

Titan Switch User Manual, version 1.0

Overview

Avolites Titan (see <http://www.avolites.com>) is a system of hardware and software to control lighting fixtures (usually for the entertainment business). While the hardware products - the lighting consoles – allow for switching between versions, the Titan PC suite – the software-only solution for Windows PCs - installs only one version per machine at a time.

TitanSwitch is an approach to overcome this limitation of the Titan PC suite, by toggling between versions without requiring a full uninstall/install. The target group for this is mainly betausers and support personnel who need to match the version the respective client is working with.

TitanSwitch copies the relevant folders in total into an internal repository (collection of potentially installed software versions), can copy them back (overwriting the current version in this process), and makes sure that the tokens (licences) and fixture library are always preserved. Great effort is put into making sure TitanSwitch doesn't delete or corrupt any part of the software. Your personal data – show files, fixture personalities etc. – is never even touched. By alternately installing a new Titan version and running TitanSwitch directly afterwards you can easily build your own collection of software versions, and once you have done so, switching the version just takes some clicks and a few seconds. And TitanSwitch, of course 😊

TitanSwitch does not interfere in any kind with the code of the Avolites software, nor is it an Avolites product. TitanSwitch is created by Sebastian Beutel, [s.beutel\[at\]avolites.de](mailto:s.beutel@avolites.de), February 2017.

This software does not come with any warranty, nor will the author accept any liability. Use it at your own risk. Feedback at [s.beutel\[at\]avolites.de](mailto:s.beutel@avolites.de) is highly appreciated.

About this manual

Essentially, the process of copying versions into the repository, as well as switching between versions, is very much straight forward, and once you get the hang of it, you'll literally do so in seconds. You can follow the steps outlined in the section [RUNNING TITANSWITCH – A QUICK START](#), and most likely that's all you need.

However, as already mentioned, great care was taken to make this process as safe as possible, thus almost every possible error is answered with a notice, warning or error message. The section [RUNNING TITANSWITCH – THE EXTENDED VERSION](#) tries to explain all of these details.

Finally, the [ADDENDUM: UNCERTAINTIES AND POSSIBLE SIDE EFFECTS](#) tries to explain some of the uncertainties and possible side effects of switching software versions.

Installation

TitanSwitch comes as normal installer (TitanSwitch_Installer.exe). No special requirements. This simply copies the required files to %programfiles%\Avolites\TitanSwitch, shows a little readme, registers the program as uninstallable (so that it can be uninstalled via the Programs and Functions menu), and optionally creates a desktop icon:



Running TitanSwitch – a quick start

Of course you are eager to try it out – here is a quick start guide, and the odds are not too bad that this is all you need. However, in the next section you'll find all the details explained in depth – and with a lot of screenshots.

After installing Titan and TitanSwitch, make sure Titan is closed, and start TitanSwitch. It shows you the version of Titan which it currently found on your system, and offers to copy it to your repository. Let it do this, and close TitanSwitch after copying is done – there is no point in switching versions when there is only one.

Install another Titan version, which usually includes a reboot. After this, start TitanSwitch again. It will show you the newly installed version and again suggest to copy it. Again let it perform this. If you proceed now to the Version Select page, you can already select the previous version, and let TitanSwitch switch back to this. From the next start of TitanSwitch on you'll see both versions which are (potentially) available on your system, the 'currently active' clearly labelled.

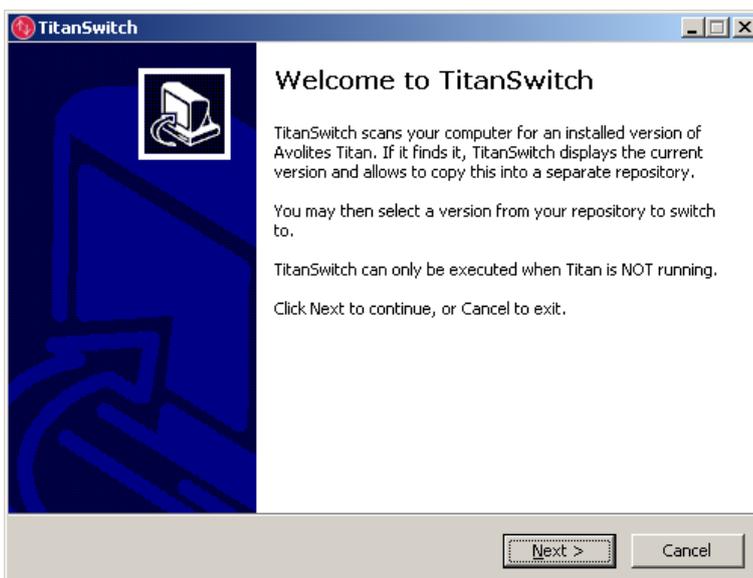
You can proceed and add many more versions to your repository, and all will be available to select the version you need/want. However, removing a version from the repo is done manually – see below.

