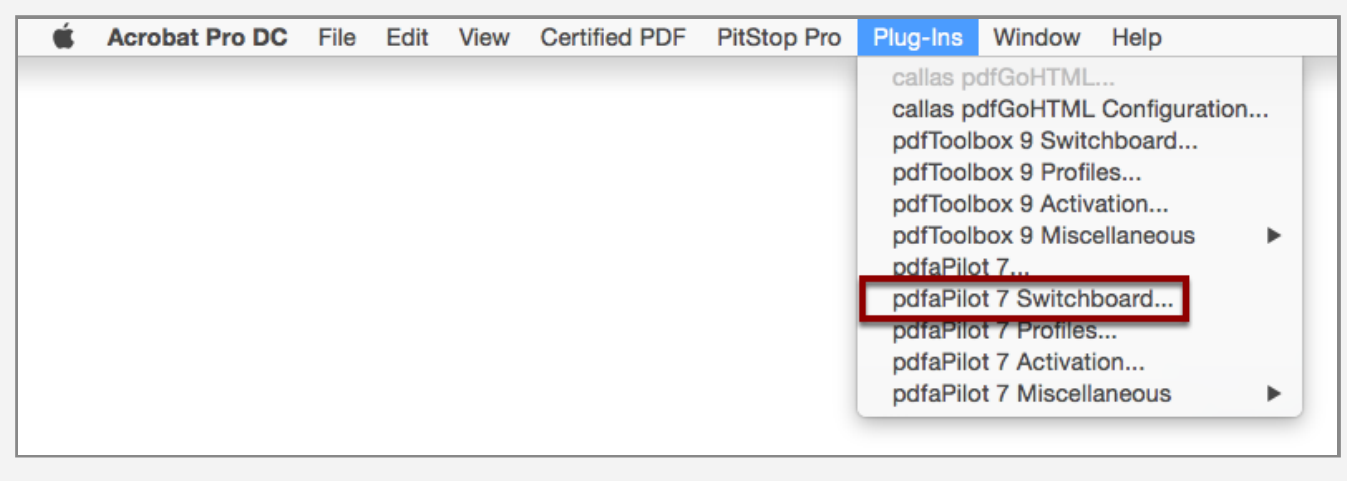
PDF/A-2 allows you to embed other PDF files; PDF/A-3 allows you to embed (source) files in other formats such as Office documents.



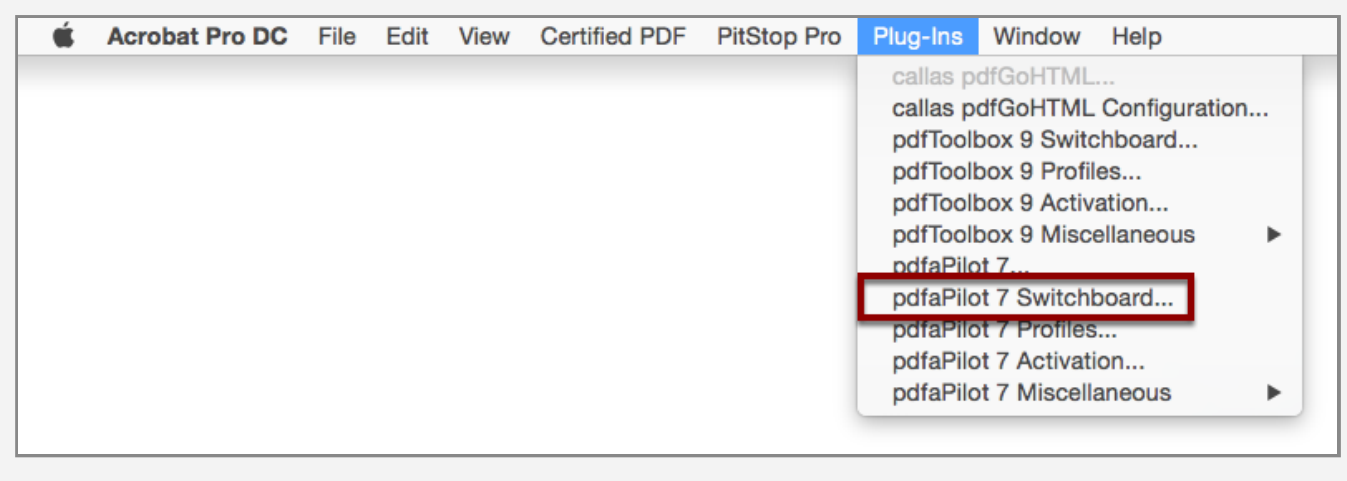
The **Embedded files** group lets you create file packages, embed files and extract files.

Embedded files are of interest for fields such as digital invoicing (ZUGFeRD).

Open the Switchboard



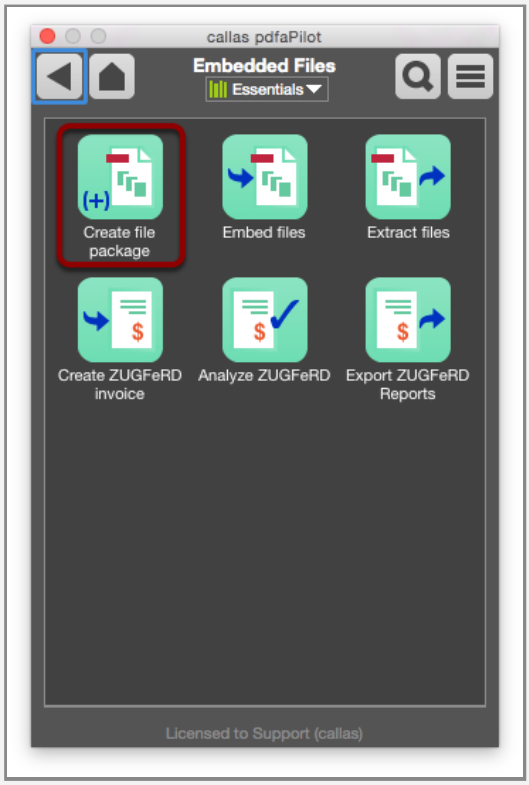
In **pdfaPilot standalone**, open the switchboard via **Tools > Switchboard** in the menu or use the keyboard shortcut **Cmd+2**.



If you are using pdfaPilot as an Acrobat plug-in, you can open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard**.

The “Create file package” Action

The **Create file package** Action lets you create PDF and PDF/A files which in turn act as containers for additional files.



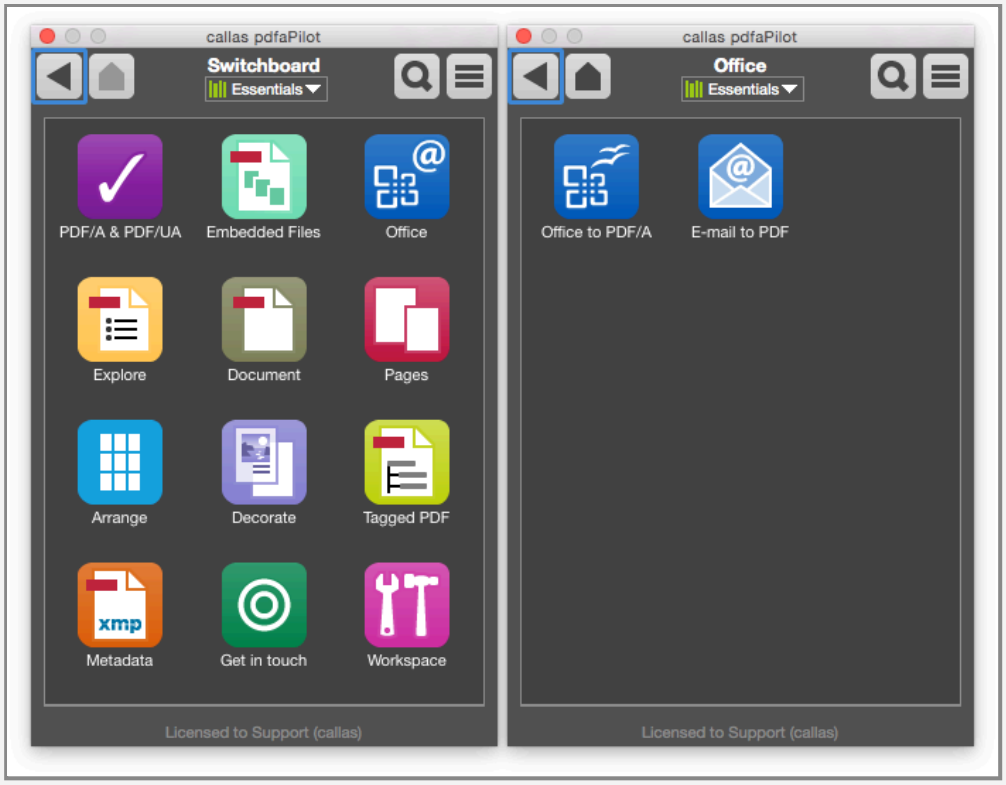
Click **Create file package** to open a settings dialog.

1. Two options are available under **Index page layout**: **Classic layout** and **User-defined layout**.
2. Under **PDF/A compatibility**, you can select the desired PDF or PDF/A version.
3. The **Relationship** can only be set if you have selected PDF/A-3-level compatibility above. The options here are: Source, Data, Alternative, Attachment or Unknown. This defines the embedded file's “relationship” with the primary document.
4. The output file can be set under **Select folder** by clicking **Browse**.
5. Click **Execute** to start the conversion process.

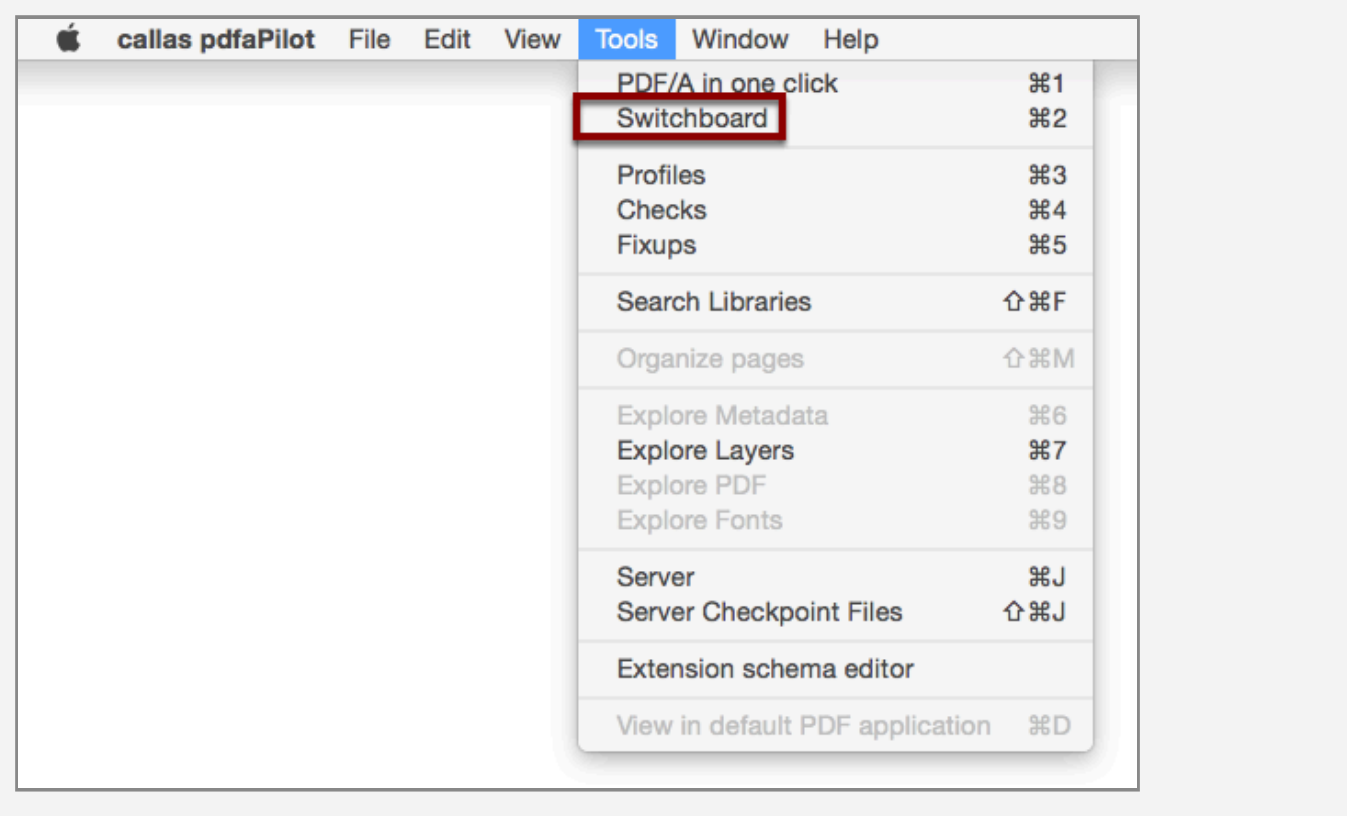
2.6 Switchboard: Office/E-mail to PDF

To allow you to save emails in PDF format, pdfaPilot offers a range of options for converting text and attachments into a “standard” PDF or the long-term archiving format PDF/A.

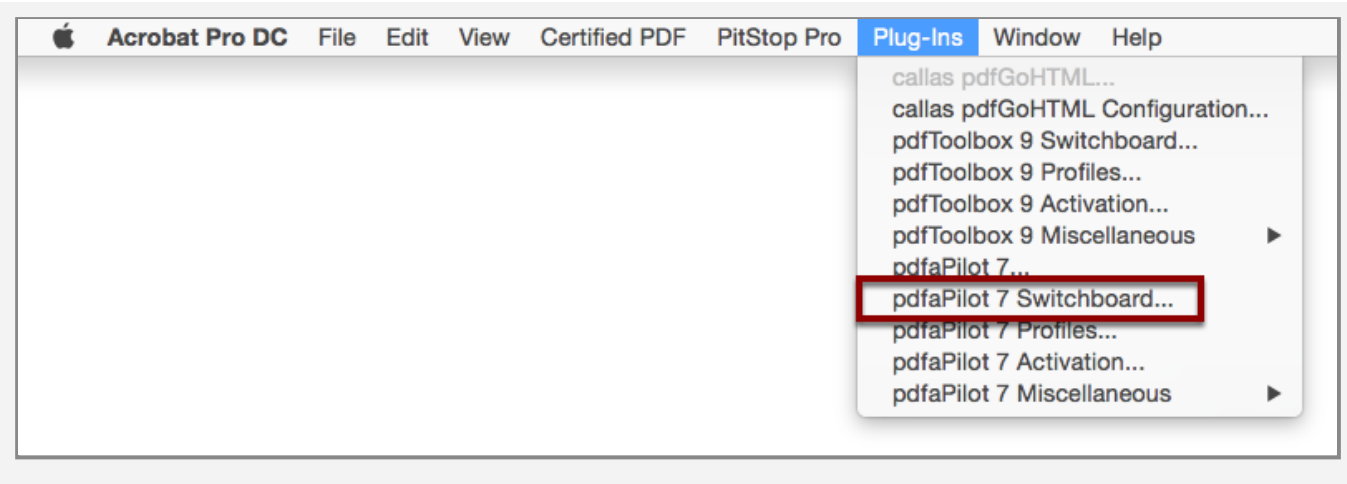
A wide range of settings are available for managing text and attachments.



Open the Switchboard



In **pdfaPilot standalone**, open the switchboard via **Tools > Switchboard** in the menu or use the keyboard shortcut **Cmd+2**.



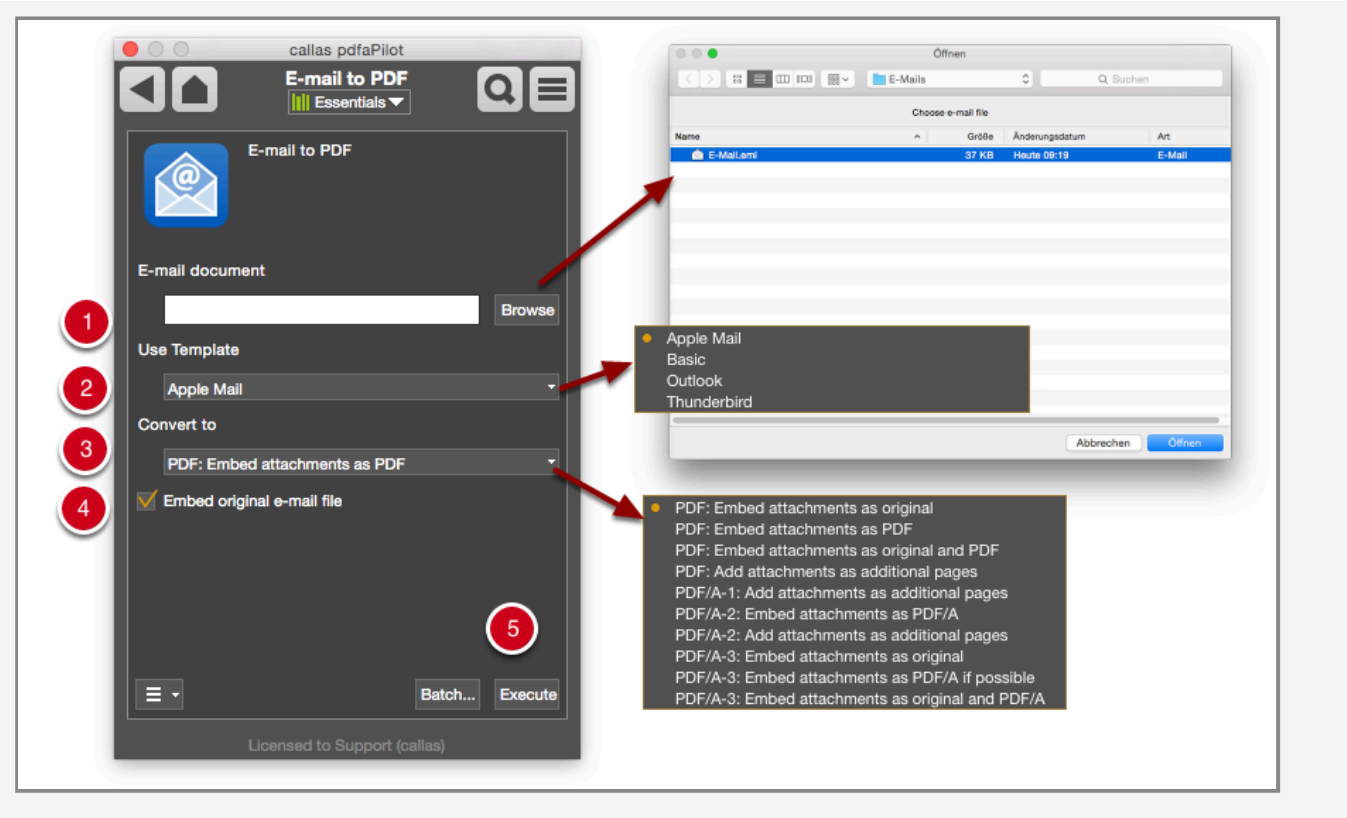
If you are using pdfaPilot as an Acrobat plug-in, you can open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard**.

The “E-mail to PDF” Action

The “E-mail to PDF” action is part of the “Office” group.

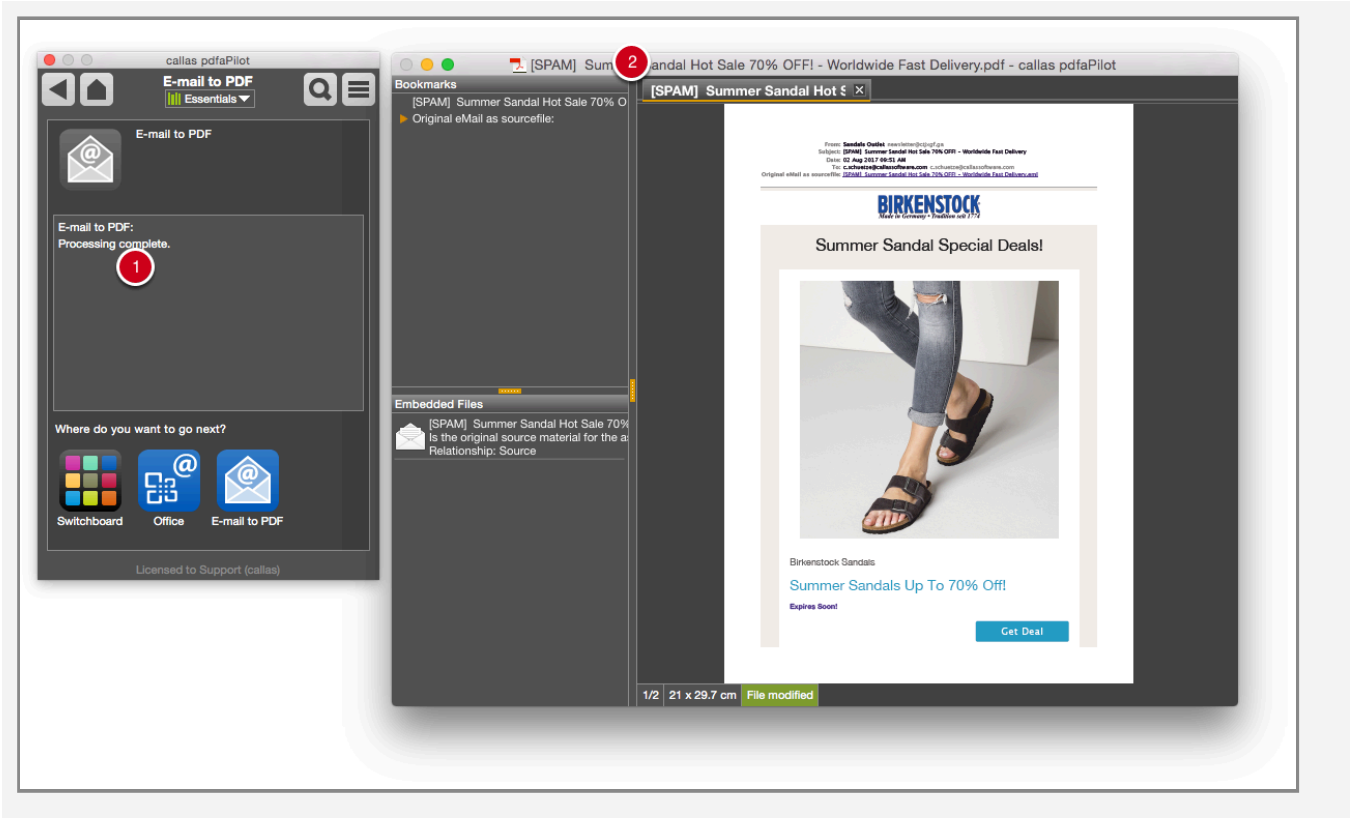
Click on the **E-mail to PDF** symbol to open the settings window:

Settings



1. You can select an **E-mail document** to process by clicking “Browse” and selecting an email file from the window that opens.
2. The **Use Template** section lets you select the appropriate version for the email program used (Apple Mail, Basic, Outlook or Thunderbird)
3. pdfaPilot offers a range of options under **Convert to**. The basic choice is between converting to **PDF** or **PDF/A**. The list also offers a range of options for **handling attachments** (as original / PDF / PDF/A / additional PDF pages).
4. The check box lets you specify whether to **embed the original email file**.
5. Click **Execute** to start the conversion process.

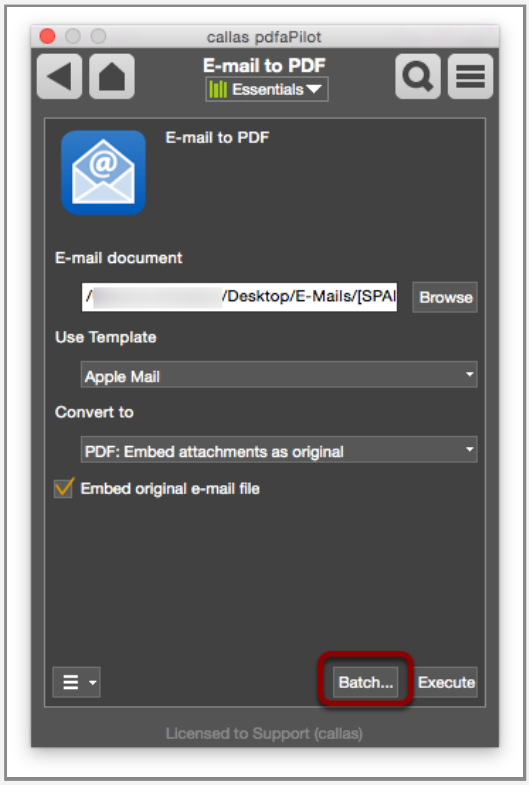
Result



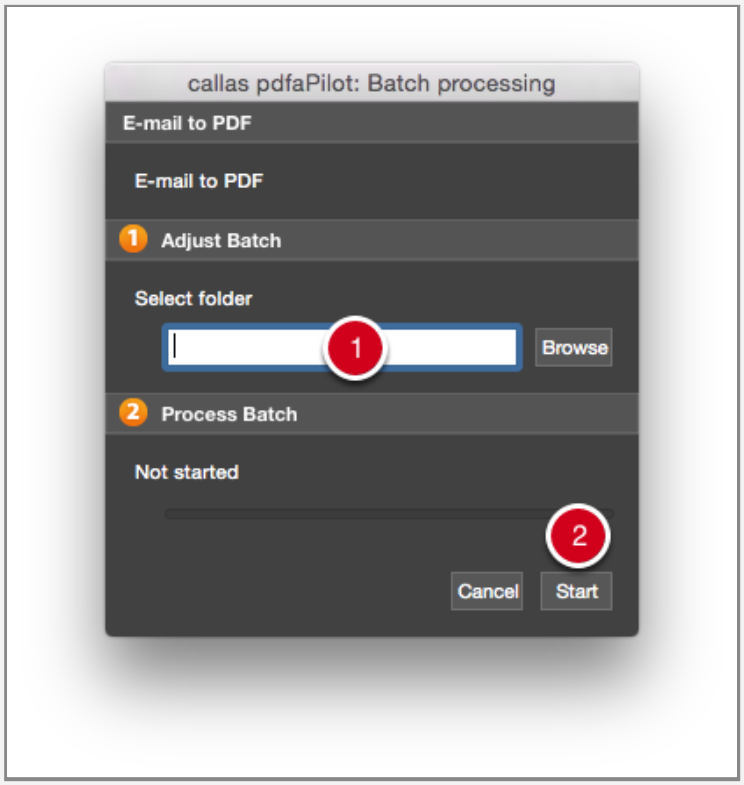
1. pdfaPilot will then report that **processing is complete**.
2. The resulting PDF or PDF/A file will then be shown in the **file window**.

The “E-mail to PDF” Action for batch processing

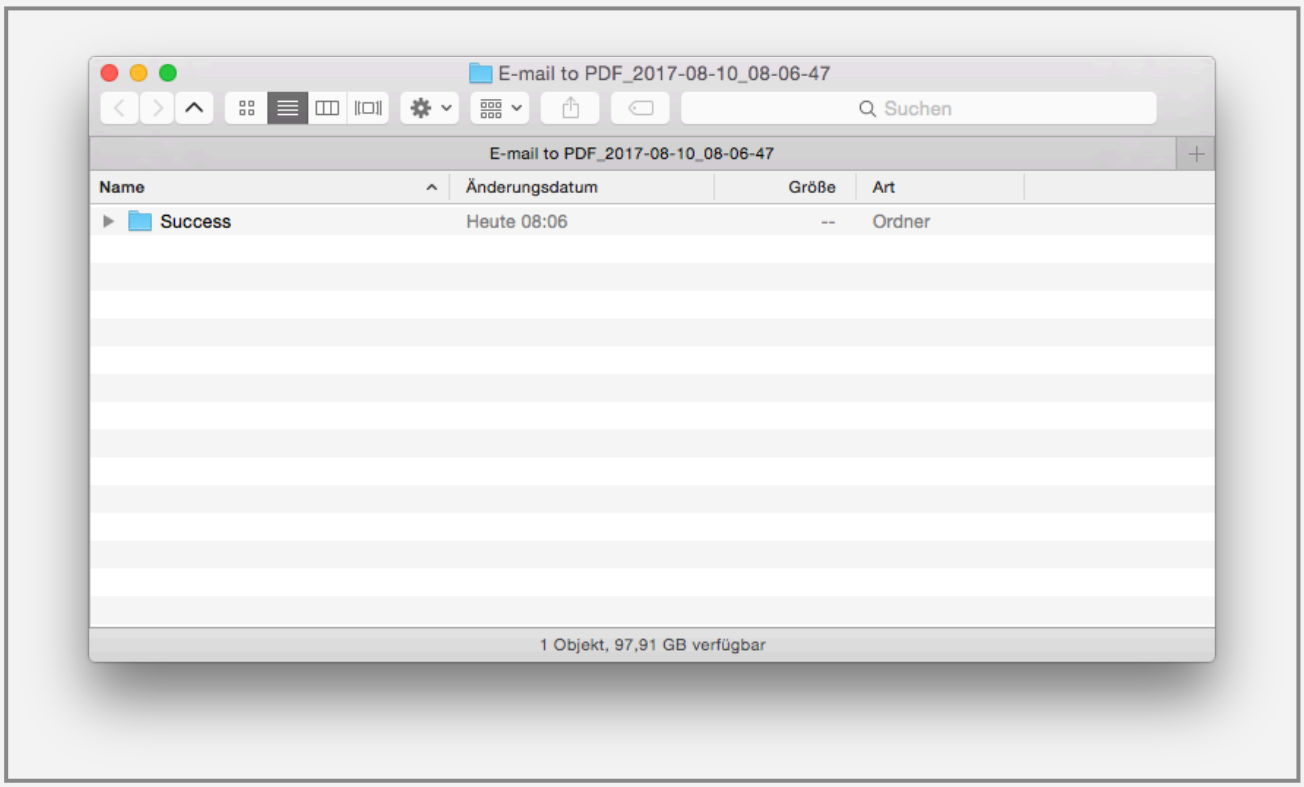
The **E-mail to PDF** Action can also be used for batch processing.



To do so, click on the **Batch** button after applying the settings in the Action window.



1. The batch processing dialog allows you to select the folder containing the files to be processed.
2. Once this is done, click **Start**.

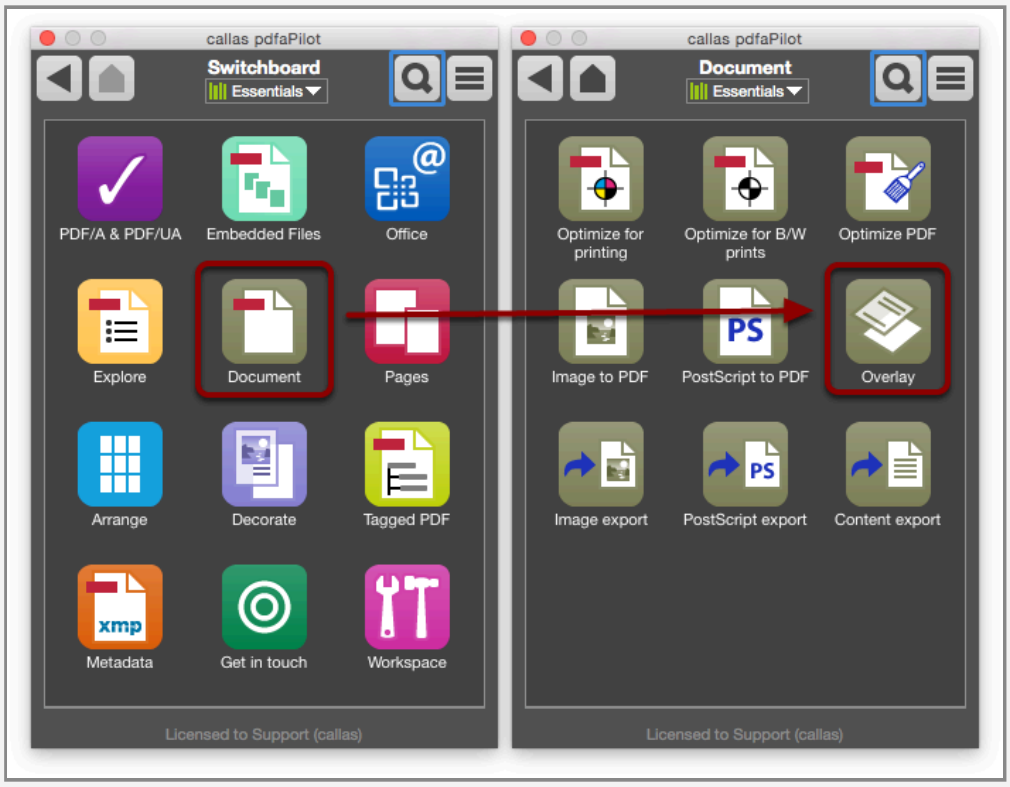


The resulting files will be stored in a folder named **Successful**, located in a ***timestamped*** sub-folder in the original files' directory.

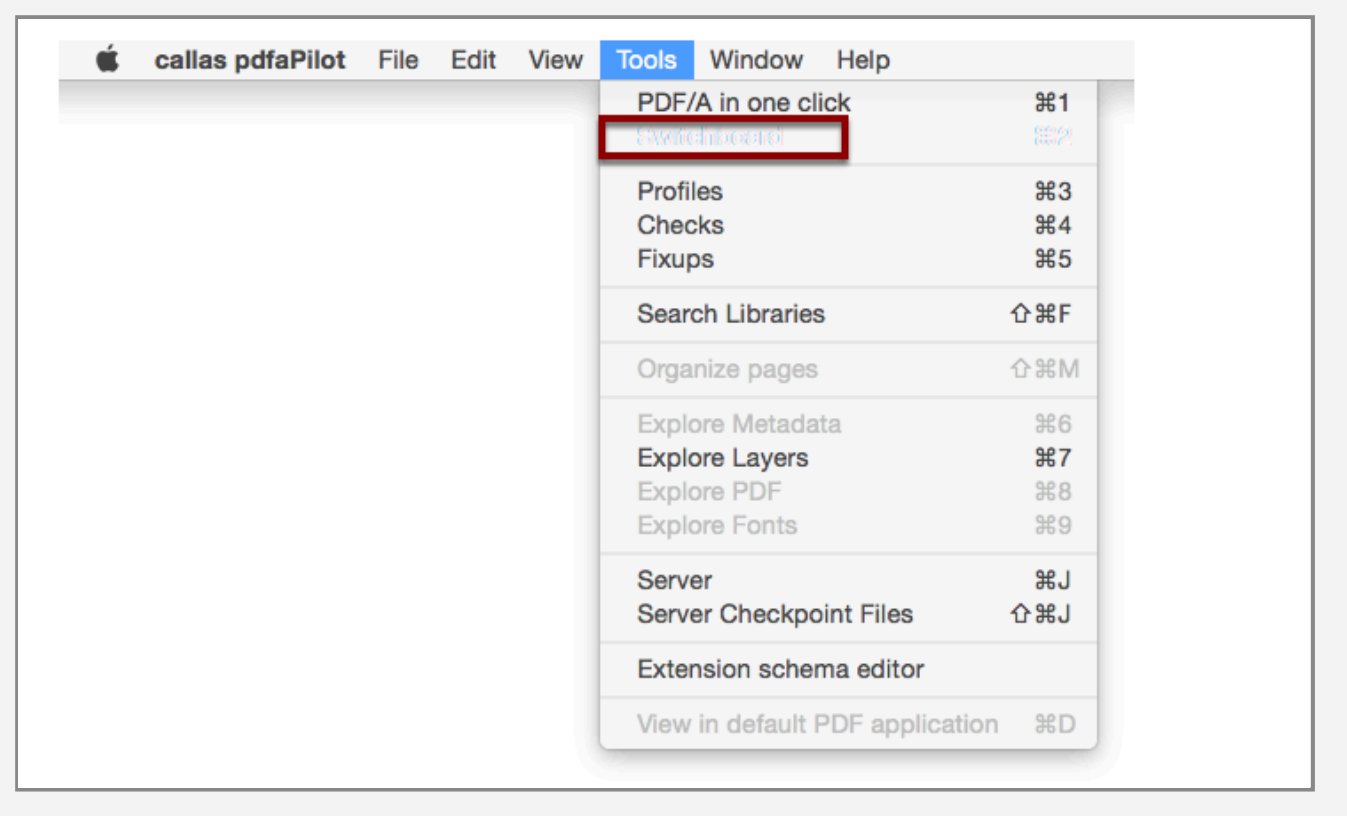
2.7 Switchboard: Document – Overlay

The **Overlay** action in the **Document** group lets you place content on a PDF document page similarly to a stamp.

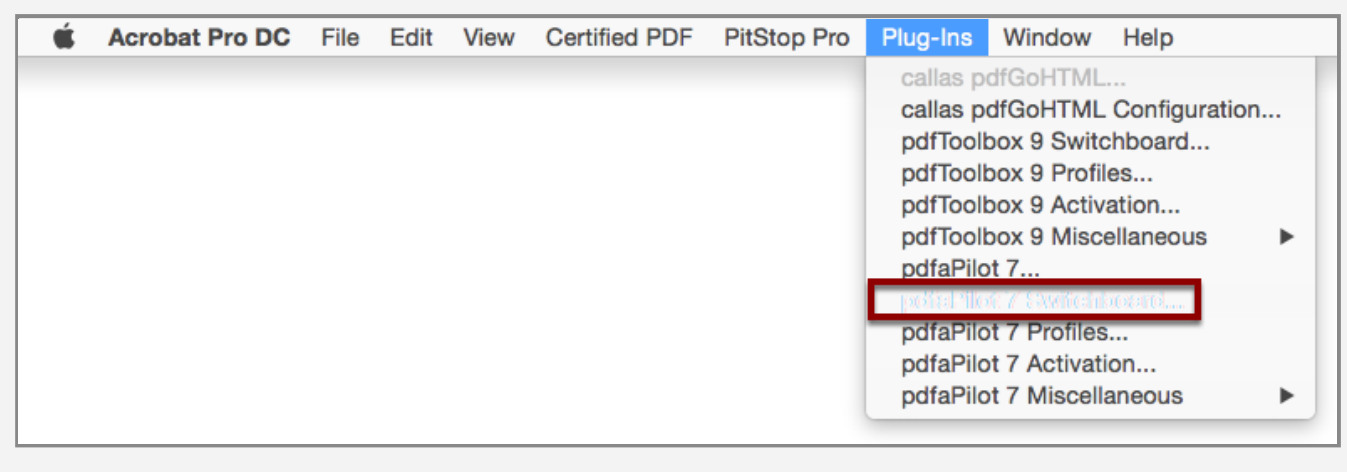
pdfaPilot provides a number of standard overlays, but the user can also apply their own overlays (as long as they are in PDF format).



Open the Switchboard



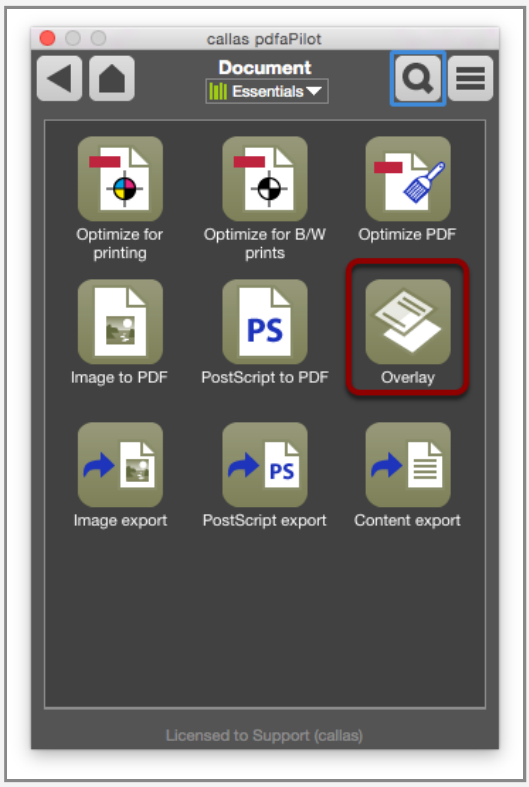
In **pdfaPilot standalone**, open the switchboard via **Tools > Switchboard** in the menu or use the keyboard shortcut **Cmd+2**.



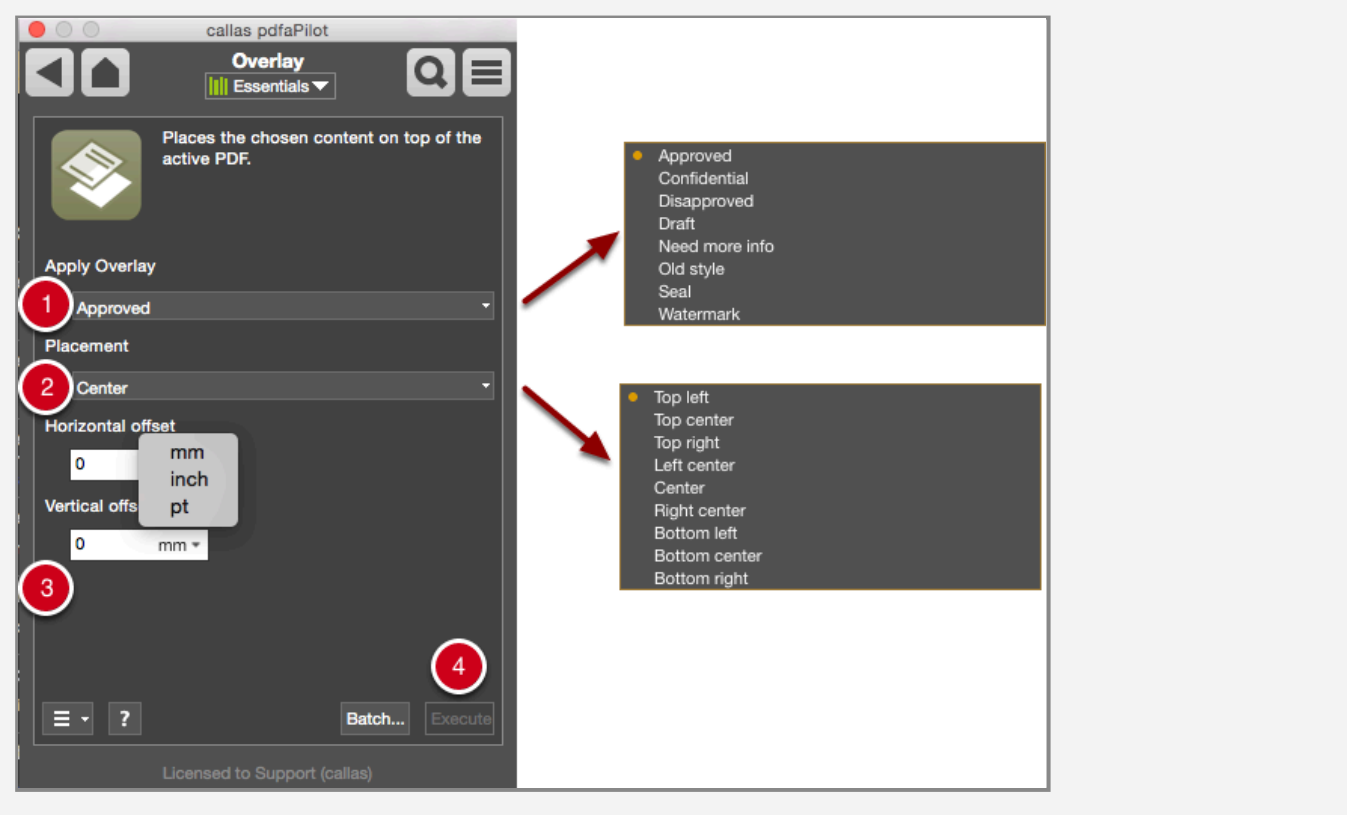
If you are using pdfaPilot as an Acrobat plug-in, you can open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard**.

The “Overlay” Action

The **Overlay** Action is a part of the **Document** group.

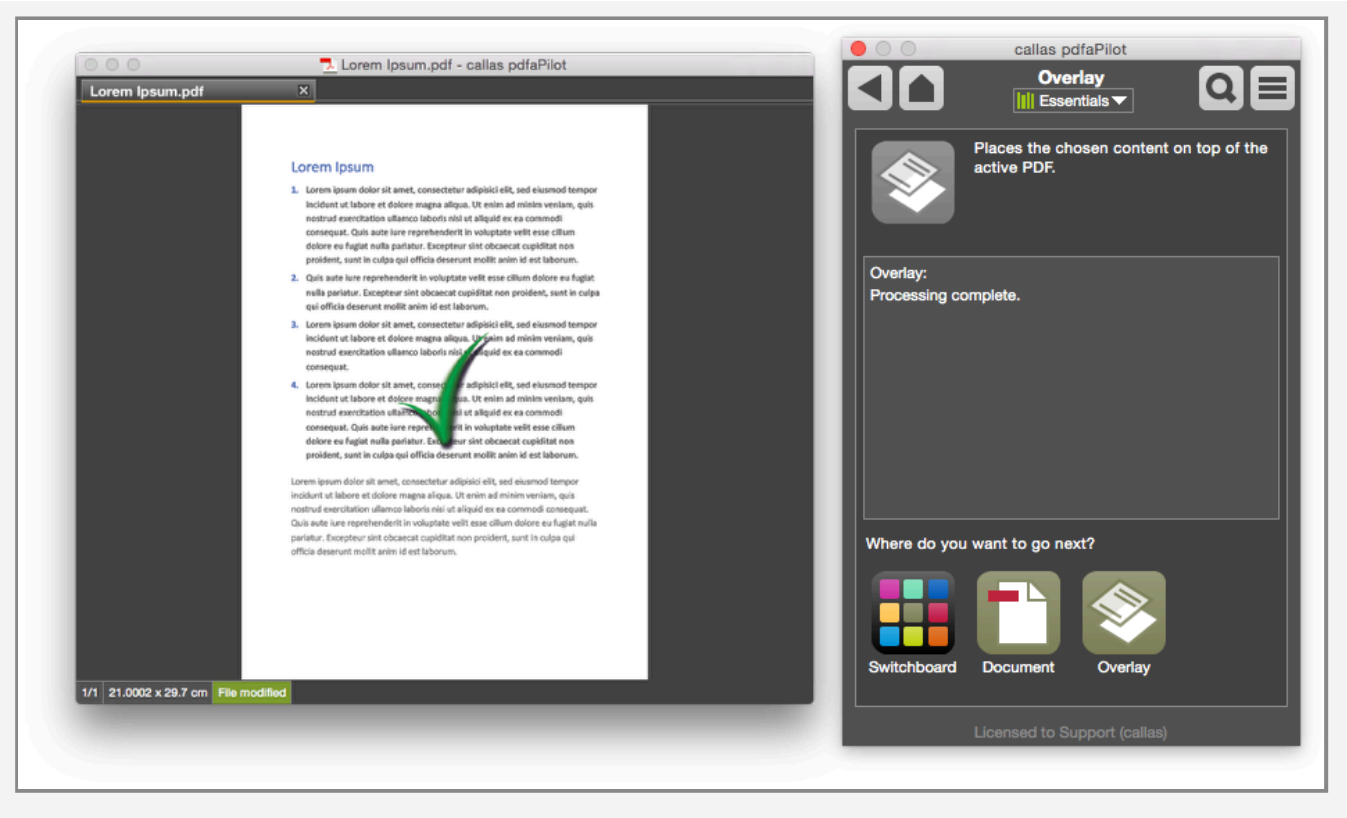


Click on the **Overlay** symbol to open the settings window:



1. The **Apply overlay** menu provides a range of templates to choose from, including **Declined, Accepted, Draft** and others.
2. The **Position** menu lets you specify where on the page to place the overlay (such as **Top left, Center** or **Bottom right**.)
3. To make fine adjustments to the positioning, use the **Horizontal offset** and **Vertical offset** settings. The units can be specified in **mm, inches** or **pt**.
4. Click **Execute** to start processing the current PDF document.

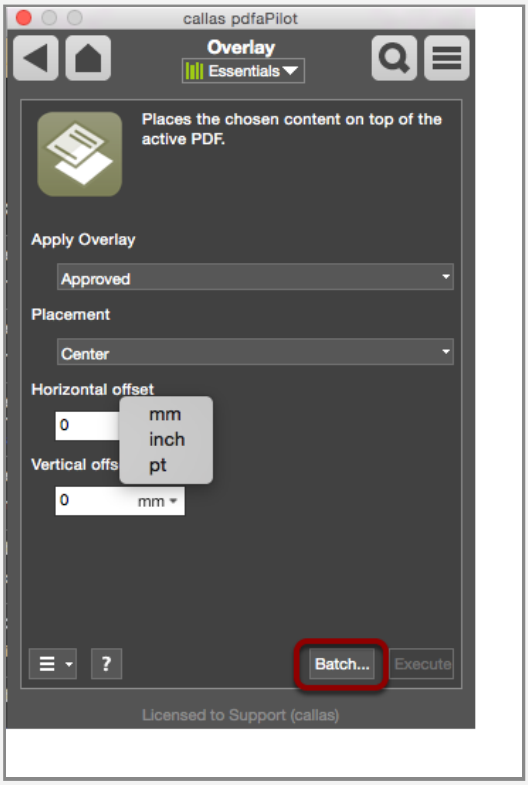
Result



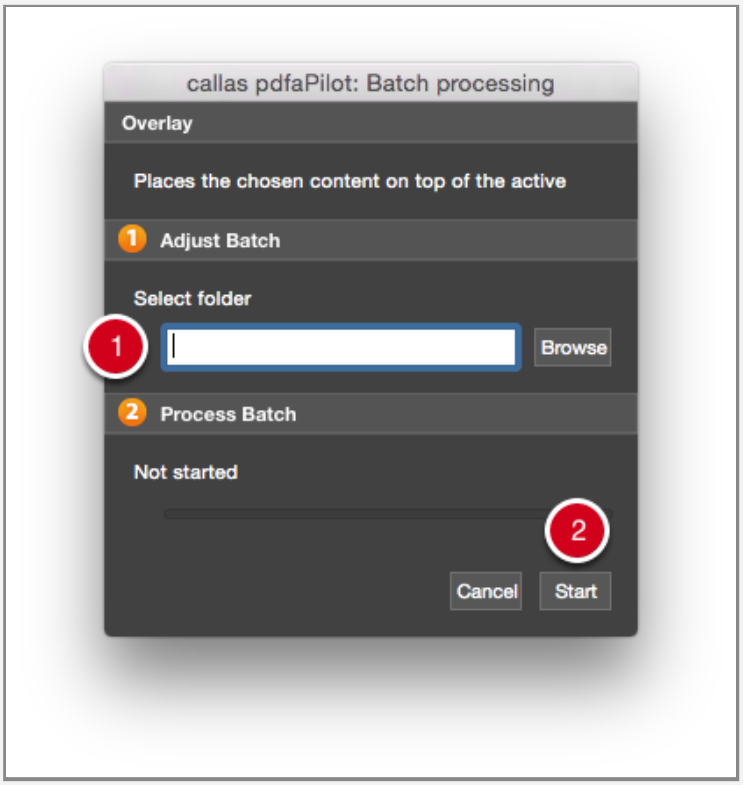
1. The **overlay** is placed on the PDF page.
2. pdfaPilot will report that **processing is complete**.

Running the “Overlay” Action in batch processing mode

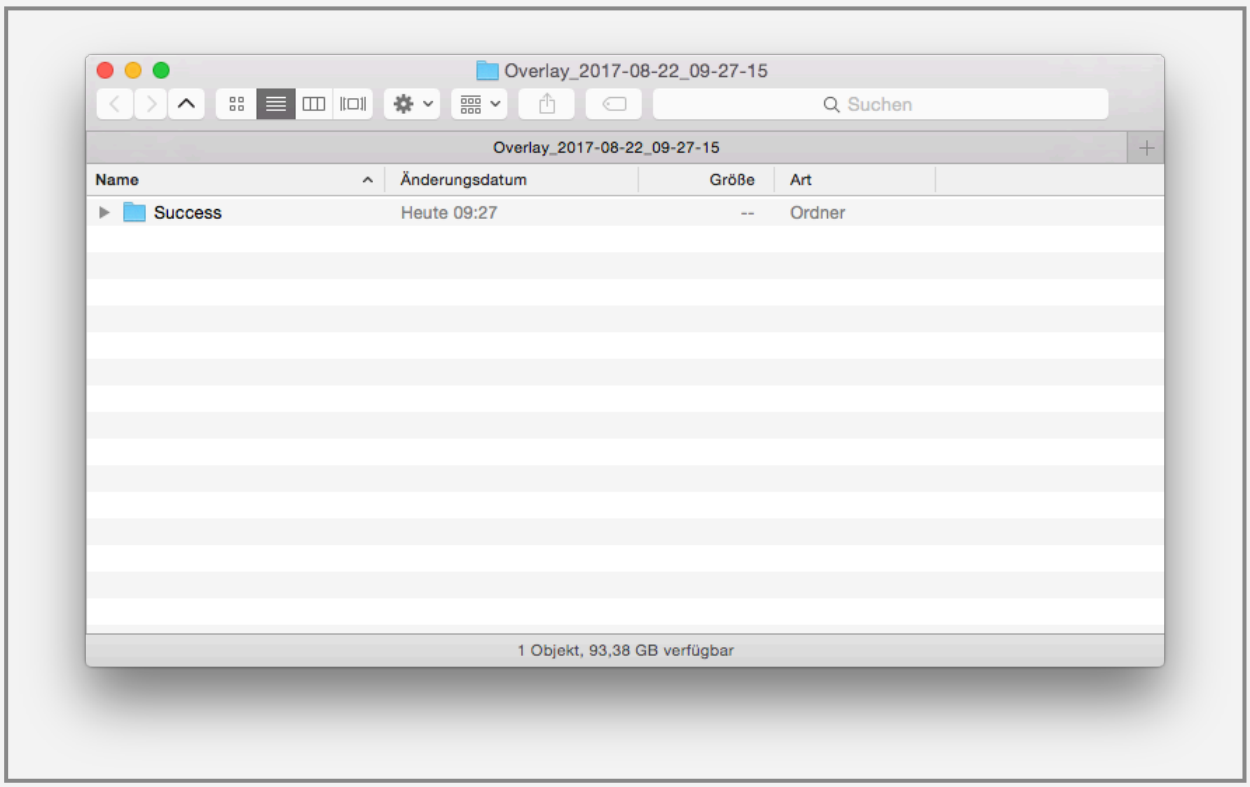
The **Overlay** Action can also be used for batch processing.



To do so, click on the **Batch** button after applying the settings in the Action window.

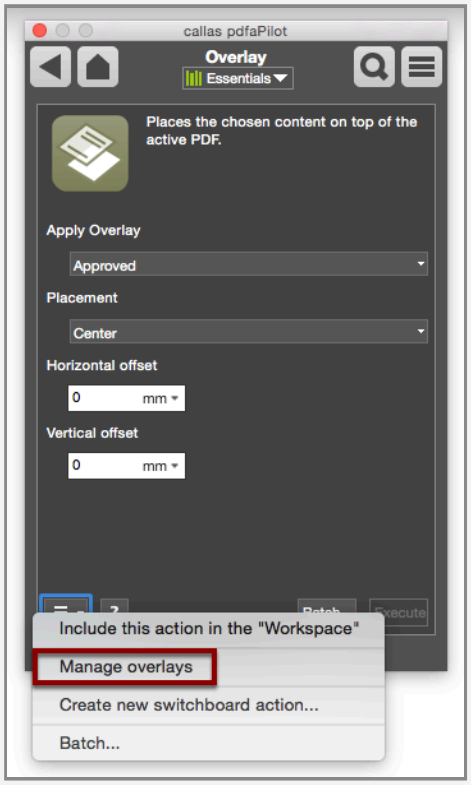


1. The batch processing dialog allows you to select the folder containing the files to be processed.
2. Once this is done, click **Start**.

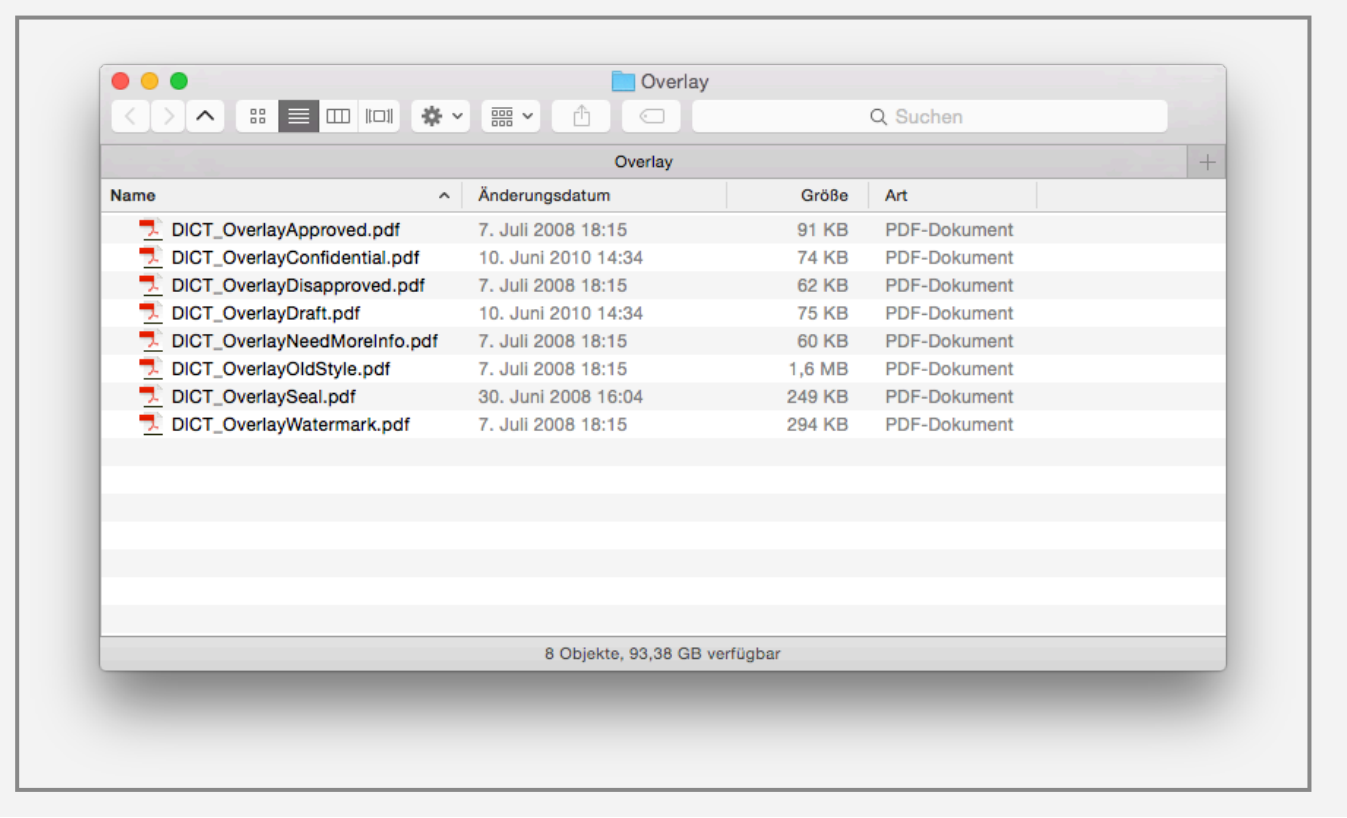


The resulting files will be stored in a folder named **Successful**, located in a ***timestamped*** sub-folder in the original files' directory.

Using your own overlays



The button at the bottom left lets you **Manage overlays**.

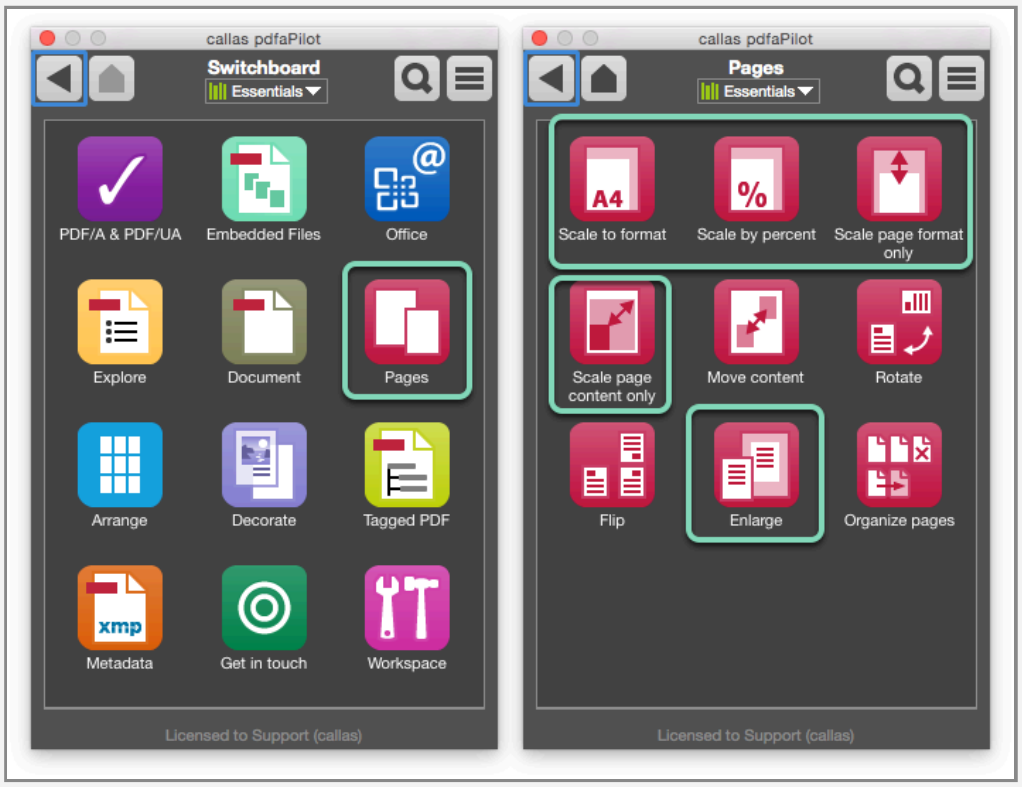


Here, you can add your own templates.
These must be in PDF format and have a transparent background.
The user-specific templates will then be shown in the **Apply overlay** list next time you launch the Switchboard Action.

2.8 Switchboard: Pages - Scale and enlarge

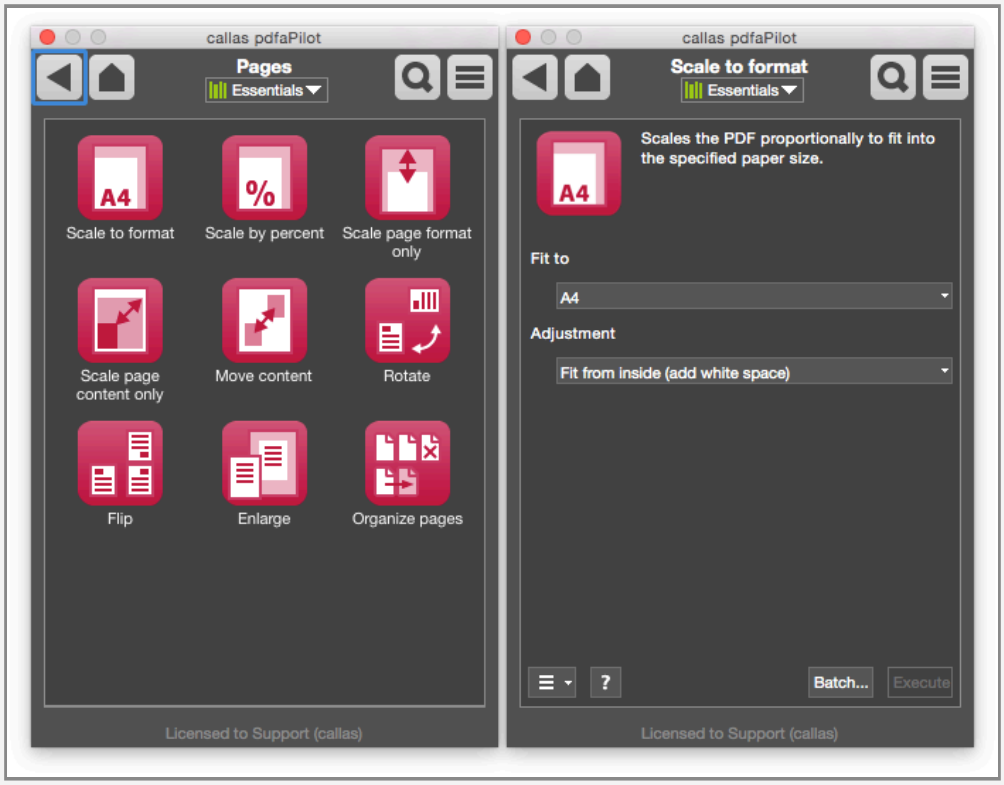
pdfaPilot's Pages Group offers a range of options for scaling page content and enlarging page regions.

This article will provide a brief overview of these Actions.



Numerous **scaling** Actions can be found under the **Pages** group.

“Scale to format” Action

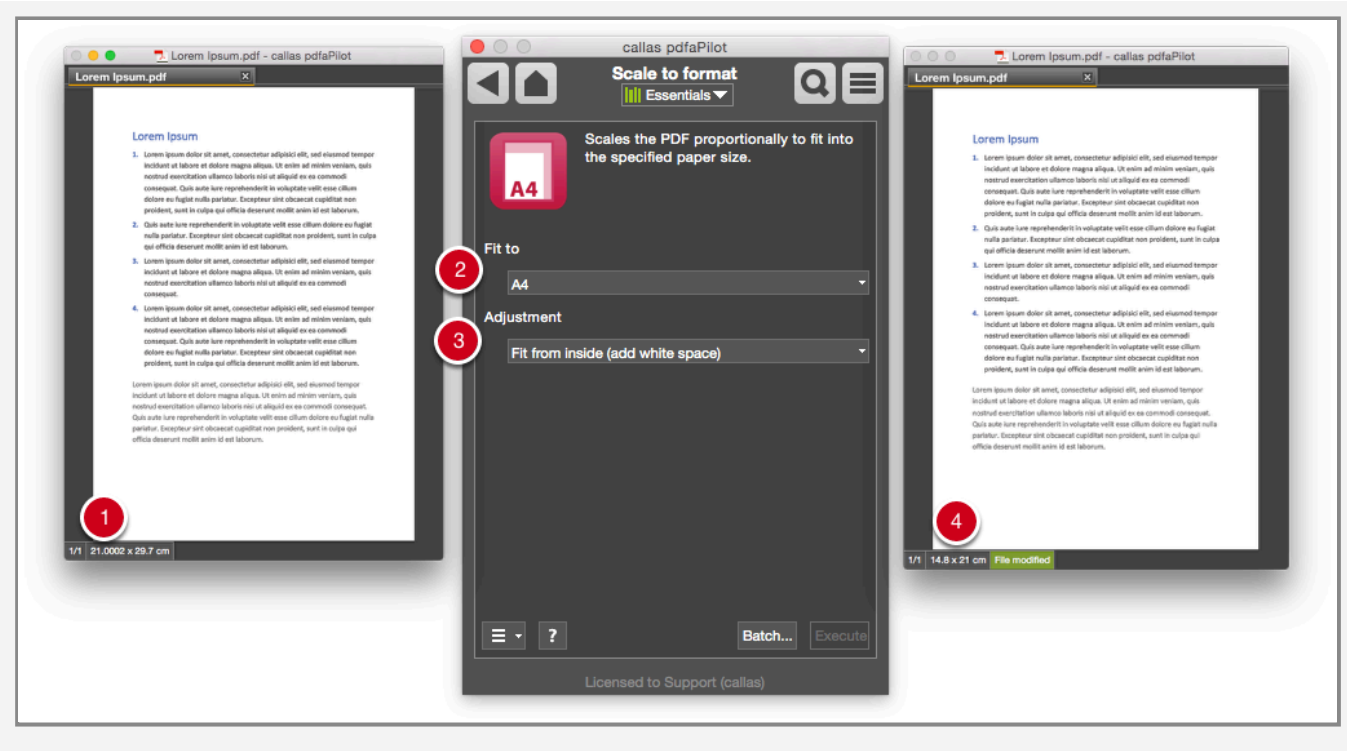


The **Scale to format** Action offers the following options:

1. The **Fit to** menu provides an extensive list of international standard formats to choose from.
2. The **Adjustment** menu provides a range of ways to compare the page content against the page, in case the original document’s height-width ratio is different from that of the document to be created.

Click the **Execute** button to begin processing.

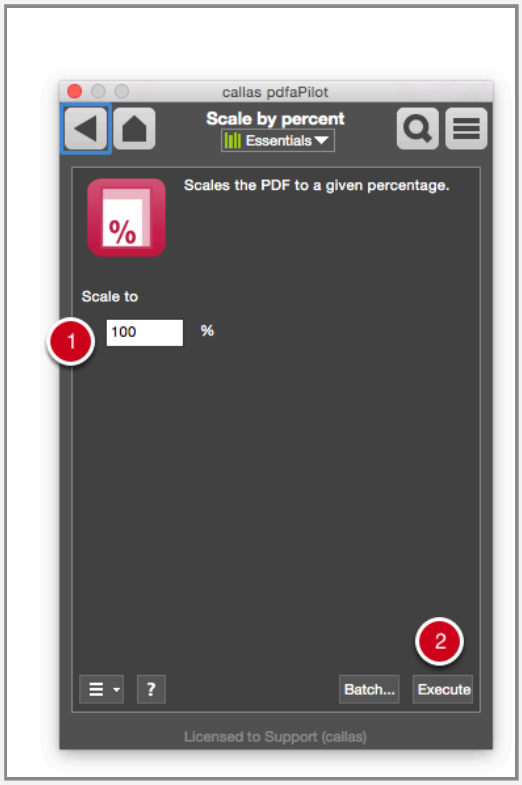
Effect of the “Scale to format” Action



Example: DIN A4 to DIN A5:

1. The input document measures **21 x 29.7 cm** = DIN A4 format. The dimensions are shown at the bottom left of pdfaPilot's document window.
2. In this case, the target size under **Fit to** is *DIN A5.*
3. We have set the Adjustment to **Fit from inside** (which in this case is irrelevant for an A4 to A5 conversion, since the ratio remains the same.)
4. The converted PDF document measures **14.8 x 21 cm** = DIN A5.

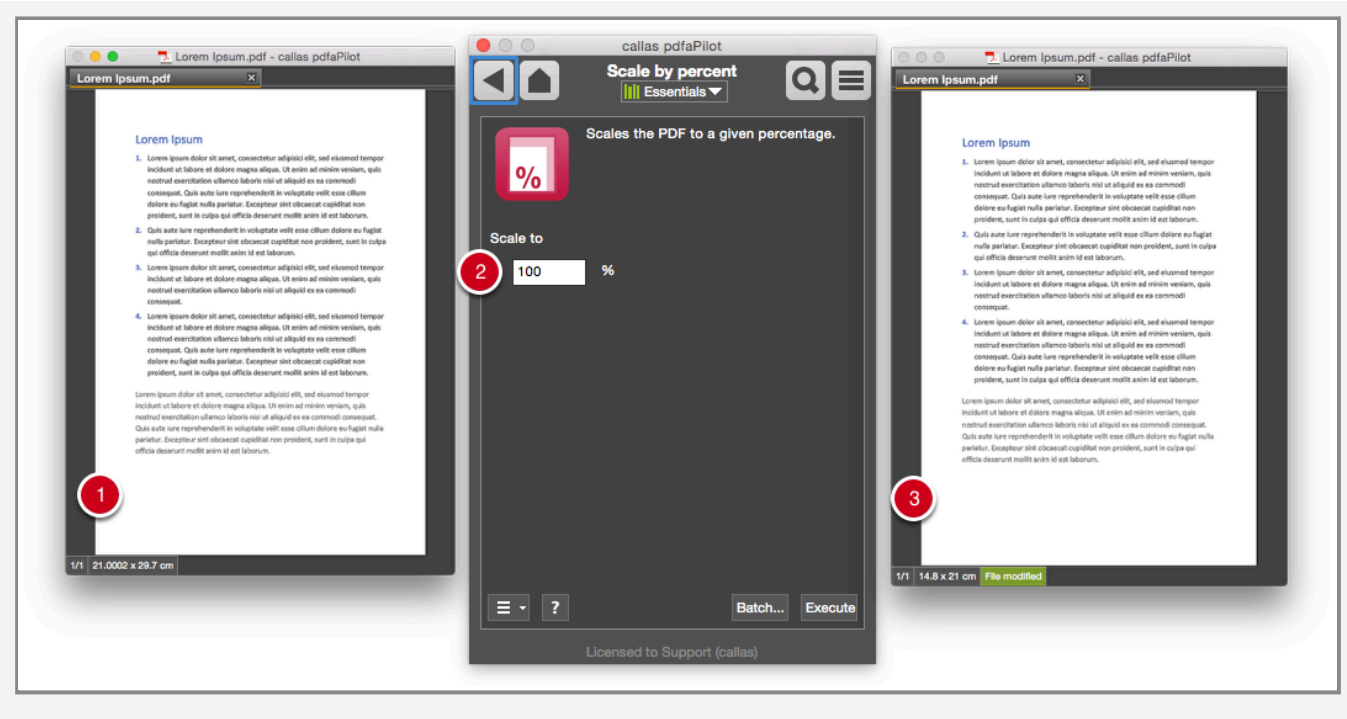
“Scale by percent” Action



The **Scale by percent** Action is intended for use when working with target page sizes which do not correspond to standard formats such as A4 or Letter. The following options are available:

1. The **Scale to** field lets you enter the desired percentage.
2. Click the **Execute** button to begin processing.

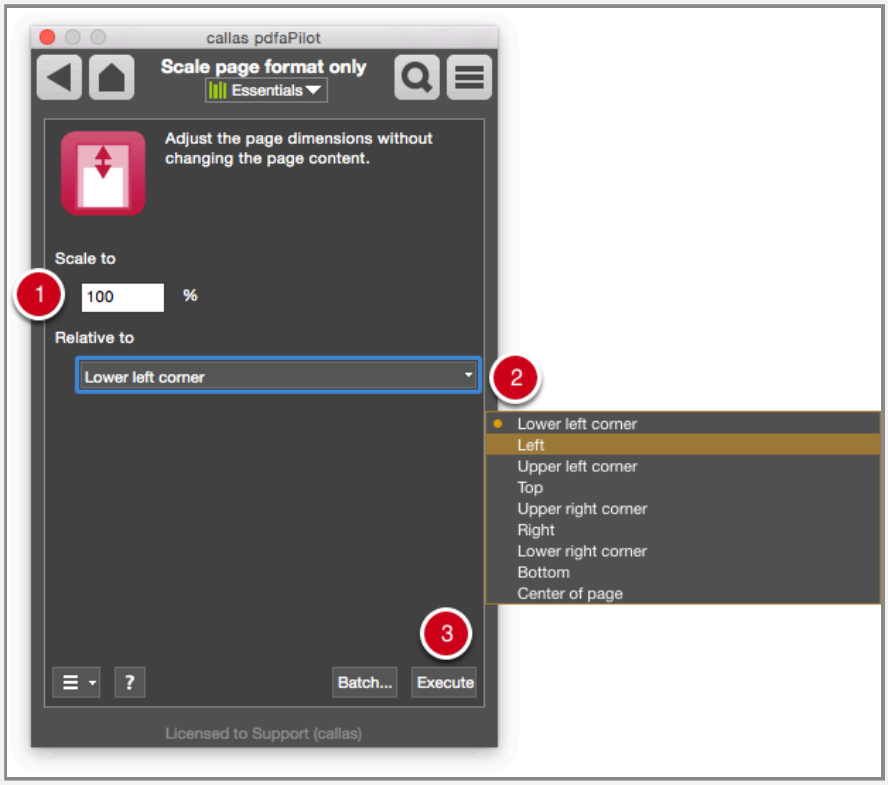
Effect of the “Scale by percent” Action



Example: Scaling by 75 percent:

1. The input document measures **21 x 29.7 cm** = DIN A4 format. The dimensions are shown at the bottom left of pdfaPilot's document window.
2. Here, the **Scale to** value is set to *75%*.
3. The converted PDF document measures **15.75 x 22.27 cm** = 75 percent.

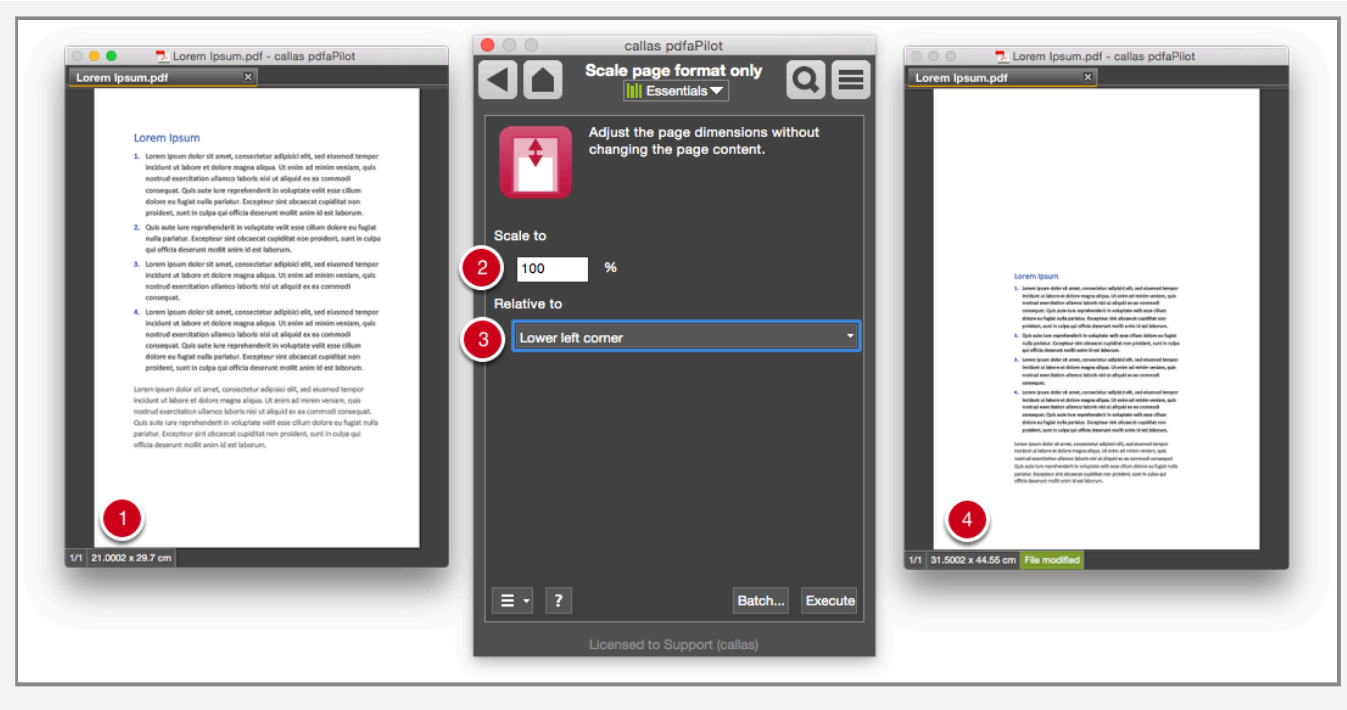
“Scale page format only” Action



The **Scale page format only** Action adjusts the page dimensions without changing the page’s content. The following options are available:

1. The **Scale to** field lets you enter the desired percentage.
2. Under **Relative to**, you can specify which point will be used as a reference for scaling (each corner, each edge or the center.)
3. Click the **Execute** button to begin processing.

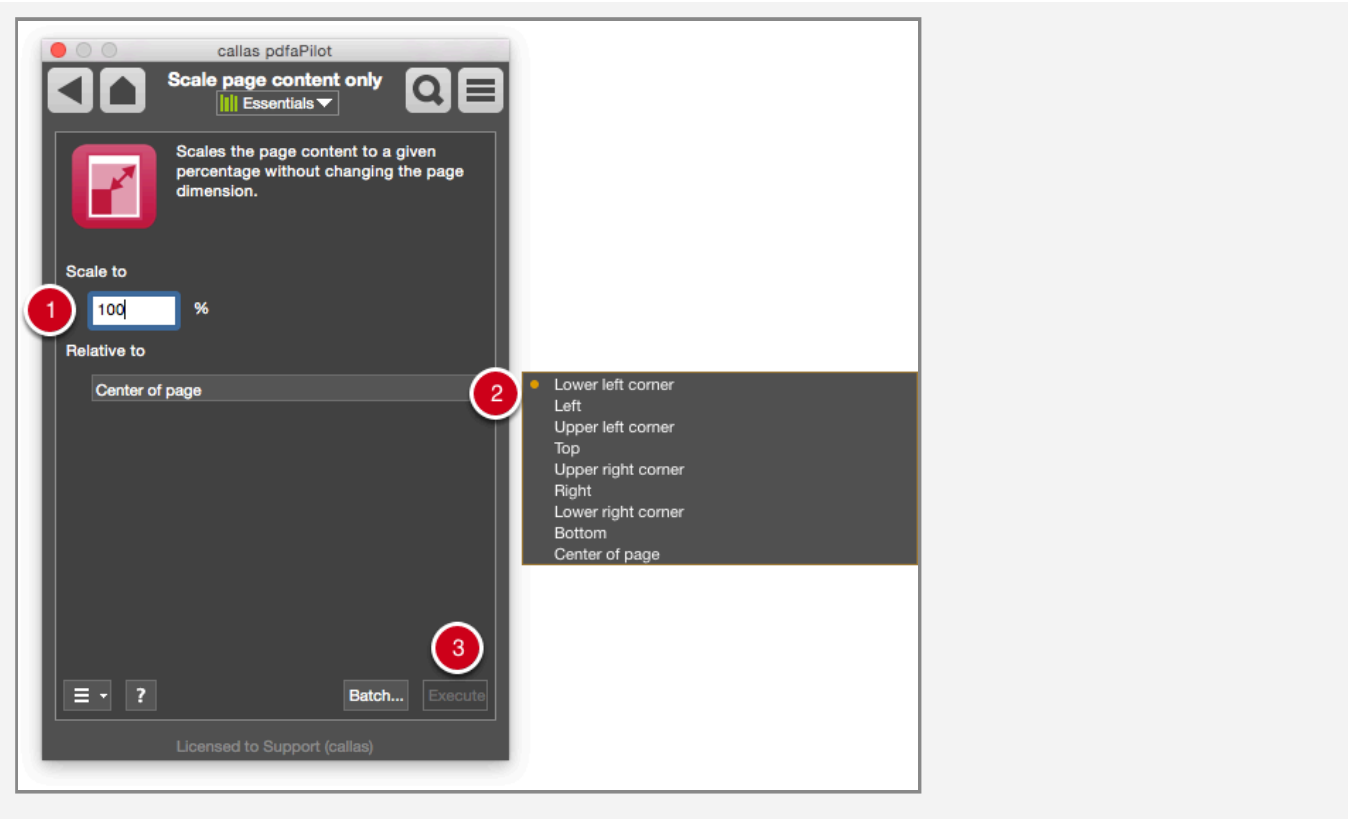
Effect of the “Scale page format only” Action



Example: Scaling by 150 percent:

1. The input document is in **DIN A4** format.
2. Here, the **Scale to** value is set to *150%*.
3. **Relative to** has been set to **Bottom**.
4. The converted PDF document measures **31.50 x 44.55 cm** = 150 percent. The original page content has not been scaled; instead, white space has been added relative to the reference point.

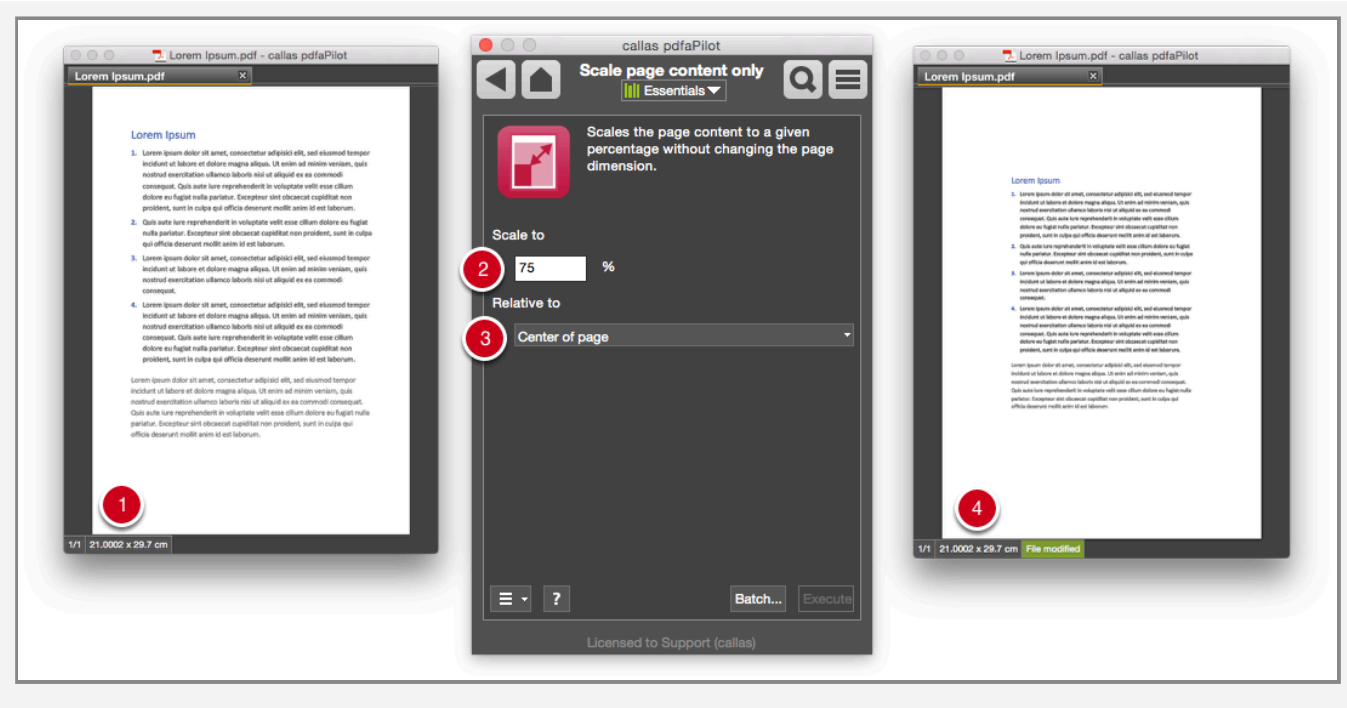
“Scale page content only” Action



The **Scale page content only** Action adjusts the page content without changing the page’s dimensions. The following options are available:

1. The **Scale to** field lets you enter the desired percentage.
2. Under **Relative to**, you can specify which point will be used as a reference for scaling (each corner, each edge or the center.)
3. Click the **Execute** button to begin processing.

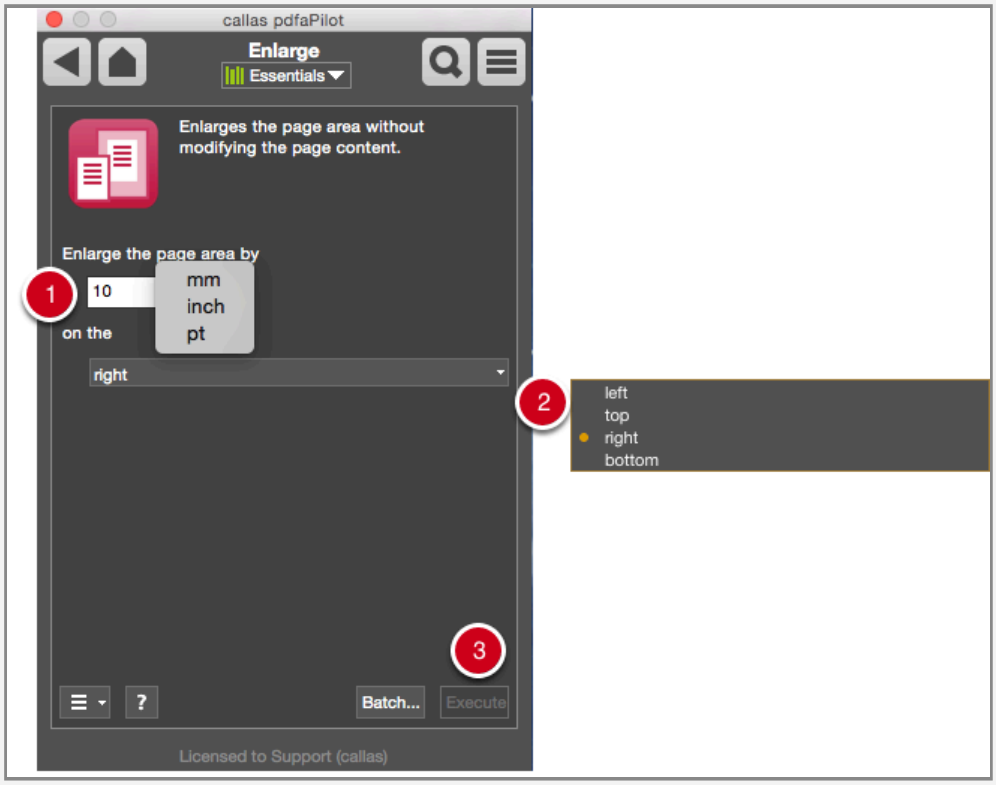
Effect of the “Scale page content only” Action



Example: Scaling by 75 percent:

1. The input document is in **DIN A4** format.
2. Here, the **Scale to** value is set to *75%*.
3. **Relative to** is set to **Center of page**.
4. The converted PDF document remains in DIN A5 format. The page content has been scaled by 75 percent relative to the *center of the page*.

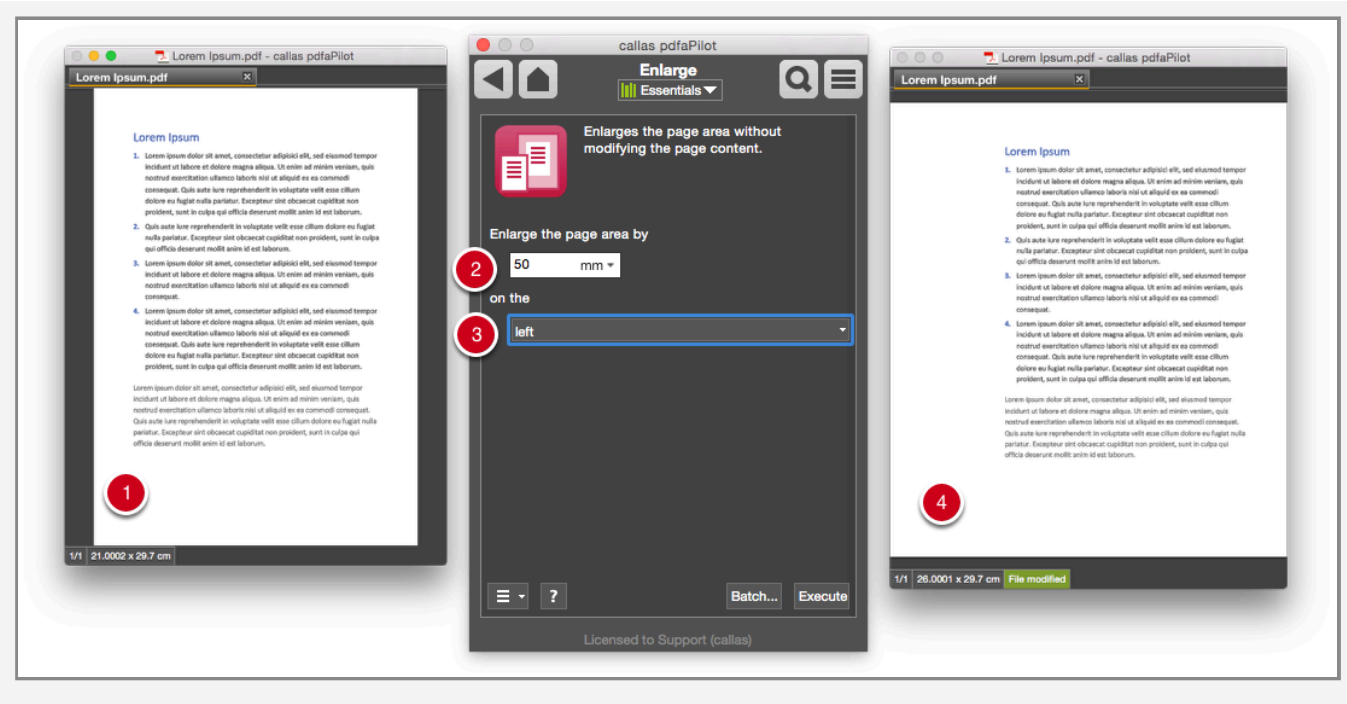
“Enlarge” Action



The **Enlarge** Action individually add white space to each edge of the page:

1. The **Enlarge the page area by** field lets you enter the desired value in **mm, inches** or **pt**.
2. Under **Relative to**, you can specify which point will be used as a reference for scaling (***left, top, right*** or ***bottom***.)
3. Click the **Execute** button to begin processing.

Effect of the “Enlarge” Action



Example: Adding 50 mm to the left edge:

1. The input document is in **DIN A4** format.
2. The value under **Enlarge the page area by** has been set to *50 mm*.
3. It is being added **on the left side**.
4. The converted PDF document now has an extra 50 mm of space on the left side.

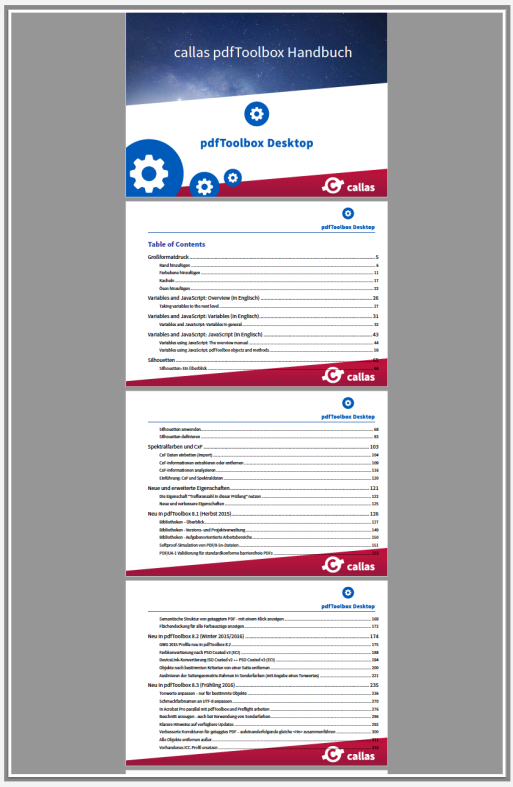
2.9 Create Booklet

In the “Arrange” category, you will find the “Booklet” Action, which you can use to turn a multi-page file into a booklet.

You can specify the set size and the horizontal/vertical offset, as well as specifying whether cut marks should be added to each resulting page.

PDF consisting of individual pages

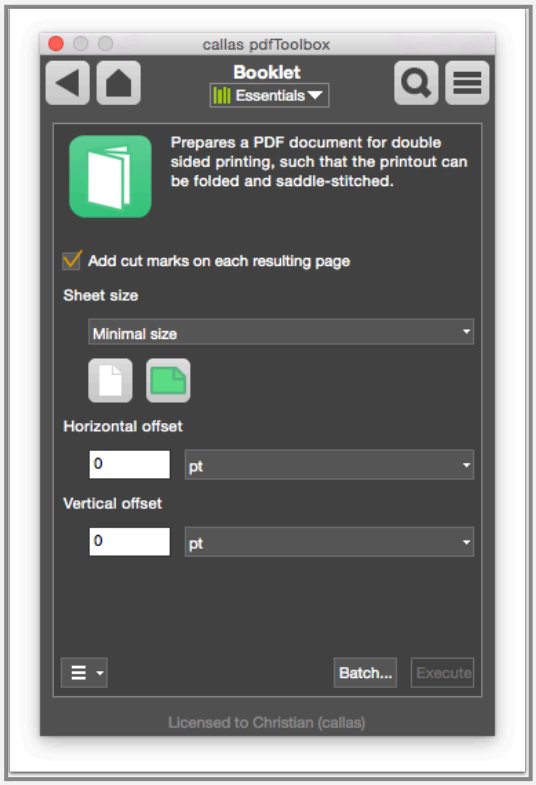
The input document consists of a number of individual pages. In this example, we will use the pdfToolbox manual.



Call up the Booklet Action

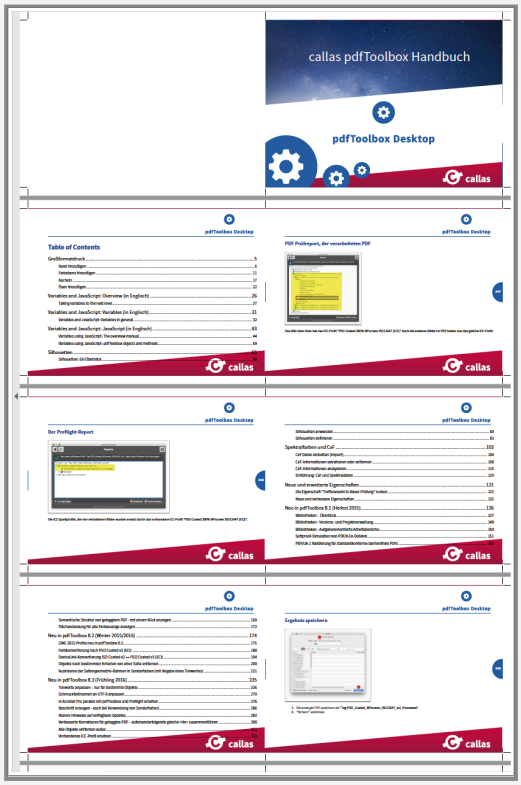
After selecting the “Booklet” Action from the Switchboard, the parameters mentioned above will be shown.

Here, you must most importantly set the desired sheet size for the finished brochure, as well as defining its orientation.



Results with double-sided pages

The parameters shown in the screenshot above will produce the following result when executed. This is designed for double-sided printing with saddle stitching.

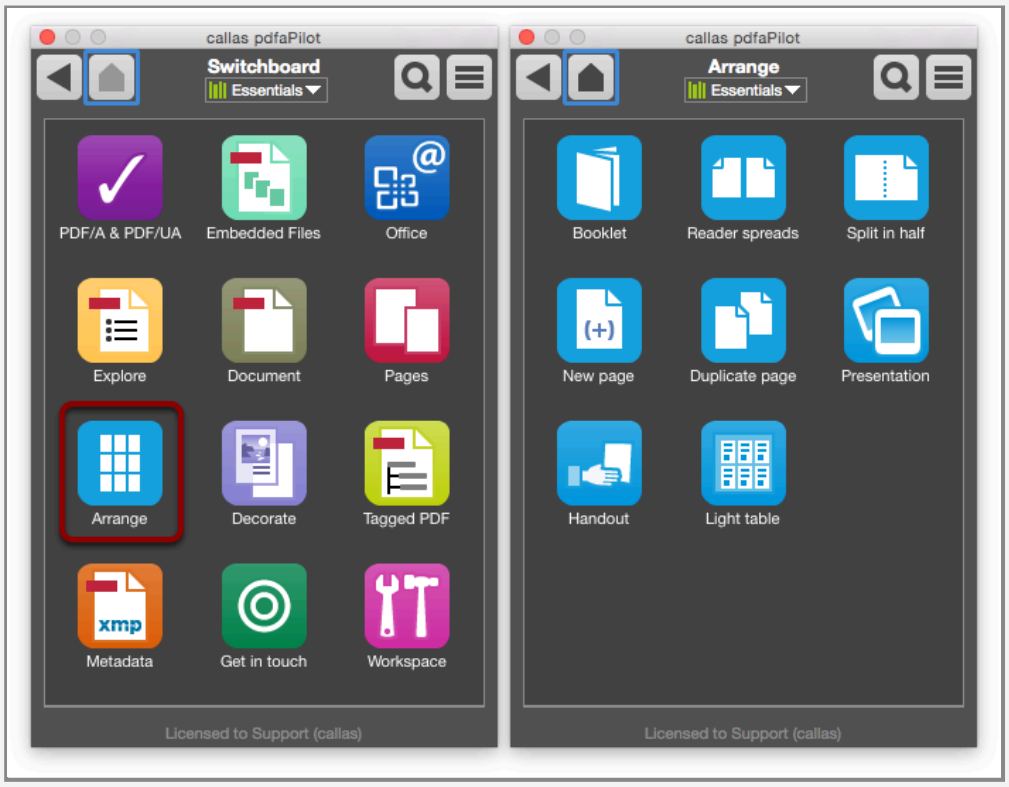

callas pdfToolbox Handbuch
pdfToolbox Desktop
callas
Table of Contents
PDF Prüfreport, der verarbeitetes PDF
Der Preflight-Report
Ergebnis speichern

2.10 Switchboard: Arrange – Reader spreads/Split in half

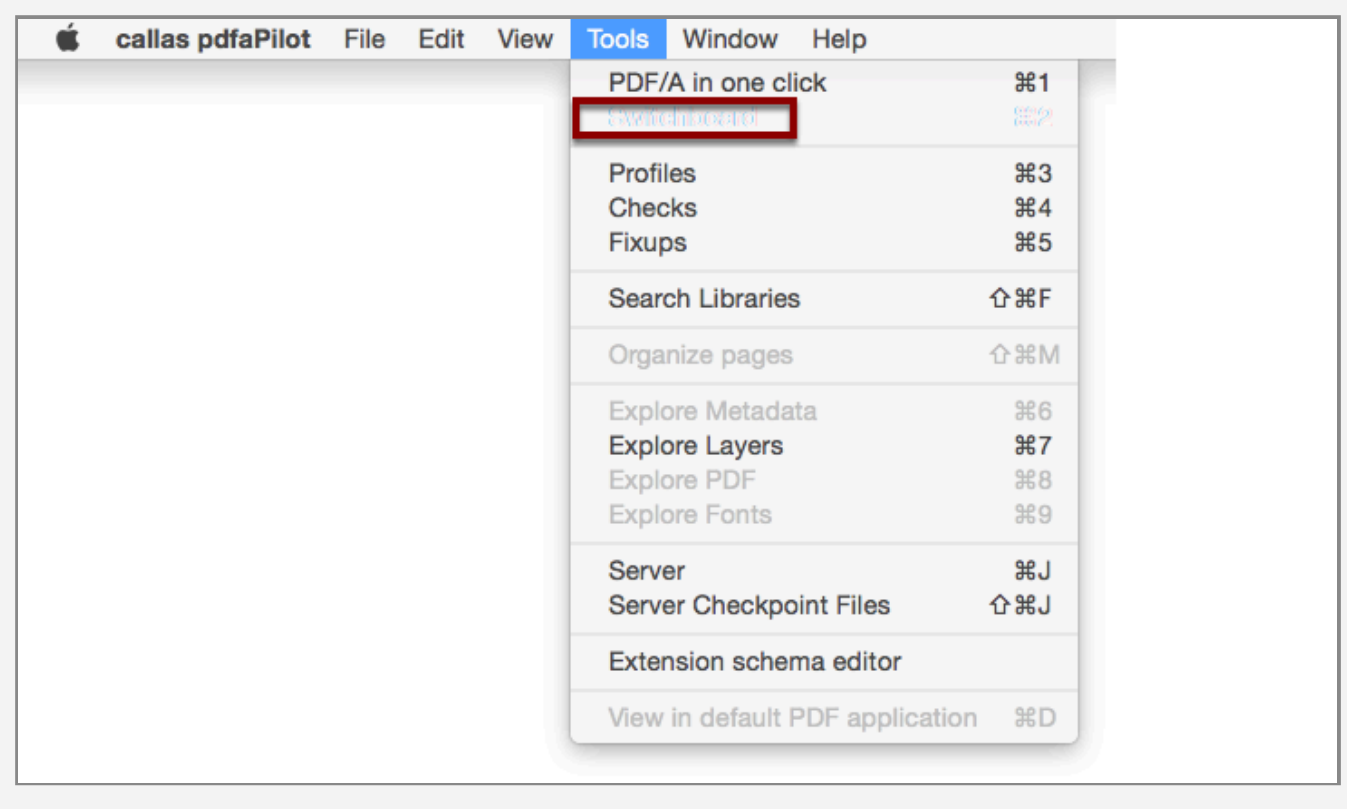
The Arrange group provides a range of Actions used to impose files.

