Turbo Switch PRO

Time is money

Documentation

Date: 16.03.2023

Version: 2024.1.2

https://www.crosstales.com

Table of Contents

Thank you for buying our asset "Turbo Switch PRO"!

If you have questions about this asset, send us an email at tps@crosstales.com.
Please don't forget to rate it or write a little review – it's very much appreciated.

1. Overview

1.1. Why use Turbo Switch?

When working on a multi-platform project in Unity, you often have to switch between platforms to test compatibility, see if things work as intended, and tweak things on each and every platform.
The larger your project gets, the longer the switch time becomes. It can become a serious setback in your development process.

Turbo Switch (TPS) aims at reducing the time taken switching platforms by caching all data that has already been imported and does not need to be re-imported. In an ideal scenario where your platforms are cached and you haven't changed anything, you can see an improvement of up to **100x** faster platform switching time (with AssetDatabase V1).

Turbo Switch does not modify or interfere with the asset import pipeline. Therefore, it doesn't have any effect on the time it takes to import new or modified assets.
It does, however, cache assets that have already been imported so you don't have to re-import them if you haven't modified them. Concretely, the first time you switch to a new platform, you won't see any benefit. Only subsequent switches will use cache.

1.2. How does this differ from Unity Cache Server?

Unity Cache Server is mostly intended for teams because it shares cache to a central location so that multiple developers can benefit from the same central cache.

In other words, Turbo Switch is primarily aimed at smaller developers who have big projects in terms of assets but do not want to or cannot acquire and set up the whole cache/asset server environment. If you're a big-time developer working in a team, you can also benefit from Turbo Switch in your "local-only" prototypes and personal projects, where you don't want to use your company's cache server resources.

If you're already using Unity Cache Server in your projects, please refrain from using Turbo Switch as it will likely interfere with Unity caching as well as slow down your switch time as you'll cache twice.

2. Features

2.1. Fast & efficient

- Up to **hundred times** (**100x**) **faster** than the default Unity platform switch
- Up to **ten times (10x) faster** than Unitys cached platform switch
- Support for various VCS like **Unity Collaborate**, **git**, **svn**, **Mercurial** & **PlasticSCM**
- Select your custom **cache** target external **HDD/SSD** or **NAS**
- Control TPS with **CLI** and integrate it seamlessly in your **build pipeline**
- **Manage** the cache **per platform**
- See the total/per cache **space usage**

2.2. Supported platforms

Turbo Switch works with **ALL platforms**, but supports those out-of-the box:

- Android
- iOS
- Linux
- macOS
- PS4
- Switch
- tvOS
- WebGL
- Windows
- (UWP (WSA)
- XboxOne

2.3. Documentation & control

- Powerful **API** for **maximum control**
- Comprehensive **documentation** and **support**
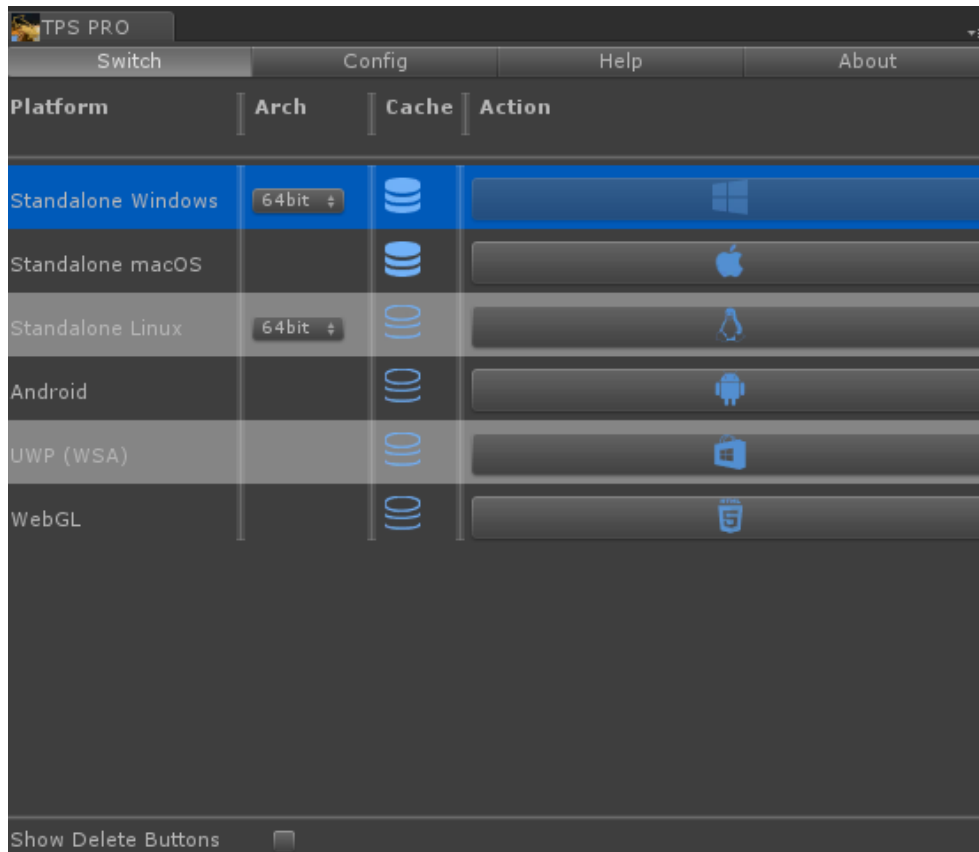- Full **C# source code**