Running TitanSwitch – the extended version

TitanSwitch itself is programmed as like a setup wizard, and makes the process of copying the required folders as easy as possible.

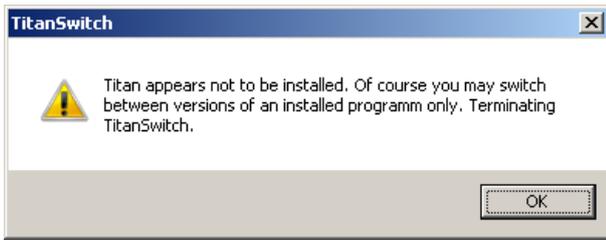
It is normal that TitanSwitch requires elevated permissions (aka Admin rights) since it applies changes to your installed programs – most likely you will see a warning by Windows. Please grant these privileges.

At first you are greeted with the notorious welcome page:



As soon as you click **Next >**, TitanSwitch scans your system for the currently installed version of Titan.

If Avolites Titan is not available on your computer, you get a warning:



As soon as you click OK, TitanSwitch will be closed since there is nothing to do .

If Avolites Titan is available on your computer but is currently running – this might be Titan Simulator, Titan One or Titan Mobile – then you get another warning, but with the same result:

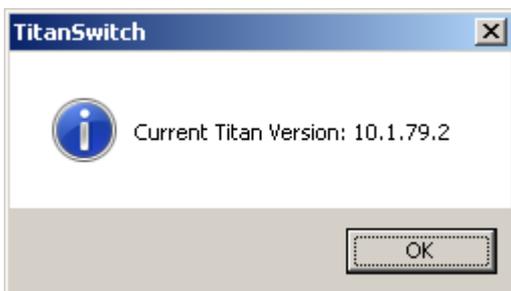


As soon as you click OK, TitanSwitch will be closed – you certainly do not want to temper with a running program's files.

And another such thing: USB Expert is tested, too – and if it is still running (you might have started it separately, or it might still hang from a previous process), you get a warning, and confirming this closes TitanSwitch – reason: see above.



Now we have done the basic safety checks – and if everything is okay (Titan installed but currently not running) then we are greeted with another message which simply tells us the currently active version:

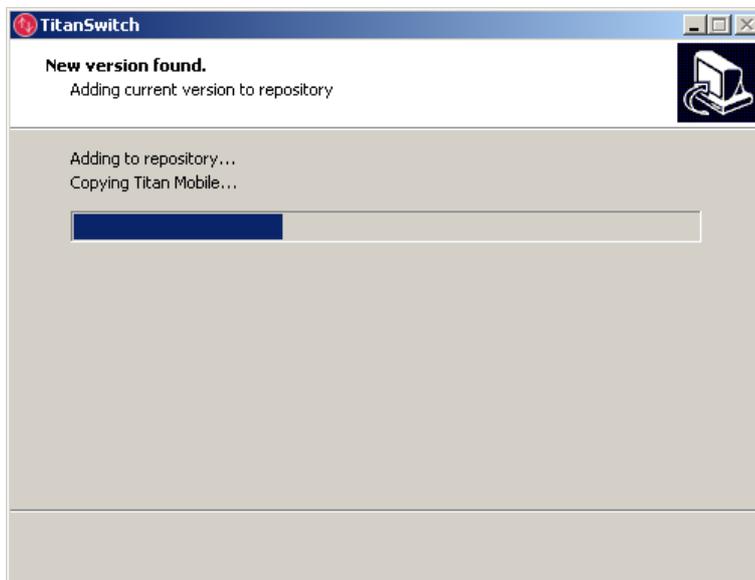


Usually you know version numbers only as numbers with one decimal place, like 9.1 or 10.0. However, internally almost every program has some more version numbers. And since Titan Switch is, among other things, a tool for Beta Testers (that's why you see the number 10.1.79.2 – a beta build for version 10.1), the full version number is displayed. For everyday use you may just ignore the trailing two numbers and regard e.g. version 9.1.17.5 simply as version 9.1

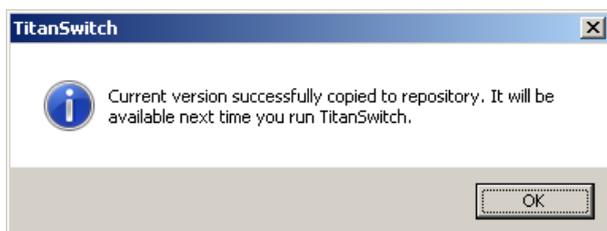
Once you have confirmed this message, TitanSwitch checks if the current version is already in your repository – and if it isn't, then another message appears, offering to copy the current version into your repository:



If you click **No** then maybe later you get an overwrite warning if you want to switch to another version – see below. However, if you click **Yes** then the program folders of the current version are copied into your repository. Depending from the speed of your hard drive this might take some seconds – you can see the progress of this action in the next window (which only appears if you tell the program to copy:

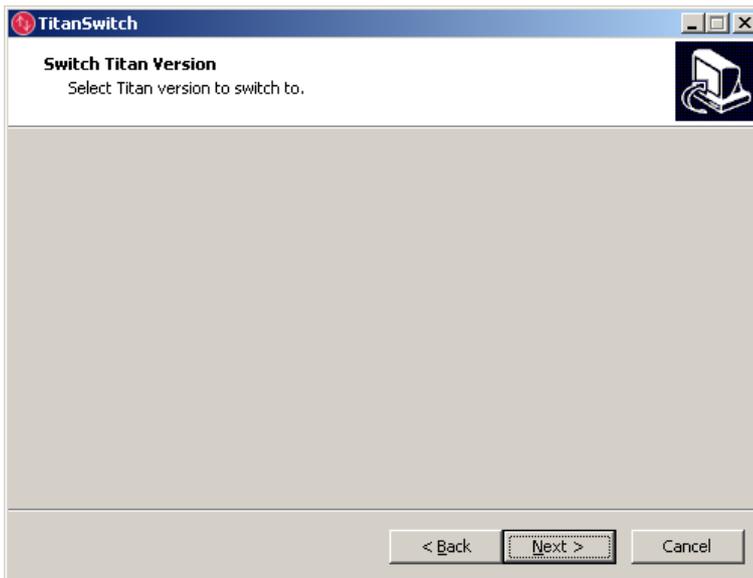


As soon as everything is copied, you get the confirmation:

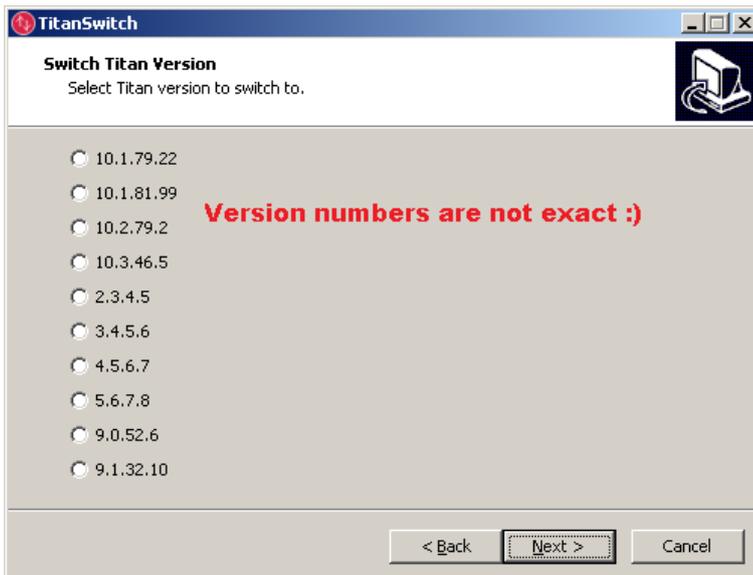


Please read the text: the version you have just copied will be available to switch to only in the next run of TitanSwitch – there is no point to switch to the current version now, is there?

Hence, at least in the very first run, the next page – the version select page – will be mostly empty:

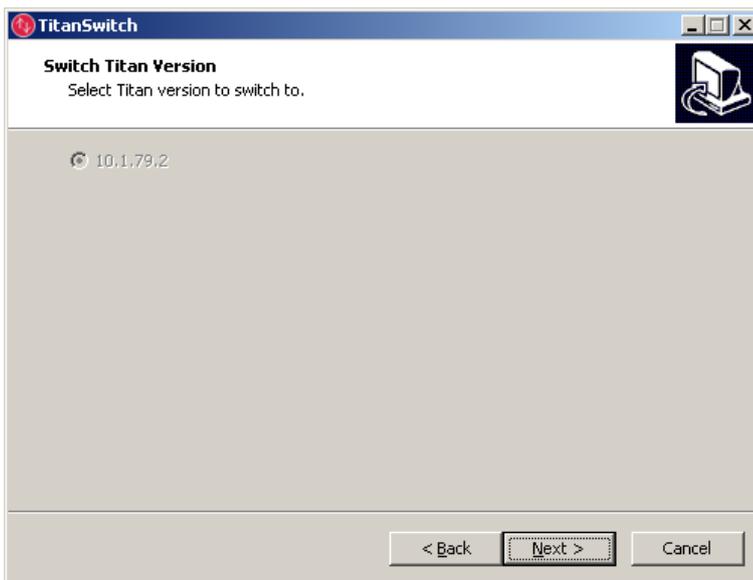


However, the more versions you put into your repository, the more versions will be available on this page to switch to (I admit in the next picture there are mostly versions I have no idea if they ever existed...):