Lorem_Ipsum_8p_spread.pdf

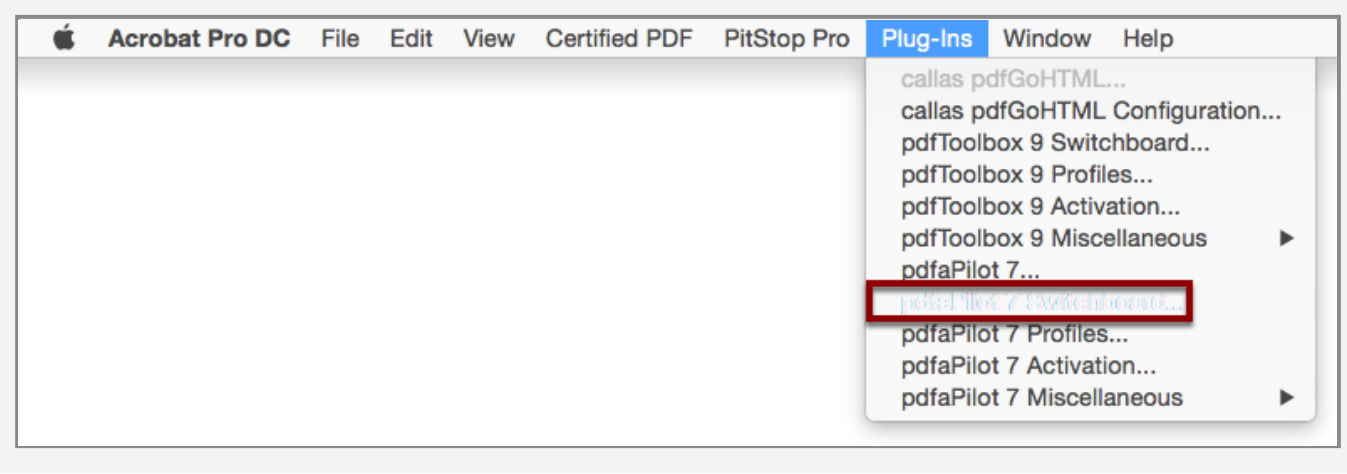
Lorem_Ipsum_8p.pdf



Open the Switchboard



In **pdfaPilot standalone**, open the switchboard via **Tools > Switchboard** in the menu or use the keyboard shortcut **Cmd+2**.



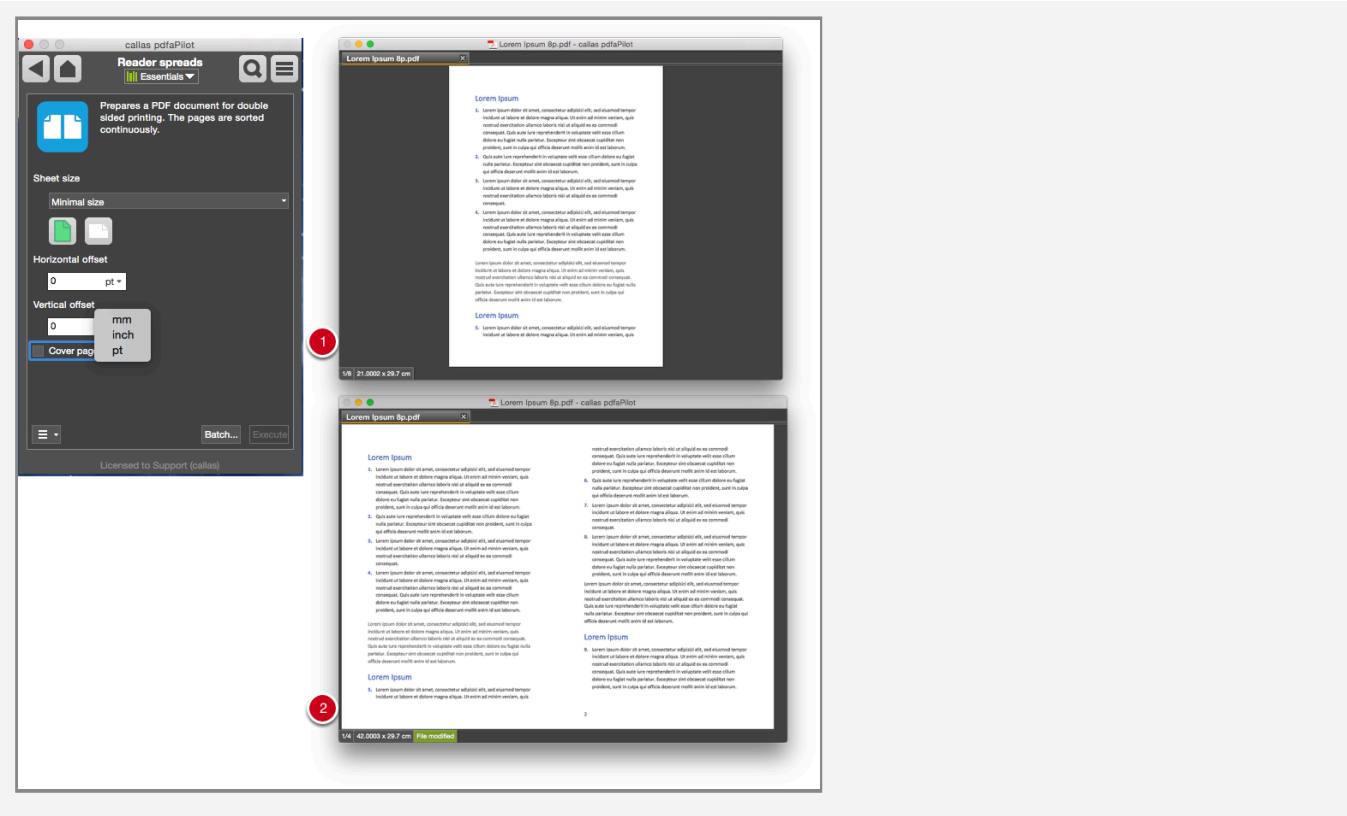
If you are using pdfaPilot as an Acrobat plug-in, you can open the switchboard via **Plug-Ins > pdfaPilot <version number> Switchboard.**

The “Reader spreads” Action

The “Reader spreads” Action turns two individual pages into one print sheet. The following settings are available:

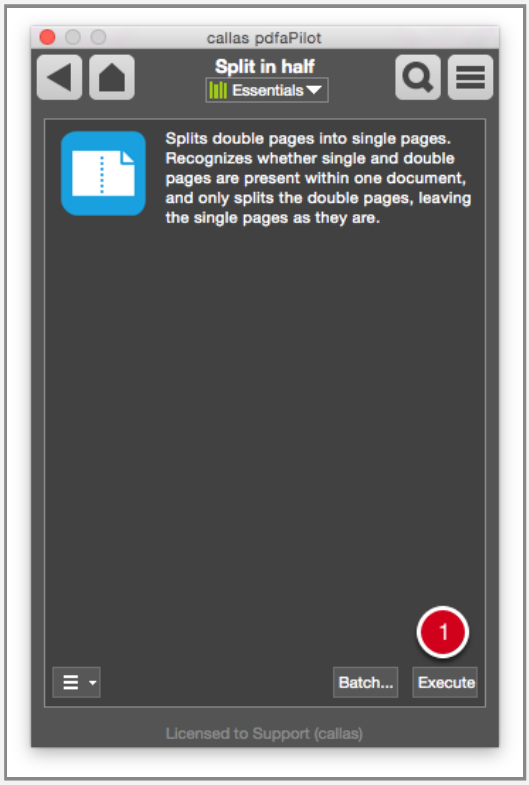
1. The **Sheet size** can be set to ***Minimal size*** or one of the many ***standard page sizes***.
2. You can also choose between ***horizontal*** and ***vertical*** page alignment.
3. Values for **horizontal** and/or **vertical offset** can be given in **mm, inches** or **pt** in the fields provided.
4. If the original document has a **title page**, this can be accounted for by checking the corresponding box.
5. Click **Execute** to start processing the current PDF document.

Result



1. The input document is **8 pages** in **DIN A4** size.
2. The output document is **4 pages** in **DIN A3** size.

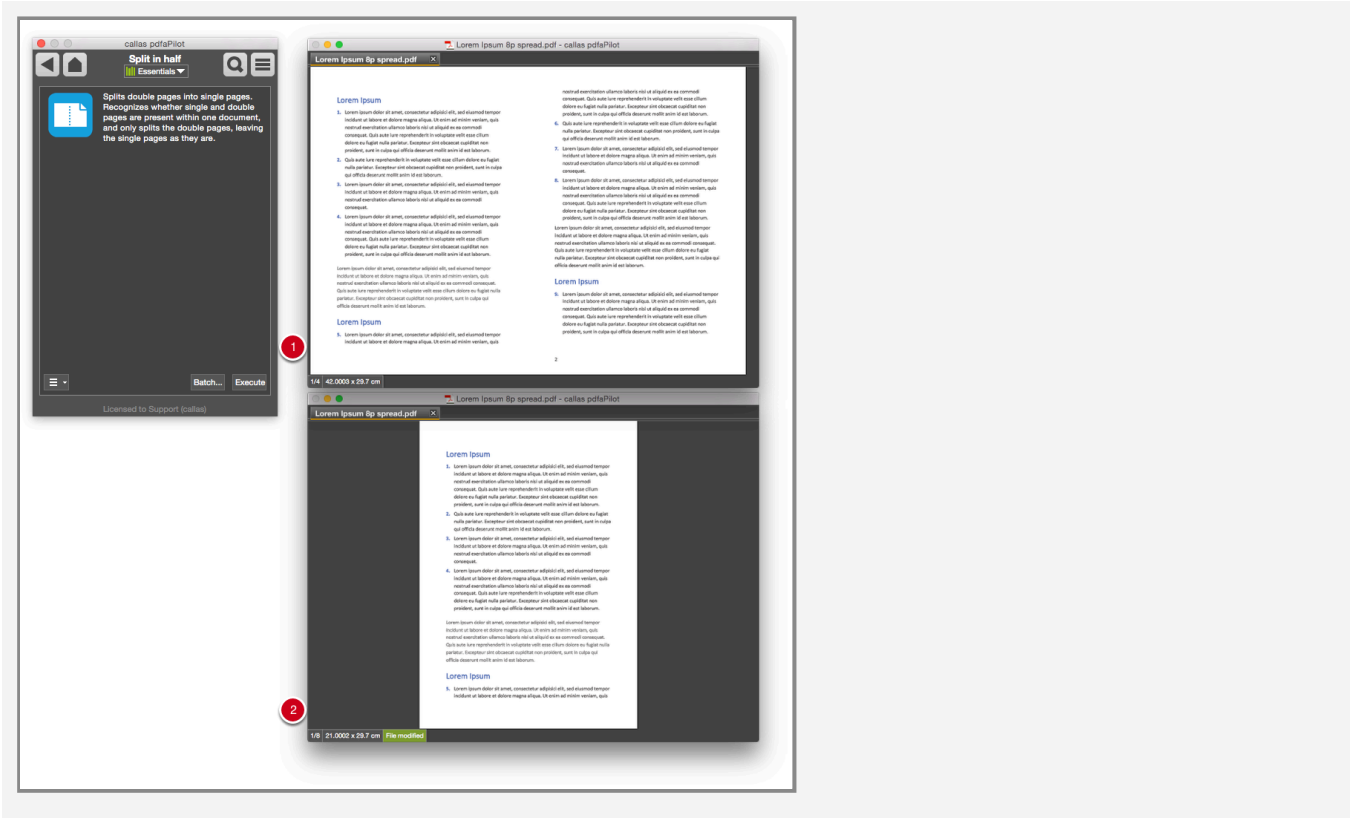
The “Split in half” Action



The **Split in half** action works in reverse, turning one print sheet into two individual pages. No further settings are required for this process.

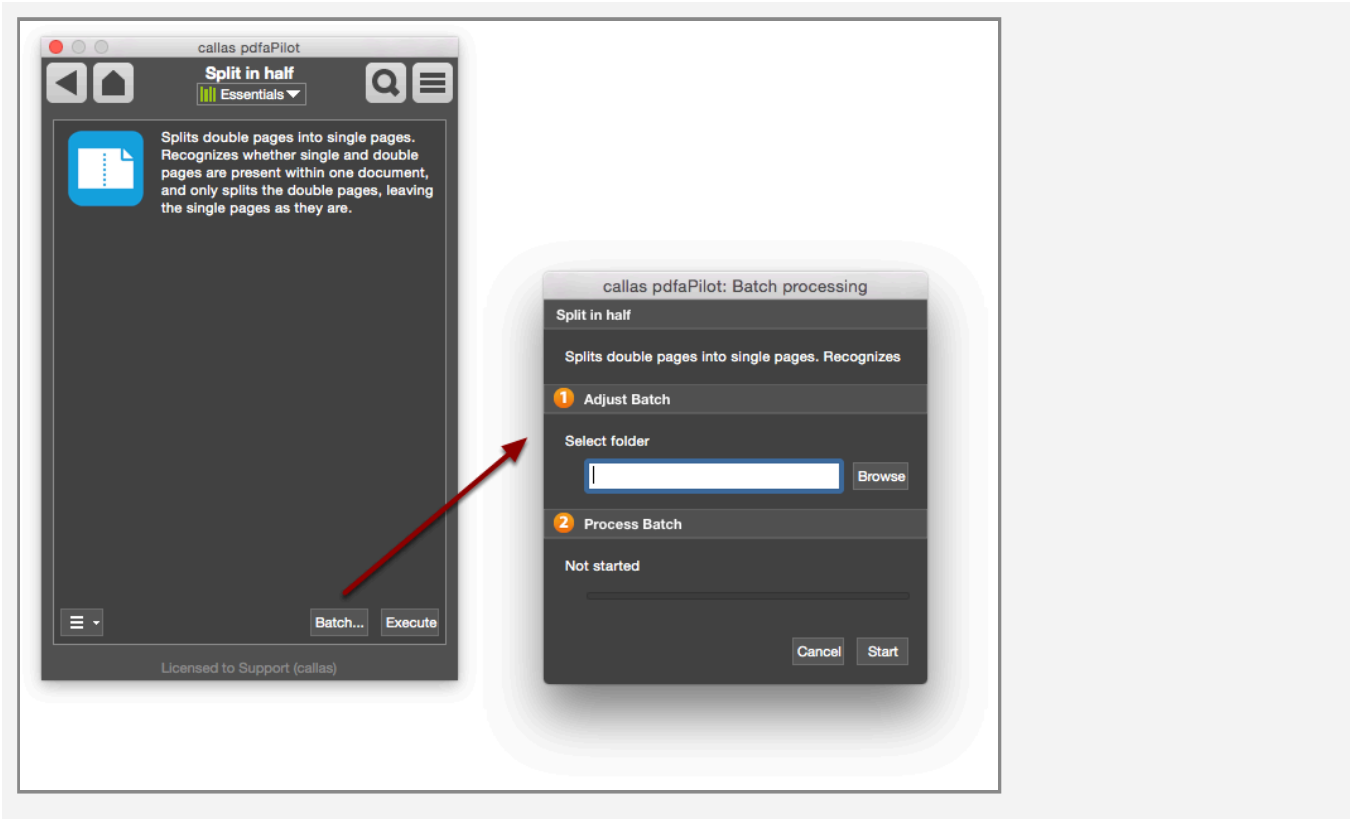
1. Click **Execute** to start processing the current PDF document.

Result



1. The input document is **4 pages** in **DIN A3** size.
2. The output document is **8 pages** in **DIN A4** size.

Batch processing:



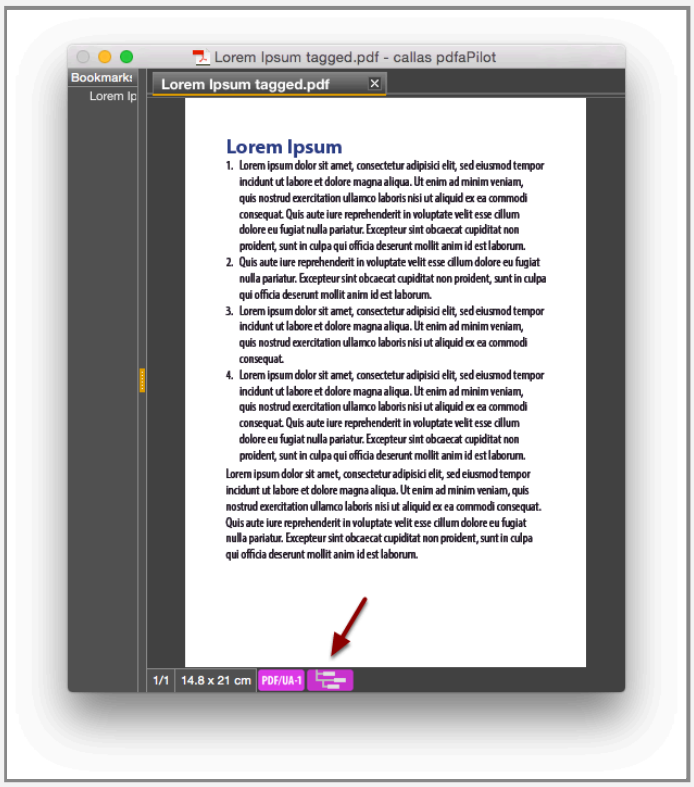
Both of these Actions can be processed in batches using the **Batch...** button, allowing you to process multiple PDF files within a selected folder.

2.11 Switchboard: Tagged PDF – HTML export

PDF files structured using so-called tags can be exported to other structured file formats. These include HTML and EPUB.

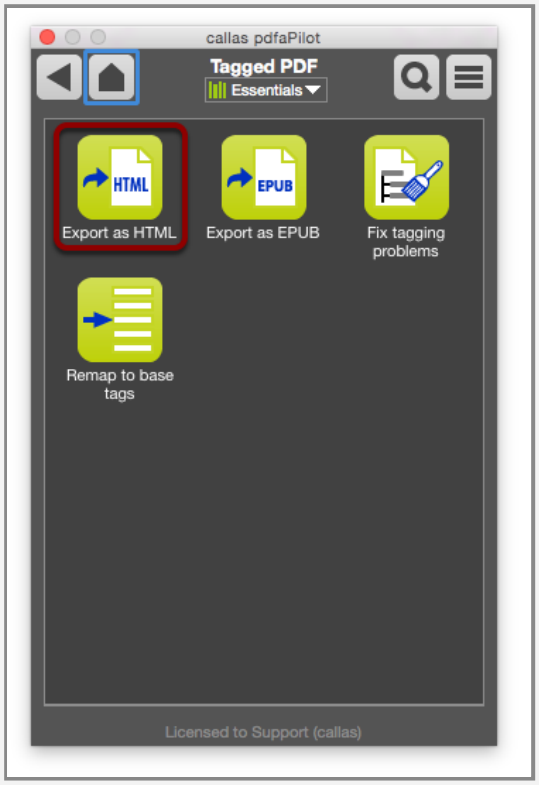
Lorem_Ipsum_tagged.pdf

How can I tell whether a PDF document has a structure?



pdfaPilot will show a *symbol* in the file window to indicate whether a PDF file is tagged (i.e. whether it has a structure.)

The “Tagged PDF” Group



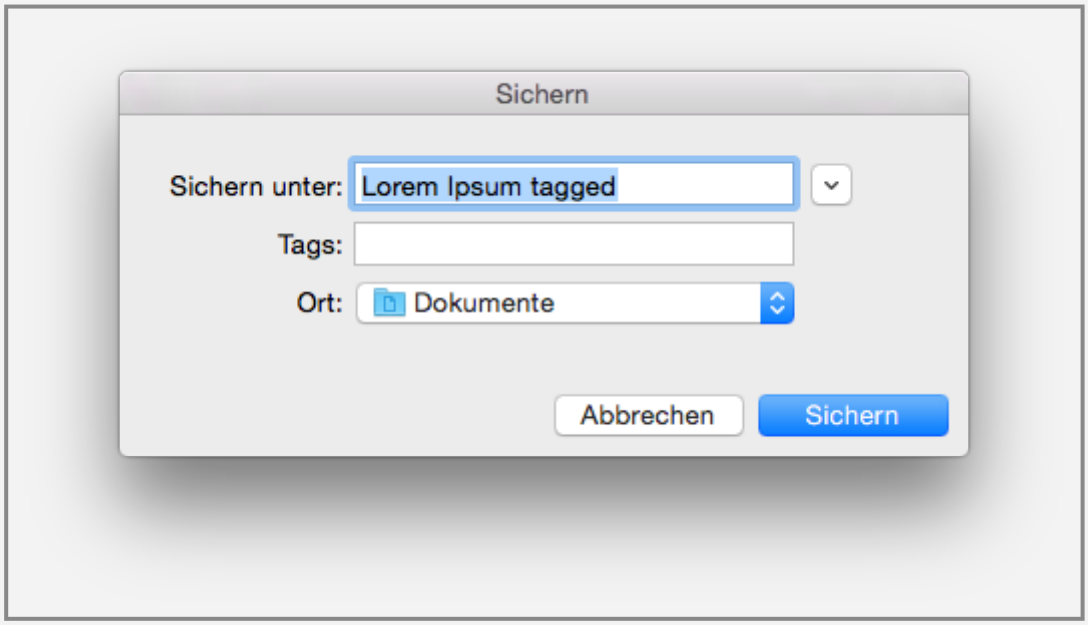
The **Tagged PDF** Switchboard Group contains a number of Actions relating to tagged PDF files and structures.

One action in this Group is named **HTML Export**.

The HTML Export Action

“HTML Export” converts a tagged file to HTML and opens it in your default browser.

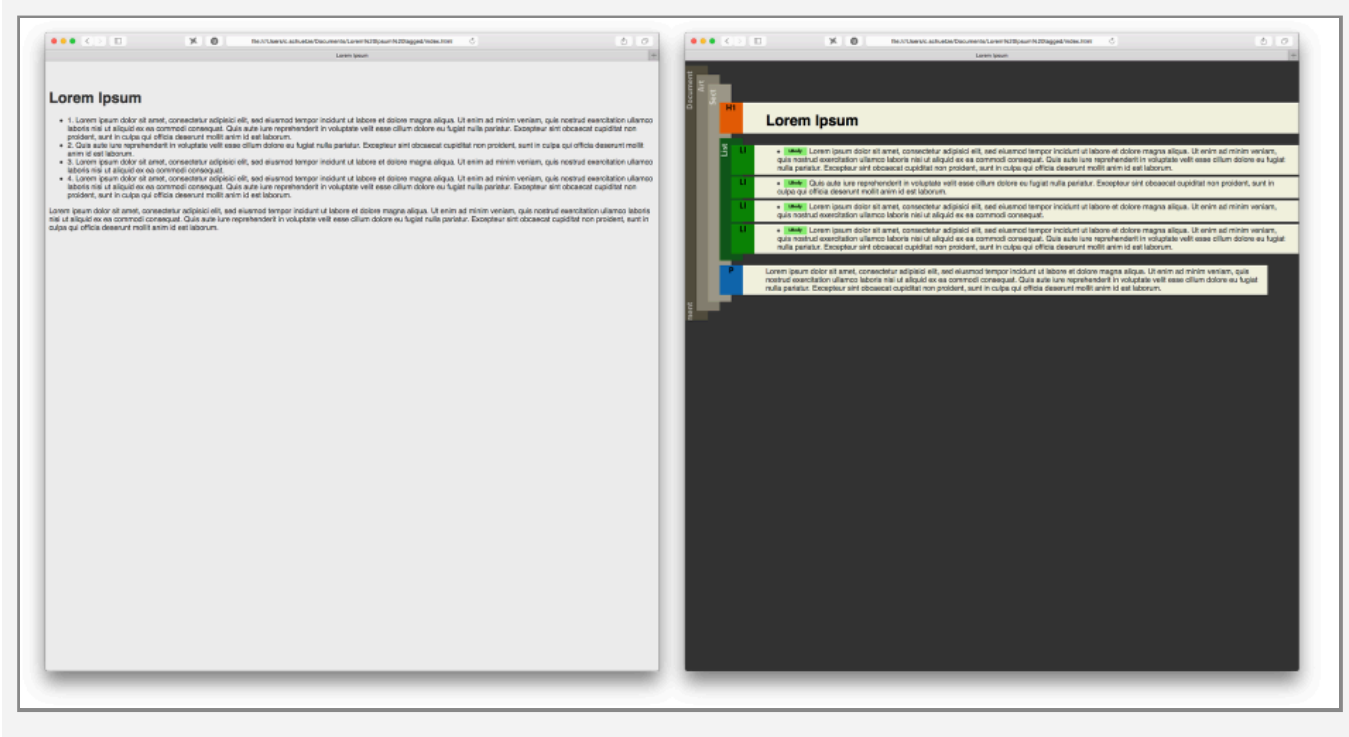
1. The **HTML template** option lets you choose a template from a list (***Simple, Easy to read, Structure tags*** and others.)
2. Among other things, the **Action button** allows you to **manage HTML templates**. This also lets you use your own templates.
3. The **Batch** button lets you apply the HTML export process to entire folders if required.
4. Click the **Execute** button to start HTML export.



After the HTML export process starts, a **Save** dialog will open where you can provide a name and a location for the exported file.

Result

Following HTML export, the output file will be automatically opened in your default browser.



The example above shows the results using *Easy to read* and *Structure tags* settings.

Customizing templates

You can customize export templates according to your own requirements. The folder containing the current library's current templates can be found via the menu button at the bottom-left corner of the Switchboard Action: click "Manage HTML templates."

If you have any questions about how to use this feature, our Support team will be happy to help.

2.12 Switchboard: Metadata – Browse metadata

PDF documents can contain a variety of metadata. pdfaPilot allows you to view this information.

The “Browse metadata” Action

Under the **Metadata** group, you will find the **Browse metadata** Action.

Click on the **symbol** to open the Action.

Click **Execute** to open a new **Metadata Explorer** dialog providing a complete overview of the metadata in the current document.

The **Metadata Explorer** can also be opened either using the “Metadata...” menu item in the Acrobat “File” menu, or using the “Explore Metadata” menu item in the plugin or the standalone version of the software.

The Metadata Explorer

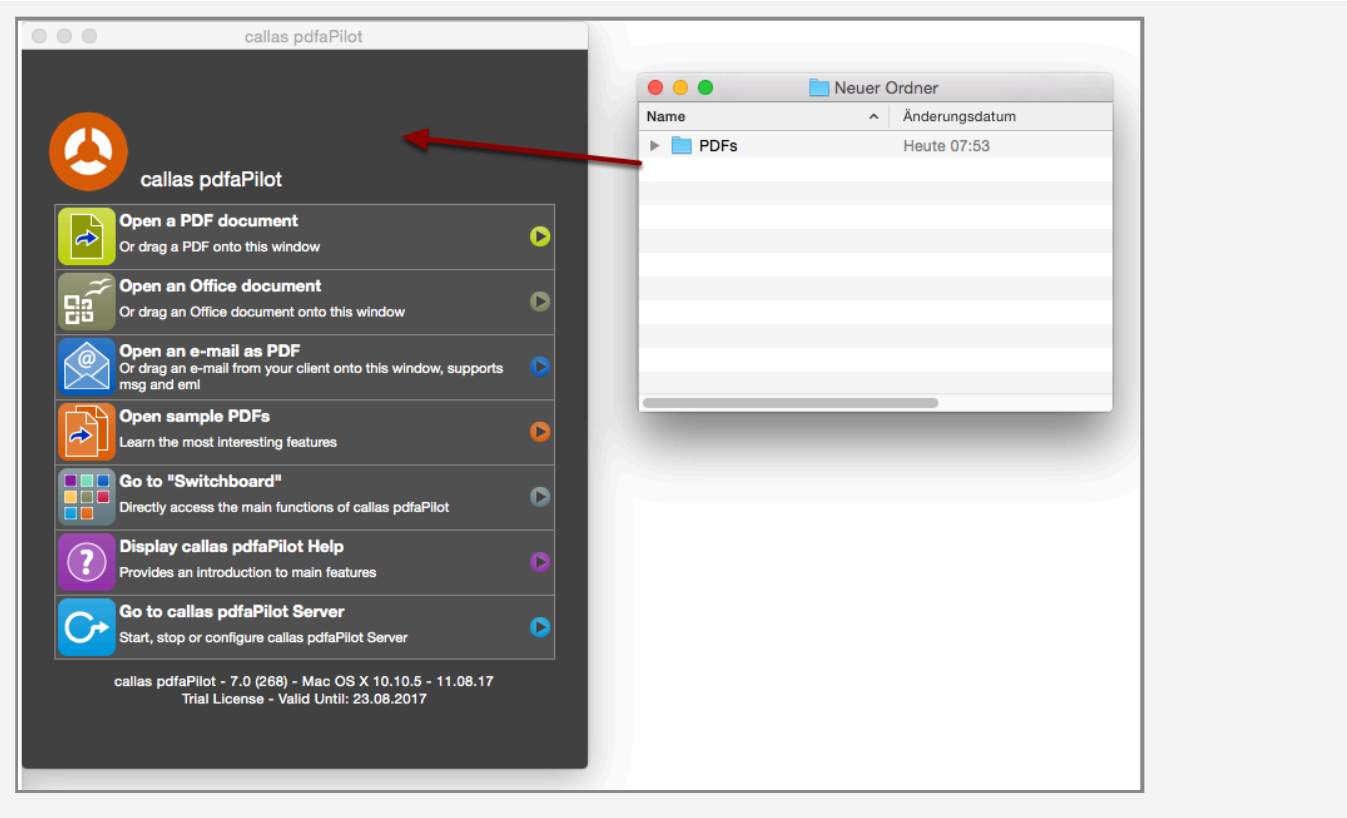
1. As well as the document's **XMP metadata**, the Metadata Explorer also shows metadata for **individual page objects**. It lists all objects, shows a small **preview** and indicates their position on the page.
2. Metadata can be exported in the form of a configurable **XML report**.

A detailed explanation of how to specify XML export settings can be found here: [XMP Metadata Reports](#).

2.13 Convert entire folder into an archive PDF

pdfaPilot lets you convert folders containing multiple PDF files (or other file formats) into an archive PDF using a simple drag-and-drop process.
This archive PDF will then contain (depending on the selected conversion type) the files from the folder, including all sub-folders.

Select folder containing PDF files



Select the folder containing the desired files and drag it into the pdfaPilot window.

Select processing options

A dialog box will open.

A message will appear at the top of the window: **A folder has been dropped on callas pdfaPilot. Please choose one of the following options:**

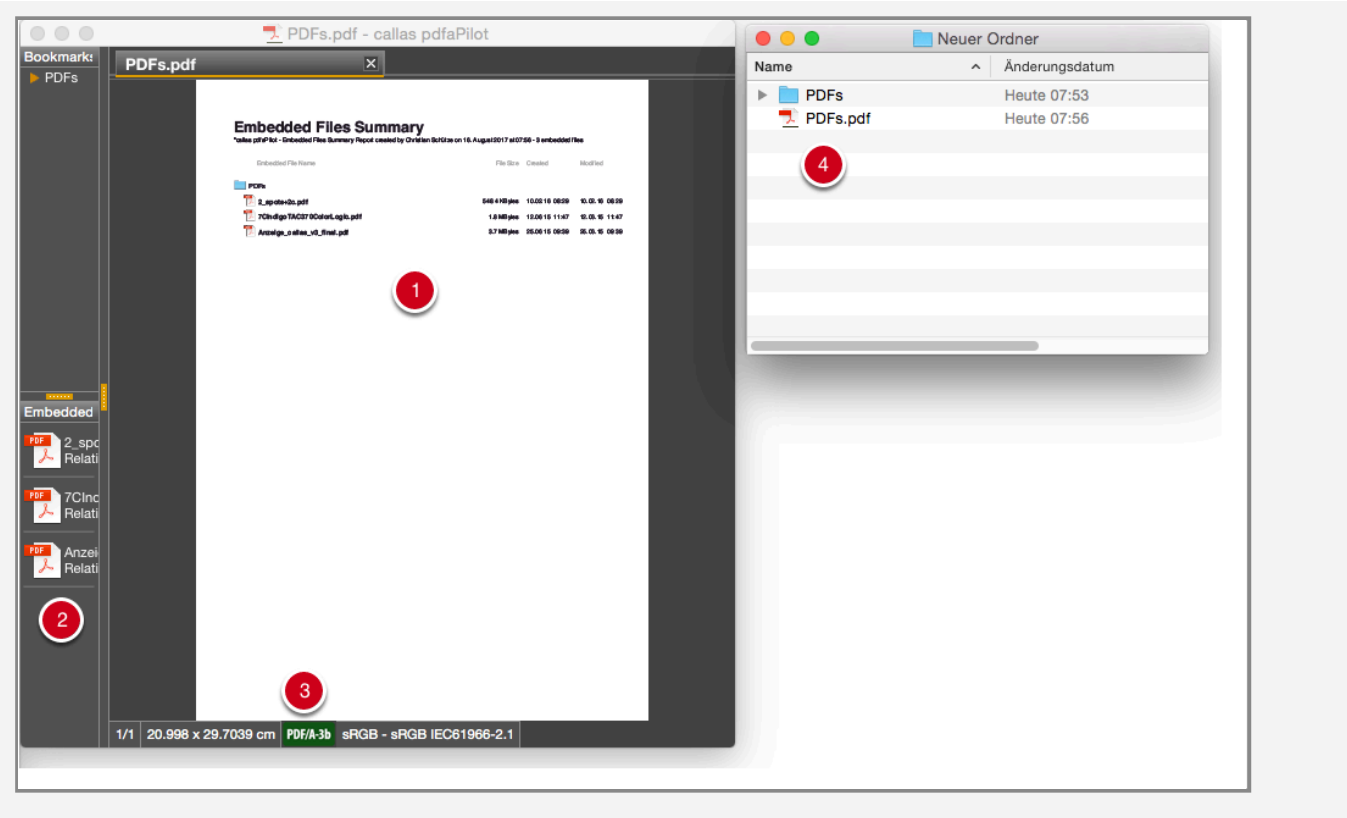
1. **Create a dossier:** In this case, instead of converting files, they will all be embedded in their original format. The resulting PDF will be a PDF/A-3 file.
2. **Create an archive**, PDF/A-2: Files (and file formats) will be converted if possible. Files which cannot be converted will be excluded. The resulting PDF will be a PDF/A-2 file.
3. **Create an archive**, PDF/A-3: Files will be converted if possible. Files which cannot be converted will be embedded in their original format. The resulting PDF will be a PDF/A-3 file.
4. **Create archive**, PDF/A-3, plus source file: Files will be converted to PDF/A-3. Files which cannot be converted will be embedded. The resulting PDF will be a PDF/A-3 file.

Files which can be converted to PDF from other formats will be embedded in addition to the original file.

5. **Cancel:** Cancel and close the window.

pdfaPilot begins processing. A **progress bar** reports on the process.

Result

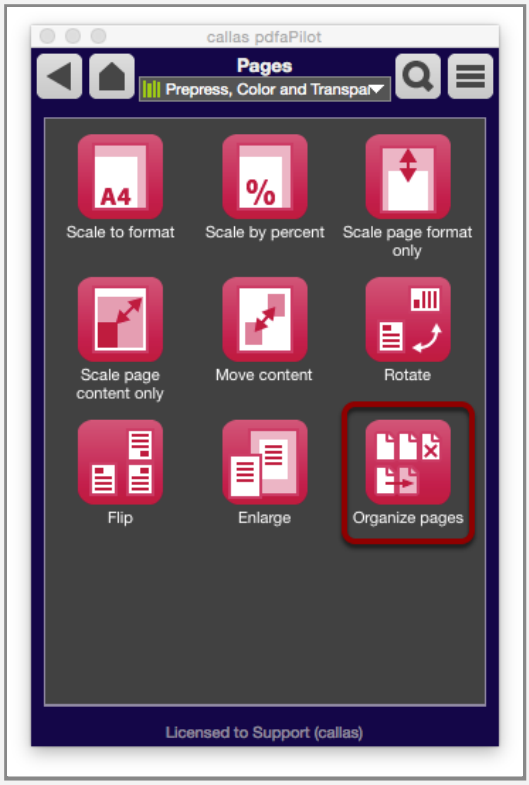


1. A cover page will show the user a **summary of embedded files.**
2. The **Embedded files** will also be shown in a list on the left.
3. At the bottom of the Document window, you will also see the name of the PDF standard used.
4. The newly created PDF file will be named after **the folder that was processed.** It will be stored one level up from the processed folder.

2.14 Organize pages

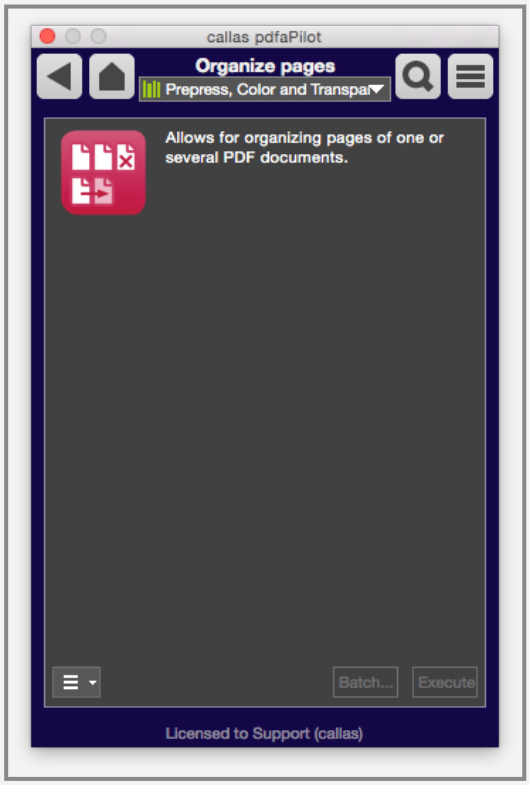
The *Organize Pages* action is a flexible and easy-to-use tool for rearranging (moving, deleting, duplicating or selecting just a few) pages within a multi-page PDF file. It is even possible to move or copy pages from one PDF into another. We'll show you how you can use this tool.

Switchboard: Pages



The **Organize Pages** action can be found in the **Switchboard** under the **Pages** group.

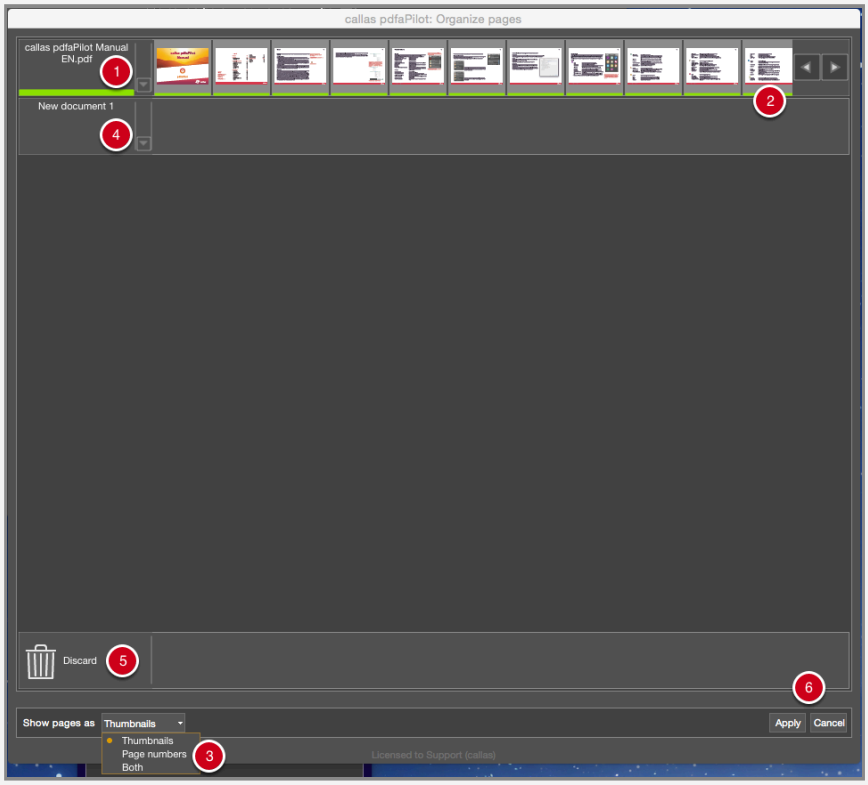
Click on the symbol to open the following window:



1. The **Organize Pages** window provides a brief description of the action.
2. Click on the **Run** button to open a large overview window where you can rearrange the pages in the currently open PDF document. (The Run window will only be active if a PDF document is open.)
   In pdfToolbox Standalone you will find an Organize Pages entry as well in the Tools menu or you use the keyboard shortcut (Win: CMD+Shift+M, Mac: Strg+Shift+M).

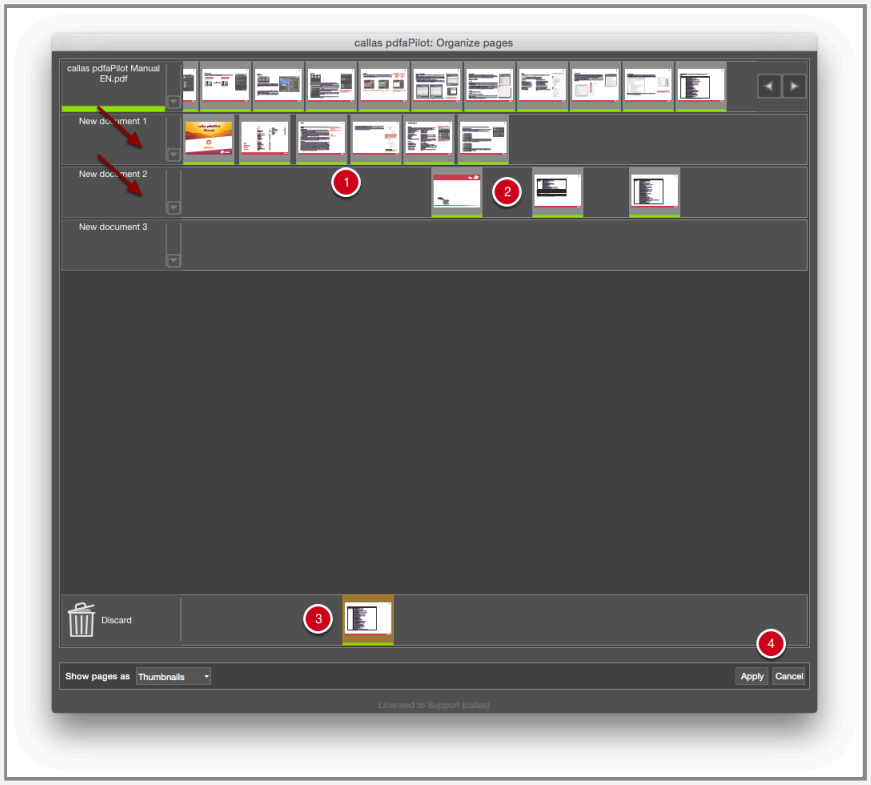
*Tip: As **reorganizing pages may also alter the original document** in some cases, it may be necessary to work with a **duplicate** if it is essential to leave the source file in its original state. Otherwise, when saving the new document, you will need to make sure that the original is **not saved**.*

Window: Organize pages



1. The top part of the **Organize Pages** window shows all pages within the open document in a row.
2. For documents with large numbers of pages, you can use the arrows on the right to adjust the previewed pages shown.
3. The type of page view can be configured using a pull-down menu in the lower-right corner: **Miniatures**, **Page Counts** or **Both**.
4. Below the row of pages in the original document, you will see an initially empty row to which you can drag selected pages. This area will initially be given the name **New Document 1** (this name can be changed when you save the document).
5. Below, there is a row labeled **Remove** where you can place pages to be removed.
6. At the very bottom right, you will find buttons to **Apply** the changes or **Cancel** the action.

Organizing pages within the application

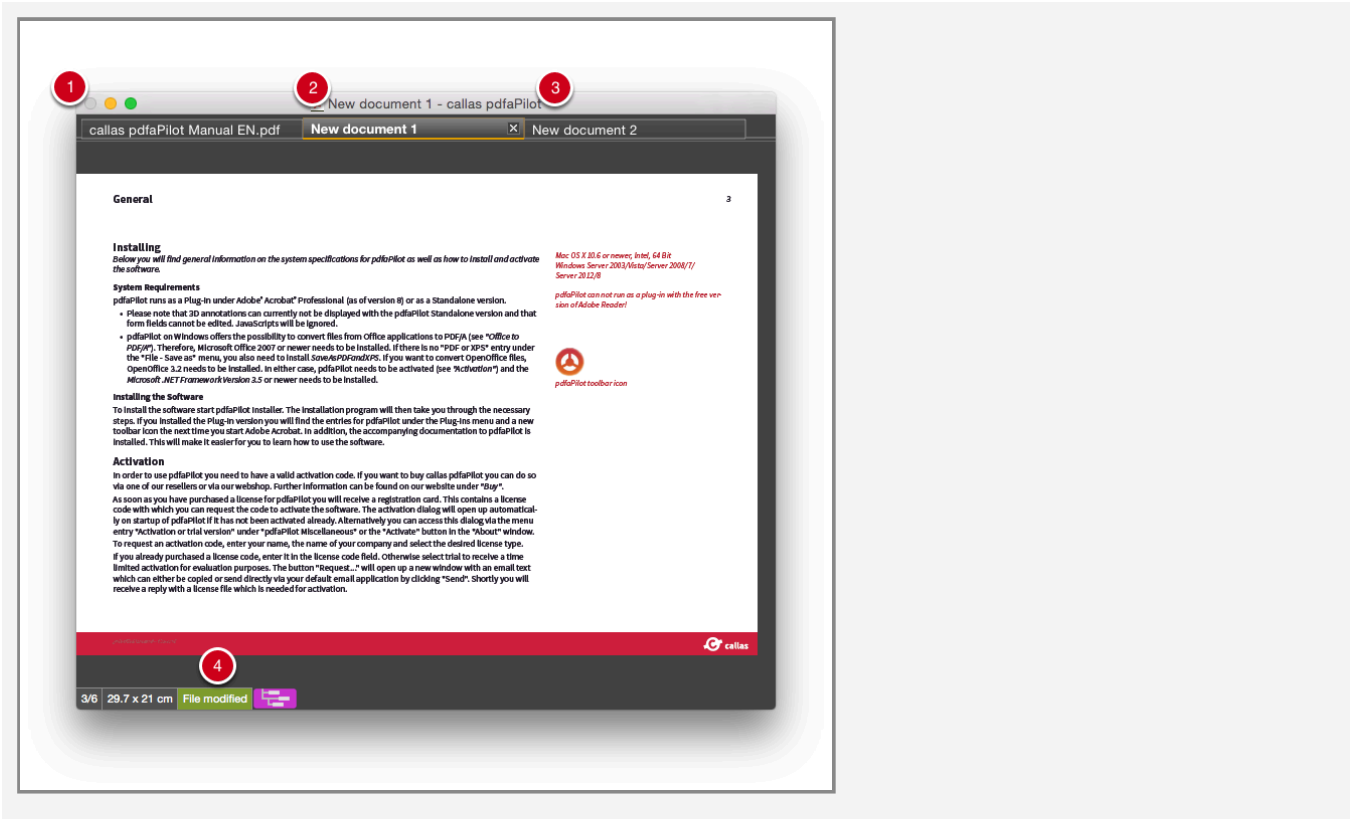


User-defined **page arrangement** for a new PDF document (or, as seen here, for multiple new documents) is a very intuitive process.

We have chosen the **Both** view here for a clearer picture of the process.

1. When the desired pages are moved to the **New Document 1** row, a new row is automatically created (**New Document 2**, and so on.) A new empty row will always be provided at the end of the list; if all pages are removed from a row, this row will be hidden.
   Tip: You can **duplicate** pages by holding the **Alt** key and dragging them.
2. Pages can be **freely moved** within a row (here, the former Page 10 has been moved in front of Pages 8 and 9.)
3. Pages to be deleted can be moved to the **Remove** row.
4. Click **Apply** to apply the changes.

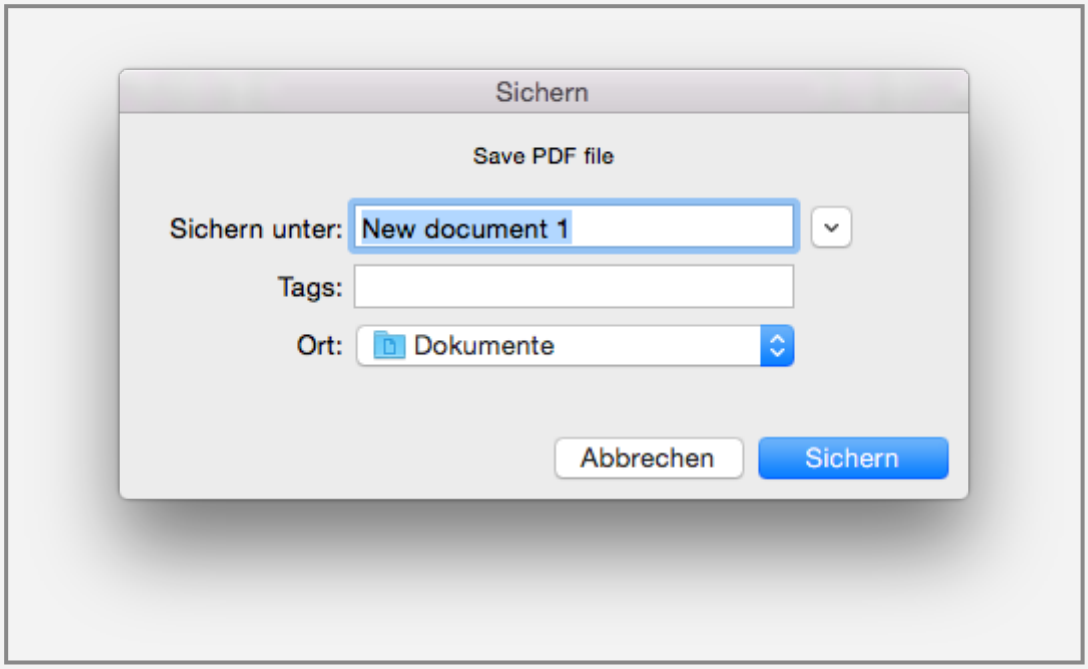
The altered files



pdfToolbox shows all altered files:

1. The **original document** (if applicable, minus the pages moved to the new documents or those that were removed.)
2. **New Document 1** with the selected pages in the desired order.
3. **New Document 2** with the selected pages in the desired order.
4. At the bottom of the window, you can see that the file has been **altered**.

Saving the new documents



You can then **save** the new document(s) under a new name.

Note: Do not save the **original document** when closing the window if you want to keep it in its original form.

2.15 PDF/UA-1 validation for standards-compliant universally accessible PDFs

PDFUA-Reference-04_(Danish_Blind_Association).pdf

PDF/UA, the PDF standard for universal accessibility, must meet certain conditions in order to be usable with screen readers, braille output devices, or other systems.

PDF/UA uses tags to create structured PDF files and alternative text for images, as well as for compliance with linguistic and font-related requirements.

As of version 8.1 of pdfToolbox, PDF files can be tested for compliance with PDF/UA-1.

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Notification of an existing PDF/UA document in the document window

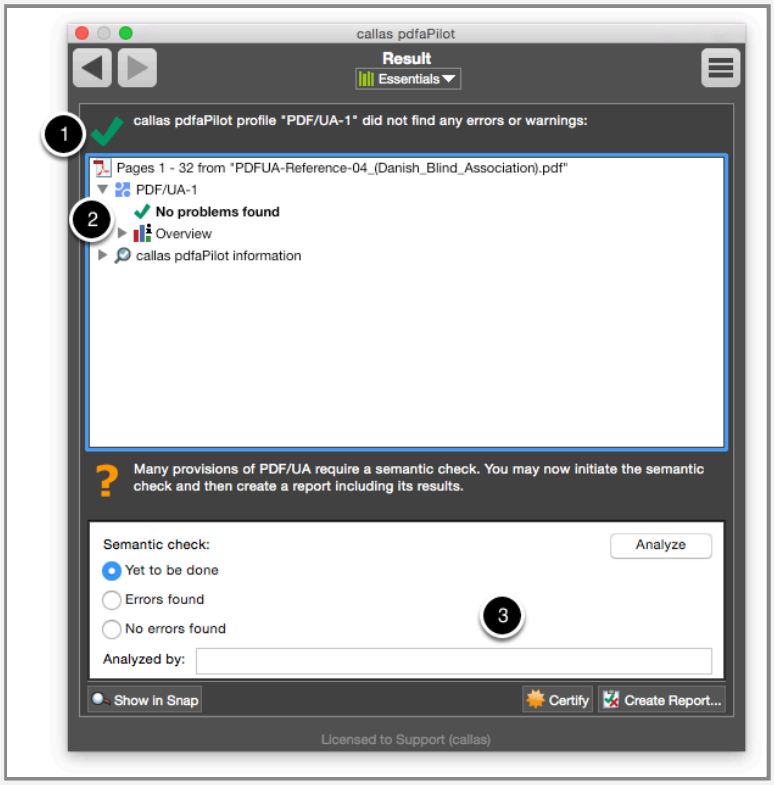
If you open a PDF/UA document, it will be identified with a **PDF/UA-1** symbol in the document window **(1)**.

As PDF/UA requires tags for structuring purposes, compliant PDF/UA files will also be marked with the corresponding **structure symbol (2)**.

PDF/UA files generally also count as **PDF/A documents** with **Level A** (Accessible) compliance; in this case, the file is PDF/A-2a-compliant. This will also be identified with another symbol **(3)**.

The user can **validate** PDF/UA compliance by clicking on the **PDF/UA-1 symbol (1)**.

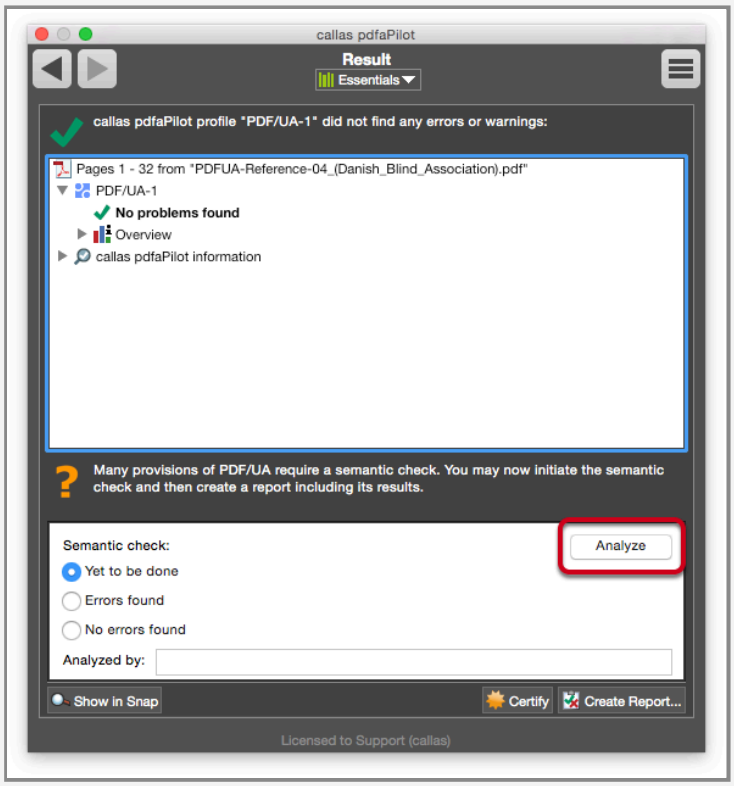
PDF/UA-1 validation - No problems found



If the existing PDF document really is **PDF/UA compliant**, this will be indicated with a **green check mark** (1) and the message **No problems found** (2) in the Result window.

The bottom of the Result window displays additional steps for a **Semantic check** (3), as not all PDF/UA validation steps can be fully automated.

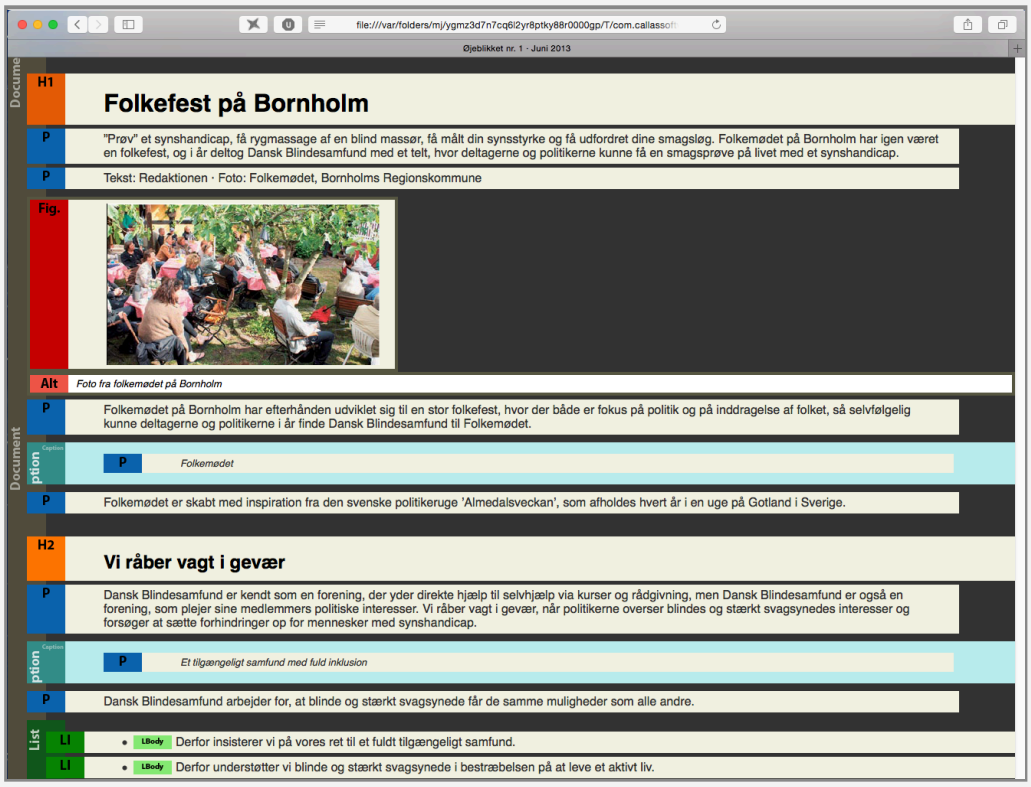
Options for semantic checks



Testing a PDF/UA file's accessibility cannot be done fully automatically. For example, a computer system cannot determine whether or not a document's structure makes sense. pdfToolbox provides a specific view to make it easier for users to complete the testing process.

First, click **Analyze**. This will open a window in your default browser showing the structure of the PDF document.

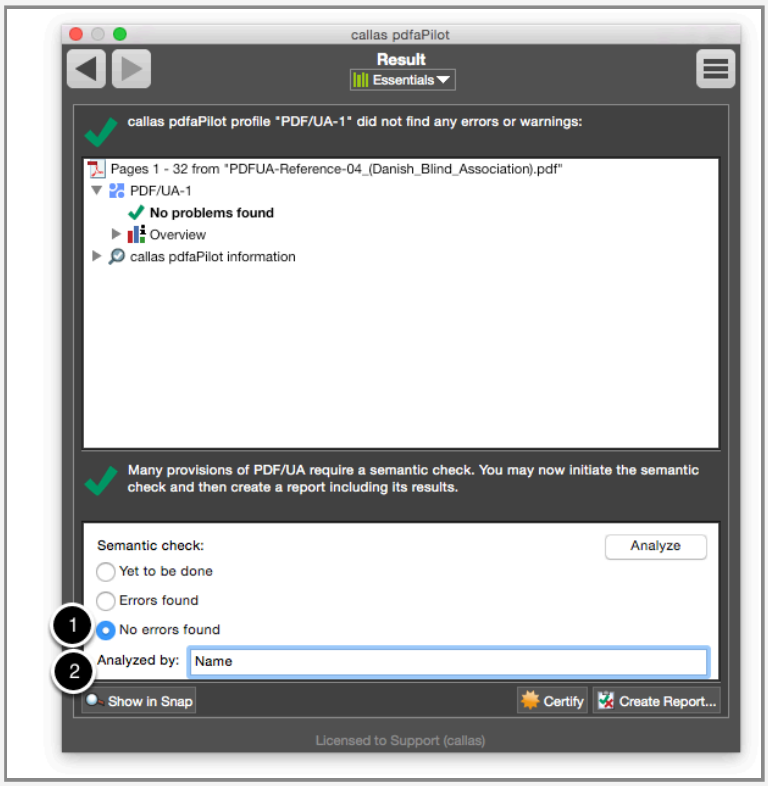
Semantic check using the PDF document's structural overview



The structure of the PDF file is visible in the browser and is indicated using colored highlights.

This makes it easy to check whether the order of chapters, headings and text is correct and to make sure that alternative text is in place for images as expected.

Semantic check - No errors

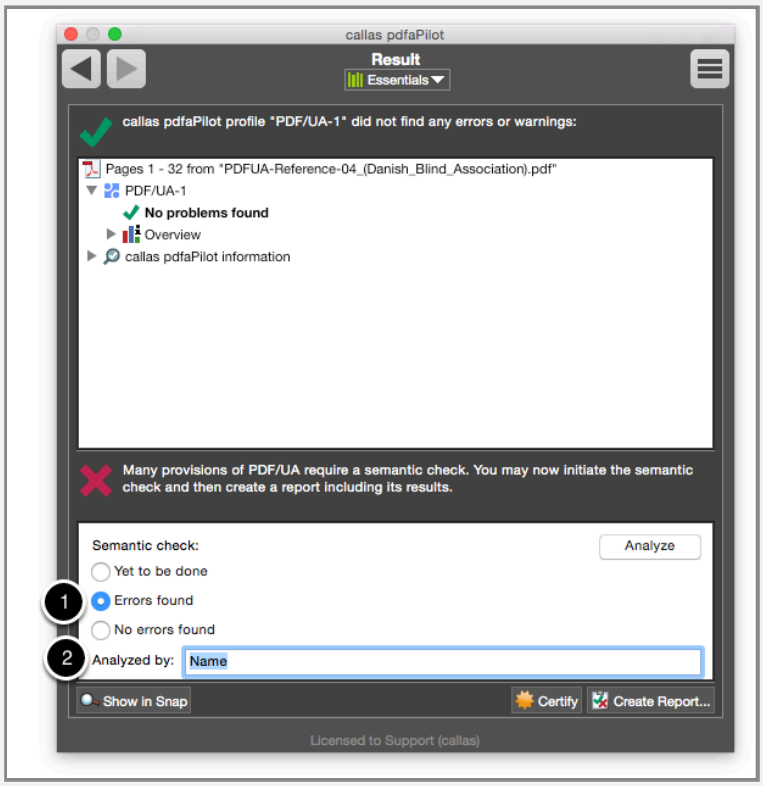


If the user identifies no errors after a semantic check, they can acknowledge this:

1. By selecting the **“No errors found”** radio field,
2. And by providing their own name in the **“Analyzed by”** field.

Users can also create a report which lists the results of the check.

Semantic check - Errors found



If problems are identified in the course of the visual inspection, the user can acknowledge this with the **“Errors found” radio field** (1).

In this case, the user can enter their **name** in the **“Analyzed by”** field (2).

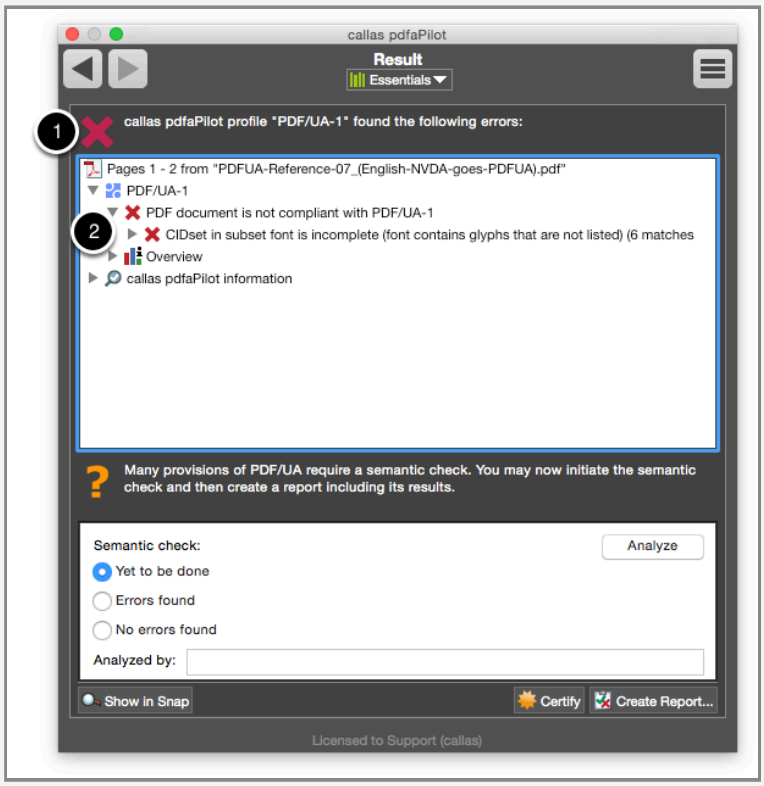
They can then create a corresponding report containing this information.

PDF/UA validation identifies problems

Not all PDF documents identified as PDF/UA-1 will successfully pass an accessibility test.

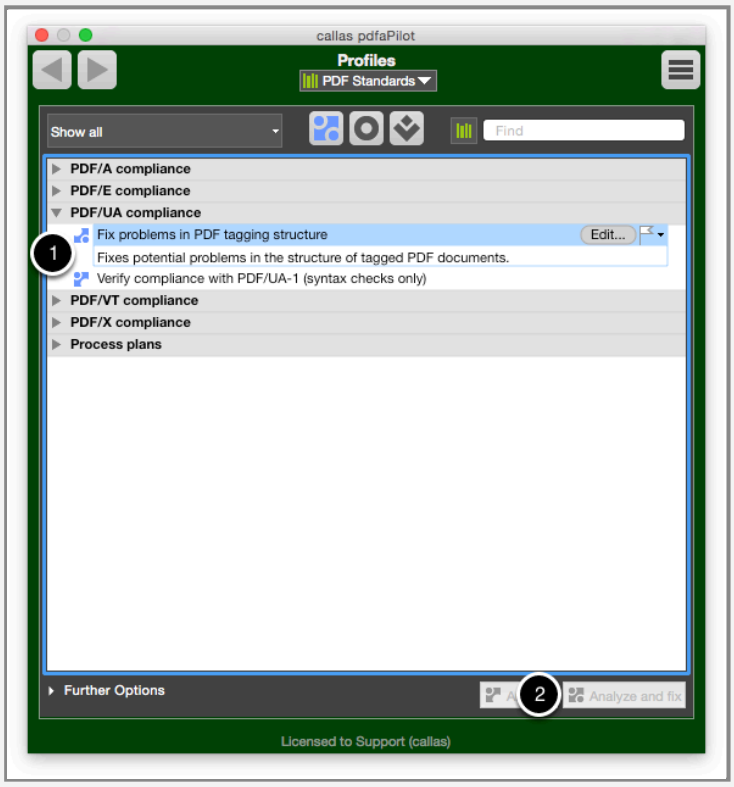
Click on the **PDF/UA-1 symbol** to begin the **validation** process.

Result window displays problems



1. The Result window will display a **red X symbol** to indicate that problems were encountered during validation.
2. In the example shown here, the **Detail view** indicates that there is a **font-related problem**.

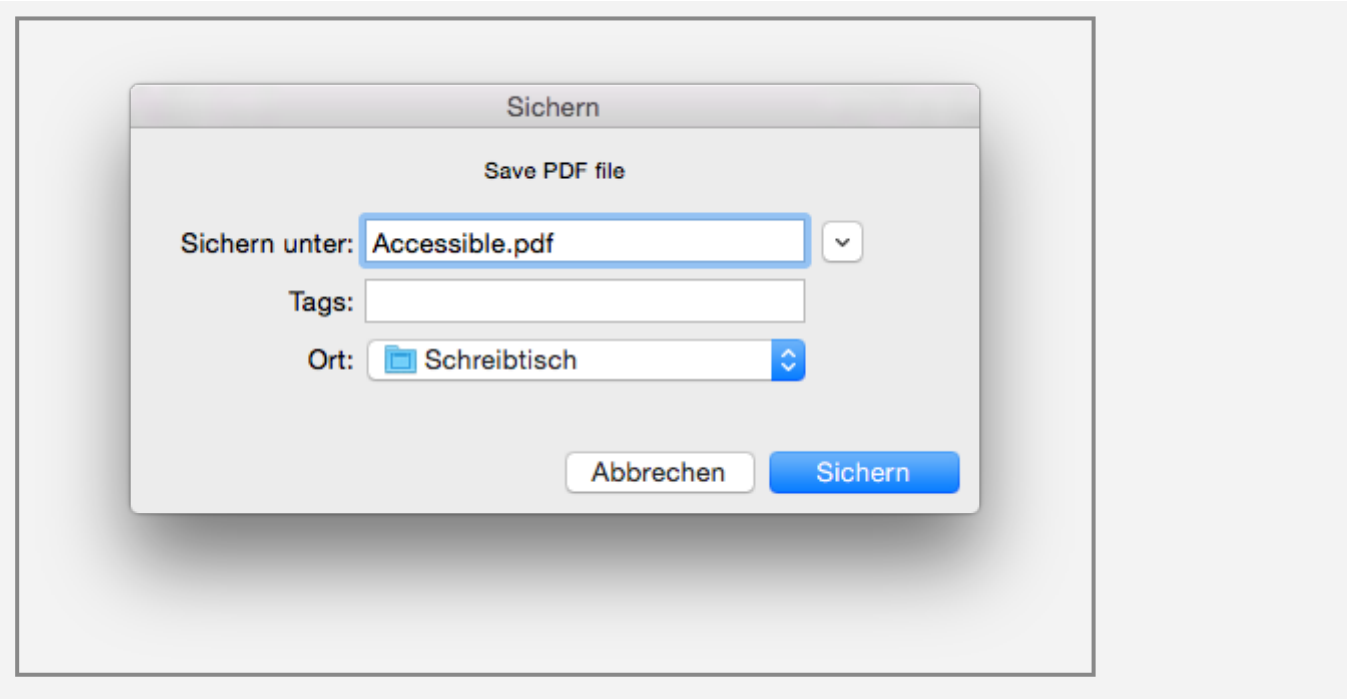
Resolving problems with PDF/UA-1 files (as of pdfToolbox 8.3)



The software can **resolve** some common problems related to PDF/UA files.

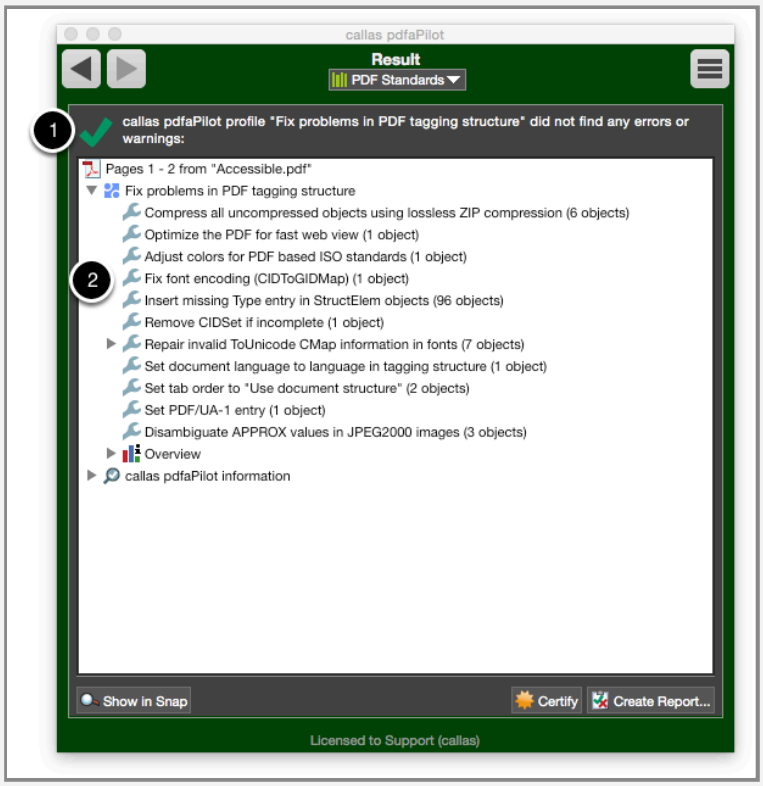
1. To do so, switch to the **“Profile”** tool (**Cmd+3**) and open **“Resolve structural problems with tagged PDF documents”** under the PDF/UA section (to do this, you may first need to switch to the “PDF Standards” library.)
2. Click **“Check and fixup”** to begin the Fixup process.

Copy document



The user has the option of first saving the PDF document under a new name by clicking **Save as copy**.

Results after correcting a PDF/UA document



1. If the Fixup has been **successful**, this will be indicated with a **green check mark** in the Result window.
2. The **Detail view** will indicate which **Fixups** were applied.

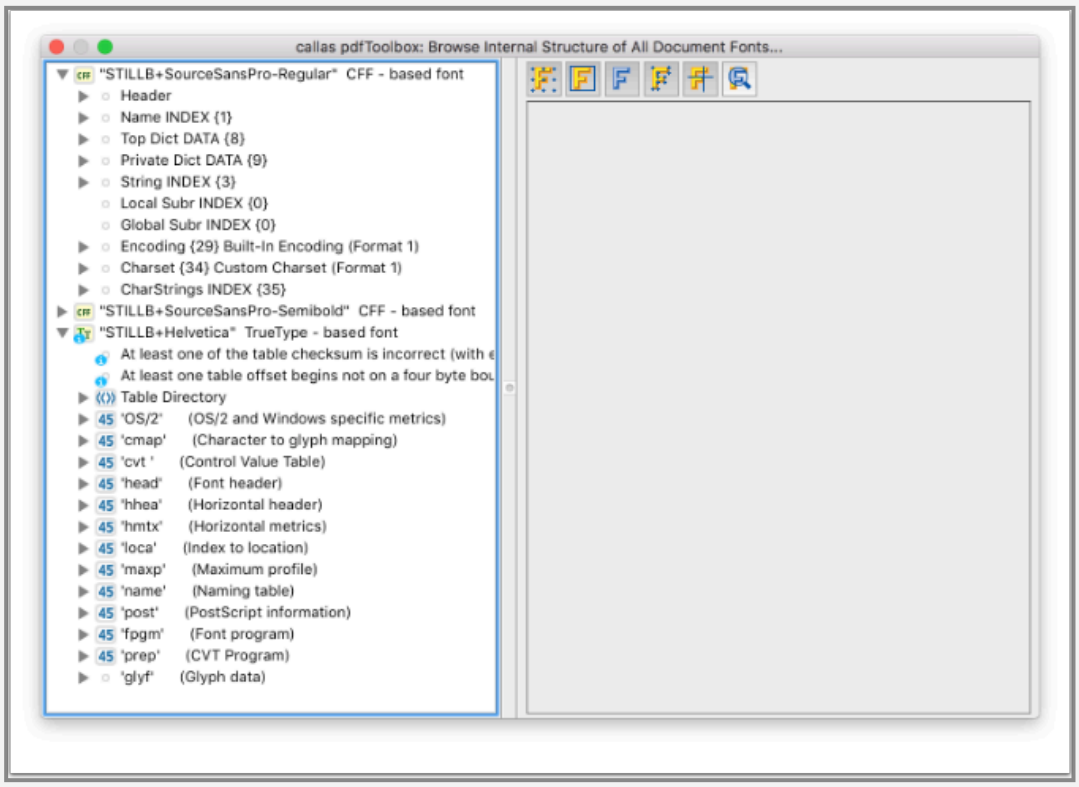
Users can then carry out the Semantic check as described previously.

2.16 Explore Fonts

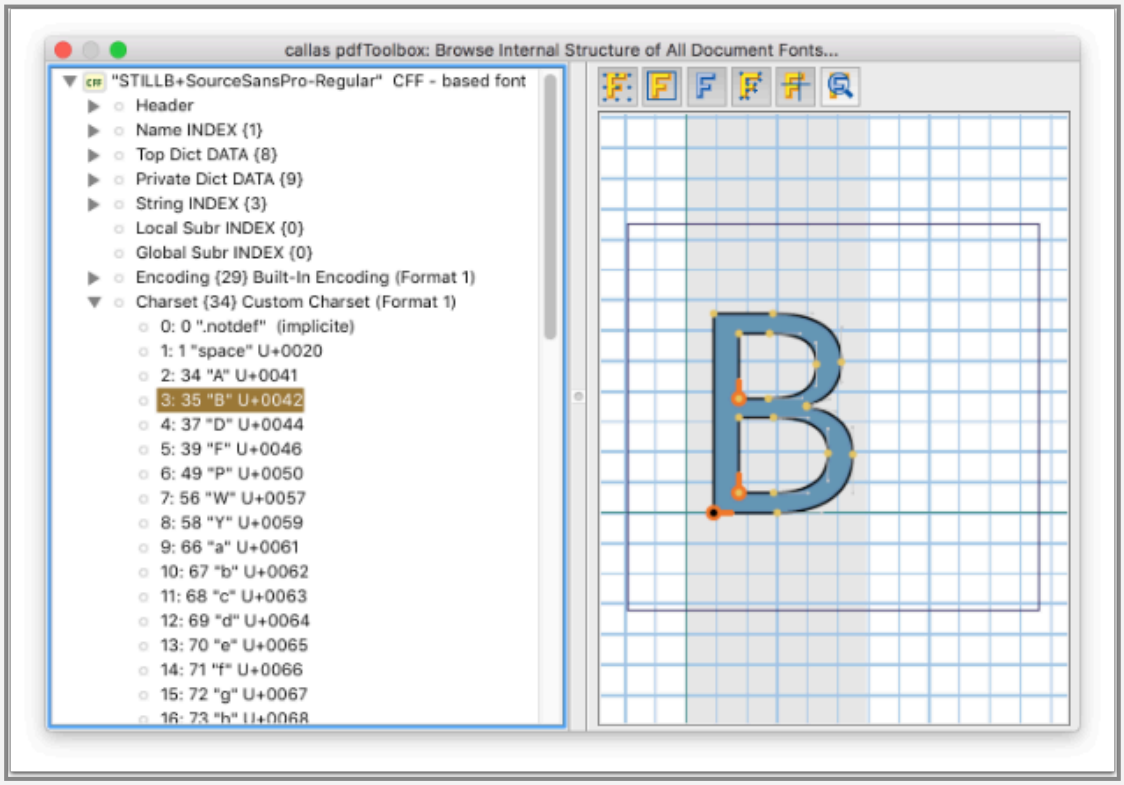
The "Explore Fonts" function gives you an insight into the internal font structure of PDF files. This is usually not needed for common use, but might be helpful if you encounter a damaged file or if you simply are interested in learning more about the internal font structure. The entry "Explore Fonts..." can be found inside the "Plug-Ins" menu of Acrobat ("Miscellaneous") or the "Tools" menu in the Standalone version.

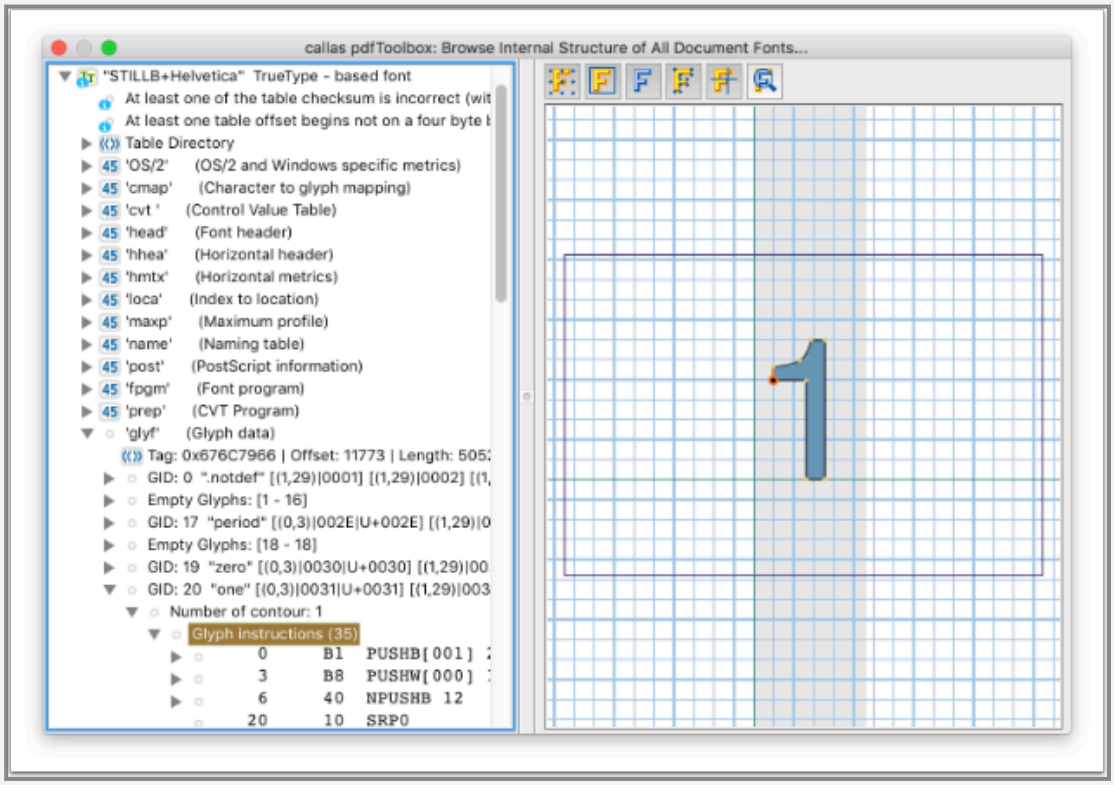
In the "Explore Fonts" dialog you will find information about e.g. font type and embedding state of all fonts present in the current document.

Depending on the type of font (e.g. TrueType, Type1, ...), the way how information of the font is shown is different:



Also, painting information about the contained glyphs of embedded fonts will be displayed:


callas pdfToolbox: Browse Internal Structure of All Document Fonts...
"STILLB+SourceSansPro-Regular" CFF - based font
Header
Name INDEX {1}
Top Dict DATA {8}
Private Dict DATA {9}
String INDEX {3}
Local Subr INDEX {0}
Global Subr INDEX {0}
Encoding {29} Built-In Encoding (Format 1)
Charset {34} Custom Charset (Format 1)
0: 0 ".notdef" (implicite)
1: 1 "space" U+0020
2: 34 "A" U+0041
3: 35 "B" U+0042
4: 37 "D" U+0044
5: 39 "F" U+0046
6: 49 "P" U+0050
7: 56 "W" U+0057
8: 58 "Y" U+0059
9: 66 "a" U+0061
10: 67 "b" U+0062
11: 68 "c" U+0063
12: 69 "d" U+0064
13: 70 "e" U+0065
14: 71 "f" U+0066
15: 72 "g" U+0067
B


callas pdfToolbox: Browse Internal Structure of All Document Fonts...
"STILLB+Helvetica" TrueType - based font
At least one of the table checksum is incorrect (wit
At least one table offset begins not on a four byte b
Table Directory
'OS/2' (OS/2 and Windows specific metrics)
'cmap' (Character to glyph mapping)
'cvt ' (Control Value Table)
'head' (Font header)
'hhea' (Horizontal header)
'hmtx' (Horizontal metrics)
'loca' (Index to location)
'maxp' (Maximum profile)
'name' (Naming table)
'post' (PostScript information)
'fpgm' (Font program)
'prep' (CVT Program)
'glyf' (Glyph data)
Tag: 0x676C7966 | Offset: 11773 | Length: 505
GID: 0 ".notdef" [(1,29)|0001] [(1,29)|0002] [(1,
Empty Glyphs: [1 - 16]
GID: 17 "period" [(0,3)|002E|U+002E] [(1,29)|0
Empty Glyphs: [18 - 18]
GID: 19 "zero" [(0,3)|0030|U+0030] [(1,29)|00
GID: 20 "one" [(0,3)|0031|U+0031] [(1,29)|003
Number of contour: 1
Glyph instructions (35)
0 B1 PUSHB[001]
3 B8 PUSHW[000]
6 40 NPUSHB 12
20 10 SRP0
1

2.17 Explore PDF

The "Explore PDF" functionality gives you an insight into the internal structure of PDF files.
Usually, this is not needed for common use, but might be helpful if you encounter a damaged file or if you are simply interested in learning more about the internal structure of a PDF file. The entry "Explore PDF..." can be found in the "Plug-Ins" menu of Acrobat ("Miscellaneous") or the "Tools" menu in the Standalone version.

With the "Explore PDF" tool you can have a look into the data structure of a PDF file, exposing the several commands and details that are forming the page objects.

Document Structure view

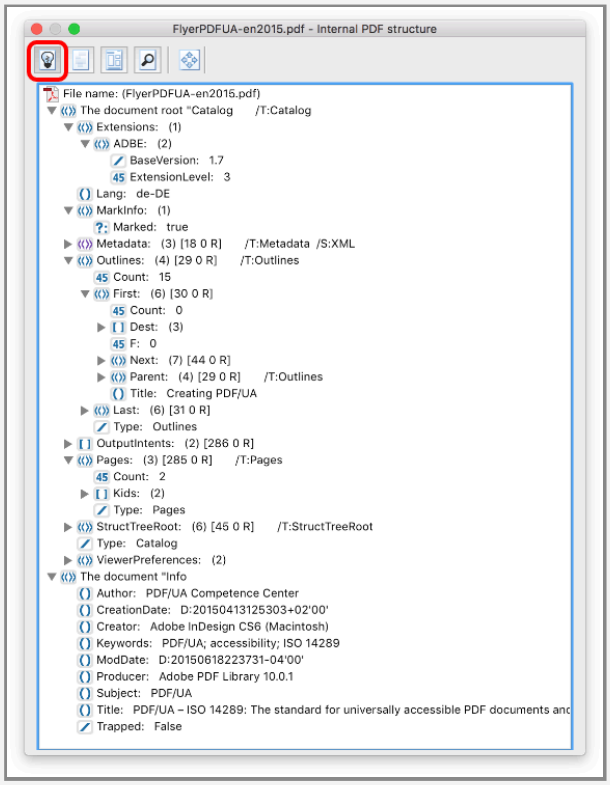
The first button opens the "Document Structure" view, which lists 2 items:

- The document root "Catalog"

The root of a document's object hierarchy is the "Catalog" dictionary. The catalog contains references to other objects, defining the document's contents, outlines, article threads, named destinations and other attributes. In addition, it contains information about how the document shall be displayed on screen, such as its outline and thumbnail page images shall be displayed automatically and whether some location other than the first page shall be shown when the document is opened.

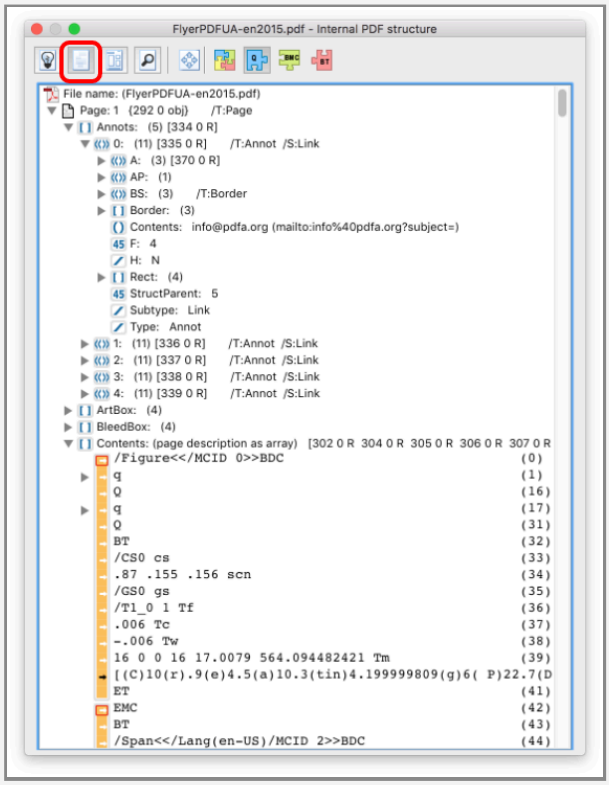
- The document info

The document info area lists some basic information about the file, like title, author, creation date, producer, creator, keywords and so on



Logical Structure view

While the "Document Structure" view contains the complete view of the documents content, the "Logical Structure" view offers a page-by-page view of the different properties of a page like page geometry boxes, used resources, content stream and more as well as other optional attributes like annotations or thumbnails.

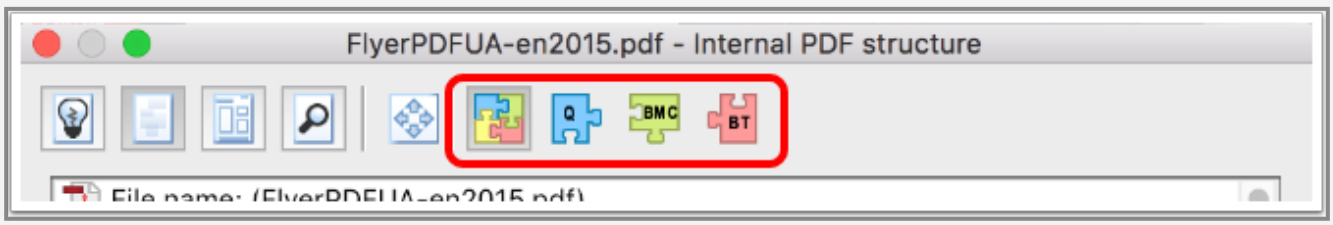


Different views of the content stream

The "Logical Structure" view offers 4 different representations of the content stream:

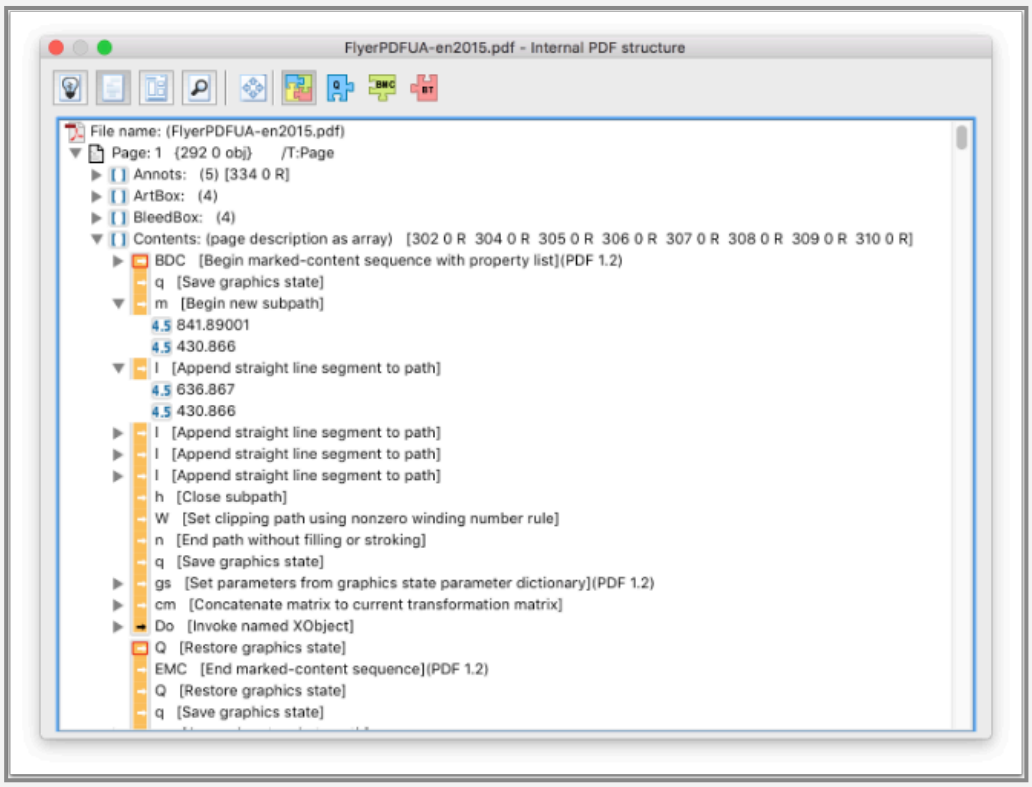
- Content Stream snippets: explained
- Content Stream snippets: q/Q pairs
- Content Stream snippets: Marked content
- Content Stream snippets: text

These views can be selected using the 4 colored buttons on the right of the selection bar:



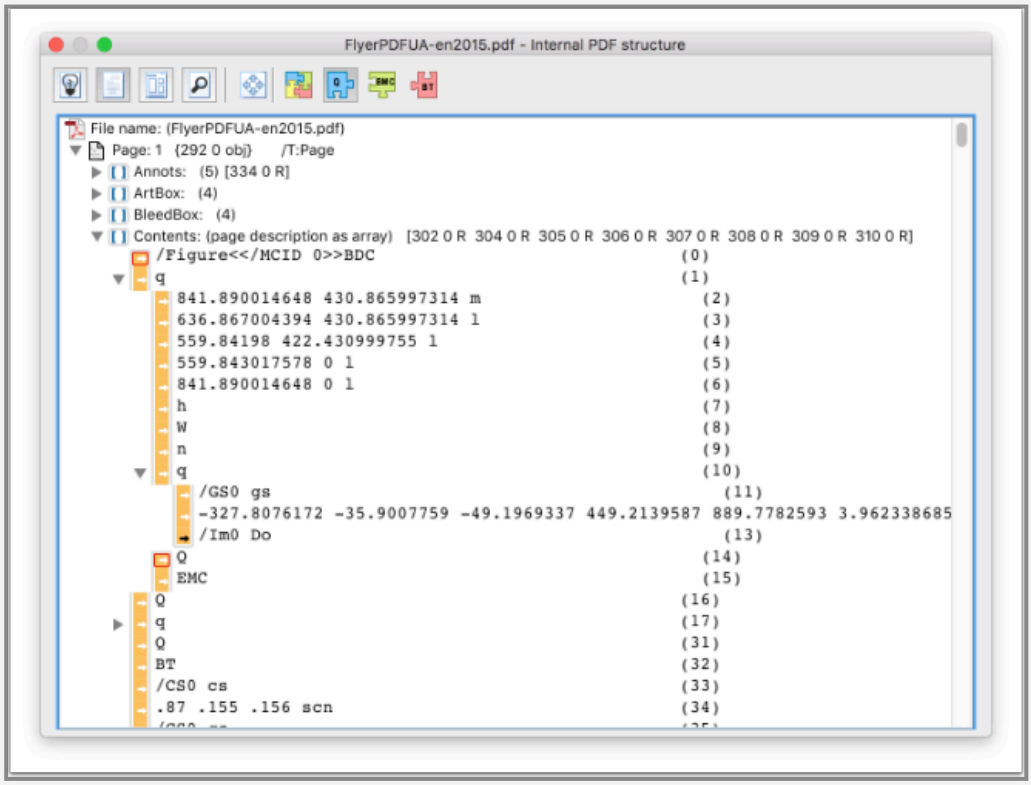
Content Stream snippets: explained

This mode shows minute explanations for all painting sequences of the content stream and makes it easy to understand the way the content of a page is composed step by step.



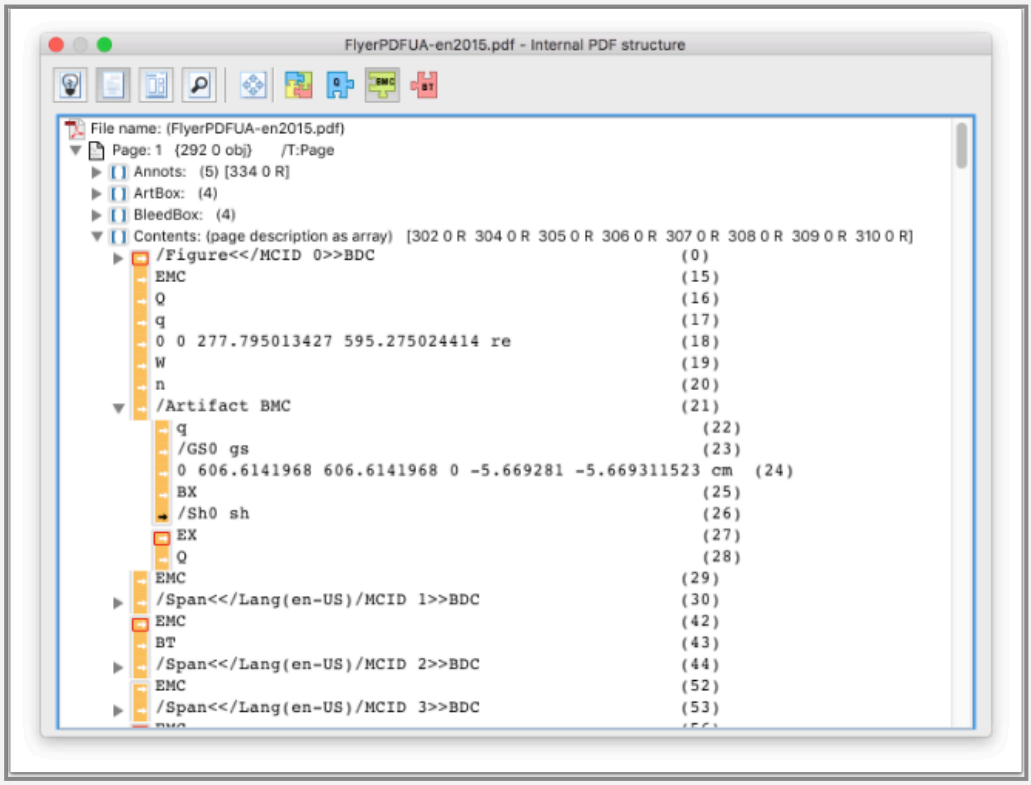
Content Stream snippets: q/Q pairs

The "q/Q pairs" view shows the content stream in a more condensed way, as the painting sequences are sorted in their respective graphic state nesting, also known as q/Q pairs.



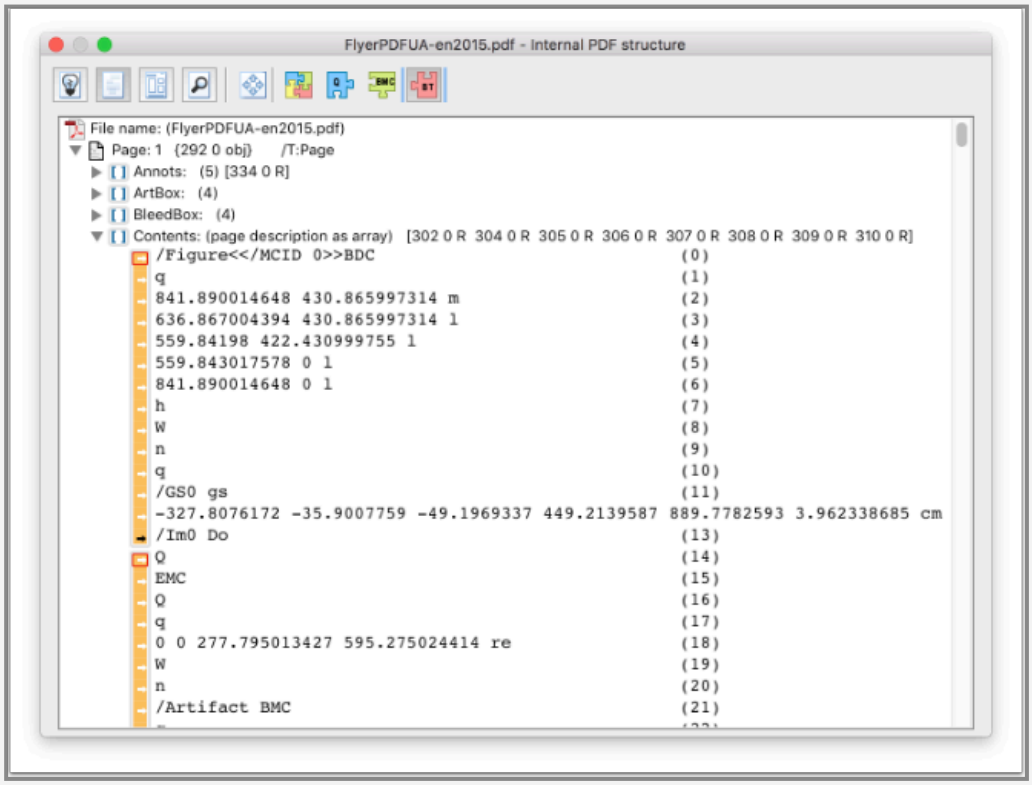
Content Stream snippets: Marked content

The "Marked content" view shows the content stream from the tagging or marked content perspective, as the content stream is grouped by the respective BMC or BDC properties.



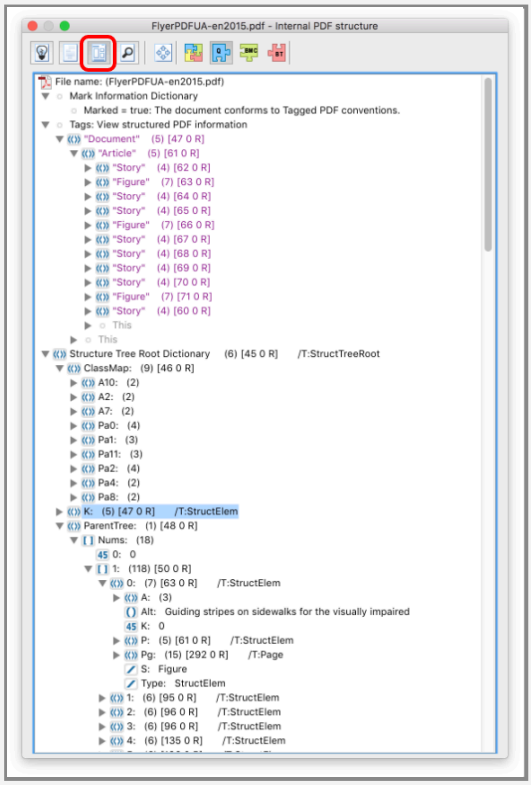
Content Stream snippets: text

The fourth view offers a plain text view of the content stream in a readable fashion.



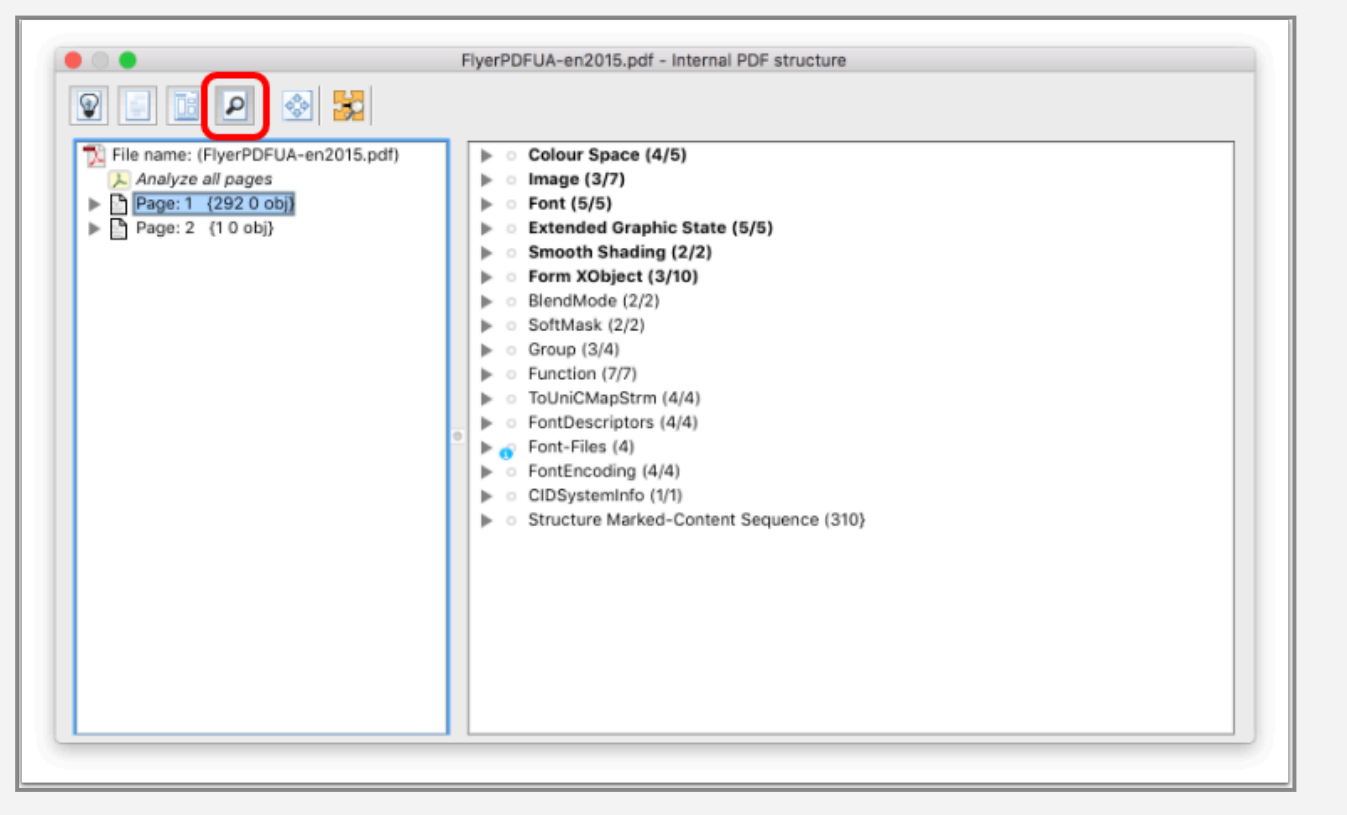
Tagging Stucture view

When a PDF file contains tagging information, this view gives a detailed overview about all the details like the ClassMap, a structural view of the various tags as well as other interesting details.



Resource view

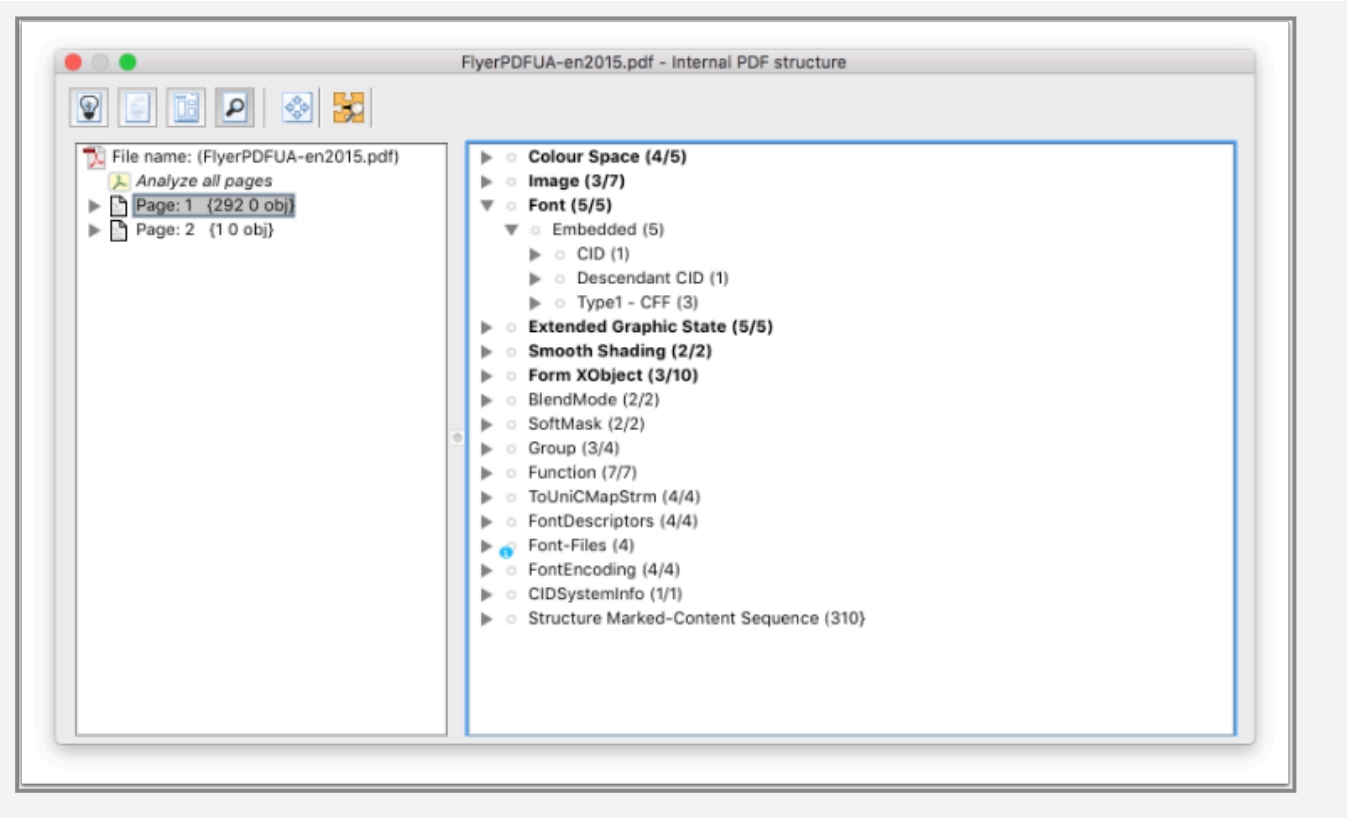
While the Logical view gives you (amongst others) a view into the content stream, the "Resource" view offers a page-by-page listing of all painting objects (like images, shadings, text, vector objects, ...).



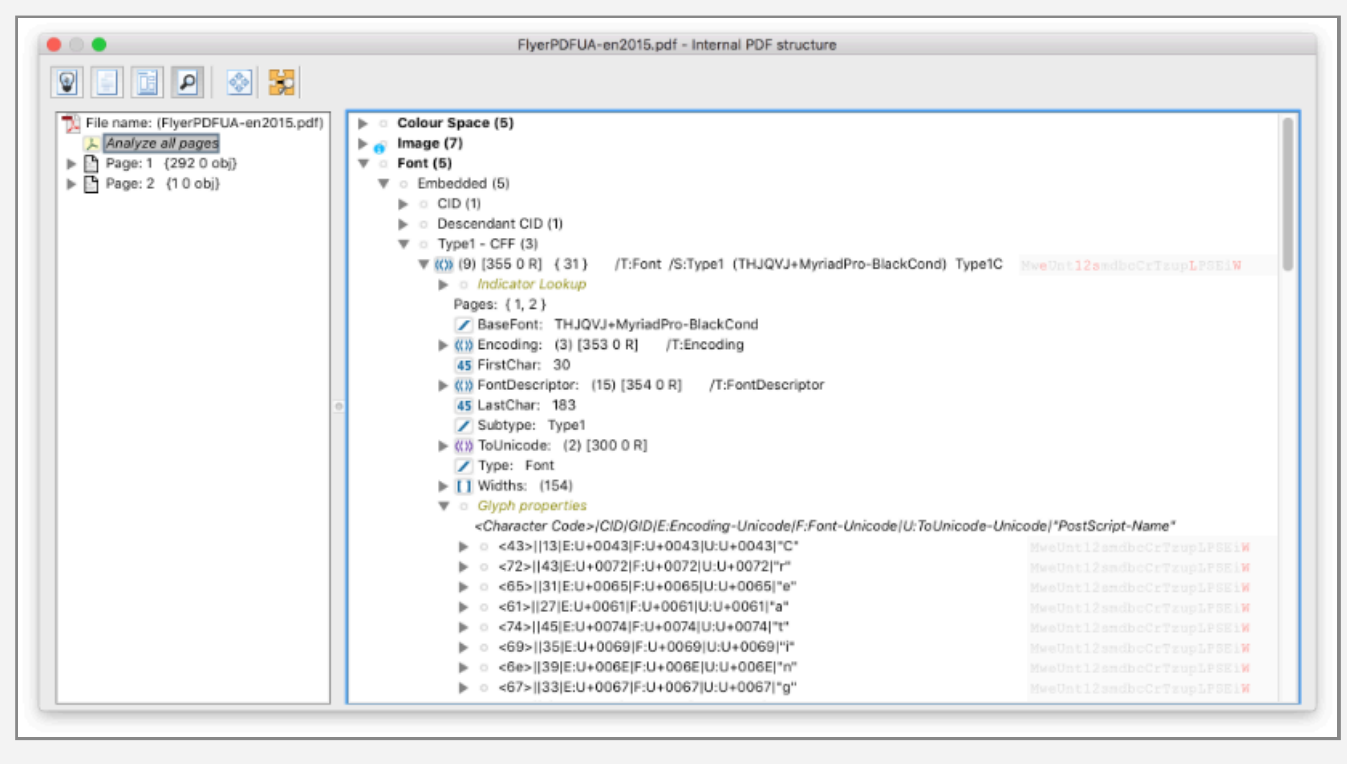
Each of the resources has a specific substructure with further information. Also all resources are listed that are used on the selected page, independent from whether they are specified in the page resource or in Form XObject resources.

The "Font" section is specifically rich with many results from pdfToolbox' font engine.

Detailed glyph information for embedded fonts



The font section shows embedded and not embedded fonts and then font types. The results of the font engine are available for the whole font and for each glyph by a list of indicators behind the respective entries.



When selecting a font, a lot of detailed information about the font file itself and the contained glyphs is available. Depending on if the selection on the left pane is on a specific page or on "Analyze all pages", the fonts used on that page or in the whole document are listed.

For all glyphs of an embedded font, there are several indicators behind each glyph. If such an indicator is red, this means that the corresponding property of the indicator applies to the glyph. This does not have to be a problem right away, it can help to make the different properties of the glyphs quickly accessible.

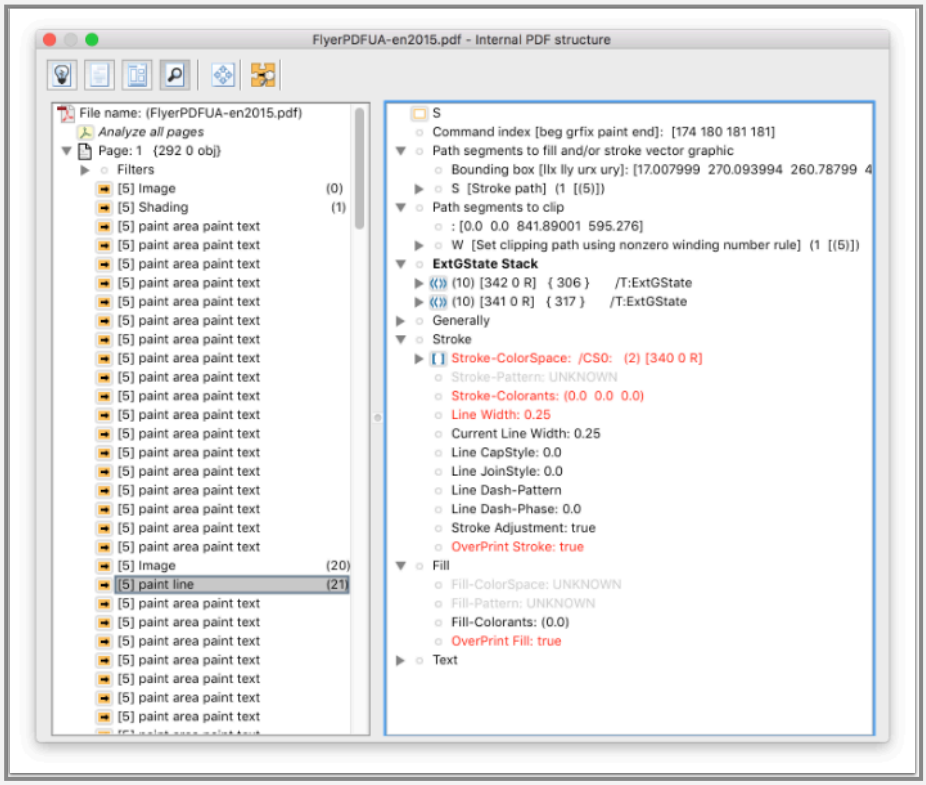
In this example for almost all glyphs a capital "W" and for some glyphs, also "e" and "s" are active - as indicated by the indicator being red. The section "Indicator lookup" explains the indicators.

A list of the available indicators can be found at "Indicator lookup" entry. Please note, that the order of the indicators has to be considered.

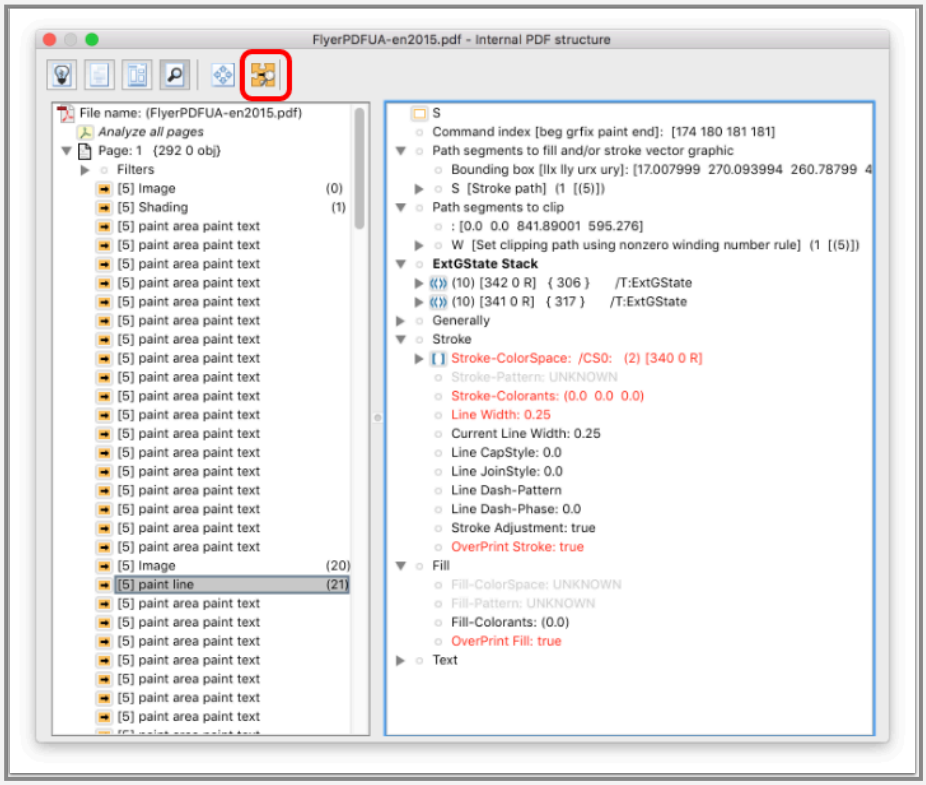
The indicator lookup informs us that the capital "W" means that the glyph width is used for positioning (the glyph is not positioned using coordinates but the width of a previous glyph). "e" stands for glyphs without contour and "s" is for such empty glyphs with a width, so in fact the respective glyph is a whitespace.

Analyze snippets and export selected snippets to a new PDF

For each object, a detailed view shows the painting and clipping area, the used color space as well as a lot of other information of the current Extend GraphicState, a used transformation matrix, for text the used font and font size, blend spaces, overprint modes and much much more.



The "open snippet as PDF" icon at the top of the Resource view allows for creating a PDF from the current selection in the left pane. The selection might also include several objects and Filters are provided to select all object of a certain type. Such PDF parts can be used for analysis to simplify a PDF.



The new PDF will be opened separately and can be used for further investigation of the PDF.
You'll see the functionality indicated by the red rectangle in the screen shot above.

PDF sample file used

The attached file has been used to show the various views of "Explore PDF".
This file has been created by the PDF Association.

FlyerPDFUA-en2015.pdf

2.18 Keyboard shortcuts for pdfaPilot

For some functionality callas pdfaPilot offers the possibility to use keyboard shortcuts.

callas pdfaPilot

Function	Shortcut	
	Mac	Windows
callas pdfaPilot Preferences	Cmd+,	
Hide callas pdfaPilot	Cmd+H	
Hide Others	Alt+Cmd+H	
Quit callas pdfaPilot	Cmd+Q	

File

Function	Shortcut	
	Mac	Windows
Open	Cmd+O	Ctrl+O
Save	Cmd+S	Ctrl+S
Save as	Cmd+Shift+S	Ctrl+Shift+S
Revert	Cmd+R	Ctrl+R
Close	Cmd+W	Ctrl+W
Exit	Cmd+Q	Alt+F4

Edit

Function	Shortcut	
	Mac	Windows
Cut	Cmd+X	Ctrl+X
Copy	Cmd+C	Ctrl+C
Paste	Cmd+V	Ctrl+V
Select All	Cmd+A	Ctrl+A

View

Function	Shortcut	
	Mac	Windows
First Page	<-	Home
Previous Page	⇞	Page up
Next Page	⇟	Page down
Last Page	->	End
Visualize ink coverage	Shift+Cmd+I	Ctrl+Shift+I
Output preview	Shift+Cmd+O	Ctrl+Shift+O
Compare documents	Shift+Cmd+C	Ctrl+Shift+C

Tools

Function	Shortcut	
	Mac	Windows
PDF/A in one click	Cmd+1	Ctrl+1

Function	Shortcut	
Switchboard	Cmd+2	Ctrl+2
Profiles	Cmd+3	Ctrl+3
Checks	Cmd+4	Ctrl+4
Fixups	Cmd+5	Ctrl+5
Organize pages	Shift+Cmd+M	Ctrl+Shift+M
Explore Metadata	Cmd+6	Ctrl+6
Explore Layers	Cmd+7	Ctrl+7
Explore PDF	Cmd+8	Ctrl+8
Explore Fonts	Cmd+9	Ctrl+9
Server	Cmd+0	Ctrl+0
Server Checkpoint Files	Shift+Cmd+0	Ctrl+Shift+0
View in default PDF application	Cmd+D	Ctrl+D

Window

Function	Shortcut	
	Mac	Windows
Loupe	Cmd+L	Ctrl+L
Show next document	^→⇥	Ctrl+TAB
Show previous document	^Shift→⇥	Ctrl+Shift+TAB

Help

Function	Shortcut	
	Mac	Windows

Function	Shortcut	
callas pdfaPilot Help	F1	F1

3. callas pdfaPilot Basics

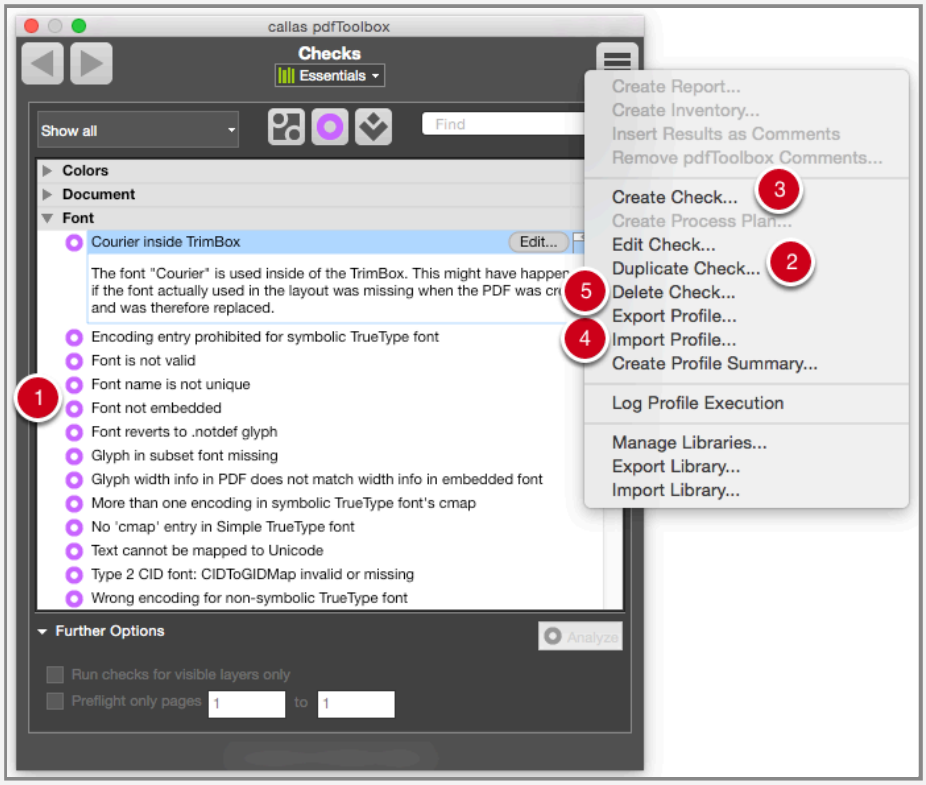
3.1 Fixups, Checks, Profiles, Process Plans and Libraries

callas pdfaPilot uses Profiles, Checks, Fixups, Process Plans and Libraries. These can be briefly summarized as follows:

- **Checks can be used to search PDF files for specific factors, and Fixups allow you to alter files in line with specific criteria.**
- **Profiles are designed to link Checks and Fixups together.**
- **Process plans can be used to ensure that multiple Profiles, Checks or Fixups run one after another in a controlled fashion.**
- **Finally, Libraries enable users to bring all pre-specified categories together into personalized collections for a better overview.**

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Checks



Checks can be used to test PDF files for specific parameters. **Checks inspect PDF documents, but do not alter them.**

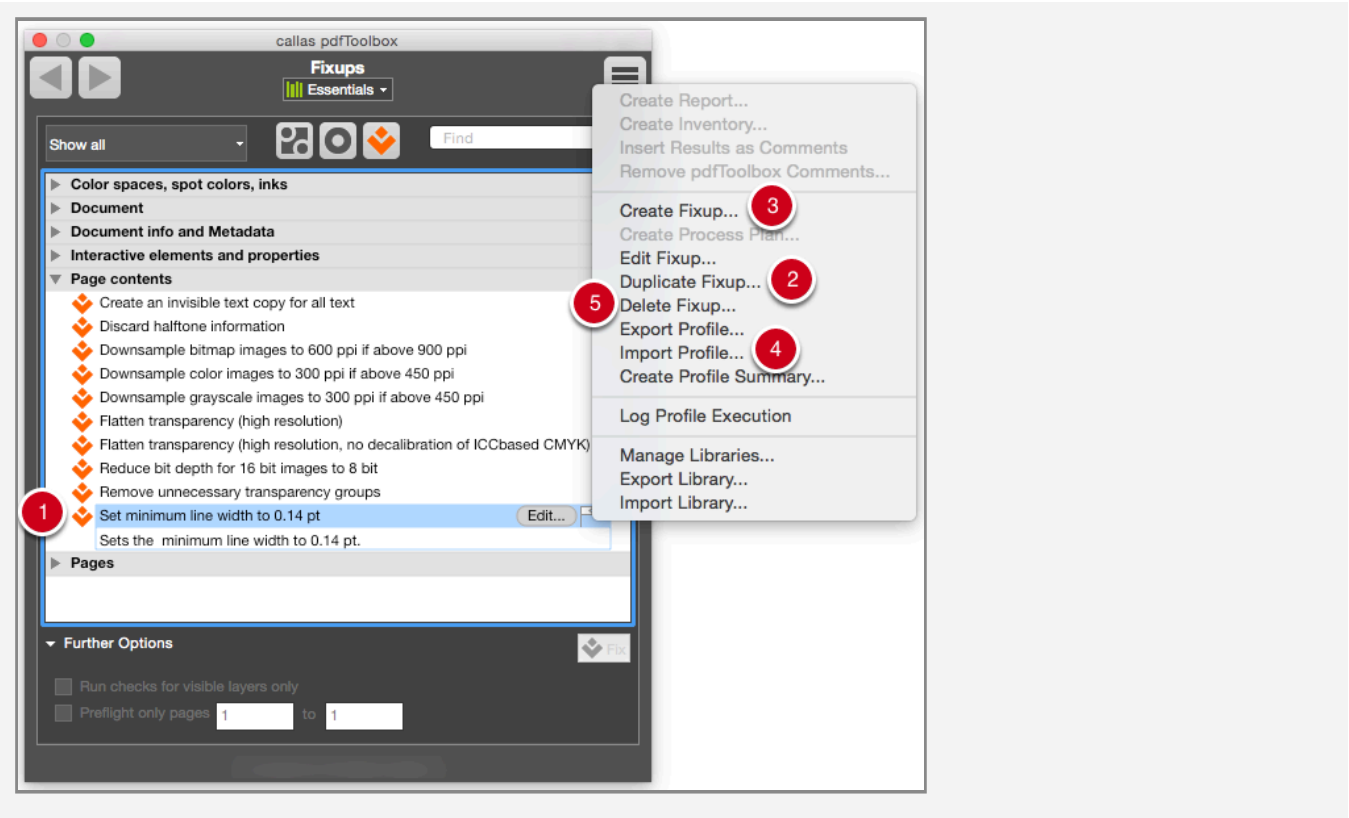
A number of different Checks are supplied as standard. Clicking on an entry in the **list** containing the Checks will provide a short **description** of the relevant check parameters (1).

If custom Checks are needed, users can create **their own check Profiles**. These can be altered versions of existing Checks - in which case you can work with duplicates (2) - or new Checks can be created from scratch (3).

Checks can also be **exported** and **imported** (4). This may be of interest if you need to forward or distribute them within your organization, or if you work with external partners.

Users can also **delete** Checks (5).

Fixups



Fixups can be used to **alter PDF files**. From a technical perspective, a fixup is always preceded by a check which tests the PDF file for specific parameters which must exist in order to trigger the check in the first place.

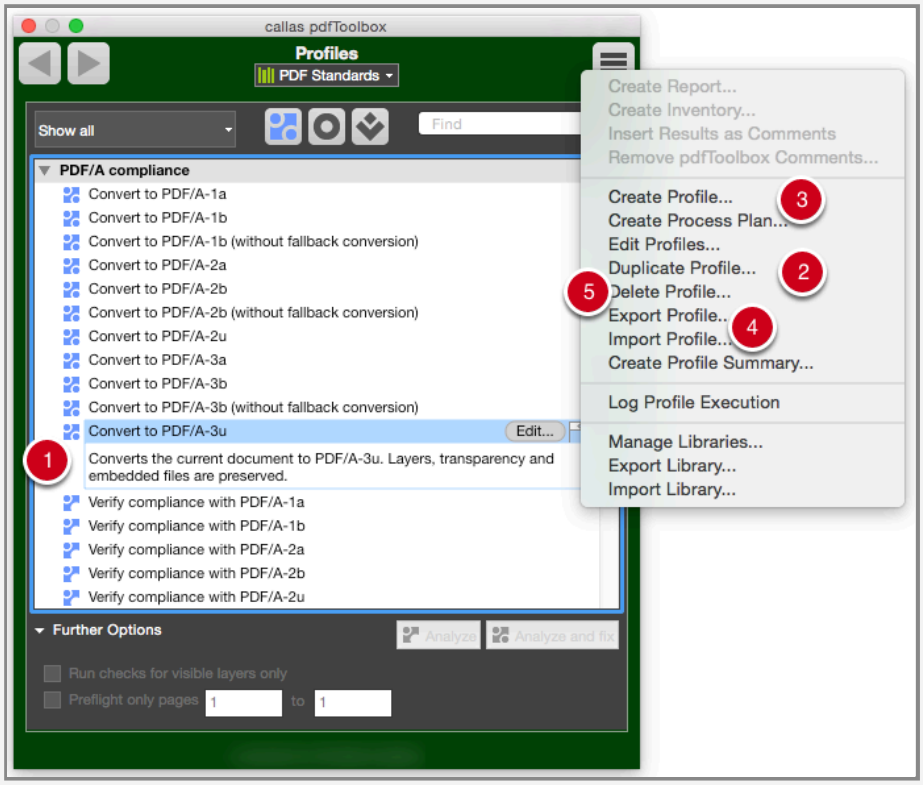
A number of different Fixups are supplied as standard. Clicking on an entry in the **list** containing the Fixups will provide a short **description** of the parameters that will be corrected in each case (1).

If custom Fixups are needed, users can create **their own fixup Profiles**. These can be altered versions of existing Fixups - in which case you can work with duplicates (2) - or new Fixups can be created from scratch (3).

Fixups can also be **exported and imported** for forwarding or distribution within your organization or with external partners (4).

Users can also **delete** Fixups (5).

Profiles



Profiles can be used to **check and/or fix PDF files.** For example, Profiles are used to test the various PDF standards and fix files as necessary.

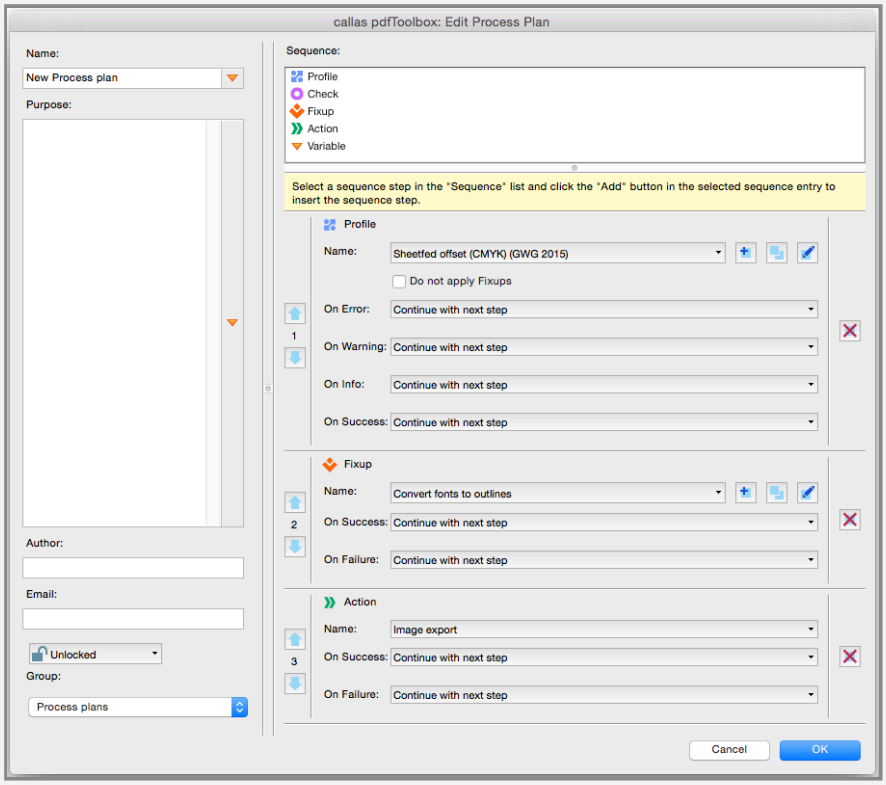
A number of different Profiles are supplied as standard. Clicking on an entry in the **list** containing the Profiles will provide a short **description** of the relevant details **(1)**.

If custom tasks are needed, users can create **their own Profiles**. These can be altered versions of existing Profiles - in which case you can work with duplicates **(2)** - or new Profiles can be created from scratch **(3)**.

Profiles can also be **exported and imported** for forwarding or distribution within your organization or with external partners **(4)**.

Users can also **delete** Profiles **(5)**.

Process plans



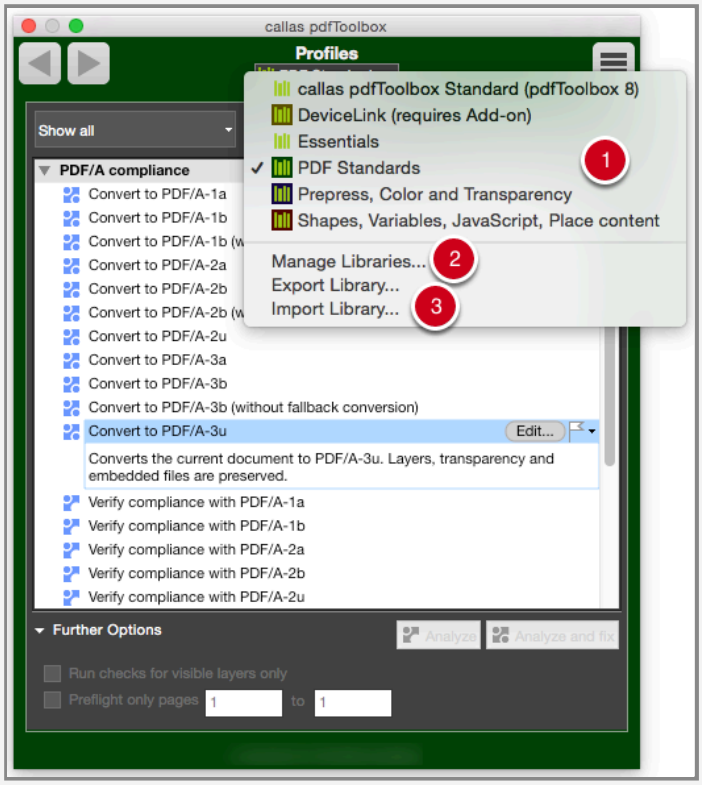
Process plans allow you to organize steps **in interrelated sequences.**

Parameters can be drawn from five different fields for the **sequence steps.**

- Profiles
- Checks
- Fixups
- Actions
- Variables

The steps can process **conditional instructions** (if..., then...). Examples of results that occur when specified parameters result in a given report include **Success, Warning, Error** and **Info.** This allows you to assemble processes which make use of conditional switches at specified points in the process.

Libraries



Libraries let you organize sets of Profiles, Checks, Fixups, switchboard actions, output conditions and imposition configurations.

Libraries offer a broader overview for users who, for example, wish to create pdfaPilot environments for a range of jobs or for multiple customers.

1. pdfaPilot is supplied with a range of preconfigured Libraries (1). In the Switchboard, and in the overview of Profiles, Checks and Fixups, users can open the desired library from the pop-up menu.
2. Libraries can be edited (by clicking Manage (2)), exported and imported (3).

All other information relating to Libraries can be found in the chapter Libraries - Overview.

3.2 Protect Fixups, Checks, Profiles, Process Plans and Libraries against changes

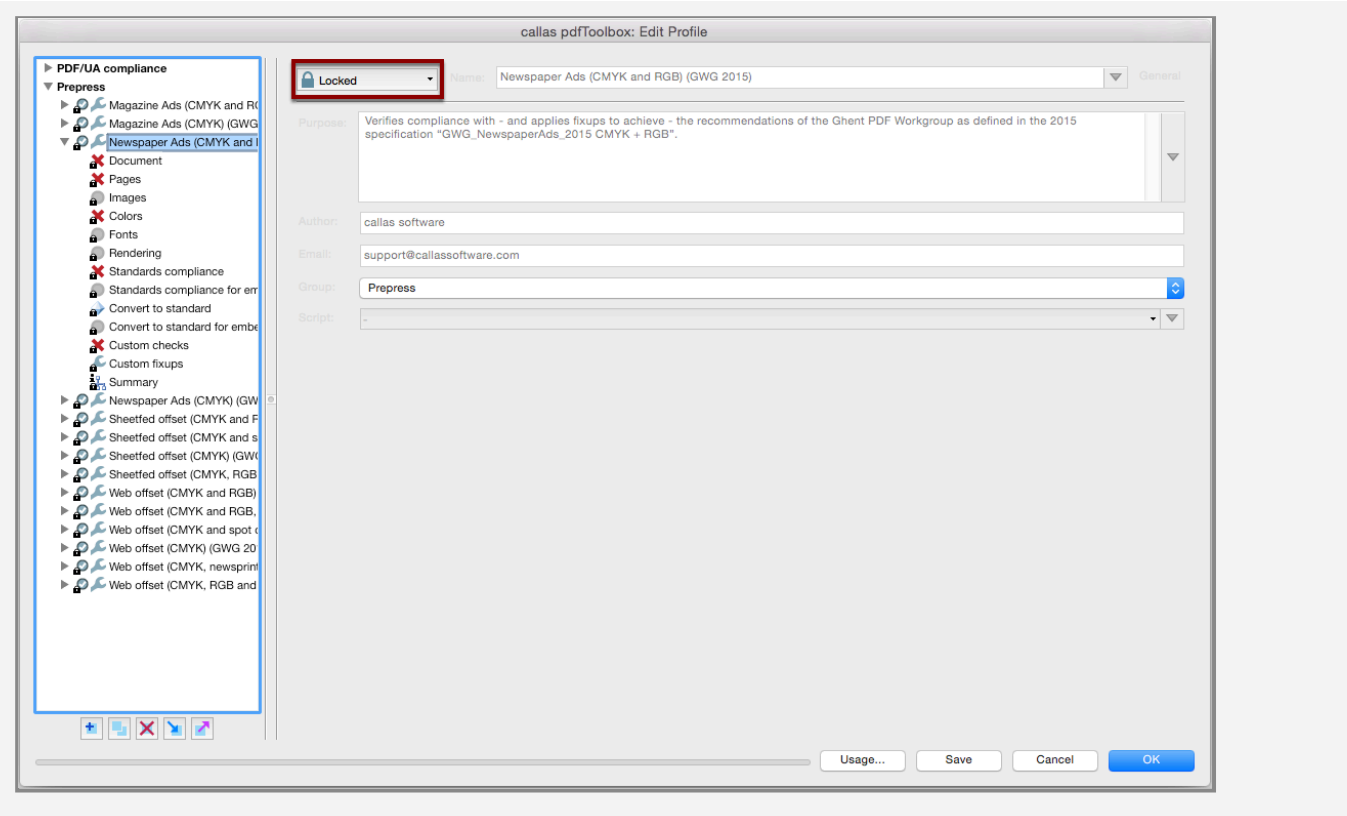
You can prevent unplanned changes to Fixups, Checks, Profiles, Process Plans and Libraries by locking them - i.e. by making them write-protected.

Checks and Fixups cannot be individually locked; instead, they are automatically locked whenever a Profile which uses them is itself locked.

Some of the predefined Fixups, Checks and Profiles are protected by default. They can be identified by looking for the lock icon.

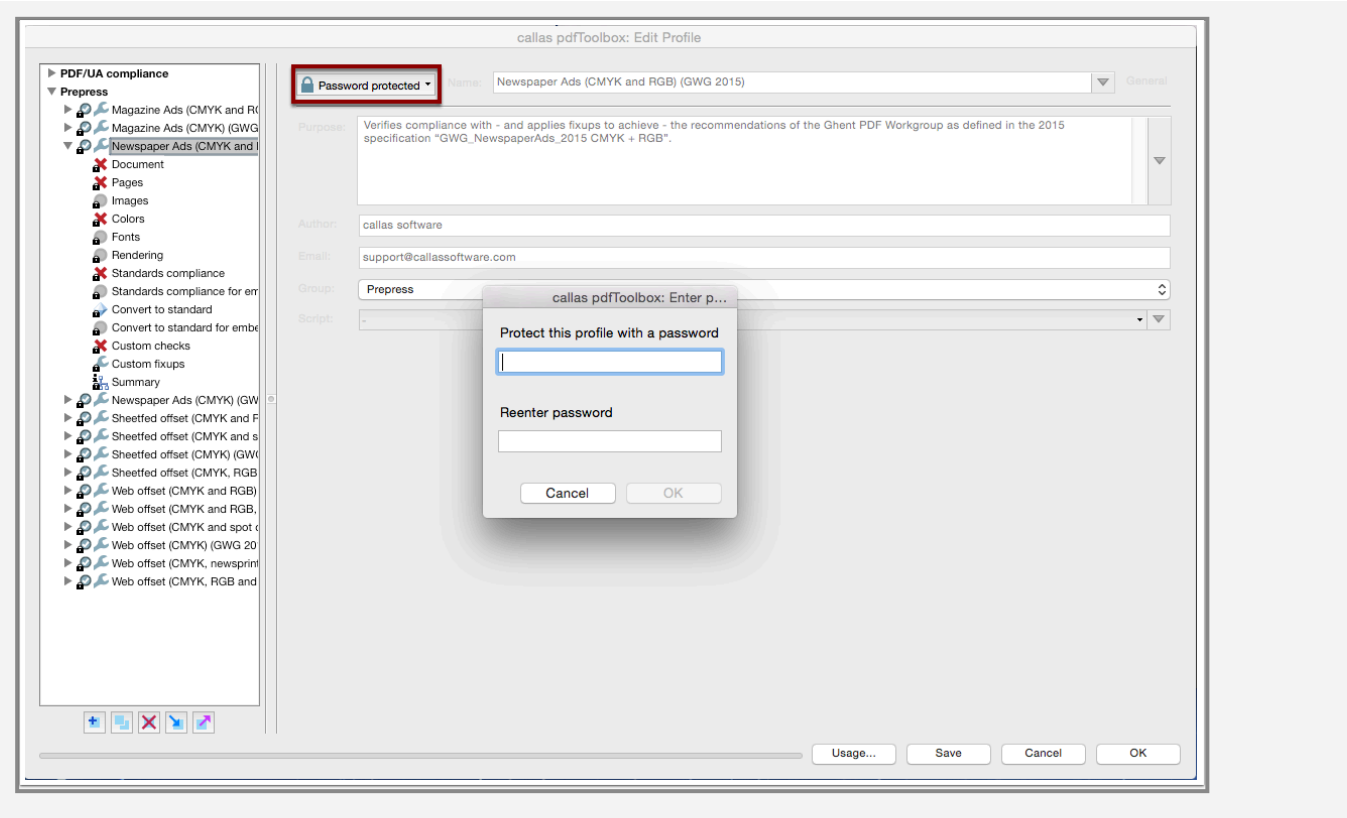
The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Locked Profile



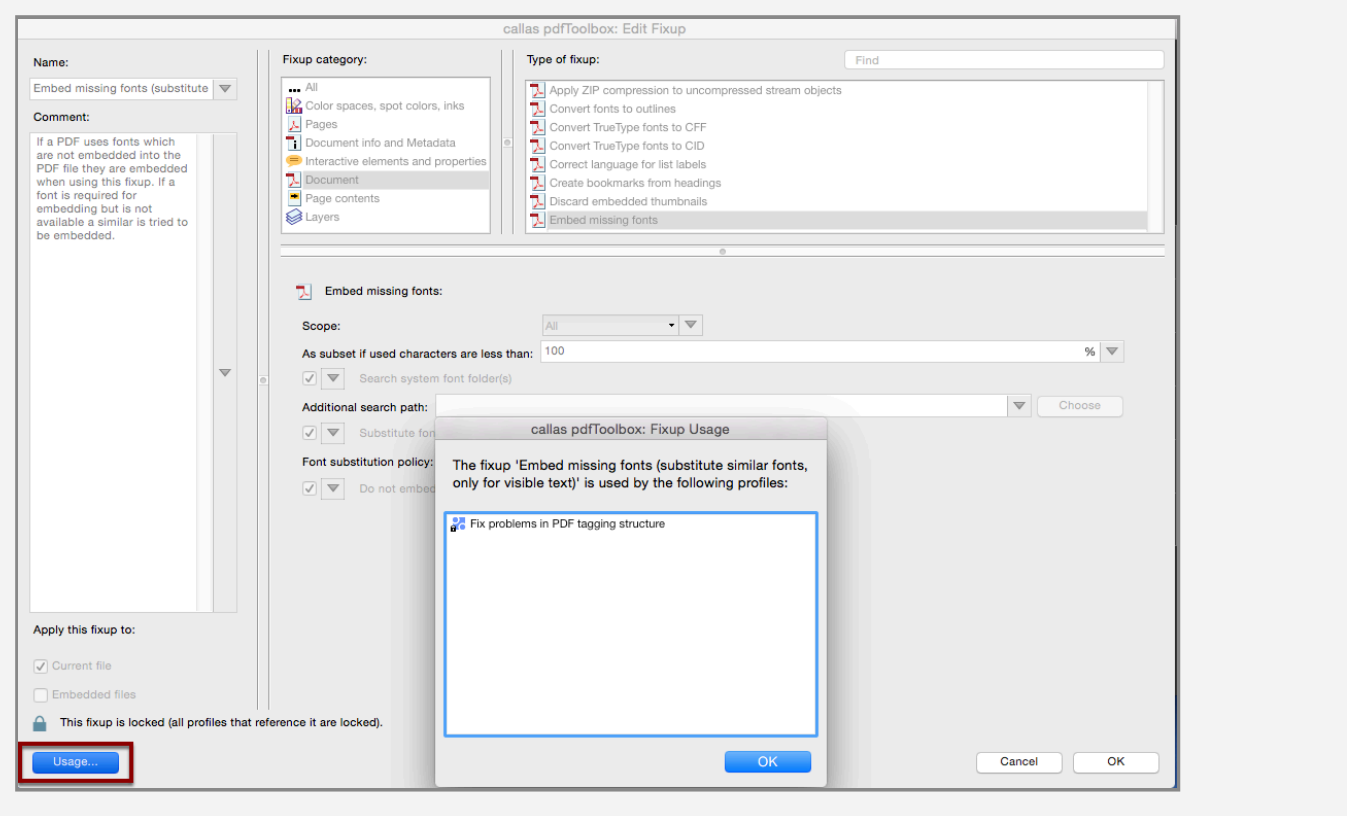
A locked profile is protected against changes.

Password-protected Profile



Alternately, a Profile can be assigned a password.

Fixup used in other Profiles or Process Plans



A Fixup (or a Check) can only be changed if it is not being used in a locked Profile or Process Plan.

You can see how it is being used in the corresponding interface marked “Usage...” within the same dialog.

Call up the listed Profiles as required, click “Edit...” and change the lock setting to “Open”.

You can then edit the Fixup (or the Check).

3.3 Duplicate and edit Profiles, Checks and Fixups

In some cases, it may make sense to create a new Profile based on an existing one, as an existing Profile may be quite well suited to a new task but require changes to certain settings within its own workflow (such as different resolutions, color spaces and many other options). The same principle also applies to Checks and Fixups.

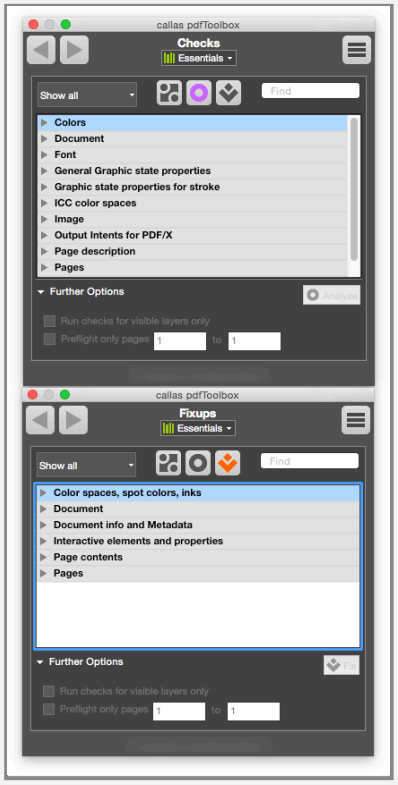
The starting point can be one of the Profiles supplied as standard or a custom one with specific details that need to be altered. The user can duplicate the existing Profile and alter specific elements as necessary. We'll show you how this works step by step.

pdfaPilot distinguishes between Profiles, Checks and Fixups.

- **Checks and Fixups are edited in a broadly similar fashion to one another.**
- **Profiles are edited and set up in a different way, as from a technical perspective they (may) combine both Checks and Fixups.**
- **We will therefore first show you how duplicates of Checks and Fixups can be used. In a later section, we will then demonstrate how the process applies to Profiles.**

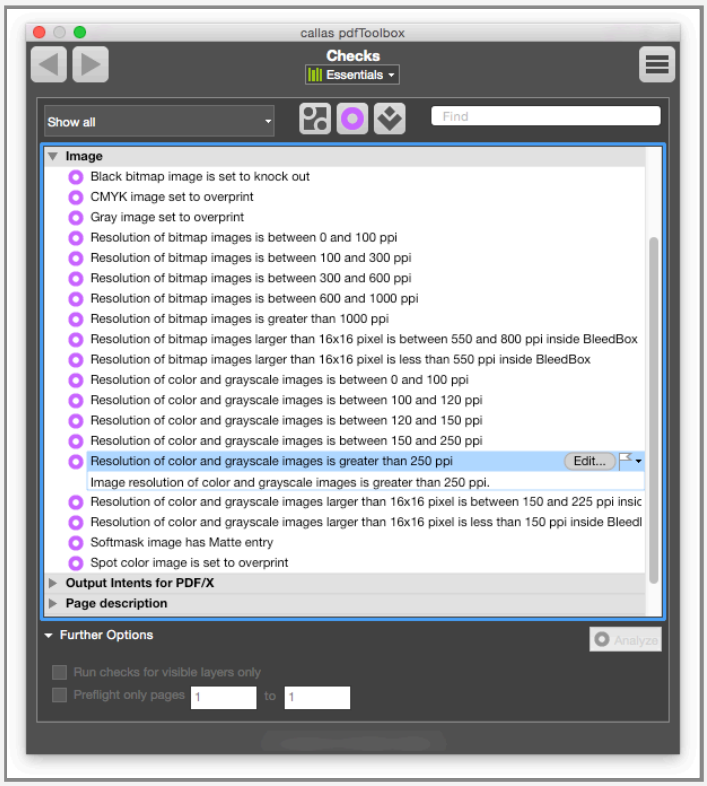
The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Creating and setting up a duplicate of a Check (or Fixup)



Checks and Fixups are set up in a similar way in pdfaPilot.

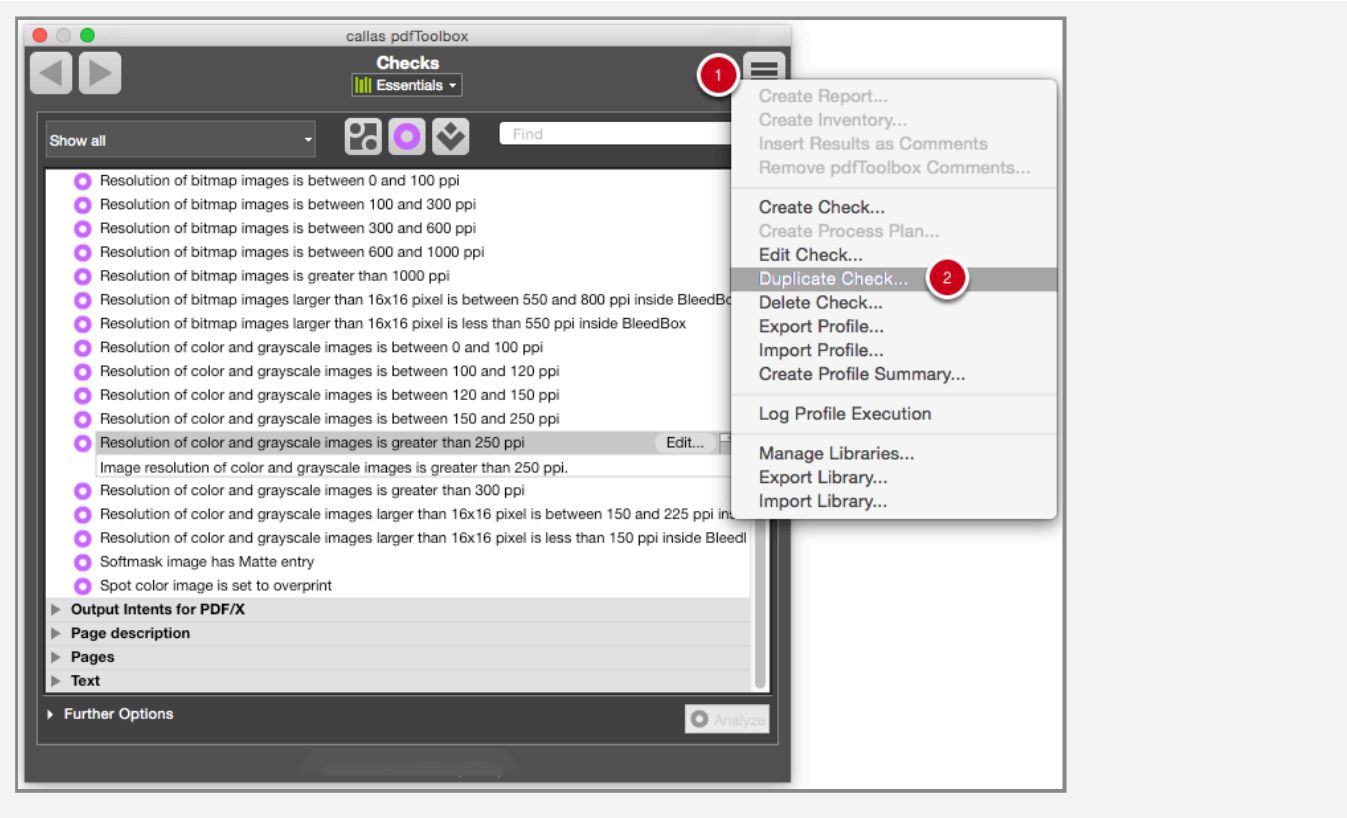
Selecting a Check for the duplicate



In the example shown, the Check “Resolution of color and grayscale images is greater than *250 ppi*” needs to be changed, raising the threshold to *300 ppi*.

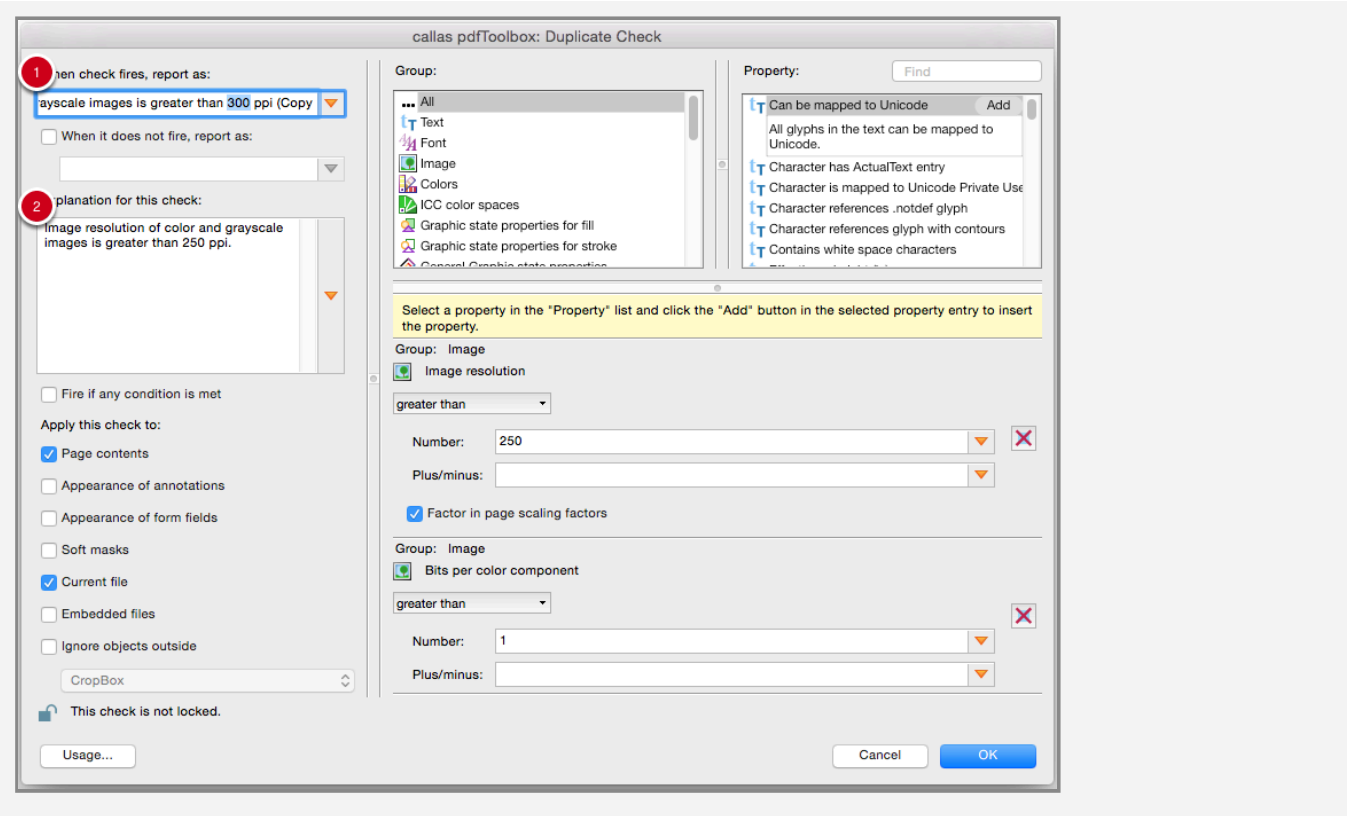
The Check can be found under the “Image” category and is a part of the “Essentials” library.

Duplicating the Check



To duplicate a Check, Fixup or Profile, first select it. In the fly-out menu to the upper right (1), select “Duplicate Check (or Fixup)” (2).

Changing settings for the duplicated Check

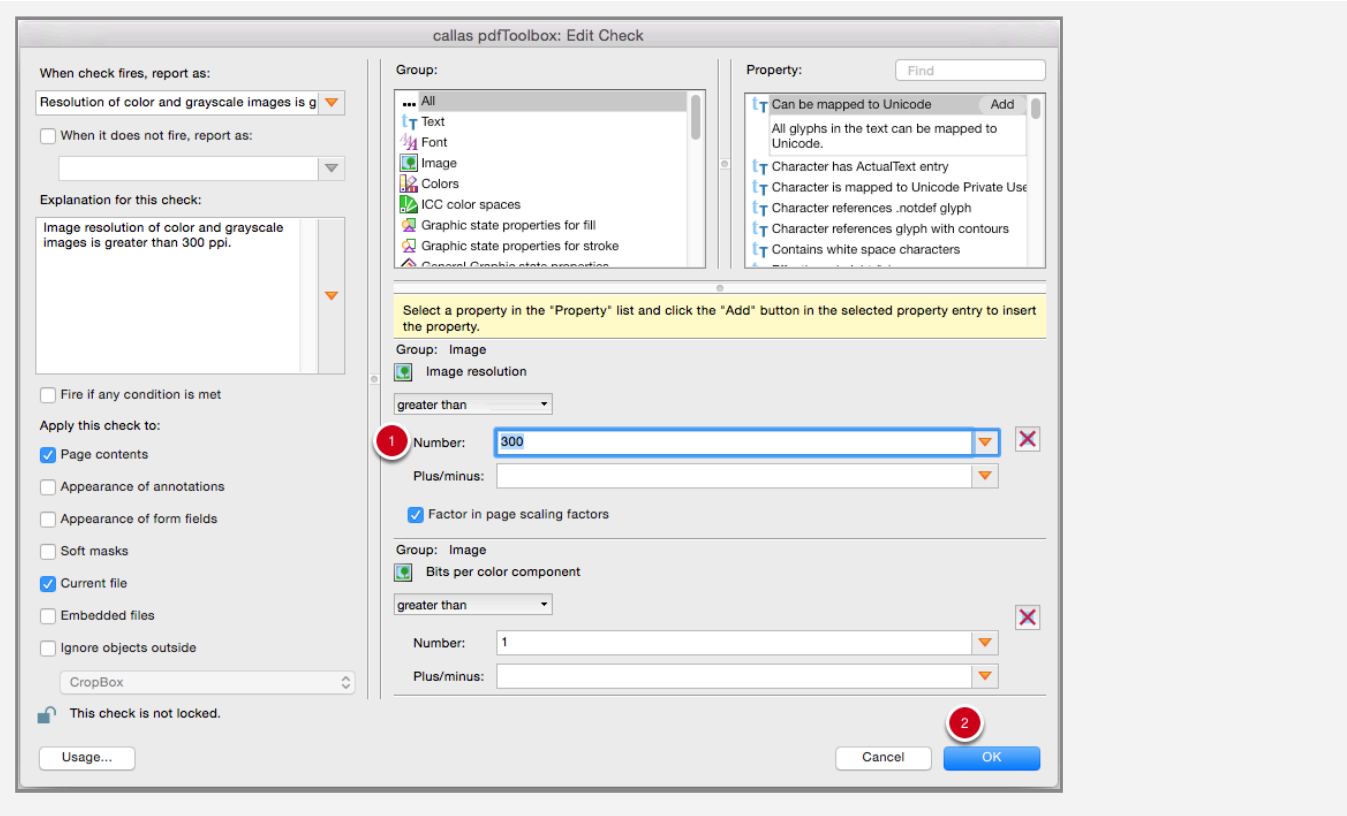


First, we should change the description of the Check so that its new function is clear.

In the example shown, the automatically generated text "Resolution of color and grayscale images is greater than *250 ppi (Copy 1)*" can be changed to "Resolution of color and grayscale images is greater than *300 ppi*" in the corresponding field (1).

We should also update the text in the Explanation field (2).

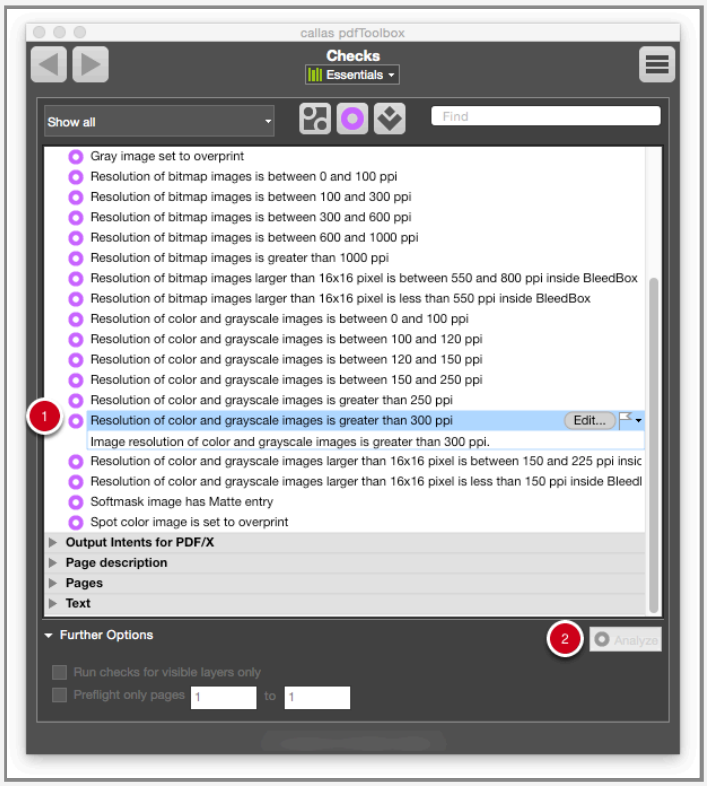
Editing properties



The property that needs to be changed in this example can be found under the “Image” group. The image resolution for the duplicate is now raised from *250* to *300* (1).

Click on the **OK** button (2) to save your changes.

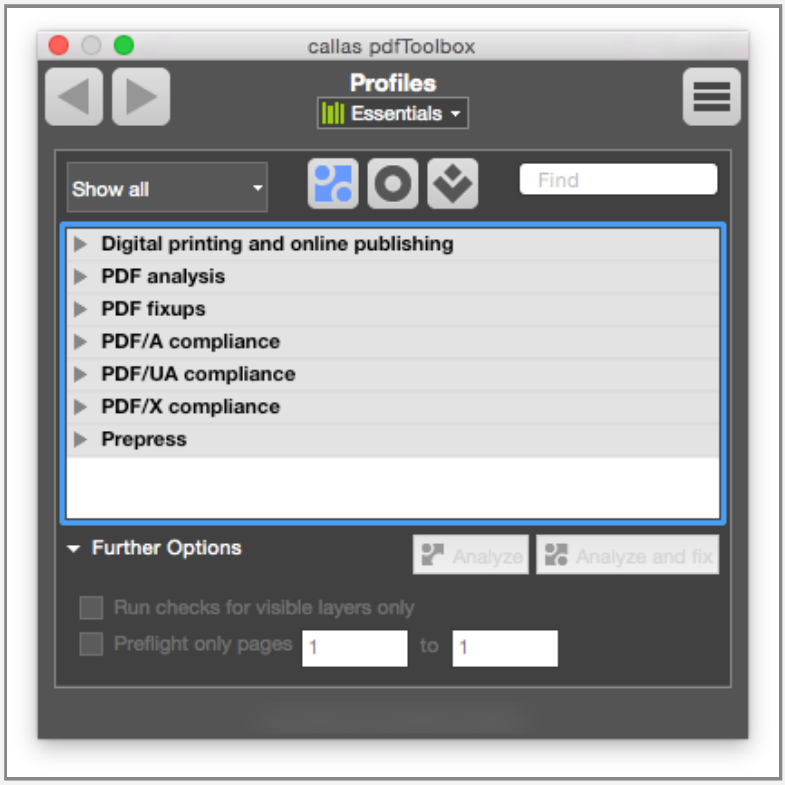
The new Check in the Overview window



The new Profile is now shown in the list of Checks (1).

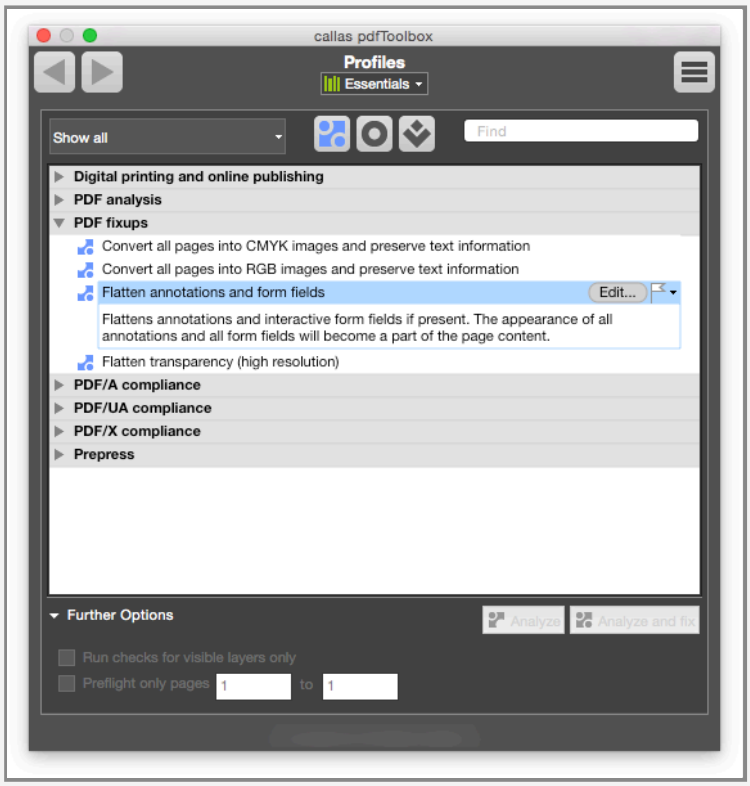
Click on **Analyze** (2) to find and report any applicable images in a PDF document with a resolution greater than 300 ppi.

Creating and setting up a duplicate of a Profile



In this section, we'll show you how to set up Profiles. Profiles consist of a combination of Checks and Fixups.

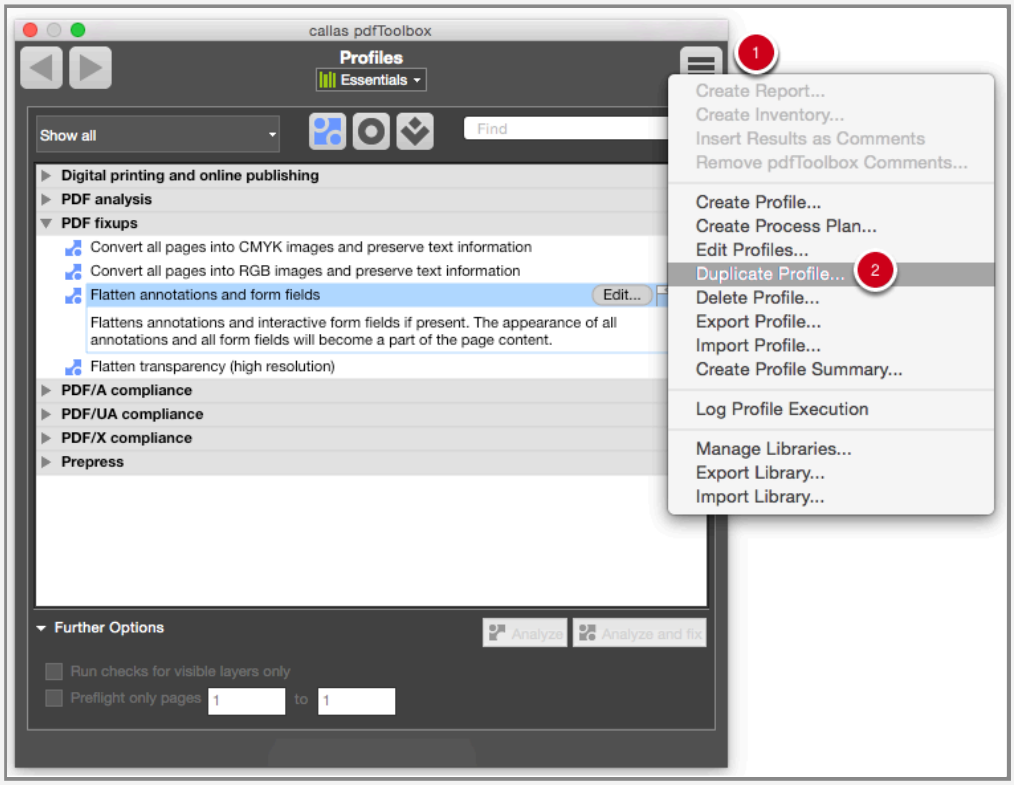
Selecting a source Profile for the duplicate



In the example shown, the Profile “Flatten annotations and form fields” needs to be altered. The new Profile should only flatten form fields and move annotations out of the Bleed-Box.

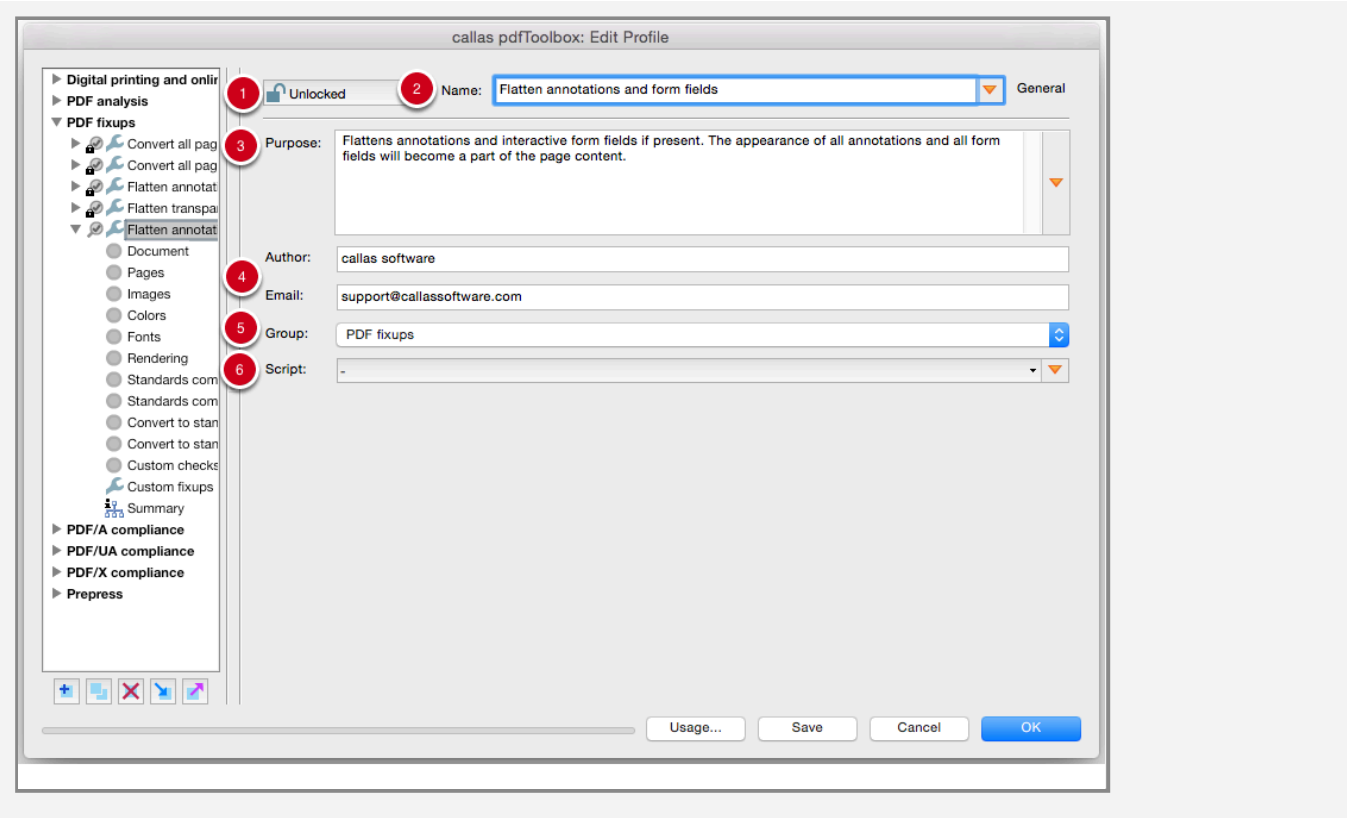
The Profile can be found in the “PDF Fixups” category and is a part of the “Essentials” library.

Duplicating the Profile



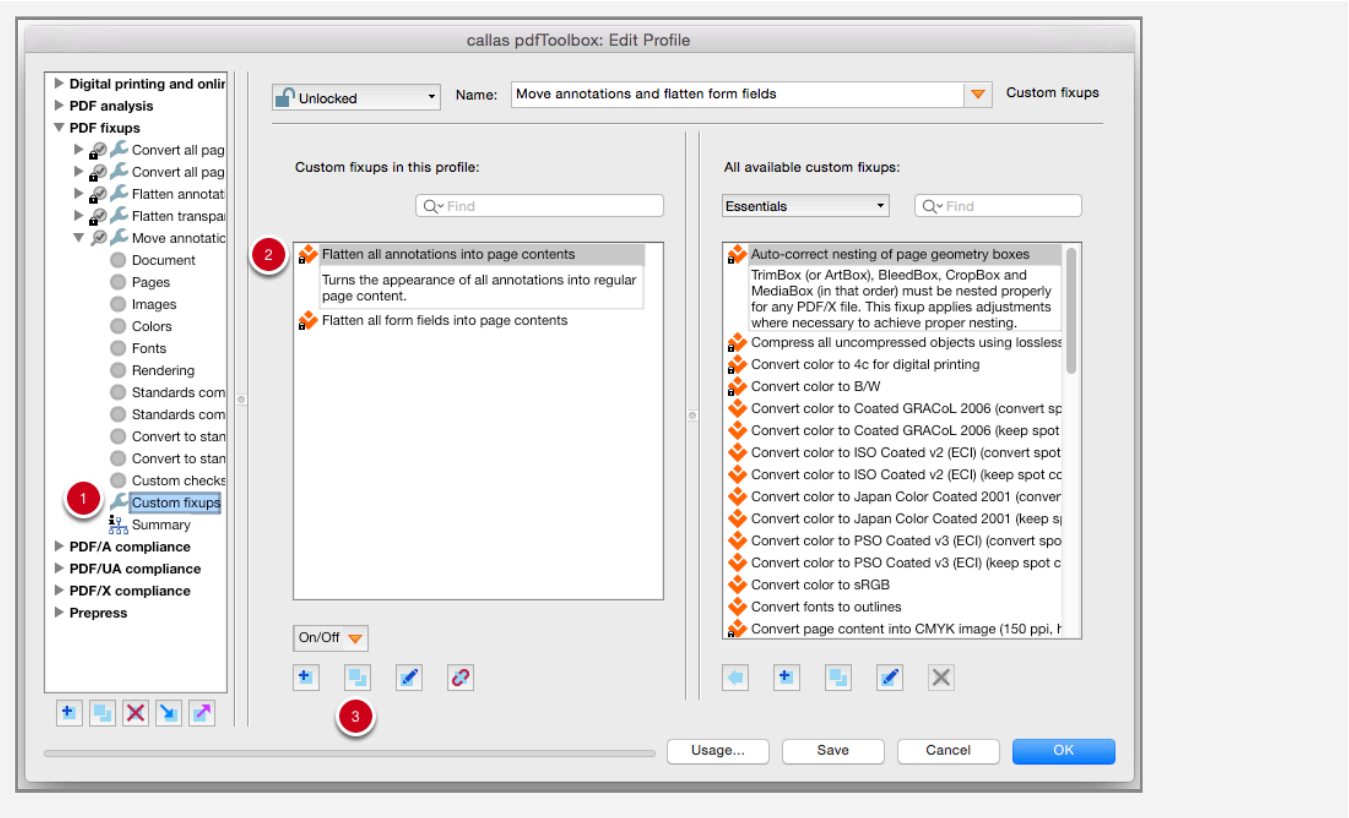
To duplicate a Profile, first select it. In the flyout menu to the upper right (1), select “Duplicate Profile” (2).

Changing settings for the duplicated Profile



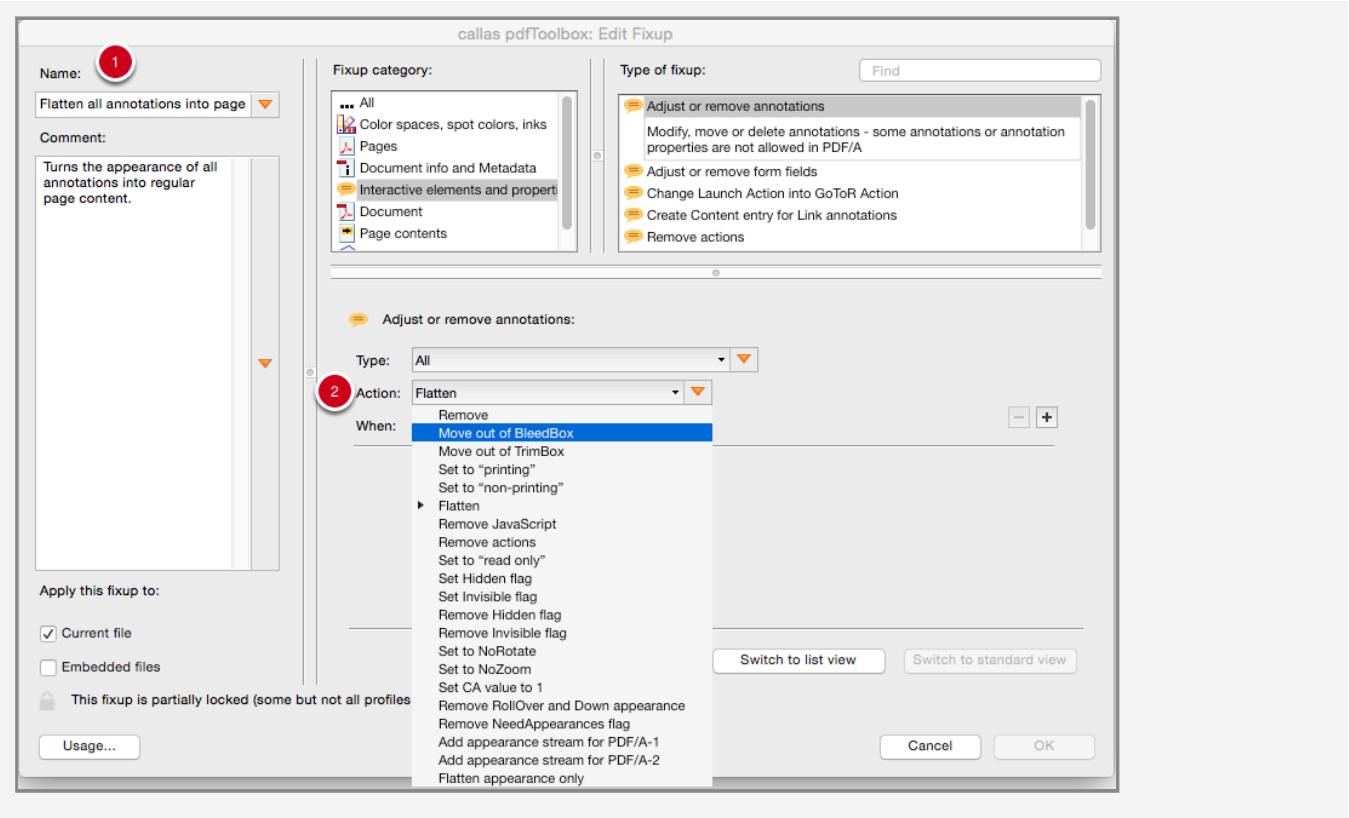
1. The user can **protect** the Profile from being changed by clicking on the **lock symbol**.
2. We should change the **name** of the Profile so that its new function is clear. In the example shown, the automatically generated text “Flatten annotations and form fields **(Copy)**” can be changed to “Move annotations and flatten form fields” in the relevant box.
3. We should also update the text in the **Comment** field.
4. Provide your own details in the **Author** and **Email** fields.
5. As this Profile is a duplicate, the “PDF Fixups” **group** is still suitable.
6. No **script** is used for this Profile.

Edit Profile



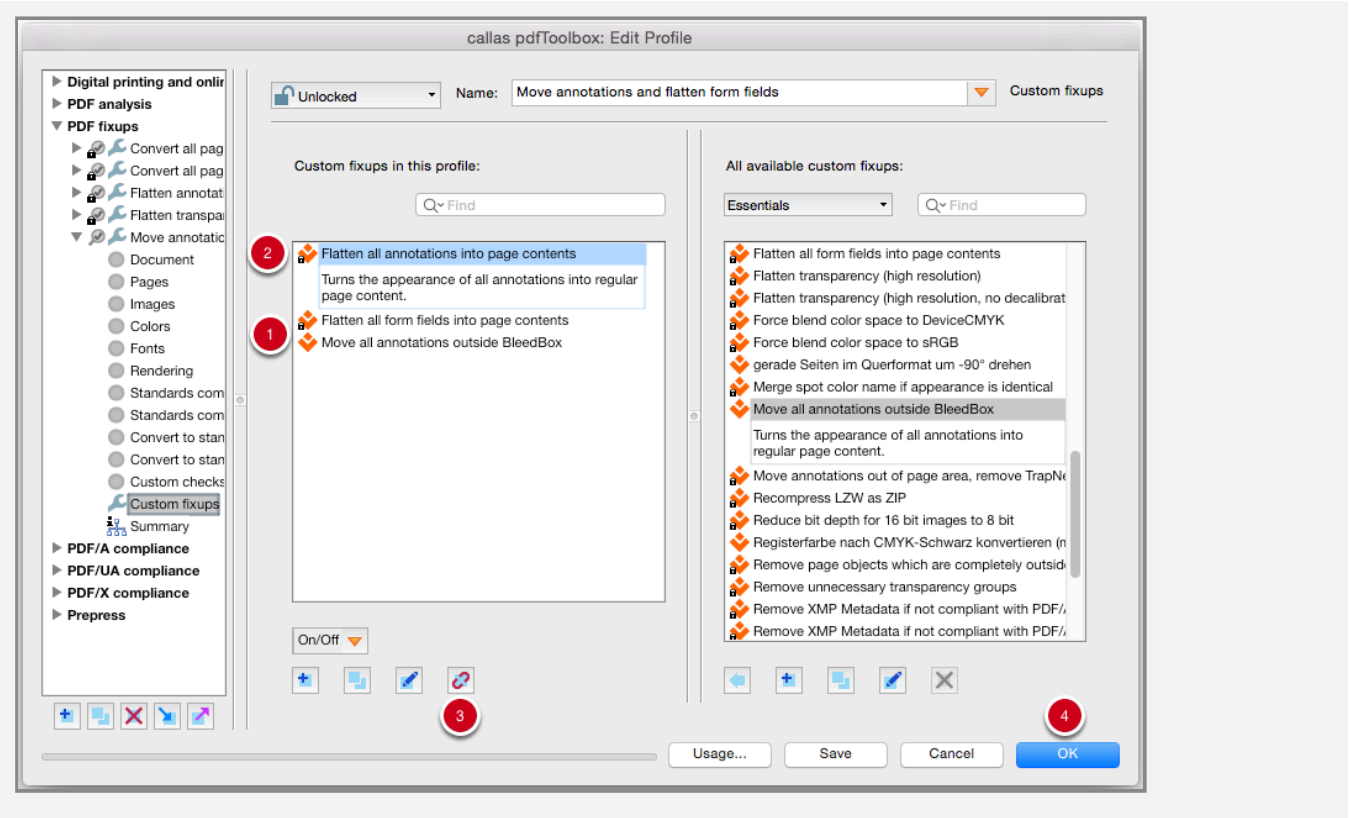
1. The settings to be changed in this example can be found under **“Custom Fixups.”**
2. For the original Fixup, we will select “Flatten all annotations into page contents.”
3. We will then duplicate the Fixup by clicking on the **duplicate symbol**.

Settings under “Duplicate this Fixup”



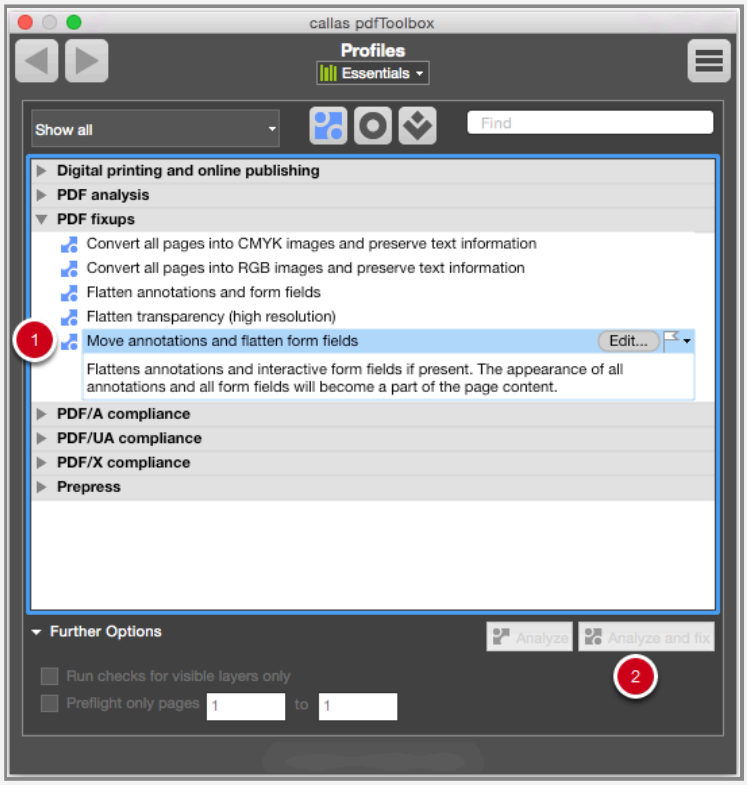
1. For this new duplicated Fixup, we should again edit the **name** and comment in the left column.
2. The new Profile should move annotations instead of flattening them. We therefore select the appropriate entry from the pull-down menu under **“Action”**.
3. Click **OK** to accept changes.

Results and advanced settings under “Edit Profile”



1. The **new Fixup** is now listed in the middle column.
2. The **previous Fixup** must now be **removed**. To do so, select the corresponding item in the list.
3. To remove it, click on the **broken link symbol** to break the link between the selected Fixup and the Profile.
4. Click **OK** to save and close the altered Profile.

The new Profile in the Overview window



The new Profile is now shown in the list of Profiles (1).

Click **Analyze and fix** (2) to execute the Profile.

3.4 Creating Profiles

Prefer a video of this content? Watch it here...

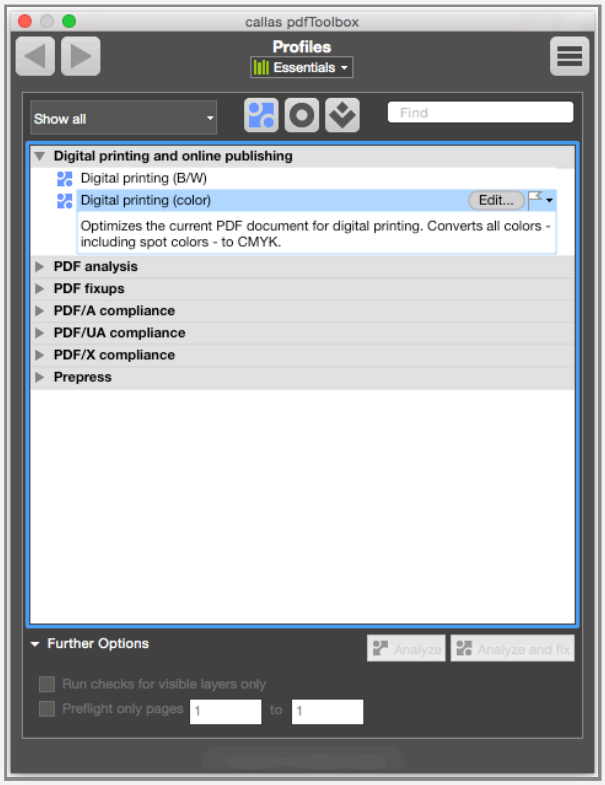
A Profile represents a collection of checking and/or fix-up points for a PDF document and (optionally) the relevant problems.

pdfaPilot provides a wide range of Profiles from a number of different categories, including digital printing, prepress, PDF analysis, PDF fixups and PDF standards.

Users can also set up custom Profiles for use in their own workflows.

We will now show you the options available in this context.

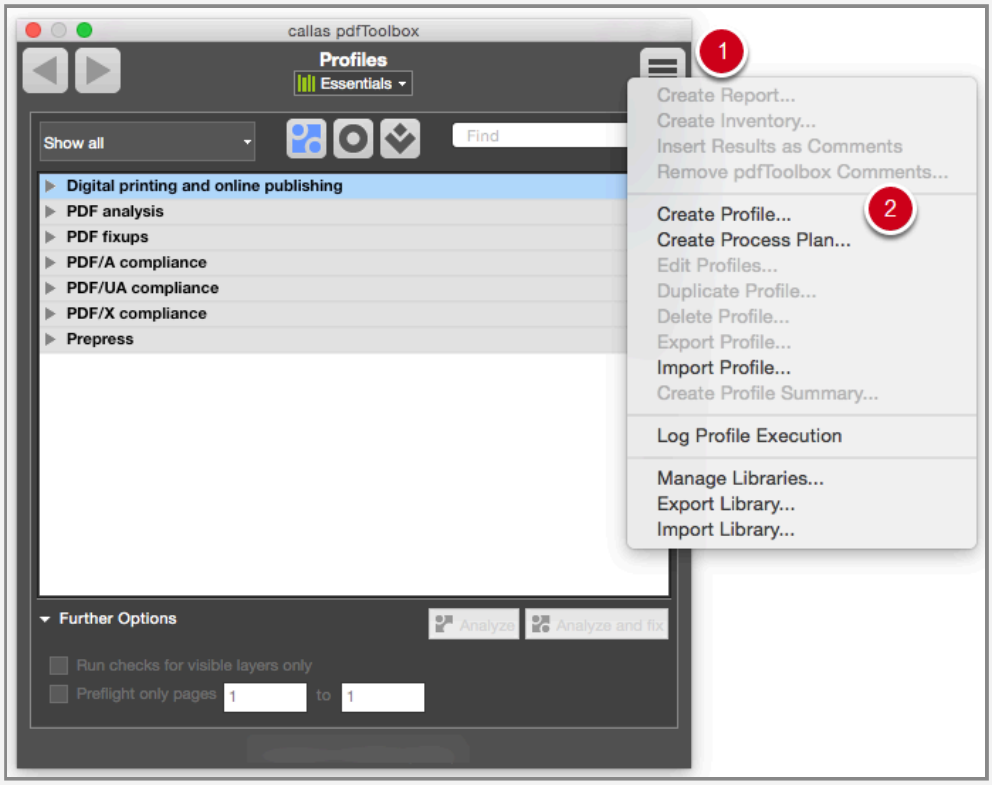
The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.



A wide range of Profiles are available in the standard release.

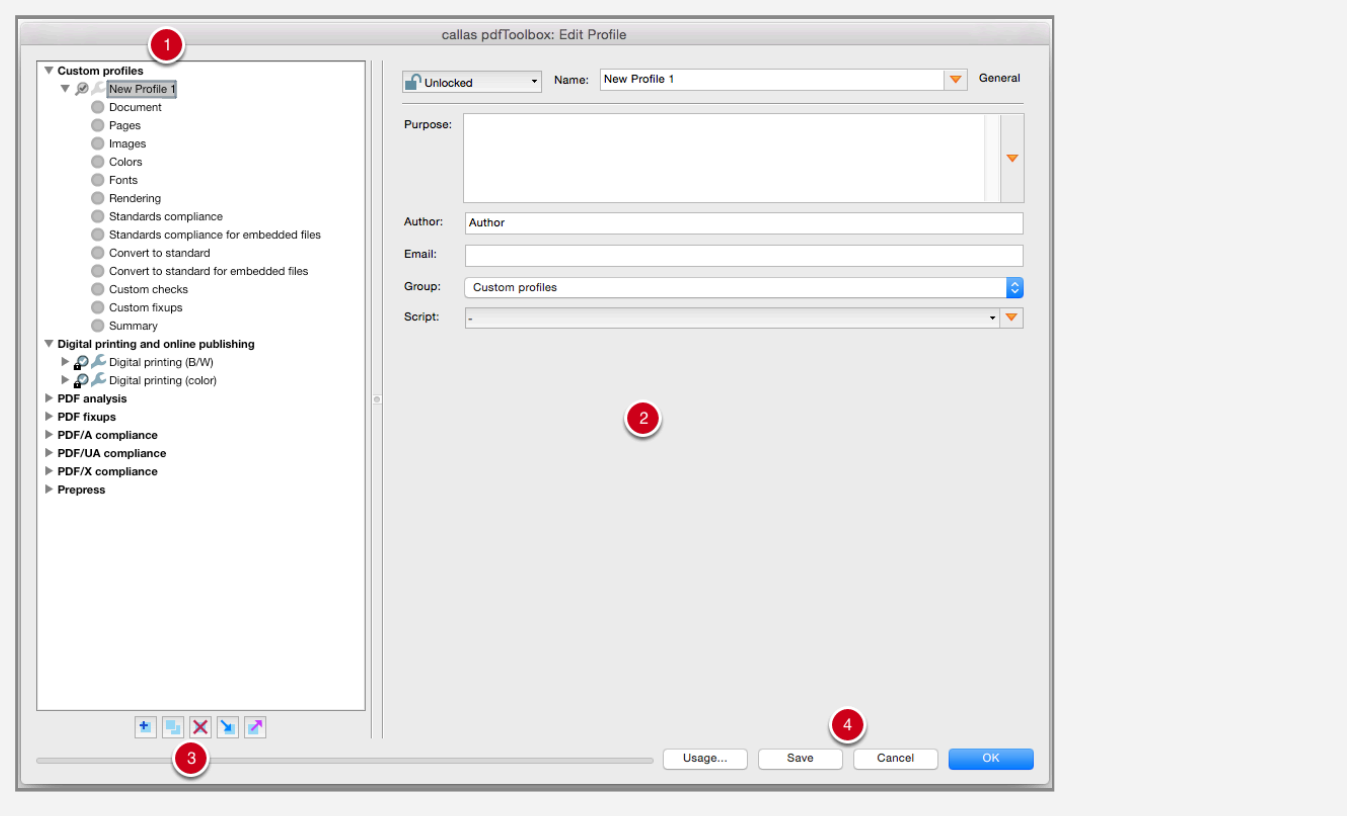
Custom Profiles can be set up in just a few steps.

Call the “Create Profile...” command



1. The button in the upper right of the **Profiles window** allows you to select from a number of options.
2. The **pull-down** menu also includes the command **“Create Profile...”**.

The “Edit Profile” window: an overview



A wide range of settings are available across a number of categories (1) for a (new) Profile, shown in a list to the left:

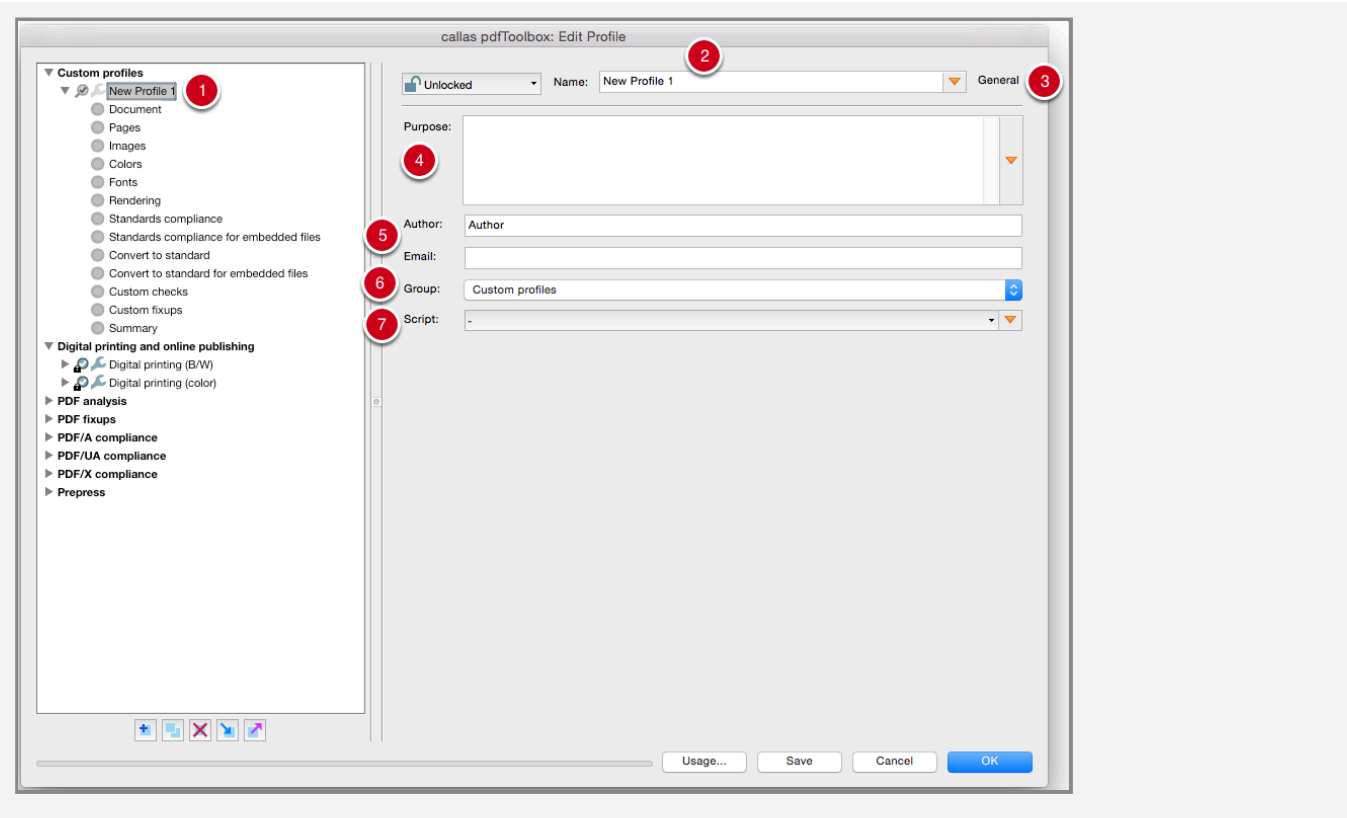
- General information
- Document
- Pages
- Images
- Colors
- Fonts
- Rendering
- Standards compliance
- Standards compliance for embedded files
- Convert to standard
- Convert to standard for embedded files
- Custom checks
- Custom fixups
- Summary

The right hand side of the window displays a number of settings depending on the selected category (2).

The buttons to the lower left allow you to add, duplicate, delete, import and export Profiles (3).

At the lower right of the window, you will find the **Usage...** button (determining which Profiles use a selected criterion), as well as **Save, Cancel** and **OK** (4).

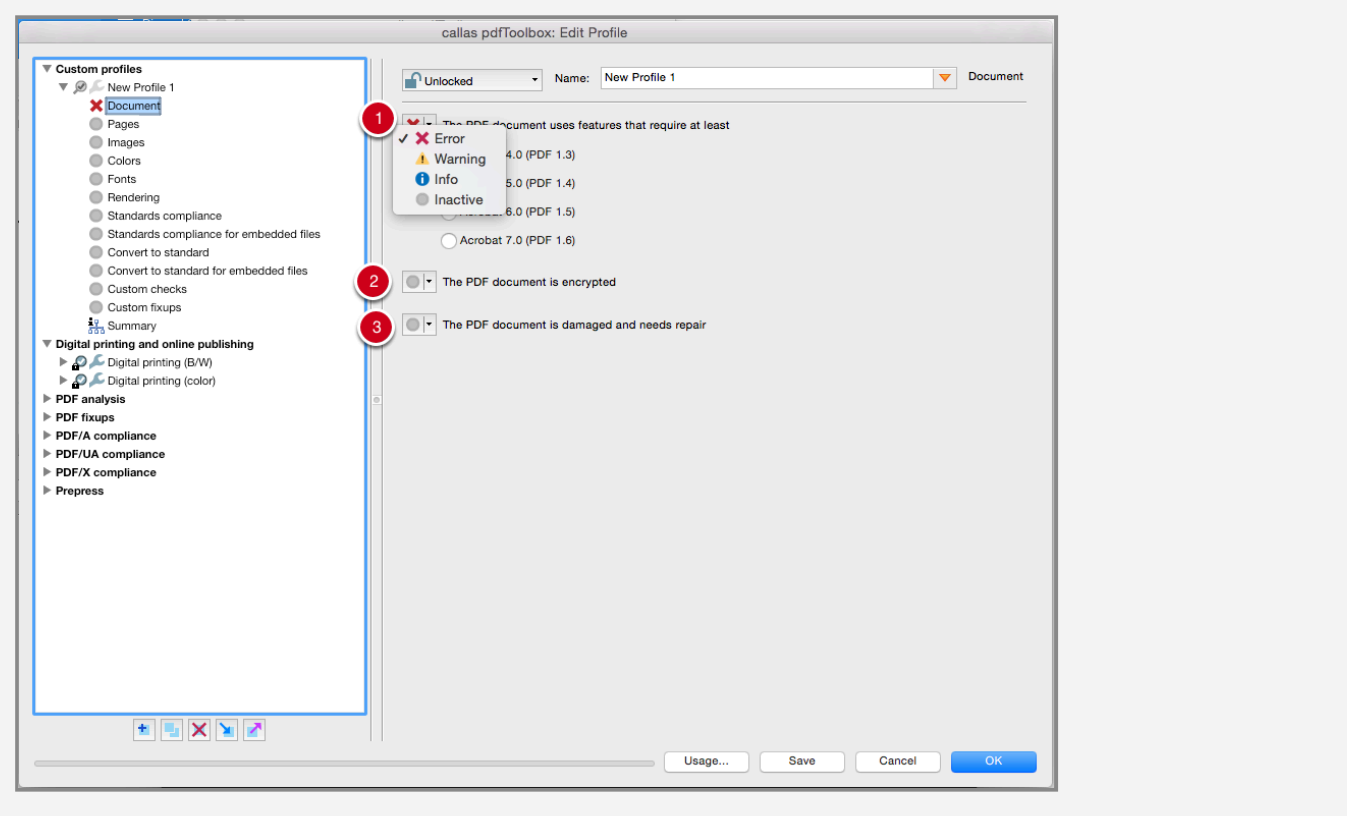
Edit Profile: General information



1. The new profile will be stored in the **“Custom Profiles”** group. It will initially be given the name **“New Profile 1”**.
2. The user can edit a number of general details on the right hand side of the window:
3. A profile can be **unlocked**, **locked** or **password-protected**; the name should be specified to match the profile’s intended purpose. The **orange triangle** (here and elsewhere) allows you to to include **variables and scripts**.
4. The **Purpose** field allows you to add explanatory text which will later be shown in the profile list when selecting a profile.
5. **Author** and **Email** are intended to provide information about the author of the profile.

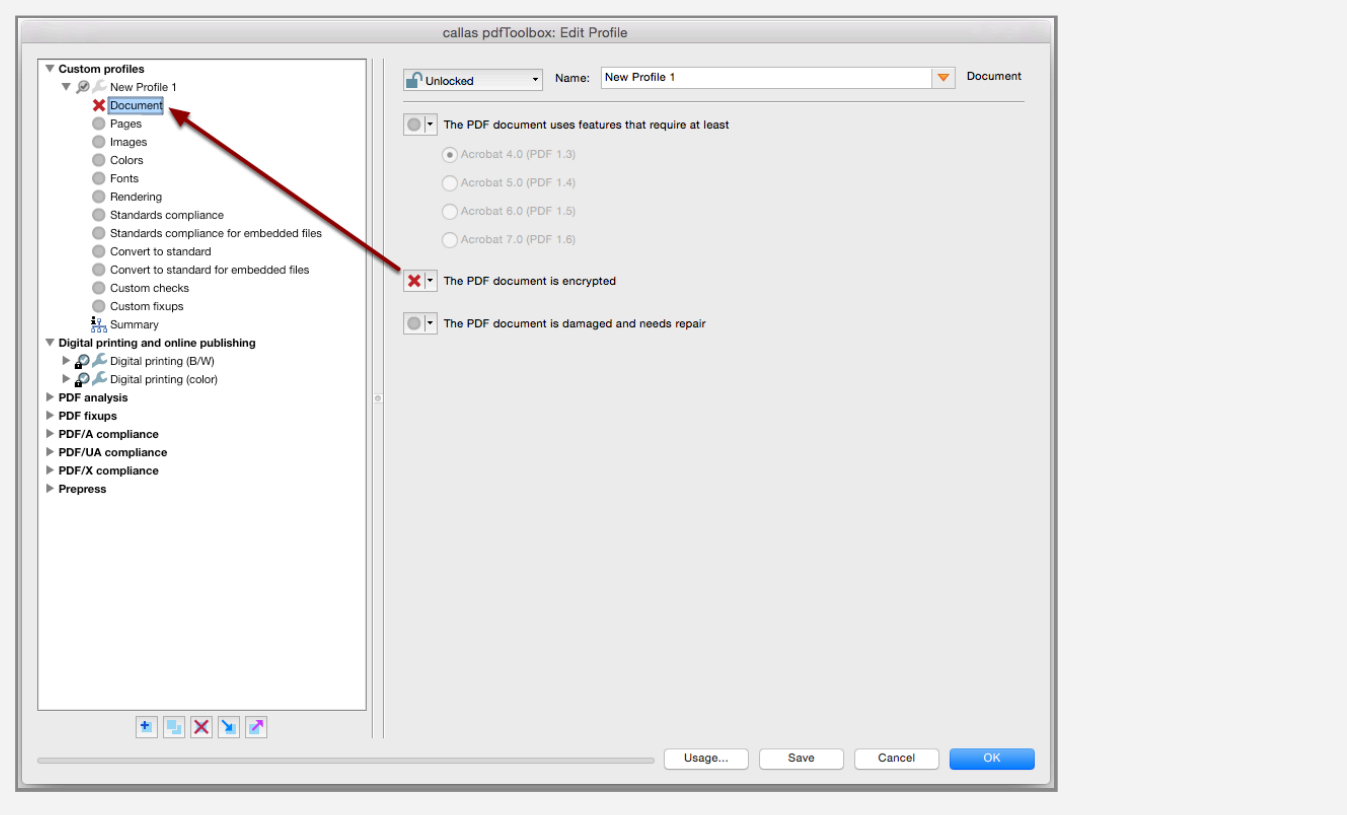
6. Under **Group**, you can specify whether to store the profile under **Custom Profiles** or other groups.
7. The profile can also be supplied with a **script**.