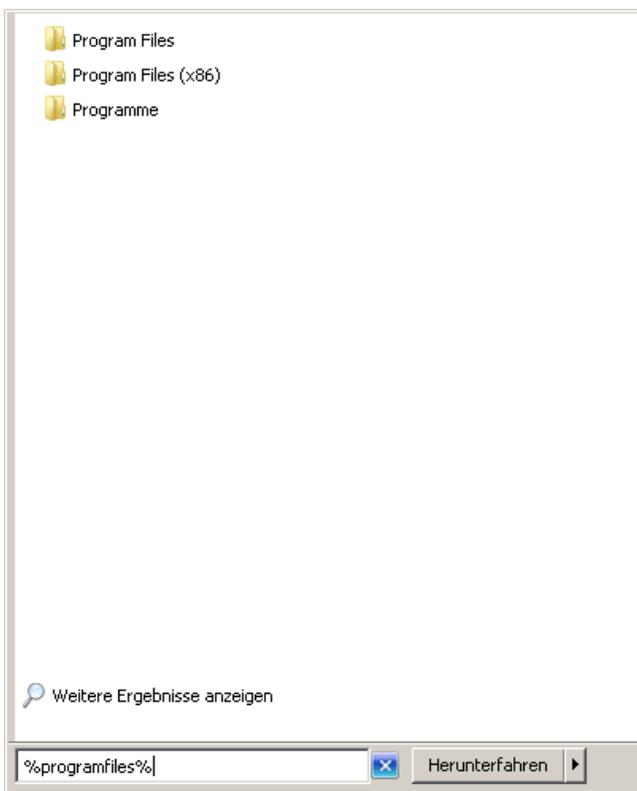
This picture is only made for this documentation – of course in real life the numbers do match the version, and you'll see only valid versions.

After the first version is copied to your repo, the select page will probably look like this:

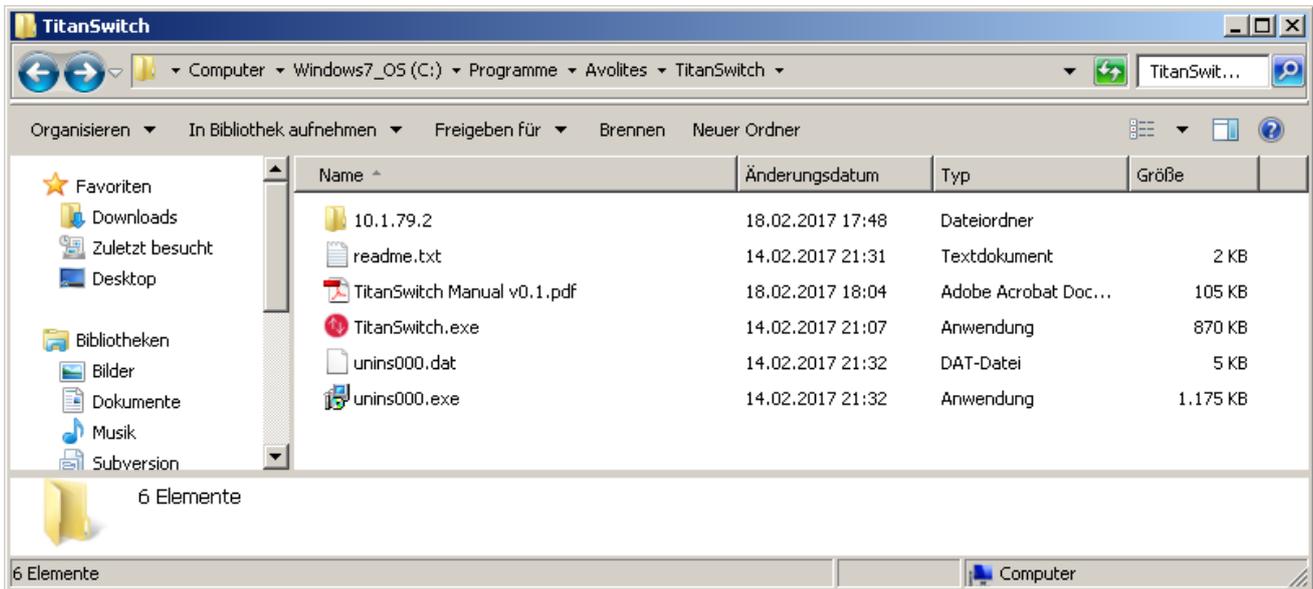


The only one available version is preselected but greyed out – again, there is no point in switching to the current version.