Edit Profile: Document



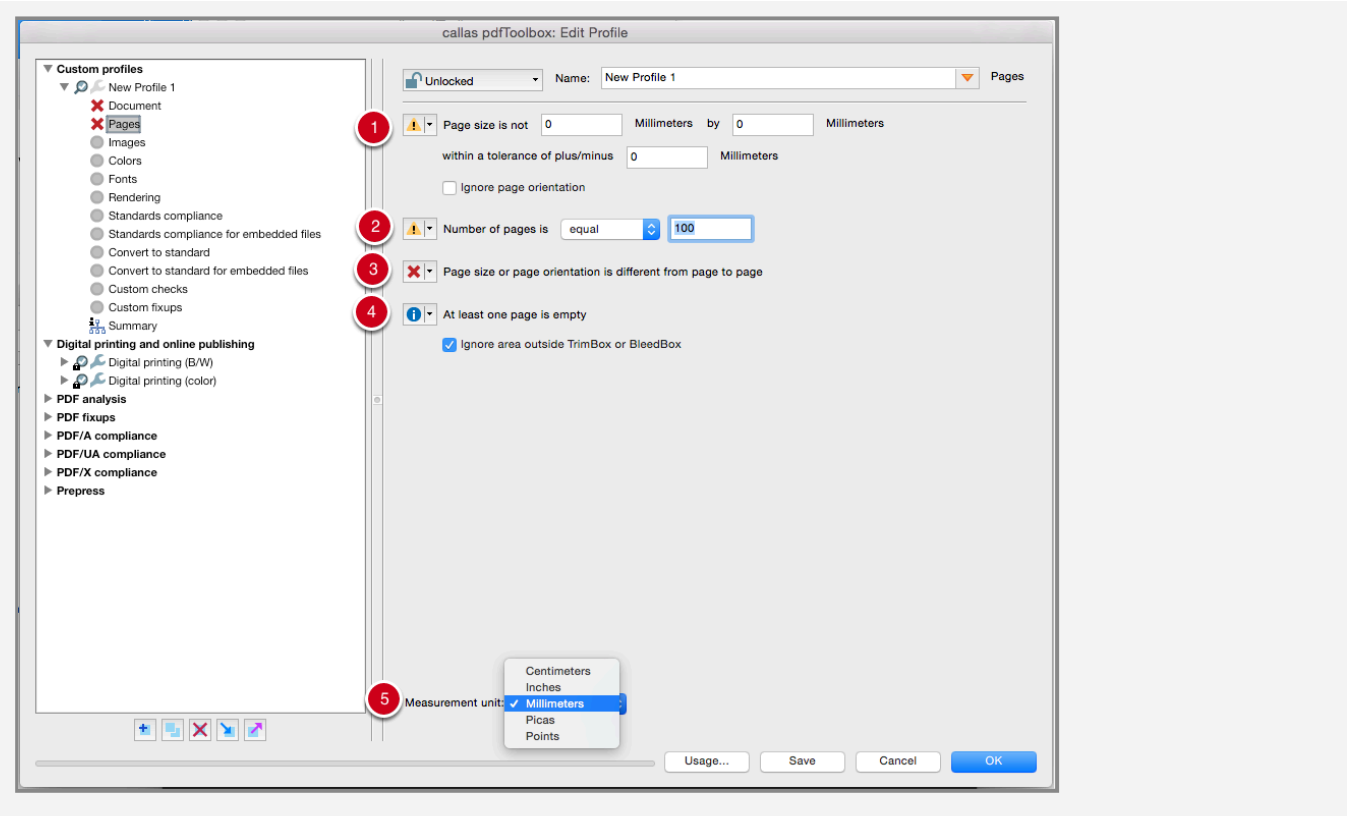
The **Document** section provides a number of document-related settings:

1. The first item affects **PDF functions** depending on the **PDF version**: “The PDF document uses features that require at least Acrobat 4.0 (PDF 1.3) and others.” Using the pull-down menu here (as with the other entries) you can specify how to report anomalies - as an **error**, as a **warning**, or as **info**. By default, this setting is **inactive**.
2. “Document is encrypted” indicates any **password protection** applied.
3. “Document is damaged and needs repair” tests whether the document is **intact**.



Provided that the user has set the “Document is encrypted” test to be reported as an error, the error warning will also be visible in the profile overview to the left. Here, the highest tier applicable will be shown (**Error** before **Warning**, before **Info**, before **Inactive**).

Edit Profile: Pages

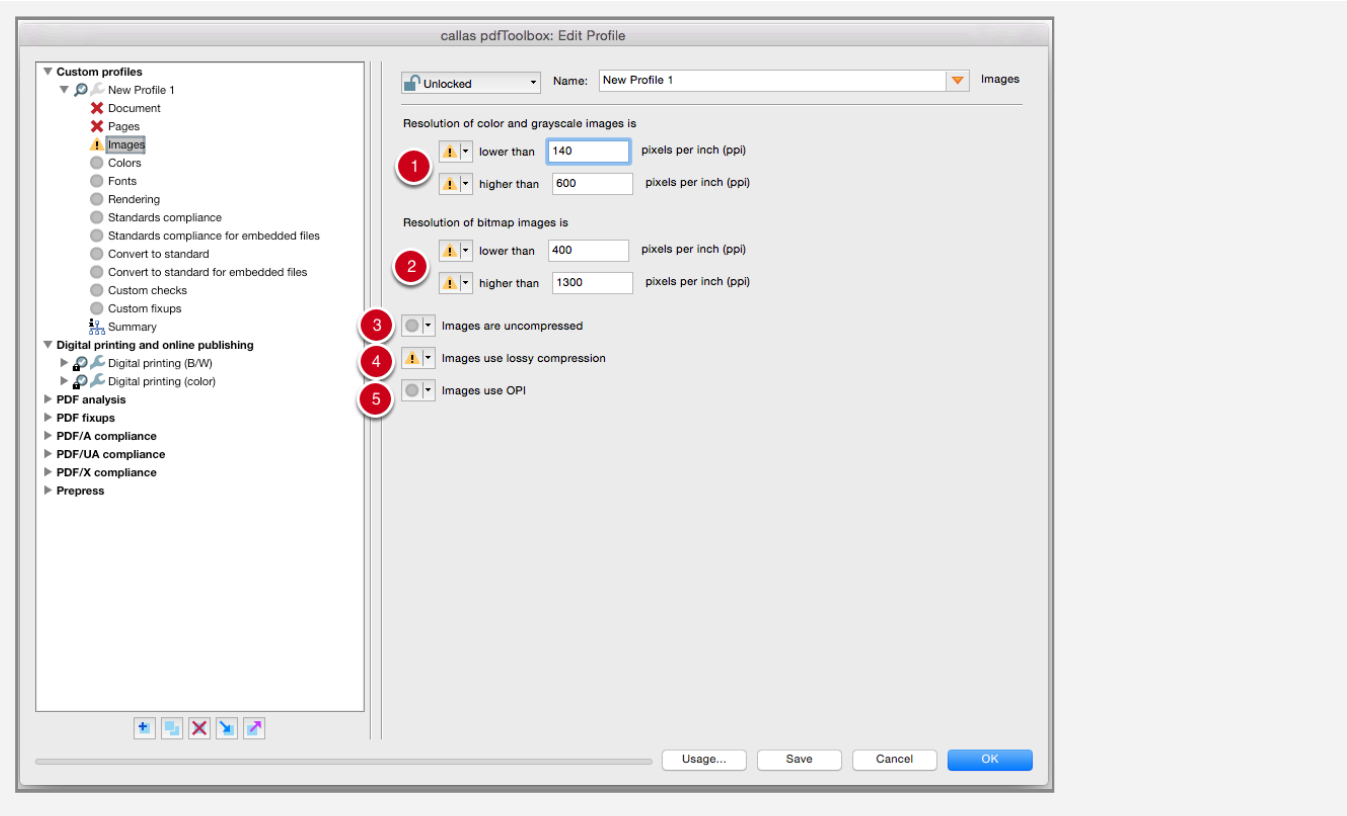


The **Pages** heading primarily allows you to set each individual parameter to one of the four settings **Inactive**, **Info**, **Warning** and **Error**.

Checks allow the following parameters:

1. The **page size** can be tested precisely or within a tolerance range.
2. When checking the **number of pages**, you can use the operators **equal**, **not equal**, **greater than** and **less than**.
3. The **Page size or page orientation is different from page to page** option allows you to check whether page sizes within a document are standardized.
4. The **At least one page is empty** option allows you to identify blank pages.
5. Finally, the user can also specify the **measurement unit**. The available options are **millimeters**, **picas**, **points**, **centimeters** and **inches**.

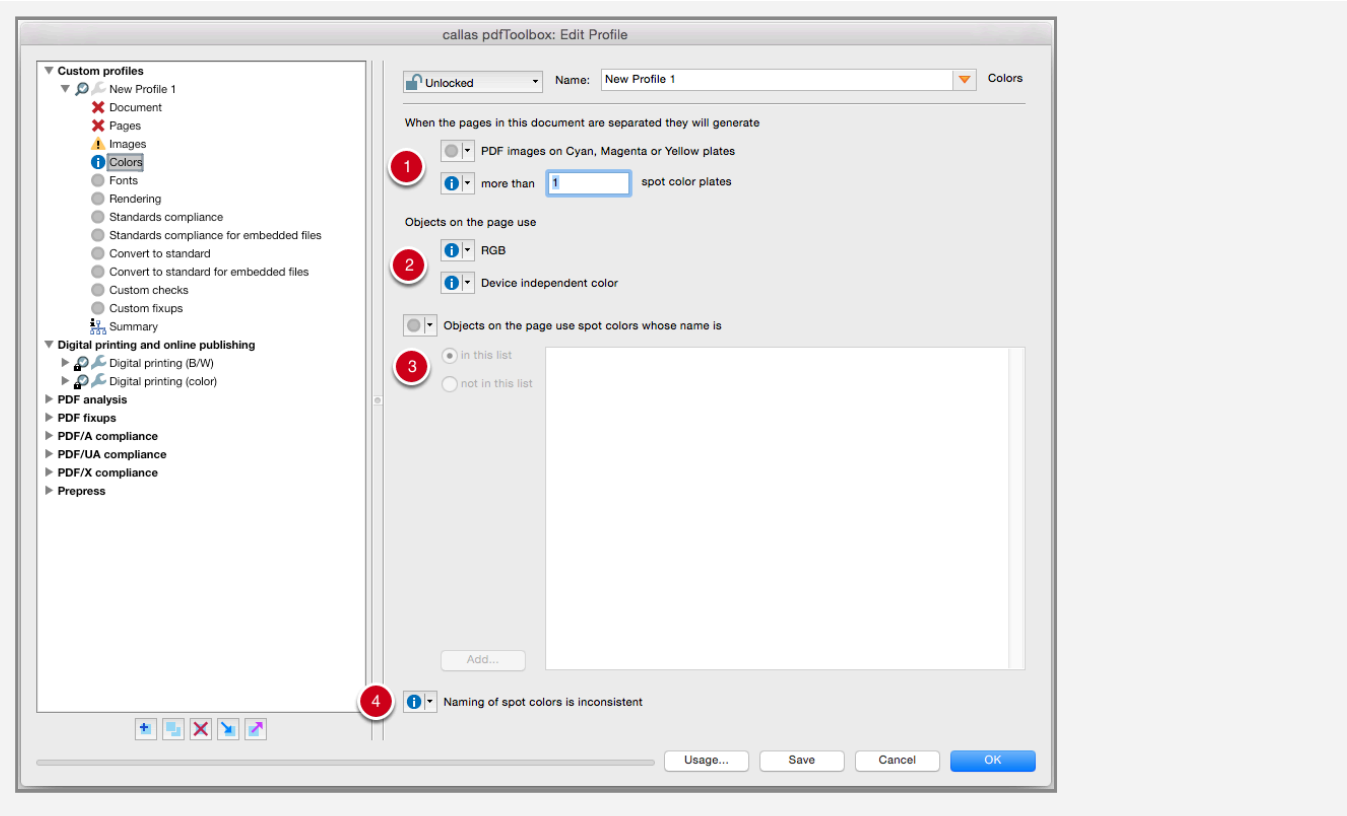
Edit Profile: Images



Images can primarily be tested in terms of their resolution and compression type:

1. Under **Resolution of color and grayscale images is**, you can specify minimum and maximum values for the resolution in pixels per inch.
2. The **Resolution of bitmap images** can also be checked in terms of upper and lower tolerances in pixels per inch.
3. **Images are uncompressed** detects images that are not compressed.
4. **Images use lossy compression** allows you to identify images that use compression methods such as JPEG. ZIP, on the other hand, is an example of a lossless option for reducing image file sizes.
5. **Images use OPI** relates to a currently rarely used process in which a file contains only low resolution placeholder images which are replaced with high resolution files on output.

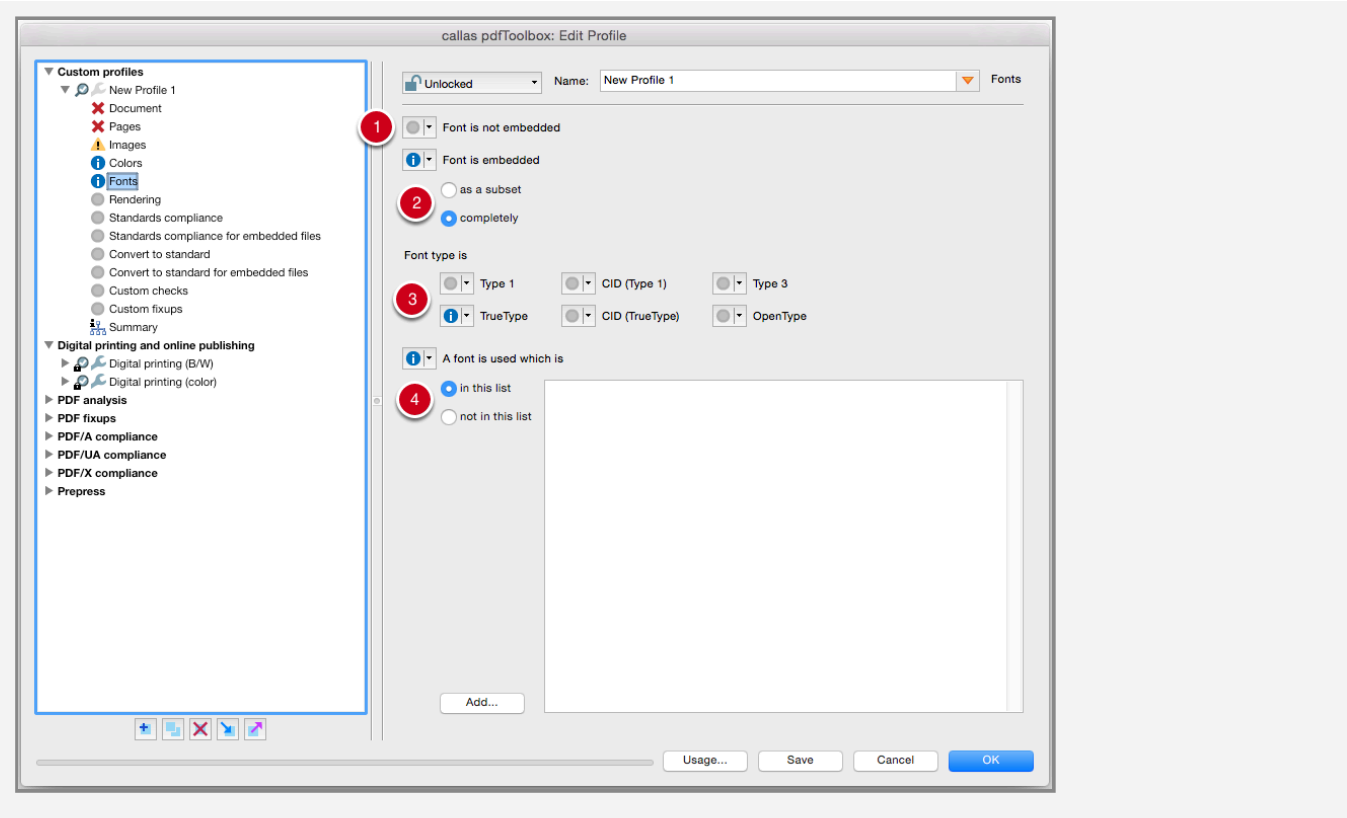
Edit Profile: Colors



The **Color** section offers the following checks:

1. **When the pages in this document are separated they will generate** lets you determine whether **Cyan, Magenta or Yellow plates** will be produced (which may, for example, be undesirable for a document which needs to be output in black/white plus spot color). You can also specify an upper limit for the **number of spot colors.**
2. The category **Objects on the page use** deals with color spaces. This allows you to query the following two items: **RGB** and **Device independent color (ICC, Lab).**
3. Under **Objects on the page use spot colors**, you can make use of a custom **spot color list**. Messages can either be generated when the spot colors used agree with those on the list (the **in this list** option) or in case of a disagreement (when the **not in this list** option is selected).
4. The **Naming of spot colors is inconsistent** option allows you to identify issues such as incorrect or duplicated spot color names.

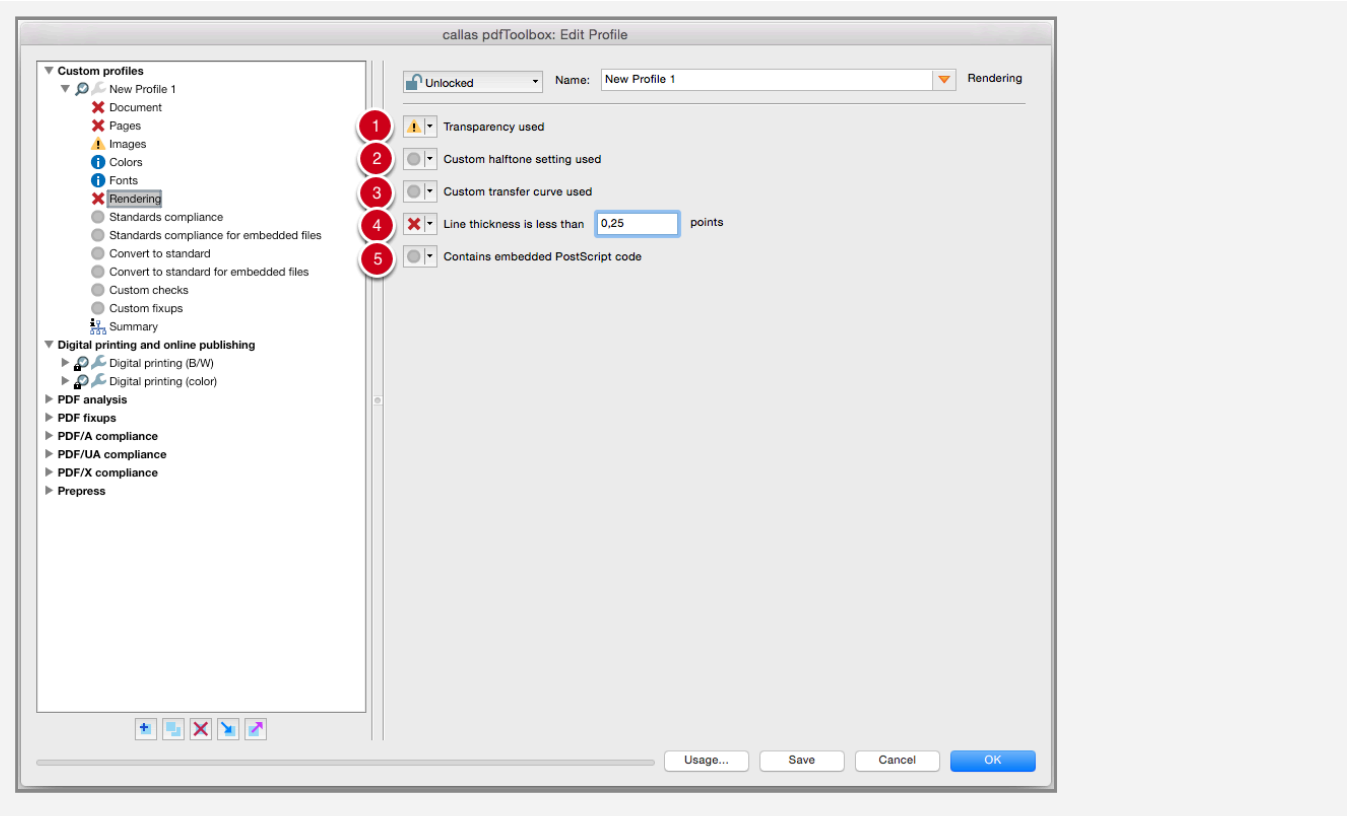
Edit Profile: Fonts



The **Fonts** section deals primarily with font embedding and the font type.

1. The first category allows you to determine whether any fonts are **not embedded**.
2. If **fonts are embedded**, you can test two conditions: **as a subset** or **completely**.
3. The **Font type is** option differentiates between six possible types which can be tested separately.
4. Finally, you can also use **custom lists** to check fonts, either to include or exclude them.

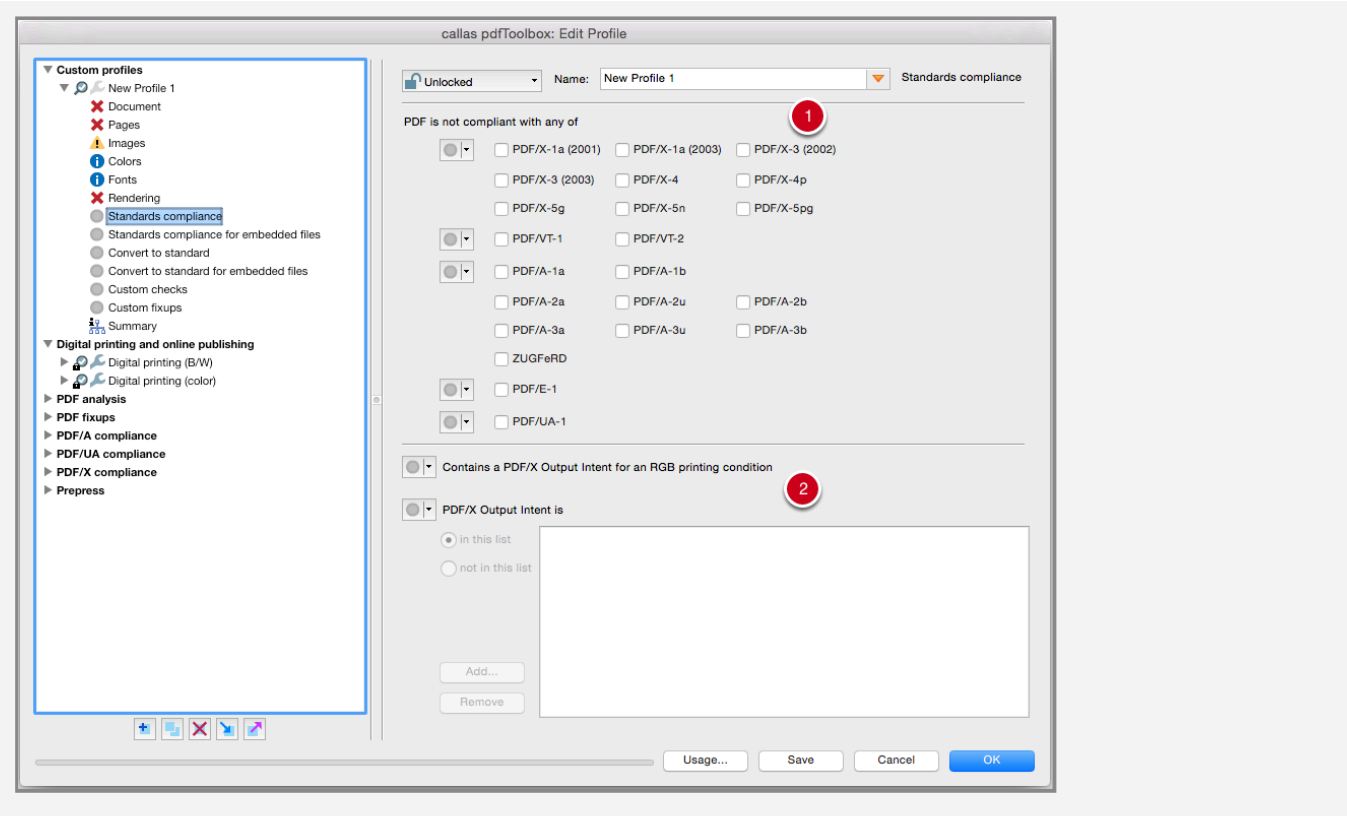
Edit Profile: Rendering



The **Rendering** section includes the following tests:

1. **Transparency used** detects elements that use transparency. This includes shadowing.
2. **Custom halftone setting used** finds unconventional halftone settings.
3. **Custom transfer curve used** finds unconventional transfer curve settings.
4. Under **Line thickness is less than ... points**, you can specify a threshold. Lines that are too thin can sometimes “break down” when printed.
5. The **Contains embedded PostScript code** option can be used to avoid potential printing issues and other problems.

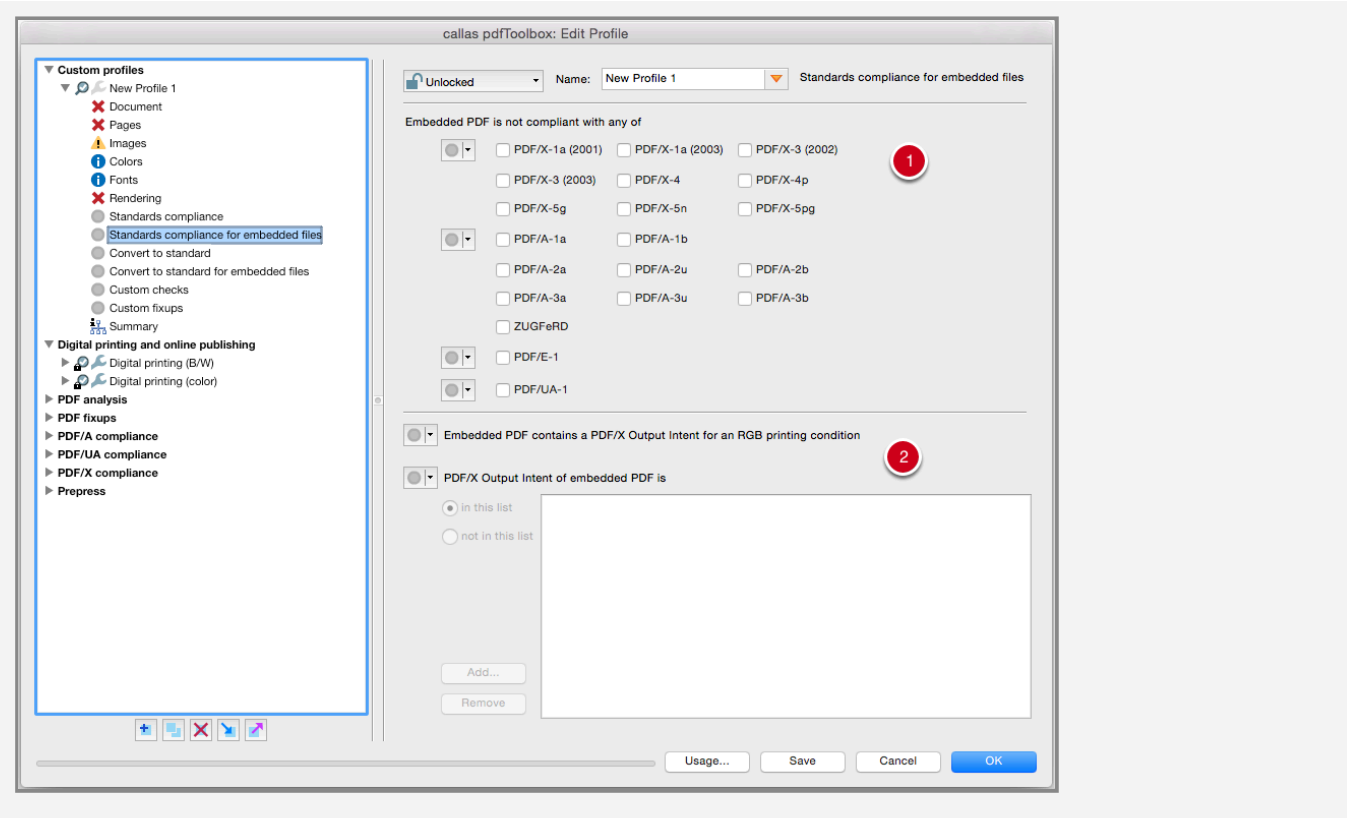
Edit Profile: Standards compliance



The **Standards compliance** section relates to the various ISO standards available for the Portable Document Format.

1. The category **PDF is not compliant with any of** allows you to integrate all currently available PDF standards into the query.
2. The second section is reserved for PDF/X, the PDF standard for prepress. Here, you can determine whether a PDF contains a **PDF/X Output Intent for an RGB printing condition**. An embedded PDF/X Output Intent can also be compared against a custom **list** of Output Intents.

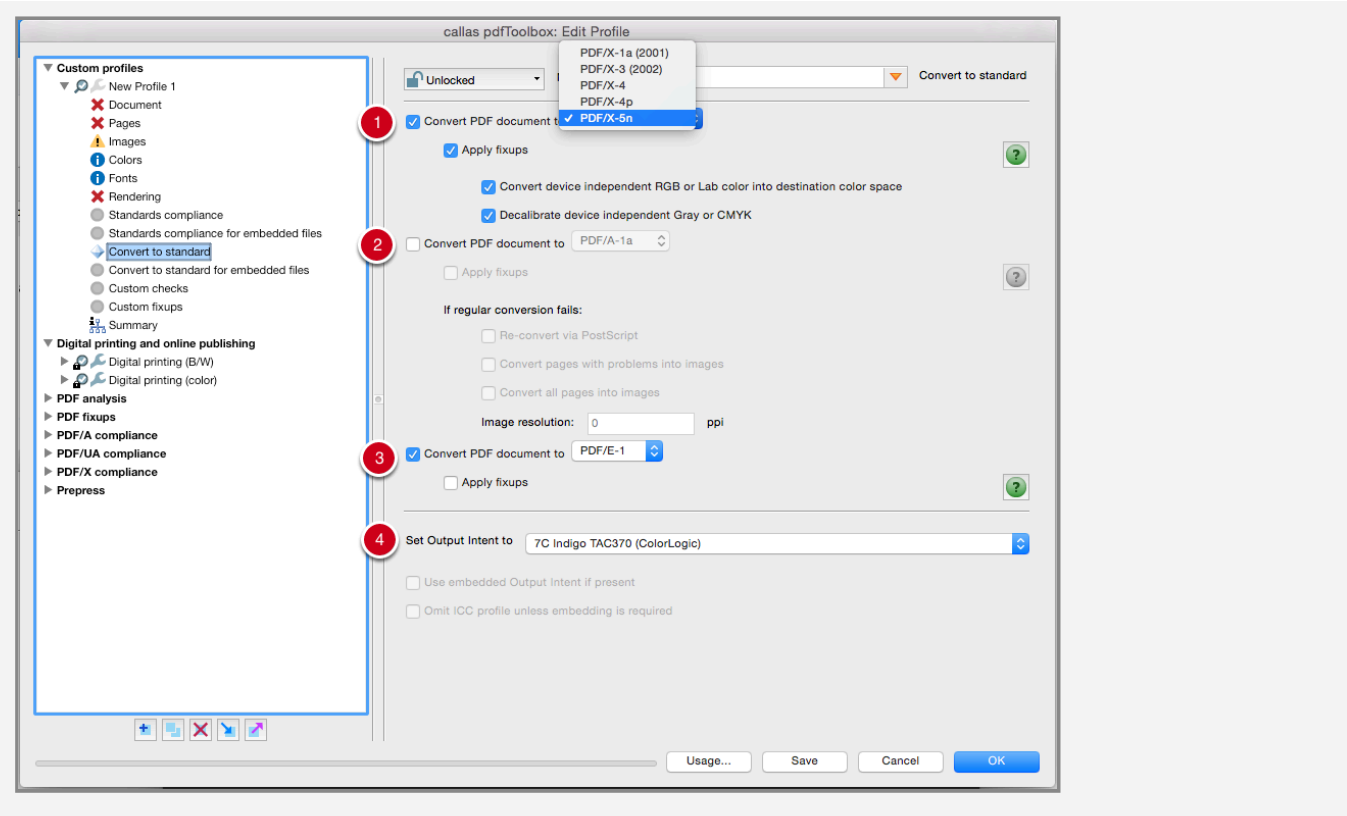
Edit Profile: Standards compliance for embedded files



The **Standards compliance for embedded files** section offers the same parameters as in the previous section. In this case, however, they relate to embedded PDF files:

1. The **PDF is not compliant with any of** option again relates to all currently available PDF standards.
2. The second section again turns to the **PDF/X** standard for PDF printing.

Edit Profile: Convert to standard



The **Convert to standard** section is particularly extensive.

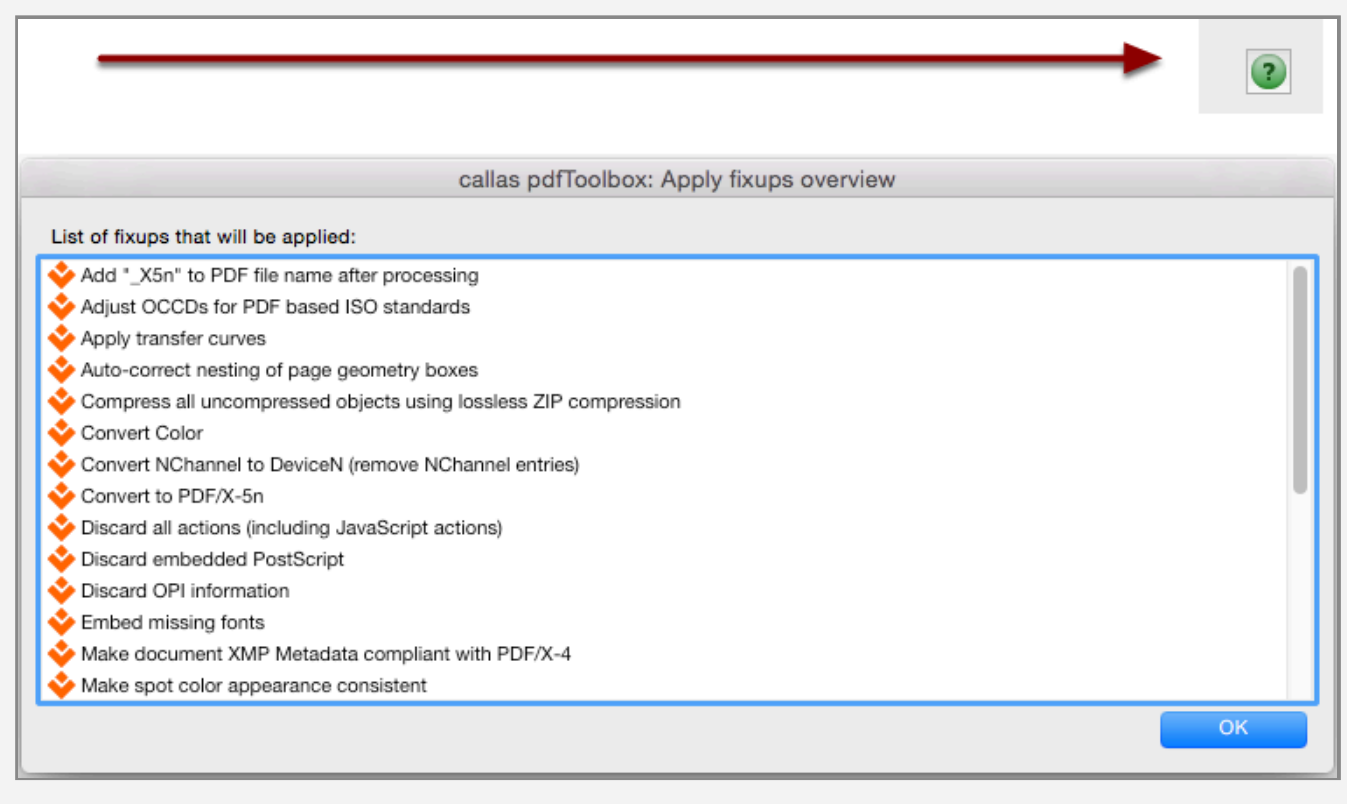
It is divided into conversion parameters for PDF/X (prepress), PDF/A (long-term archiving) and PDF/E (digital construction drawings).

This section converts and fixes PDF files, rather than simply checking them.

1. Under **Convert PDF document to PDF/X**, you can choose from a range of PDF/X versions from a pull-down menu. You can optionally **Apply fixups** by checking the box. Depending on the standard selected, two other options will be available: **Convert device independent RGB or Lab color into destination color space** and **Decalibrate device independent Gray or CMYK**.
2. Under **Convert PDF document to PDF/A**, you can choose from a range of PDF/A versions from a pull-down menu. The **Apply fixups** box can be checked. **If regular conversion fails**, a number of additional options are available. **Re-convert via PostScript**, **Convert pages with problems**

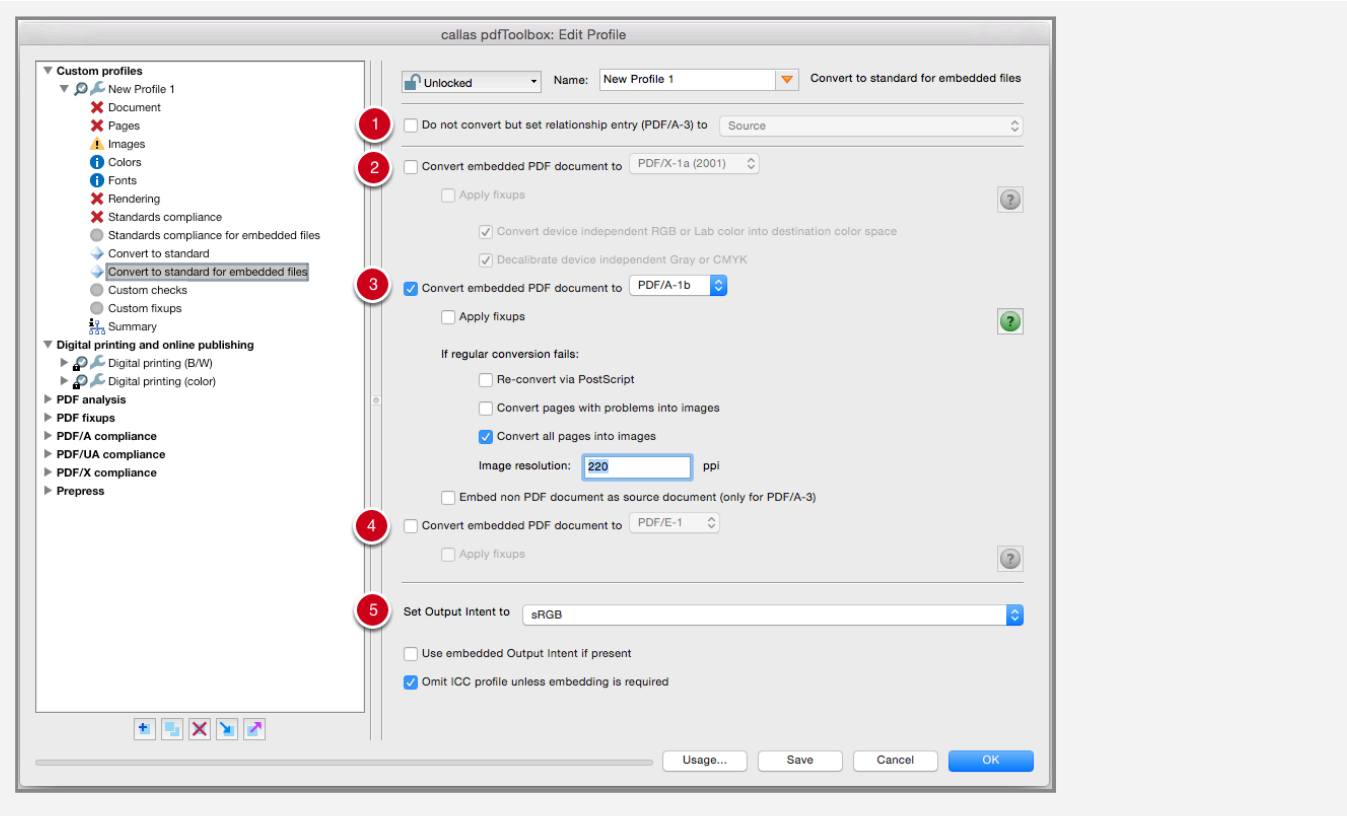
into images, or **Convert all pages into images**. The last two of these options allow you to specify an **Image resolution**.

3. The third standard is **PDF/E**. You can again **Apply fixups** here.
4. Finally, you can also select the **Output Intent** from a pull-down menu. Two options are available here: **Use embedded Output Intent if present** and **Omit ICC profile unless embedding is required** (e.g. with modern Output Intents; this allows you to reduce the size of the resulting file to the size of the Output Intent).



To learn more about the **Fixups** that will be applied during each conversion type, click on the **green question mark button** to open the corresponding list. (The button is gray, meaning inactive, when a conversion type is also inactive.)

Edit Profile: Convert to standard for embedded files

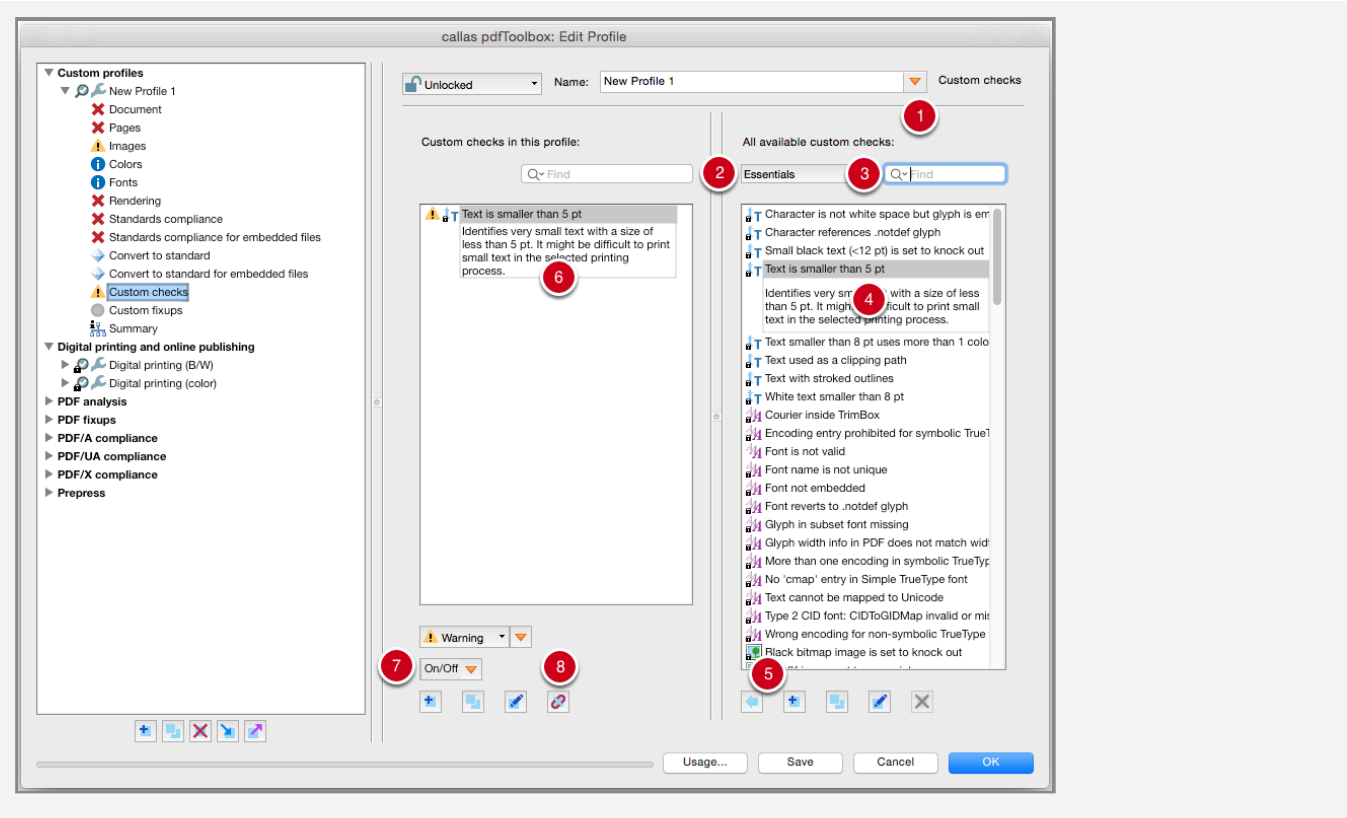


Convert to standard for embedded files offers very similar parameters to those shown in the previous step, but in this case they relate to embedded PDF files.

1. The first section deals with the special case of PDF/A-3. This PDF standard also allows you to embed files left in their original state (not just PDF, but also other formats). **Do not convert but set relationship entry (PDF/A-3) to ...** allows you to define the relationship in one of a number of different ways, including **Source**, **Data**, **Supplement** and others.
2. **Convert embedded PDF document to PDF/X** enables a number of different options as well as **optional fixups**.
3. **Convert embedded PDF document to PDF/A** enables a number of different options as well as **optional fixups**. In addition, there are also the same backup options as before to determine how to proceed if regular conversion fails.
4. **Convert embedded PDF document to PDF/E** plus **optional Fixups**.

5. **Output Intent** settings.

Edit Profile: Custom checks



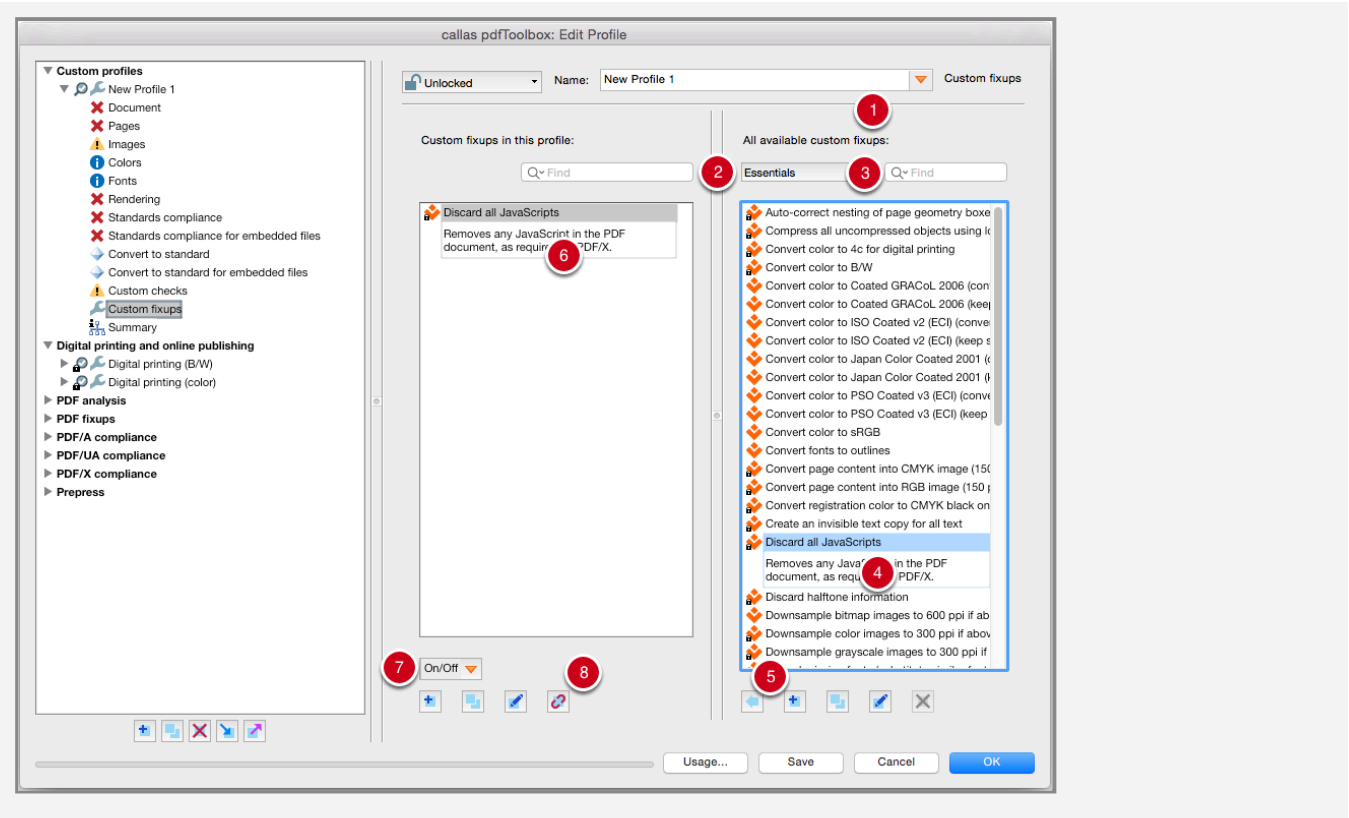
Under **Custom checks**, you can select entries from the list of all available pdfaPilot checks and integrate them into the new profile.

The window is structured as follows:

1. The right hand side shows the **list of Checks available** in pdfaPilot. It can be considered the “inventory” available to you.
2. The checks shown will be those available in the **currently selected library** (in this example, Essentials).
3. If you know the name of a given function, you can use the **Search** tool to make it easier to find.
4. Click on a check in the list to see more **detailed information.**
5. Click on the **blue arrow symbol to the left** to move the selected check to the middle column. This will add it to the profile you are currently creating or editing.
6. The middle column shows **all Checks** used in the **current Profile.**

7. You can use the pull-down menu to specify whether the check should return an **Error**, a **Warning** or an **Info** message. You can also use the orange triangle to add and manage **variables and scripts**.
8. The buttons allow you to **add**, **duplicate**, **edit** and **delete** checks.

Edit Profile: Custom fixups



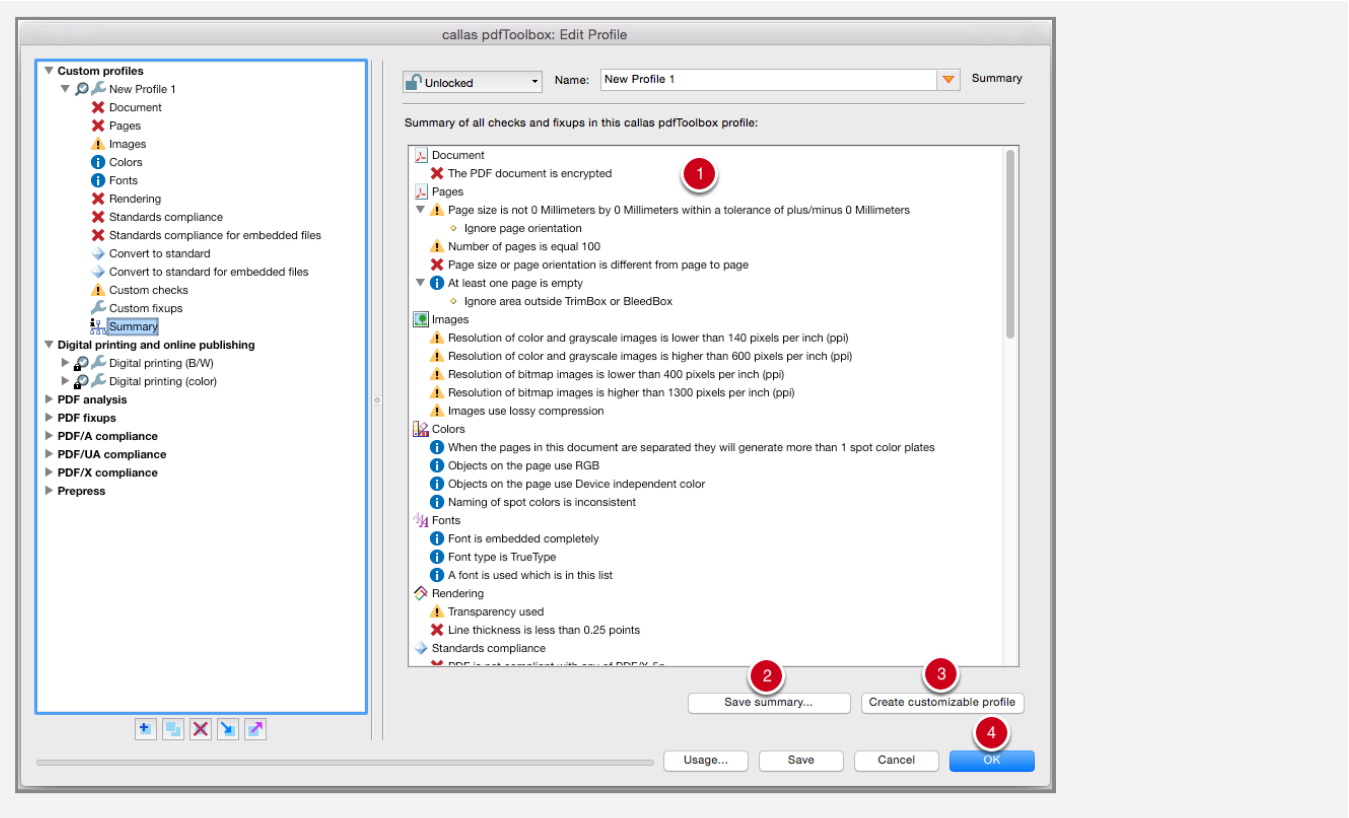
Under **Custom fixups**, you can select entries from the list of all available pdfaPilot fixups and integrate them into the new profile.

The window is structured as follows:

1. The right hand side shows the **list of Fixups available** in pdfaPilot. It can be considered the “inventory” available to you.
2. The Fixups shown will be those available in the **currently selected Library** (in this example, Essentials).
3. If you know the name of a given Fixup, you can use the **Search** tool to make it easier to find.
4. Click on a Fixup in the list to see more **detailed information**.

5. Click on the **blue arrow symbol to the left** to move the selected Fixup to the middle column. This will add it to the Profile you are currently creating or editing.
6. The middle column shows **all Fixups** used in the **current Profile**.
7. You can use the pull-down menu to specify whether the check should return an **Error**, a **Warning** or an **Info** message. You can also use the orange triangle to add and manage **variables and scripts**.
8. The buttons allow you to **add**, **duplicate**, **edit** and **delete** Fixups.

Edit Profile: Summary



In the **Summary**, you can see a detailed overview of all Checks and Fixups included in the newly created (or edited) Profile.

1. The entries are grouped by section, i.e. **Document**, **Pages**, **Images**, **Colors**, **Fonts** and so on.

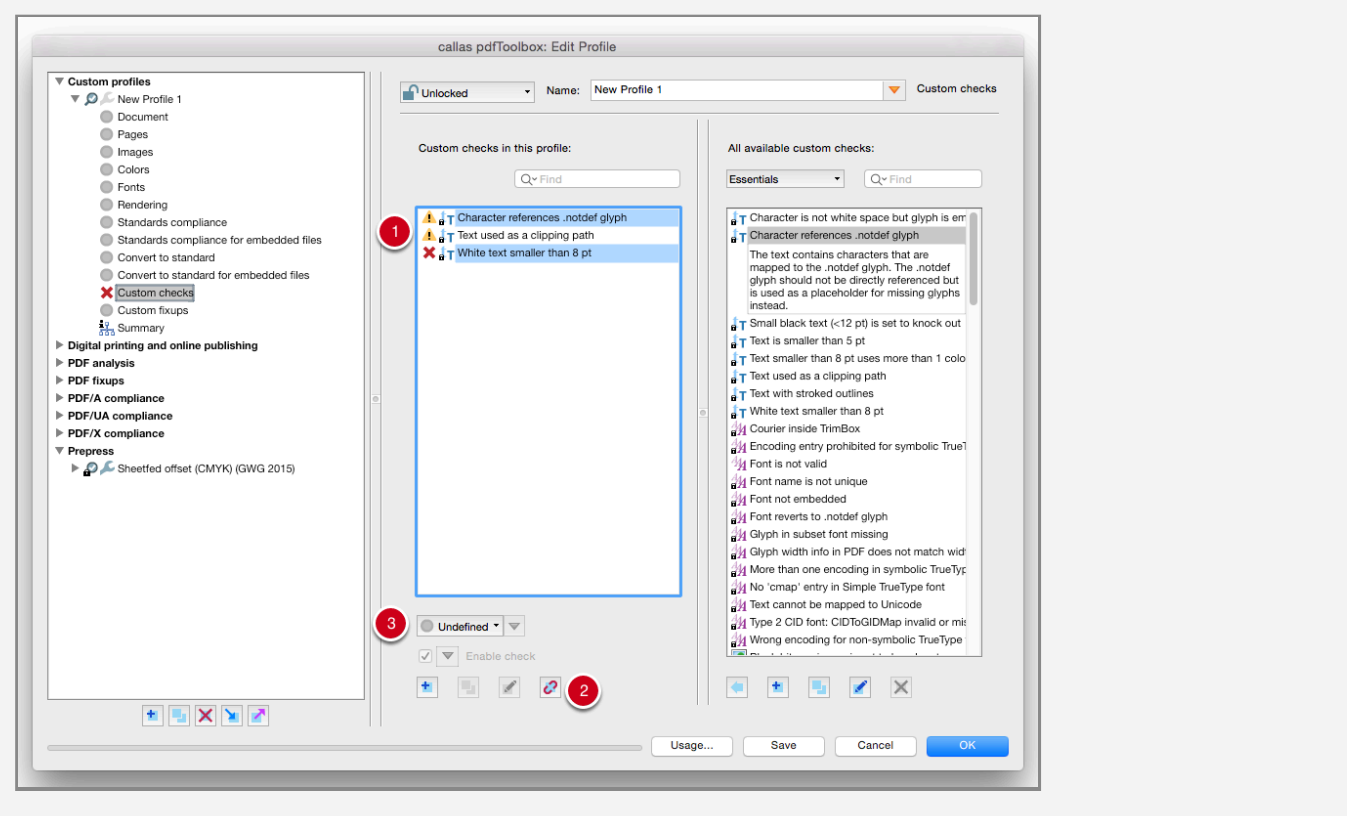
2. *Optional:* You can **Save** the profile overview. Click on the corresponding button to have the program save a comprehensive **report in PDF format**.
3. *Optional:* You can also **generate a customizable profile** based on the current Profile - a duplicate, in other words - which you can configure further.
4. Click on the **OK button** to finish setting up the Profile.

3.5 Deleting multiple Fixups or Checks at once

When you edit a profile, you can select multiple Fixups or Checks, deleting them all at once or adding more.

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Selecting multiple Fixups or Checks in the “Edit Profile” window



When **setting up or modifying a profile**, you can select and then delete (or change, or add) multiple Checks or Fixups at once.

1. To do so, simply select the desired Checks/Fixups in the desired column by pressing and holding **Shift** (for consecutive items) or **Ctrl** (for non-consecutive items).
2. You can then **Add / Delete** the selected items.
3. When selecting multiple Checks at once, you can also **change** the **message type** (Info, Warning, Error) for all of them at once.

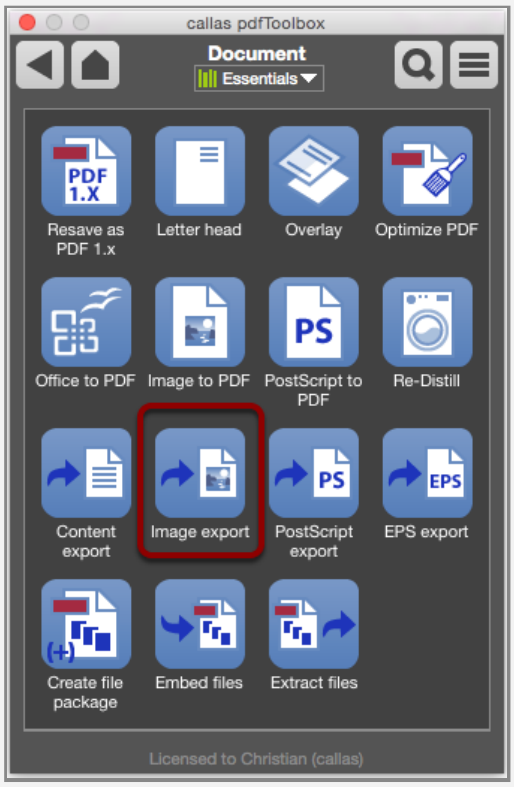
3.6 Actions in Process Plans

As well as containing Profiles, Checks and Fixups, Process Plans can also include some Actions. In this chapter, we'll show you how this can be done.

Note: Not all Actions can be used in Process Plans. Primarily, the Actions available are those which are required for certain workflows, such as for imposition.

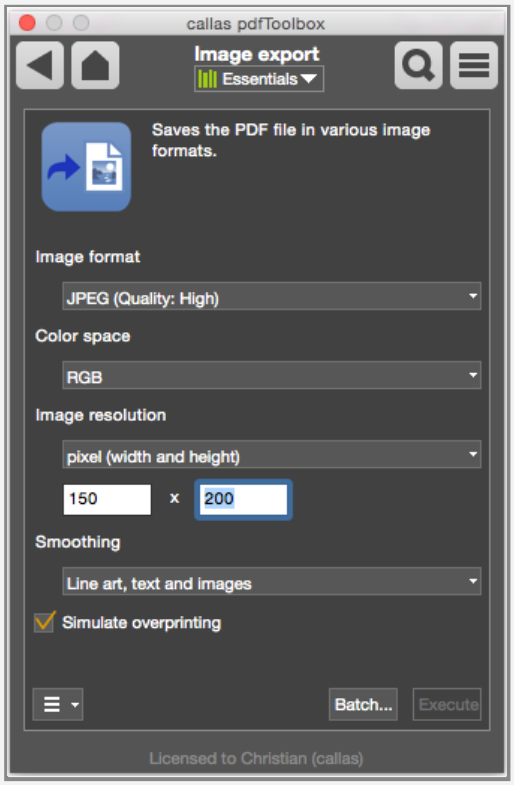
The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Prepare the Action in the Switchboard

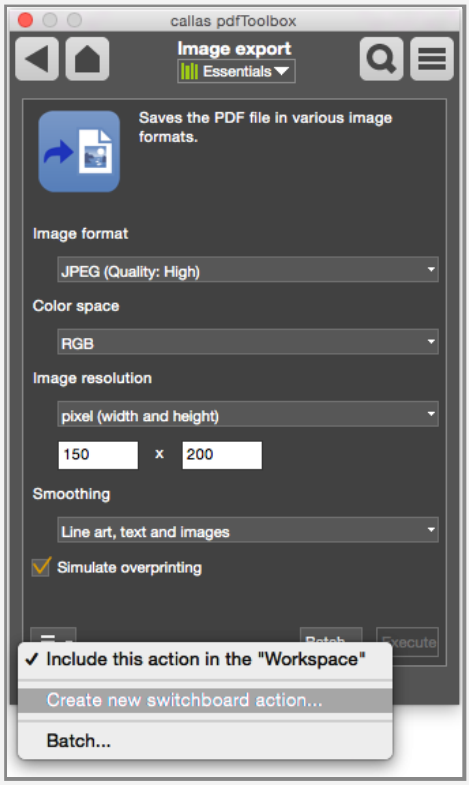


For our example, we will prepare the **Image Export** Action for use in a Process Plan.

This Action is a part of the **Document** group, which is contained in the **Essentials** library and elsewhere.

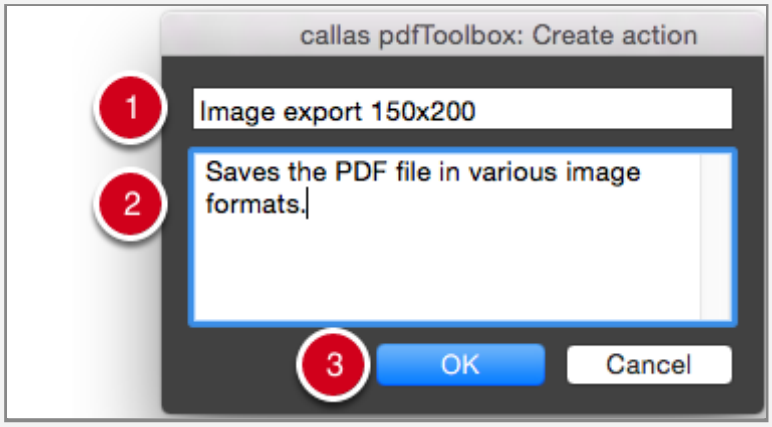


Here you can specify **Settings** for the Action which will later be used in the course of the Process Plan. (Among other things, the saved image file should have a fixed size; here, 150 x 200 pixels.)



The **Flyout menu** at the bottom-left provides a range of options for the Action.

Here you can also find the **Create New Switchboard Action...** command.

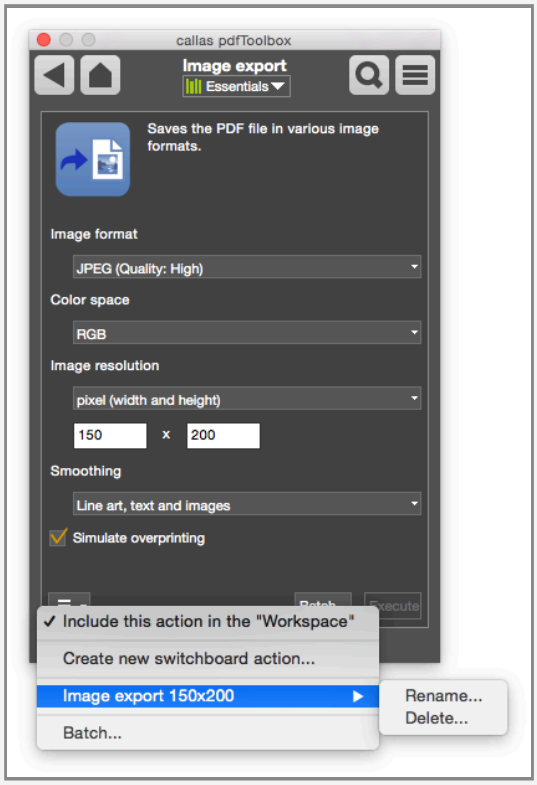


This will open the **Create Action** dialog.

Here, if required you can...

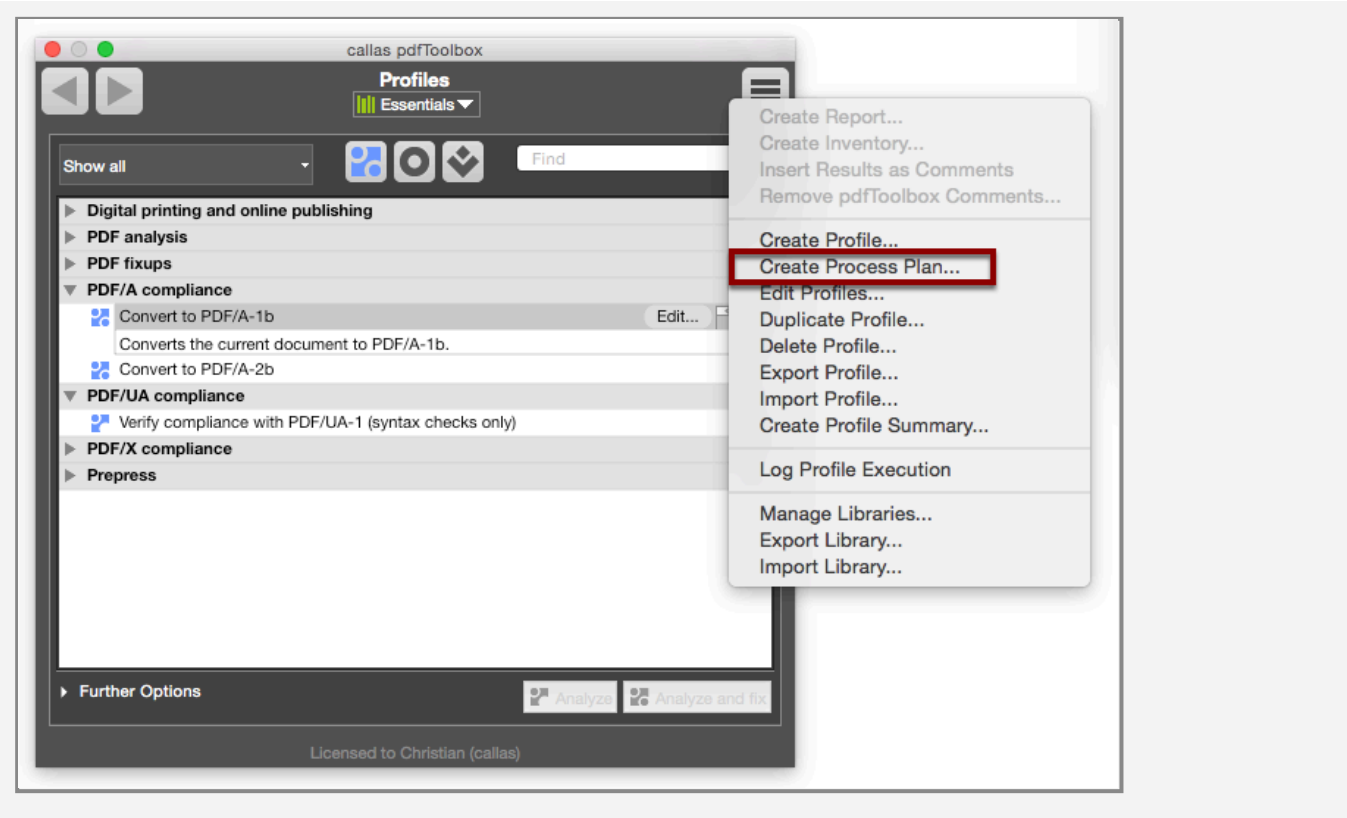
1. ... Change the **Name**...
2. ... And edit the **Description**.

3. Click on the **OK button** to finish creating the action.



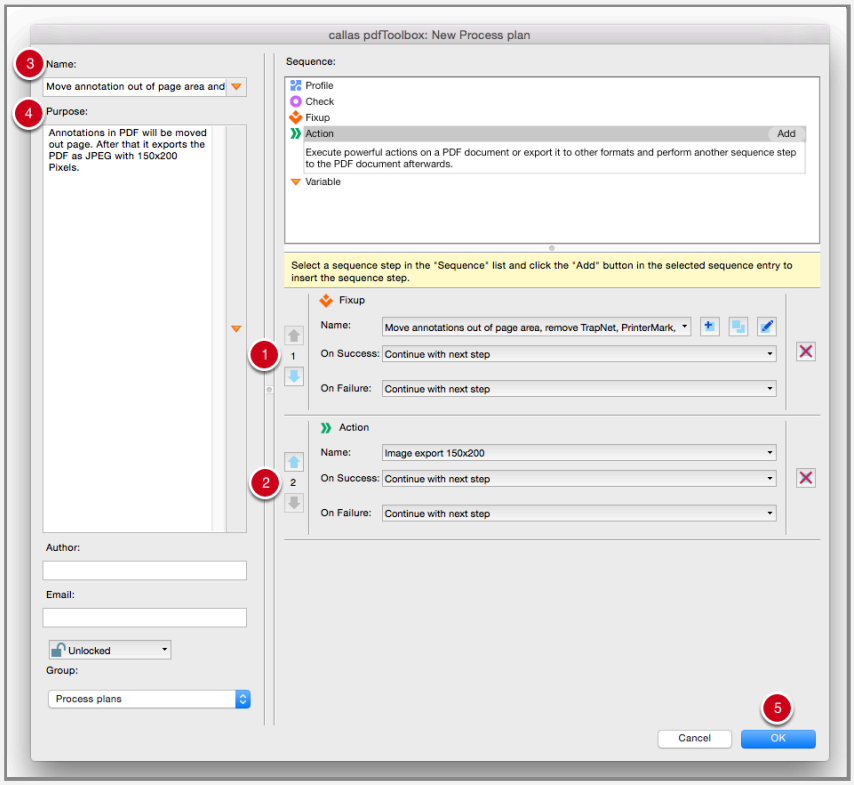
The newly created Switchboard Action **Image Export 150x200** can now also be accessed through the flyout menu. (You can also rename or delete it from here.)

Create a new Process Plan with the newly configured Action



To create a new Process Plan, switch to the **Profile window**.

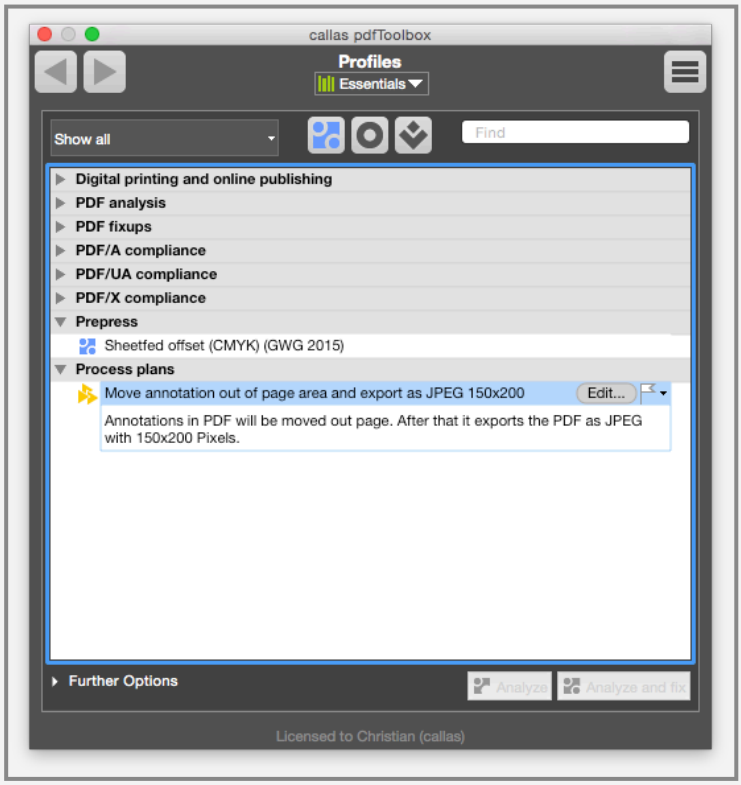
Here, from the pull-down menu at the top-right, you can see commands including **Create Process Plan...**.



Process Plans allow you to use sequences from the following categories:

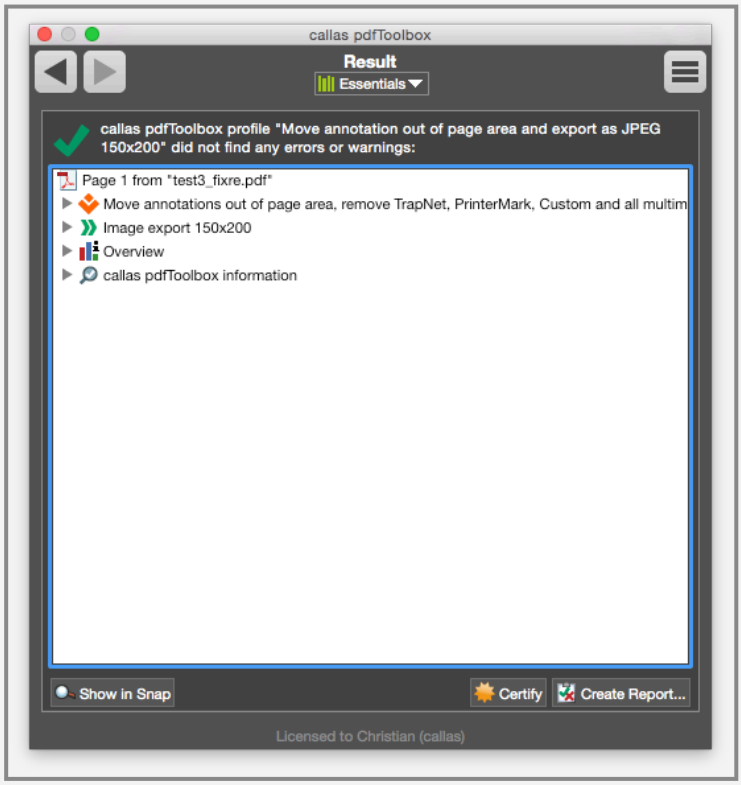
- Profile
- Check
- Fixup
- **Action**
- Variable

1. In the example shown, we should first use a **Fixup** to move any annotations in a PDF outside of the page area. (For each sequence step, you can specify what to do in case of success or failure.)
2. The second step uses the **Action** we prepared earlier. Under the Name category, the Action **Image Export 150x200** can be selected.
3. The new Process Plan should be given a meaningful **Name.**
4. It is also useful to add a **Comment**. This will appear later in the Profile list when the Profile is activated.
5. Click on the **OK button** to save the Process Plan.



The new Process Plan with the associated Action is now available in the Profile window under the name **Move annotations and export JPEG 150x200**.

Click **Check and fix-up** to execute the Process Plan.



The **Results** window shows all sequence steps executed by the Process Plan, including the integrated **Action**.

Switchboard Actions available as Actions for Process Plans

Not all Switchboard Actions are available as Actions for Process Plans. The reason is, that some Switchboard actions are based on Profiles of Fixups.
The following Switchboard Actions can be used as Actions for Process Plans:

- Arrange:
  - Booklet
  - N-Up
  - Fill page
  - Impose
  - Reader spreads
  - Split in half
  - Step & Repeat
  - New page

- Present:
  - Handout
  - Passe partout
- Document:
  - Overlay
  - Re-Distill
  - Content export
  - Image export
  - PostScript export
  - EPS export
- Prepress
  - Pre-separated pages

3.7 Batch processing for Actions

pdfaPilot Desktop can do more than just checking or fixing one file at a time; the Batch Processing mode allows it to process multiple PDF documents within a folder. The Switchboard allows you to apply any Action to all PDF files within a given folder.

The Batch function in pdfaPilot can process up to 100 documents one after another. For a high-volume approach using hot folders, pdfaPilot Server is recommended.

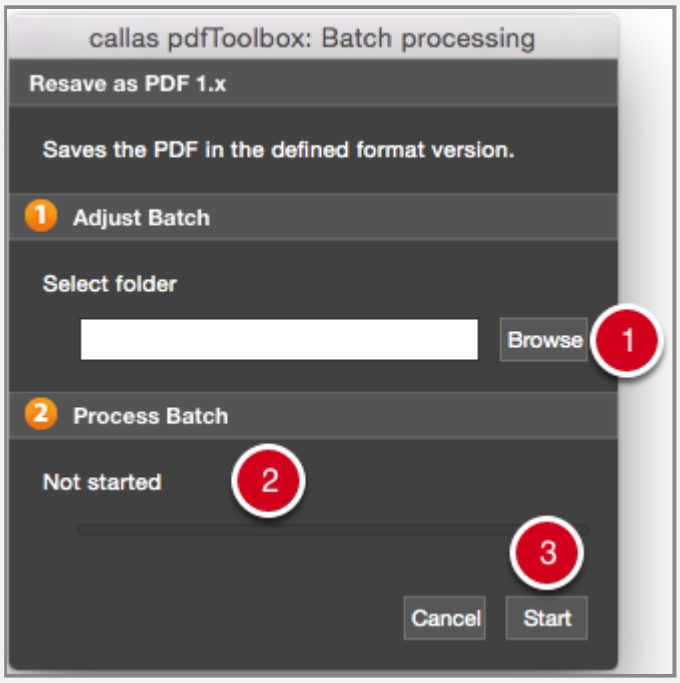
The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Select the Action from the Switchboard

1. Select the desired Action...

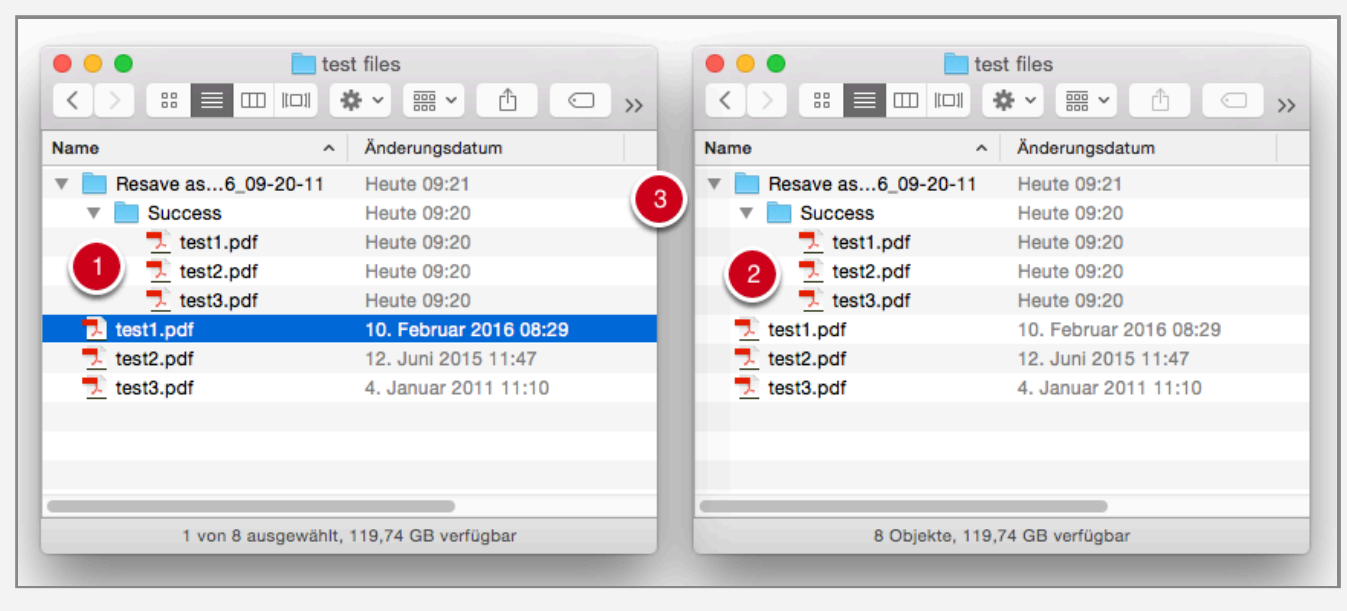
2. ... And apply any desired **Settings**.
   (Here, under the Document category, the Action *Save as PDF 1.x* has been specified as *PDF Version 1.3*.)
3. Click on the **Batch** option to specify additional batch processing settings.

Batch processing: Organize and start the batch



1. Under **Heading 1**, select the folder containing the PDF files to be processed.
2. Under **2: Process batch** will display processing progress...
3. ... Once you click on the **Start** button.

After processing



Depending on the processing results, the files will then be stored either in a folder containing successfully processed (*Success* - **1**) or unsuccessful results (Failure - **2**).

These are located in a folder named with the *timestamp* - **3** for the processing point which will be automatically shown after processing is complete.

3.8 Libraries - Overview

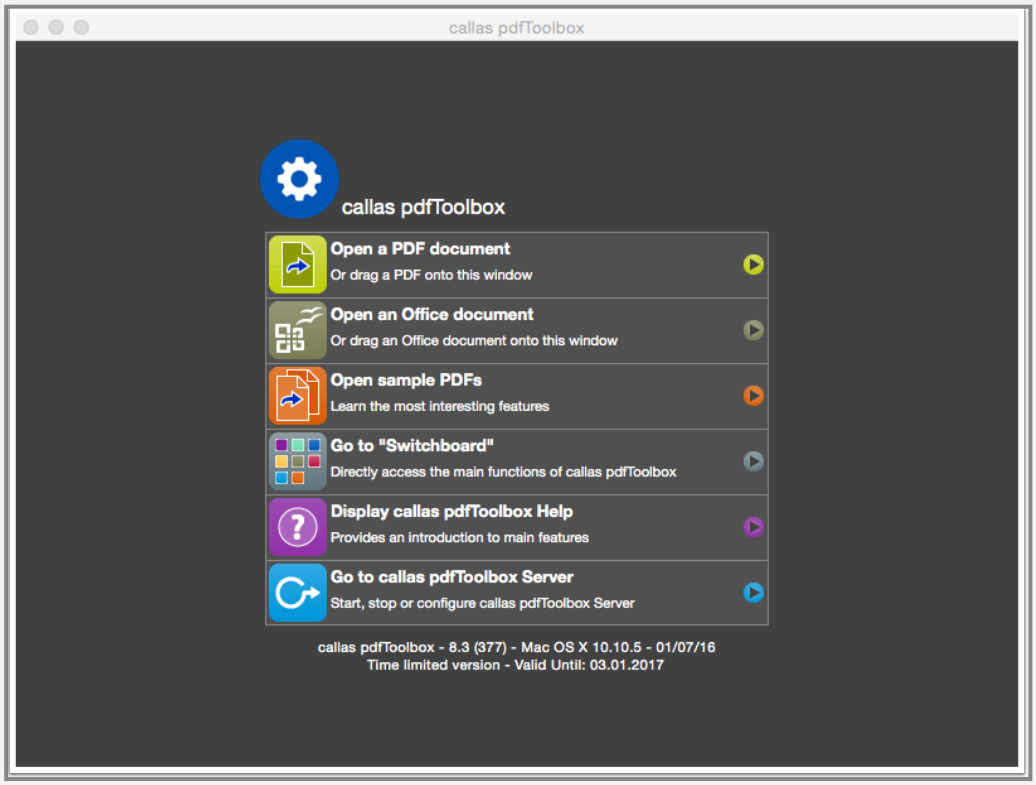
In pdfToolbox 8.1 callas introduced the possibility to work with libraries.

With this feature you can create an environment for different types of jobs or companies.

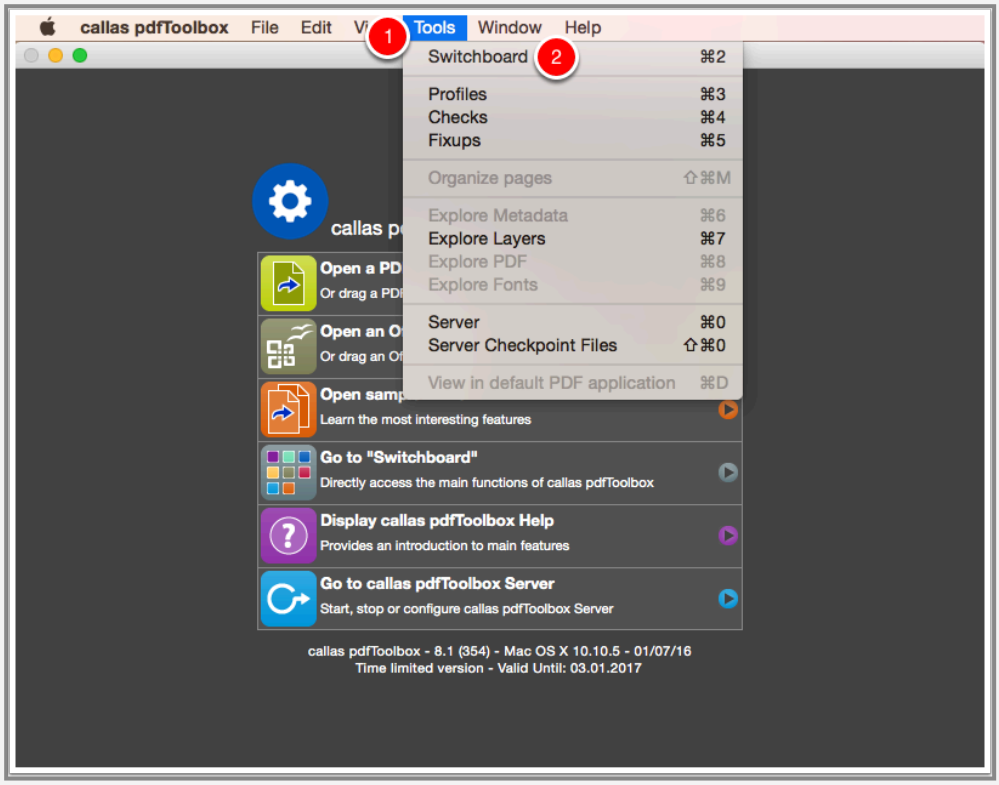
In pdfaPilot libraries you can organise a set of Profiles, Checks, Fixups and Switchboard Actions.

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

Launch pdfToolbox Desktop



Open the Switchboard panel

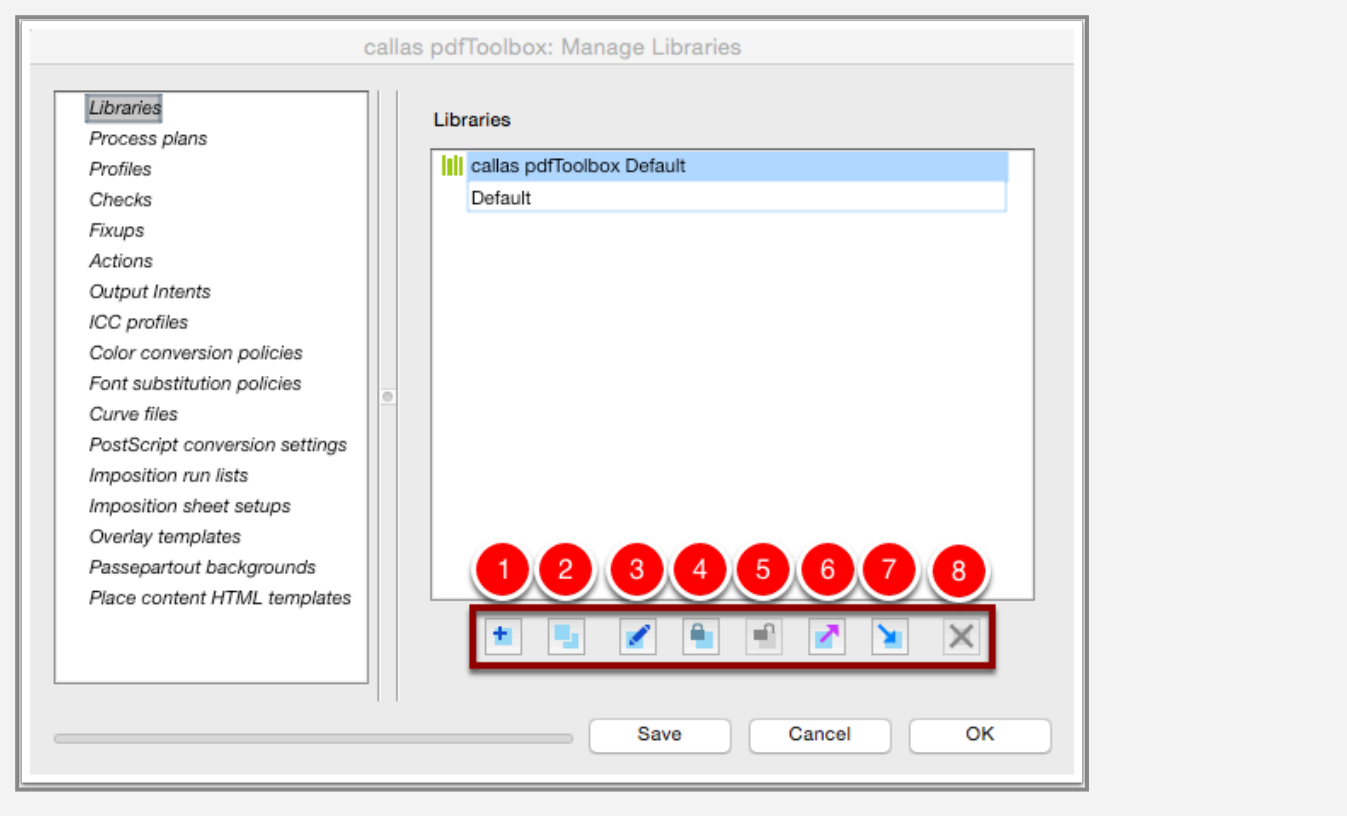


1. Go to "Tools".
2. Click "Switchboard".

Open the Manage Libraries dialog

1. Click on the Action button.
2. Click "Manage Libraries".

Analyze the Manage Libraries dialog

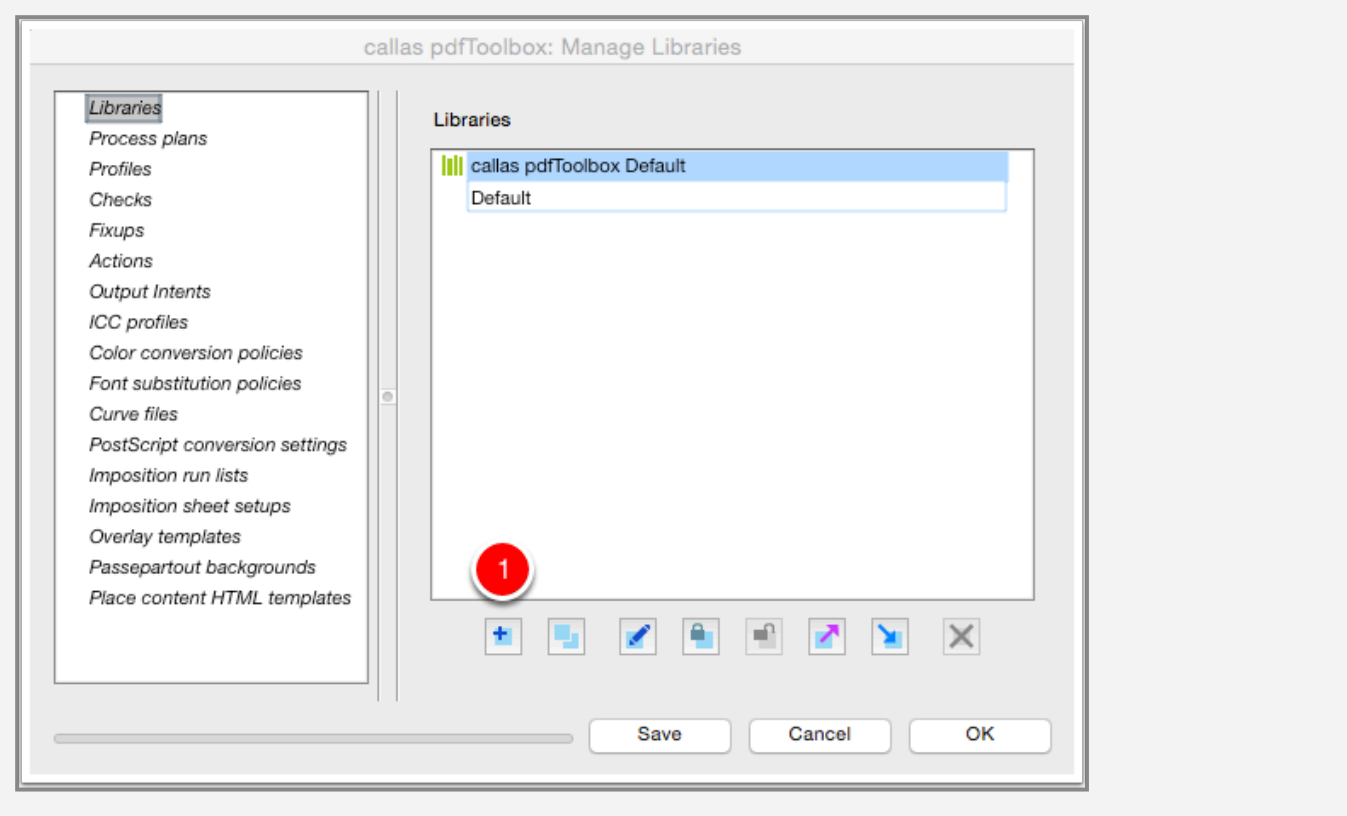


In the Libraries list the default "callas pdfaPilot Default" library is shown.

In the lower part of the dialog, buttons for various functions can be found:

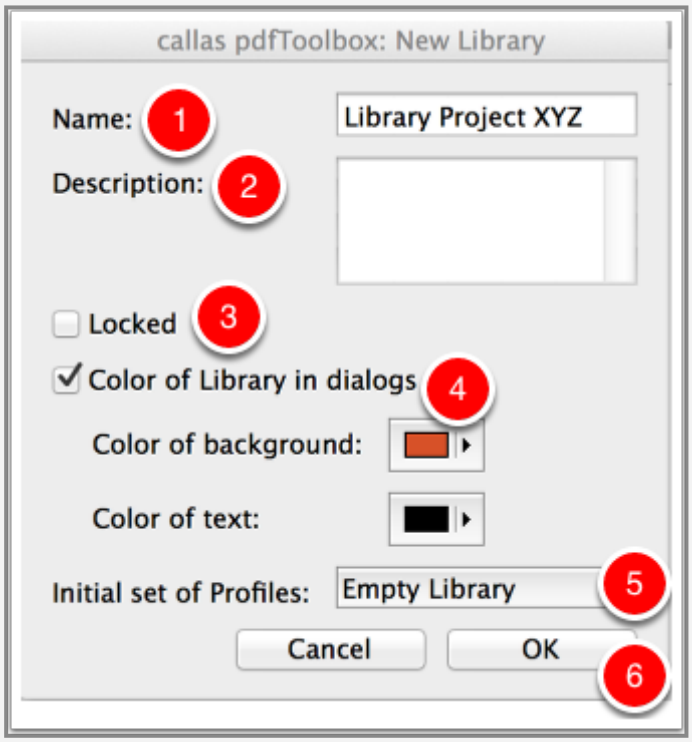
1. Adding a new library.
2. Duplicate an existing library.
3. Edit a selected library.
4. Protect a selected library.
5. Unprotect a selected library.
6. Export a selected library.
7. Import a library.
8. Delete a selected library.

Adding a new library



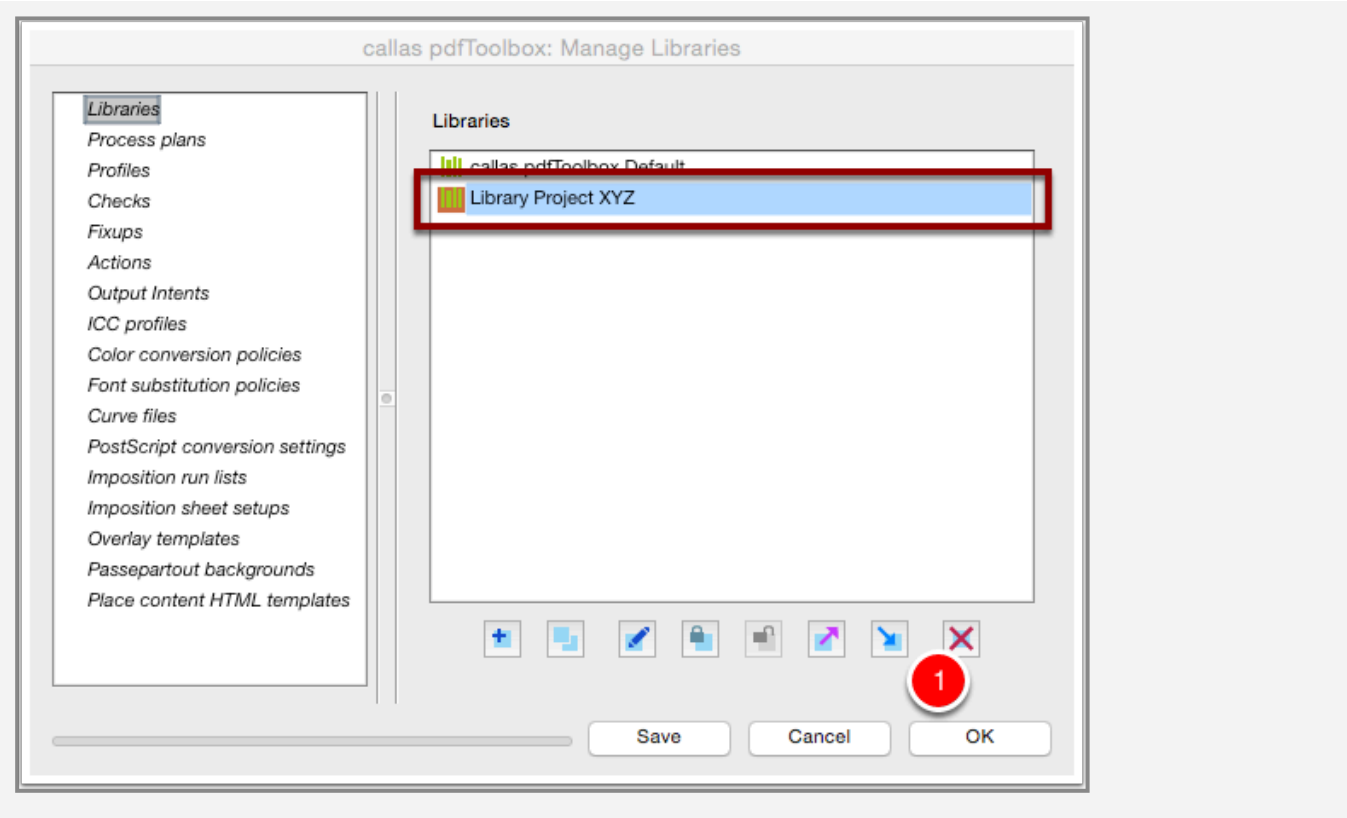
1. Click "Adding new library".

Modify the new library



1. In the "**Name**" field save the new library as "Library Project XYZ".
2. If necessary you can add a **description** for the new library. No extra information is needed for this library.
3. The new library can be **locked** in order to protect them from changes. I choose to not do that.
4. For an improved overview library overview the **color** of the **background** and **text dialogs** can be customised.
5. You can prefer to start with an **empty library** or using the **entire library with the default settings**. I choose to start with an empty library.
6. Click "**OK**" to save the new library.

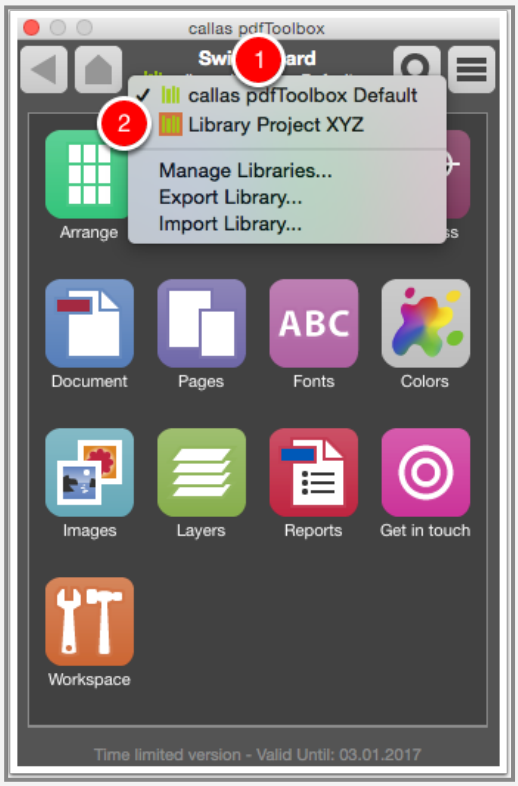
The new library in Manage Libraries dialog



The new library "Library Project XYZ" is shown in the "Manage Libraries" list.

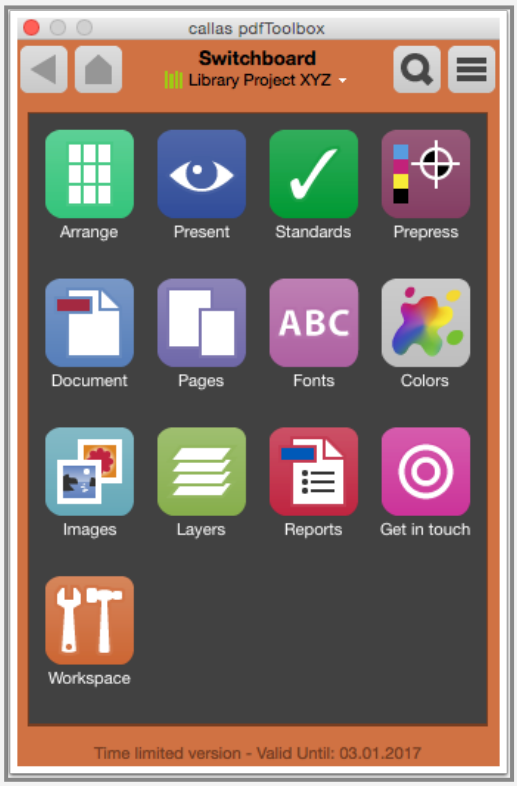
1. Click "OK".

Select the new library in the Switchboard panel



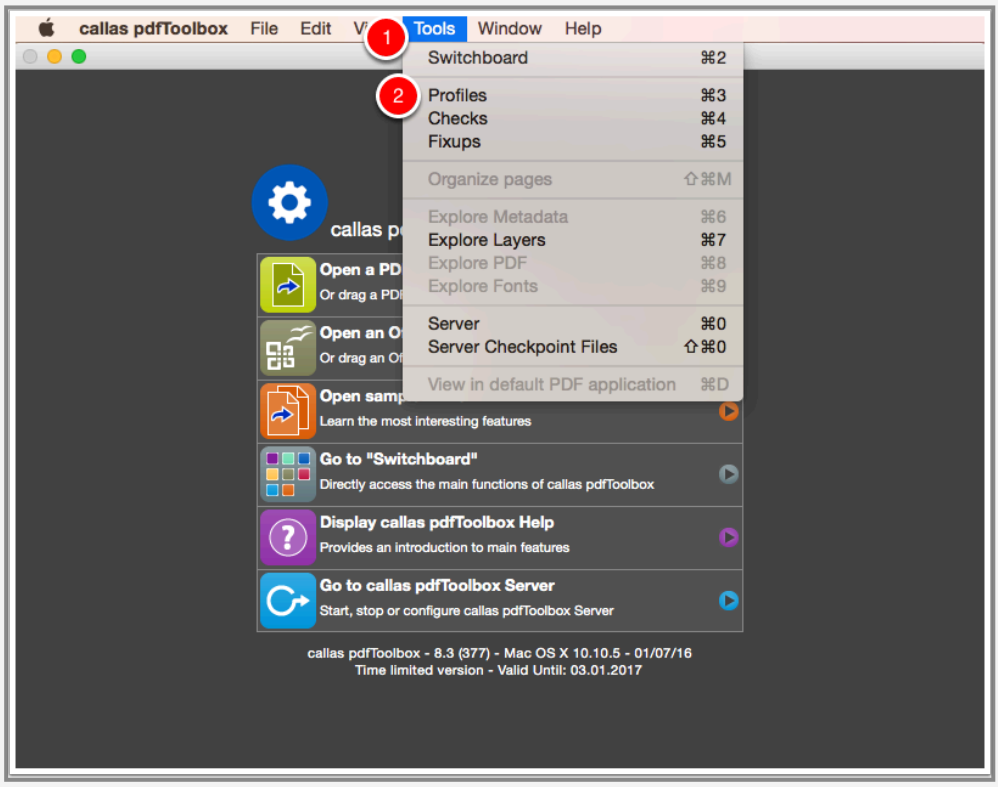
1. Click under the name Switchboard on "callas pdfaPilot Default".
2. Click "Library Project XYZ".

The new library in the Switchboard panel



In the new library the background and text dialogs has custom colors.

Open the Profiles dialog



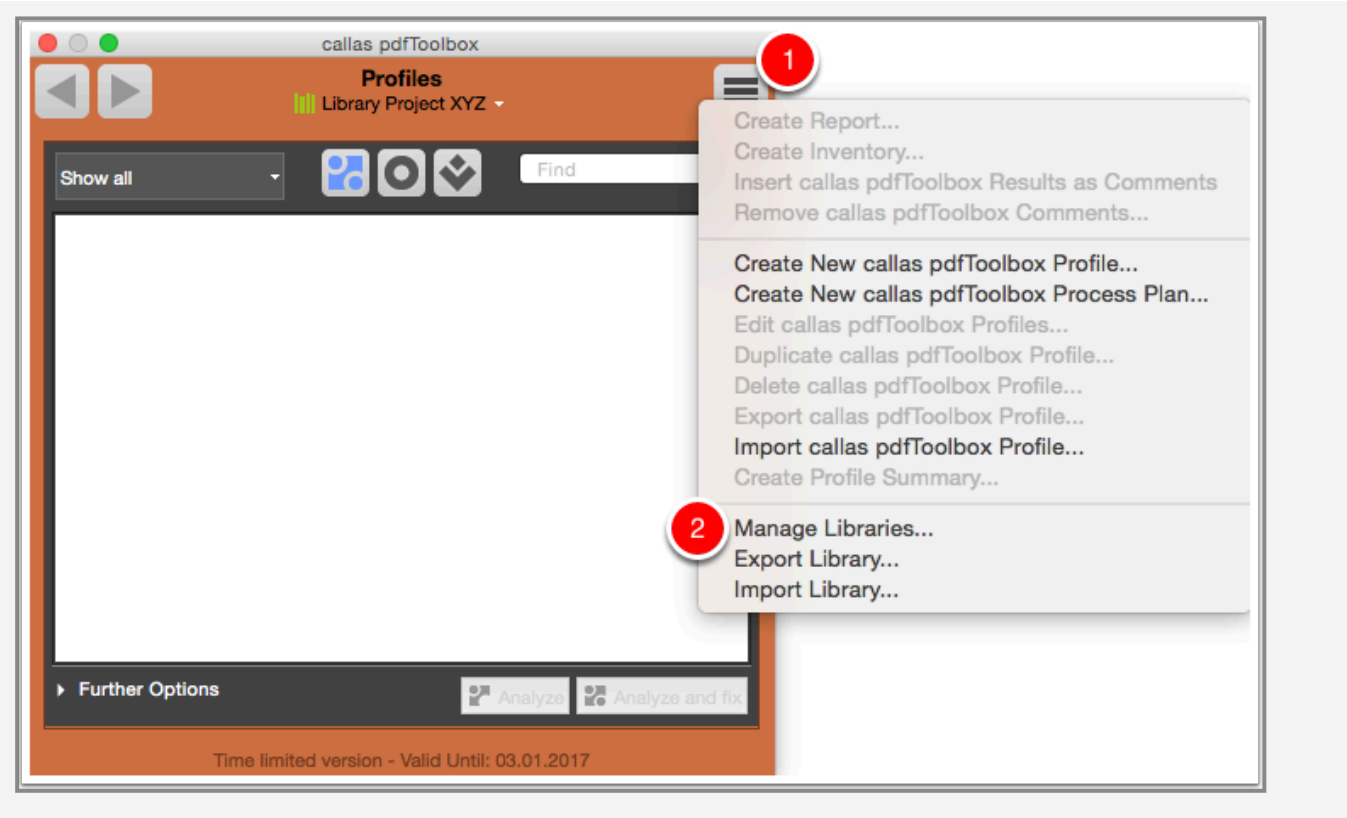
1. Go to "Tools".
2. Click "Profiles".

Select the new library "Library Project XYZ"

1. Click "Library Project XYZ".

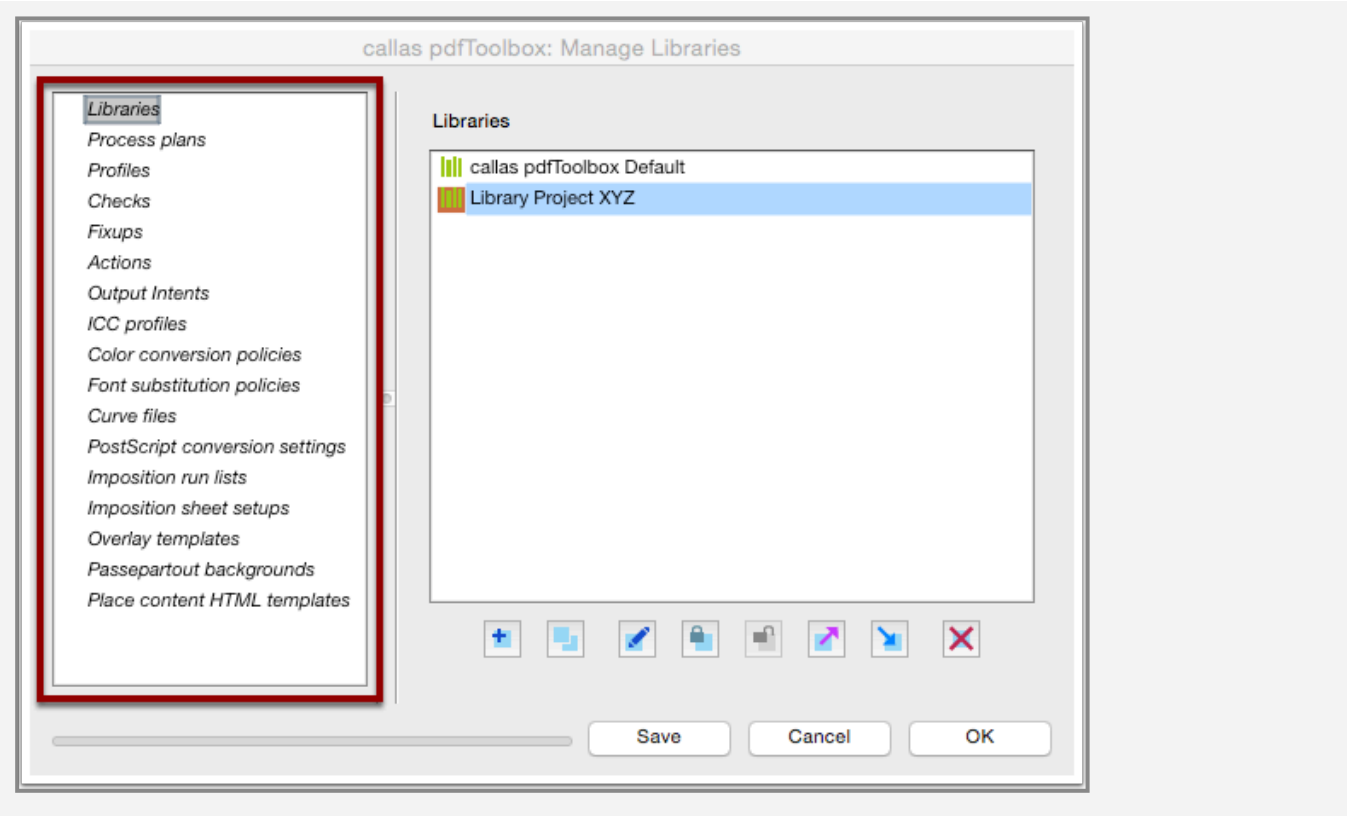
The new library is empty.

Open the Manage Libraries dialog



1. Click on the Action button.
2. Click "Manage Libraries".

Analyze the Manage Libraries dialog



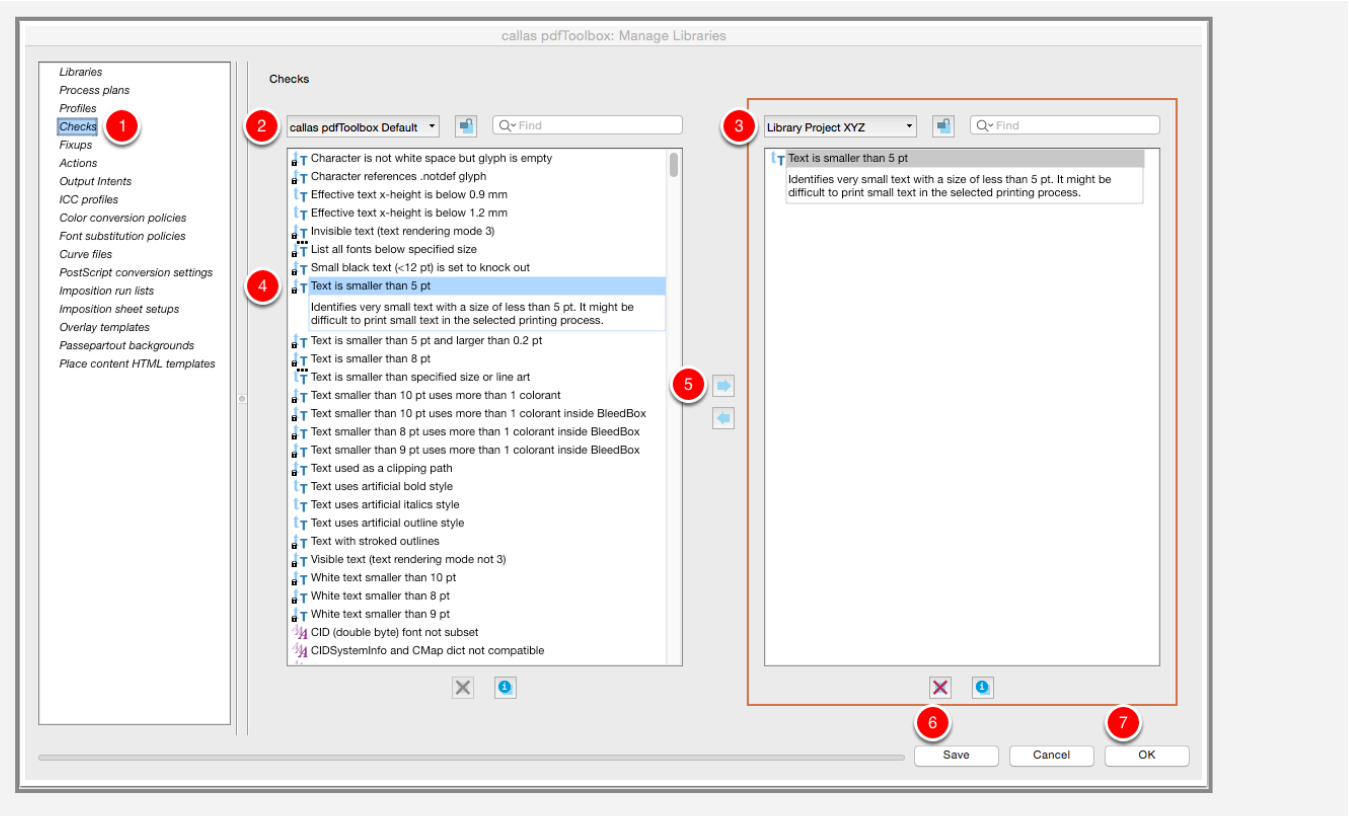
In the left column, under the entry "Libraries" all areas are listed that can be set up in the selected library.

Here are the details:

- **Libraries:** A list of available standard or custom libraries.
- **Process plans:** Combined Profiles, Checks, Fixups and Actions to apply on a PDF file. Here is the sequence important.
- **Profiles:** pdfaPilot Profiles that combined Checks and Fixups to apply on a PDF file. For example to convert a PDF to the PDF/X-4 standard.
- **Checks:** pdfaPilot Checks that investigate a PDF file according to some criteria. For example the thickness of text.
- **Fixups:** pdfaPilot Fixups that fixed a PDF file. For example converting all the text into outlines.
- **Actions:** pdfaPilot Actions apply an action on a PDF file. For example creating an imposed PDF file.
- **Output Intents:** The output conditions.
- **ICC profiles:** ICC color profiles.

- **Color conversion policies:** Policies to convert colors in a PDF file. For example convert to "Office RGB".
- **Font substitution policies:** Policies about missing fonts.
- **Curve files:** Curve settings for tone value adjustments.
- **PostScript conversion settings:** Quality levels.
- **Imposition run lists:** Imposition scheme plans. For example to plan 8 business cards, double sided.
- **Imposition sheet setups:** Sheet configuration plans. For example 8 business cards on a A4 page size.
- **Overlay templates:** Overlay templates such as "Draft" or "Watermark".
- **Passepartout backgrounds:** Passepartout backgrounds such as "Sand paper" or "Stone".
- **Place content HTML templates:** HTML templates to add PDF content. For example adding the file name.

Add Check to created library



Now we want to investigate the created library "Library Project XYZ". The new library was constructed as an empty library. You can derive Process Plans, Profiles, Checks, Fixups and Actions from the callas pdfaPilot standard library (or another library if available).

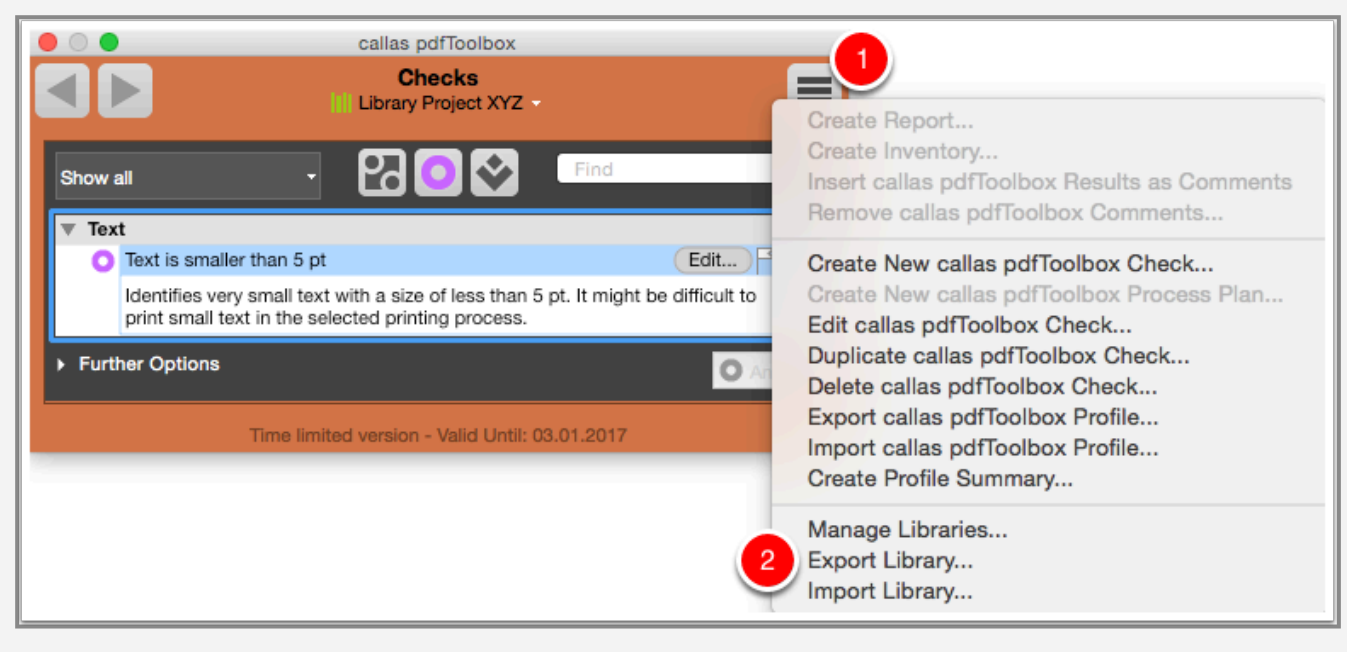
In this example we add the predefined Check "Text is smaller than 5 pt" from the callas pdfaPilot Default library.

1. Select "Checks".
2. In the dropdown list select "callas pdfaPilot Default".
3. In the dropdown list select "Library Project XYZ".
4. Select Check "Text is smaller than 5 pt".
5. Click on the blue arrow button to add the Check in the library.
6. Click "Save". Confirm that you made changes.
7. Click "OK".

New Check available in created library

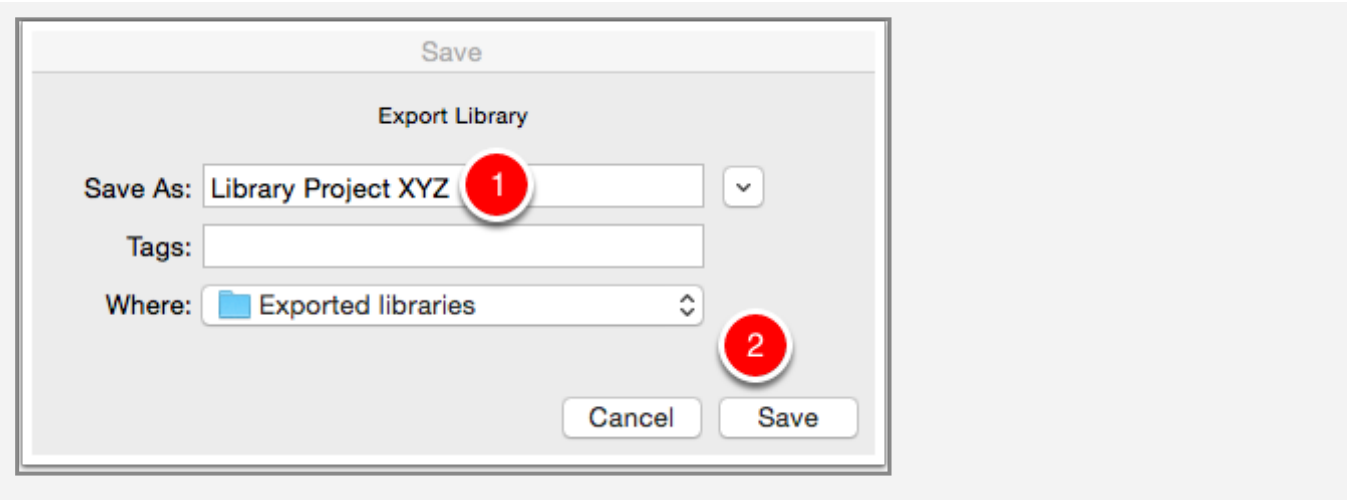
1. Click "Checks".

Export created library



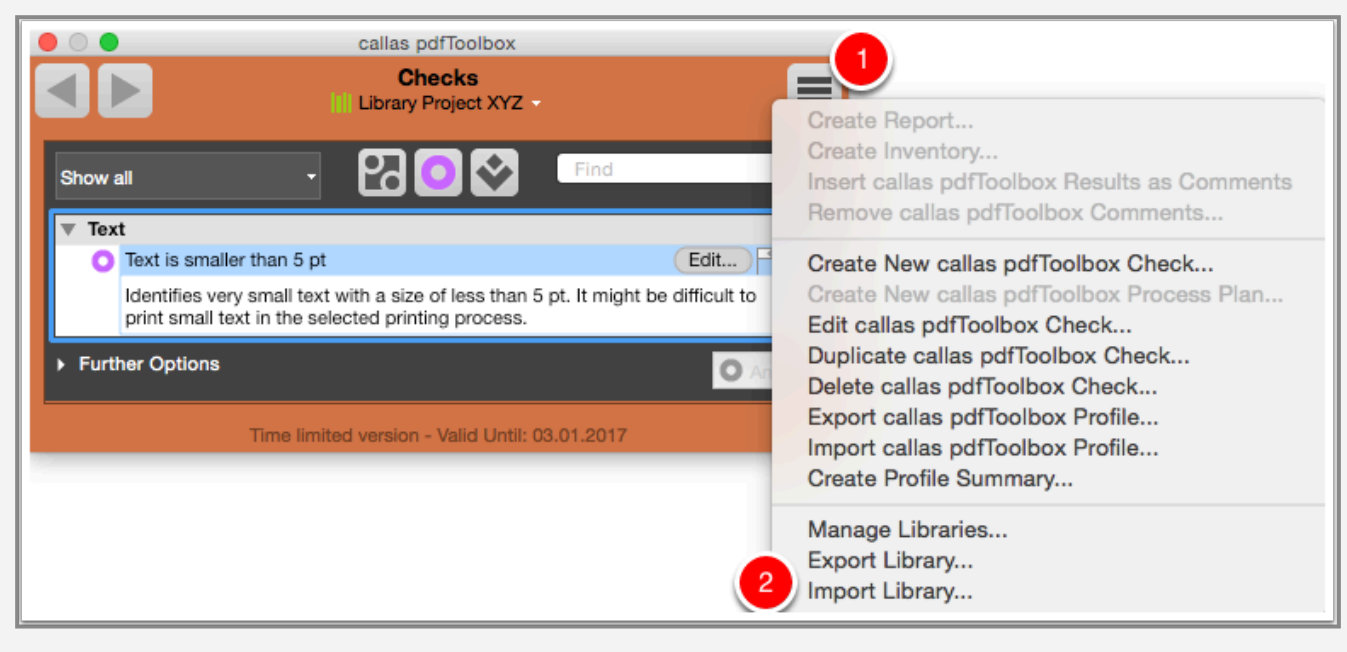
1. Click on the Action button.
2. Click "Export Library".

Save the exported library



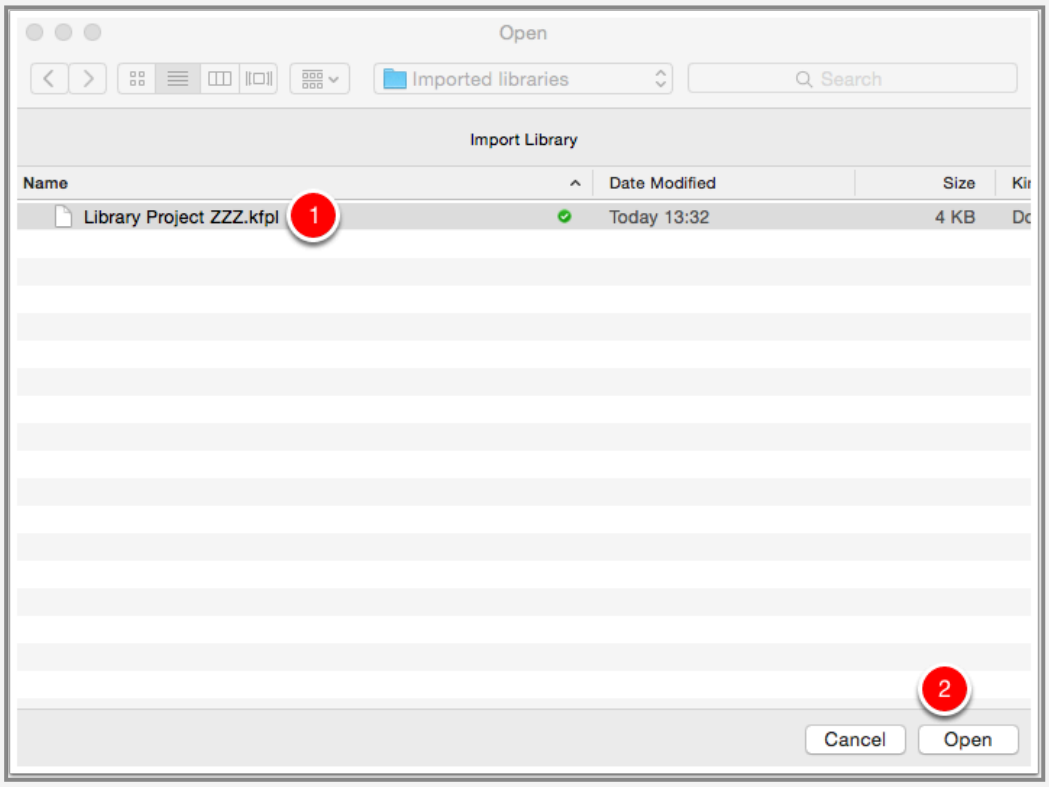
1. Save the exported library as "Library Project XYZ".
2. Click "Save".

Import library



1. Click on the Action button.
2. Click "Import Library".

Select the library



1. Select "Library Project ZZZ.kfpl".
2. Click "Open".

3.9 Libraries - Use for versioning and project management

With pdfaPilot libraries versions and projects can easily be managed. Supposedly, a printing company has compiled records with profiles, checks and corrections for a particular workflow or customer. Now it is possible to spread them and manage different versions across multiple workstations via libraries.

1. **For a customer or a workflow a library was created.**
2. **If the requirements change or if new pdfaPilot features are integrated, the existing library can simply be duplicated, a new version number (possibly also with the current date) can be given and the additional checks, profiles and corrections can be added.**
3. **The new, additional library could then be called "customer-v1.1-2016-06-26" or "Printer v1.1-2016-06-26".**
4. **Further updates will be processed the same.**

In this way, it is non-destructive and any changes in the procedure are tracked.

3.10 Libraries - Use for task oriented workspaces

Libraries can be very useful for different employees in a company or for clients with whom you work, to get customized sets of profiles, checks and fixups.

- **It may be useful to first create an extensive library, which you can adjust for the required workstations or partners.**
- **Smaller sets can be created as a library for employees who require only certain functions.**
- **According to certain workflows libraries can be set up, such as for "Offset", "Digital", "Online PDF", "Large Format", and many more.**

3.11 Search Libraries

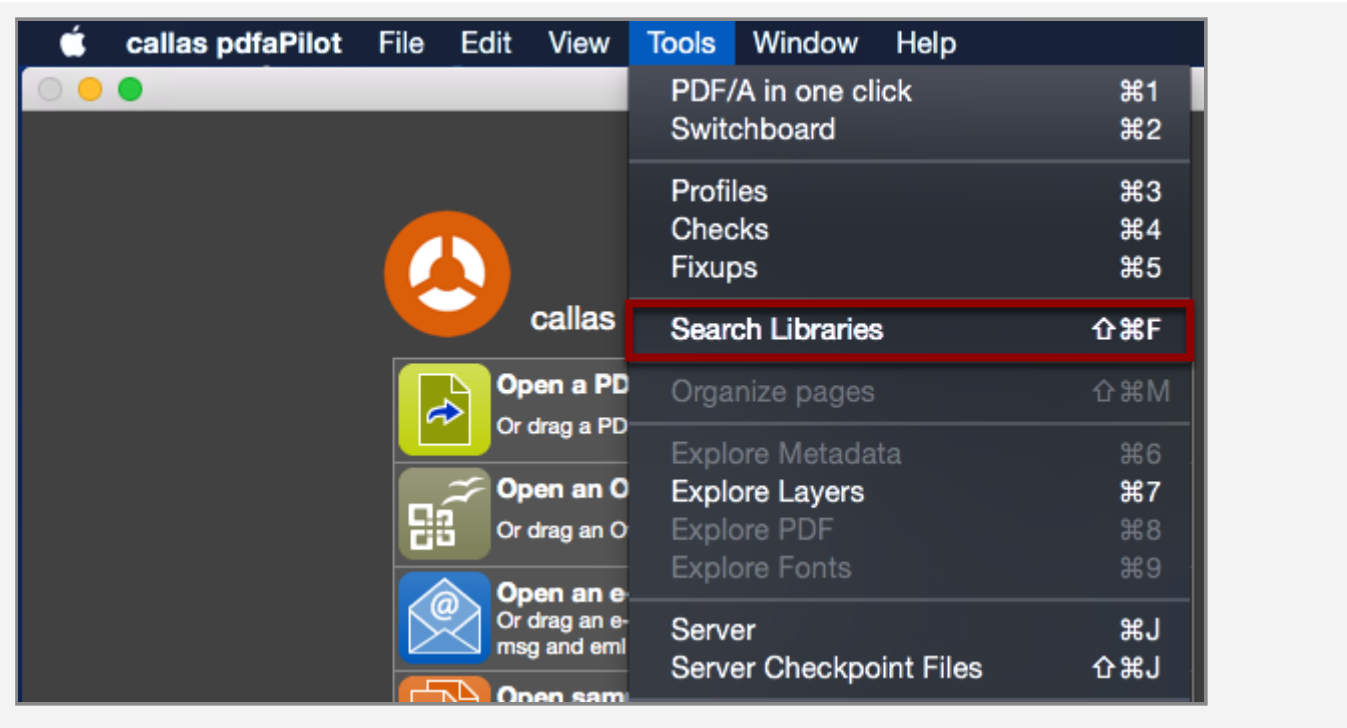
Libraries can contain a very large number of Profiles, Fixups, Checks, Variables and Actions. A range of search options can help you find specific items.

Global search

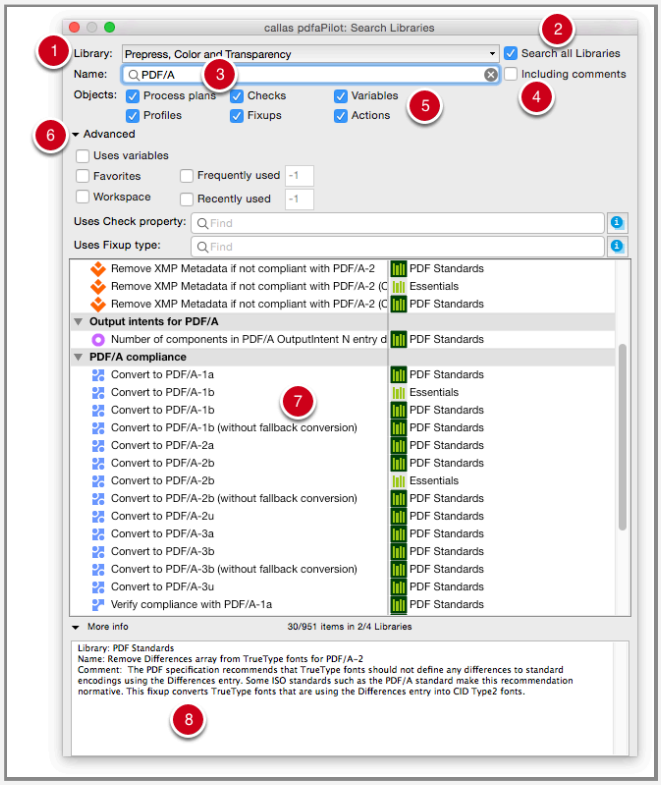
To search the complete corpus of Profiles, Fixups, Checks, Variables and Actions, use the **Search Libraries** menu item. This function can be opened via *Menu > Tools > Search Libraries*.

You can also use the keyboard shortcut *Shift-Command-F*.

You can open the **Search Libraries** dialog via the menu button in the *Profile window*.



The search mask contains a range of settings and filtering options:

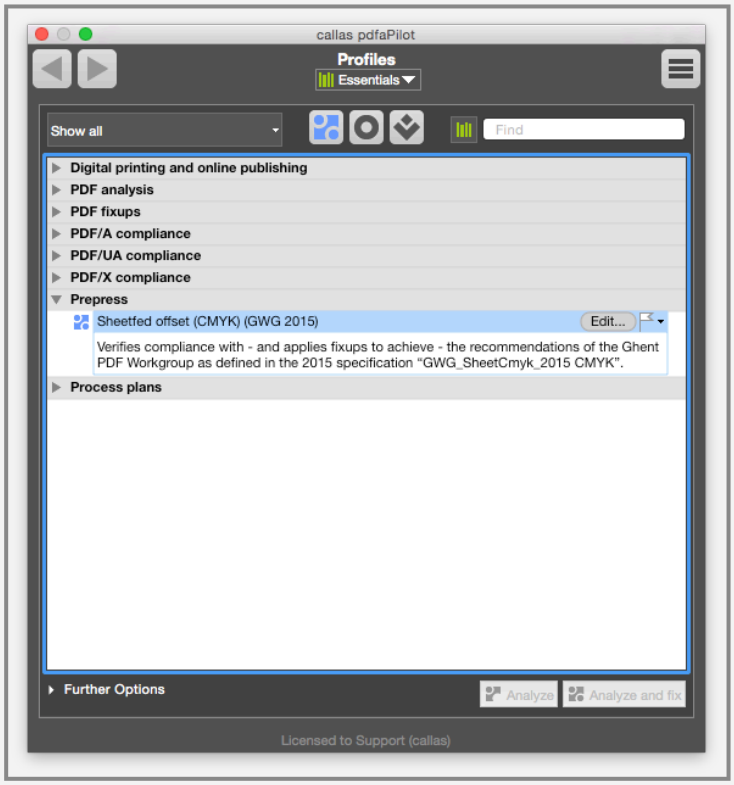


1. The **Library** to search can be selected via the drop-down menu.
2. The **Search all libraries** checkbox allows you to search all libraries at once.
3. Enter the search term under **Name**. The first results will be shown as soon as you start typing.
4. You can also **include comments** used in individual profiles etc. in your search.
5. The **Objects** category lets you restrict the search to *Process plans, Checks, Variables, Profiles, Fixups* and/or *Actions*.
6. The **Advanced** category lets you specify even more detailed settings (*Favorites, Variables, Workspace* and *Frequently* or *Recently used*). You can also account for the use of *Check properties* or *Fixup types*.
7. The results will be shown in the **list** along with their respective library.
8. The **More info** box provides information such as the creation date/time and the author of the highlighted entry.

Library-specific search for Profiles/Fixups/

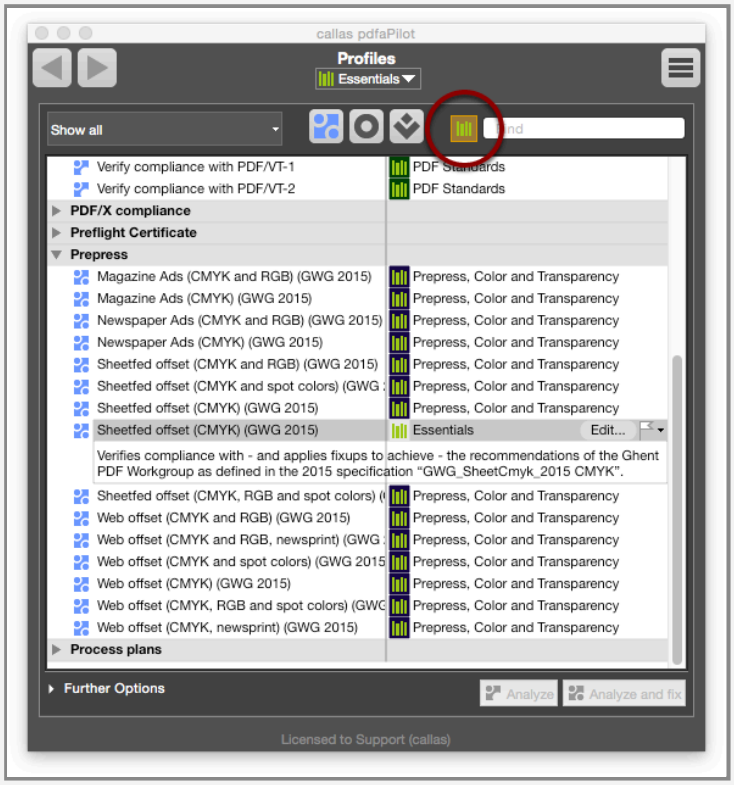
Checks

You can also search within the windows for Profiles, Fixups or Checks.



Only Profiles located in the currently selected Library will be shown.

Search all libraries for Profiles/Fixups/Checks



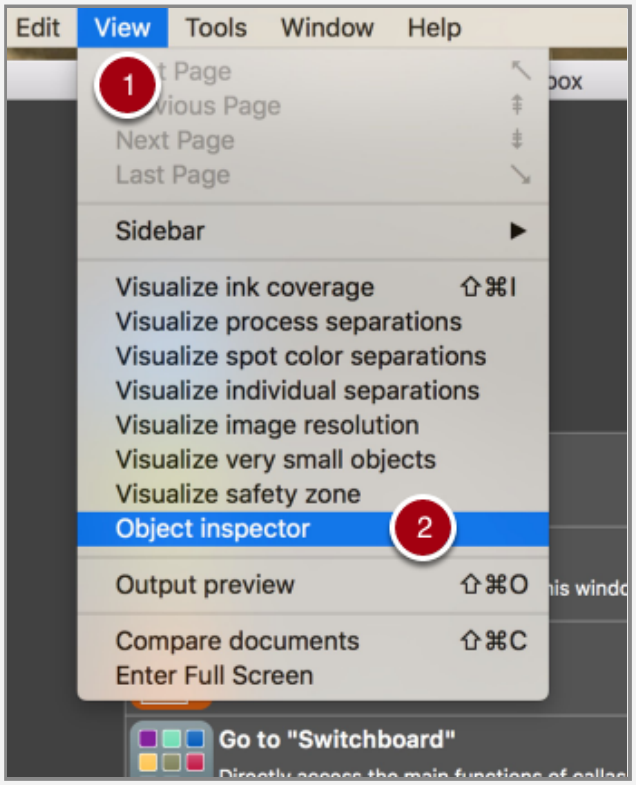
If you wish to search all libraries at once, first click on the **library symbol** next to the search box. Search terms entered into the "Search" box will then be searched for across all libraries.

3.12 Examining page content: The Object Inspector

In the visualizer section of pdfaPilot Desktop, the Object Inspector allows identifying page content, both viewing which objects form a PDF page, and what their attributes are. Two additional concepts: "Wireframe viewing" and "Object type filtering" have been implemented here.

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

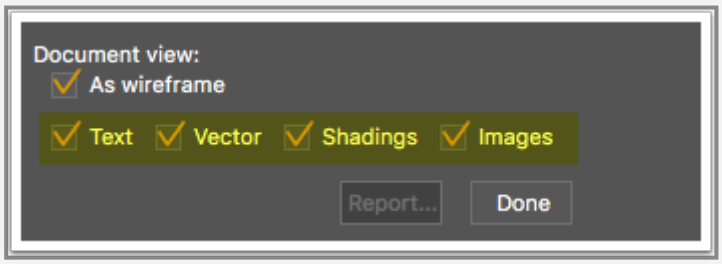
Showing the object inspector



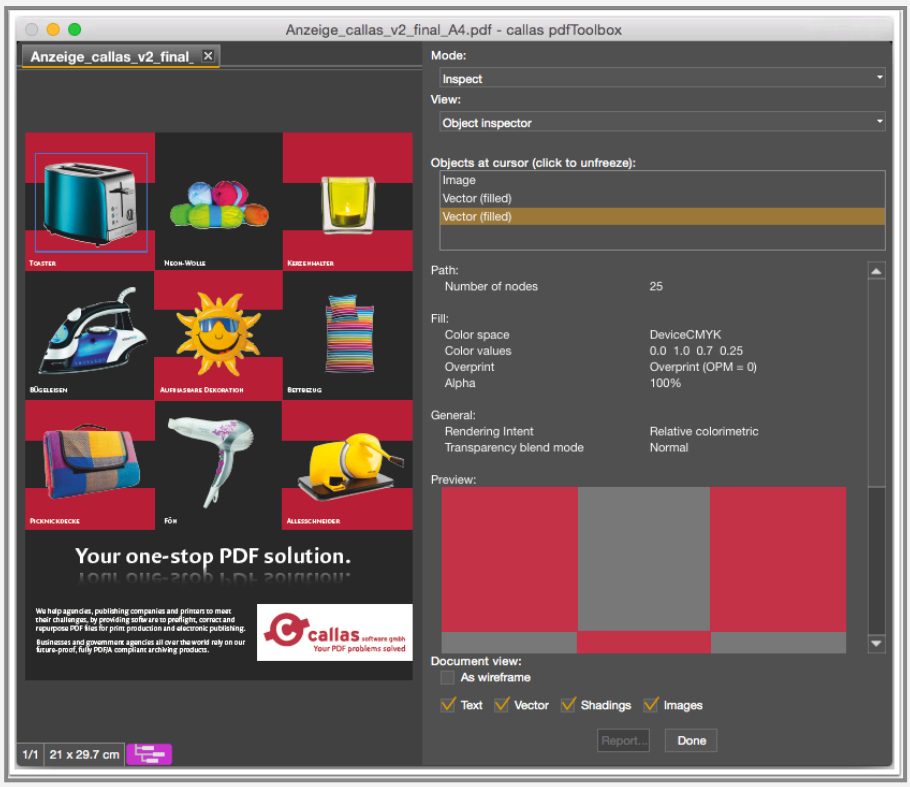
1. Click on the "View" menu
2. Select the "Object inspector" menu item

Object type filtering

By default, the object inspector shows all PDF objects on the page. This can be changed by disabling or enabling the checkboxes at the bottom of the Object inspector area. Deselecting "Text" for example, will cause all text objects on the page to be hidden. This allows examining whether objects are actually text for example, or allows viewing what is behind other objects (and normally hidden from view).



Object properties



Every single object can be selected by clicking on it inside the view on the left hand side. A click will fix the selection on the right hand side. Another click will release it.

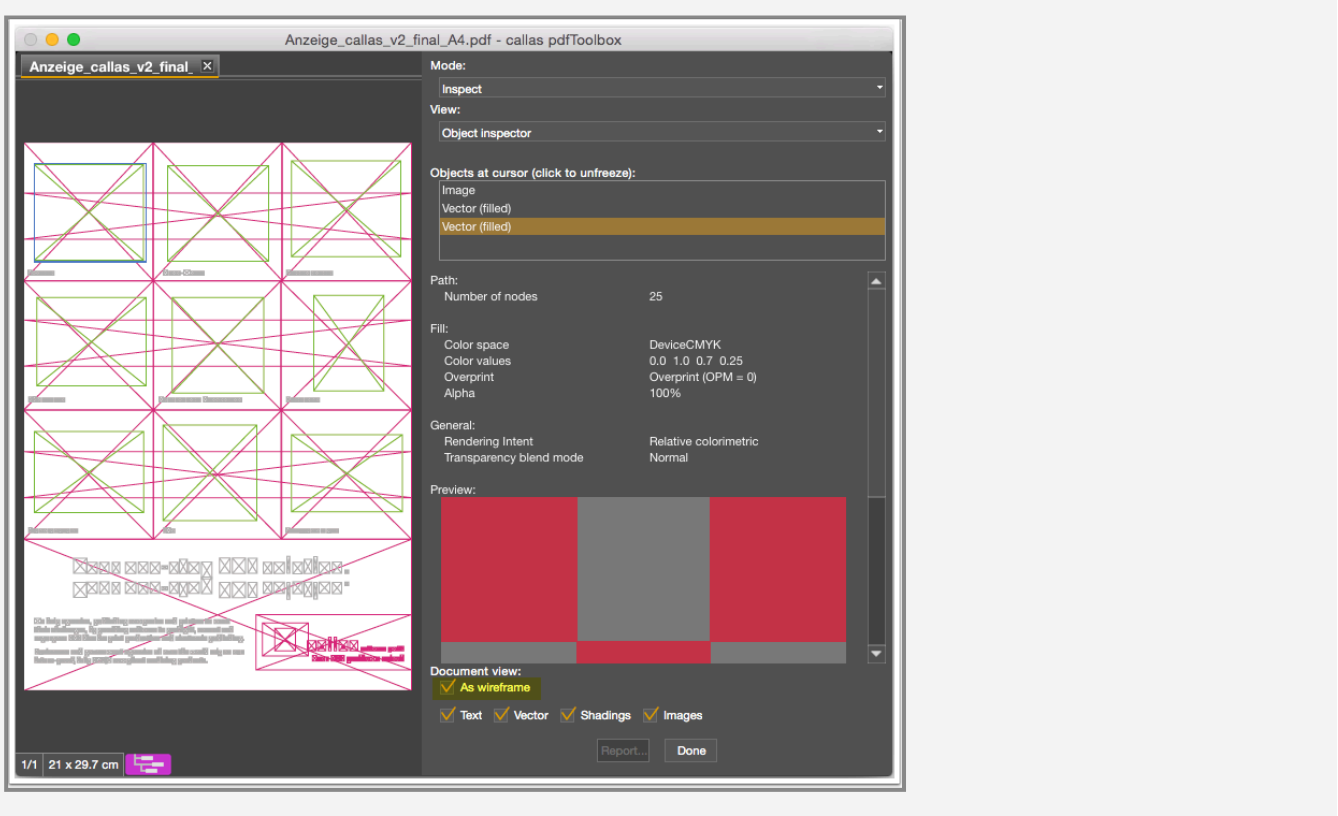
Selected objects are also visible in the preview on the right hand side.

Under "Objects at cursor", you will see a stack of all the objects in the same order as they appear in the PDF.

The topmost object is the topmost in the PDF. You can click at objects below the topmost object to see it's properties.

Wireframe viewing

At the bottom of the Object inspector area, check the "As Wireframe" checkbox, to show the displayed PDF page as wireframe. In this mode, all objects are shown with differently color rectangle outlines. This allows seeing the structure of the page (which objects are on the page, how they are layered etc...).

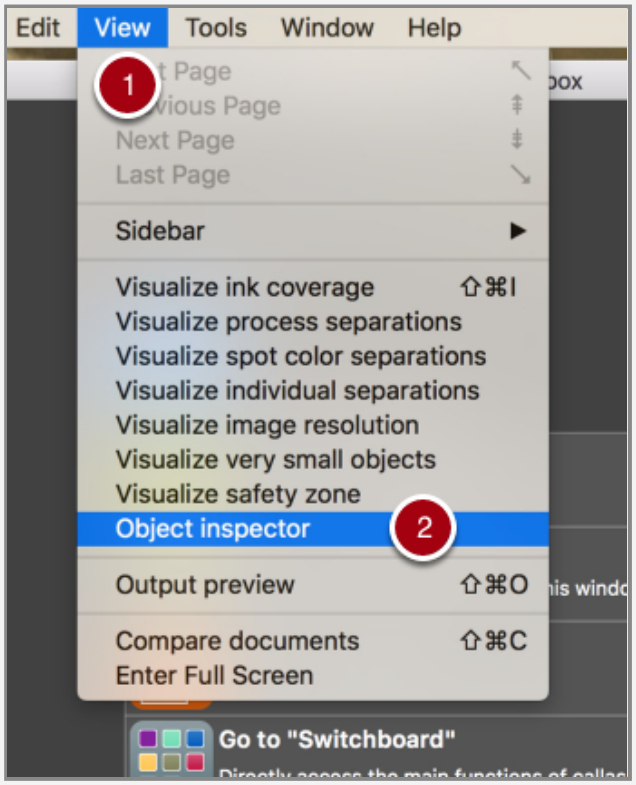


3.13 Examining page content: Filter in the Object Inspector

In the visualizer section of pdfToolbox Desktop, the Object Inspector allows identifying page content, both viewing which objects form a PDF page, and what their attributes are. Two additional concepts: "Wireframe viewing" and "Object type filtering" have been implemented here.

The screenshots are showing the sister product pdfToolbox. The functionality in this part of pdfaPilot is identical to pdfToolbox.

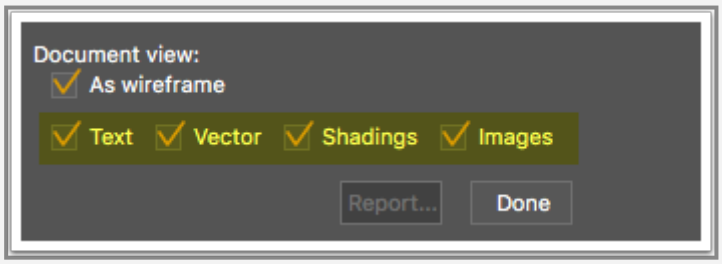
Showing the object inspector



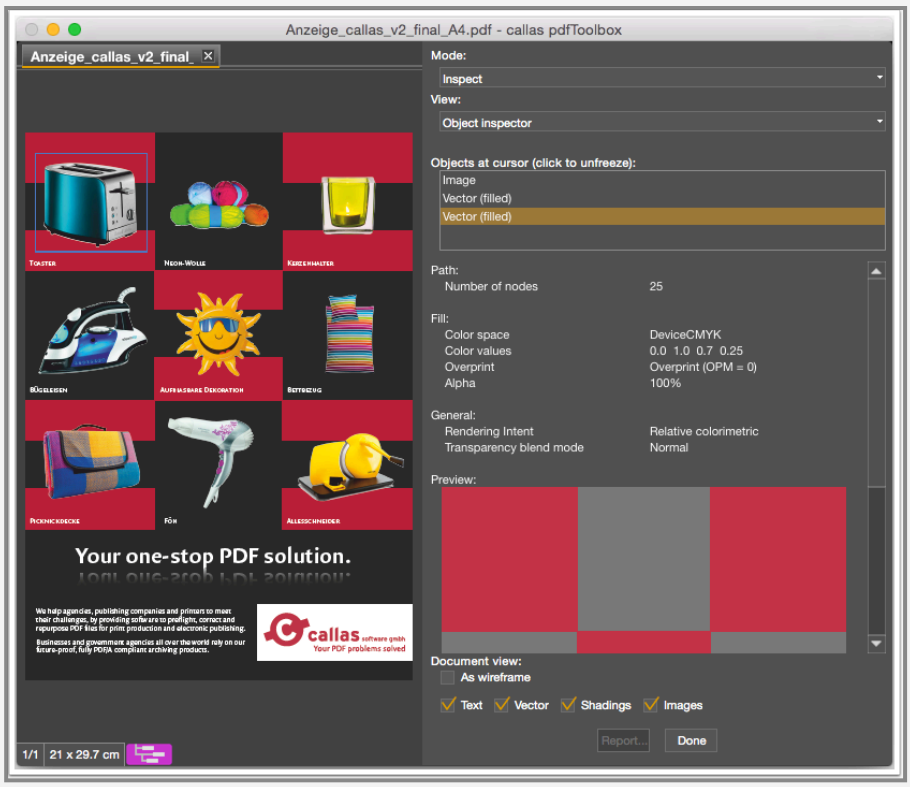
1. Click on the "View" menu
2. Select the "Object inspector" menu item

Object type filtering

By default, the object inspector shows all PDF objects on the page. This can be changed by disabling or enabling the checkboxes at the bottom of the Object inspector area. Deselecting "Text" for example, will cause all text objects on the page to be hidden. This allows examining whether objects are actually text for example, or allows viewing what is behind other objects (and normally hidden from view).



Object properties



Every single object can be selected by clicking on it inside the view on the left hand side. A click will fix the selection on the right hand side. Another click will release it.

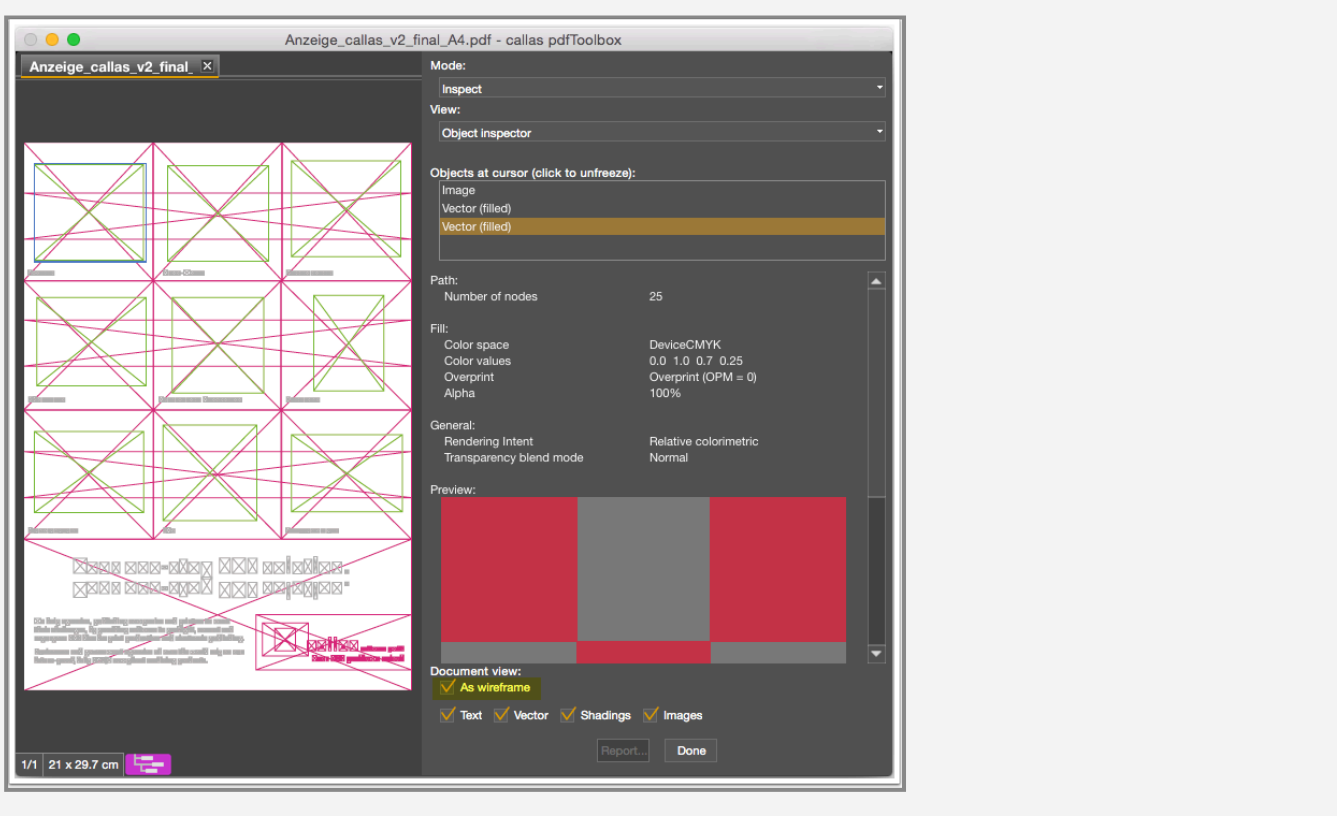
Selected objects are also visible in the preview on the right hand side.

Under "Objects at cursor", you will see a stack of all the objects in the same order as they appear in the PDF.

The topmost object is the topmost in the PDF. You can click at objects below the topmost object to see it's properties.

Wireframe viewing

At the bottom of the Object inspector area, check the "As Wireframe" checkbox, to show the displayed PDF page as wireframe. In this mode, all objects are shown with differently color rectangle outlines. This allows seeing the structure of the page (which objects are on the page, how they are layers etc...).



3.14 Requirements for conversions to PDF

pdfaPilot offers the possibility to convert several file formats to PDF. In order to receive the best results, the applications in which the files have been created are used for this conversion.

Supported applications and files

Application	Operating system	As of pdfaPilot version
• Microsoft Word 2007 • Microsoft Word 2010 (32bit and 64bit) • Microsoft Excel 2007 • Microsoft Excel 2010 (32bit and 64bit) • Microsoft PowerPoint 2007	Windows	2.1
• Microsoft PowerPoint 2010 (32bit and 64bit) • Microsoft Publisher 2007 • Microsoft Publisher 2010 (32bit and 64bit) • Microsoft Visio 2007 • Microsoft Visio 2010 (32bit and 64bit)	Windows	2.3

Application	Operating system	As of pdfaPilot version
• Microsoft Project 2010 (32bit and 64bit)		
• Microsoft Word 2013 (32bit and 64bit) • Microsoft Excel 2013 (32bit and 64bit) • Microsoft PowerPoint 2013 (32bit and 64bit) • Microsoft Visio 2013 (32bit and 64bit) • Microsoft Publisher 2013 (32bit and 64bit) • Microsoft Project 2013 (32bit and 64bit)	Windows	5.0
• Microsoft Word 2011 • Microsoft Excel 2011 • Microsoft PowerPoint 2011 • iWork '09 Pages	Mac	2.4
• Microsoft Word 2016/365 • Microsoft Excel 2016/365	Windows, Mac	7.0

Application	Operating system	As of pdfaPilot version
• Microsoft PowerPoint 2016/365 • Microsoft Visio 2016/365 • Microsoft Publisher 2016/365 • Microsoft Project 2016/365		
• Microsoft Word 2019 • Microsoft Excel 2019 • Microsoft PowerPoint 2019 • Microsoft Visio 2019 • Microsoft Publisher 2019 • Microsoft Project 2019	Windows, Mac	8.0
• OpenOffice.org 3.2	Windows, Mac and Linux	2.2
• OpenOffice.org 3.3	Windows, Mac and Linux	2.3
• OpenOffice.org 4.x	Windows, Mac and Linux	5.0
• LibreOffice 4.x	Windows, Mac and Linux	5.0
• LibreOffice 5.x	Windows, Mac and Linux	6.2
• LibreOffice 6.x	Windows, Mac and Linux	8.0

Application	Operating system	As of pdfaPilot version
• PostScript and EPS files	All Platforms	2.4
• Image files	All Platforms	2.4
• XPS files	Windows	6.0

Supported file types

Application	File type		
	Windows	Mac	Linux
Microsoft Word	.doc .docx .dot .dotx .dotm .rtf .txt .xml .vcf .ics .wpd	.doc .docx .txt	
Microsoft Excel	.xls .xlsx .xlsm .xlt .xltx .xltm	.xls .xlsx	
Microsoft PowerPoint	.ppt .pptx .pps .ppsx .pot .potx .potm .ppa .ppam	.ppt .pptx	
Microsoft Visio	.vsd .vdx .vdw .vss .vsx .vtx (v.11) .vsdx (v.11)		
Microsoft Project	.mpp .mpt .mpd .mpw .mpx		
Microsoft Publisher	.pub		
OpenOffice/LibreOffice Writer	.odt .ott .sxw .stw .doc .rtf .sdw .vor .txt .pdb .xml .psw .docx .docm .dotx .dotm .602 .wpd .hwp		
OpenOffice/LibreOffice Calc	.ods .ots .sxc .stc .dif .dbf .xls .xlt .sdc .vor .slk .csv .pxl .uos .xlc .xlm .xlw .sdc .xlsb .xlsm .xlsx .xltm .xltx .wb2		
OpenOffice/LibreOffice Impress	.odp .otp .sxi .sti .ppt .pot .sxd .sda .sdd .vor .uop .odg .cgm .pptm .pptx .potm .potx		

Application	File type		
OpenOffice/LibreOffice Draw	.bmp .emf .pcx .pgm .wmf (from version 8.2)		
iWork '09 Pages		.pages	
PostScript and EPS files	.ps .eps .prn		
Image files	.tiff .tif .jpeg .jpg .png .gif .psd (from version 10.1) .psb (from version 11)		
HTML	.html .htm .svg		

File types that require additional parameters:

Application	File type		
	Windows	Mac	Linux
Email	.msg .eml .emlx When emails are converted also any attachments are converted, compressed archives (.zip, .gz, .7z, .rar) are uncompressed.		

Further information on the settings for email conversion here.

General

- All Office-applications should be installed with the default options, in order to guarantee that all needed components are available.
- Install all the latest updates.
- Start the application at least once and make sure that the setup wizards have been executed successfully.
- pdfaPilot need to be activated. This means, a valid activation request must have been sent and the software must have been activated with the activation file received afterwards.
- The activation needs to be performed for the user who wants to execute the file conversion.
- On Windows systems, install the Microsoft .NET Framework Version 4 or newer - this is not automatically installed with the regular Windows Update but belongs to the optional updates.

- Please ensure, that the Microsoft Visual C++ Redistributable Packages for Visual Studio 2013 and the Microsoft Visual C++ Redistributable Packages for Visual Studio 2017 were properly installed by the callas installation package. Only the 32bit versions of the runtime libraries are needed because the internal conversion tool is a 32bit application.
- While conversions to PDF are performed, no other users on this machine should use the applications needed for this process.
- In particular the file to be processed should not be opened in the respective application.
- Only one instance of the application that creates PDF must be used at the same time. Therefore in pdfaPilot Server or in Enfocus Switch the number of instances needs to be set to 1.
- Although some file types can be processed with several applications it is recommended to process documents with the application where they were created with.
- Microsoft Office files are not processed via OpenOffice/LibreOffice by default under Windows and MacOS if no Microsoft Office is installed on the system. For Server/CLI, processing of such MS Office files by OpenOffice/LibreOffice can be forced using the `--topdf_forceopenoffice` parameter.
- Since in Microsoft Word, autocorrection is activated by default, we recommend to deactivate spellchecking, grammar checking and hyphenation via the Word options to speed up the Office conversion.

Microsoft applications

- Please make sure that Microsoft Office is activated. In case Microsoft Office runs as an evaluation version, a warning dialog might pop up during conversion.
- If there is no “PDF or XPS” entry in the “Save as” menu, install the missing Add-in. You can download it on the Microsoft website.
- Install the latest service pack for Microsoft Office.
- When updating the Microsoft Office Suite it is recommended to deinstall previously installed version before to ensure all registry entries are removed and properly set when the new installation of Office takes place. Especially when installing Microsoft Office 2010 on a system with an

existing Microsoft Office 2007 such registry entries seems to remain. See Microsoft knowledge base for details how to uninstall.

Word

Word documents may contain annotations from the function “Track changes”. They are output into the PDF with the setting “Screen”. When outputting with setting “Print” they are not output. In the Desktop version of pdfToolbox the setting “Print” is default so that annotations are not output. Whereas in pdfaPilot Desktop the setting “Screen” is default so that annotations are output. On the Mac the output of annotations can only be omitted when running the english language version of Word. Moreover “Enable access for assistive devices” need to be enabled in “Universal Access” of the “System preferences”.

Excel

- If the contents exceed the “print area”, only the parts covered by this “print area” will be output whilst the other parts will not be output.
- The page format of the output PDF is optimized in order to fit as much content as possible in a well readable way onto a page. For large sheets the content may be spread over several PDF pages.
- To ensure conversion, the print spooler has to be active. This is the case when the Excel preview shows the content. Otherwise the spooler has to be started in the “Services” configuration of the system settings. After doing this, the “Microsoft XPS Document Writer” shows up in the print dialog of Excel.

Powerpoint

It is not recommended to use parallel conversion of PowerPoint files with MS Office, as this can sometimes lead to problems, instead sequential processing works stable.

Mac

- A page range can not be specified, the parameter Page range (pagerange) does not have an influence.
- Images are exported with a resolution of 72 ppi, the parameter Print (topdf_print) does not have an influence.
- If Microsoft Office 2008 and Microsoft Office 2011 are installed the Office application that is set as default for

opening Office documents in the system or the Office application that is already open is used to process Office documents.

Dialog handling

- Under Windows dialogs appearing in the Office application during processing can be handled.
- Therefore an empty file named MTPGuiActions.log has to be placed in the user folder here:
- <user>\AppData\Roaming\axaio software\MS Office 12\MadeToPrint\Logfiles\
- If the Office document that opens a dialog is processed now an ID of the dialog is logged in MTPGuiActions.log
- This ID needs to be entered in MTPGuiActions.cfg which can be found in the etc/PDFOfficeTool folder next to the executable of pdfaPilot Desktop or Server
- Within MTPGuiActions.cfg the options of the dialog handling is described

Usage when running as a service

Sometimes problems may occure when running pdfaPilot as a service with Microsoft Office. Automation is not supported by Microsoft officially, but the following workaround was successful in most cases:

- Create the following folders (with appropriate permissions) on your system:
  - Windows Server 2012 + later:
    - C:\Windows\SysWOW64\config\systemprofile\AppData\Local\Microsoft\Windows\INetCache
  - Especially when running Office 32Bit on x64 systems, the following folders are required as well:
    - Windows x64: C:\Windows\SysWOW64\config\systemprofile\Desktop
    - Windows x86: C:\Windows\System32\config\systemprofile\Desktop
    - Please NOTE:
      For smooth operation, the folders named above need to be restored after a Windows Update.
- For the Office/Excel conversion in a service setting, it is necessary to set up a default printer, especially when working with the "System" account.

OpenOffice and LibreOffice

- Close all open OpenOffice and LibreOffice instances before processing with pdfaPilot.
- Please keep in mind the known restrictions of OpenOffice.org regarding cases where umlauts from Type1 and OpenType fonts might not be output correctly. You will find more information on the current state of this issue on OpenOffice.org.
- Only LibreOffice or OpenOffice may be installed.
- For Windows only the 32-bit versions of LibreOffice and OpenOffice are supported (before pdfaPilot 9/pdfEngine 11).
- *From pdfaPilot 9/pdfEngine 11 onwards with the 64bit variant on Windows, the Libre/OpenOffice has to be 64bit as well (and 32bit when the 32bit variant of pdfaPilot/pdfEngine is installed).*
- For Non-Windows systems (Mac, Linux..) the JDK needs to be installed: https://www.oracle.com/java/technologies/javase-jdk14-downloads.html

Mac

Please verify that OpenOffice is installed inside the default installation path (e.g. ”/Applications/OpenOffice.org” on Mac OS X systems).

If it is not, please re-install it to this location.

On Mac the following default installation/location are supported (in this order - first wins):

- /Applications/LibreOffice.app
- /Applications/OpenOffice.app
- /Applications/OpenOffice.org.app

Linux

- Support for Office Conversion has been tested thoroughly on Ubuntu 14.04 LTS (Server) with the default installation of LibreOffice and also with an OpenOffice installation.
- On Debian based Linux distributions (like Ubuntu or Mint), the required LibreOffice packages are installed via the package manager or via the command line as shown below:
  - sudo aptitude install libreoffice

  - (please substitute 'libreoffice' by 'openoffice' if you prefer OpenOffice)

- On other linux distributions or with other OS versions it might be required to search for packages with different names. E.g install everything found with the following search terms:
  - libreoffice (or openoffice)
  - uno
  - ure
  - headless

- Some distributions, like e.g. Debian 10 ("Buster") may require to install the additional "libreoffice-java-common"package:
  - `sudo apt install libreoffice-java-common`

iWork '09 Pages

- A page range can not be specified as it is also via manual PDF export, the parameter Page range (pagerange) does not have an influence.
- Images are exported with a resolution of 72 ppi as it is also via manual PDF export, the parameter Print (topdf_print) does not have an influence.
- Documents of iWork '08 Pages can not be processed with pdfaPilot Server application because of a changed file format (file packages of Pages version 3 and earlier).

PostScript and EPS files

- ICC profiles referenced in a PDF settings file (.joboptions) need to be copied into the operating system folder for ICC profiles, e.g.:
  - Windows: C:\Windows\system32\spool\drivers\color
  - Mac OS X: /Macintosh HD/Library/ColorSync/Profiles

- The application will also look into the following folders for ICC profiles:
  - /Library/Application Support/Adobe/Color/Profiles/Recommended

  - /Library/Application Support/Adobe/Color/Profiles
  - /System/Library/ColorSync/Profiles

- Alternatively, you can put ICC-files for PostScript to PDF in the subfolder of the application:
  .../etc/PDFPSTool/ICCProfiles
- A Color settings file (.csf) that is referenced in the PDF settings file is not necessary for the processing.

Additional settings with limited user rights

In general it is recommended to grant the respective service user administrator privileges. If this level of rights can not set due to internal regulations, some additional settings within the operating system are recommended.

The following folders should allow the user the respective access right:

For 64-bit machines	
C:\Windows\Temp	Modify
C:\Windows\syswow64\config	Read
C:\Windows\syswow64\config\systemprofile	Read
C:\Windows\syswow64\config\systemprofile\AppData	Modify
C:\Windows\syswow64\config\systemprofile\Desktop	Modify (Create it, if it does not exist)
C:\Windows\syswow64\config\systemprofile\AppData\Local\Microsoft\Windows\INetCache	Modify (Create it, if it does not exist)

For 32-bit machines	
C:\Windows\Temp	Modify
C:\Windows\system32\config	Read
C:\Windows\system32\config\systemprofile	Read
C:\Windows\system32\config\systemprofile\Ap-	Modify

For 32-bit machines	
pData	
C:\Windows\system32\config\systemprofile\Desktop	Modify (Create it, if it does not exist)
C:\Windows\system32\config\systemprofile\AppData\Local\Microsoft\Windows\INetCache	Modify (Create it, if it does not exist)

Office conversion

Additional settings

- Set the 32-bit folder preferences (detailed above) in addition to the 64-bit preferences on 64-bit systems running 64-bit versions of Microsoft Office
- Set the default printer to XPS Document Writer

DCOM settings

- Launch DCOMCNFG by using:C:\WINDOWS\SysWOW64> mmc comexp.msc /32
- Go to Computers > MyComputer > DCOM Config.
- Right-click the application that you want to automate.The application names are listed in the table below:

Application	DCOM Name
Microsoft Access 2007/2010/2013/2016	Microsoft Access Application
Microsoft Excel 2007/2010/2013/2016	Microsoft Excel Application
Microsoft Office Word 2007	Microsoft Office Word 97 - 2003 Document
Microsoft Word 2010/2013/2016	Microsoft Word 97 - 2003 Document

- On some systems Microsoft Word is not displayed and you will have to use {00020906-0000-0000-C000-000000000046} instead.
- Click Properties to open the property dialog box for this application.
- Verify Identity and Security tabs

Slow conversion on systems without Internet connection

Some customers experienced long processing times on maschines without an Internet connection, especially when using MS Office 365 or MS Office 2016/2019. The following registry key did the trick for them:

```
[HKEY_CURRENT_USER\Software\Microsoft\Office\Common\ClientTelemetry] "DisableTelemetry"=dword:00000001
```

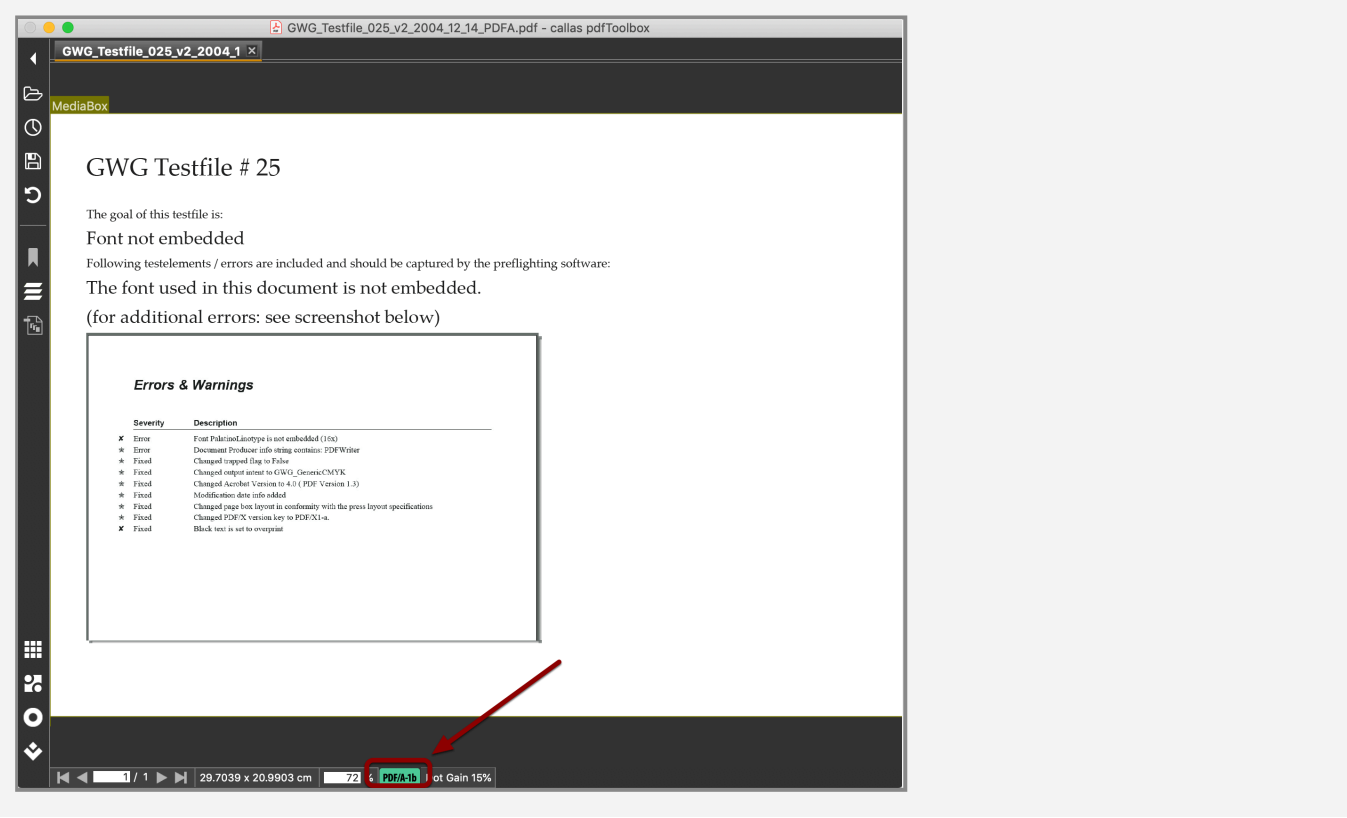
This might be related to:
https://docs.microsoft.com/en-US/DeployOffice/compat/manage-the-privacy-of-data-monitored-by-telemetry-in-office
We haven't found if there are official settings available - therefore we recommend an intensive testing on such systems before this key is used in a production environment as we can not estimate if there are any side effects.

Still problems when converting?

In case you are having trouble with 'Convert to PDF', please contact our support team and simply fill out this form.

3.15 Checking the ISO standards using callas Desktop products

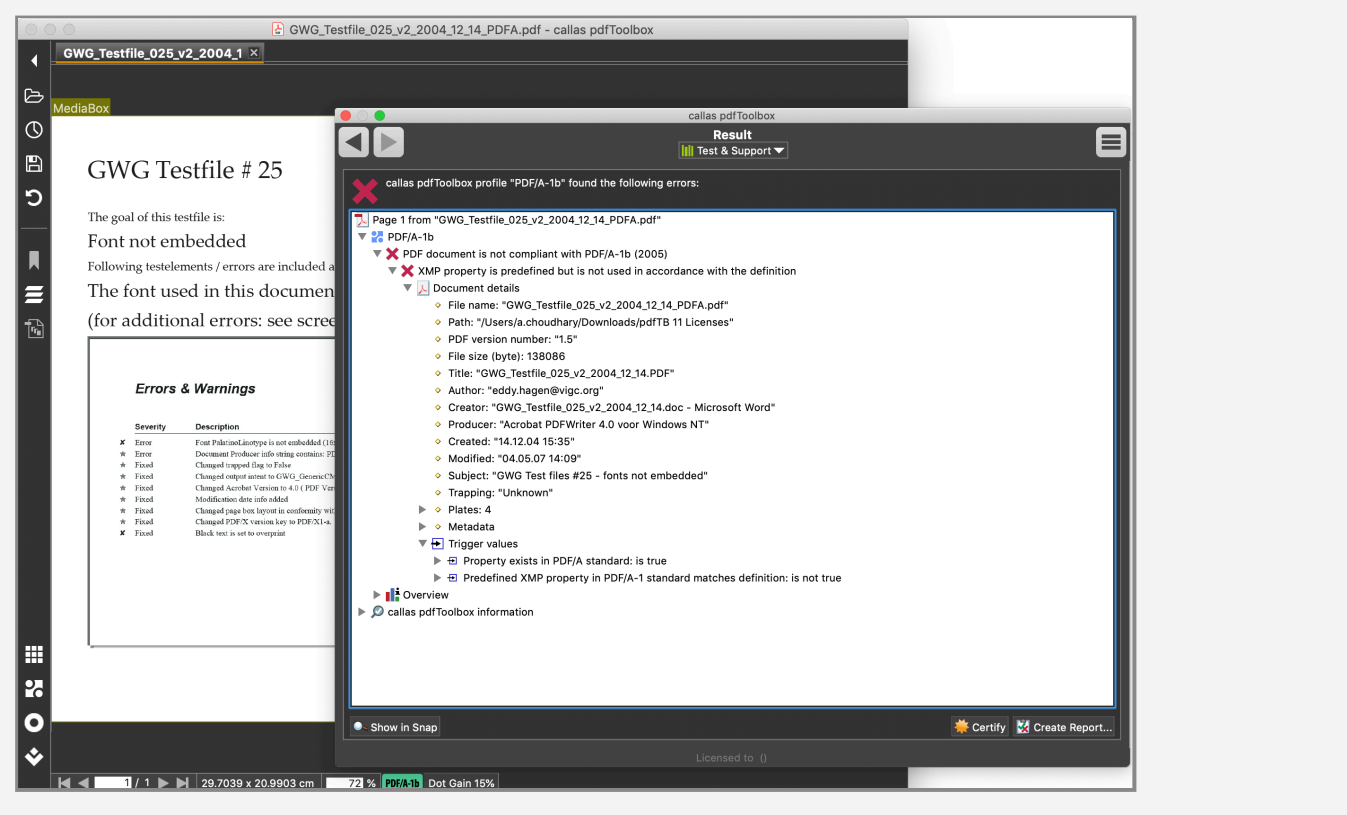
This article explains how you can check if a PDF file is ISO standard compliant or not.



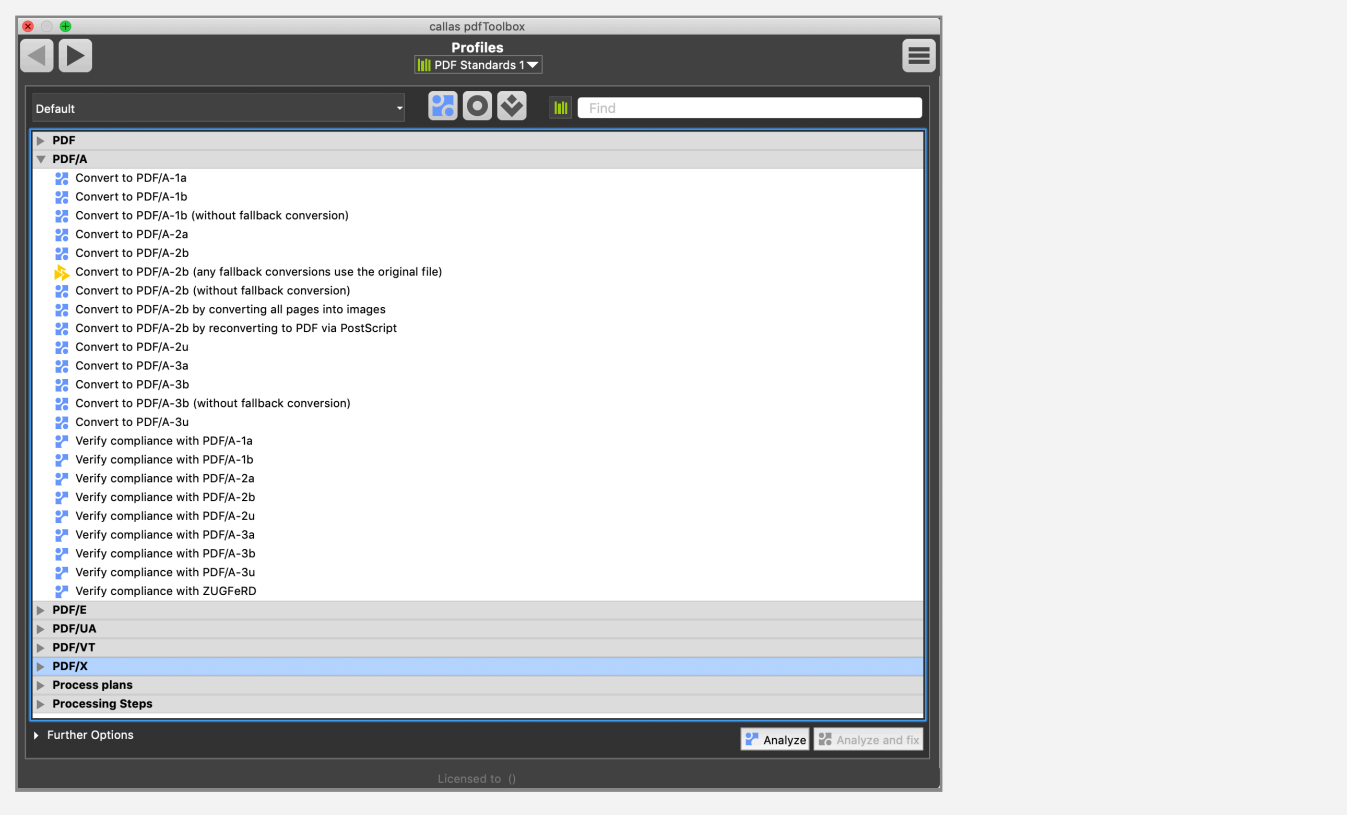
Upon opening a file in a callas Desktop product (pdfToolbox/pdfaPilot), the application will notify you at the bottom if the document is marked with a standard or not (marked as a rectangular selection in the screenshot above).

In the example above, the PDF document is marked as PDF/A1-b compliant. Upon clicking the coloured (green in this case but the colour depends on the type of standard compliance) button, a result window will pop up showing the compliance or non compliance result, like in the image below.

A PDF file with multiple standard compliance will be shown with multiple buttons, coloured individually based on the standard.



Another way to check the standards compliance is via the predefined Profiles. Under the 'PDF Standards' library, the desktop application comes with different Profiles for checking compliance with or even converting to a standard (PDF/A, PDF/X, PDF/UA etc).

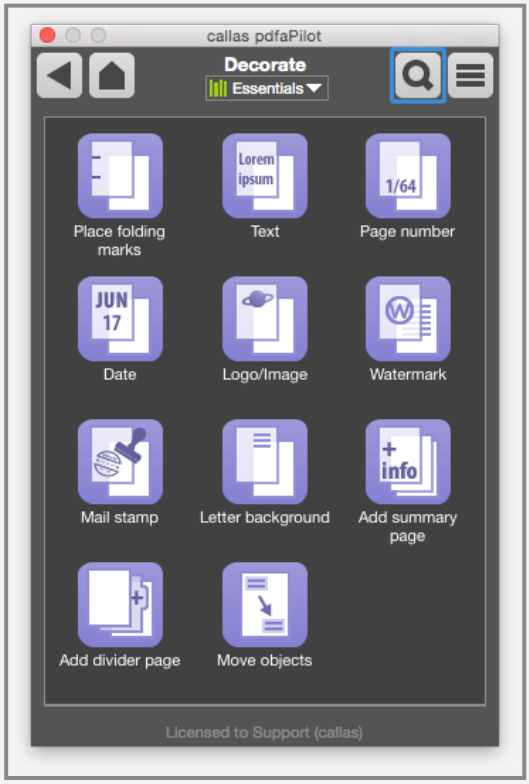


Please note that the screenshots shown in this article are from the sister product of pdfaPilot.

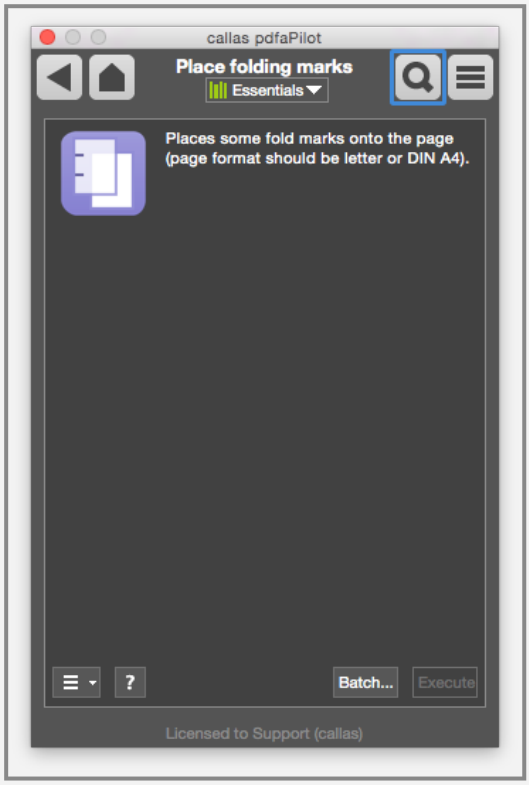
4. Decorate pages by adding content

4.1 “Decorate” Switchboard group

The Switchboard Actions under “Decorate” let you place a range of different object types within a PDF.

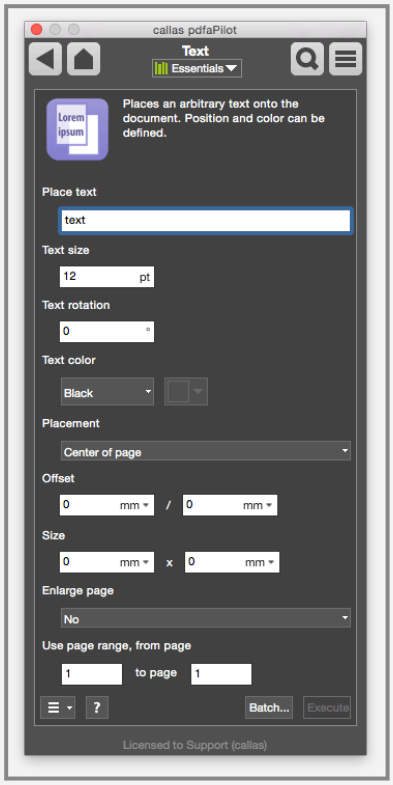


1. 1. Place folding marks



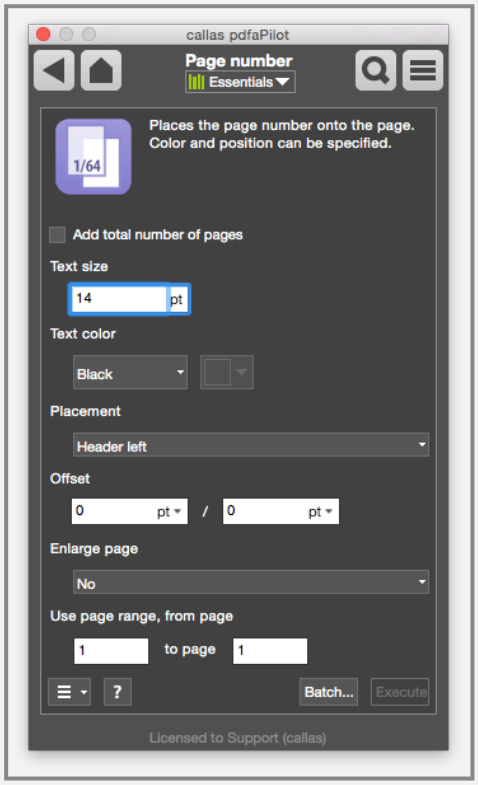
Adds two folding marks to pages.
These will be generated and positioned based on the page height.

2. 2. Text



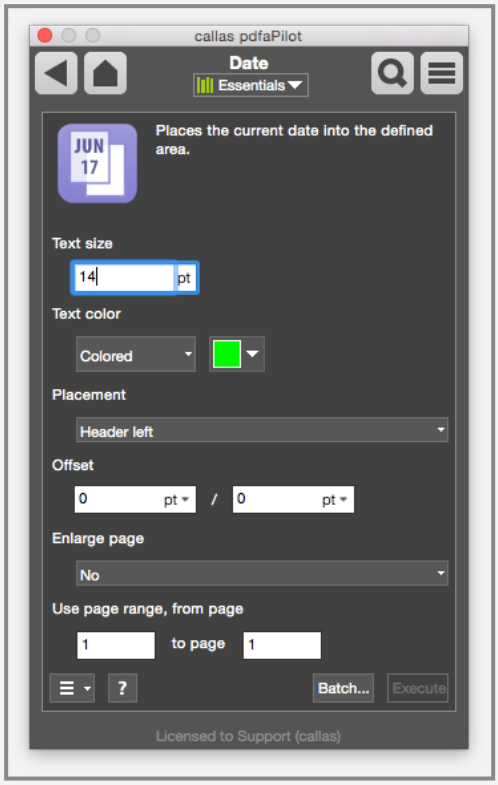
Places user-defined text on the page.
You can specify settings such as the text size and position.

3. 3. Page number



You can number pages.
The text color, position and other settings can be specified.

4. 4. Date

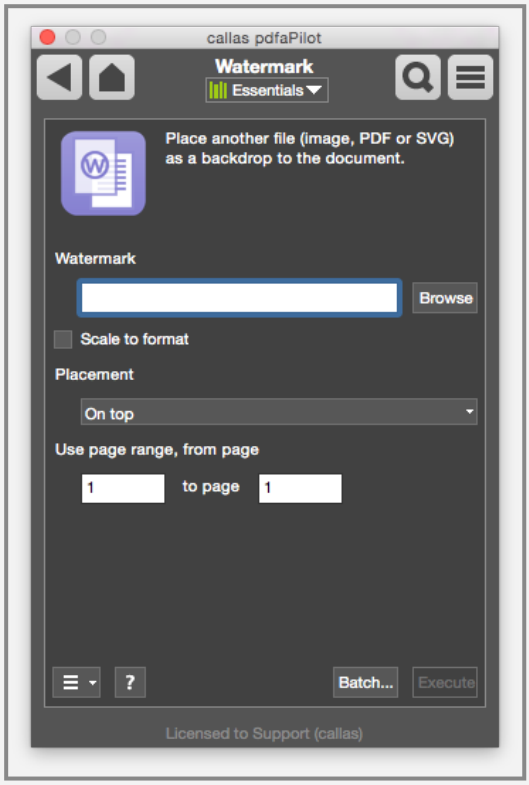


Places the current date on the page.
The text color, position and other settings can be specified.

5. 5. Logo/Image

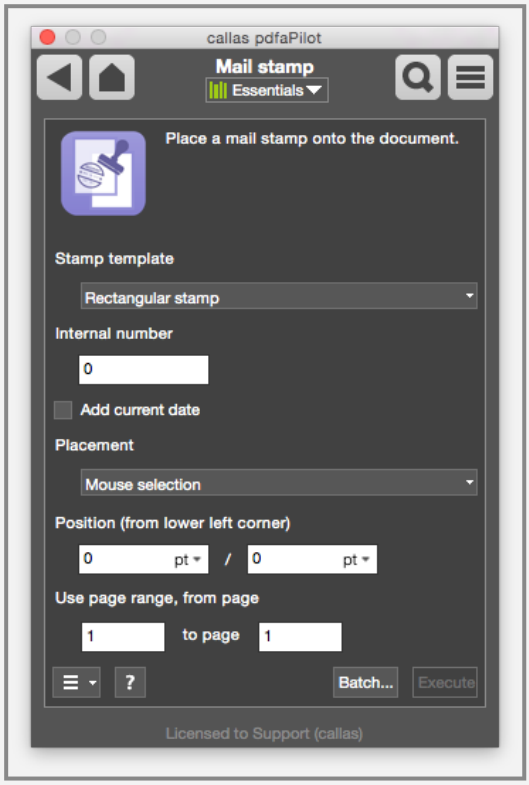
Places an image, PDF or SVG on pages.
You can specify the position as well as the page range.

6. 6. Watermark



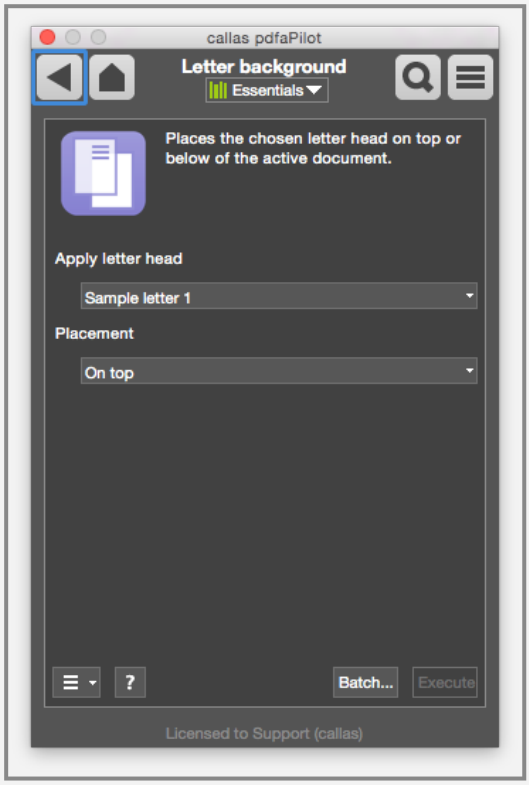
Places an image, PDF or SVG with transparency.
This produces a see-through effect similar to a watermark.

7. 7. Mail stamp



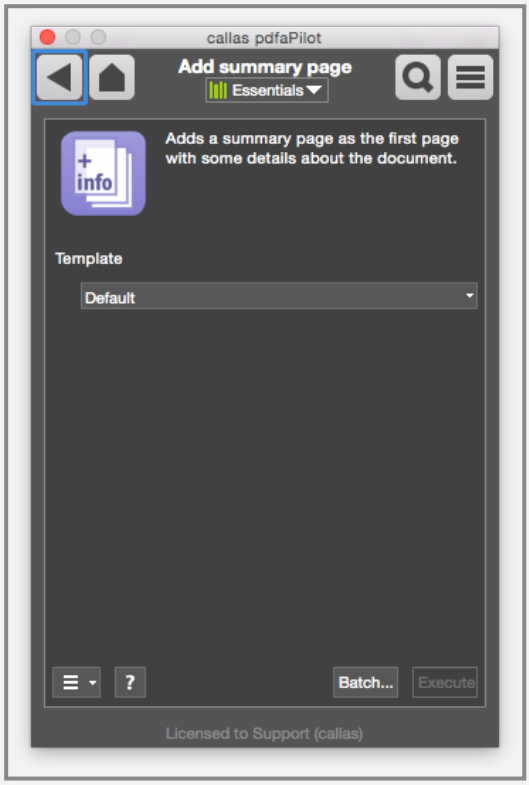
You can add a mail stamp to the document.
An HTML template can be used to customize the stamp’s format.

8. 8. Letter background



A letter background template can be placed on top of or below the content in the input file.

9. 9. Add summary page

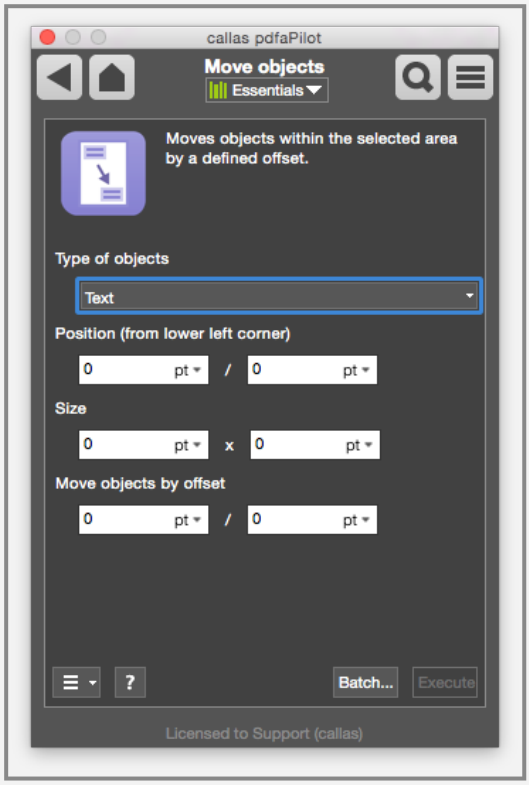


Adds a page to the document summarizing its contents.

10. 10. Add divider page

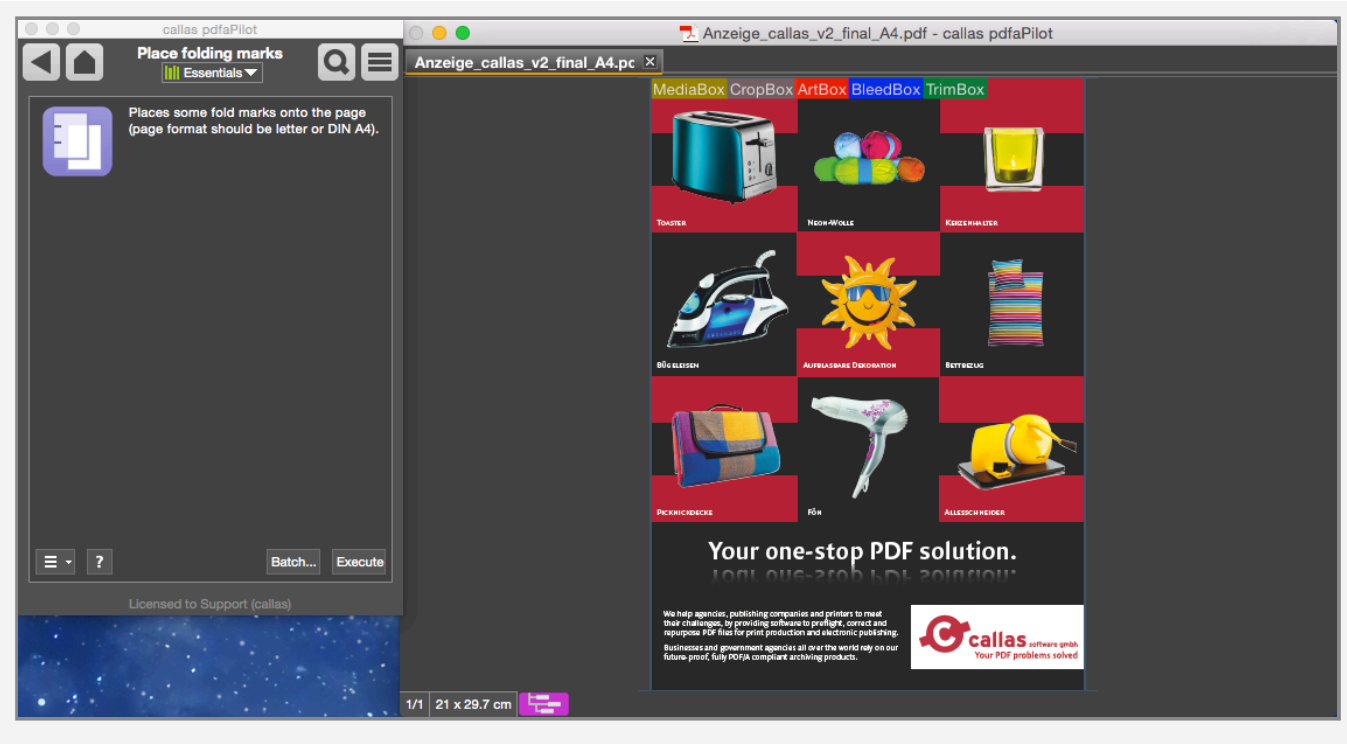
Divider pages can be added before or after a given page count.

11. 11. Move objects



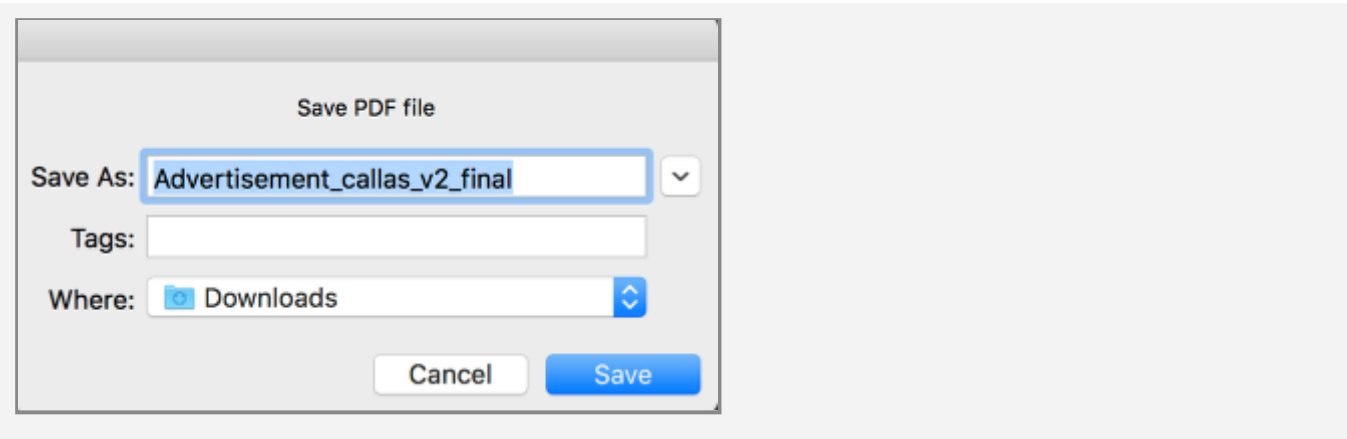
Objects of a given type can be moved to another position.

4.2 Place folding marks



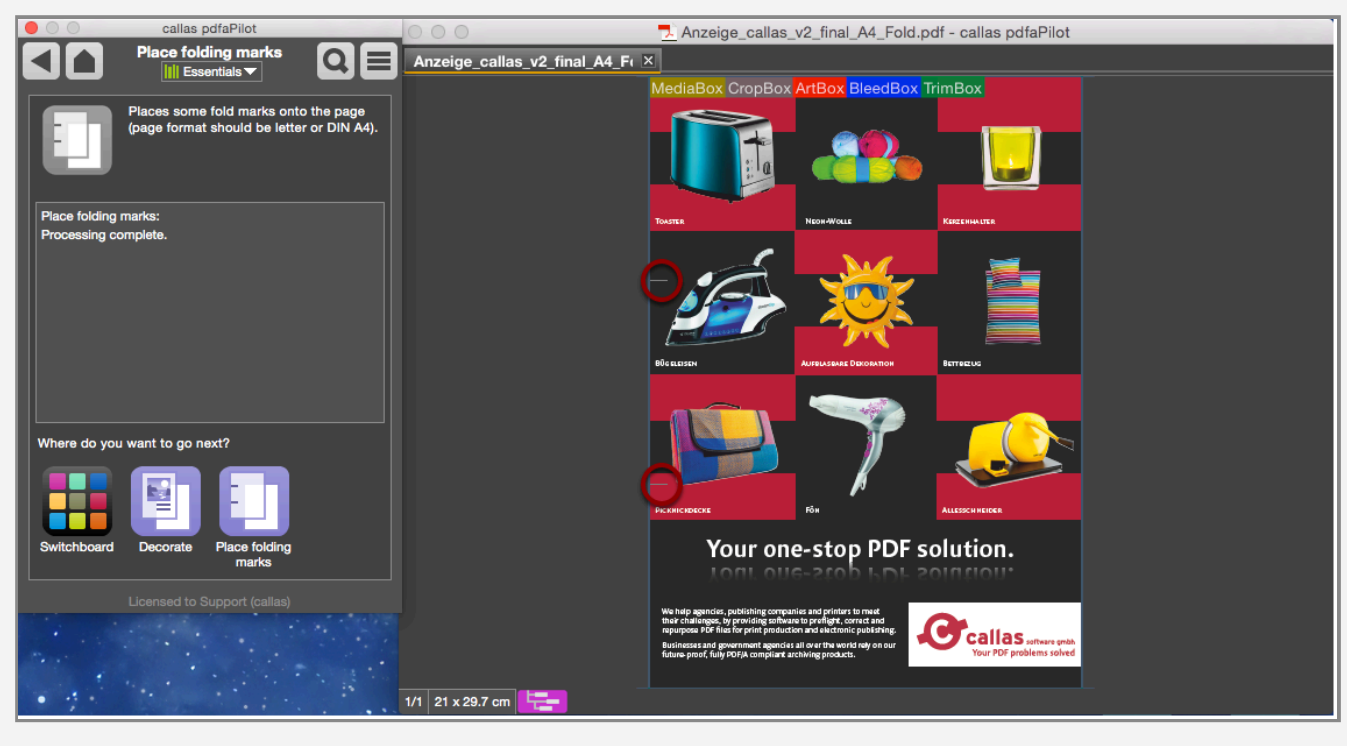
Call up the Switchboard Action and start the process by clicking “Execute”.