However, as a side note, let's have a brief view at the real repository. In order to do this, open your Windows Explorer and browse to your *Program Files\Avolites\TitanSwitch* folder (on Windows 64bit machines the correct folder is *Program Files (x86)\Avolites\TitanSwitch*). Hint: to always find the correct folder, regardless which Windows version or language, hit the Windows key (on your keyboard), and in the Windows menu's search bar type **%programfiles%** (without spaces) and hit **Enter**.



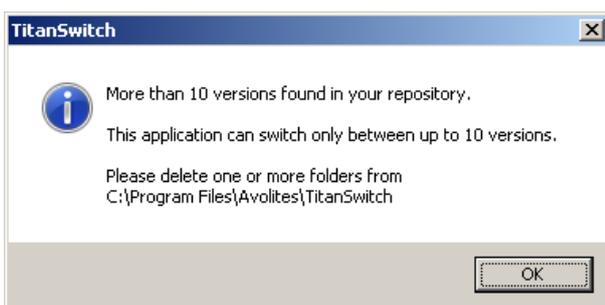
This will always open the correct Program Files folder in explorer, and you can easily navigate to \Avolites\TitanSwitch. There you will find some files related to TitanSwitch – among them the program itself and this manual – and one folder per version which is in your repository. The repository is simply the subfolders of TitanSwitch.



You will understand by now that each version which is copied consumes its space on your hard drive. Currently, the space required per version sums up to approx. 300 MB – if you end up with 10 versions in your repository like in my fake example above, then you sacrificed approx. 3 GB of your hard drive.

TitanSwitch has no function to remove a version from your repository. However, you can easily do so by simply deleting the very subfolder from \Avolites\TitanSwitch.

Finally, if TitanSwitch finds more than 10 versions in your repository, it doesn't even attempt to display all of them, but presents you with a notice:



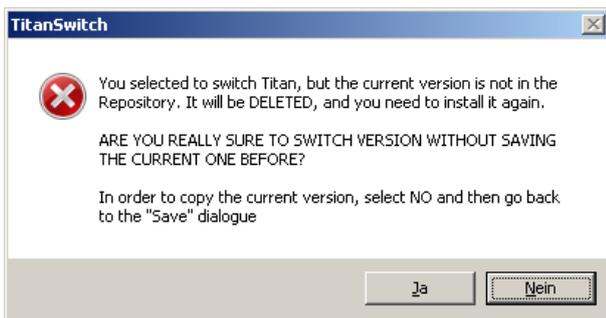
If you see this then it's definitely time to do some cleaning-up, don't you agree?

But back to switching versions. As mentioned above, the current version is pre-selected in the list of available ones. If you don't select another version and simply hit **Next >** then again you'll see a notice reminding you that there is still no point in switching a version with itself:



So, do as instructed: click **OK**, and select another version to switch to.

Now it is possible that you even get another notice – this time clearly marked as a critical error:

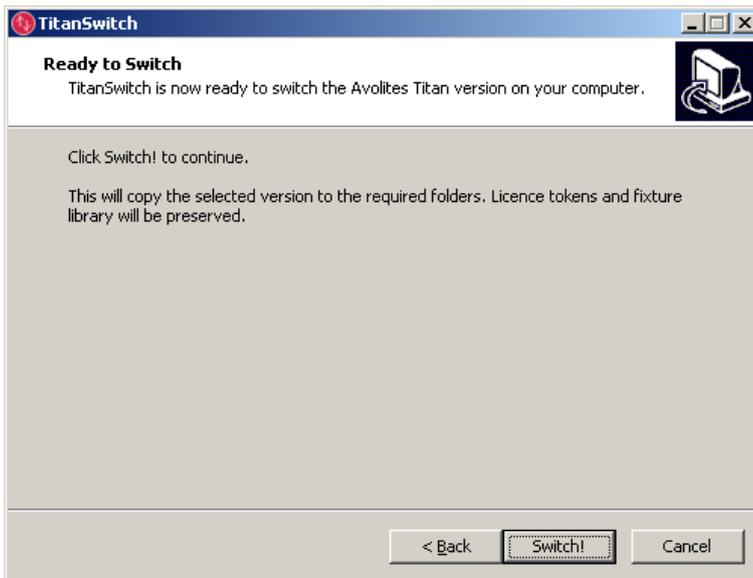


Read it carefully and make your decision!

Background: if the current version is not yet in the repository, it will be overwritten with the version you switch to. It will be lost until you install it again. That's why **No** is pre-selected, which cancels the process and gives you the chance to go back and copy the current version to the repository. You clearly should select **Yes** only if you want to get rid of the current version.

Now let's assume you selected a version different from the current one, and the current one is either in the repository, or you decided to drop it (Are you really really sure???) then...

... congratulations, you are almost there!