Specifying output destination



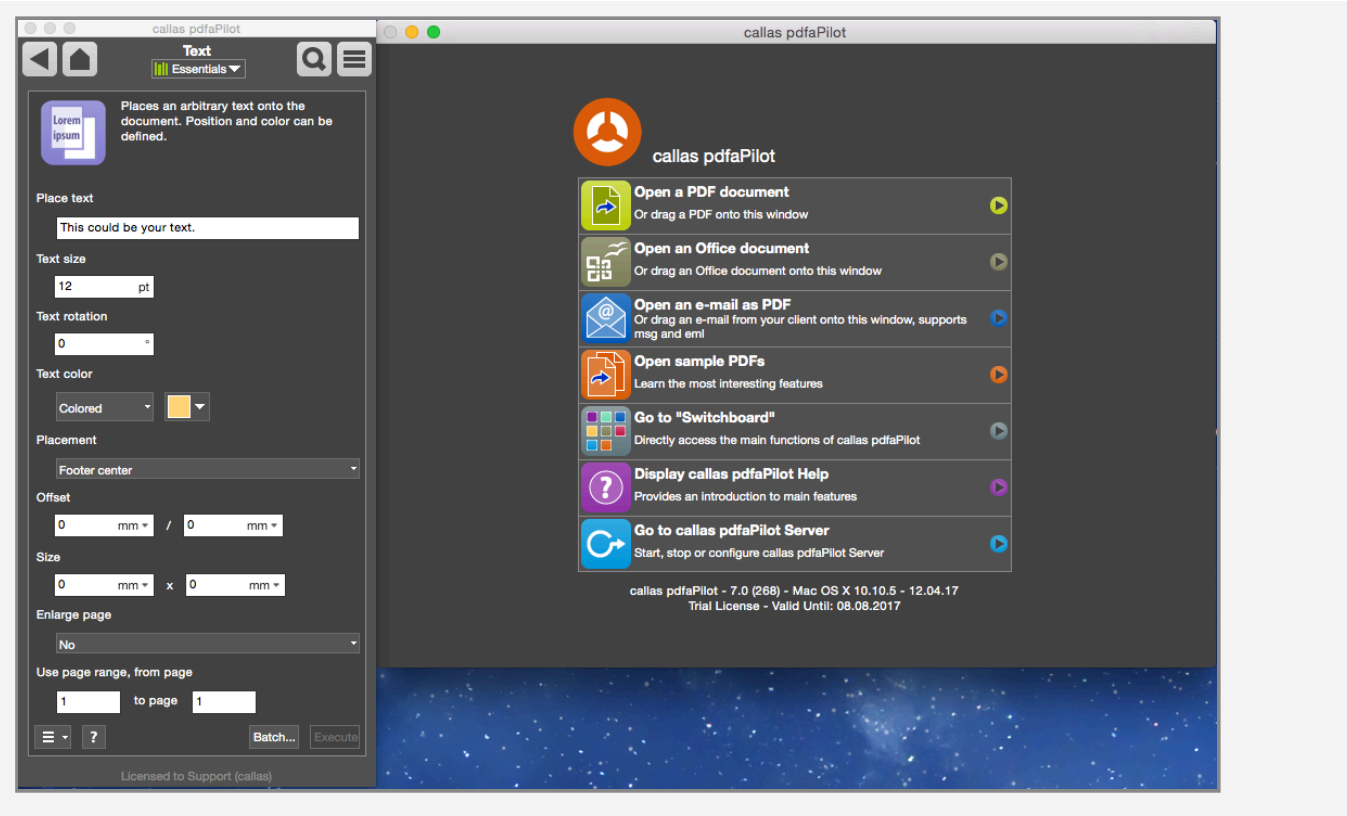
The “Save” dialog shown lets you specify where the results will be saved.

Results with folding marks placed

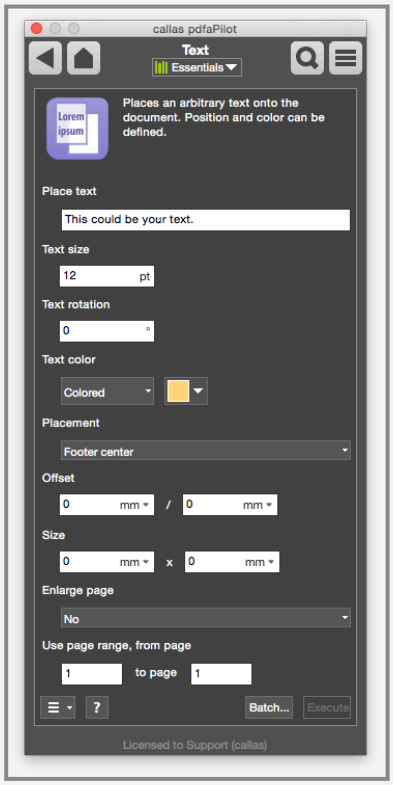


You will then see the folding marks overlaid on the document.
Here, two folding marks have been spaced out based on the height of the documents. This is ideal for DIN A4- and letter-format documents, among others.

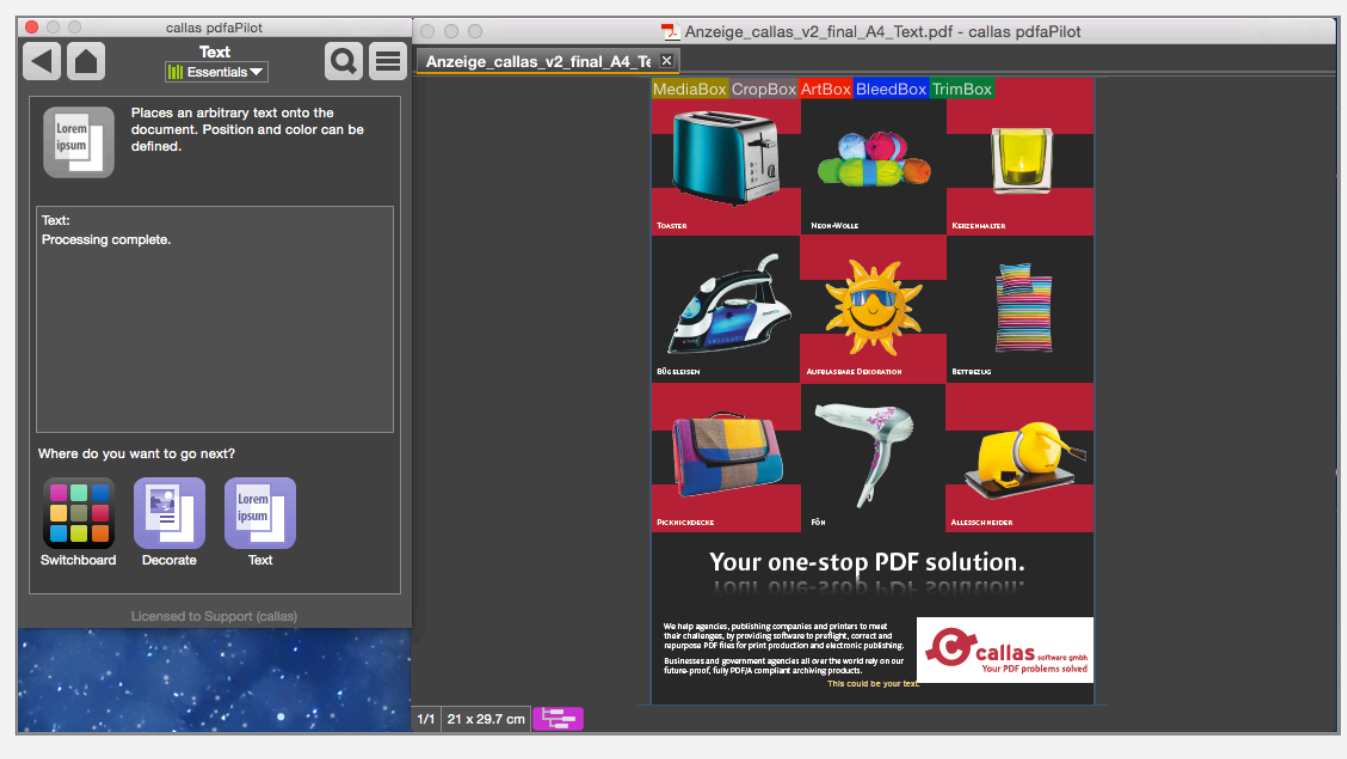
4.3 Add text



The “Text” Action lets you place text on a page.



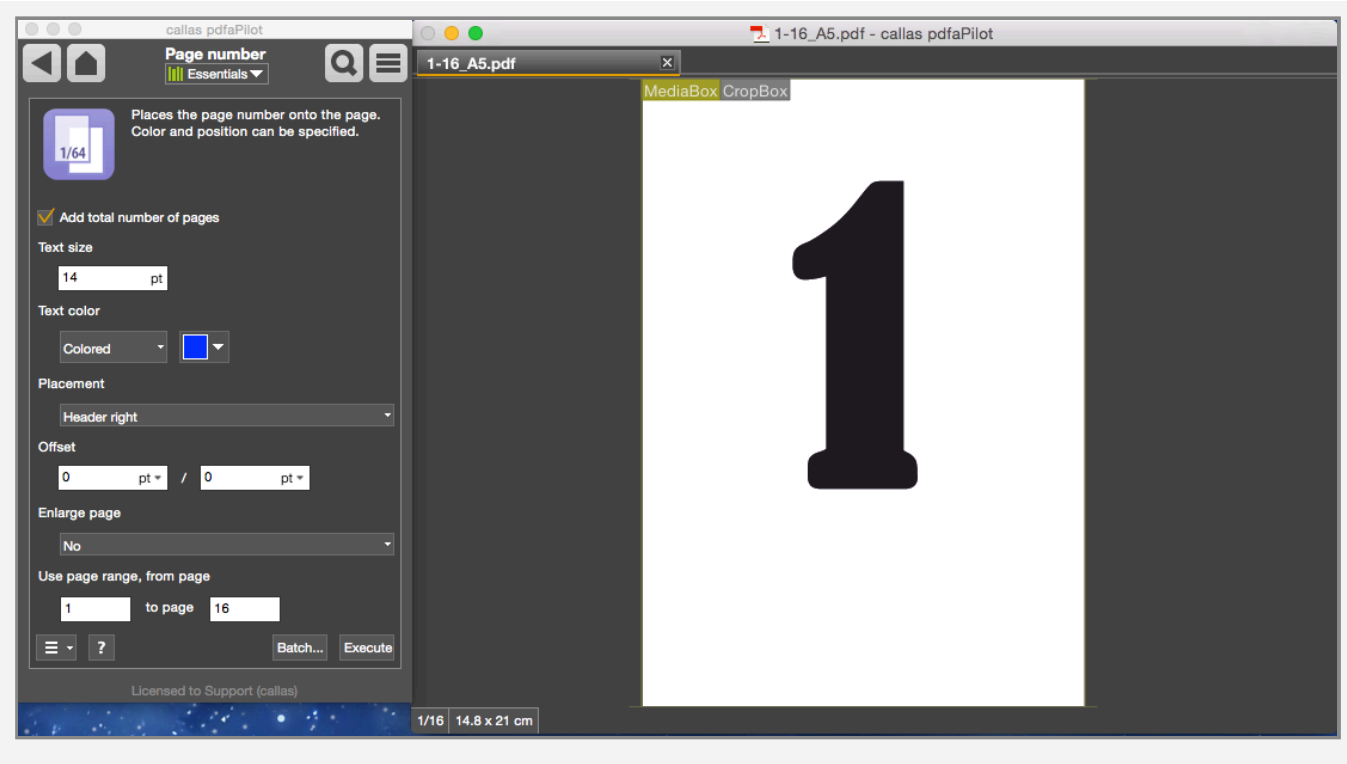
Place text	Enter the text to be placed.
Text size	Defines the size of the text.
Text rotation	Specifies the angle at which the text will be created
Text color	Use the color selector to specify the color of the text to be placed.
Placement	Position where the object is to be placed.
Offset	Offsets the object relative to the parameters given under “Placement”. Values should be entered in the form of coordinates, giving x and y values relative to the reference point given under “Placement”. This means that value such as “-5” is also valid.
Size	Specifies the size of the text field
Enlarge page	If the text does not appear on the page, the page region can be enlarged.
Page range	For multi-page documents, specifies the range of pages on which the text will be placed.



The result will then be shown in the visualizer. (Here it is the yellow text at the bottom of the page.)

This is the result with “Enlarge page” enabled, causing the page to become slightly larger.

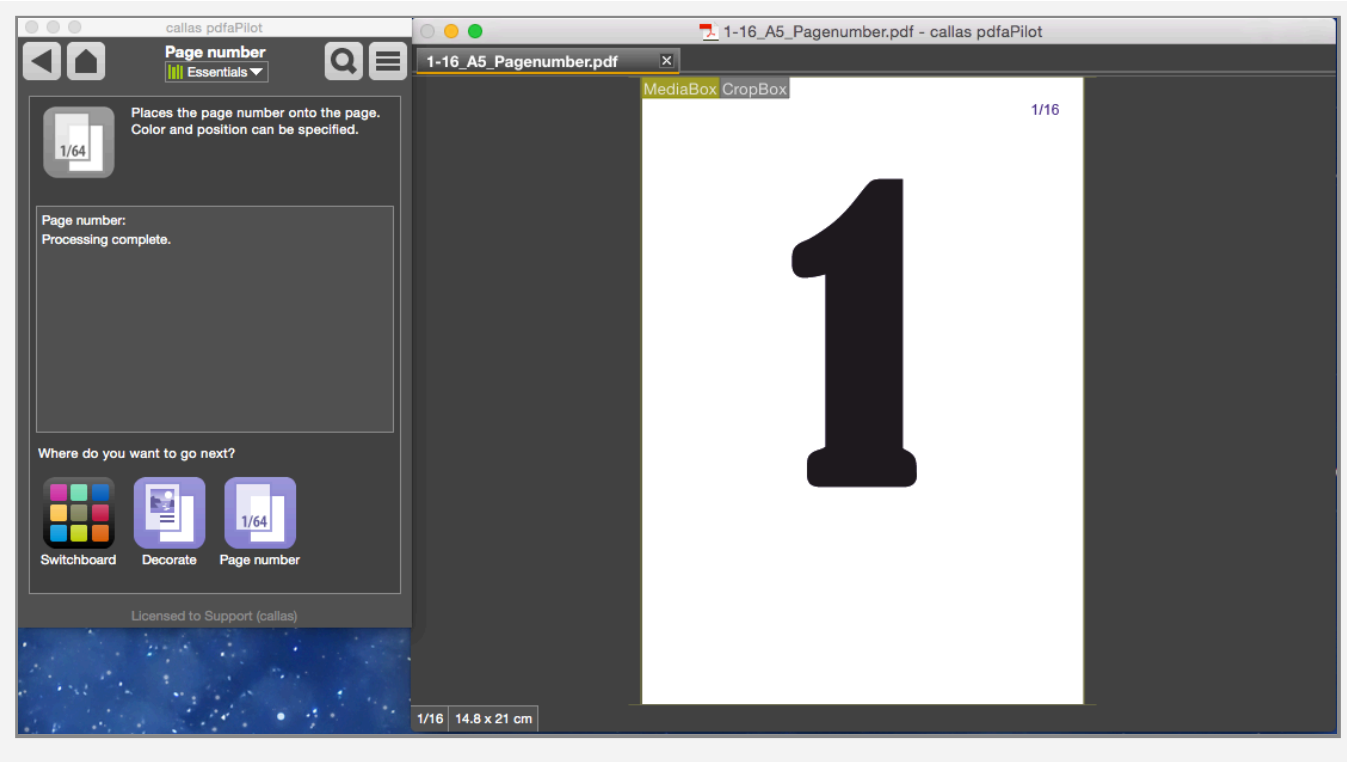
4.4 Place page number



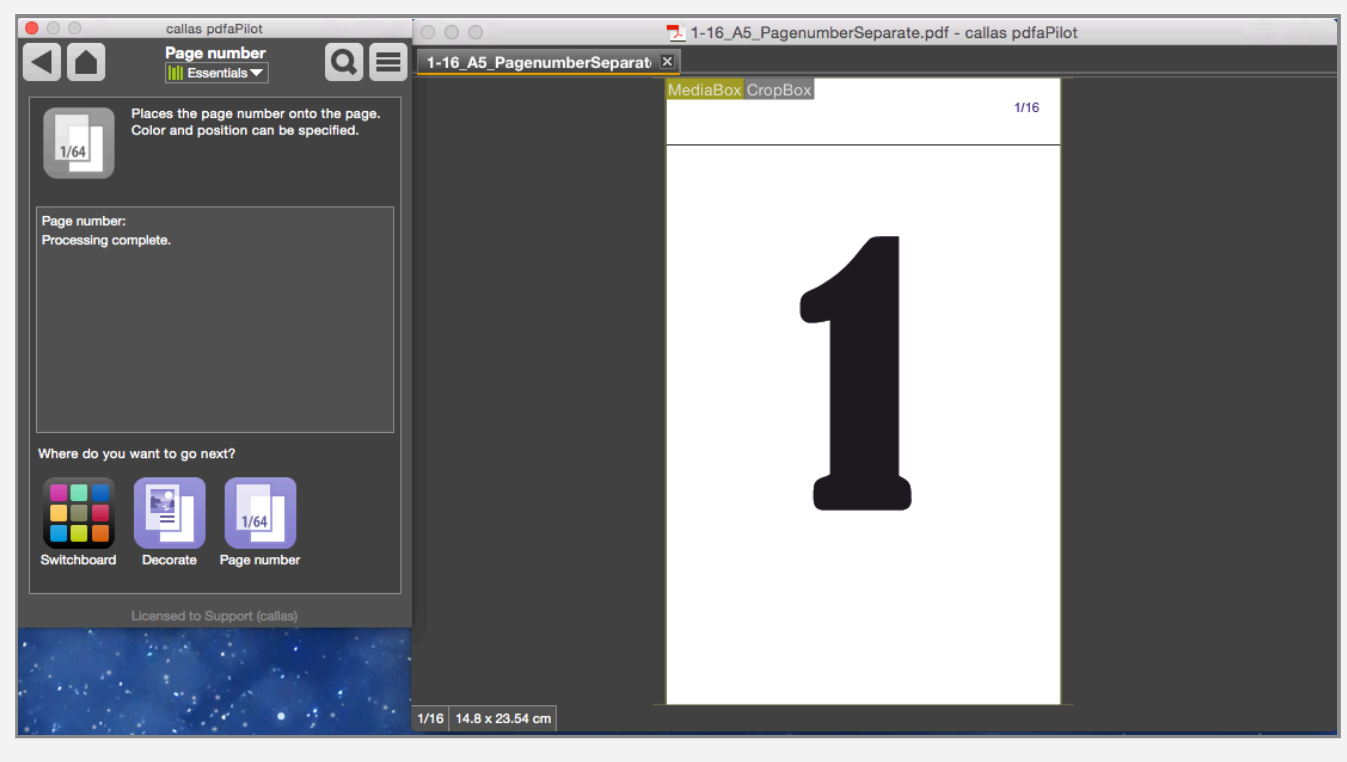
Add total number of pages	Uses the current page number as well as the total number of pages, using the format “<Page number>/<Total pages>”
Text size	Defines the size of the text.
Text color	Use the color selector to specify the color of the text to be placed.
Placement	Coordinates where the object is to be placed.
Offset	Offsets the object relative to the parameters given under “Placement”. Values should be entered in the form of coordinates, giving x and y values relative to the reference point given under “Placement”. This means that values such as “-5” are also valid.
Enlarge page	If the text does not appear within the page region, the page can be enlarged.
Page range	For multi-page documents, specifies the range of pages on which the text will be placed.

For usability reasons, the Switchboard Action has a limited range of functionality.
If you wish to customize additional page numbering parame-

ters, you can also use the “Place page number” fixup (see below for further details).

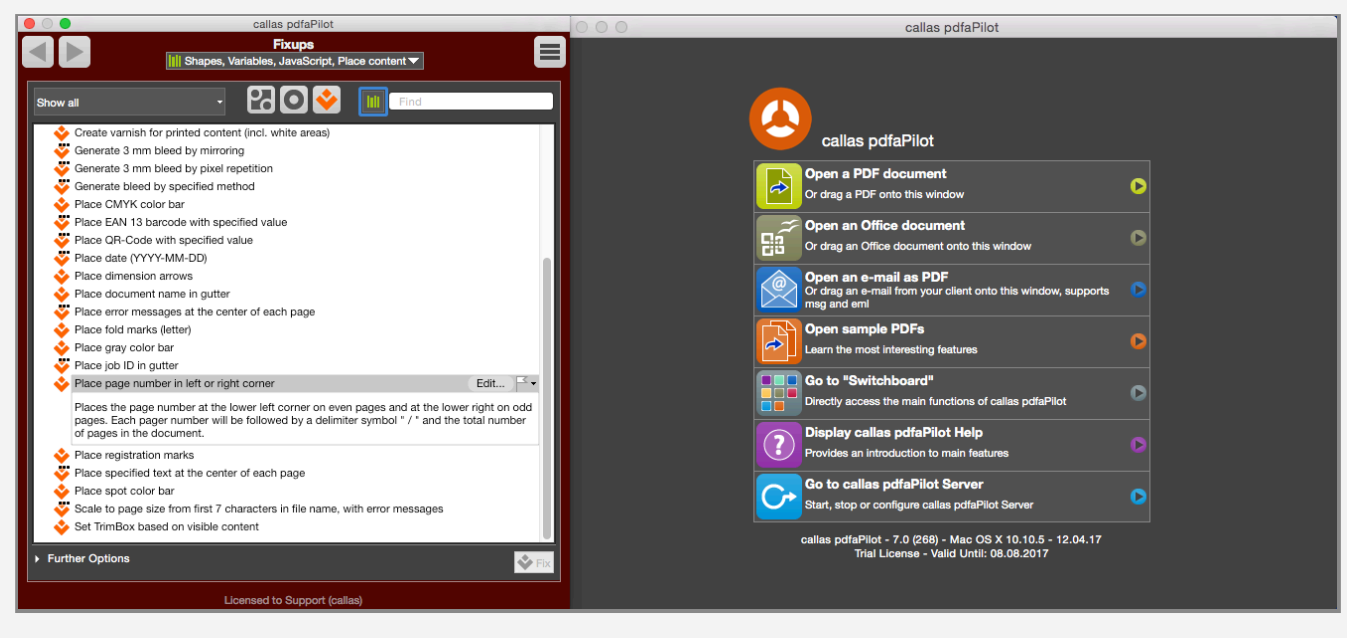


Result without using “Enlarge page” option: The page number is placed at the top right.

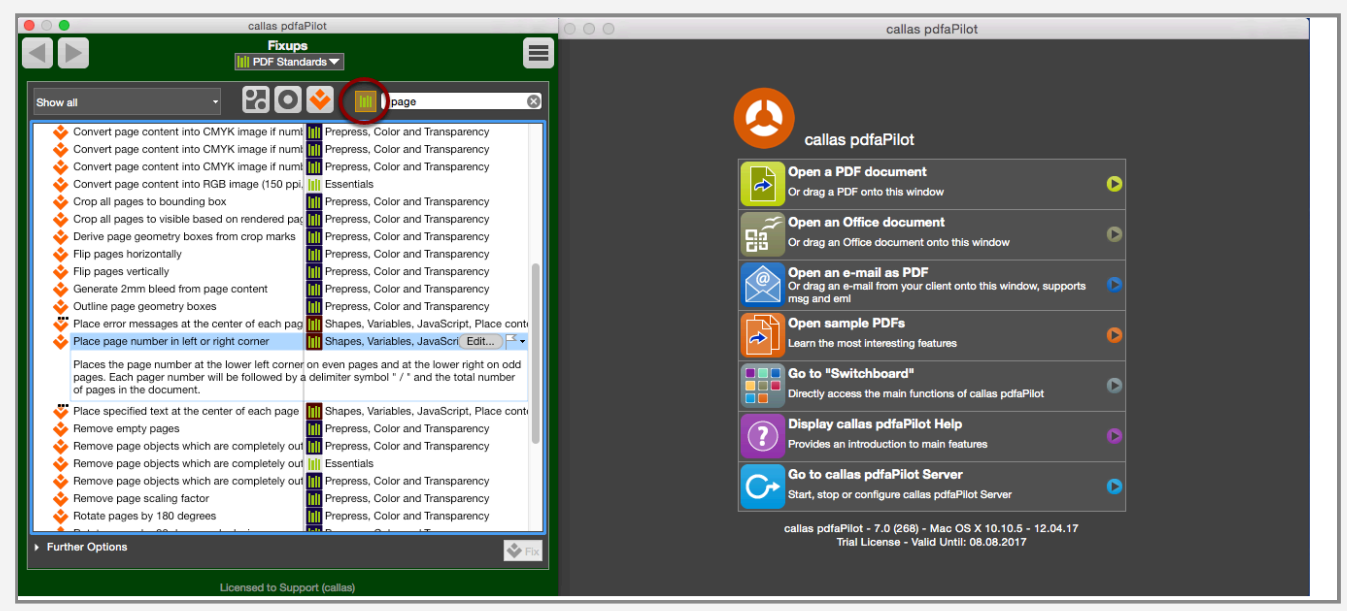


Result of “Enlarge page and indicate original size” This will draw an additional line allowing you to identify the original page size.

Using the “Place page number” Fixup

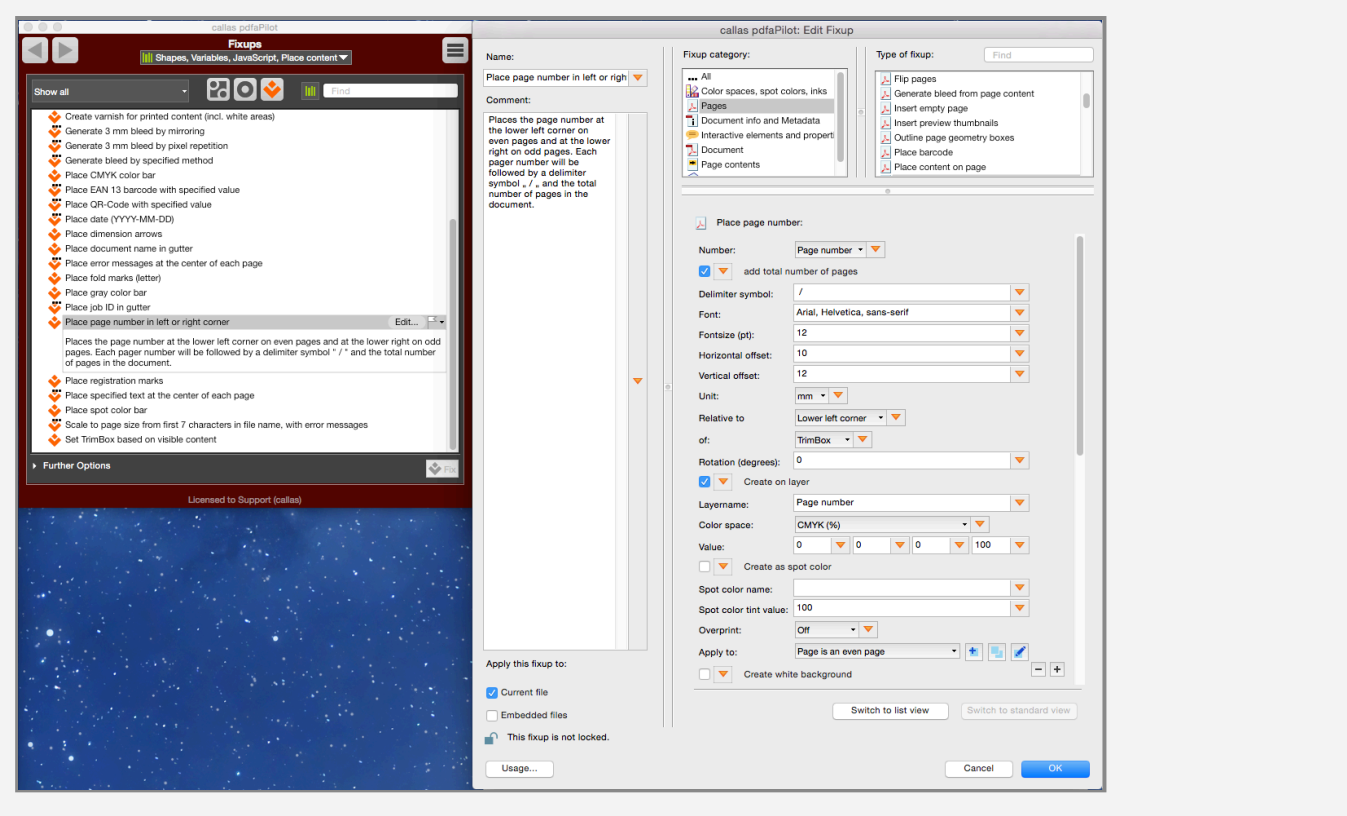


First, call up the Fixup window under Tools - Fixups.

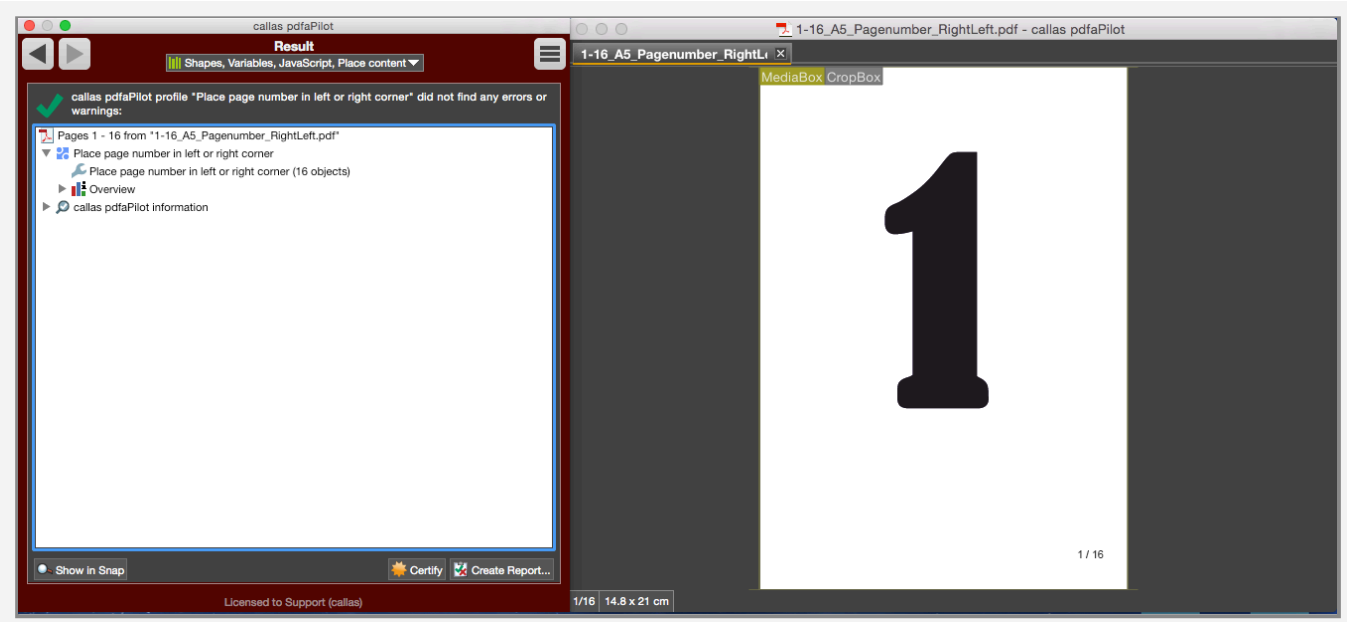


A predefined Fixup using “Place page number” can be found under the “Shapes, Variables, JavaScript, Place content” library.

If another library is currently selected, you can also search all available libraries using the green icon.
The predefined Fixup is named “Place page number in left or right corner”.

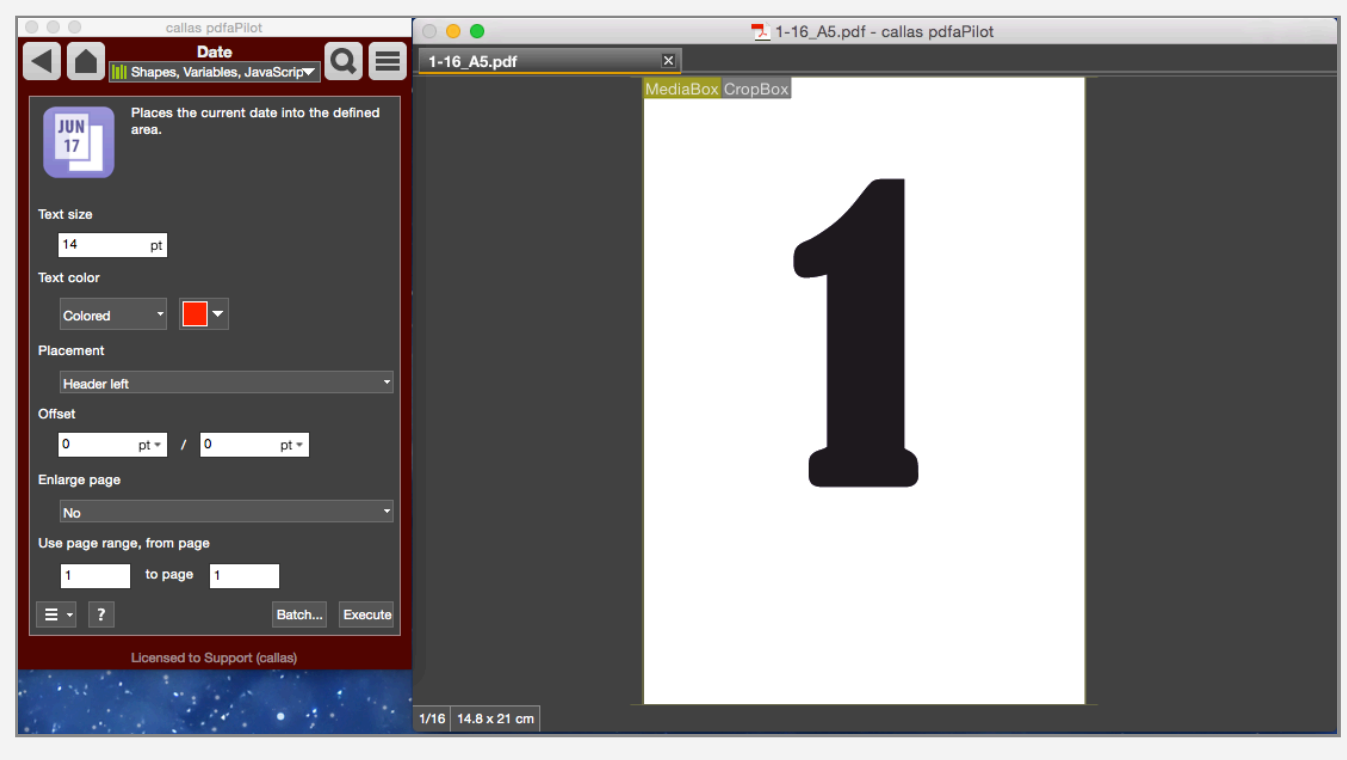


The Fixup lets you create the object on a layer or as a spot color. It also lets you create a white background.

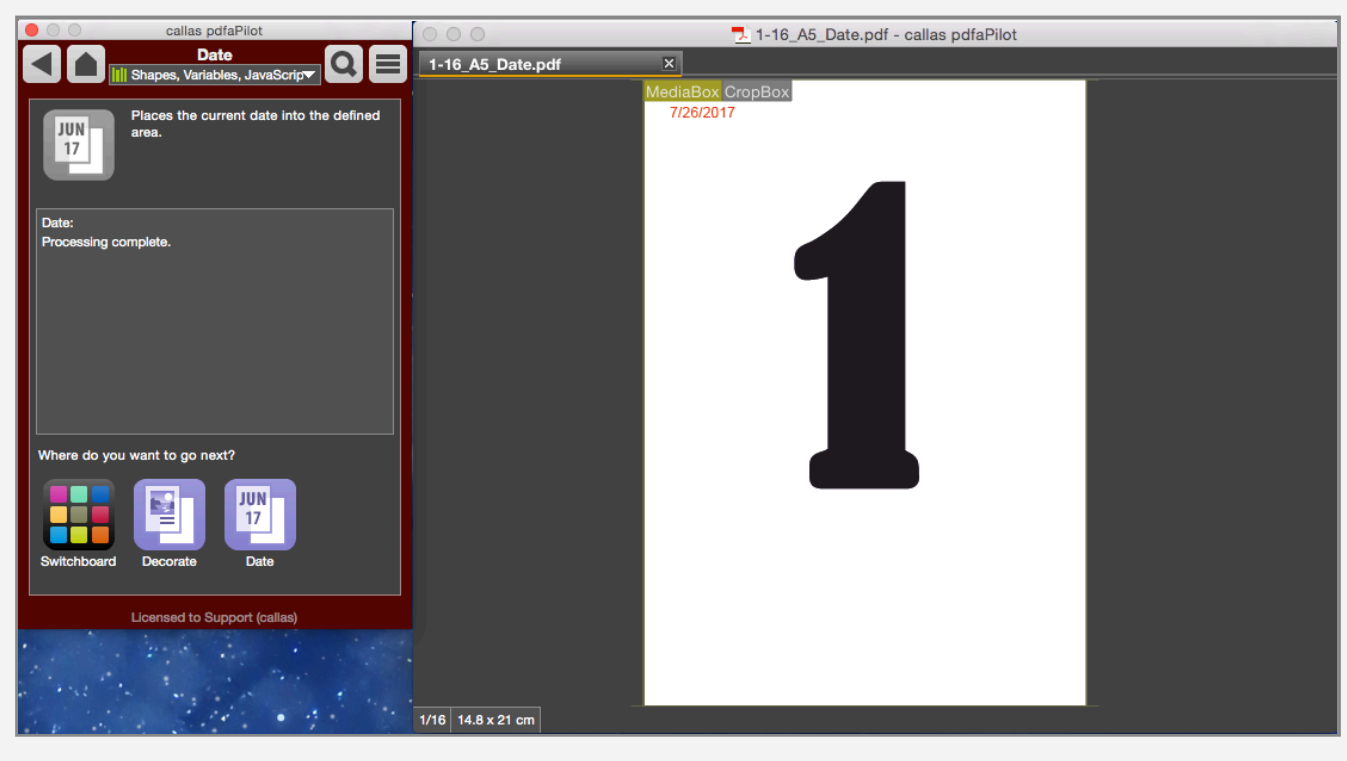


4.5 Place date

This Action allows you to place the current date in a position of your choice.

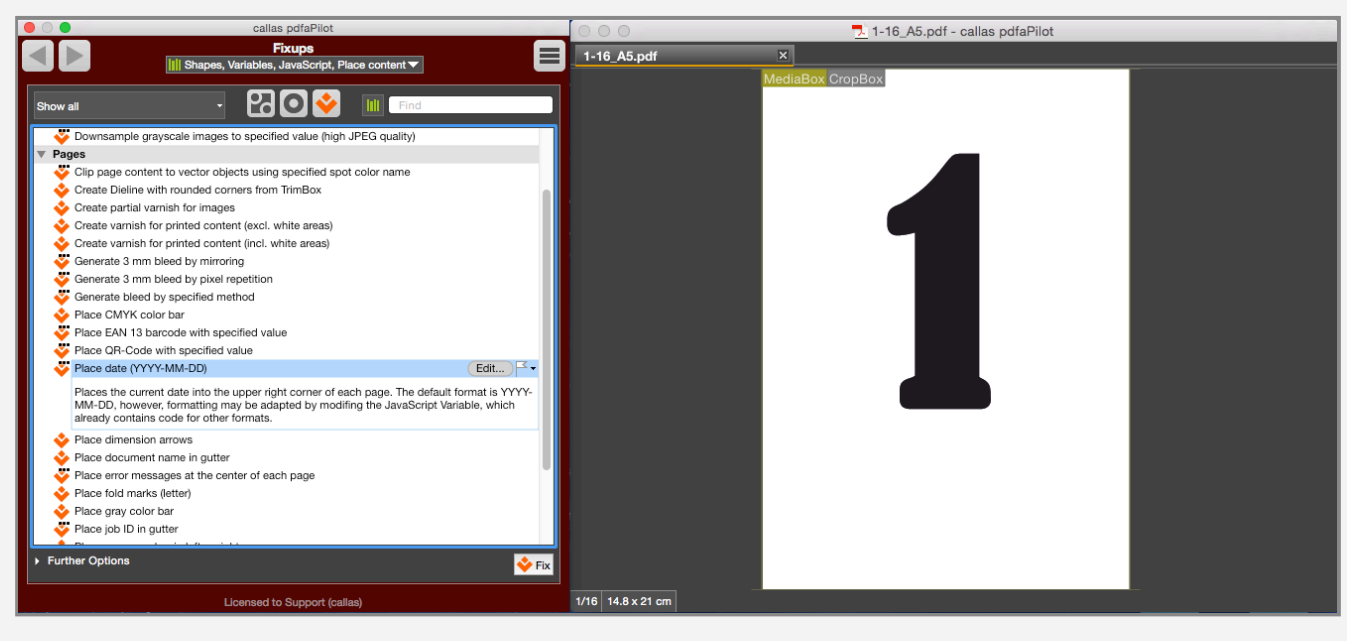


Text size	Defines the size of the text.
Text color	Use the color selector to specify the color of the text to be placed.
Placement	Coordinates where the object is to be placed.
Offset	Offsets the object relative to the parameters given under “Placement”. Values should be entered in the form of coordinates, giving x and y values relative to the reference point given under “Placement”. This means that values such as “-5” are also valid.
Enlarge page	If the date does not appear within the page region, the page can be enlarged.
Page range	Specifies the range of pages on which the date will be placed.

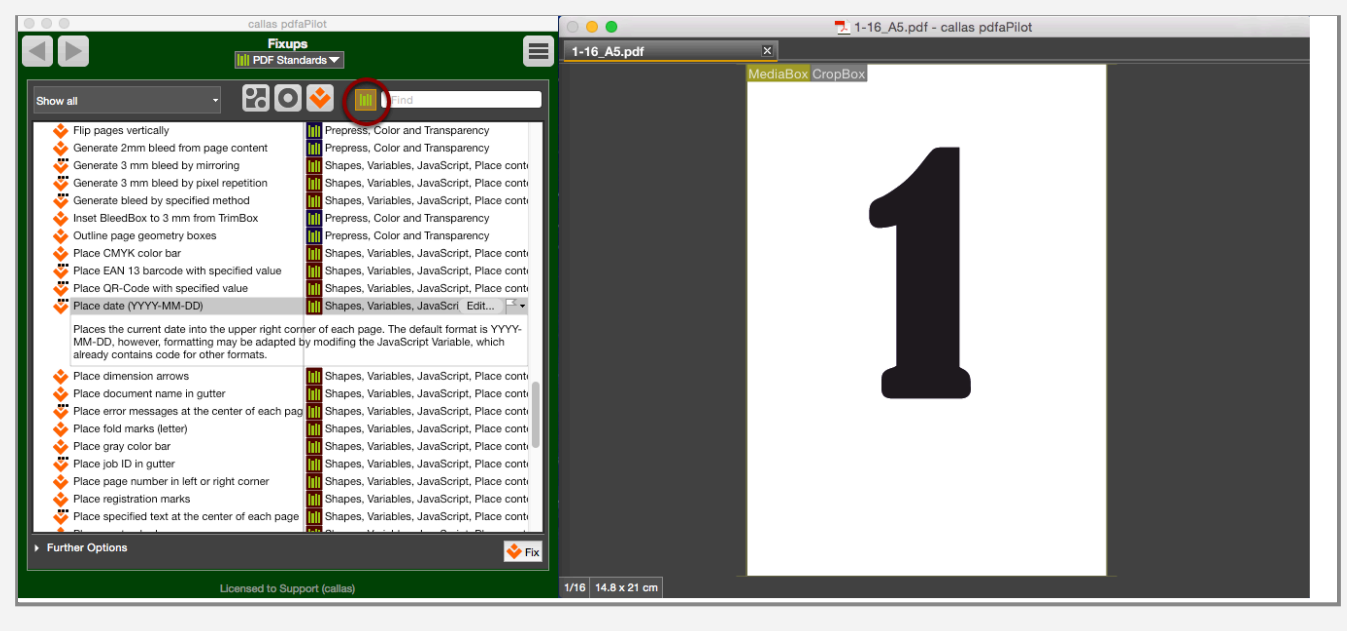


For usability reasons, the Switchboard Action has a strictly limited range of functionality. If you wish to fine-tune the date format, you can also use the applicable Fixup.

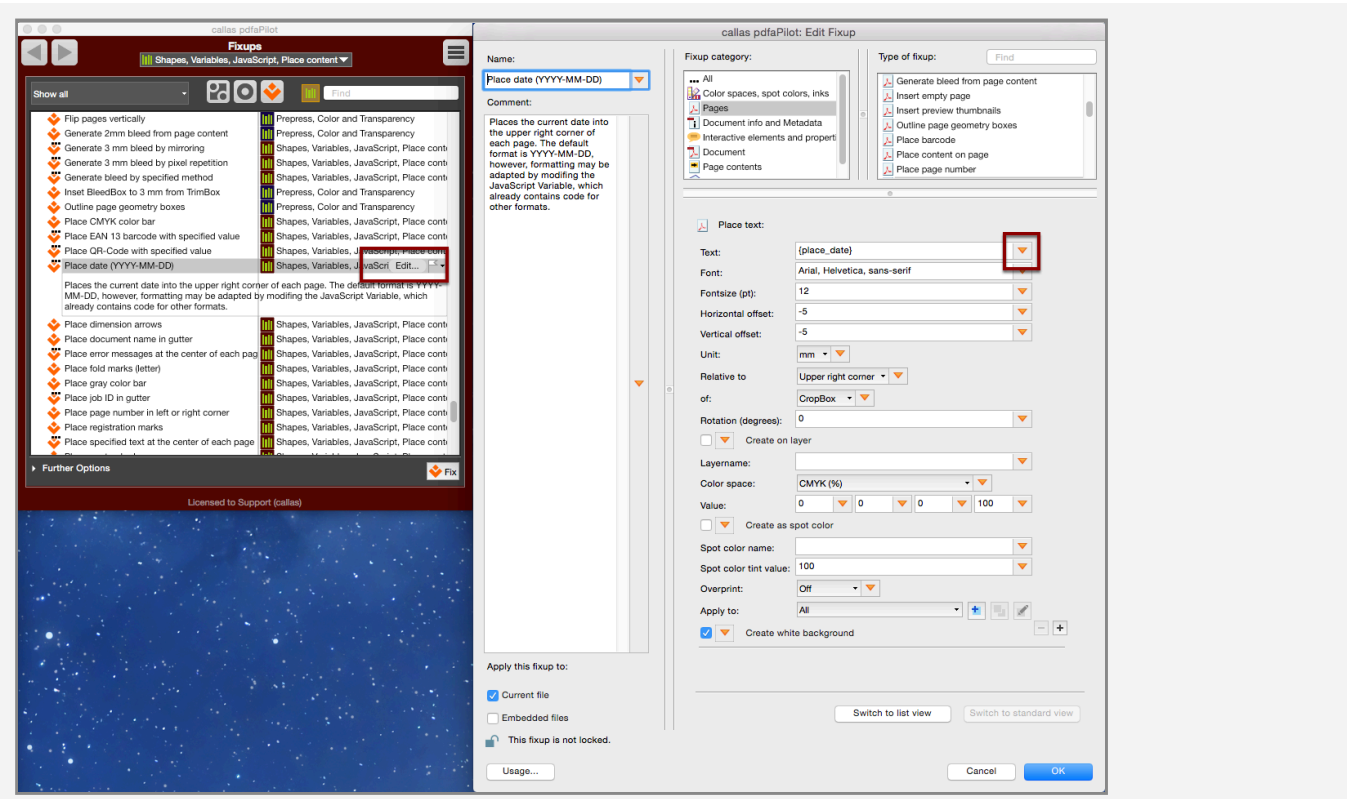
Using the “Place date” Fixup



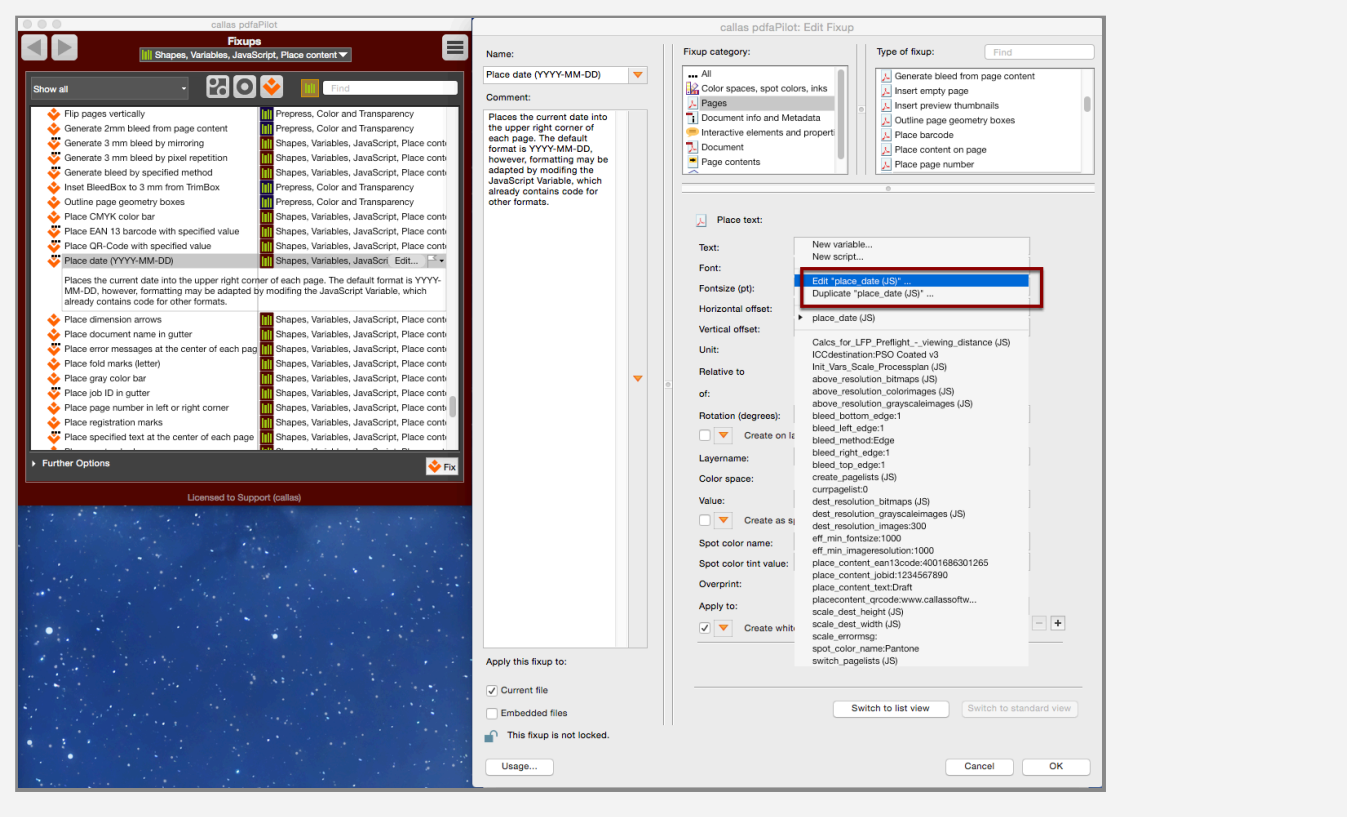
First, call up the Fixup window under Tools - Fixups.



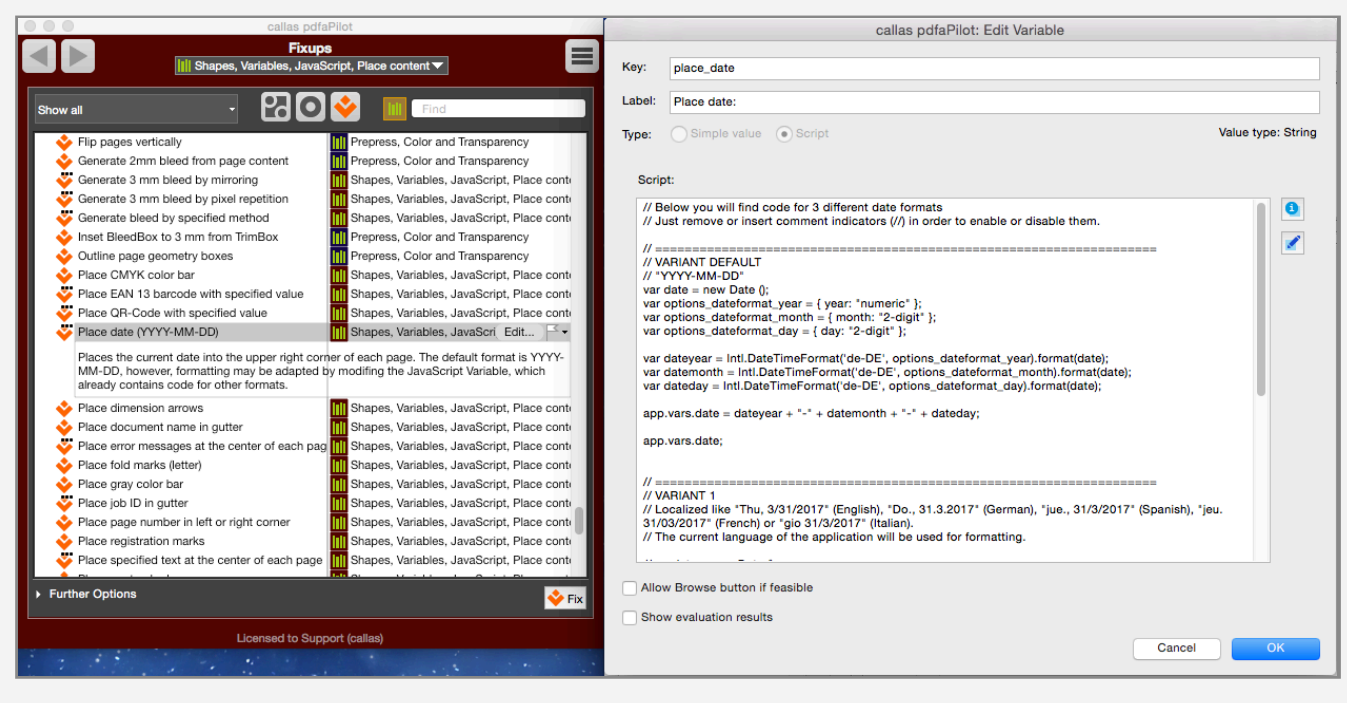
The “Place date” Fixup can be found under the “Shapes, Variables, JavaScript, Place content” library. If another library is currently selected, you can also search all available libraries using the green icon.



Click “Edit” to view and alter the parameters used for the Fix-up.
It is advisable to create a copy of this Fixup to make changes of your own. You can do this easily by selecting “Duplicate Fixup” from the menu button in the top right.

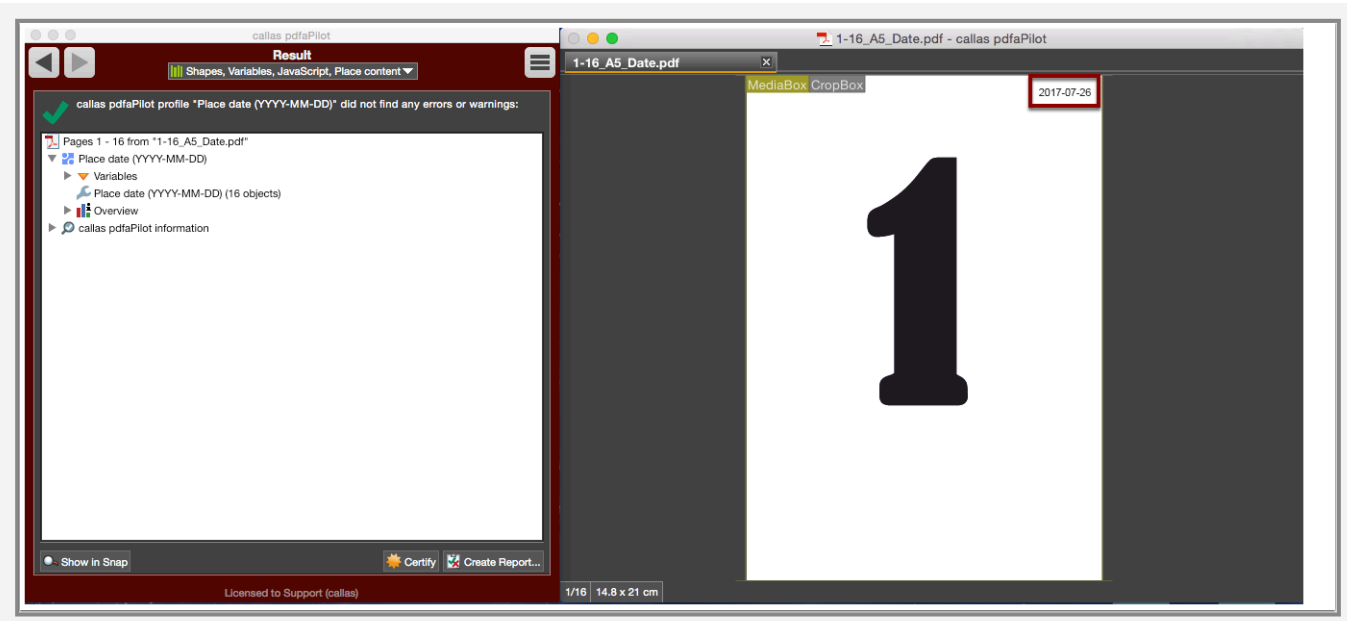


JavaScript is used to provide the date text. You can edit the version given under “place_date (JS)”.
Alternatively, you can simply duplicate this variable and work with a copy of it.



The JavaScript can be edited as required within the text box.

Some options for different date formats are already included as examples. These are commented out by default and can be reactivated by deleting the "//" characters at the start of the line.
Unused JavaScript sections should then be disabled or deleted.

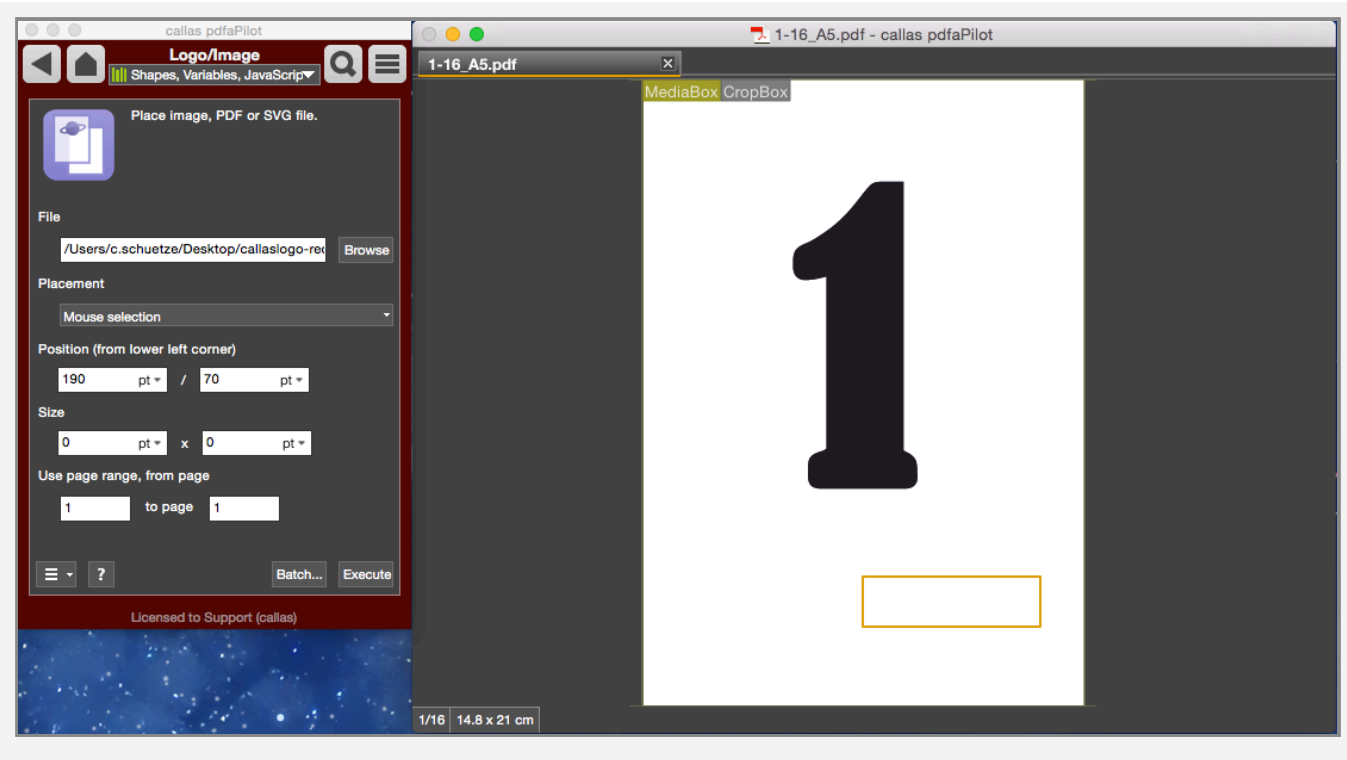


The Fixup has been successfully applied.

4.6 Add logo/image

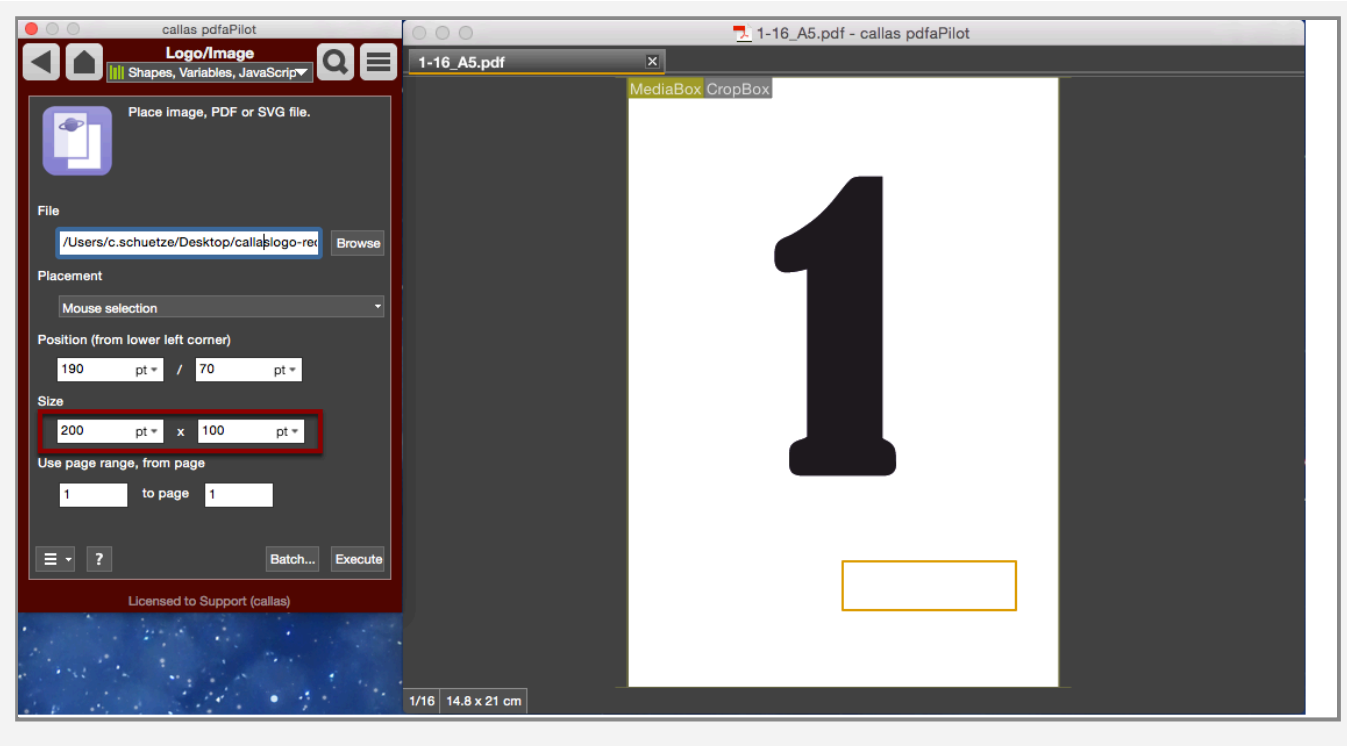
This Action lets you add any logo or image to individual pages or all pages within a PDF.
You can specify both the position and desired size of the image.

File	The file to be placed (image, PDF or SVG)
Placement	Coordinates where the object is to be placed.
Position (from lower left corner)	Offsets the object relative to the parameters given under “Placement”. Values should be entered in the form of coordinates, giving x and y values relative to the reference point given under “Placement”. This means that values such as “-5” are also valid.
Size	Specifies the size of the region. If “Placement” is set to “Mouse selection”, the dimensions of the region can be specified.
Page range	Specifies the range of pages on which the object will be placed.

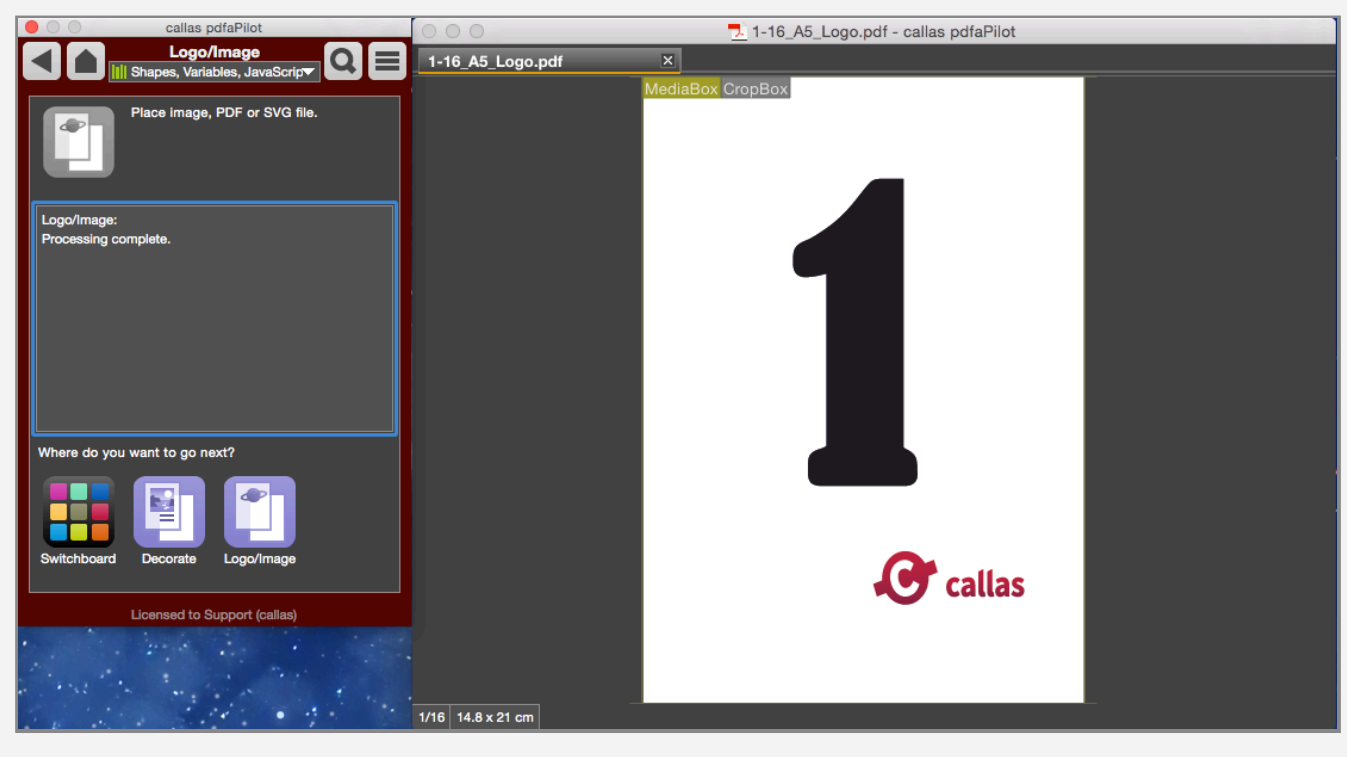


If “Placement” is set to “Mouse selection”, you can click and drag to select a region with the mouse to define the placement.
The value for the size of the region can also be altered at any

time.
However, the highlighted region will only be drawn once when you click and drag. It will not be changed if you edit the details. (If you want to adjust the way the region is drawn, you can select a new Placement type and then re-select “Mouse selection”.)



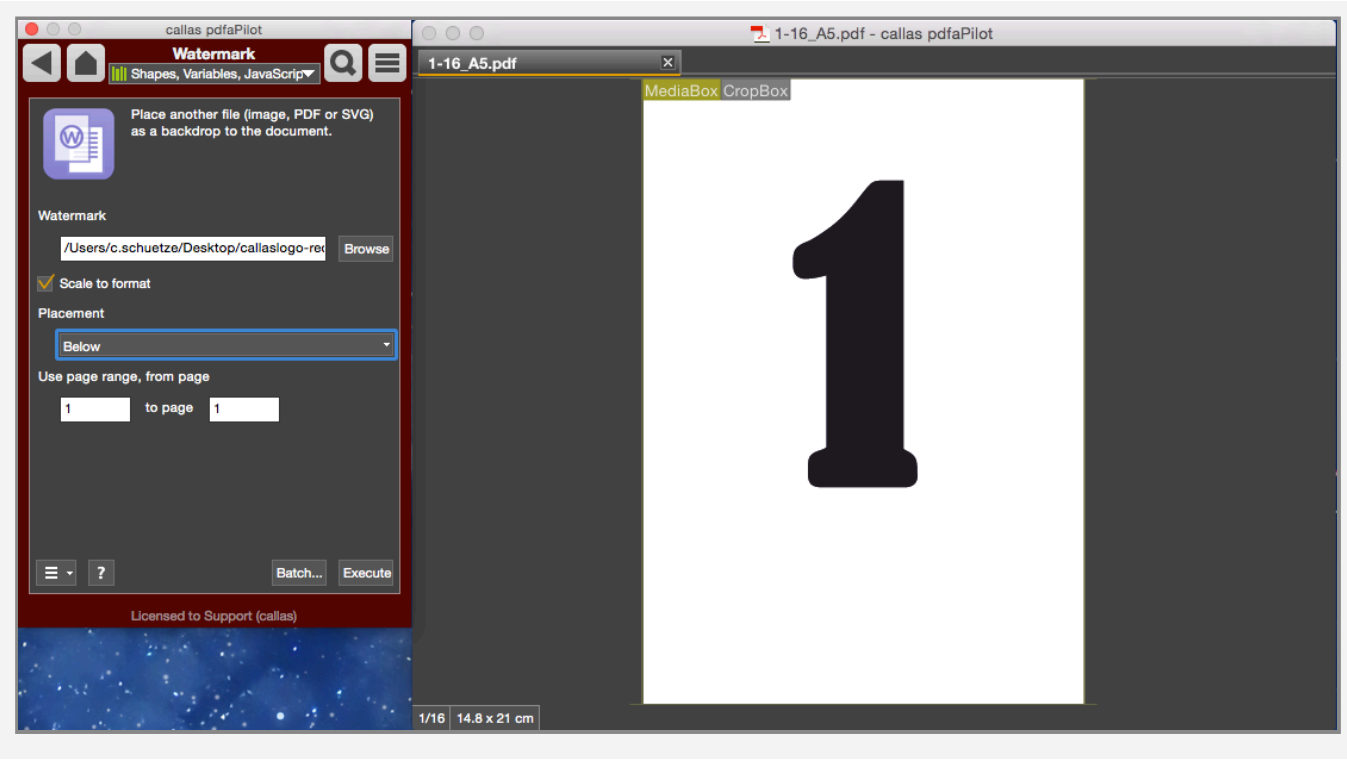
Region with values altered.



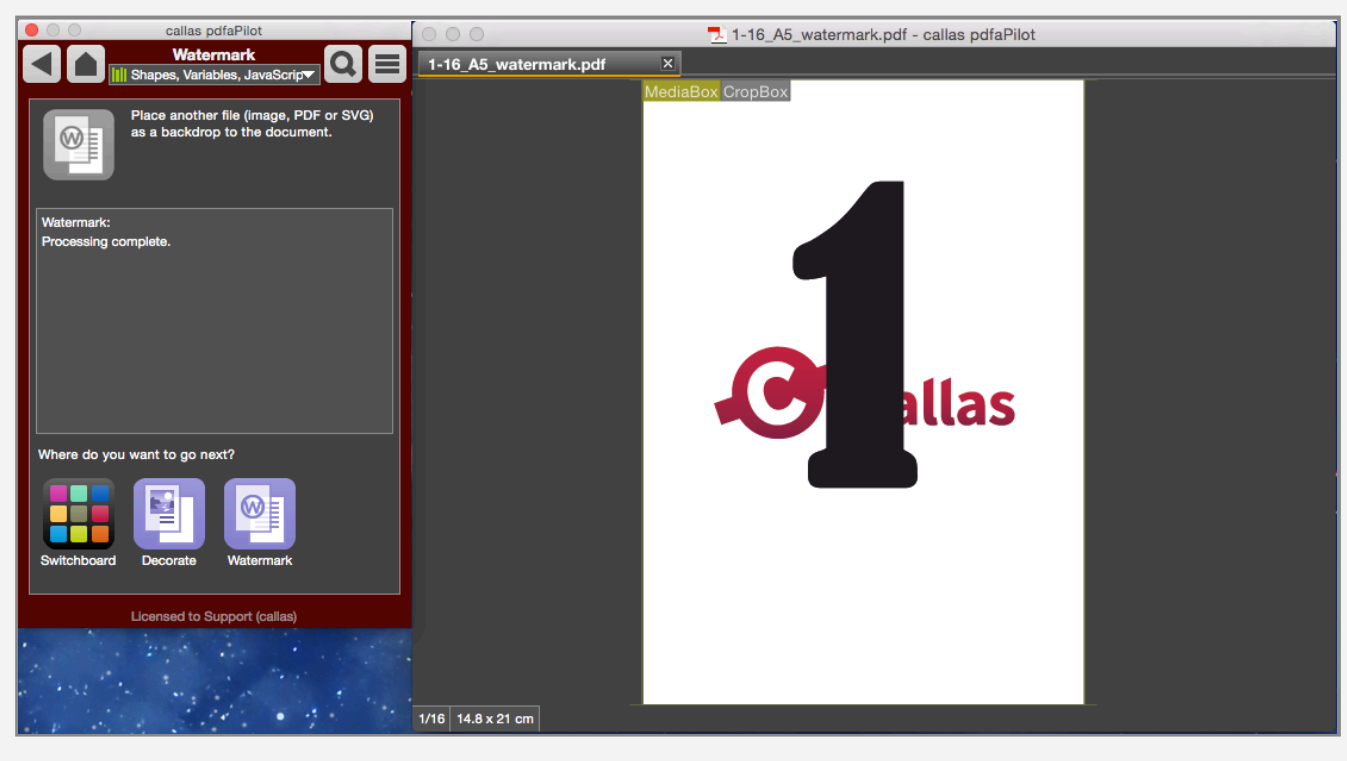
Logo placed after execution.

4.7 Add watermark

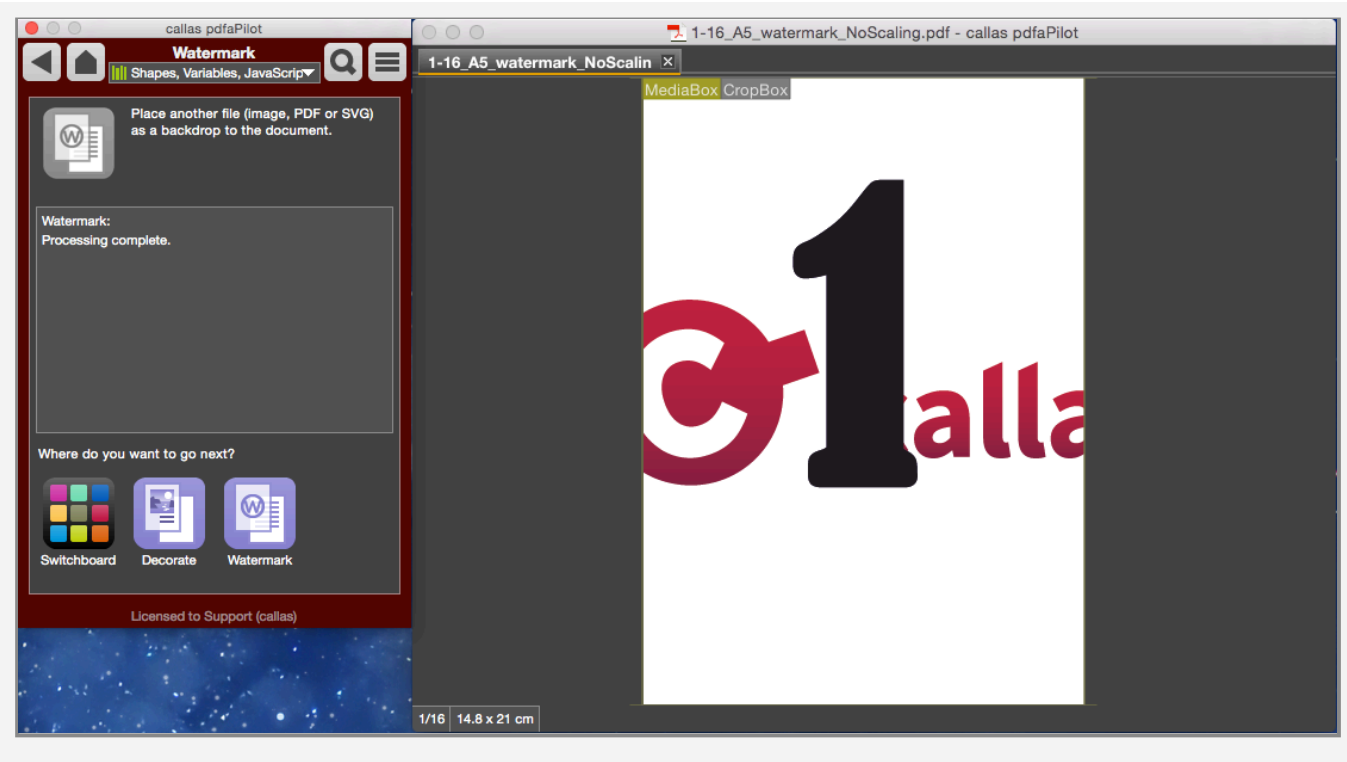
This Action lets you add any logo or image to one or all pages within a PDF, with a transparent effect. The image will be vertically and horizontally centered.
You can specify whether the object should be placed on top of or below the existing content.



Watermark	Click “Browse” to choose the file to be placed.
Scale to format	Scales the placed object to the page size.
Placement	Specifies whether to place the object on top of or below the existing content.
Page range	For multi-page documents, specifies the range of pages on which the object will be placed.



A “scaled-to-format” result.
The logo has been scaled to the page size during placement.

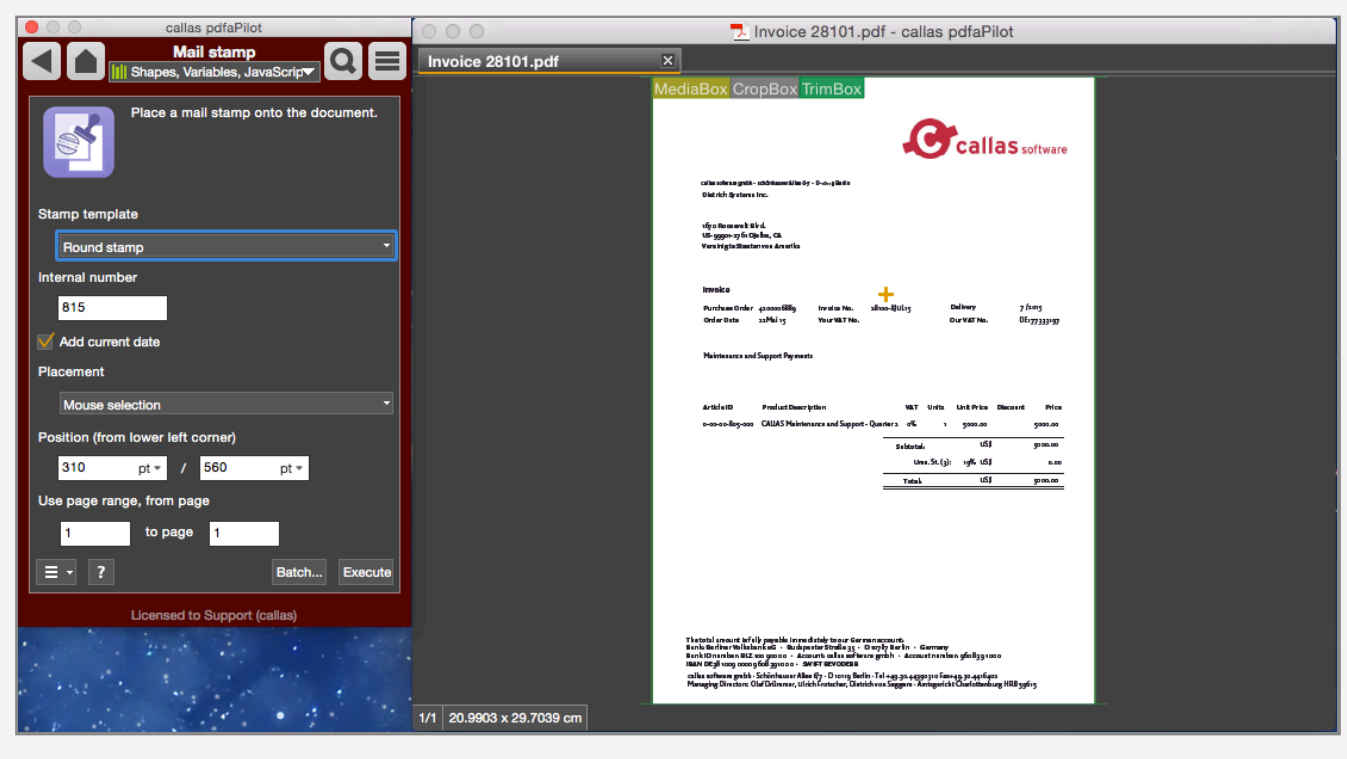


An example of a non-scaled-to-format result.
The logo has been placed in the document at its original size.

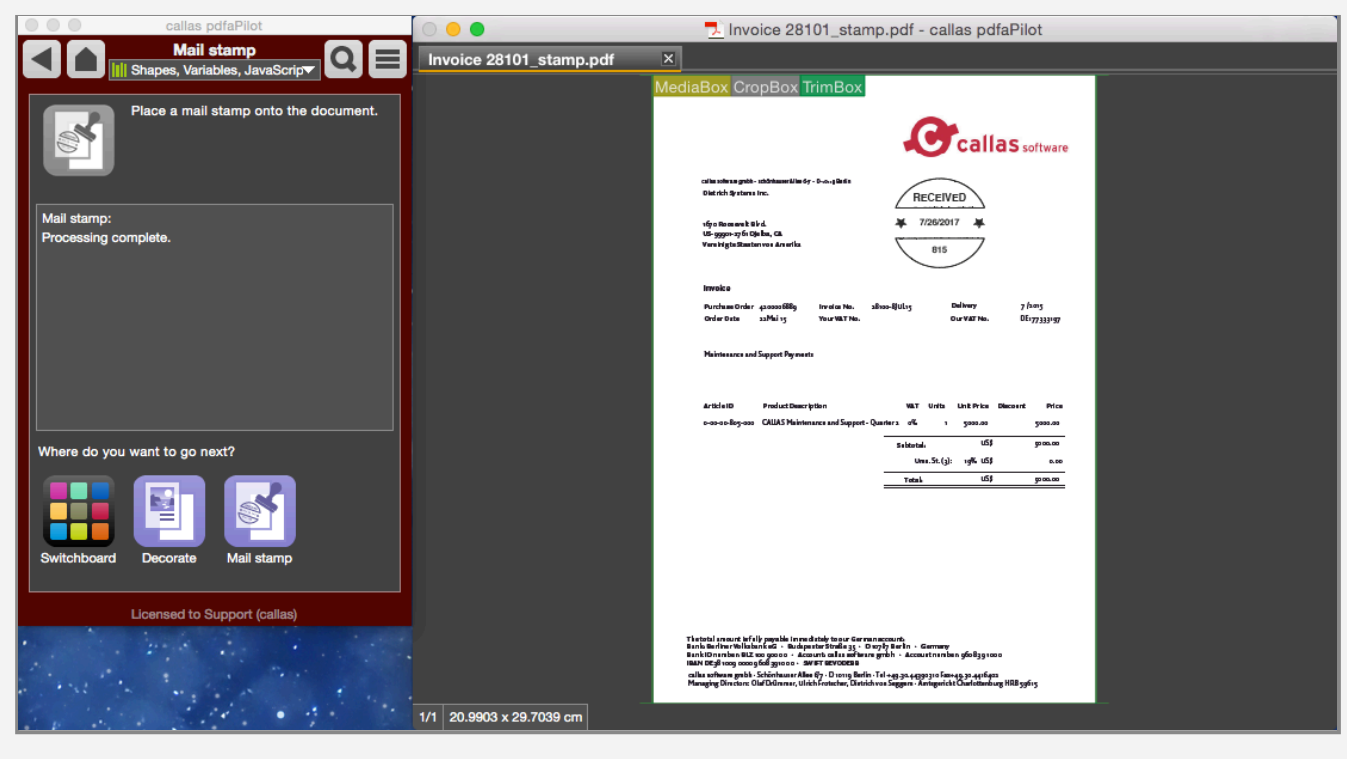
4.8 Place mail stamp

This Action adds a mail stamp to the document. You can also specify whether to output a user-definable number and/or the current date at the same time.
As this Action uses HTML templates as a basis, you can also create your own layouts or edit existing ones. The corresponding template folder can be found in the menu at the bottom left of the Switchboard Action.

Stamp template	Round or square stamp
Internal number	You can enter any number here
Current date	Adds the current system date
Placement	Coordinates where the object is to be placed.
Offset	Offsets the object relative to the parameters given under “Placement”. Values should be entered in the form of coordinates, giving x and y values relative to the reference point given under “Placement”. This means that values such as “-5” are also valid.
Page range	For multi-page documents, specifies the range of pages on which the object will be placed.



Choose “Mouse selection” to set the placement. The selected reference point will be indicated with an orange “plus” symbol.



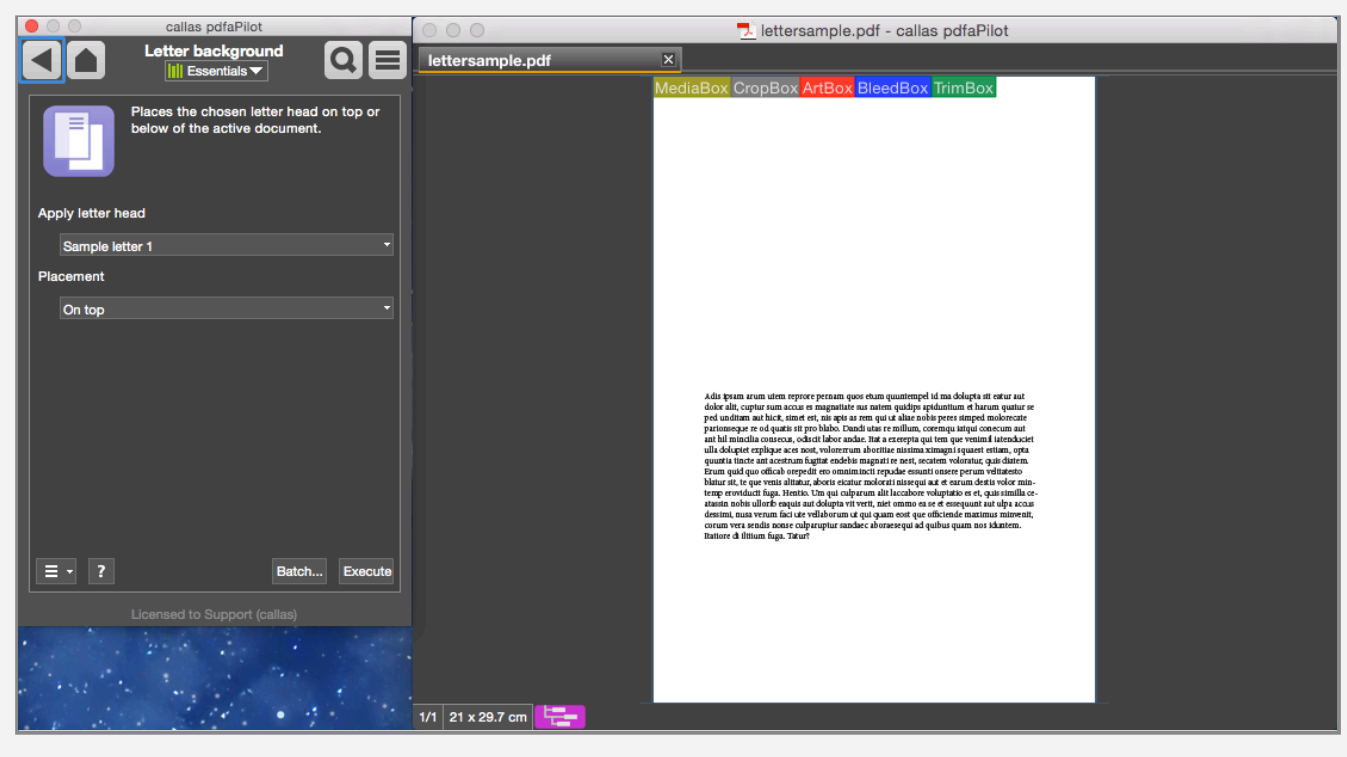
The final result with stamp placed.

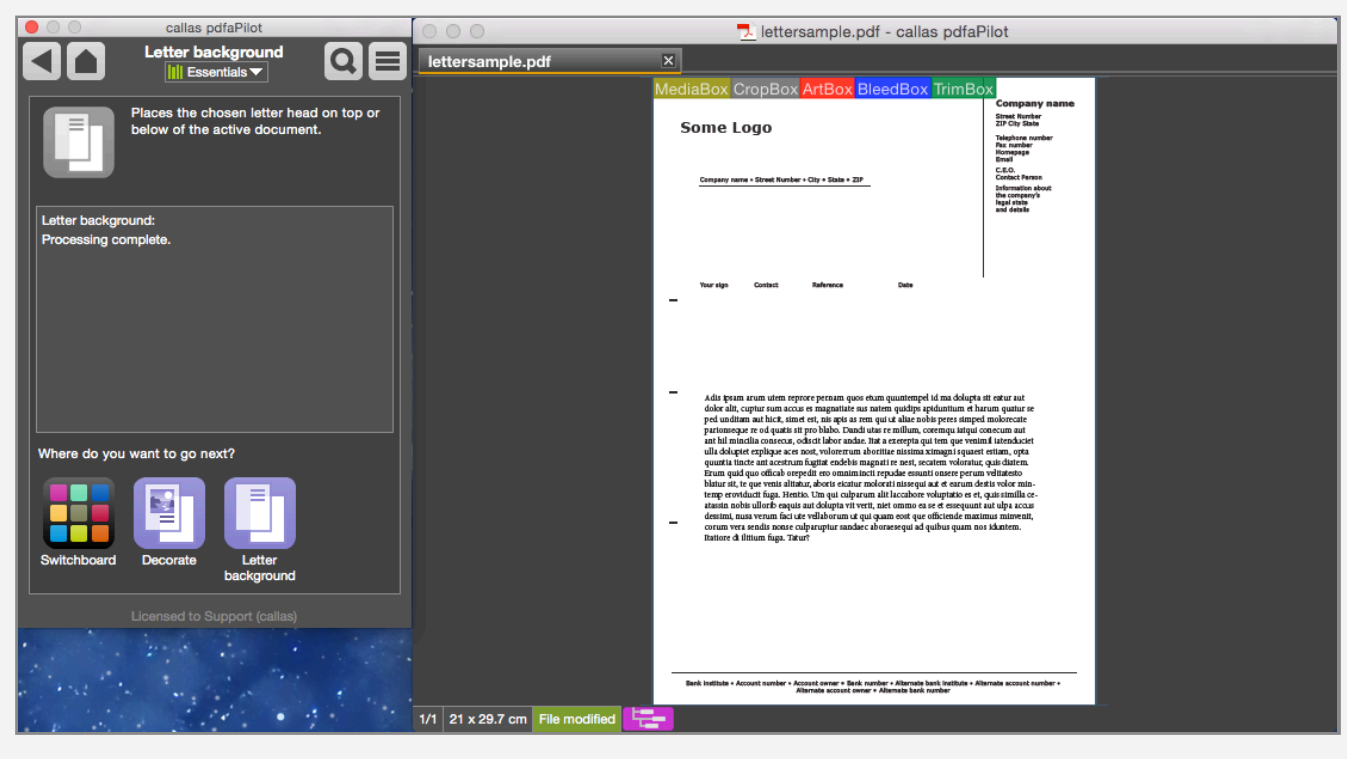
4.9 Place letter background

The “Letter background” Action allows you to add letter templates to existing documents.
These can be added on top of or below the document.

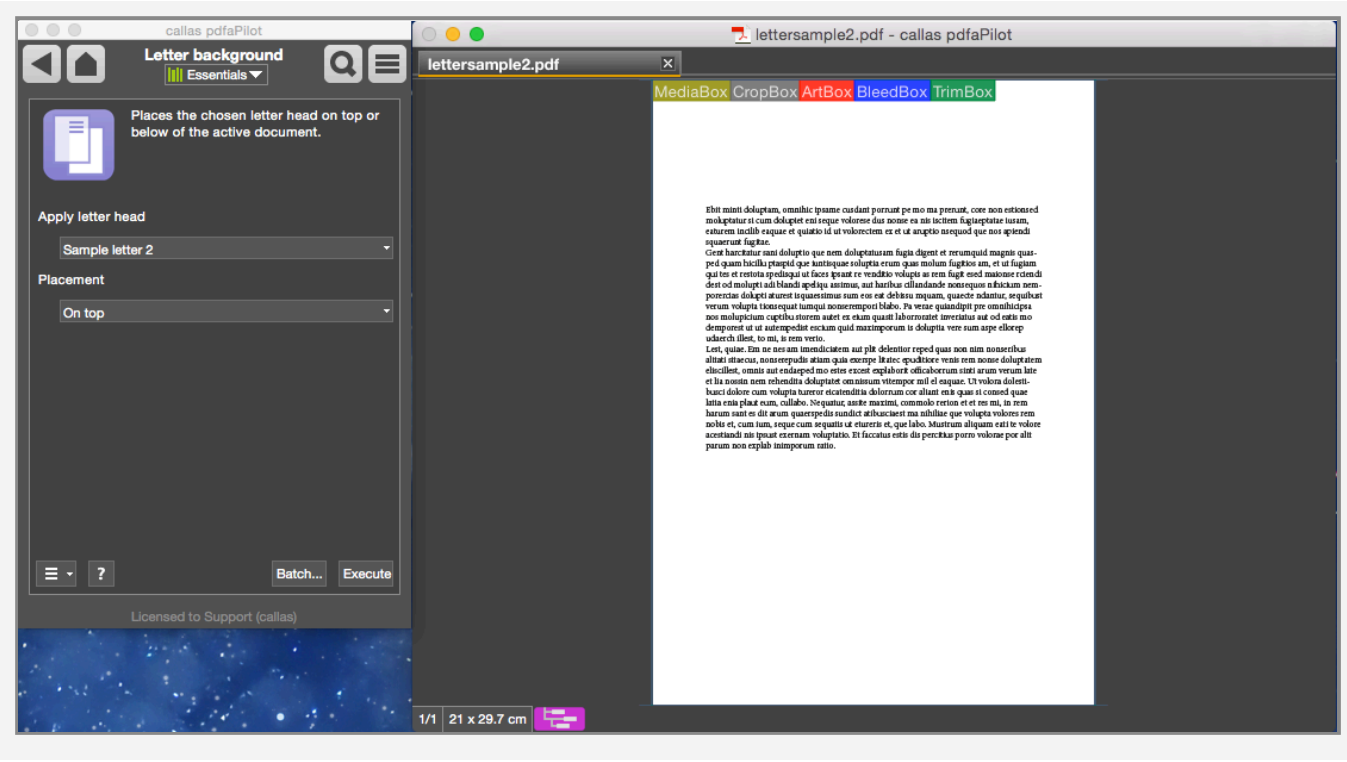
You can also provide a first and second page in the letter template. The first page of the template will then be placed only on the first page of the PDF being processed, while the second template page will be used for all subsequent pages.

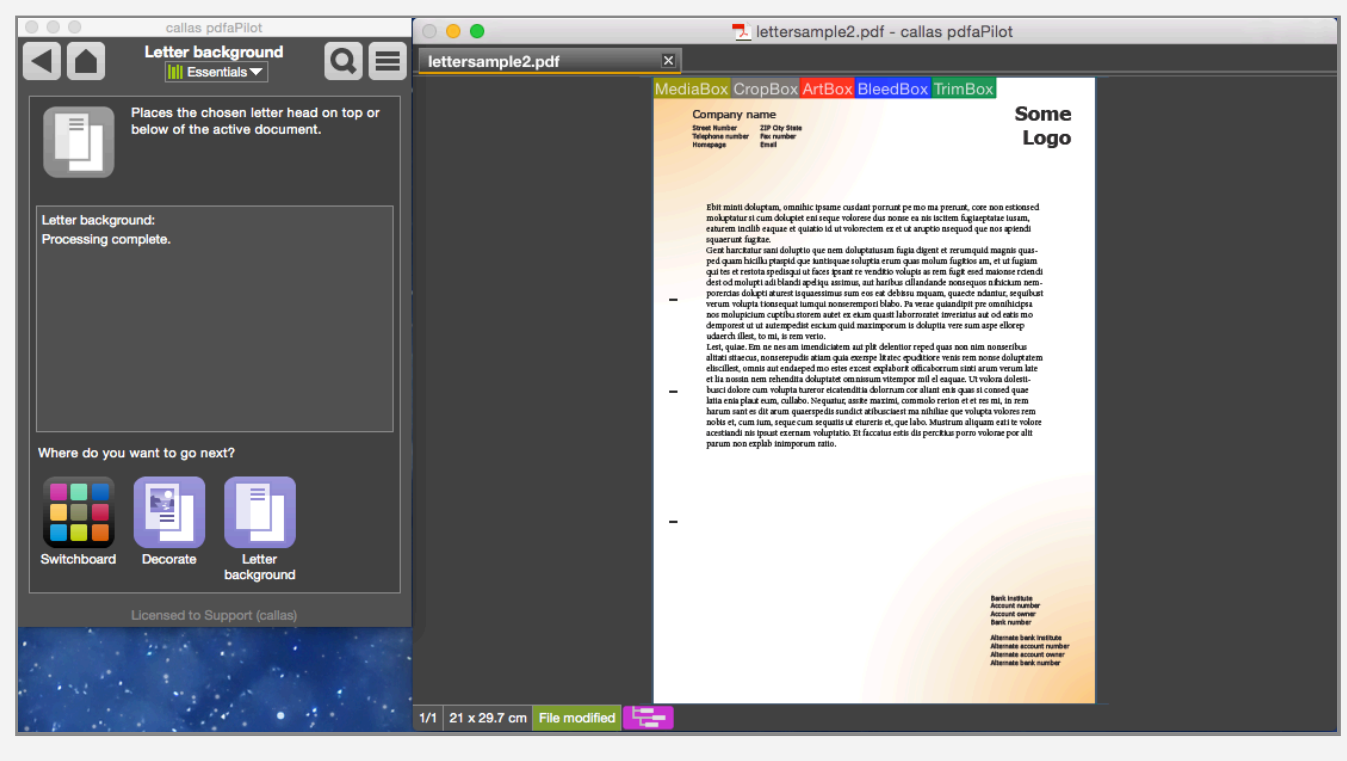
Before/after example with sample letter 1



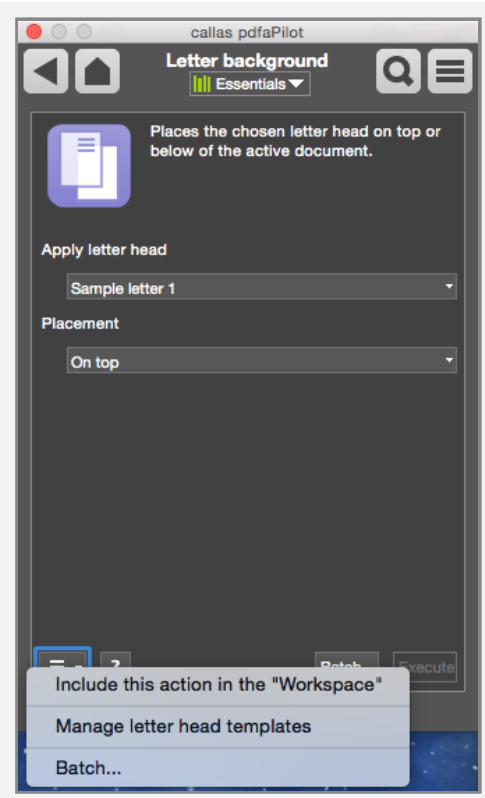


Before/after example with sample letter 2





Managing letter head templates



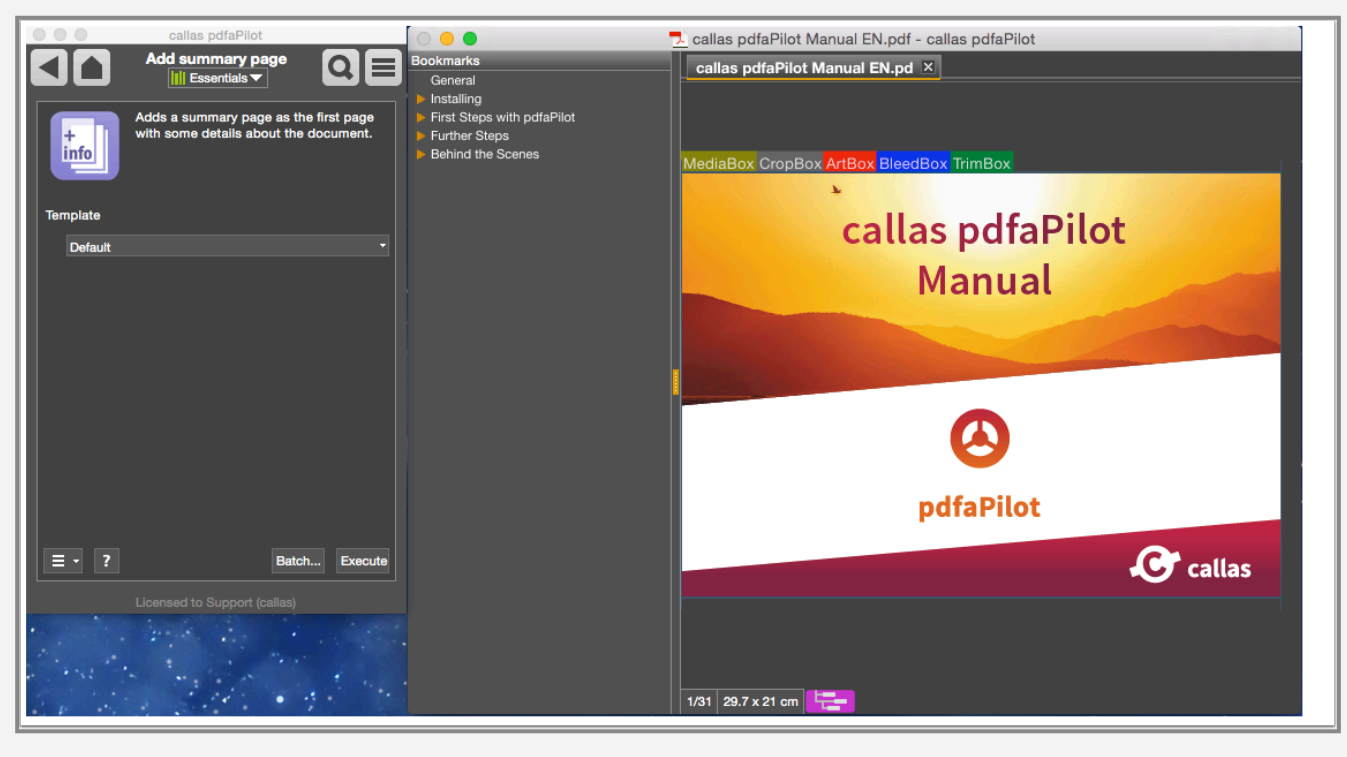
Using “Manage letter head templates” in the menu at the bottom left of the Switchboard Action, you can add your own templates.