TitanSwitch is ready to do its magic. Simply click **Switch!**, and just wait some seconds:

Again you can follow the process on the progress bar – but since some of the actions are rather quick, here is the list of what is done:

- FixtureLibrary and Tokens are temporarily rescued to another folder
- The old folders (the current version) are being deleted
- The folders of the version you want to switch to are being copied over to their respective location
- FixtureLibrary and Tokens are restored in place

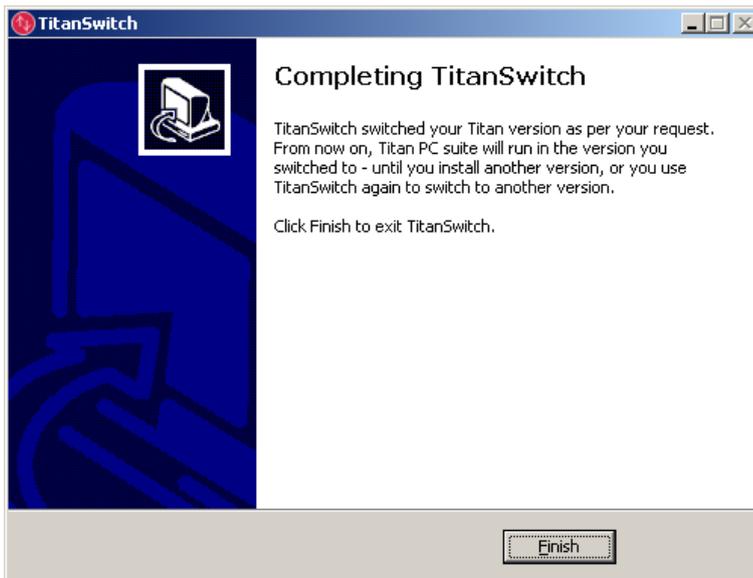
Needless to say that this doesn't go without a last check: if you see this



then something is wrong with the version you want to switch to, and the process is aborted. Most likely you are a seriously bad guy, and you'll certainly know what you did wrong.

But this doesn't happen without tampering with some files and folders, and usually you'll never see this.

Instead, what you'll see is this:

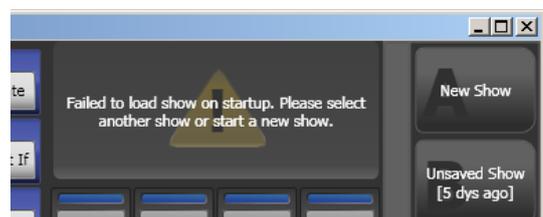


All done – hit **Finish**, and start using Titan in the version you just switched to.

Addendum: uncertainties and possible side effects

Here come some hints and thoughts about what can be the outcome of switching versions:

- It is always possible to update the Fixture Library. Apart from the few seconds during the switching process, the Fixture Library is always where it belongs.
- If you plan to create your own repository, it is at least advisable, if not the only promising way, to start from a clean slate, and always install a higher version on top of a lower one (there is a separate section [BACKGROUND: INSTALLING, UPGRADING, UNINSTALLING TITAN](#) covering this):
 - With Programs and Functions, uninstall everything Avolites-related. A restart is not required but doesn't harm.
 - Install TitanSwitch.
 - Install the earliest (lowest) version, e.g. 9.0 Let the system restart as part of the install process.
 - Run TitanSwitch and copy version 9.0 to your repository.
 - Install the next version, e.g. 9.1, and again let the system restart as part of the install process.
 - Run TitanSwitch and copy version 9.1 to your repository.
 - This way work through the versions you plan to use in an ascending order.
- Switching a version does not interfere with any registry settings. There is an oddity with this: Windows control panel, in Programs and Functions, offers only the latest-installed version to uninstall, but in fact uninstalls the currently active version. Unfortunately there is not much to do about this: after uninstalling the software, of course you need to install it again.
- After switching a Titan version, most certainly next time you start Titan, you get the famous 'Error loading show'. This is due to some easy but strict rules: the Titan software can load shows from previous versions – but usually only full saves, no Autosaves – and not the Shutdown show which is created when closing Titan. This is due to some –



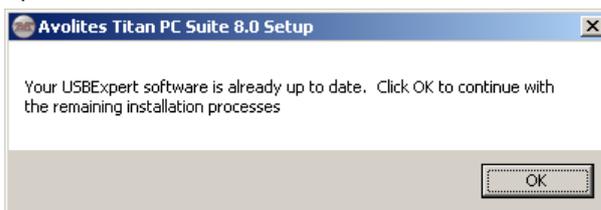
very meaningful – design decisions, and not a bug. Hence, make a habit of saving your shows as a full save. And putting a hint to the version the show is currently worked with in the show name is not a bad idea.

Background: installing, upgrading, uninstalling Titan

While working on TitanSwitch and during testing it I had the chance to learn and verify some details about how installing and upgrading software on Windows works and which – wanted or unwanted – side effects this may have. This is essentially the reason for the above statement: *always start with a clean slate, and install the versions you want to switch between in consecutive order*. And, as an humble side note: apart from completely uninstalling Titan, and then installing only the one version you wish to use – which is the recommended way for a production system! – TitanSwitch is the only suitable way to handle the ifs, thens, elses and undocumented exceptions, in order to give you a reliably version-clean system.

(1) The installer works in an HTP fashion: highest version number takes precedence – at least for the parts of the package.

Hence, if you attempt to go down to a previous version by installing this on top of a newer version, you will get some messages stating that a particular software is already up to date and hence isn't updated:



That's why this way is not suitable to toggle back to a former version.

(2) What makes it even weirder: the 'umbrella' package will appear downgraded nevertheless!

If you confirmed all the above messages for all the parts of Titan, Windows will be under the assumption that the package has been successfully installed – downgraded – which is clearly wrong. You may end up with something like this – I was at version 10.1 before and then simply installed 9.0 on top of it, confirming the above message for USBExpert, TitanMobile, TitanSimulator and some other parts of the package:

Programm deinstallieren oder ändern					
Wählen Sie ein Programm aus der Liste aus, und klicken Sie auf "Deinstallieren", "Ändern" oder "Reparieren", um es zu deinstallieren.					
Organisieren ▾					
Name ▲	Herausgeber	Installi...	Größe	Version	
Avolites ACN Gateway	Avolites	25.02.2017	1,03 MB	1.1.5.5	
Avolites CITP	Avolites	25.02.2017	2,19 MB	4.0.21.5	
Avolites Fixture Personality Cache Builder	Avolites	16.10.2012	345 KB	1.6.2	
Avolites Language Editor	Avolites	31.01.2016	757 KB	8.0.38.2	
Avolites Personality Builder	Avolites	25.02.2017	20,2 MB	3.0.12.5	
Avolites Titan	Avolites	26.02.2017	10,9 MB	9.0.46.5	
Avolites Titan 10.1 Beta 84	Avolites	25.02.2017	25,8 MB	10.1.84.2	
Avolites Titan Mobile	Avolites	25.02.2017	60,5 MB	10.1.84.2	
Avolites Titan One	Avolites	25.02.2017	62,4 MB	10.1.84.2	
Avolites Titan PC Suite 9.0	Avolites	26.02.2017		9.0	
Avolites Titan Simulator	Avolites	25.02.2017	92,2 MB	10.1.84.2	
Avolites Usb Expert	Avolites	25.02.2017	12,7 MB	6.4.9.5	
Avolites Virtual Panel	Avolites	25.02.2017	4,25 MB	2.3.5.5	
Avolites Visualiser	Avolites Ltd.	25.02.2017		7.40	
Avolites WebAPI 10.1 Beta 84	Avolites	25.02.2017	36,6 MB	10.1.84.2	

Havoc ahead! Titan and the PC suite is at version 9.0 but TitanMobile, Simulator and others are still at 10.1. Such a version mix is very likely to not function in the intended way. You should better steer clear of such a situation.

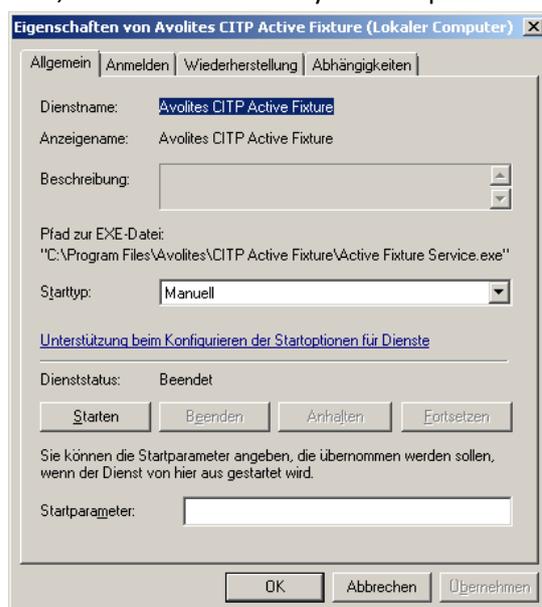
(3) **Windows uses this software inventory to decide which files to delete/overwrite.**

Normally, this is not a problem at all: most of the versions follow the same rules, have the same parts etc. – and when packing the installer, one can even define which changes are to be performed and which tests on the system to be executed. However, it is always about the exceptions. In our example, the WebAPI was newly introduced in Titan 10.0. Hence, there is no way the 9.0 installer could know about it. But now, there is no v10 umbrella installer any more on the system. Hence, the WebAPI is currently somehow orphaned: Titan 9.0 doesn't make use of it, however the service is still registered. In order to get rid of the WebAPI you now need to uninstall it separately.