To load newly added templates, you must first click Back to leave the Action, then open the Action again.

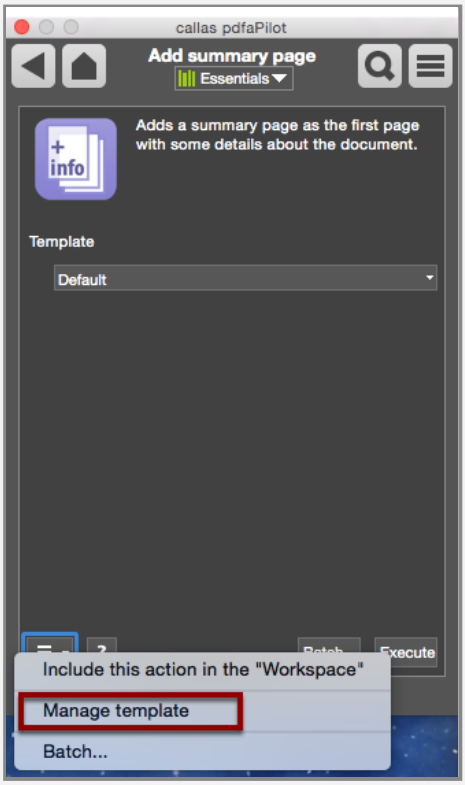
4.10 Add summary page

The “Add summary page” Switchboard action creates a cover sheet with information about the document as a whole:

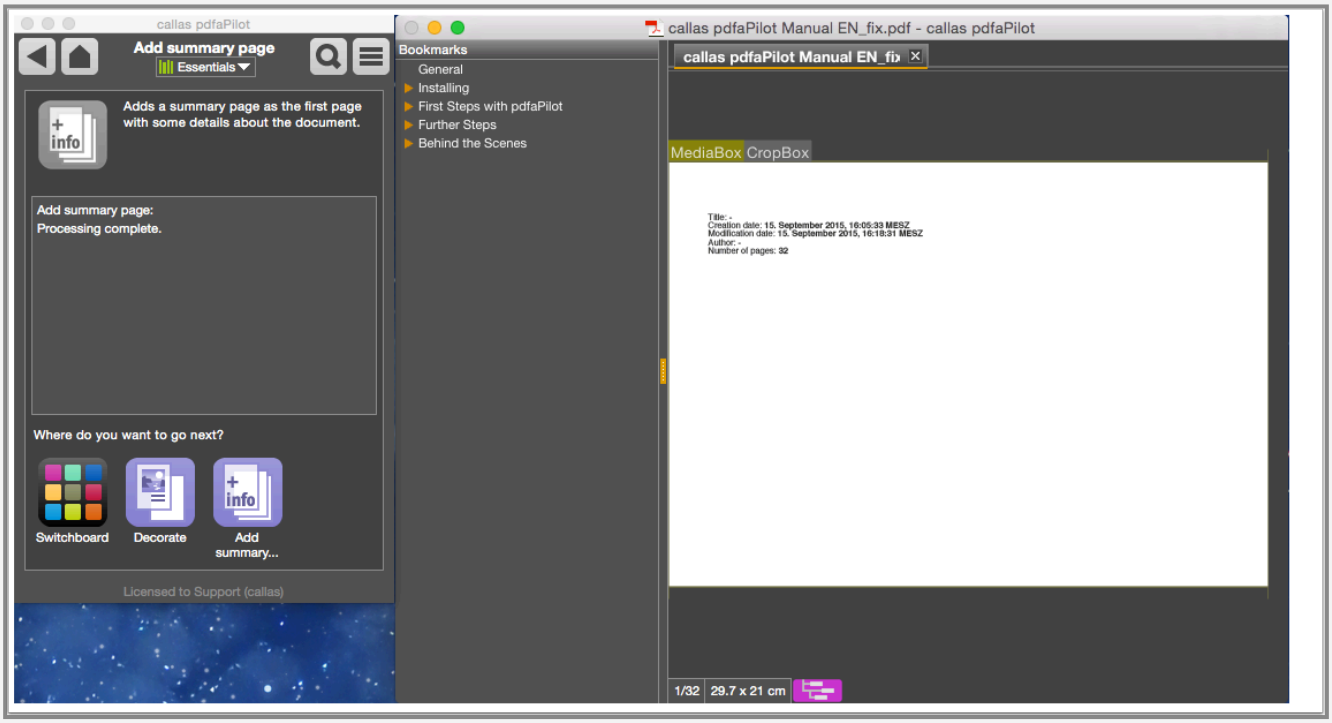
- Title
- Creation date
- Modification date
- Author
- Number of pages



Choose a template to use.



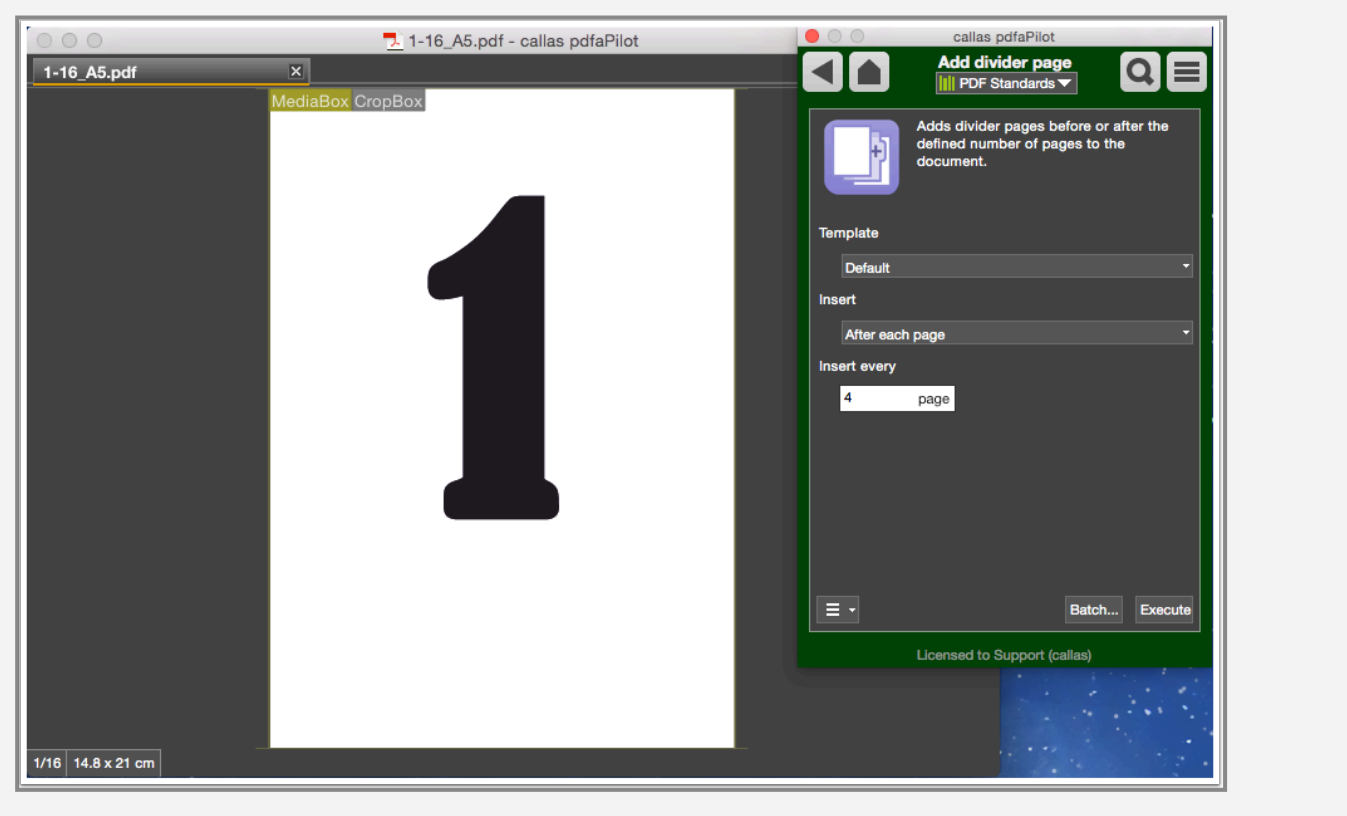
Click “Manage template” from the menu in the lower-left corner to open the HTML template being used and to edit it as required.



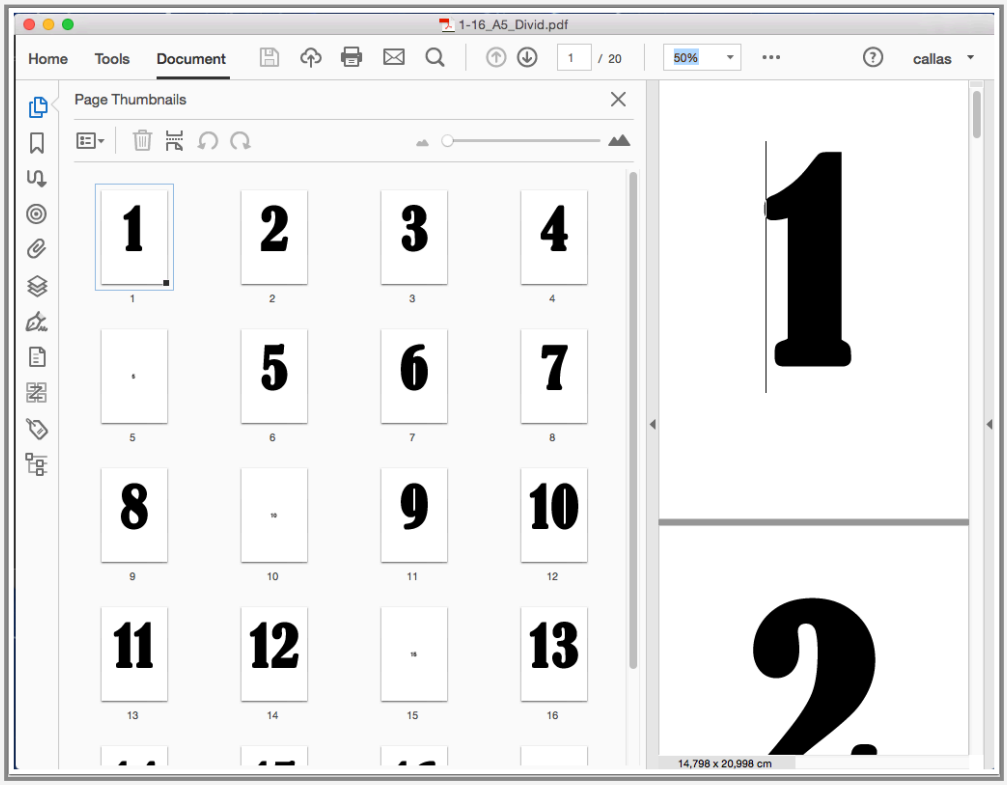
4.11 Add divider page

The “Add divider page” Switchboard Action lets you add pages at specific points within a document.

You can customize the page to be inserted by editing a HTML-based template file. The corresponding folder can be found in the menu at the bottom left of the Switchboard window.



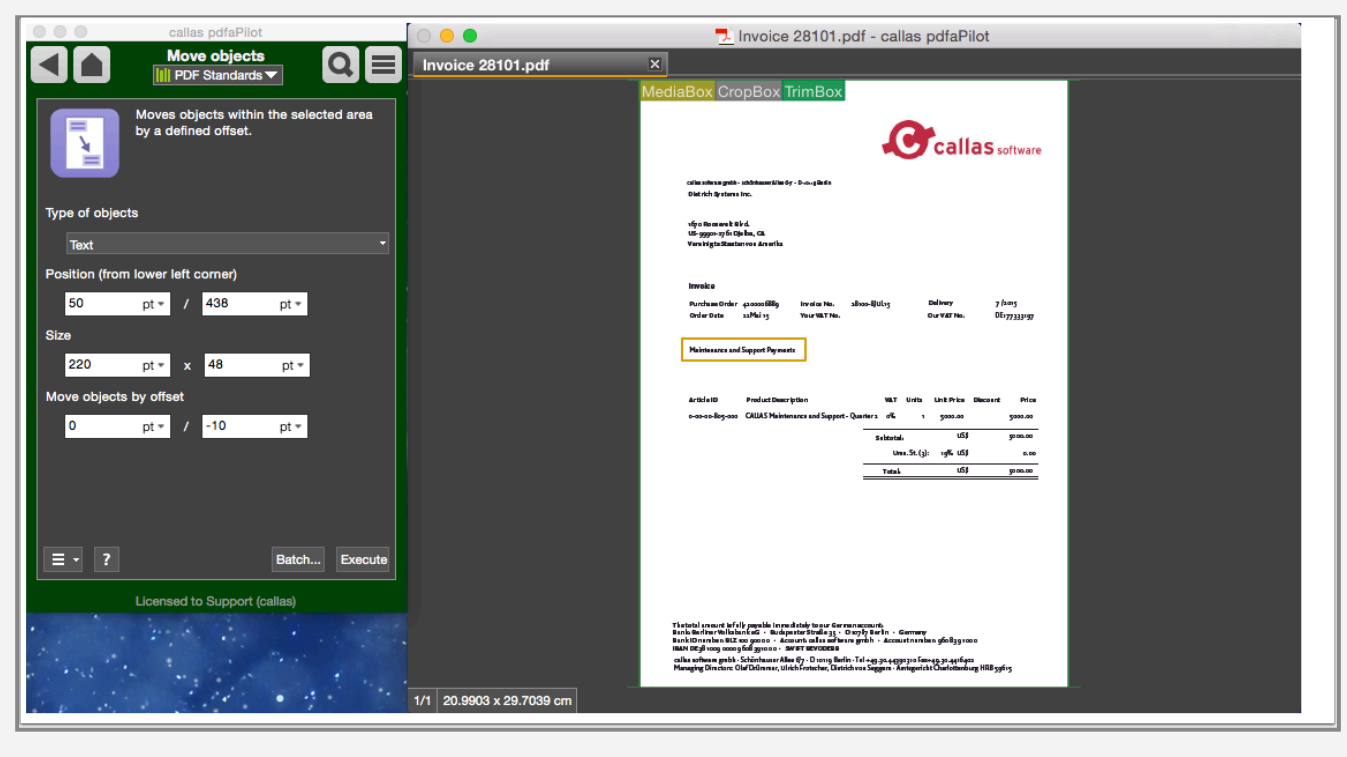
Results with divider page shown in Acrobat:
A new page has been added after every four pages.


1-16_A5_Divid.pdf
Home
Tools
Document
1
/ 20
50%
callas
Page Thumbnails
14,798 x 20,998 cm

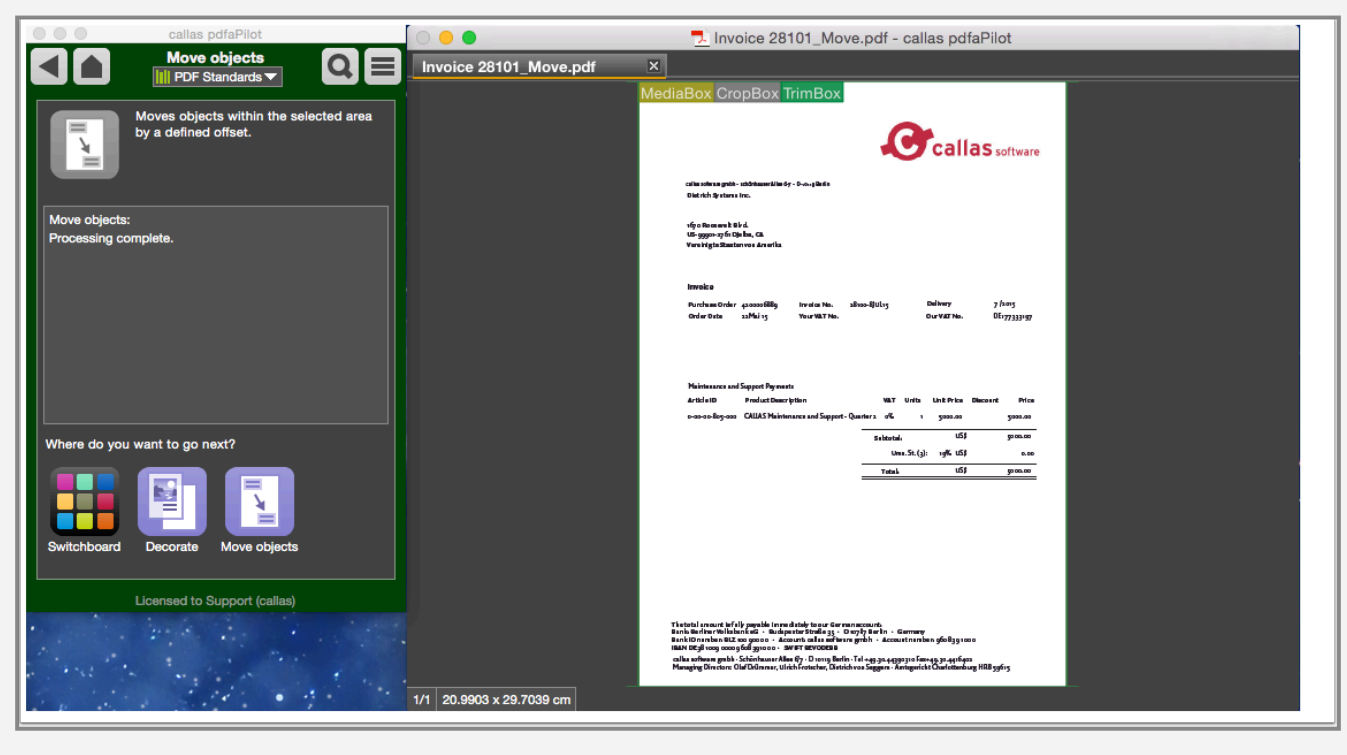
4.12 Move objects

The “Move objects” Switchboard Action lets you move the following object types:

“Text”, “Vectors”, “Text and vectors” and “Images”.



First, use the cursor to draw a box around the objects to be moved. Next, define the offset by which the selected objects are to be moved.
By filtering the object types, the Action can also be applied only to specific types of objects.



Once the Fixup is applied, the objects will be moved by the specified offset .

5. Working with XMP Metadata and PDF/A files

5.1 Extension schema editor

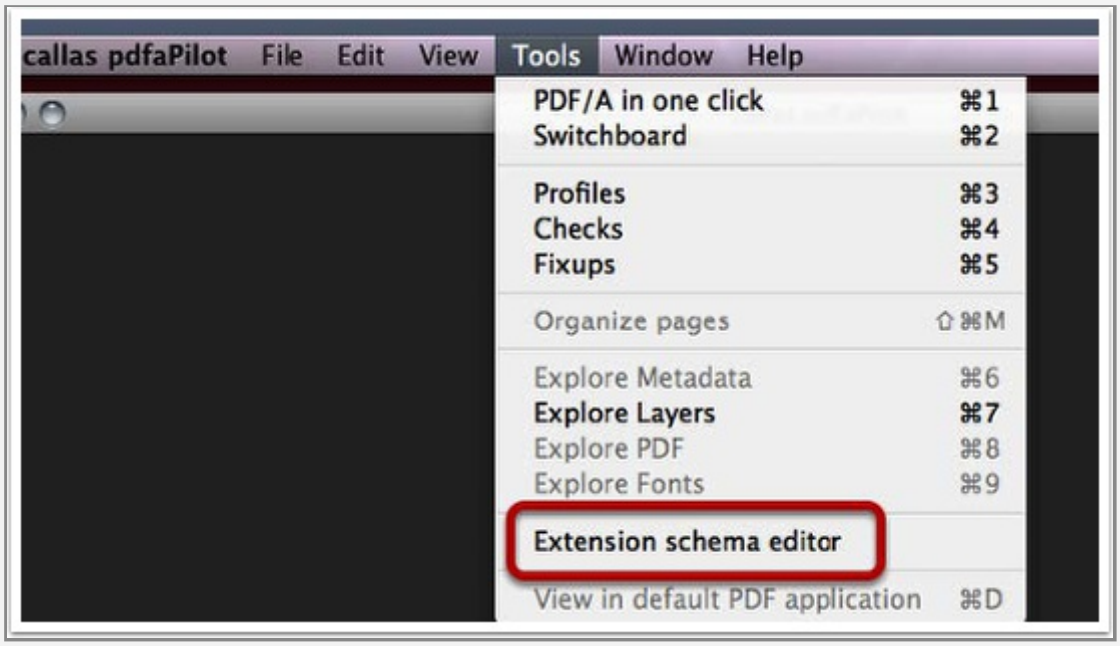
About custom metadata and pdfaPilot's XMP Extension Schema editor

If a user wants to add custom metadata to a PDF/A file, an extension schema is required that covers this custom property.

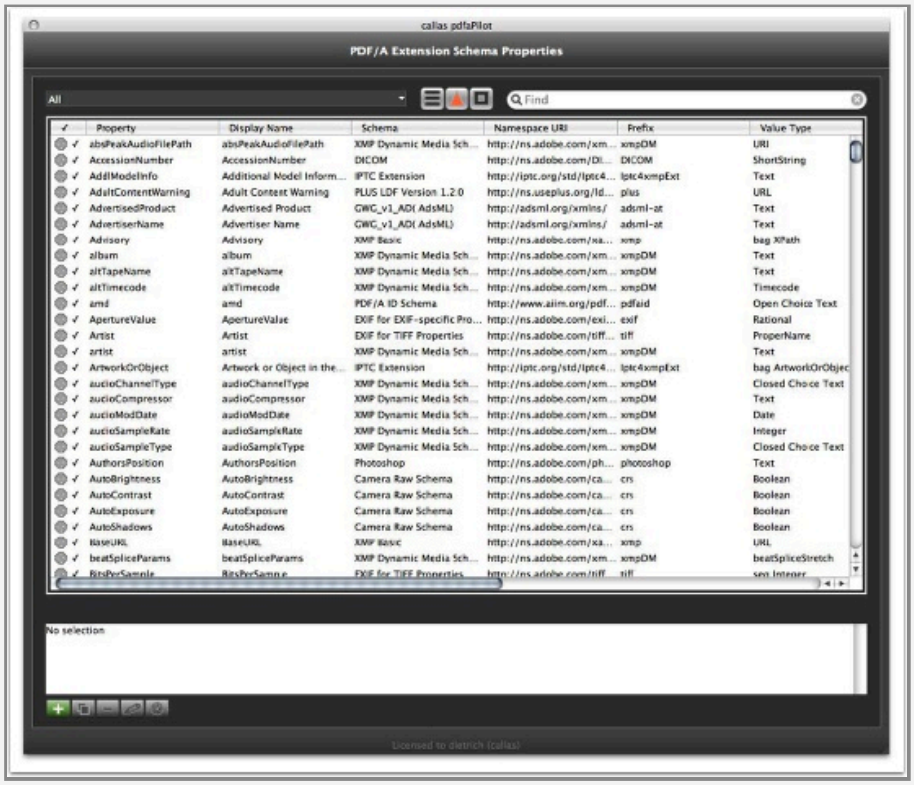
callas pdfaPilot comes with its own XMP Extension schema editor, which can be accessed via the action "Extension schema editor" in the "Metadata" section in the Switchboard. Here you can have a look at predefined schemas, data fields and value types or create your own to be embedded during conversion to PDF/A. You can also capture properties which are present in the document metadata.

Create and Manage PDF/A compatible XMP extension schemas

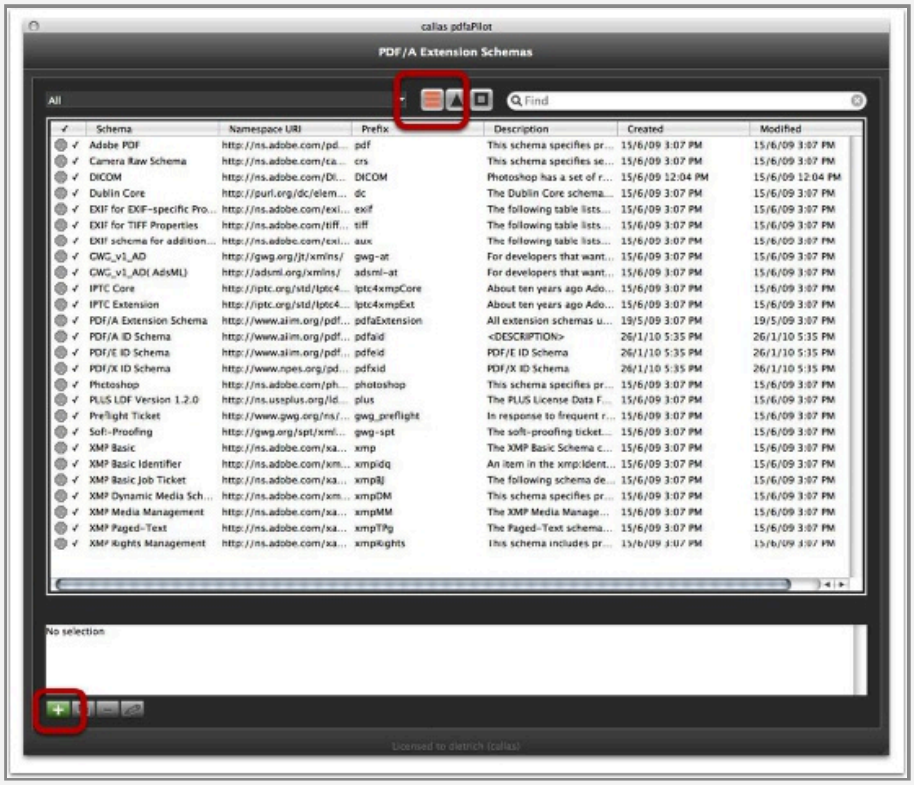
Open the Extension Schema Editor in callas pdfaPIlot.



A new window opens with a long list of Extension Schema Properties:



Switch to the list of Extension Schemas:

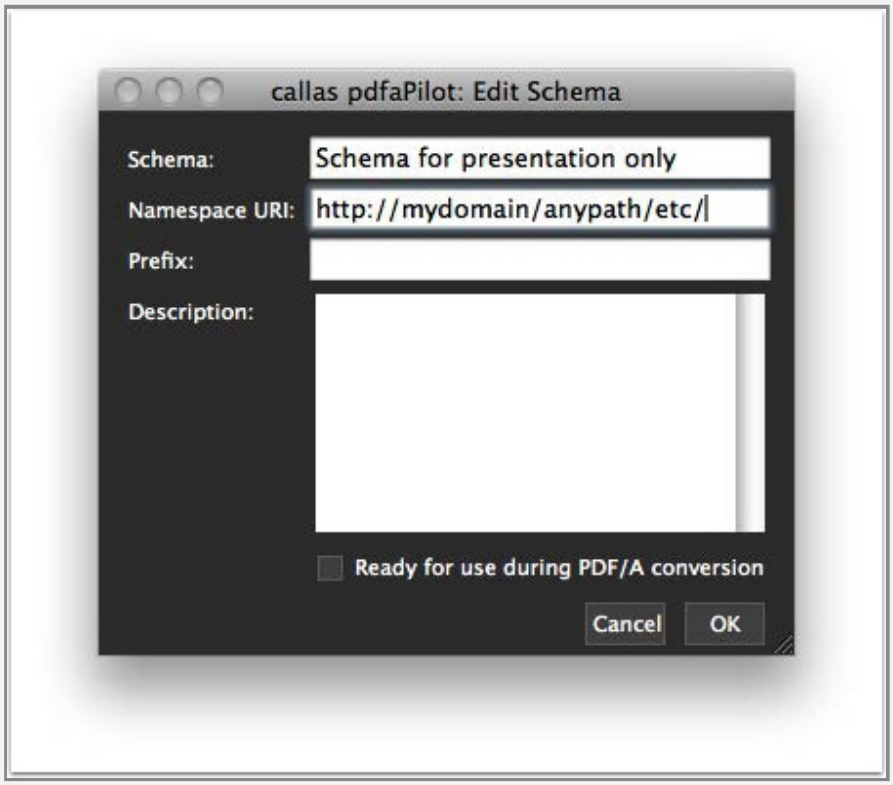


A Schema is a container for an arbitrary number of properties. First you will have to create your own schema that will later take your properties. Click on the left of the three icons on top of the list in order to switch to the list of Extension Schemas. Then click on the green [+] icon at the bottom of the window.

Define your Schema

A new window opens that lets you define your schema.

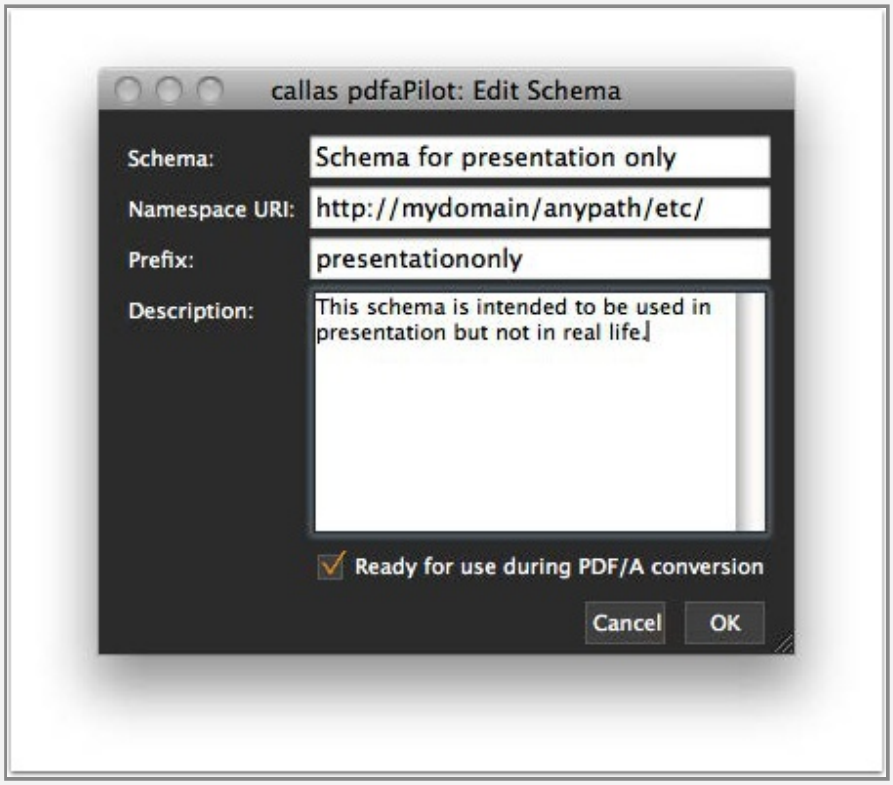
Give the schema a name that describes its area of application and a unique namespace URI:



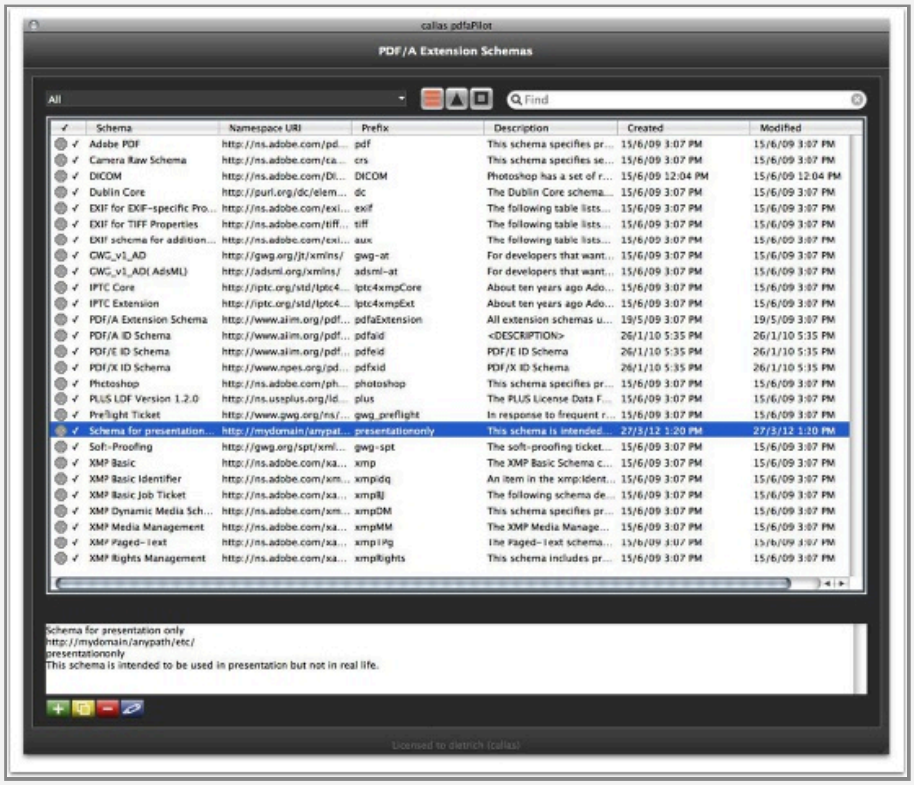
The namespace URI is intended to be a unique string so that the schema can be identified. Therefore it is common practice to use a domain name that belongs to the organisation which is defining the Extension Schema. That reduces the propability does another organisation would use the same namespace. Note that it is neither required nor recommended that the namespace URI is in fact a website.

Define a prefix for the Extension Schema that will work as an abbreviation within the XMP metadata stream and enter a

description for the Extension Schema. Mark the Extension Schema as ready to use, otherwise pdfaPilot would not use it. Save the Extension Schema:

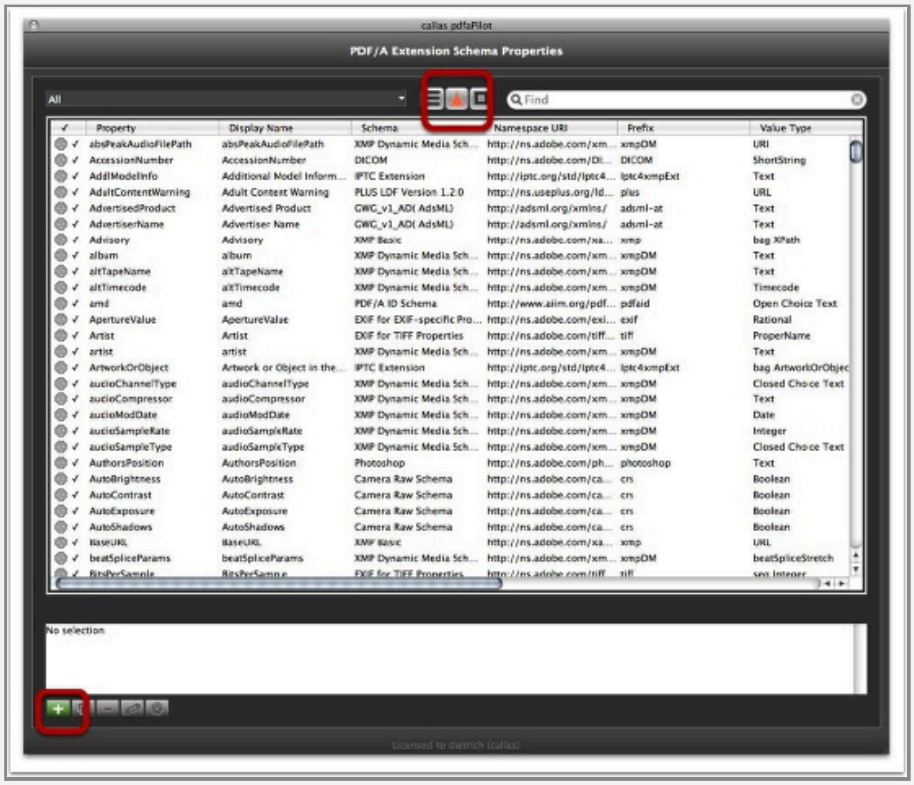


The new schema will now show up in the Extension Shema list:



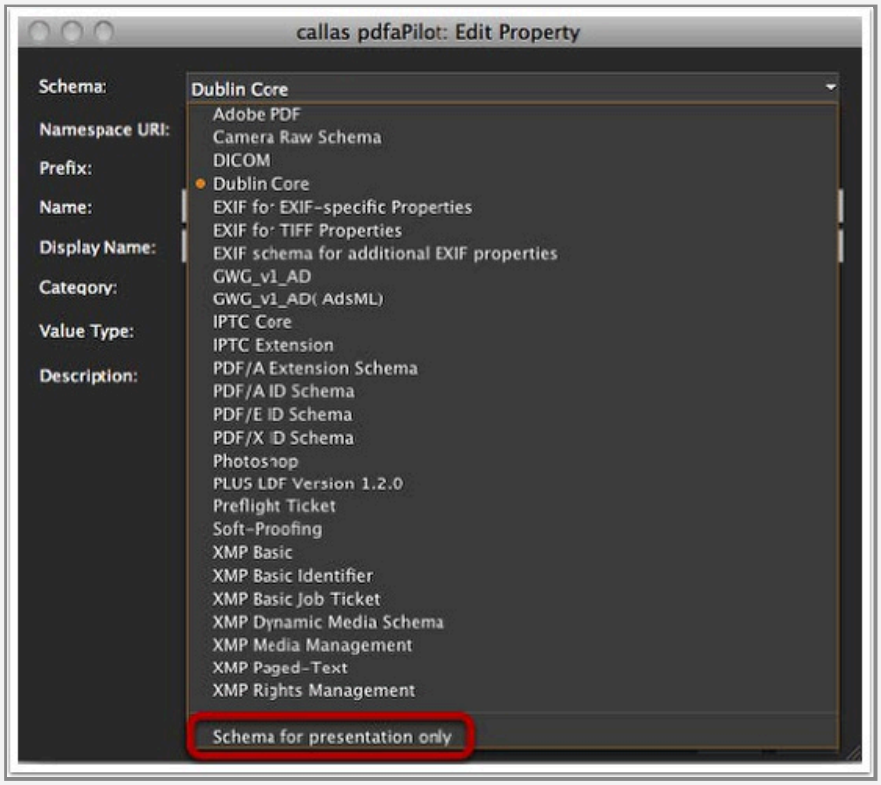
Extension Schema Property View

Switch to the Extension Schemas Properties view:



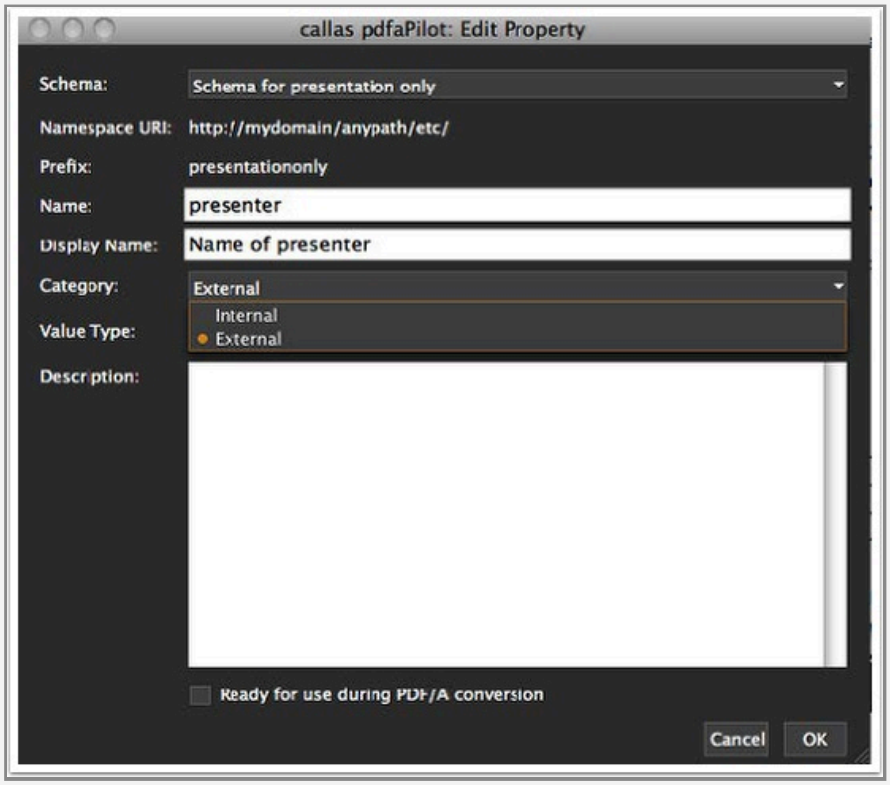
Click on the middle icon above the list of Extension Schemas in order to switch to the list of properties. Click at the green [+] icon in order to create a new property.

A new window opens that lets you define a property. Select the Extension Schema that you have just created:

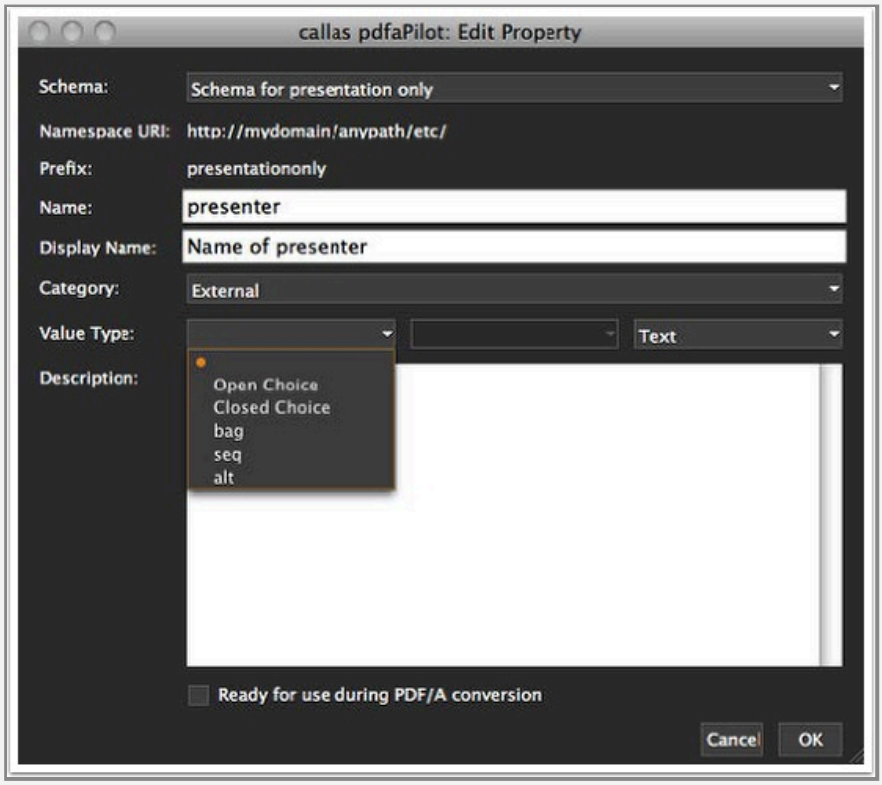


The Namespace URI and the Prefix are listed accordingly. Enter name, display name and category for the new property:

Note: The category defines whether it is user data (External) or rather technical internal information (Internal).

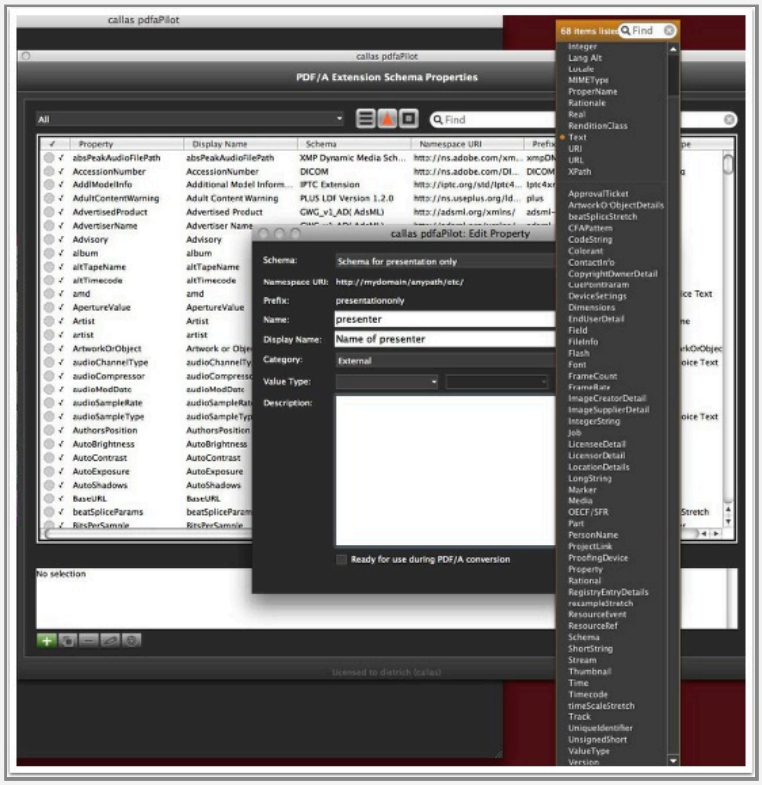


The value type is either a simple value type, an open or closed choice or a structured type. For a simple value type leave the first pop up empty:

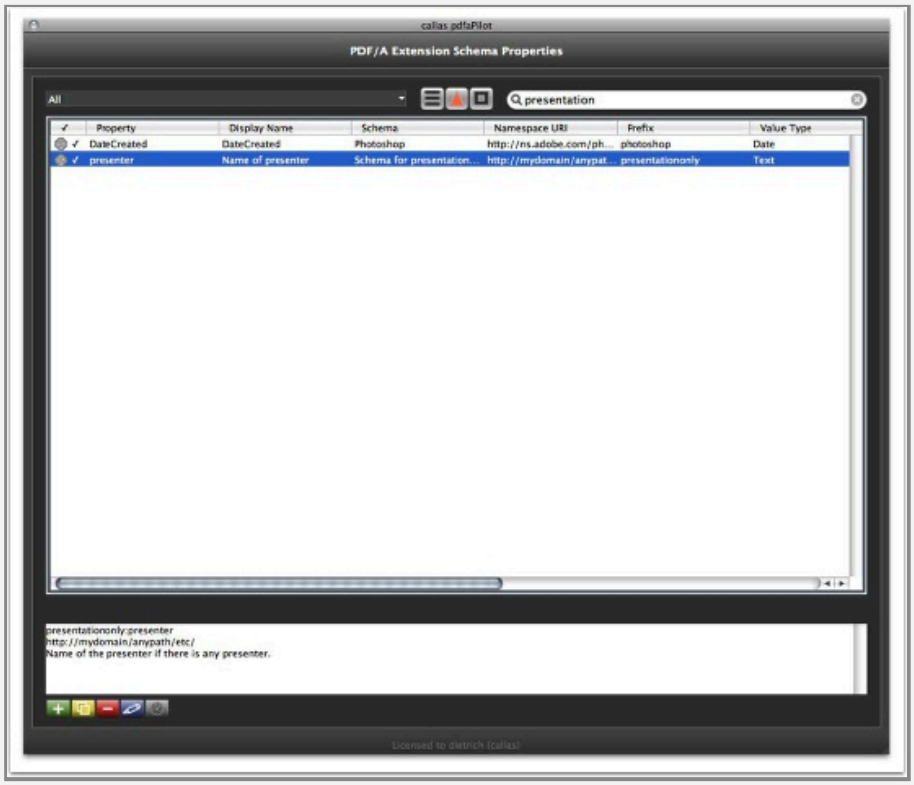


callas pdfaPilot lets you even define your own structured value types, .e.g in order to save machine data or an address (consisting of a name, a street, a city etc.). In order to define your own types you will have to use the right icon above the list of properties. Any type you will define there can be selected here. This is, however, not described in this document.

The last pop up is the actual type. In most cases "Text" is correct:



You can use any word of the Extension Schema or the property in order to filter the properties in the list:

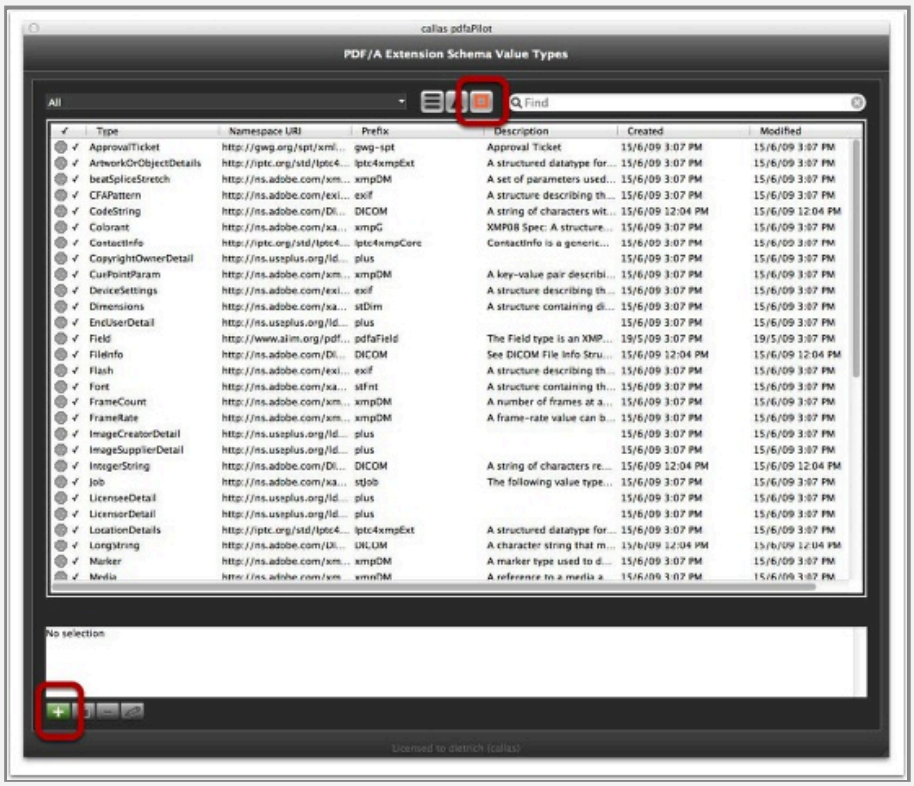


You can now use the Metadata fields in a PDF file and pdfaPilot will automatically embed the Extension Schema for all entries that show up in a PDF file when it is converted to PDF/A.

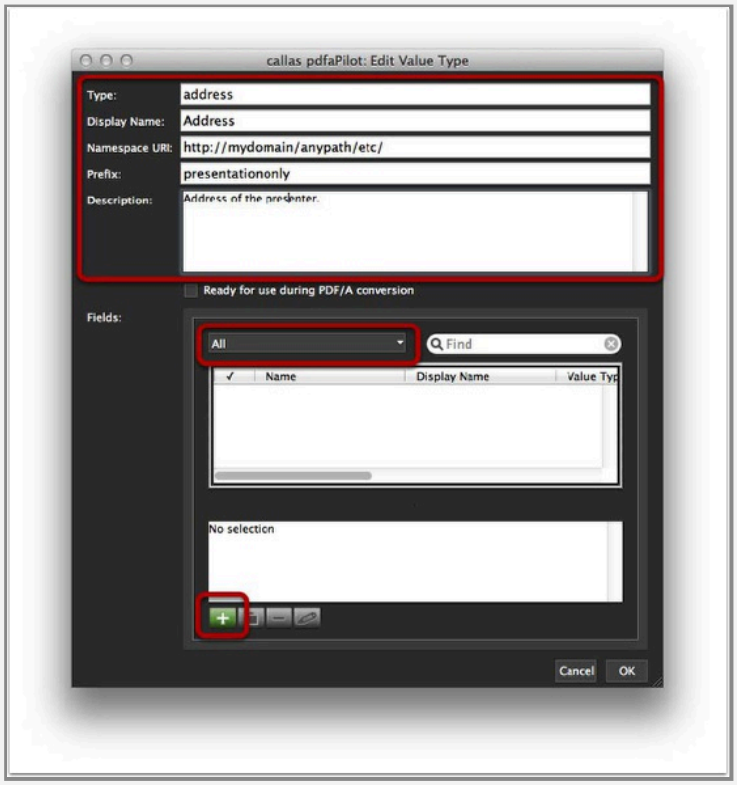
But you can even define your own data types or structures in XMP, read below how you can do that with pdfaPilot.

Defining data types or structures in XMP

Select the value type list in the Extension Schema editor and click on + in order to create a new value type:

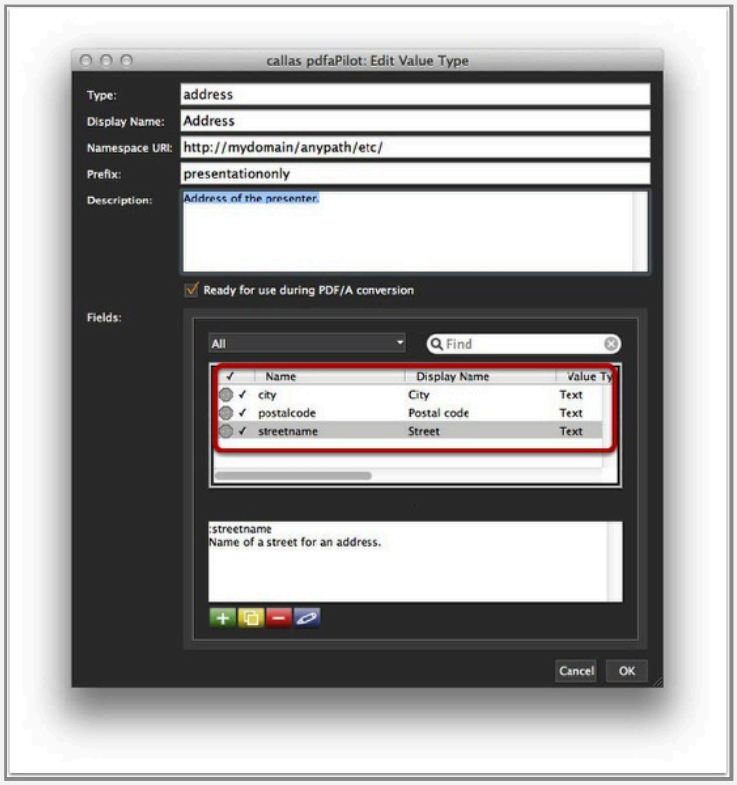


A new window opens that lets you define the value type properties:

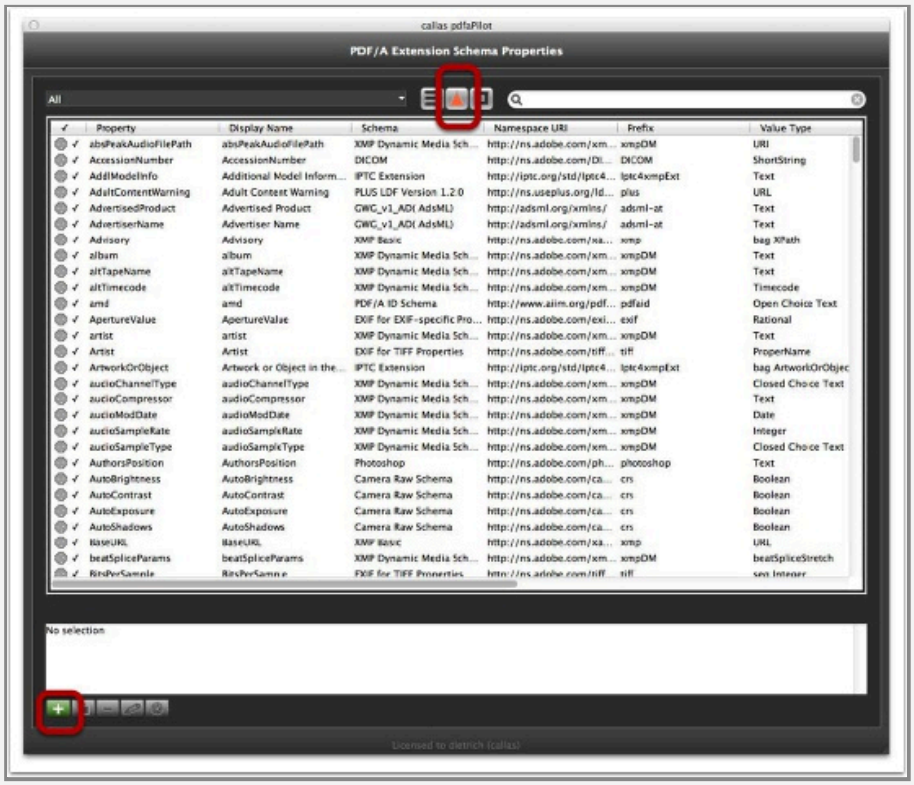


Fill out the first rows with proper values. Lets create a value type for the address of the presenter. The address should consist of three properties. Click on the + in order to add field to the address type. You may also use the Pop-Up in order to add an existing field.

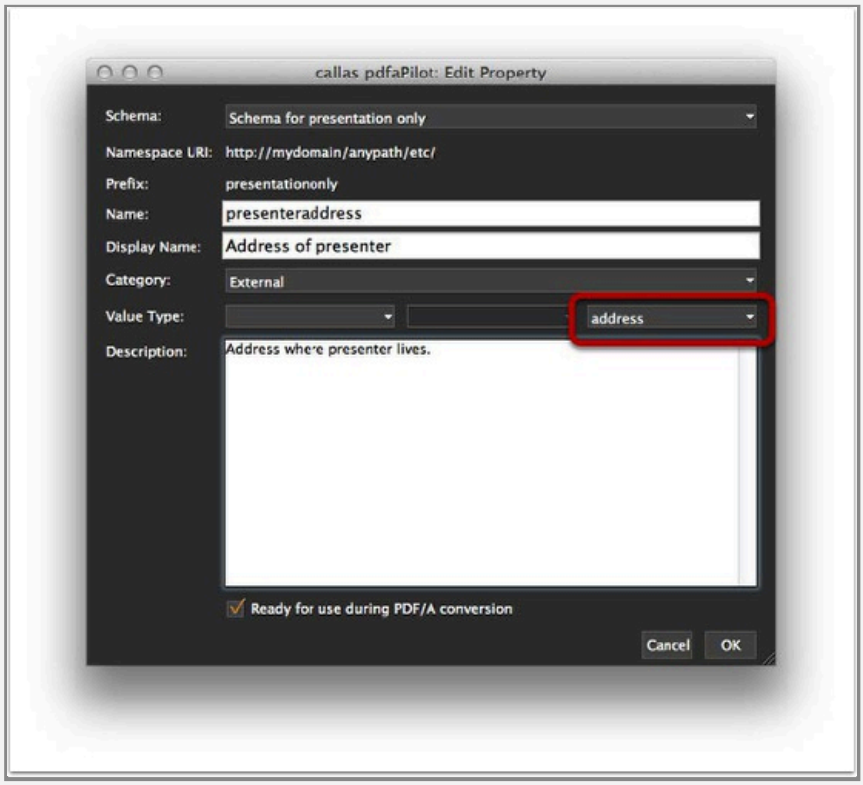
Enter the values for a street name. Use the + again in order to add more fields, for example, postal code and city:



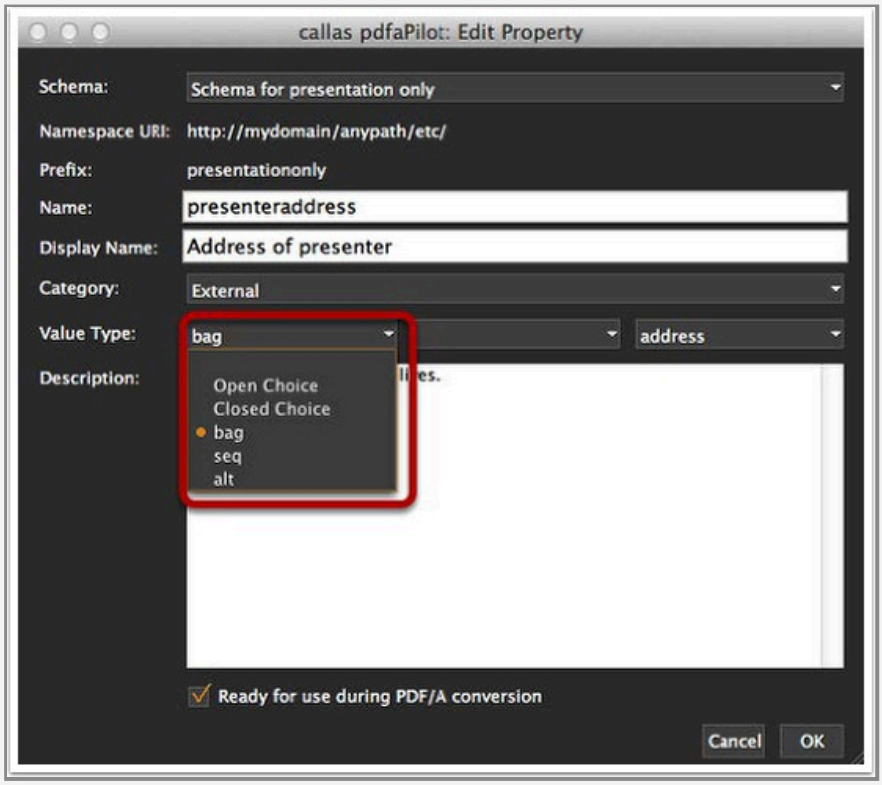
Now go back to the properties view and add a new property by clicking on +:



You may now use the new value type for a new property in the existing namespace:



You may even use a structure e.g. if a presenter could have more than just one address, in this case you should use bag:



Finding Extension Schemas

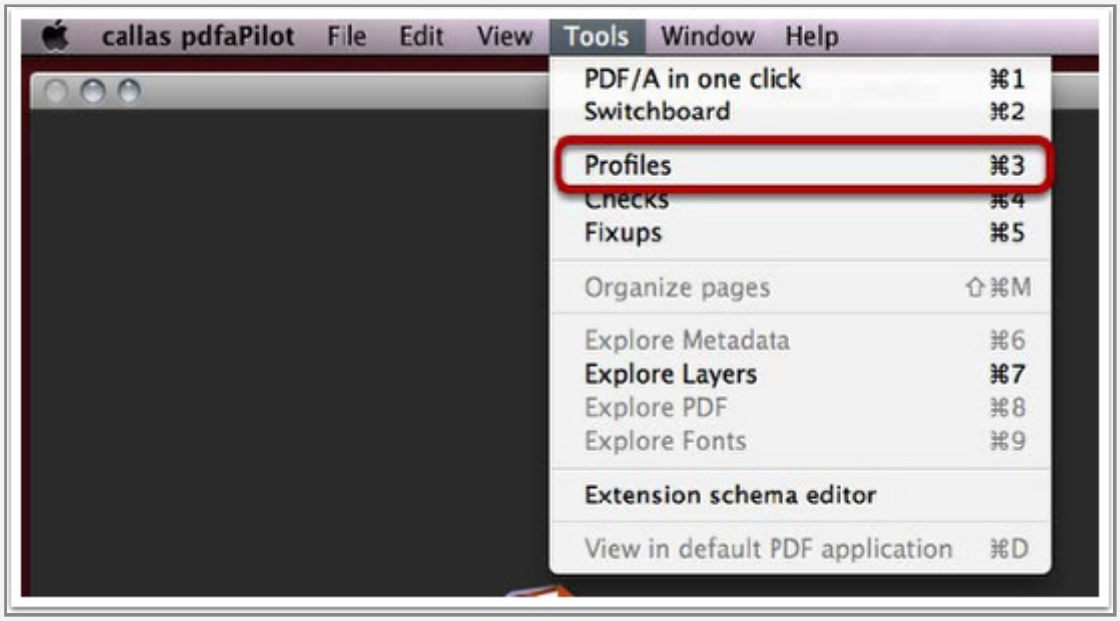
Created extension schemas are stored in your pdfaPilot user folder within "PDFAExtSchema/Custom.pdfaschema". These can be used in the CLI/Server version by copying the file to the appropriate folder (e.g. "/.callas software gmbh/callas pdfaPilot <version>/PDFAExtSchema" on Unix).

5.2 Inserting XMP Metadata into PDFs using callas pdfaPilot Desktop

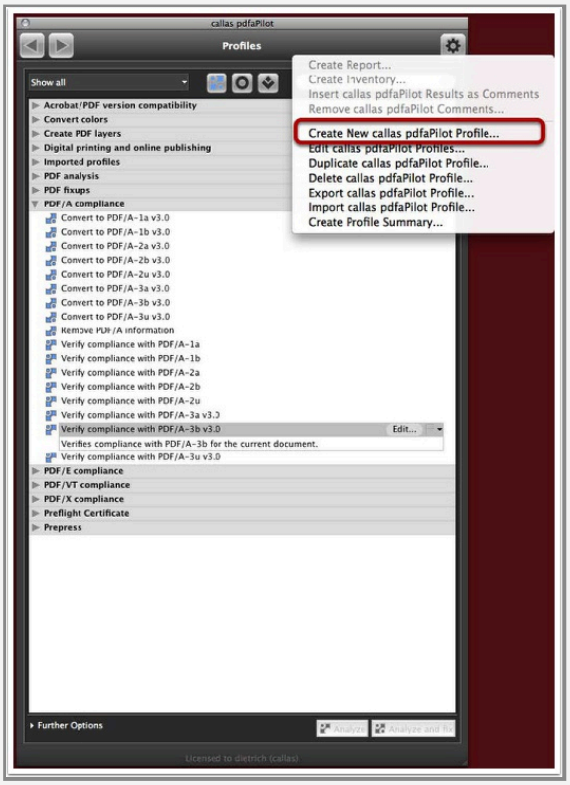
This page describes how callas pdfaPilot can be used in order to insert XMP Metadata into PDF files. It will make use of variables in order to dynamically adapt the values.

Insert XMP Metadata into PDF files

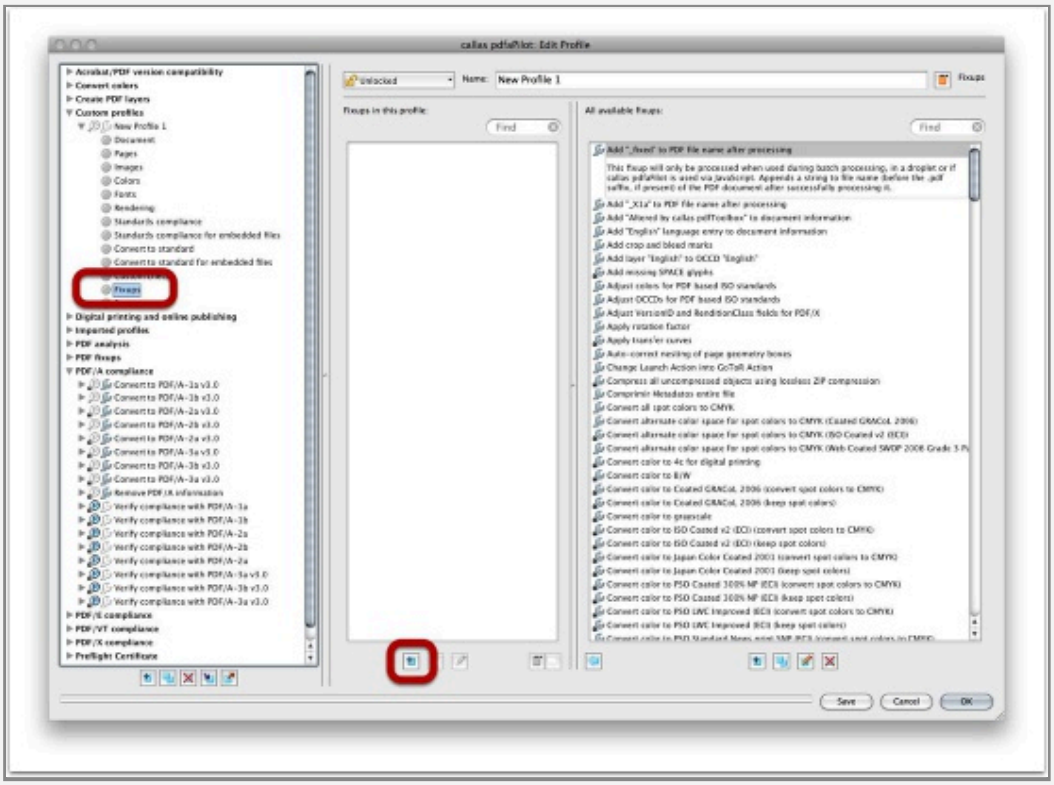
Open the profiles window in the callas pdfaPilot main menu:



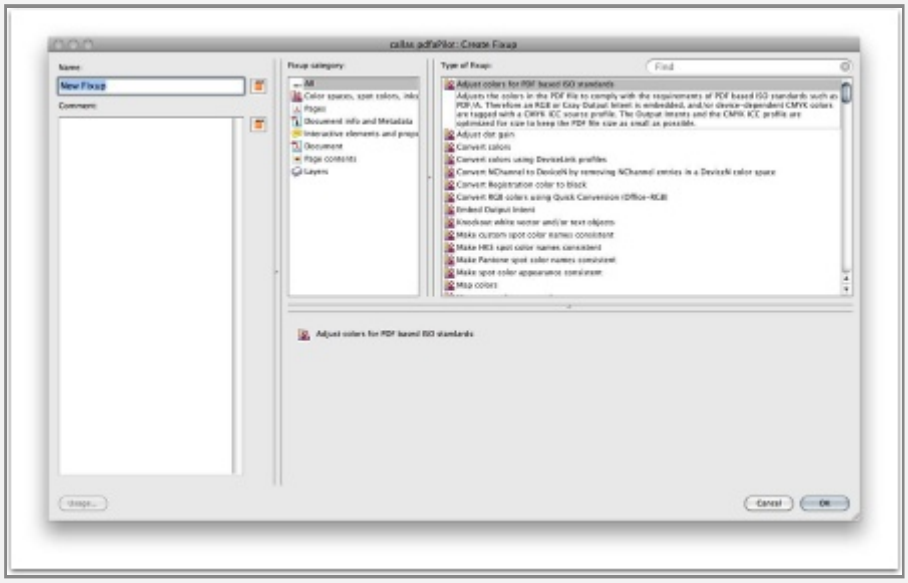
In the new window create a new profile:



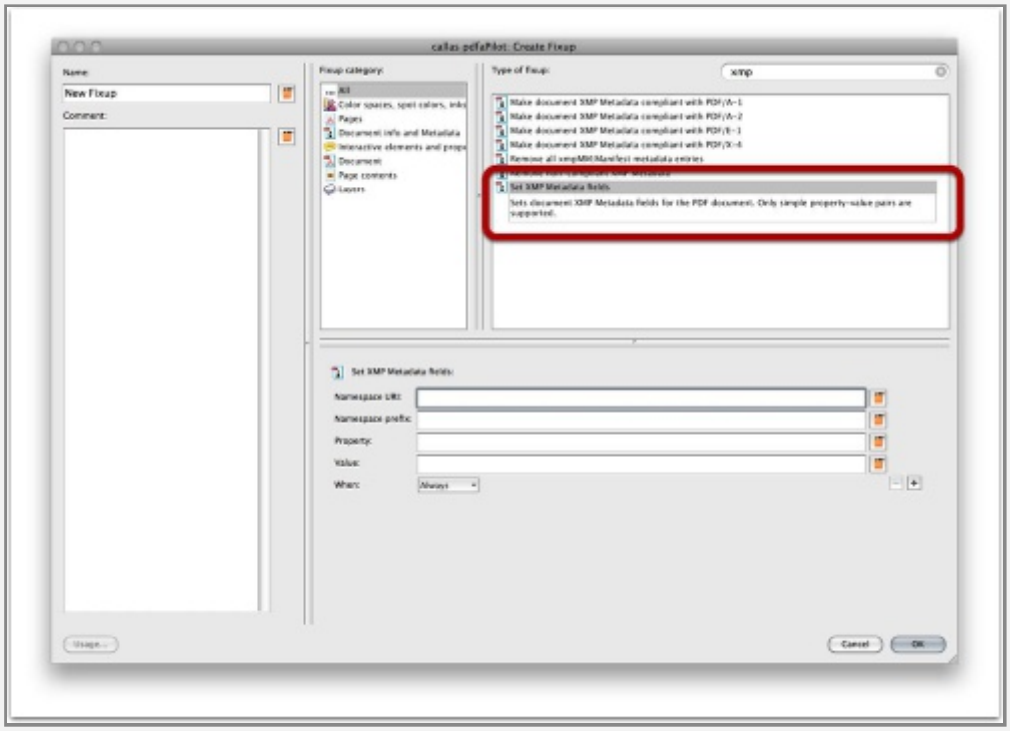
A new window opens. In the left column select Fixups and click on the blue icon in order to create a new fixup:



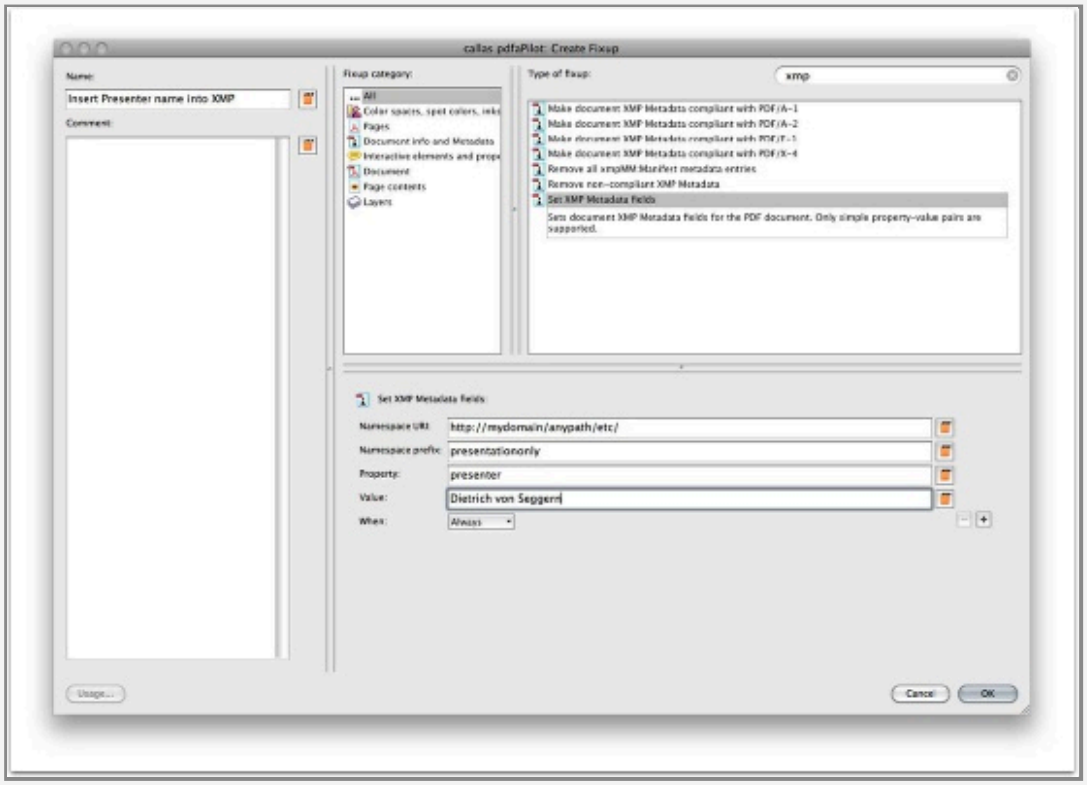
The fixup editor window opens:



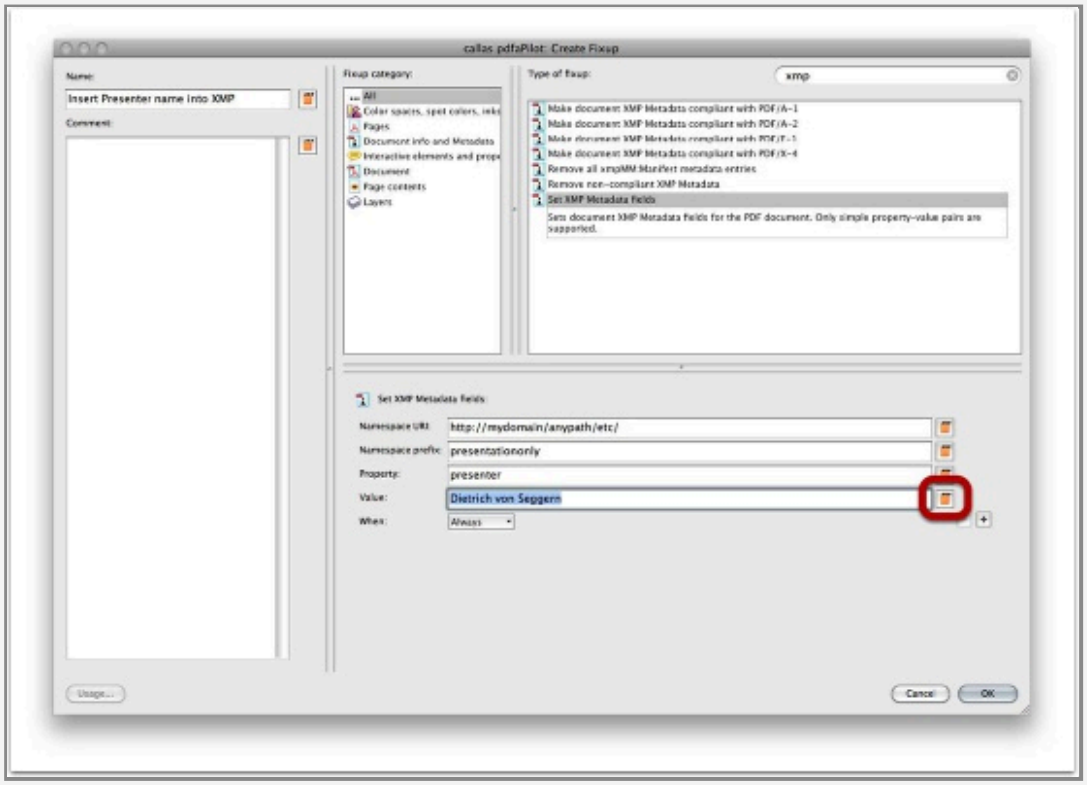
Enter "xmp" into the filter field, and select "Set XMP Metadata fields" from the filtered list:



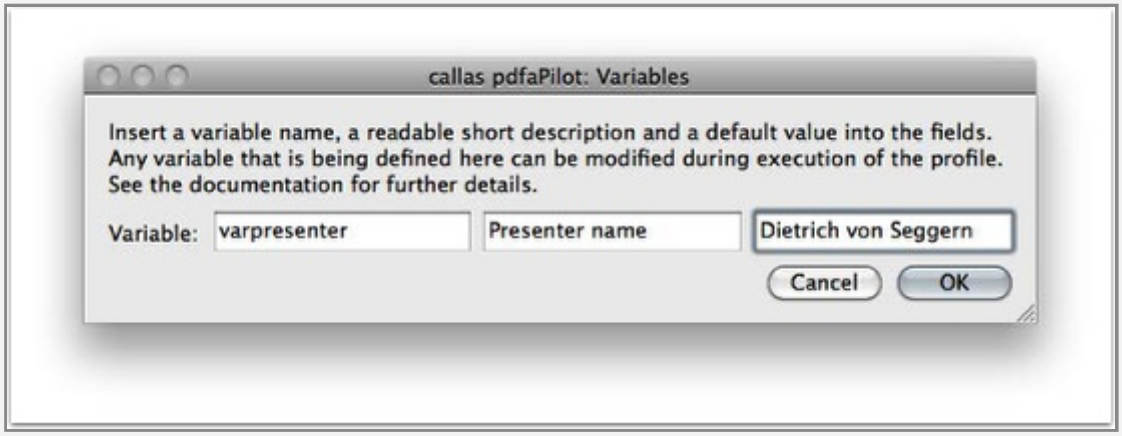
Enter a proper namespace URI, an appropriate namespace prefix, name and value for the XMP Metadata property:



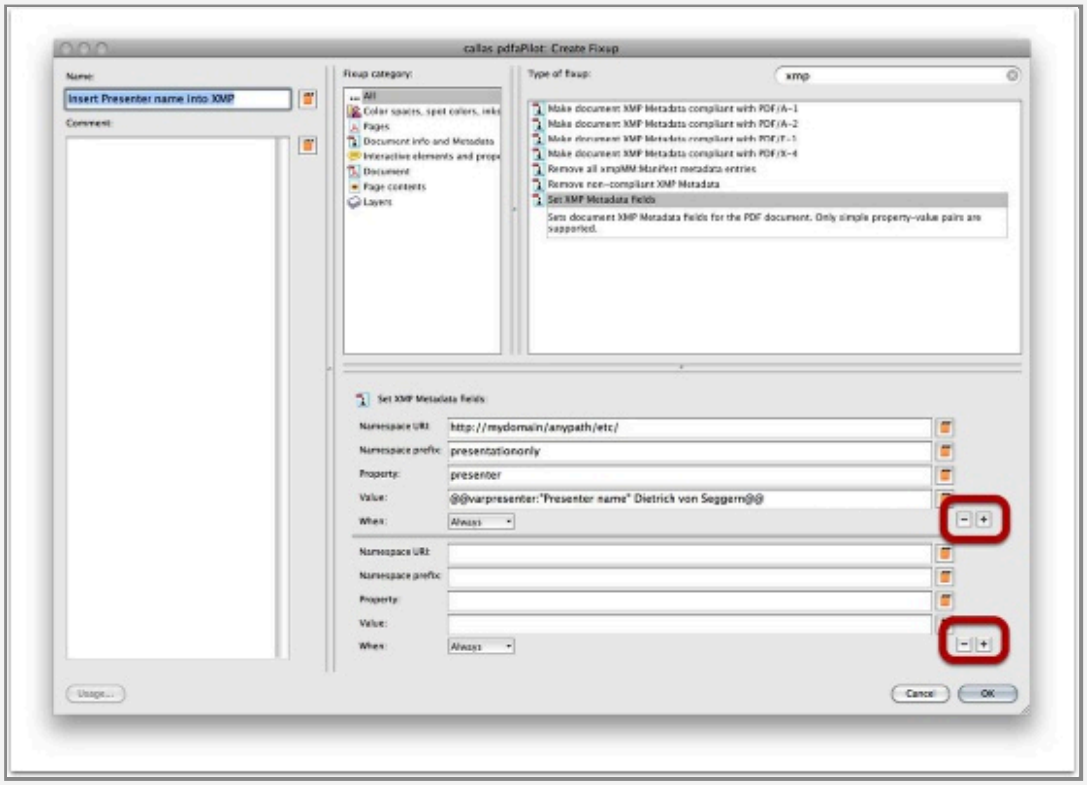
If you want to adapt the value whenever you are using the fix-up, use a variable instead of a fixed value. Click on the orange icon on the right hand side:



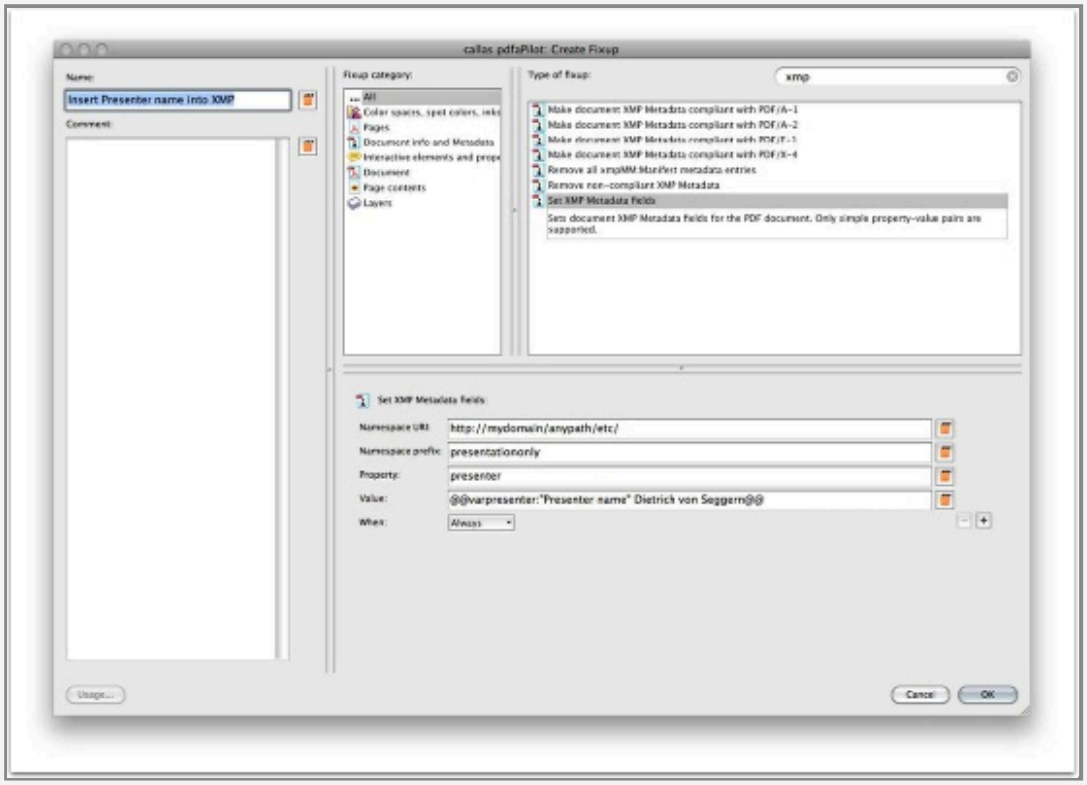
A new window opens that lets you define a variable. Give the variable a name, a display name and a default value for the variable and save by clicking OK. This name can be used in pdfaPilot CLI or pdfaPilot SDK in order to modify the values during runtime:



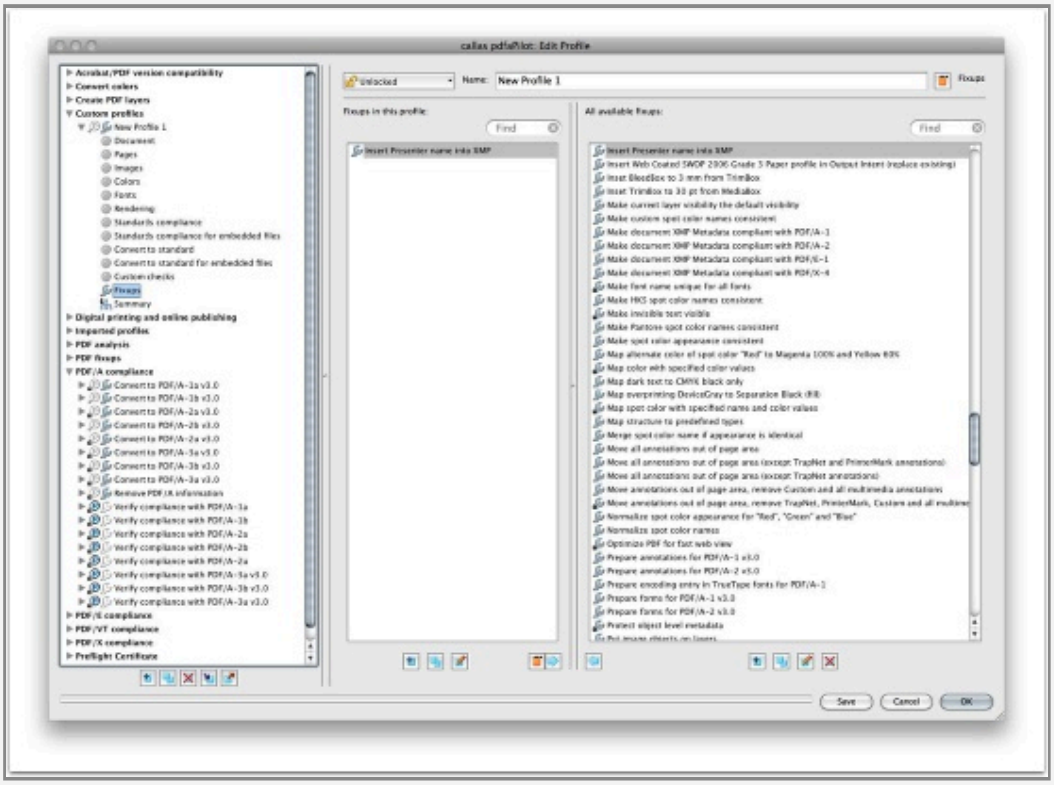
Now the variable data is inserted instead of a fixed value. You may use the [+] and [-] icons in order to define more or fewer properties:



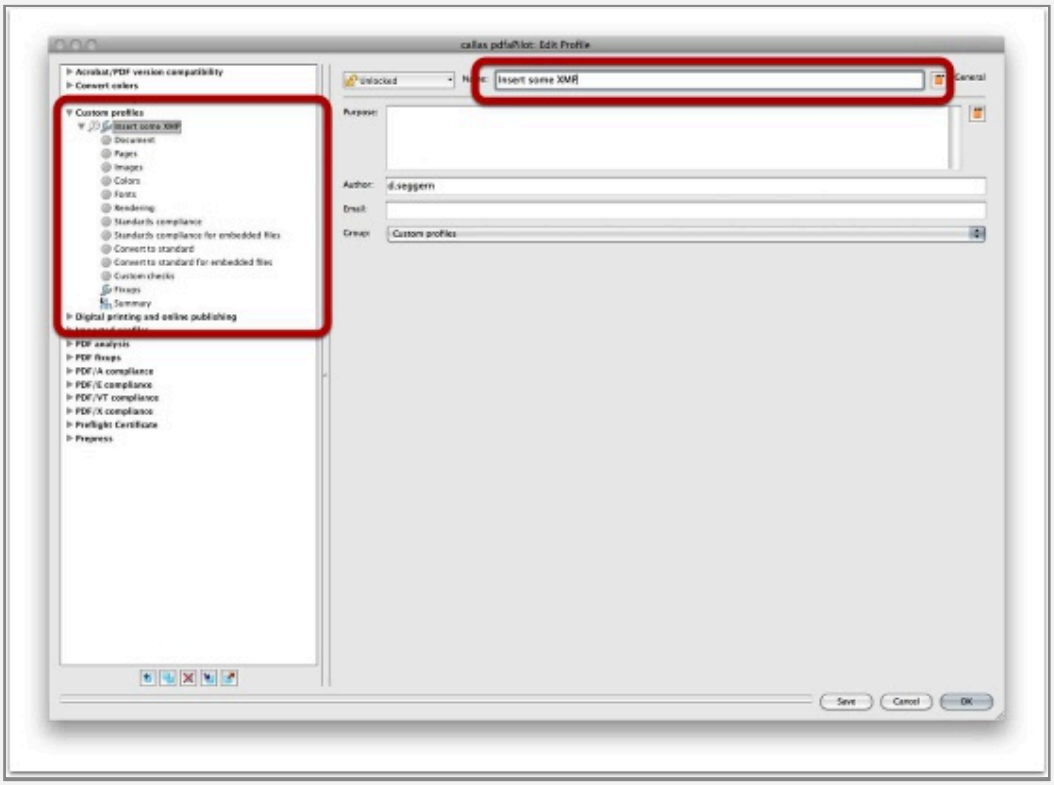
Define a name for the fixup and save by clicking OK:



The new fixup shows up in the profile editor:

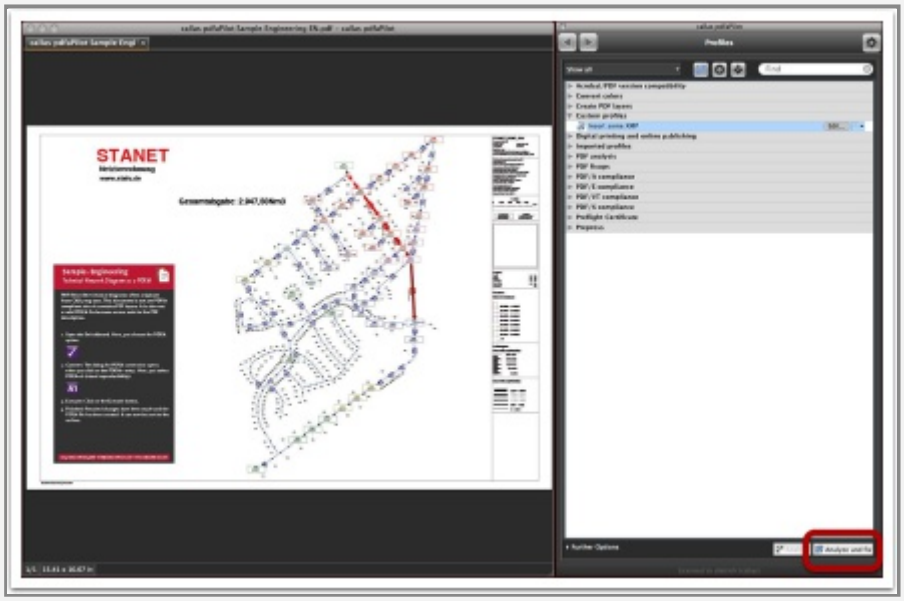


Define a name for the profile and save by clicking OK:

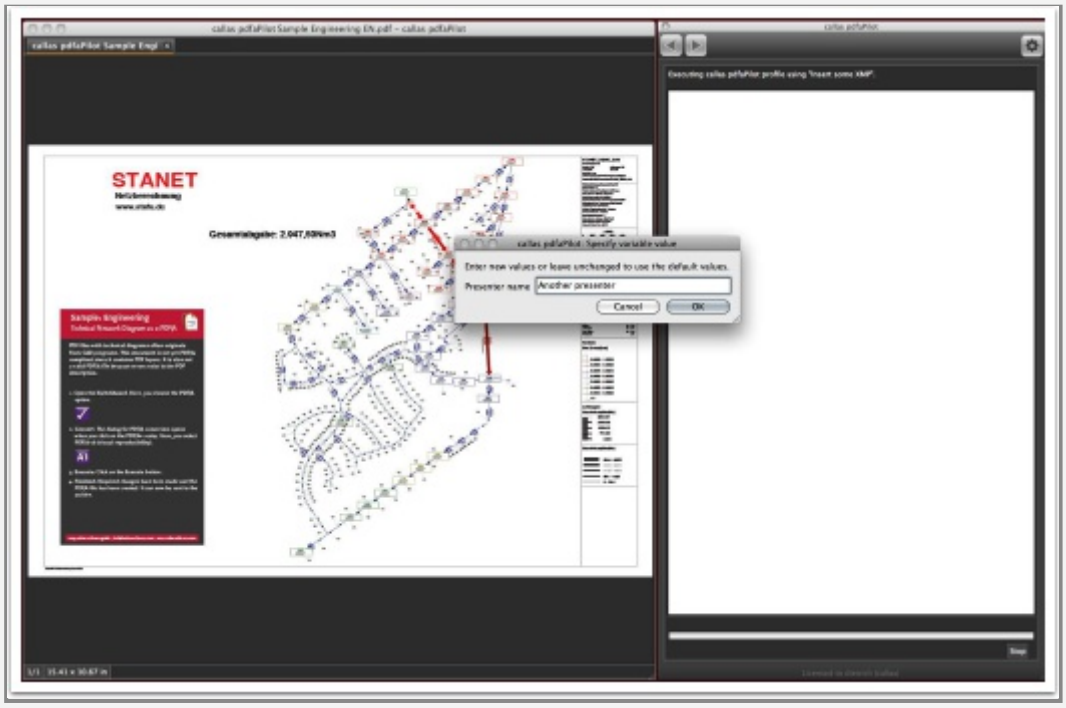


Executing the profile

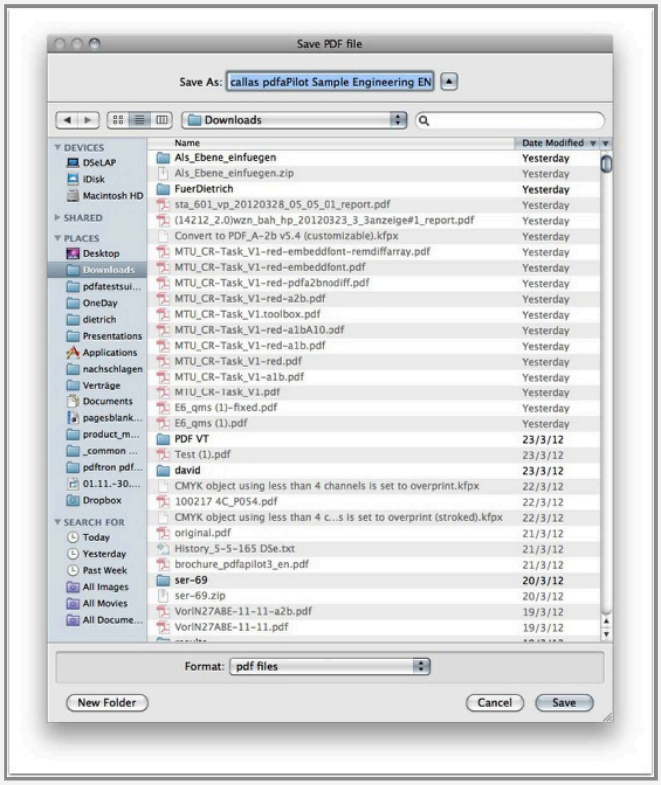
In order to apply the new fixup open any PDF and execute the profile:



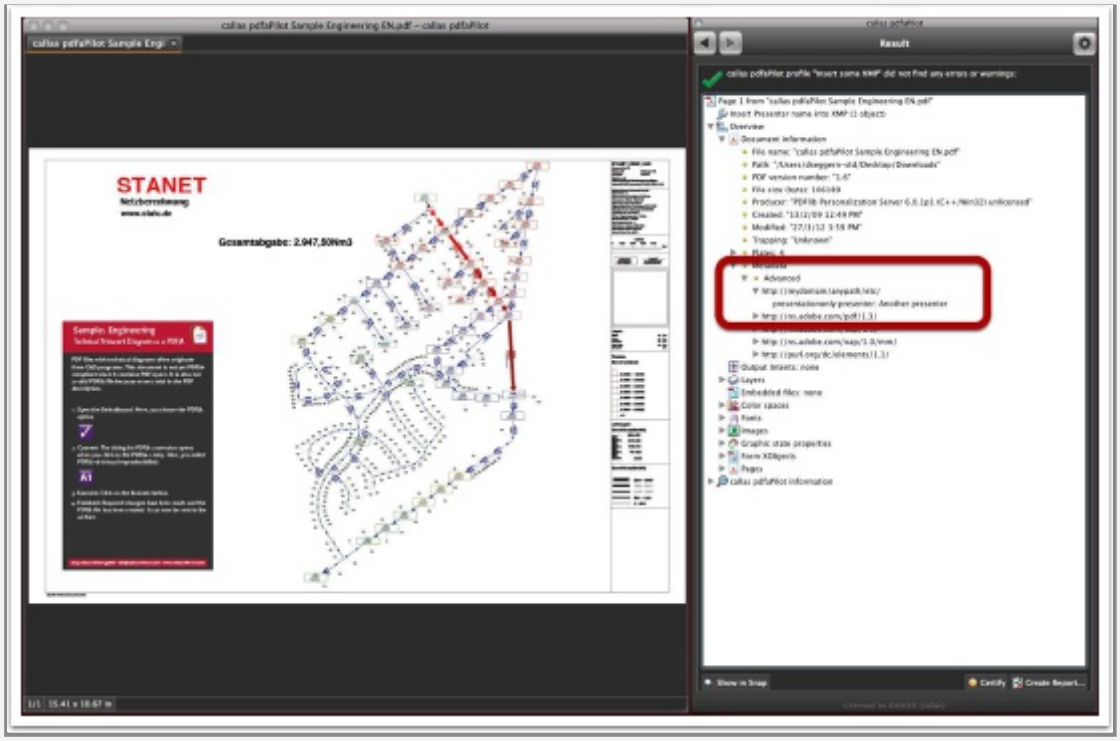
A dialog opens that lets you define the value for the property.
You can overwrite the default value:



Save the new PDF:



In the result view you can see that the new property and the adapted value has been inserted:



6. callas pdfaPilot CLI

6.1 Installation and activation of pdfaPilot Server/CLI

pdfaPilot CLI (command line interface) may be used to analyse files or to analyse and convert to PDF/A (if possible). For activating the SDK (software developer kit), please visit this page.

System requirements

The command line version of pdfaPilot is available for the following operating systems:

- Mac (Intel): macOS , version 10.7 or newer, 64-bit-compliant
- Windows:
  - Windows 7 or newer
  - Windows Server 2008 R2 or newer
- Linux: The minimum required Linux OS versions are shown below (Linux OS versions with a higher number are always supported as well):
  - Debian 7 (and derivates like Ubuntu 12.x)
  - RedHat RHEL6 (and derivates like CentOS6)
  - SuSE SLES11 (and derivates like OpenSuSE11)
  - Note: other Linux distributions are also supported as well if the version of the **glibc** is at least **v2.12**. Please use the **ldd --version** command to find out the version of glibc that comes with your Linux system.
- Solaris (Sparc and Intel): Solaris **11 (v5.11)** or newer
- AIX (PPC): AIX **6.1** (oslevel **6100-09**) or newer

You can easily test if pdfaPilot CLI is working on your system: Just type pdfaPilot --help in the terminal.

There are 64 bit versions of pdfaPilot CLI available for MacOS, Windows and Linux. pdfaPilot CLI does also run on 64 bit systems if the required 32 bit compatibility packages are available.

at least 2 GB RAM
at least 10 GB of free Disk Space

Hardware recommendations

pdfaPilot does not have extensive hardware requirements, so a decent computer should usually satisfy for processing PDF files. Concrete requirements depend very much on the complexity of the files and the operations to be performed. Some general recommendations are:

- For any PDF processes (checking and/or fixing) information about all PDF objects has to be available to the engine. The size of the RAM memory needs to be big enough for all such objects. If possible the size of the RAM should be not too small, especially for complex PDF files with many pages.
- Any operations will include reading and writing to "disc". Faster storage devices therefore speed up the process and processing will take advantage of using SSDs or similar.
- pdfaPilot allows for parallel processing. This will, however, only result in faster processing if the number of cores is higher than the number of parallel processes. It is recommended to have at least one additional core for system processes.

Examples:

Entry-Level:

Dual-Core Processor
4GB RAM
160 GB SATA hard disc

Mid-Range:

Quad-Core Processor
8GB RAM
500 GB SATA SSD

Installing the software

Macintosh/Windows
To install the software start the pdfaPilot Server installer. The installation program will then take you through the necessary steps.

Linux/Solaris/AIX
Extract all files from the archive to a destination folder of your choice.
For automation purposes you should set the PATH variable to the path of the pdfaPilot CLI executable.
Additional information is provided in <pdfaPilot CLI directory>/ReadMe.txt

Request activation

Before callas pdfaPilot CLI can be used, the software has to be activated.

Request an activation code

Open a terminal window and change to your pdfaPilot CLI installation directory. Type:

```
pdfaPilot --keycode [--aws] <name> <company> <licenseCode>
```

Parameters

name	Name of licensee (e.g. "Registered User")
company	Name of company (e.g. "User's company")
licencecode	Licence key obtained from the registration card or the License.pdf provided by callas or the reseller.
aws	For installation on Amazon Web Services (using Windows, Linux 32bit and 64bit)

The textual output of --keycode has to be send via e-mail to the e-mail address named in the text in order to receive an activation code from the registration server.

To make a request for a trial version, please use the keyword "trial" (for a pdfaPilot trial version) for this parameter

Activating pdfaPilot CLI

After receiving the automatic e-mail reply from the activation server, save the attached 'activation file' to the file system. Then use the following command:

```
pdfaPilot --activate <activation file>
```

If no response is received or in the event of an error, please contact support@callassoftware.com to determine the exact cause.

Please note:
The Activation.pdf (or the content of the e-mail) can only be used for activation for 48 hours.
After this timeframe, a new Activation.pdf has to be requested from the activation server.

Parameters

activation file	Full path to Activation PDF

If your SPAM filter has removed the attachment, you can create a new empty text file and copy all lines from the e-mail that are starting with an "@" into the text file. Save it as a UTF-8 encoded plain text file with the name “Activation.txt". This text file can now be used in the exact same fashion as described above for the Activation PDF.

It is necessary to activate the received license file to get a permantent valid license file.

The license file received from the activation server must be activated within the timeframe listed in the license file.