(4) **However, even if a specific version is about to be uninstalled, in fact the currently active files and folders are deleted, as long as they are also part of the 'officially getting uninstalled' version.** In the above example: if I now use TitanSwitch and switch to version 10.0, and if I then use Programs and Functions and uninstall Titan PC Suite 9.0 (since this is the only available 'umbrella'), then in fact the currently active v10.0 files and folders will be removed. It is likely that some entries in the software inventory remain orphaned...

(5) **Hardware drivers are also installed during software installation.** Later, when the respective device is being connected, and detected by Windows the driver is activated for the respective hardware. This is yet another part of the 'install only upwards, in consecutive order' story because of course the driver needs to somehow work together with the software. With TitanSwitch, the decision was made to exclude USBExpert (which handles drivers and hardware) from switching. This way you always make use of the latest drivers and don't need to downgrade to earlier versions.

(6) **Registered Services are references to files to run.** E.g. the CITP service is a reference to a file *CITPService.exe*, and I found that if I exchange this file with another one of the same name, next time the service starts correctly again, using the other file. However, there was one change some years back: in version 7 (and earlier) the CITP service was named 'Avolites CITP Active Fixture' and referenced the file *Active Fixture Service.exe*. Titan Switch does correctly exchange the folders and files, but does deliberately not temper with the installed services.



Hence, when using TitanSwitch, there will be no CITP functionality in v7.

(7) **Registered links in Windows Start Menu.** Another task of the installer: it creates links in Windows' start menu – and if you call a program by pressing the Windows button and typing its name the start

menu is scanned for suitable entries. It turns out that if such a link's target has been deleted and replaced by another file, the link points to 'nothing', and Windows starts to look for a suitable program beginning from the recently installed programs. Hard to explain, sometimes strange results. To keep it short: TitanSwitch updates the Start Menu links after switching so they are valid again and point to the switched version. If you additionally make use of your own shortcuts, please try if they work.

- (8) **Don't trust the Titan Health Check.** Usually it makes a good job on guessing the remaining license days or if the personality library is up to date. However, I don't know where it gets its intel – and it sometimes fails:
- TitanSwitch does keep the personality library in its original location, and you can always update it as usual. If the Health Check complains an out-of-date library only in a specific version then this is clearly wrong.
 - The same is true for remaining licence time. If Titan Health Check complains about the licence soon running out then check the version in System Mode – and if this doesn't show any soon-to-expire licence then simply ignore the Health Check.

All in total I'd say, again:

Starting with a clean table, all Avolites programs uninstalled, install the versions you want to use in a consecutive order, upwards only.

If you, however, want to get rid of an installed version, then:

- (1) **Switch to the latest version**
- (2) **From Programs and Function control panel, uninstall this version – and if there remain some orphans, uninstall them as well.**
- (3) **Know that the version data in the TitanSwitch repository is not affected by any uninstall. You can safely delete any version from %programfiles%\Avolites\TitanSwitch.**
- (4) **In order to use Titan (of any version) on your computer again, now, with a clean system, install the latest released version you wish to use again. As soon as it is installed (and the computer restarted) you can use TitanSwitch again to switch back to another version which is in your repository.**

The fine print

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Windows is trademarked by Microsoft, www.microsoft.com.

This software was privately programmed by Sebastian Beutel, [s.beutel\[@\]avolites.de](mailto:s.beutel[@]avolites.de). The software does nothing more than you could do manually with Windows Explorer. It does not interfere with any part of the Avolites code, except for moving the entire folders around. The software is provided "AS IS" and "WITH ALL FAULTS," without warranty of any kind, including without limitation the warranties of merchantability or fitness for a particular purpose.

The icon is created by Rawnly, see <http://coloraiz.webe.io/>.

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It is available at https://www.iconfinder.com/icons/1282965/connection_download_switch_upload_icon.

Any feedback to the author is greatly appreciated.

Siegen, Germany, February 2017

Version history

Version 0.1, 18.02.2017

Initial working version, shown to some betausers, and in general found good. First video online.

Version 0.2, 20.02.2017

Slightly extended. Now, AcnGateway, CITP, Log Collector, Log Viewer, LogViewerPro, Virtual Panel, wkhtmltopdf are also switched (if available). Visualiser is not being switched – hasn't been updated since 2013, and this way we make sure the special fixtures library remains intact

Version 0.9, 22.02.2017

Cosmetic changes, tests, 'release candidate'

Version 0.97, 26.02.2017

Code clean-up, USBExpert not switched, startmenu links updated, tests, tests, tests. The manual now has a separate section which explains the backgrounds of how software is installed, and why installing upwards only is the recommended way.

Version 1.0, 20.03.2017

Public release