The activated license file will be stored in the user-preferences when the normal activation (command above) is used.

To create an activated license file at a custom location, just use the following command:

```
pdfaPilot --activate <licence file> -o=<path to result folder/License.txt>
```

pdfaPilot CLI is searching for the license file at various folders:

- user-preferences-folder of actual user
- next to the pdfaPilot CLI binary
- cachefolder (if set)
- user-preferences-folder for all users (shared)

When using UNIX-based-systems the environment variable CALLAS_SYSTEM_PREFERENCES the path of the standard */usr/share/callas software/callas pdfaPilot CLI* can be changed:

CALLAS_SYSTEM_PREFERENCES=tmp

would result in the searchpath: */tmp/callas software/callas pdfaPilot CLI*

It is highly recommended to use the option --cachefolder instead.

Time-limited trial version

After requesting and entering a trial activation code, pdfaPilot CLI can be tested without any restrictions. When the evaluation period has expired, processing PDF files will no longer be possible until you request and enter a new activation code.

Activation using the Standalone application

Using Windows and MacOS, also the activation dialog of the Standalone Application can be used for requesting an activation as well as using a Keycode or just for a trial version. Also the activation itself can be done using that Interface.

All activations (for Desktop and Server/CLI) can be done using this dialog.

Deactivate pdfaPilot using the CLI

As the activation (and the resulting license file) is bound to the hardware. It is necessary to deactivate a license on one

machine before an activation takes place on the new machine.

```
pdfaPilot --deactivate <activation code>
```

activation code	Unique identifier for each license

The respective license will be removed from the system

To complete the deactivation, the output of the command has to be sent manually to the activation server by e-mail.

The activation code for all license are listed using the status command:

```
pdfaPilot --status
```

Deactivation using the Standalone application

Similar to the deactivation using the CLI, the Desktop on Windows and MacOS can be used for deactivation.

The selected license will be removed from the system as well and the necessary e-mail to the activation server will be sent automatically.

6.2 Displaying program information – Hints and trouble shooting

Displaying program information

Display program version

```
pdfaPilot --version
```

will display the currently used version of pdfaPilot CLI.

Display usage information

```
pdfaPilot --help
```

will give you a complete overview about all available commands for processing.

```
pdfaPilot --help <command>
```

will give you an overview about all available options for the command.

Display status

```
pdfaPilot --status
```

will inform you about the current license state as well as the possible return and reason codes (see *"Results"*).

Hints and troubleshooting

Ensure sufficient free disk space

To ensure stable processing, it is recommended to have at least 4 times of the input file size of processed files available for intermediate file system storage (e.g. /tmp on Unix and similar on other systems).

Avoid stopping workflows on Windows

On Windows, you can prevent your workflow from stopping in case of a pdfaPilot CLI crash by setting the following registry entry:

```
HKEY_LOCAL_MACHINE\
SYSTEM\
CurrentControlSet\
Control\
Windows\
ErrorMode
```

If ErrorMode is set to "2", crash dialogs will be suppressed. For further details, see: http://support.microsoft.com/kb/128642/en-us?fr=1

Limiting the maximum memory used by pdfaPilot

Using Linux, you can limit the amount of memory used by a single process by an additional parameter:

```
--maxmemory=<max. memory in MB>
```

Processing will stop and result in an error if memory is exceeded.

Limitation of concurrent processes

If the StdOut of the command line indicates "Maximum number of parallel processes allowed by license already running; waiting until one of the current processes terminates" (before pdfaPilot 8: "Waiting for CPU"), the maximum number of parallel processes is reached. A default Server/CLI license allows up to 8 parallel processes. To run more than 8 processes simultaneously, an unlimited license is required.

Performance enhancement

If you want to enhance the performance of your pdfaPilot CLI processes, please keep in mind the following rules:

For embedding missing fonts your system font folder will be scanned unless defined otherwise (see *"Font Embedding"*). pdfaPilot will create a font cache to improve the performance time, but still it might be useful to remove fonts that are not needed from this directory.

If you are using any font embedding fixups, your system font folder will be scanned unless defined otherwise in the fixup configuration. A font cache will be created to improve the performance time, but still it might be useful to remove fonts that are not needed from this directory.

Creation of XML or PDF reports takes less time than the XSLT option (see *"Report types"*).

Creation of reports takes additional time even if a profile contains only fixups, an analysis will be executed for gathering report information.

Optimization of needed installation space

To reduce the pace needed by the installation of pdfsPilot, it is possible to delete some subfolders of the CLI component (in subfolder /cli) if their respective functions are not needed in the individual use case.

To avoid processing errors or unexpected behaviour of pdfaPilot any modification should be done well-considered.

etc/Actions	If no Arrange action is used
etc/APDFL	If no font embedding or PDF/A conversion is used (or if font situation is clear)
etc/Backgrounds	If no layer/image mask report is used
etc/Certify	If no preflight certification is used
etc/ColorConver-sion	If no color conversion is used
etc/HtmlConverter	If no PDF report based on HTML template is used
etc/Inventory	If no inventory report is used
etc/MailConverter	If no e-mails are processed
etc/PDFOfficeTool	If no Office-files are processed
etc/PDFPSTool	If no PostScript-files are processed
etc/Reports	If no PDF/A-HTML Report or ZUGFeRD is used
etc/TPex	If no tagged PDF to HTML/EPUB export is used
etc/UnpackTool	If no archive files are processed
etc/Visualizer	If no Comparison is used

Possible errors within the Server-UI communication

The communication between the Server-UI and the underlying Server process (which observes the folders) takes place by network communication ports using SOAP.

When the Server-UI shows a warning for a connected Server like "Error 28", it indicates that there were errors either during the connection to the Server process itself or that the Server process has stopped working.

You can try to reconnect to the Server in the UI or try to start the local Server process again by the "Start Server" option.

Get in touch

If some necessary information is not provided by this manual or if there are any questions or feedback please contact the product management by using the "Contact Support" form on *www.callassoftware.com*.

You can also send an e-mail to *support@callassoftware.com*.

If you file a bug report please make sure your inquiry contains the following information:

- operating system
- pdfaPilot version (call pdfaPilot --version)
- command line call
- original PDF (please delete unnecessary pages to avoid long file transfers), used profiles or configuration files
- converted PDF (if available)

You can also visit the support section on *www.callassoftware.com* to get answers to common questions or find a reseller near you. The latter might be useful if you want to send a support request that is neither in English nor German.

6.3 Converting office documents to PDF or PDF/A

Input files from Office applications

The CLI component is able to convert common file formats from Office applications directly to PDF/A. For more information and a list of supported applications and files have a look at: http://www.callassoftware.com/goto/apl_ENU_topdf (for pdfaPilot)
http://www.callassoftware.com/goto/tbx_ENU_topdf (for pdfToolbox)

- Note: Office file conversion is currently not supported on Solaris and AIX systems.
- Note: *Since pdfToolbox11/pdfaPilot 9/pdfEngine 11 onwards in the 64bit variant on Windows, the Libre/OpenOffice has to be 64bit as well (and 32bit when the 32bit variant is installed).*

Forced use of OpenOffice

```
--topdf_forceopenoffice
```

When defined, Microsoft Office files are processed with OpenOffice (or LibreOffice if installed).

Create PDF for print

```
--topdf_print
```

The PDF will be created with image resolution sufficient for printing, thus leading to larger files.

Excel-Sheets without removing white space

```
--topdf_useexcelpagelayout
```

Use Excel page layout, white space will not be removed.

Special handling for MS Office files

```
--topdf_parameter=[ShowHiddenColumns|ShrinkToFit|PrintQualityAndComments|Update-
ChangedFields|DoNotHideOffice|NoMemoryOptimization]
```

Special parameters to achieve some special layouts for MS Office files.

Parameters

ShowHiddenColumns	Show columns which are not visible due to small width or other settings. (for Office files processed with MS Excel only). Note: When --topdf_useexcelpagelayout is used, this parameter will not be respected.
ShrinkToFit	Shrinks the content of a cell so that the content fits inside. (for Office files processed with MS Excel only). Note: When --topdf_useexcel-pagelayout is used, this parameter will not be respected.
PrintQualityAndComments	Images will have bigger resolu-tions and comments/annotations (e.g. from tracking changes) will be included as well (for Office files processed with MS Word only; can not be combined with --topdf_print).
UpdateChangedFields	Updates the changed fields like automatically generated Table of contents. By default, such fields are not updated (for Office files processed with MS Word only)
DoNotHideOffice	Parameter to avoid hiding Office application for a successful conver-sion to PDF
NoMemoryOptimization	Parameter to to disable internal memory optimization during pro-cessing for improved performance

Logging of dialogs in defined log file

```
--topdf_guiactionslog=<path>
```

Parameters

path Path to folder or logfile.

All dialogs occuring during processing the office file will be logged within this file.

- Note: See the "to PDF" internet page (listed above) for further information about handling of dialogs from MS Office applications.

6.4 General command line options

Usually pdfaPilot CLI is started with:

```
pdfaPilot <PDF file>
```

Input file

May be one or a number of input files (PDF or Office files) to be analysed and converted.

If an input file spec is pointing to an existing folder, all files inside this folder are processed:

Process folders recursively

```
--recursive
```

If the file spec for the input file is pointing to an existing folder all PDF files inside the folder on all levels are processed

Empty the font cache

```
--emptyfontcache
```

Removes all font files from the font cache folder of pdfaPilot CLI.

Incremental saving

```
--incremental
```

Allows to modify the input file, only writing the changes to the original PDF. This can increase the speed significantly since pdfaPilot CLI does not need to create a new copy of the file.

PDF structure and font optimization

```
--nooptimization
```

The internal PDF structure and fonts are not optimized when saving the PDF file.PDF structure and font optimization

Analyze only

```
-a
```

```
-analyze
```

The input file is not being converted but is analyzed whether it is PDF/A compliant.
Both parameters can be used.

Analyze only certain pagerange

```
-p --pagerange=<firstpage>[-<lastpage>]
```

Only applied when analyzing not when converting PDF files.

- Note: When converting non-PDF documents the page range of the original document can be specified.

Parameters:

firstpage	Page where analysis should start
lastpage	optional, page where analysis should end

Example:

```
--pagerange=5-33
```

Setting the cache folder

```
--cachefolder=<path>
```

Sets the cache folder path. This is set by default to:

Windows:
%AppData%\callas software\callas pdfaPilot CLI <version>

Macintosh:
/Users/<USERNAME>/Library/Preferences/callas software/
callas pdfaPilot CLI <version>

Unix:
home directory as defined in /etc/passwd/.callas software/
callas pdfaPilot CLI

- Note: This option is mandatory when running the CLI as a user without a home directory.

Parameters

path	absolute path to custom cache folder

Font folders

If a font is not embedded and an embedding is required by a profile, pdfaPilot CLI will search the system font directories in order to find the needed font file, which are:

System	Folder
Windows	C:\Windows\Fonts
Macintosh	• /Users/<user>/Library/Fonts • /Library/Fonts • /System/Library/Fonts
Linux, Solaris Sparc, Solaris x86, AIX	• /usr/lib/X11/fonts • /usr/local/X11R6/lib/X11/fonts

System	Folder
	• /usr/share/fonts • /<user home>/.fonts

Additionally the font folder installed together with pdfaPilot CLI will be searched.
This folder lies next to the executable in "<callas pdfaPilot CLI directory>\etc\APDFL\Resource\Font".

Enable processing PDF with password protection for editing and printing

```
--password=<password>
```

To enable Profile-processing of a password-protected PDF. This option can be used for PDFs with restrictions for editing and printing, which will become unsecured. The resulting PDF will have no security setting.

The entered password will be visible and may be grabbed or logged by other processes on the machine.

Parameters

password	Password of the PDF (avoiding editing or printing of the PDF)

Enable processing PDF with password protection for opening

```
--openpassword=<password to open PDF>
```

To enable Profile-processing of an "open"-password-protected PDF. With this option only PDFs with restrictions for opening can be unsecured. The resulting PDF will have no security setting.
Available since pdfaPilot 8.2.

The entered password will be visible and may be grabbed or logged by other processes on the machine.

Parameters

openpassword	"Open" password of the PDF

Set a processing timeout

```
--timeout=<seconds>
```

Sets the maximum processing time in seconds. If the process exceeds this duration, the execution process will be killed and the processing will result in an error.

6.5 Additional command line options and response files

Quick processing

```
-q --quick
```

Processing is stopped after the first detection of an error in the corrected PDF (only applied if no report is generated).

Define the overwrite mode

```
--overwrite
```

New files override existing files with the same name (applies to report files and to created PDF files).

Create output files only for successful conversion

```
--onlypdfa
```

Create an output file only if the file could be converted to PDF/A.

Set the result path

- Note: If neither an output path nor an output folder is defined, any result will be created next to the input file (default: input file name with suffix _PDFA or _NOPDFA, will be indexed if necessary).
- Note: The use of --outputfile together with --outputfolder is not sup-ported within one CLI call.

Path to output file

```
-o --outputfile=<path>
```

Defines the absolute path of the destination file. The parent folder must exist.

- Note: Consult section "Results"to see if a new file was created.

Parameters

path	absolute path to output file

Path to output folder

```
-f --outputfolder=<path>
```

Defines an absolute path to a folder where the resulting files of an execution are stored.

If neither an output path nor an output folder is defined any result will be created next to the input file (filename will be indexed if necessary).

The use of --outputfile together with --outputfolder is not supported within one CLI call.

Parameters

path	absolute path to output folder Output file

Use an additional profile

```
--profile
```

Run additional checks and fixups by defining a full path to a kfp or kfpx file (exported from pdfToolbox / pdfaPilot Desktop or Preflight in Adobe Acrobat). The input file is converted if no warnings or errors occur.

Using response files

To keep the command line call structured and straightforward, pdfaPilot CLI supports the usage of response files. These offer the possibility to define each command line switch line by line and also add some comments.
Please make sure the response file is saved as UTF-8 (without BOM).

Example

Response file analyze.rsp:

```
###################
# PDF/A analysis
# with additional Profile for checking the image resolution, where the resolution
and the name of the Check can be adjusted dynamically
#
--analyze
--profile=<Path to Profile file>
--setvariable=RESOLUTION:300
--setvariable=CHECKNAME:Image resolution for images
#
###################
# EOF
```

Using different responsefiles enables the easy definition of own, localized sets of strings for names of Custom Fixups and Custom Checks as well as different settings for processing PDFs for different output environments.

Command line call:

```
pdfaPilot @<absolute path to "analyze.rsp"> <PDF file>
```

If command line arguments or options with space characters are used in the response file, they shall not be escaped or set in quotes as normally used in CLI commands, where it would e.g. look like: `--setvariable=CHECKNAME:"Image resolution for images"`

`"var/Profiles/PDF analysis/List page objects, grouped by type of object.kfpx"`

or

`var/Profiles/PDF\ analysis/List\ page\ objects\,\ grouped\ by\ type\ of\ object.kfpx`

You can also reference files, e.g. Profiles directly from the response file (you have to use the correct path to the correct location or course).
Like explained above, the correct syntax in a response file has to look like:

```
###################
# PDF/A analysis
# with additional Profile for checking the image resolution, where the resolution
and the name of the Check can be adjusted dynamically
#
--analyze
--profile=Resolution of color and grayscale images is less than specified value.kf-
px
--setvariable=RESOLUTION:300
--setvariable=CHECKNAME:Image resolution for images
#
###################
# EOF
```

You'll find a sample Profile with the Variables used above here:

Resolution_of_color_and_grayscale_images_is_less_than_specified_value.kfpx

Additional notes

- It is possible to use multiple response files within one CLI call.
- You can also add other command line parameters to the response file.
- The order of the content and the order of the response files will define the final order of all options and commands for the CLI call.
- Limitations with regard to the maximal length of a command line call can thus be avoided.

6.6 PDF/A specific command line options

PDF/A Compliancy level

```
--level=<level>
```

You can define which PDF/A level you need (default is 1b).

Parameters

level	3b, 3u, 3a, 2b, 2u, 2a, 1b or 1a

Deactivate removal of non-compliant metadata

```
--noxmpremoval
```

Normally, XMP Metadata which is not compliant with PDF/A is removed during conversion. This switch prevents the removal.

Force Conversion to PDF/A

Due to several reasons a regular conversion may not result in a valid PDF/A document. To ensure conversion 3 additional steps can be per-formed after a normal conversion if a file can not be converted to PDF/A within this first step. The order they will be performed is as listed below. After each step the resulting file is checked for compatibility with the choosen standard. Each step is optional.

```
--forceconversion_reconvert
```

Performs a re-conversion of the PDF via PostScript.

```
--forceconversion_pagestoimages
```

Convert pages with problems into images, while converting the text is transmuted into invisible text, which is correctly positioned to keep the text available for marking and copying.

```
--forceconversion_doctoimages
```

Convert all pages into images, while converting the text is transmuted into invisible text, which is correctly positioned to keep the text available for marking and copying.

```
--forceconversion_resolution=<resolution in ppi>
```

Image resolution in ppi used for the rendered content. (Default = 100 ppi).

Font folders

If a font is not embedded and an embedding is required by a PDF/A-con-version or a profile, pdfaPilot CLI will search the system font directories in order to find the needed font file, which are:

Windows	• C:\Windows\Fonts
Macintosh	• /Users/<user>/Library/Fonts • /Library/Fonts • /System/Library/Fonts
Linux, Solaris Sparc, Solaris x86, AIX	• /usr/lib/X11/fonts • /usr/local/X11R6/lib/X11/fonts • /usr/share/fonts • /<user home>/.fonts

Additionally the font folder installed together with pdfaPilot CLI will be searched. This folder lies next to the executable in "<callas pdfaPilot CLI directory>\etc\APDFL\Resource\Font".

ICC-profiles folders

The following folders are searched for required ICC-profiles, unless they are already contained in the .kfpx-profile already. These folders lies next to the executable in:

- "<callas pdfaPilot CLI directory>\etc\ICC profiles"
- "<callas pdfaPilot CLI directory>\etc\APDFL\Resource\Color\Profiles"

Some system folders for colors are searched addtionally:

- MacOS: "\Library\Application Support\Adobe\Color"
- Windows: "\Windows\system32\spool\drivers\color"

Set a processing timeout

```
--timeout=<seconds>
```

Sets the maximum processing time in seconds. If the process exceeds this duration, the execution process will be killed and the processing will result in an error.

6.7 File content command line options

Deactivate transparency flattening

```
--notransparencyflattening
```

This switches off both flattening of any contained transparency and setting the blend color space to sRGB.

Add XMP metadata

```
--addxmp=<path>
```

The XMP metadata is merged into any existing XMP metadata.

Parameters

path	Path to an XMP file

Add bookmarks

```
--addbookmarks=<path>
```

The bookmarks are embedded into the PDF as defined in the XML file.

Parameters

path	Path to an XML file containing

	book-- marks

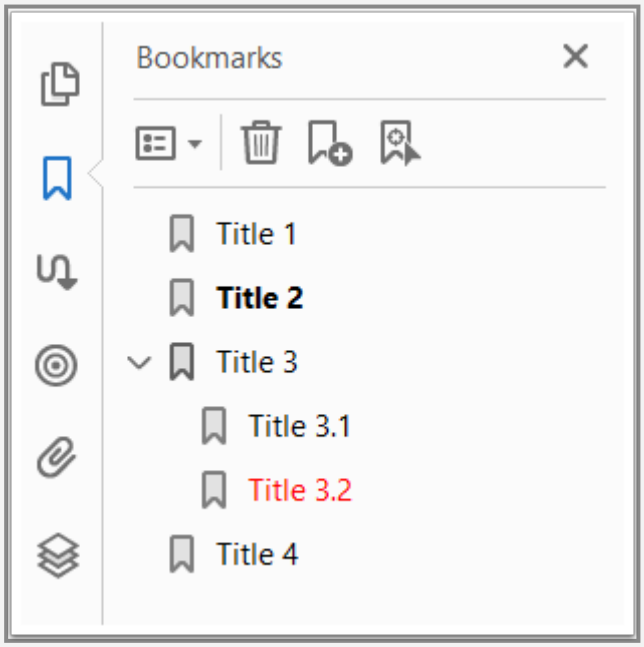
Bookmark structure to be used in the XML file

The structure for bookmarks has to be defined in the XML file. It is also possible to use various formatting styles for the bookmarks ("PLAIN", "BOLD", "ITALIC", "BOLD_ITALIC" and colors "R,G,B"). This formatting will only be shown if the respective PDF viewer supports such styling information. Also a subcategorization for the bookmark tree is possible. Only page numbers as destinations can be defined, but e.g. no coordinates on a specific page.

Sample for an XML file

```
<?xml version="1.0" encoding="utf-8"?>
<BOOKMARKS xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:noName-
spaceSchemaLocation="bookmarks.xsd">
  <BOOKMARK ORDER="100" TITLE="Title 1" PAGE_NUMBER="2" />
  <BOOKMARK ORDER="200" TITLE="Title 2" PAGE_NUMBER="3"  STYLE="BOLD" />
  <BOOKMARK ORDER="300" TITLE="Title 3" PAGE_NUMBER="1" />
  <BOOKMARK ORDER="301" TITLE="Title 3.1" PAGE_NUMBER="4" />
  <BOOKMARK ORDER="302" TITLE="Title 3.2" PAGE_NUMBER="5" COLOR="255,0,0"/>
  <BOOKMARK ORDER="400" TITLE="Title 4" PAGE_NUMBER="7" />
</BOOKMARKS>
```

This XML would result into the following bookmark tree:



Set the OutputIntent

```
-i --OutputIntent=<path>
```

Path to a PDF file with an OutputIntent – forces use of this OutputIntent.

Parameters

path	Path to an OutputIntent

Define ICC profiles

CMYK

```
--defaultprofile_cmyk=<path>
```

The given profile is embedded as the default profile making device depen-dent CMYK page objects device independent.

Parameters

path	Path to a CMYK ICC profile

RGB

```
--defaultprofile_rgb=<path>
```

The given profile is embedded as the default profile making device depen-dent RGB page objects device independent.

Parameters

path	Path to an RGB ICC profile

Gray

```
--defaultprofile_gray=<path>
```

The given profile is embedded as the default profile making device depen-dent Gray page objects device independent.

Parameters

path	Path to a Gray ICC profile

6.8 Font embedding command line options

If a font is not embedded pdfaPilot CLI will search the system's font direc-tories in order to find the needed font file, which are:

Windows	• • C:\Windows\Fonts
Macintosh	• • /Users/<user>/Library/Fonts • • /Library/Fonts • • /System/Library/Fonts
Linux, Solaris Sparc, Solaris x86, AIX	• • /usr/lib/X11/fonts • • /usr/local/X11R6/lib/X11/fonts • • /usr/share/fonts • • /<user home>/.fonts

Additionally the font folder installed together with pdfaPilot CLI will be searched. This folder lies next to the executable in "<callas pdfaPilot CLI directory>\etc\APDFL\Resource\Font".

Define an additional font folder

```
--fontfolder=<path>
```

Additional folder to look up fonts for embedding.

Parameters

path	Path to config file

Example:

```
--fontfolder="C:\AdditionalFonts"
```

- Note: You can force pdfaPilot CLI to only scan the folder defined by --fontfolder (and not search the system's font folders) by using the option --fontonly.

Substitute fonts

```
--substitute[=<path>]
```

Font substitution can be used when the original fonts used in a PDF file are not available. By default, the font substitution file pdfa.cfg stored in "etc/FontSubstitution/" provides the basis for substitution.

Alternatively, you can also enter a custom path to a fontsubstitution file, e.g.:

```
--substitute=C:\fontsubstitution.cfg
```

If you want to switch off font substitution completely, just hand over an invalid value, e.g.:

```
--substitute=no
```

Parameters

path	Optional, path to config file

The following notations are allowed in the fontsubstitution.cfg:

SubstituteAll

Each font can be substituted by every other font of the entry.

```
SubstituteAll<tab>fontname<tab>fontname<tab>fontname...
```

SubstituteFirst

Only the first font of the entry can be substituted by the following fonts.

```
SubstituteFirst<tab>font to be substituted<tag>fontname <tab>...
```

More examples

Please see Embedding fonts: Font substitution file for further details regarding font and glyph substitution

6.9 Creating file packages

Some PDF standards allows the embedding of PDF- and also non-PDF-files into another PDF file. Sometime these filepackages are also called collections. Using pdfaPilot CLI it is possible to create such file packages from a complete folder or to define different ways how a file which shall be embedded is handled. In general a file package is created with --collection This will create an index document, which lists all embedded files from the given folder. Also an existing folder structure will be respected

```
--collection <folder>
```

In general a file package is created with --collection This will create an index document, which lists all embedded files.

```
--collection <file> [<file>]
```

Settings for file embedding

```
--collection [--embedinto=[target],<file>] [--embedfile= [target,[relation-
ship],<file>] [--embedwithlink= [area,<file>]
```

--embedinto

It is possible to use own templates or normal PDF for embedding files. The standard for the file where other files will be embedded can be defined using the conversion target (see below). If no file is defined, an index file is created. Instead of using a destination file, also a folder containing a HTML-based Template with an index.html can be used as destination. The overview page of all embedded files will be created with the layout defined within this template then.

Parameters

target	A3b, A3u, A3a, A2b, A2u, A2a,

	A1b, A1a or No (Default)

--embedfile

Also for files to embed a conversion target can be defined using the con-version target. For PDF/A-3 standards also a relationship entry for each embedded file can be set.

Parameters

target	A3b, A3u, A3a, A2b, A2u, A2a, A1b, A1a, PDF or No (Default)

Using the target "No", no conversion to PDF is done. (Only available for embedded files.)

relationship	Source, Data, Alternative, Supple-ment, Unspecified (Default)

--embedwithlink

Alternatively, files can be embedded with defining an area in the contain-ing document, where a link to the contained file is created. No conversion will take place with the file to embed.

Parameters

area	X1,X2,Y1,Y2[pt, in, cm, mm]

Defines a rectangular area, based on the lower left corner of the page, where a link to the embedded file is inserted. Default unit is pt.

- Note: The "--embedwithlink" function is not supported when using an HTML-based template for the creation of the overview page.

Example:

```
--collection --embedinto=A3b,<PDF file> --embedfile=A3b, Alternative,<file> --em-
bedfile=A2b,Source,<Office file> --embedfile=No,Data,<file>

--collection --embedinto=A3b,<path to HTML template folder> <folder with files to
create a collection from> -o=<path to result PDF>
--collection --embedwithlink=10,10,100,100,<file> --embedwith-
link=10mm,100mm,100mm,200mm,<file>
```

6.10 Converting email files to PDF

Some common email file formats (MSG, EML, EMLX) are supported for conversion to PDF. Some PDF standards do not allow embedding files (like PDF/A-1) but other allows the embedding of PDF- (PDF/A-2) and also non-PDF-files (PDF/A-3) into another PDF file. To match these different targets, using pdfaPilot CLI it is possible to define variety of different settings for handling attachments of emails. In general a PDF is created with --emailtopdf This will create a PDF containing all attachments, those who can be converted as PDF (like Office files or images), all other in their native format.

```
--emailtopdf <email file>
```

Settings for email conversion

```
--emailtopdf
  [--level=<level>]
  [--attachments=<parameter>,<parameter>,...]
  [--onerror=<parameter>]
  [--embedsource]
  [--noembed=<file type>,<file type>,...]
  [--noconvert=<file type>,<file type>,...]
  --template=<path to folder>
  <email file>
```

--level

You can define the required PDF/A level (default is no PDF/A conversion).

Parameters

level	A3b, A3u, A3a, A2b, A2u, A2a, A1b, A1a or No (default: no)

--attachments

Depending on the defined parameter, attachments will not be embedded or embedded in their original file format, converted to PDF or as pages. The parameters can be combined comma separated.

Parameters

IGNORE	Attachments will be ignored and not converted or attached
ORIGINAL	Attachments will be embedded in their original file format
PDF	Attachments will be converted to PDF (if possible) (Default)
PAGES	Attachments will be converted (if possible) and attached as additional pages to the email content

--onerror

If an attachment can not be converted to PDF, this setting allows the defi-nition of handling such email files.

Parameters

ABORT	Aborts processing if an attachment can not be converted to PDF
SKIP	Attachment will be skipped and reported on the CLI.
FALLBACK	Attachment will be embedded in original file format, if it can not be converted to PDF. If a PDF/A-level has been selected, PDF/A-3 with the respective sublevel will be used. (Default)

--embedsource

The email-file itself will also be embedded in the resulting PDF.

--noembed

RegEx expression for file type extensions for attachments, which will not be embedded or converted to PDF although is attached to the email file. Samples for valid RegEx (RegEx is case-sensitive, "(?i)" will make it case-insensitive. --noembed=".*.vir" matches extension "vir" in small letters --noembed=".*.(VIR|EXE)" matches the listed extensions in big letters --noembed="(?i).*.VIR" matches all possible variations of "VIR"

--noconvert

RegEx expression for file type extensions for attachments, which will not be embedded or converted to PDF although is attached to the email file. See --noembed for RegEx samples.

--template

It is possible to create own HTML-Template and Cascading Style Sheets (CSS) to adjust the visual appearance of the created PDF.

Creating custom templates for email conversion

In order to get a "customizable" template, go to:

/var/Mail/Templates/Basic/manifest.xml
and temporarily set:

```
<x:settings>
   <x:keeptemp>true</x:keeptemp>
</x:settings>
```

A folder "Email.html" is created next to the email when you now execute any email conversion, like:

pdfaPilot.exe --emailtopdf Email.msg

You can now set:

```
<x:keeptemp>false</x:keeptemp>
```

in Email.html/manifest.xml and again run your conversion command, like:

pdfaPilot --emailtopdf Email.msg --template=Email.html

Please note that the files and folders mentioned above should not be edited because all changes will be ignored/overwritten. The static data can be used only to verify the current visual appearance without any execution with pdfaPilot again.

6.11 Creating HTML or EPUB

Creating HTML from tagged PDF

Converts a tagged PDF file into HTML, which can be opened in a browser to check the tagging strukture or viewing the content in various styles.

```
--createhtml <PDF file>
```

It is possible to create own Cascading Style Sheets (CSS) to adjust the visual appearance of the created EPUB.

```
--stylefolder=<path to folder>
```

By adjusting the <tag-and-attrib-processing.cfg> in the /config folder of the predefined templates, it is possible to suppress tags or attri-butes or their content as well as replacing tags or attributes by other tags or attributes.

Creating EPUB from tagged PDF

Converts a tagged PDF file into EPUB, which is the standard format for eBooks.

```
--createepub <PDF file>
```

Defining the EPUB level will result in the respective standard conformance.

```
--level=[2|3]
```

When one or more tags are defined, new chapters will be created at these contents.

```
--chapter=[TAG,][TAG,]...
```

It is possible to create own Cascading Style Sheets (CSS) to adjust the visual appearance of the created EPUB.

```
--stylefolder=<path to folder>
```

The visual appearance of the created EPUB files can easily adjusted by modifying a CSS-file. Predefined templates are located in the folder ../var/Actions/TaggedPDF/ExportEPUB. By changing the values in the CSS, the resulting EPUB can be adopted to individual needs. By adjusting the <tag-and-at-trib-processing.cfg> in the /config folder of the predefined templates, it is possible to suppress tags or attri-butes or their content as well as replacing tags or attributes by other tags or attributes.

6.12 Creating ZUGFeRD invoices

The German e-invoicing standard ZUGFeRD (Central User Guide Forum electronic Invoice Germany) defines a document, which contains an invoice in a human readable (PDF/A-3) and a machine readable format (XML). By using the PDF/A-3 standard the created file satisfies long-term archiving regulations. With pdfaPilot it is possible to embed such an ZUGFeRD-XML file (cre-ated by an electronic billing or accounting system) into a PDF, setting the required ZUGFeRD-XMP metadata and making the PDF a valid PDF/A-3 in one run.

Create a ZUGFeRD invoice using an invoice PDF and an invoice XML:

```
--zugferd --create=<ZUGFeRD XML file> <PDF file>
```

Adding a GiroCode during creation with a ZUGFeRD invoice using an invoice PDF and an invoice XML (GiroCode data will be determined from XML file):

```
--zugferd --create=<ZUGFeRD XML file>
--girocode=<lower left x>,<lower left y>,<size>,<unit>,<pagenumber>
<PDF file>
```

Parameters for GiroCode:

lower left x	Position from the lower left on x axis
lower left y	Position from the lower left on y axis
size	Size of resulting GiroCode

	(always quadratic)
unit	Optional unit for coordiantes and size: mm, inch, pt (default: mm)
pagenumber	Page, where the GiroCode will be positioned

Validate a PDF and the containing XML against the ZUGFeRD specification:

```
--zugferd <PDF file>
```

Extract the embedded XML from a ZUGFeRD PDF file:

```
--zugferd --extract <PDF file>
```

Create several reports from a ZUGFeRD invoice:

```
--zugferd --export=[<option>,<option>,...]
  [--resolution=<resolution in ppi>]
  [--imgformat=<image format>]
  <PDF file>
```

Options for ZUGFeRD reports:

NOPDFIMAGE	No images from the PDF pages
NOXML	XML invoice is

	not extracted
NOHTML	No HTML view of the XML
NOHTMLSYNOPSIS	No synopsis of PDF images and XML
NOVALIDATIONREPORT	No ZUGFeRD validation report

Addtional parameters for the export of PDFIMAGES:

RESOLUTION IN PPI	optional, resolution in ppi or width x height in pixel, e.g. 1024x800 (default: 72)
IMGFORMAT	optional, JPEG, PNG, TIFF, PDF (default: JPEG)

6.13 Report creation and command line output

Report creation

For each pdfaPilot CLI run several reports may be generated by inserting --report or -r switches into the pdfaPilot call. Following all options and reporttypes are listed. The options of --report are treated case insensi-tive and have to be separated by commas.

```
--report=[<type>,][<trigger>,][<options>,]<PATH=path>
```

Parameters

type	Optional, see "Report types and their options"
trigger	Optional, see "Report triggers"
options	Optional, see "Report types and their options"
path	Optional, see "Report path"

Report types and their options

HTML (default)

A html file is created. The format may be modified by combining this option with other options. It can be opened by any webbrowser.

Additional options for HTML reports

All following switches may be simultaneously used in order to add differ-ent types of additional content.

NOICONS	Create a report

	without any images
NOCORRECTIONS	Do not log corrections
NODETAILS	Suppress details for the occurences
OPENRESULT	All entries in the report are opened in Initial view (closed by default if JavaScript is enabled)

Set the path for referenced objects

```
--linkpath
```

HTML reports are generated without exporting referenced objects. This option requires a path (URL) to a folder where the referenced objects reside (Default: folder "\etc\report-template" in pdfaPilot CLI directory)

Example:

```
--linkpath="file:\\\Programme\pdfaPilot\etc\reporttemplate"
```

Customize your report

If you create a HTML report, you can completely customize it by adapting the CSS-File to your needs. You can even exchange the pictures.

You can find all material used for the HTML reports within the folder "\etc\reporttemplate" in your pdfaPilot CLI directory.

XML

XML file which is intended to be processed with software (parsers). The scheme of the XML report structure can be found within the xsd-file stored in "\var\XMLV2 report schema\".

MHT

A mht file is created. MHT is a data format created by Microsoft which offers the possibility to include all resources (like style sheets, images and JavaScripts) to be included in one file. This file type can only be read by Internet Explorer.

TEMPLATE

```
TEMPLATE=<path>
```

path Path to template folder (or respective index.html directly) PDF overview reports are created based on a style defined in a HTML/CSS template. A predefined template can be found in the Server/CLI path: ../var/Reports/Templates

Report triggers

ALWAYS	Always create a report (default)
IFNOPDFA	Create a report only if the file can-- not be converted to PDF/A

IFPDFA	Create a report only if the file can be converted to PDF/A

Report path

```
--report=<Report type>,<Report options>,PATH=<Path>
```

Full path of report file – the report path must not contain any commas.

- Note: PATH= must always be the last element.

Example:

```
--report=HTML,NOICONS,OPENRESULT,PATH=C:\Sample.html
```

Set the report language

```
-l --language=<language>
```

Defines the language in which the report is generated. Default language is English (en). The language is specified by using a two digit abbreviation. The following values can be used in the standard configuration:

Parameters

EN	English
DE	German
FR	French
IT	Italian

ES	Spanish
JA	Japanese

Command line output

Display progress

```
--noprogress
```

Switch off progress information.

Display hits

```
--nohits
```

Switch off output of hits (errors, warnings, information).

Display summary

```
--nosummary
```

Switch off summary information.

Display timestamp

```
--timestamp
```

Show a timestamp for each line of command line output.

Structure of command line output

Checks

```
Hit    Type of hit    Name of check   [Name of font]   [Name of glyph]
```

1. Hit

- always visible
- keyword

2. Type of hit

- always visible
- possible values: "PDFA", "Error", "Info", "Warning" (only for additional profile)

3. Name of check

- always visible
- never empty

4. Name of font

- only visible for hits that belong to a font check
- can be empty

5. Name of glyph

- only visible for hits that belong to a font check
- can be empty

Corrections

```
Fix    Name of fixup   [Name of font]
```

1. Fix

- always visible
- keyword

2. Name of fixup

- always visible
- never empty

3. Name of font

- only visible for fixups that belong to a font correction
- can be empty

Failed corrections

```
FixFailure   Name of fixup  [Name of font]
```

1. FixFailure

- always visible
- keyword

2. Name of fixup

- always visible
- never empty

3. Name of font

- only visible for fixups that belong to a font correction
- can be empty

Progress

```
Progress Value %
```

6.14 Results (Return codes - Error codes - Reason codes)

Return codes and their usage

All return codes below 100 indicate a successful operation.

When executing kfpx Profiles

0	No hit, no Fix-ups executed
1	At least one hit with severity 'info', no Fix-ups executed
2	At least one hit with severity 'warning', no Fixups executed
3	At least one hit with severity 'error', no Fix-ups executed
5	No hit, Fixups have been executed
6	At least one hit with severity 'info', Fixups have been executed
7	At least one hit with severity 'warning', Fix-

	ups have been executed
8	At least one hit with severity 'error', Fixups have been executed; Fixup failed

When executing in pdfa mode

0	PDF is valid PDF/A-file, additional Checks without problems
1	PDF is valid PDF/A-file, but additional Checks with problems – severity info
2	PDF is valid PDF/A-file, but additional Checks with problems – severity warning
3	PDF is valid PDF/A-file, but additional Checks with problems – severity error
4	PDF is not a valid PDF/A-file

When executing an e-mail conversion

0	Successful conversion to PDF/A
2	PDF is valid PDF/A file, but some attachments of the converted e-mail are missing
4	E-mail was converted to PDF, but is not a valid PDF/A-file

When executing the compare action

0	Compared PDFs are equal
1	Compared PDFs have differences

Other commands or actions

0	Successful operation

Errors

100	Not serialized (no

	valid serialization found or keycode expired)
101	Command line parameter error
102	Command line syntax error (illegal command)
103	Unknown error (internal error)
104	A file could not be opened
105	An encrypted PDF file could not be opened for writing
106	A file could not be saved
107	File is damaged and needs repair
Error codes above 128 are **NOT** Windows (only Linux or Mac)	
130	Processing is aborted due to user cancel
132	Illegal instruction
134	Abnormal termination (e.g. out-of-memory)
136	Floating point exception (e.g. div-by-zero)
137	Kill (e.g. explicitly sent by user or by the system)
138	BUS error (e.g. bad memory access)

139	Segmentation violation (e.g. invalid memory reference)
Cells from 134-139 on Mac/Linux indicate an error (crash) of the environmental system. Please report such cases together with the details and files to support@callassoftware.com	
141	Broken pipe (e.g. used for interprocess communication)
142	Execution is cancelled after timeout
143	Termination request (e.g. explictely sent by user or by the system)
145	Child process died (e.g. used for interprocess communication)
159	Bad system call (e.g. a system call that is not supported by the kernel)

- Note: On a Windows computer the return code may be accessed by using the system variable errorlevel, on a Linux/Sun Solaris/MacOS computer $? can be used.

Errors for distributed processing

110	Action is not distributable
111	No Dispatcher was found
112	No Satellite was found or is ready for execution

Reason codes

1000	Unknown reason

1001	A parameter is wrong
1002	A requested file could not be found
1003	A requested folder could not be found
1004	A requested folder is a file
1005	A requested file is a folder
1006	30 days trial period expired
1007	Time limited keycode expired
1008	Invalid activation
1009	PDF does not contain ICC profiles
1010	A file could not be opened
1011	An encrypted PDF file could not be opened for writing

1012	A file could not be saved
1013	File is damaged and needs repair

Listing of all possible codes on the command line

All Return codes and Reason codes can also be listed on the CLI, using the following command:

```
pdfaPilot --status
```

This command will also list the current licensing status of the software.

6.15 Run as a server

callas pdfaPilot Server/CLI can also be used for processing hotfolders on platforms, where no user interface for the configuration of the require set-tings is available (like Linux, SunSparc, SunIntel). Remote access is not available for AIX. This possiblity to start a Server without a user interface is available on MacOS and Windows also of course. First, the pdfaPilot CLI has to be started in server mode:

```
--server [--quiet] [--accesskey=accesskey] [--port=port] [--cachefolder=cachefold-
er]
```

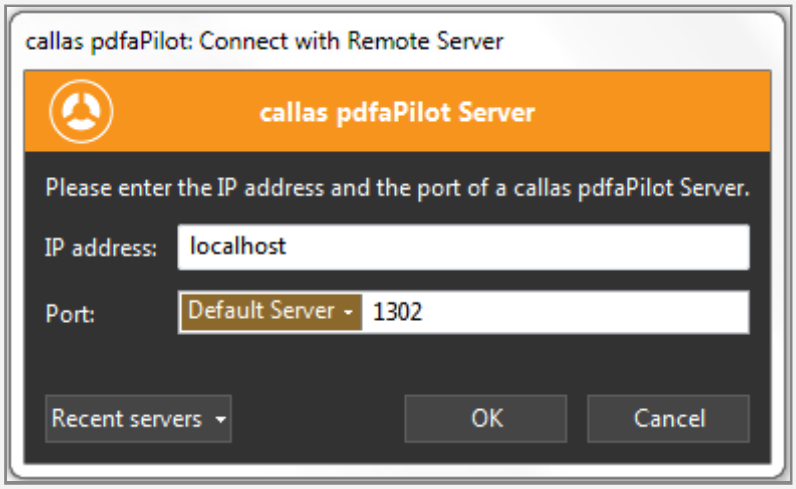
Options

--quiet	optional, suppresses output
--accesskey	optional, sets a accesskey for restricting the possibility to change configuration using the server user interface
--port	optional, defines the port for communication between CLI and server user interface via the network (Default: 1302)
--cachefolder	optional, defines the path to cachefolder

Example:

```
--server --port=1302 --accesskey=123456
```

For setting up a job for hotfolder processing, connect to the remote server using any pdfaPilot Desktop installation in the same network:



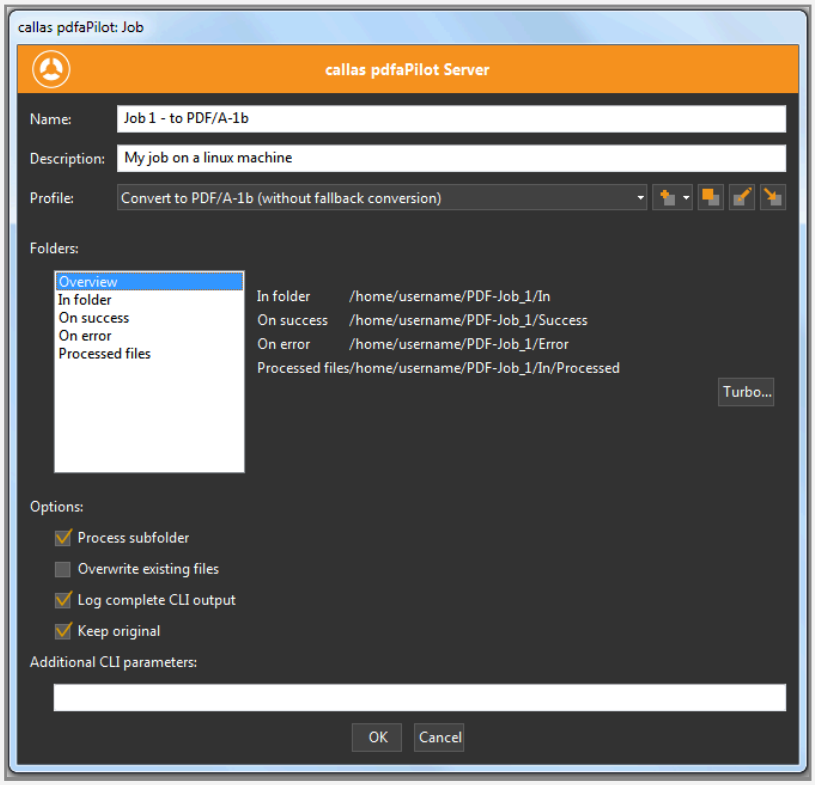
After entering the accesskey, new jobs can be configured, started or stopped. Profiles and Settings will be transfered to the remote server, where the are stored at /usr/share/callas software (path must be writable).

If this location can not be used caused by limitations on the respective environment, the additional option --cachefolder can be used for defining a custom path when starting the server:

Example:

```
--server --port=1302 --cachefolder=PATH
```

All paths defined for hotfolder processing need to be entered manually and have to be valid path specifications. (Hotfolder paths of any remote server jobs (IN, OUT, etc.) have to be configured so that they are valid from the service's perspective (the system where the service is running) - and not from the perspective of the controlling standalone application.) The server can also be stopped by remote, but not started.



Preferences files of the Server

In general, there is no need to touch the preferences files of the Server.
Using MacOS and Windows, the Server settings from a previous version can be imported when starting a new major version the first time. Within updates in a generation of a major version (e.g. 8.0 to 8.1), there is no change regarding the configuration files in the preferences.

Nonetheless, if there is a need for a manual change to these files, these are the common locations for the preferences folder of the Server:

- Windows:
  C:\ProgramData\callas software\callas pdfaPilot CLI <version>
  (can easily be reached by enterin "%allusersprofile%" into the address bar of the Windows Explorer)
- MacOS:
  /Library/Application Support/callas software/callas pdfaPilot CLI <version>

- Linux:
  /usr/share/callas software/callas pdfaPilot CLI <version>

Please contact our support team if you have any questions about the files and there usage before changing them.

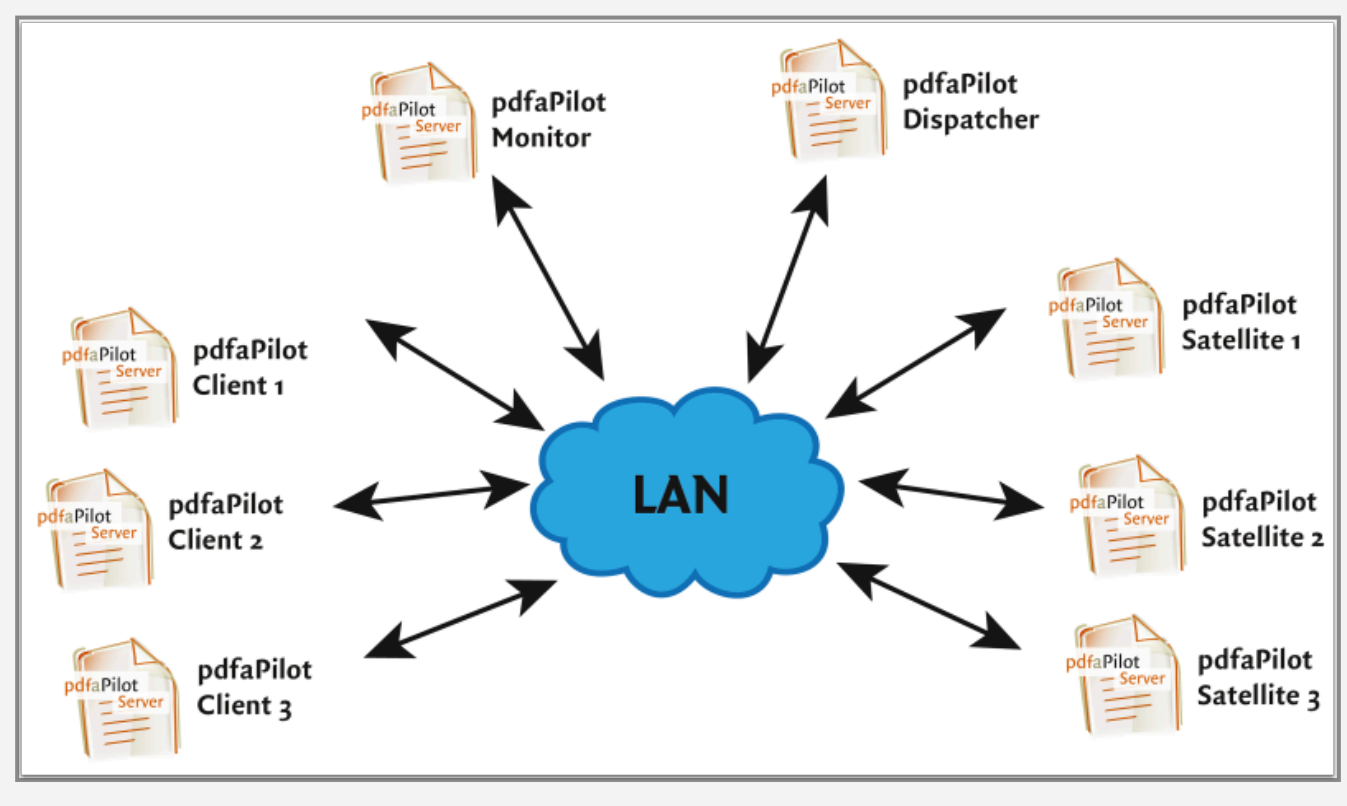
6.16 Distributed processing

Distributed Processing mode

callas pdfaPilot Server/CLI can be used in distributed processing mode in which all tasks are distributed over the network to as many "satellites" as present and results are send back to the originator. Therefore pdfaPilot Server/CLI may be started in different modes:

- "Dispatcher" must be present at least one time in the network. This node controls which tasks are to be processed by which machines: the "Satellites".
- "Satellite" receives tasks from the "Clients" or directly from the Dispatcher (if the Dispatcher is run with hotfolders), processes them and sends them back to the Clients.
- "Client" asks the Dispatcher for Satellites and after receiving an available Satellite it sends tasks to the Satellites and receives the results after processing.
- "Monitor" monitors the dispatcher and displays the current situation.

All of these modules can run on the same or on different machines. There needs to be **at least one Dispatcher** and **at least one Satellite**. In order to submit tasks, at least one Client is required.
Distributed processing is supported for Windows, Mac OS X, Linux, Sun Solaris and Sun Intel. It is not available on AIX.



Starting a Dispatcher

```
--dispatcher [--port=<port number>] [--noserver]
```

Example:

```
--dispatcher [--port=1300] --noserver
```

Port is the port number on which the Dispatcher can be called over the network. This port is set to 1300 as default.

- Note: By the setting the `--noserver` option, the Dispatcher will not observe existing hotfolders, but only distribute tasks to Satellites sent in by Clients. This option is only available using the CLI.

Starting a Dispatcher using the ServerUI

There is also the possibility to start a server as a dispatcher on Windows and MacOS using the user interface. Also hot-

folder-processing can be set up here. In this mode, the Dispatcher will also distribute tasks which are send by other Clients.

Starting a Satellite

```
--satellite --endpoint=<dispatcher ip number>[:<dispatcher port>] [--port=<port number>] [--connections=<number of concurrent connections]
```

Example:

```
--satellite --endpoint=10.0.0.100:1300 --port=1301
```

In order to process tasks, at least one Satellite is required. Endpoint is the IP number and the port of the Dispatcher. Default is 1300, but it can be changed at the start of the Dispatcher (see above).
Port is the port that the Satellite is using in order to communicate with the Clients. The port of the Satellite is 1301 as default and can be defined optionally to another one port at the startup.
It is highly recommended to use separate port numbers for the communication between Satellite and Dispatcher than for Satellite and Client.

Starting a Satellite using the ServerUI

There is also the possibility to start a Server as a Satellite on Windows and MacOS using the user interface. In this mode, the Satellite will not process any hotfolder jobs on the computer.

- Note: A Satellite will always use the number of CPUs on the respective machine as the number of concurrent connections/processes. To limit this number, the Satellite has to be started by CLI with the `--connections` parameter. The number of connections should not exceed the number of CPUs, as this might reduce the performance per process and could result in some system stability problems.

Distribute a process using a Client

The client is called using any regular pdfaPilot command line command. In order to distribute the call over the network the command line param-eters --dist and --endpoint are added. The client will then first ask the Dis-patcher to receive a Satellite connection and then send the command to the Satellite and wait until the result is sent back from the Satel-lite.

```
pdfaPilot --dist --endpoint=<dispatcher ip number>[:<dispatcher port>] <any regu-
lar pdfaPilot call>
```

Examples:

```
pdfaPilot --dist --endpoint=10.0.0.100:1300 <myPDF.pdf>
```

```
pdfaPilot --dist --endpoint=10.0.0.100:1300 --level=2b --analyze <myPDF.pdf>
```

Variables and resources with Distributed processing

When using normal Profiles, nothing has to be considered when processing a file. All needed resources (like ICC profiles or "Place content"-Templates are included in the Profile kfpx-file.

But sometimes, some enhanced scripting of e.g. a Template requires external ressources, which are defined/referenced by a Variable.
To ensure that these resources are transferred to the Satellite during Distributed processing, a variant of the `--set-variable=` option can be used:

```
--setvariablepath=<path to resources file or folder>
```

Set type of satellite

As some kinds of tasks shall only be processed on a defined type of Satellite, it is possible to start a Satellite with one or more types set. Every CLI call can also be amended with one or more typification of allowed types of Satellites the task shall be processed by.

Set typification for Satellite:

```
pdfaPilot --satellite --endpoint=<dispatcher IP number> --satellite_type=<type> [--
satellite_type=<type>]
```

for example:

```
pdfaPilot --satellite --endpoint=10.0.0.100 --satellite_type=A
```

```
pdfaPilot --satellite --endpoint=10.0.0.100 --satellite_type=A --satellite_type=B
```

Set typification for Client:

pdfaPilot --dist --endpoint=<dispatcher IP number> --satellite_type=<type> [--satellite_type=<type>] <any regular pdfaPilot call>

for example:

```
pdfaPilot --dist --endpoint=10.0.0.100 --satellite_type=A <any regular pdfaPilot
call>
```

Implementation details:

- If a Satellite has been started with a typification, only Client calls with the same type set will be send to this satellite.
- If a Client call contains a number of typifications, all typifications must match with those set for a satellite.

- If a Client call has no typfication set, it can be processe on all satellites, even they have been started with a typfication.
- The <type>-string has to be alpha-numeric and is case sensitive.

Avoid local processing

As a fallback, processing can be performed locally if either the action can not be distributed, a Satellite can not be assigned within a timeframe or if no Dispatcher is available. This type of local processing might be not desired for several reasons. To avoid such local processing, the Client call can be amended as well as the start of a Dispatcher (if run as a server with hotfolders) with the option --nolocal.

Example for Client:

```
pdfaPilot --dist --endpoint=<dispatcher IP number> --nolocal <any regular pdfaPi-
lot call>
```

Local processing will be disabled and tasks will fail if no Satellite is ready for processing.

Example for Dispatcher:

```
pdfaPilot --dispatcher --nolocal
```

Here --nolocal is forwarded to child processes for hotfolder jobs. It has no effect on the processing of non-hotfolder files from a Client distributed by the Dispatcher.
If a Client wants to disable local processing, the --nolocal setting has to be set in each CLI call of the Client.

Fallback for Dispatcher

In some workflow systems, a fallback for a Dispatcher might be required to ensure production stability. To cover this, a number of Dispatcher can be set up, which will run indi--

vidually. One or multiple Dispatcher can be assigned to a Satellite.

Define multiple Dispatcher to a Satellite

Connects a satellite to two (or more) Dispatcher.

```
pdfaPilot --satellite --endpoint=<dispatcher 1 IP> [--endpoint=<dispatcher 2 IP> [-
-endpoint=<dispatcher IP>]
```

Set multiple Dispatcher in a Client call

Distributes a Client call via two (or more) Dispatcher. First reachable Dis-patcher with free satellite will process the task.

```
pdfaPilot --dist --endpoint=<dispatcher 1 IP> --endpoint=<dispatcher 2 IP> [--end-
point=<dispatcher IP>] <any regular pdfaPilot call>
```

Define a timeout for processing

In some workflow systems, long running processes might not be allowed and shall be cancelled if a give timeframe is reached. Due to the flexibility of distributed processing, a variety of timeouts for the individual parts can be set:

- for the Client call
- for the Satellite
- for the Dispatcher

Timeout for processing on a Satellite

When defining a timeout for the Client call, the execution will be cancelled after the given period. When defining a timeout when starting a Satellite, all tasks processed by this Satellite will be cancelled after the given period. If both are defined, the shorter timeframe will be used.

Example for Client:

```
pdfaPilot --dist --endpoint=<dispatcher IP> --timeout_satellite=<seconds> <any reg-
```

```
ular pdfaPilot call>
```

Example for Satellite:

```
pdfaPilot --satellite --endpoint=<dispatcher IP> --timeout=<seconds>
```

Timeout for local processing of Dispatcher or Client

A processing timeout (if no satellite is available or if the type of task can not be distributed) for the fallback to local processing on the Client or the Dispacher (when used as a server for hotfolders) can also be defined. If both are defined, the shorter timeframe will be used.

Example for Client:

```
pdfaPilot --dist --endpoint=<dispatcher IP> --timeout=<seconds> <any regular
pdfaPilot call>
```

Example for Dispatcher:

```
pdfaPilot --dispatcher --timeout=<seconds>
```

Timeout for Dispatcher to search for Satellites

Additionally, also a timeout for the Dispatcher can be set, which will define the timeframe in which is searched for Satellites. This can also be set individually for every Client call or when starting the Dispatcher (will have effect on all distributed files then). If both are defined, the shorter timeframe will be used.

Example for Client:

```
pdfaPilot --dist --endpoint=<dispatcher IP> --timeout_dispatcher=<seconds> <any
regular pdfaPilot call>
```

Example for Dispatcher:

```
pdfaPilot --dispatcher --timeout_dispatcher=<seconds>
```

- Note: If a timeout for satellites or dispatcher is set and the `--nolocal` option has been defined, it will not be tried to process the task locally. Processing will end up in an error.
- Note: Setting `--timeout...` or `--nolocal` parameters in the "Additional CLI parameter" area of the Server UI is not supported at the moment.

Using the CLI-Monitor

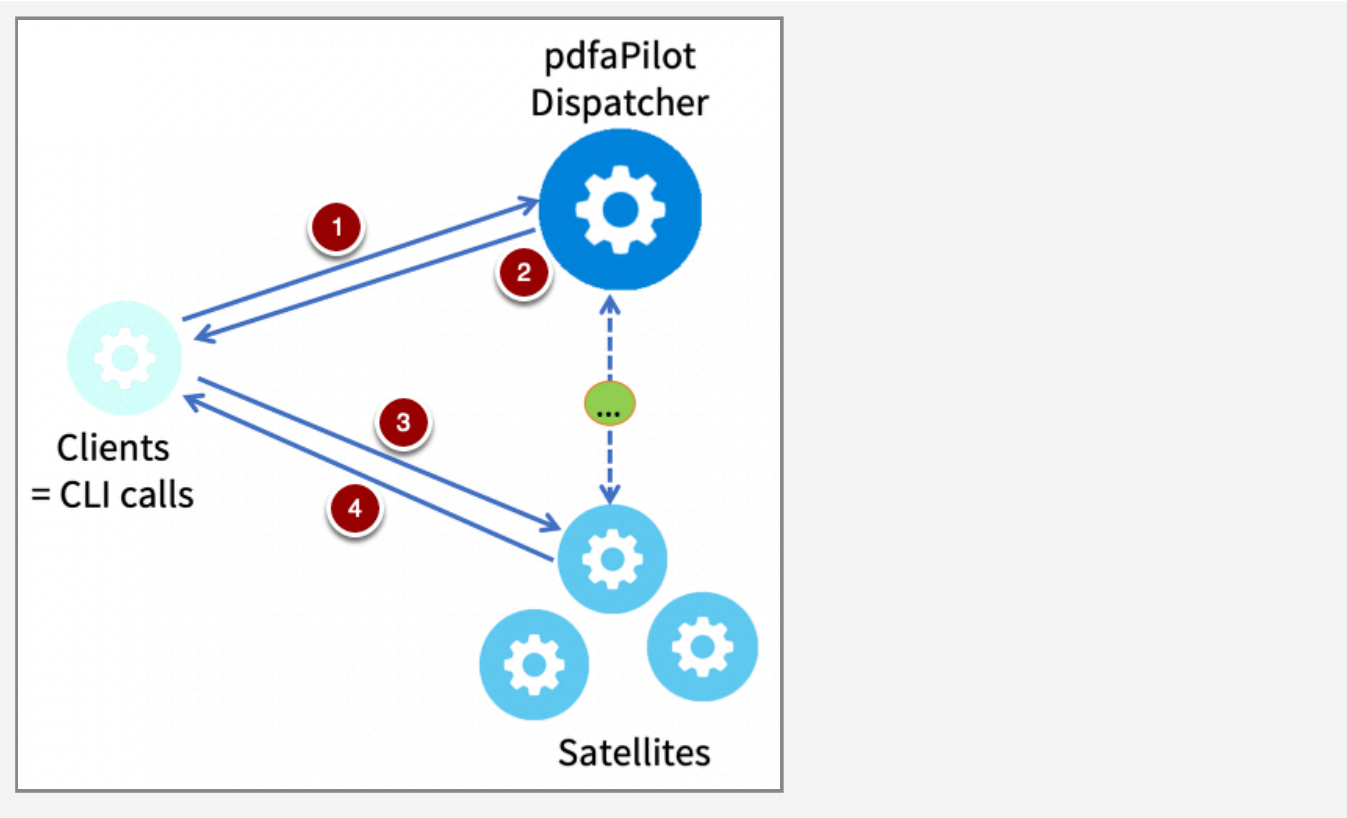
```
pdfaPilot --monitor --endpoint=<dispatcher ip number>:<dispatcher port> [--end-
point=<dispatcher IP>:<dispatcher port>]
```

Example:

```
--monitor --endpoint=10.0.0.100:1300
```

Monitor is optional and mirrors the command line output of the dispatcher to another computer. Endpoint is the IP number and the port of the dispatcher. When using more than one Dispatcher, also multiple Dispatcher IPs can be entered and observed.

Communication



1) Clients sends a request for Satellite to Dispatcher

2) Dispatcher assigns a Satellite and sends the address to the Client

3) Client sends the task to the Satellite

4) Satellite sends the result back to the Client

Licensing requirements for Distributed Processing setups

- Server: Regular pdfaPilot Server/CLI license required
- Dispatcher: Dispatcher pdfaPilot Server/CLI license required
- Satellite: Regular pdfaPilot Server/CLI license required
- Monitor: No license required
- Client: No license required

Distributed Processing in Enfocus Switch

Distributed Processing can also be used within Enfocus Switch.
Just configure the respective settings within the configurator for steps which shall be distributed. If all tasks shall be processed on other machines (Satellites), no local Server license is needed.
Some installations made better experiences, when the setting "Concurrent transfers to the same site" in Switch was set to "Automatic". Also the "Default number of slots for concurrent elements" should not be "0" (zero).

Known limitations until pdfaPilot v. 9.1

Due to technical limitatations of the used communication method (SOAP), it is not possible to process files greater than 2 GB using distributed processing until pdfaPilot v.9.1.

callas has eliminated this technical limitation since version 9.1. Until this version, files will be processed locally on the Client.

6.17 Run as a service

Start server, dispatcher or satellite as a service

The **callas pdfaPilot Services** application is **only available for Windows** at the moment.

Installation

1. Ensure there is an installation of callas pdfaPilot Server/CLI on the system and the application has been activated successfully.

2. A special executable, which is needed to run pdfaPilot as a service, is located in /cli/var/Service. Copy the executable into the subfolder "/cli" of the application folder of the server installation.

3. To install, the following command has to be executed on the command line:

pdfaPilotService.exe –-install

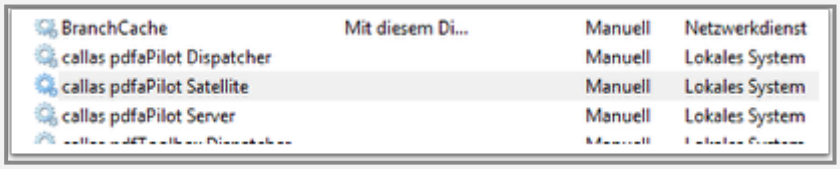
- Note: Please confirm the security question of Windows if shown.

4. Open the "Services dialog" of Windows. This dialog can easily opened by typ-ing the following string into the search field of the Windows start menu or use the following command on the command line:

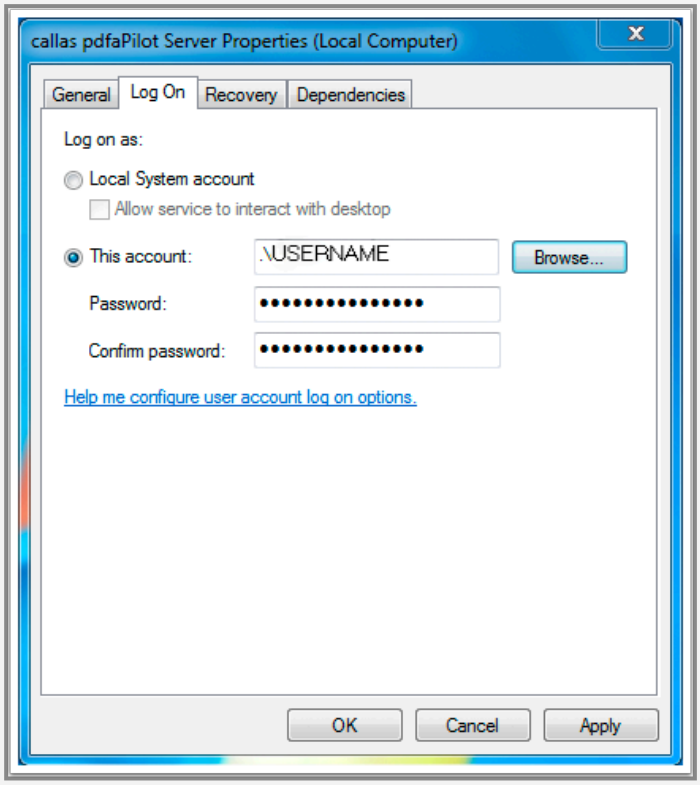
Services.msc

5. There should show up 3 new services:

- callas pdfaPilot Server
- callas pdfaPilot Satellite
- callas pdfaPilot Dispatcher



6. Select pdfaPilot Server and use the right-click menu item Action [or Properties depending on the Windows-version] in order to use this service and set in General the Startup Type to Automatic or Manual. When Automatic is choosen, every started job will continue processing, even when no user is logged on the system. It will even start processing, when the operating system is started. When using Automatic, also user details have to be entered into the Log On tab. It must be ensured, that all folders used in the jobsettings can be accessed by the defined user (especially when network paths shall be used by the job).



Configuration of a job

Now a job can be configured using the ServerUI, which can be accessed using the Standalone version (Menu: Tools - Server). When a job is started, pdfaPilot Standalone can be closed. The services aplli-cation ensures, that the processing will continue even when the user is log-ging off.

Access by remote

It is possible to connect to a Server running as a service by remote via the local network. Start pdfaPilot standalone, select menu: Tools - Server and choose Con-nect with remote server. Enter the IP of the remote server where the service is running. After connecting all jobs on the remote server are shown and can be started, stopped or even modified. (Hotfolder paths of any server jobs (IN, OUT, etc.) have to be configured so that they are valid from the service's perspective (the system where the service is running) - and not from the perspective of the controlling standalone application.)

Troubleshooting

If network paths are used for processing jobs, the user should have sufficient rights to access them.

There may be special requirements for converting Office files to PDF when using pdfaPilot as a service. Check http://www.callassoftware.com/goto/tbx_ENG_topdf for the latest details.

Additional settings for Office conversion with restricted user permissions

If Office conversion is needed out of services using Windows it is recommended to grant the respective service user administrator privileges. If this level of rights can not set due to internal regulations, some additional settings within the operating system are recommended.

The following folders should allow the user the respective access right:

For 64-bit machines	
C:\Windows\Temp	Modify
C:\Windows\syswow64\config	Read
C:\Windows\syswow64\config\systemprofile	Read
C:\Windows\syswow64\config\systemprofile\AppData	Modify
C:\Windows\syswow64\config\systemprofile\Desktop	Modify (Create it, if it does not exist)
C:\Windows\syswow64\config\systemprofile\AppData\Local\Microsoft\Windows\INetCache	Modify (Create it, if it does not exist)

For 32-bit machines	
C:\Windows\Temp	Modify
C:\Windows\system32\config	Read
C:\Windows\system32\config\systemprofile	Read
C:\Windows\system32\config\systemprofile\AppData	Modify
C:\Windows\system32\config\systemprofile\Desktop	Modify (Create it, if it not exist)
C:\Windows\system32\config\systemprofile\AppData\Local\Microsoft\Windows\INetCache	Modify (Create it, if it not exist)

Additional settings:

- Set the 32-bit folder preferences (for details see above) in addition to the 64-bit preferences on 64-bit systems running 64-bit versions of Microsoft Office
- Set the default printer to XPS Document Writer

DCOM settings:

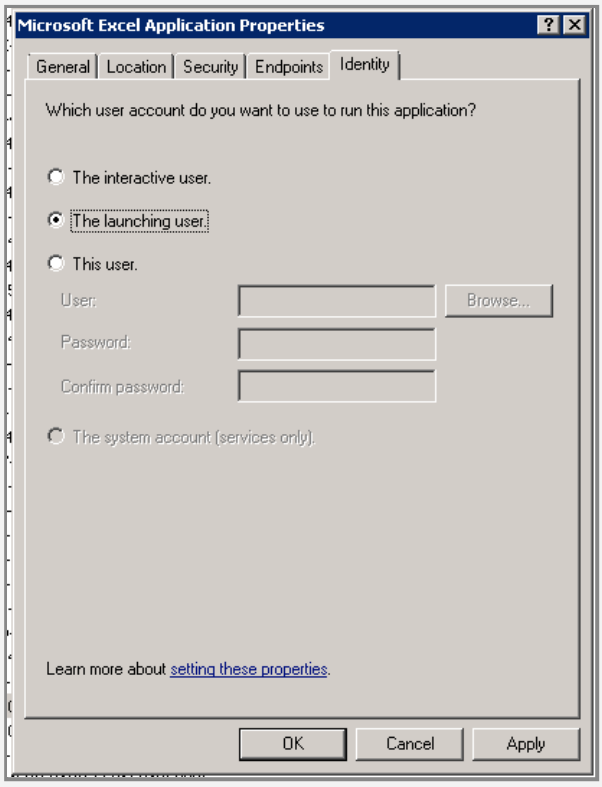
- Launch DCOMCNFG by using:

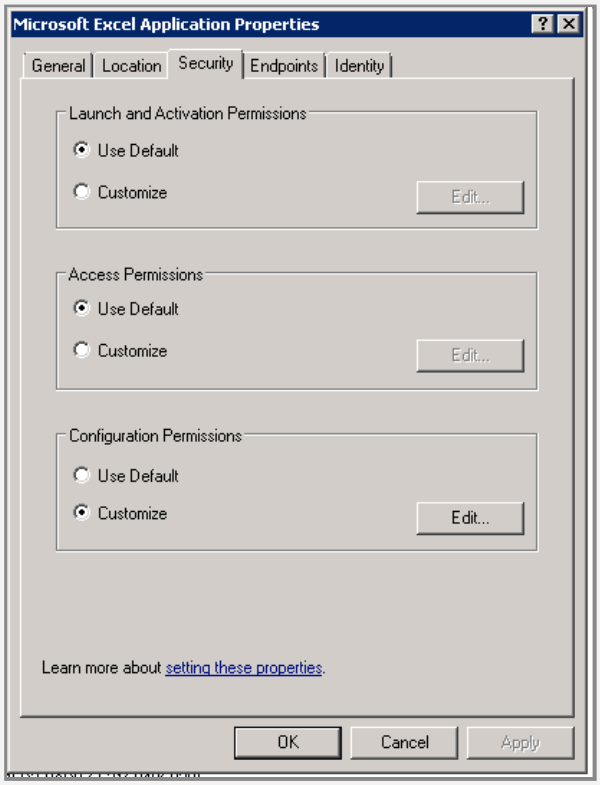
```
C:\WINDOWS\SysWOW64> mmc comexp.msc /32
```

- Go to Computers MyComputer DCOM Config.
- Right-click the application that you want to automate.
  The application names are listed in the table below:

Application	DCOM Name
Microsoft Access 2007/2010/2013/2016	Microsoft Access Application
Microsoft Excel 2007/2010/2013/2016	Microsoft Excel Application
Microsoft Office Word 2007	Microsoft Office Word 97 - 2003 Document
Microsoft Word 2010/2013/2016	Microsoft Word 97 - 2003 Document

- On some systems Microsoft Word is not displayed and you will have to use `{00020906-0000-0000-C000-000000000046}` instead.
- Click Properties to open the property dialog box for this application.
- Verify Identity and Security tabs



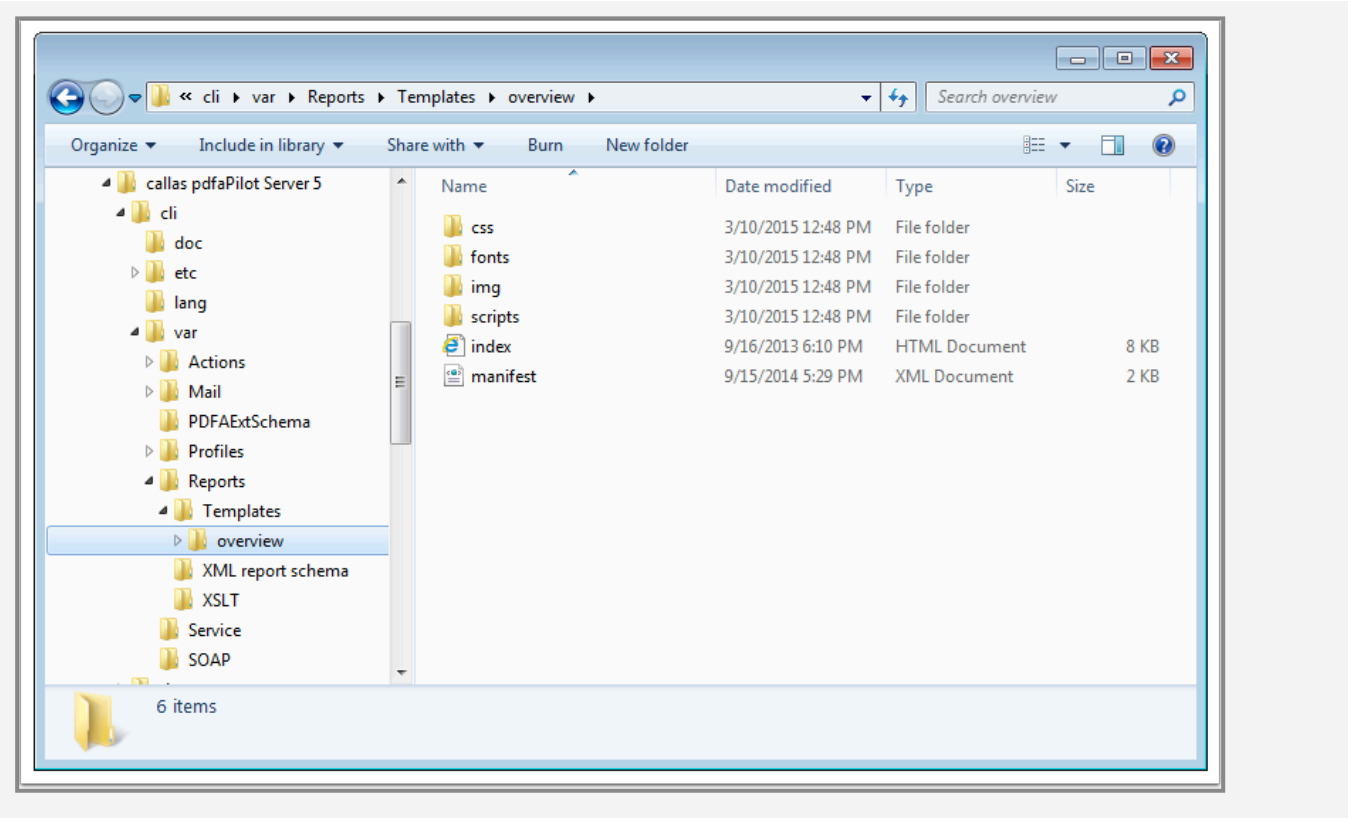

Microsoft Excel Application Properties
General
Location
Security
Endpoints
Identity
Launch and Activation Permissions
Use Default
Customize
Edit...
Access Permissions
Use Default
Customize
Edit...
Configuration Permissions
Use Default
Customize
Edit...
Learn more about setting these properties.
OK
Cancel
Apply

6.18 HTML based custom reports

To adjust PDF-reports easily, HTML-based custom reports can be used. The visual appearance is controlled by a HTML-Template and Custom Style Sheets (CSS), while the reported details are directly requested from the software itself or (optionally) parsed from an internally created XML-report.

Structure of related files

A predefined HTML-template is contained in all installer packages for Desktop and Server/CLI.



This predefined template can be found in:

- Server/CLI: ../cli/var/Reports/Templates
- Desktop/PlugIn: User Preferences/callas software/[pdfToolbox or pdfaPilot] version/Reports/Templates (using Desktop/PlugIn, a HTML-based report must have been generated at least once, in order to have these these files created)

The predefined template contains several folders and files

- index.html the template in HTML format
- manifest.xml a XML file which defines information needed as content for the report, to be delievered by the engine
- /css contains a style sheet
- /fonts contains used fonts
- /img contains used images
- /scripts contains used JavaScripts

Note:
It is highly recommended to create a copy of the original template in a separate folder when starting to adjust a HTML-template based report.

The manifest.xml

The manifest.xml defines the set of information to be provided by the engine. This information will be used to to fill up the details in the report based on the HTML-Template. Basic document information as well as all results of the processed profiles are provided by default. Other parts like a preview image, comparision images or an XML report can be also requested here. Even a XML report can be ordered to enable picking up additional information about the PDF or executed fixups or checks using JavaScript. The display name in the user interface is defined here as well. For developing purposes, the internally generated, filled HTML represen-tation of the report can be maintained to review changes in the template files also in a browser.

Note: The HTML converter is using WebKit, so it is recommended to use Safari (or Chrome, which is based on a spin-off of WebKit) as a browser.

Request basic informations about PDF

```
<x:dict>
   <x:overview/>
</x:dict>
```

Purpose

If contained, document information and results of the performed profile will be available for using them in the HTML template.

Preview images of pages

```
<x:results>
   <x:preview resolution="150" page="1"/>
</x:results>
```

Purpose

Rendering of images of one or more pages for visual representation of the PDF in the report.
Images are exported into the file system as png files. The folder in the intermediate HTML is:

`./img/cals_pages/../../cals_src_a.png`

More than one page preview can be exported (starting with pdfToolbox 10/pdfaPilot 8, until then only 1 image could be exported) when the manifest.xml has the following entry:

```
<x:results>
   <x:preview resolution="100" firstPage="1" lastPage="30"/>
</x:results>
```

To create previews of all pages, the "lastPage" parameter can be set to "-1".
The links to the pages are also listed in cals_params.js.

Visual comparision of original and processed file

```
<x:compare>
   <x:document_a resolution=20/>
   <x:document_b resolution=20/>
   <x:diffresult resolution=20/>
</x:compare>
```

Purpose:

Include compare tree if comparison resources are used inside index.html.

Parameters

`resolution` resolution used in ppi for rendering the comparision

Keep the temporarily generated files

```
<x:settings>
   <x:keeptemp>true</x:keeptemp>
</x:settings>
```

Purpose

Temporarily generated files like the filled index.html, CSS-files, images, XML-reports and used JavaScripts will not become deleted after finnishing the PDF report.

Parameters

`false` files become deleted (default)

`true` files will not become deleted

Creating a XML report for additional content

```
<x:results>
   <x:xmlreport path=xml/report.xml inkcovres=72 inkcovbox=TrimBox/> </x:results>
```

Purpose

Requests a XML report of the performed profile to extract additional infor-mation using JavaScript which can be used in

the report. Determining the ink coverage will only take place if one of the respective parameters exists.

Parameters

inkcovres resolution in ppi, used for determining the effective ink coverage of each page in the PDF (optional, default: 300)

inkcovbox page geometry box of which the effective ink coverage will be determined (optional, default: CropBox)

The HTML template

The HTML template can easily be modified using an appropriate code-editor or enhanced text-editor.

The index.html of the default overview template references a stylesheet, two JavaScripts as well as a number of images.

The provided HTML-template already contains some dummy data, which is automatically replaced by actual content when a new report is gener-ated. So, when doing adjustments to the template with custom profiles and PDF files, it is recommended to keep the temporarily generated files for debugging, as a basis for modifications and their review in a browser.

- Note: It is possible to use image formats (like JPEG or PNG) as well as PDFs for positioning visual content like logos. If you want to debug your HTML in an HTML Browser you may want to display an image instead of the PDF reference. You can do this by putting identically named files for images and PDF next to each other. The PDF file must be referenced in the img tag in the HTML-template. The usage of PDF files allows for higher quality of logos in the resulting PDF report.

How the HTML-template works

The provided HTML-template already contains all document and processing information which can be supplied directly from the application.

You will find cals_params.js and cals_overview.js which are used by the engine to create and render the HTML. Please do not modify these files. For adding more functionality it is recommended to do this in new, own JavaScript files, which have to be linked in the index.html of course.

Examples for template modification

callas software is providing a number of sample templates, which can be downloaded as tewo ZIP archives from the links below.

These two ZIP archives contain samples in the form of complete template folders including comments in the HTML-, CSS- or JavaScript-files and the result as a PDF.

callas_Tutorial_HTML-reports_-_Adjusting_layout_and_appearance.zip

callas_Tutorial_HTML-reports_-_Adding_content_from_XML_report_files.zip

Extended functionality starting with pdfToolbox 10/pdfaPilot 8

Please see the article "Template based reports" for new possibilities invented with pdfToolbox 10/pdfaPilot 8.

6.19 Running pdfaPilot via Webservices (SOAP)

It is possible to submit jobs to a pdfaPilot instance and retrieve the results via SOAP requests.

In order to do so you first have to start the pdfaPilot in a "listening mode":

```
./pdfaPilot --satellite --port=<any free port number, e.g. 1201>
```

Or on Windows:

```
.\pdfPilot.exe --satellite --port=<any free port number, e.g. 1201>
```

It is currently not possible to submit PDF files or kfpx Profiles via such SOAP requests, so both have to be available to pdfaPilot on mounted volumes.

The SOAP requests wrap any command line parameters in <ns:args> tags. The simple requests below asks pdfaPilot to send usage information back by submitting the --help parameter.

Beginning from pdfaPilot 7:

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
 xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
 xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns:xsd="http://www.w3.org/2001/XMLSchema"
 xmlns:ns="http://callassoftware.com/cws.xsd">
 <SOAP-ENV:Body>
  <ns:extExecute>
   <ns:args>
    <ns:userID></ns:userID>
    <ns:args>--noprogress</ns:args>
    <ns:args>--nosummary</ns:args>
       <ns:args>--nohits</ns:args>
    <ns:args>-o=/AppData/pdfToolbox/WebService/sample_result.pdf</ns:args>
    <ns:args>-r=XML,ALWAYS,ALL,PATH=/AppData/pdfaPilot/WebService/sample_result.
xml</ns:args>
```

```
    <ns:args>/Applications/callas pdfaPilot Server 8/cli/var/Profiles/PDFX compli-
ance/Convert to PDFX-1a (ISO Coated v2 (ECI)).kfpx</ns:args>
    <ns:args>/AppData/pdfToolbox/WebService/sample.pdf</ns:args>
   </ns:args>
  </ns:extExecute>
 </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Beginning from pdfaPilot 8:

```
<?xml version="1.0" encoding="UTF-8"?>
<SOAP-ENV:Envelope
 xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
 xmlns:SOAP-ENC="http://schemas.xmlsoap.org/soap/encoding/"
 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
 xmlns:xsd="http://www.w3.org/2001/XMLSchema"
 xmlns:ns="http://callassoftware.com/cws.xsd">
 <SOAP-ENV:Body>
  <ns:extExecute>
   <args>
    <userID></userID>
    <args>--noprogress</args>
    <args>--nosummary</args>
       <args>--nohits</args>
    <args>-o=/AppData/pdfaPilot/WebService/sample_result.pdf</args>
    <args>-r=XML,ALWAYS,ALL,PATH=/AppData/pdfaPilot/WebService/sample_result.
xml</args>
    <args>/Applications/callas pdfaPilot Server 8/cli/var/Profiles/PDFX compliance/
Convert to PDFX-1a (ISO Coated v2 (ECI)).kfpx</args>
    <args>/AppData/pdfaPilot/WebService/sample.pdf</args>
   </args>
  </ns:extExecute>
 </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

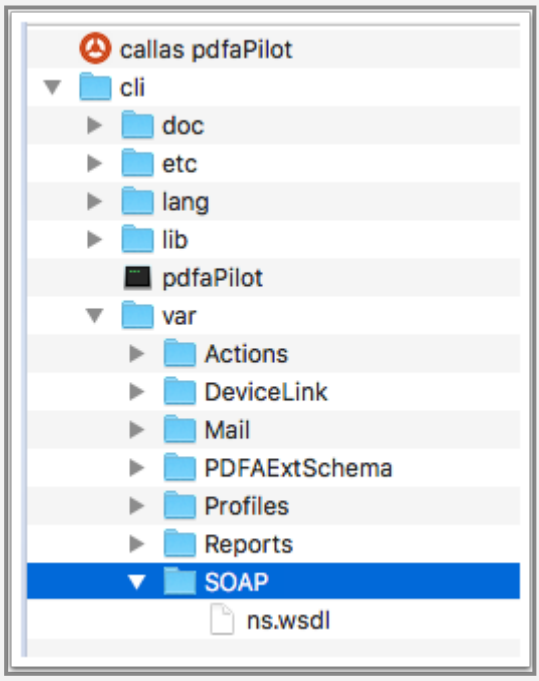
You may include as many parameters as required, there is no limitation.

Any results will be sent back in XML back to the program that you have used to send the request.

You may use the curl tool on command line to send requests and retrieve results:

```
curl -H "Content-Type: text/xml; charset=utf8" -d@.\ns.extExecute_help.req.xml
http://<pdfaPilot' IP>:<Port>
```

A Web Service Defintion Language file can be found in the pdfaPilot program folder:



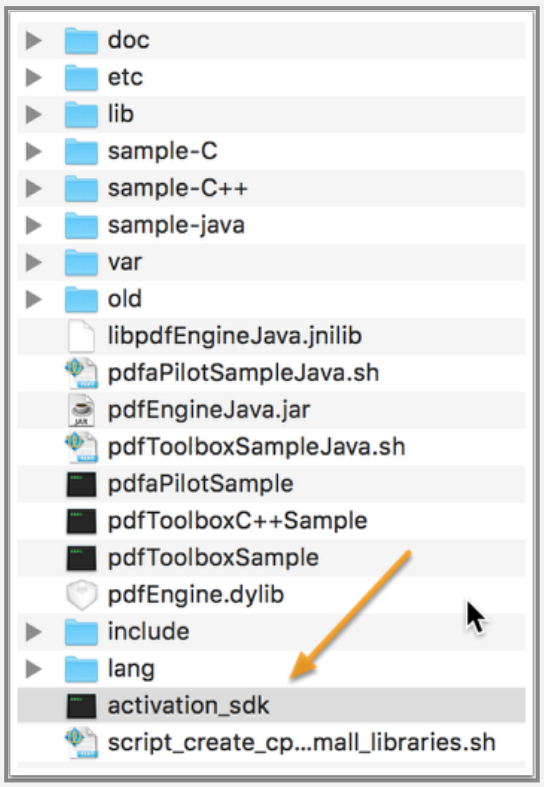
The example below is a simple SOAP request that asks pdfaPilot to create single pages from the original PDF file. Path and name of the PDF need of course to be adapted.

ns.extExecute_makesinglepages.req.xml

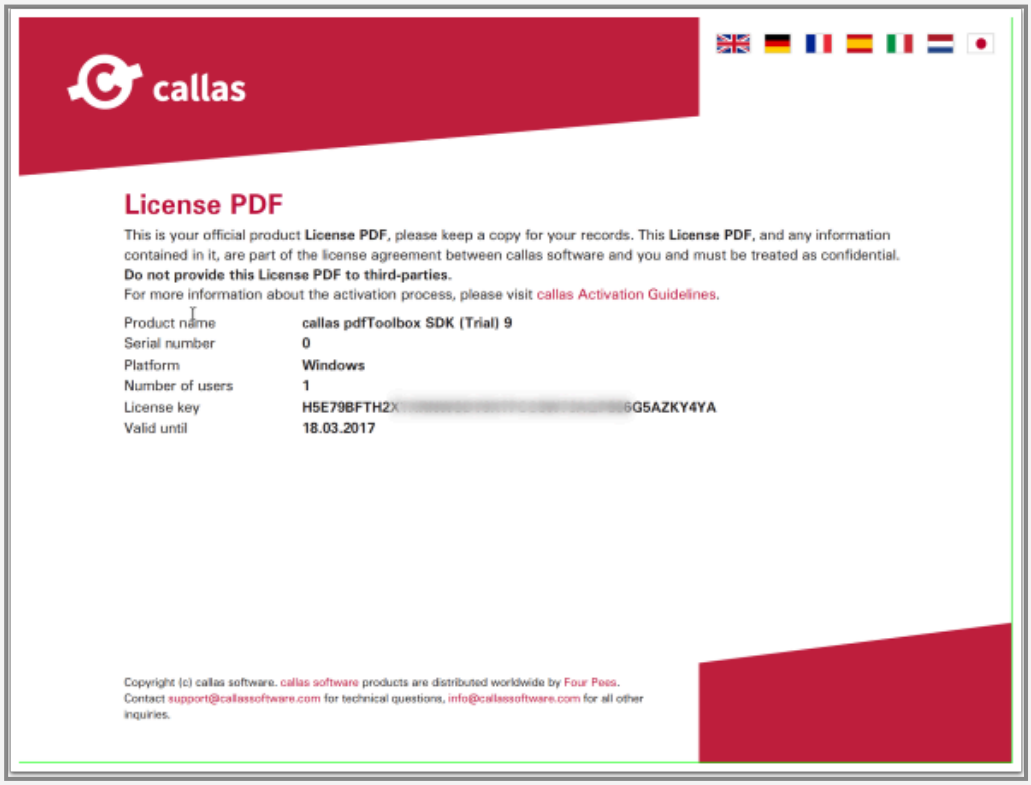
7. callas pdfaPilot SDK

7.1 Activation and Deactivation of pdfaPilot SDK

After downloading and unarchiving the pdfaPilot SDK folder you will find a command line tool "activation_sdk" in the library folder.



You should also have received a License PDF together with the download path for the library. (If you do not have a License PDF, please send an email to sales@callassoftware.com.) The License PDF contains your License key as well as some other information.



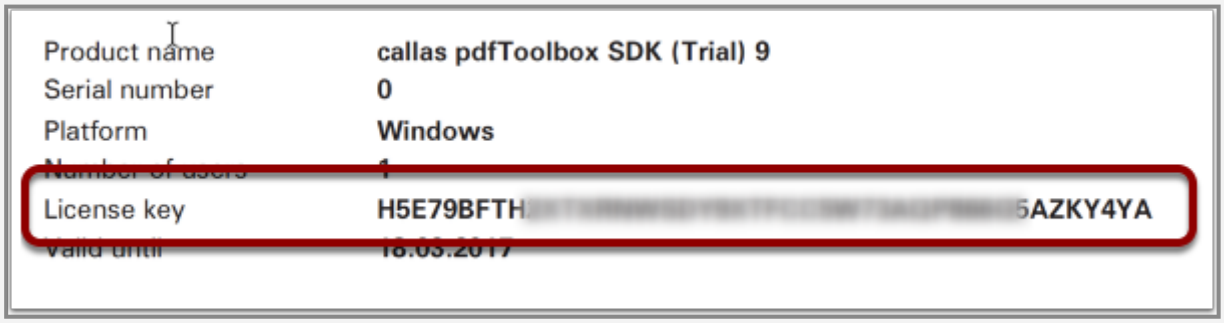
callas

License PDF

This is your official product **License PDF**, please keep a copy for your records. This **License PDF**, and any information contained in it, are part of the license agreement between callas software and you and must be treated as confidential.
Do not provide this License PDF to third-parties.
For more information about the activation process, please visit callas Activation Guidelines.

Product name	**callas pdfToolbox SDK (Trial) 9**
Serial number	**0**
Platform	**Windows**
Number of users	**1**
License key	**H5E79BFTH2X[illegible]6G5AZKY4YA**
Valid until	**18.03.2017**

Copyright (c) callas software. callas software products are distributed worldwide by Four Pees.
Contact support@callassoftware.com for technical questions, info@callassoftware.com for all other inquiries.



Product name	**callas pdfToolbox SDK (Trial) 9**
Serial number	**0**
Platform	**Windows**
Number of users	**1**
License key	**H5E79BFTH[illegible]5AZKY4YA**
Valid until	**18.03.2017**

In order to activate the SDK use the command line activation tool with the **--keycode** parameter, your name, your company's name, and the **License PDF** file:

```
./activation_sdk --keycode <name> <company> <path to License PDF file>
```

Example:

```
./activation_sdk --keycode "Mary Smith" "The Printer Inc." /path/to/file/License_200012345.pdf
```

The tool will then output a license request with further instructions how the request has to be sent via email to the ac-

tivation server. After you have followed these instructions, the activation server will send an **Activation PDF** back to you. This you should then install using the --**activation** parameter and the **Activation PDF**:

```
./activation_sdk --activate <Path to Activation PDF>
```

Example:

```
./activation_sdk --activate /path/to/file/Activation.pdf
```

The License Key (as printed on the License PDF) is needed in each initialization call to the library as described in the SDK documentation. See first steps in the next article...

Similarly, in order to deactivate the license, use the --**deactivate** parameter and the **Activation code**:

```
activation_sdk --deactivate <activation code>
```

7.2 callas pdfEngine SDK: First steps

callas pdfEngine SDK is the name of callas' software development kit package name. The product related features (pdfToolbox or pdfaPilot) are activated using a license. This package includes full documentation and sample codes and contains executables and source code for all supported environments (C/C++, C# and Java).

To know more about the file components inside the package, go to [File components and their use in pdfaPilot SDK] article.

Executing a sample using callas pdfEngine SDK

Please note: This article refers to pdfToolboxSample but pdfaPilotSample functions in the same way.

Once you have [activated] your SDK using a license, you can run a sample, in this example 'pdfToolboxSample'. You can see below all the pre defined modes, along with the arguments that can be executed.

For example, pdfToolboxSample <keycode> --listlanguages

```
Akashs-MBP:~ a.choudhary$ /Users/a.choudhary/Downloads/callas\ pdfEngine\ SDK\ 2/pdfToolboxSample
callas pdfEngine SDK 9.4.445 (x64)
x64: yes
ThreadSafe: no
argv[0] = /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/pdfToolboxSample
USAGE:
  pdfToolboxSample <keycode> [<DL addon keycode>] <kfpx> <pdf> <dest file> [<report file> <flags>]
     flags:
        1: Deactivates optimization of the internal structure when saving the PDF
        4: Analyzes image pixels for plate count
        8: Analyze only; Fixups will not be applied
        16: Embed a Preflight Certificate after processing
  pdfToolboxSample <keycode> --importacrobatprofiles <dest folder>
  pdfToolboxSample <keycode> --listlanguages
  pdfToolboxSample <keycode> --listfontnames
  pdfToolboxSample <keycode> --listvariables <kfp>
  pdfToolboxSample <keycode> --impose <runlist file> <sheetconfig file> <pdf> <dest file>
  pdfToolboxSample <keycode> --processconversion <cfg_source> <cfg_spot> <cfg_dest> <pdf> <dest file>
  pdfToolboxSample <keycode> --booklet <pdf> <bCutmarks> <dest file>
  pdfToolboxSample <keycode> --nup <pdf> <vtimes> <htimes> <distance> <bCutmarks> <dest file>
  pdfToolboxSample <keycode> --fillpage <pdf> <pagewidth> <pageheight> <distance> <bCutmarks> <dest file>
  pdfToolboxSample <keycode> --readerspreads <pdf> <dest file>
  pdfToolboxSample <keycode> --splithalf <pdf> <dest file>
  pdfToolboxSample <keycode> --steprepeat <pdf> <vtimes> <htimes> <distance> <bCutmarks> <dest file>
  pdfToolboxSample <keycode> --slice <kfp> <pdf> <destUpper> <destLower>
  pdfToolboxSample <keycode> --presentation <pdf> <transition> <selfrunning> <bFullscreen> <bBlackpage> <bProgress> <dest file>
     transition:
        0: use blinds
        1: use box
        2: use comb
        3: use cover
        4: use dissolve
        5: use fade
        6: use glitter
        7: use push
        8: use random
        9: use replace
        10: use split
        11: use uncover
        12: use wipe
        13: use zoom in
        14: use zoom out
  pdfToolboxSample <keycode> --handout <pdf> <slotconfig> <bNotes> <bSlidefirstpage> <pageformat> <dest file>
     slotconfig:
        0: 2
        1: 3
        2: 2x2
        3: 2x3 (3x2 with notes)
     pageformat:
        0DINA4
        1Letter
  pdfToolboxSample <keycode> --passepartout <pdf> <background> <borderwidth> <dest file>
  pdfToolboxSample <keycode> --lighttable <pdf> <pagewidth> <pageheight> <columns> <background> <dest file>
  pdfToolboxSample <keycode> --overlay <pdf> <overlay-pdf> <placement> <h-offset> <v-offset> <dest file>
     placement:
        0: top left
        1: top center
        2: top right
        3: center left
        4: center
        5: center right
        6: bottom left
        7: bottom center
        8: bottom right
  pdfToolboxSample <keycode> --extractxmpmetadata <pdf> <cfg> <xml>
  pdfToolboxSample <keycode> --extracticcprofile <pdf>
```

Executing a profile

In the example below, a profile 'Convert to PDFX-4 (PSO Coated v3 (ECI))' has been executed on the source file 'hello.pdf'.
The command looks like this:

```
/Users/a.choudhary/Downloads/callas pdfEngine SDK 2/pdfToolboxSample
JDEAXKQ3JAXN9HH695YC93QKHMWBMLPFTE65T3CYS ./Convert to PDFX-4 (PSO Coated v3
(ECI)).kfpx ./hello.pdf out.pdf
```

The command has the apt arguments, which are:

1. path to the pdfToolboxSample (executable)

2. the keycode

3. path to the profile that needs to be executed (.kfpx)

4. path to the input file

5. name of the output file

On executing:

```
Akashs-MBP:~ a.choudhary$ /Users/a.choudhary/Downloads/callas\ pdfEngine\ SDK\ 2/pdfToolboxSample JDEAXKQ3JAXN9HH695YC93QKHMWBMLPFTE65TJ6B
3CYS /Users/a.choudhary/Downloads/callas\ pdfEngine\ SDK\ 2/var/Profiles/PDFX\ compliance/Convert\ to\ PDFX-4\ \(PSO\ Coated\ v3\ \(ECI\)\
).kfpx /Users/a.choudhary/Downloads/callas\ pdfEngine\ SDK\ 2/hello.pdf out.pdf
callas pdfEngine SDK 9.4.445 (x64)
x64: yes
ThreadSafe: no
argv[0] = /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/pdfToolboxSample
argv[1] = JDEAXKQ3JAXN9HH695YC93QKHMWBMLPFTE65TJ6B3CYS
argv[2] = /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/var/Profiles/PDFX compliance/Convert to PDFX-4 (PSO Coated v3 (ECI)).kfpx
argv[3] = /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/hello.pdf
argv[4] = out.pdf
callas pdfEngine SDK initialized
Running callas pdfEngine SDK samples...

Creating PRC engine
Loading Package
 Package: /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/var/Profiles/PDFX compliance/Convert to PDFX-4 (PSO Coated v3 (ECI)).kfpx
10%
72%
73%
Verifying preferences: 76%
Verifying preferences: 79%
Verifying preferences: 82%
Verifying preferences: 85%
Verifying preferences: 89%
Verifying preferences: 92%
Verifying preferences: 95%
Verifying preferences: 98%
Verifying preferences: 100%
100%
Running profile
 PDF:     /Users/a.choudhary/Downloads/callas pdfEngine SDK 2/hello.pdf
5%
Saving PDF file out.pdf
Applying fixups: 11%
Applying fixups on page 1: 27%
Applying fixups on page 1: 30%
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
Fixup "Convert Color"
  Status: Success
```

Success!

7.3 Help? Displaying program information for pdfaPilot SDK

If you use the command line tool on command line with --help, you see the overview of options about all available commands for processing:

```
./activation_sdk --help
```

To get an overview about all the available options for a specific command, run:

```
./activation_sdk --help <command>
```

Commands like:

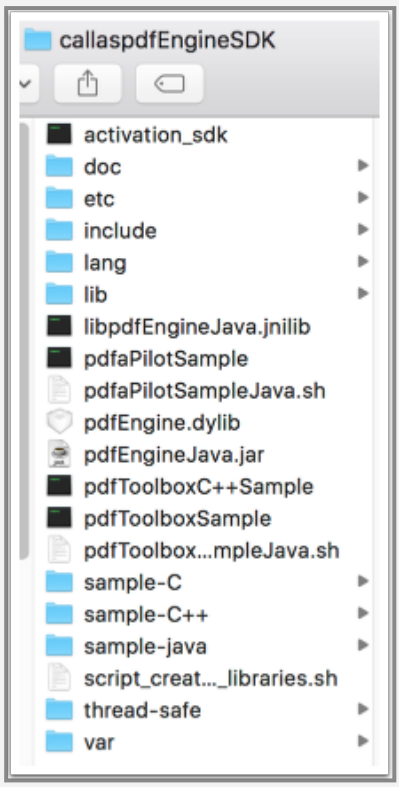
--version show version information

--activate Activate license

--deactivate Deactivate license

7.4 File components and their use in pdfaPilot SDK

Package too big? You can remove some components from the SDK and reduce the size of the software. Here is what you can delete without hampering the outcome of the software.



What to keep

For a smoother usage of the SDK, we recommend that you keep the following components

All				
Platform		Dependencies	Configuration	Language
Windows	pdfEngine.dll	all *.dll and *.ppi	etc	lang
OS X	pdfEngine.dylib	lib	etc	lang
Unix	ibpdfEngine.so	lib	etc	lang

Java Wrapper	
Windows	pdfEngineJava.jar and pdfEngineJava.dll
OS X	pdfEngineJava.jar and libpdfEngineJava.jnilib
Unix	pdfEngineJava.jar and libpdfEngineJava.so

.NET Wrapper	
Windows	pdfEngineDotNet.dll

What can be removed

The following components could be safely removed to reduce the delivery size.

Component	Functionality
doc	Documentation
include	C/C++ API Header
sample-C	C API Sample
sample-C++	C++ API Sample
sample-DotNet	.NET Sample
sample-java	Java Sample
thread_safe	Thread-Safe extension (thread-safety needs to be explicitly enabled using this extension. More information in the SDK documentation under 'doc/ReadMe_SDK_Threadsafe.txt')
var	Predefined configuration files (e.g. Profiles, Templates)

Functionality based

To further reduce the package size, the following subfolders can be removed from the 'etc' folder- depending on your requirements.

Sub-folder	Functionality
etc/Actions/Imposition	If no Arrange action is used
etc/Actions/LFP	If no Tiling or Grommet action is used
etc/Actions/PlaceContents	If no PlaceContent Fixups OR if no Place Barcode or Text Fixups are used
etc/APDFL	If no font embedding or no PDF/A conversion is used (or font situation is clear)
etc/Backgrounds	If no layer/image mask report is used
etc/Certify	If no Preflight certificate should be embedded
etc/ColorConversion	If no color conversion is used
etc/FontSubstitution	If no font substitution is used (for PDF/A)
etc/HtmlConverter	If no PDF report based on HTML template is used
etc/Inventory	If no inventory report is used
etc/MailConverter	If no emails are processed
etc/PDFOfficeTool	If no Office-files are processed
etc/PDFPSTool	If no PostScript-files are processed
etc/pmime	If no unknown files or wrong extensions are processed
etc/Reports	If no PDF/A-HTML Report or ZUGFeRD is used
etc/TPex	If no tagged PDF to HTML/EPUB export is used
etc/UnpackTool	If no archives (.zip) are processed
etc/Visualizer	If no Comparison is used