2.4. Compatibility

- All **Android texture formats** are supported
- Works with **Windows**, **Mac** and **Linux** editors
- Compatible with **Unity 2019.4 – 2023**
- **C# delegates**

2.5. Integrations

- **Turbo Builder PRO**
- **RockTomate**

3. Quick start

After importing TPS from the "Unity AssetStore", open the **Window** menu and click **Turbo Switch PRO**:


You should now switch platforms using TPS exclusively and not rely on the "Build Settings" platform list.

Pick a platform and hit the **Switch** button. That's it. The plugin will do the rest.

TPS will save and restore the necessary files.

If the platform was selected for the first time, Unity has to import the assets which will take some time.

There are many settings in the "Config"-tab, like the path to the cache and the active platforms.
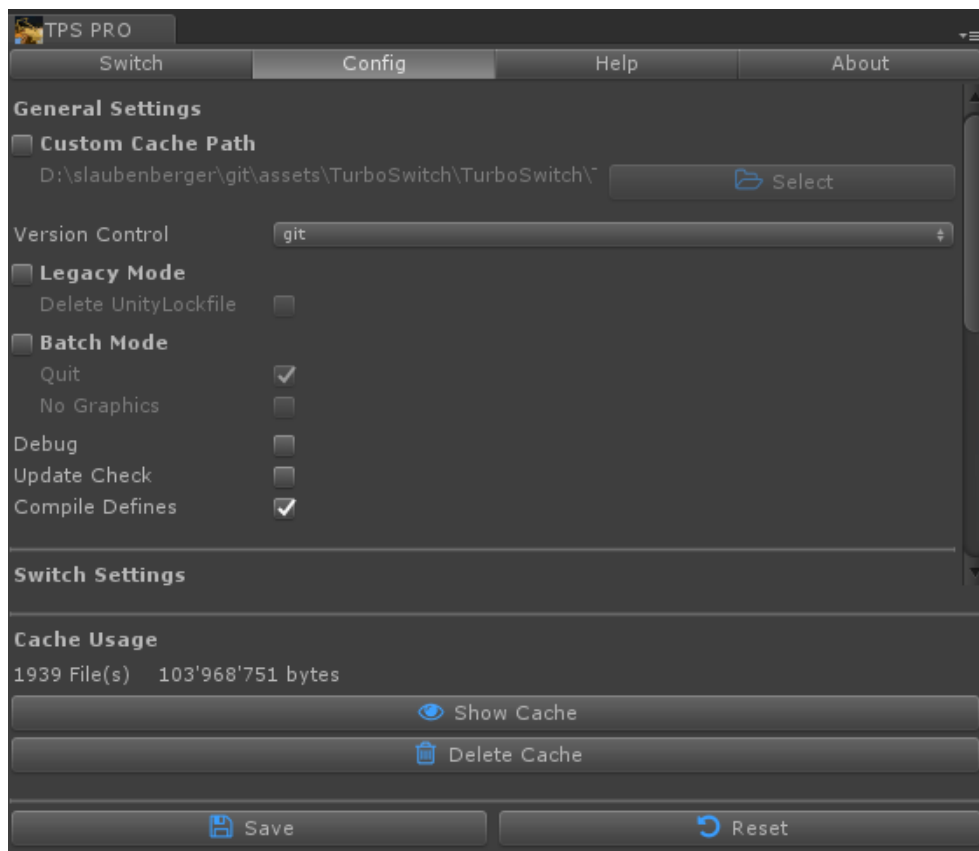
4. Call from code

TPS can be called from code; here is an example switch to Windows 64bit:

```
Switcher.Switch(BuildTarget.StandaloneWindows64);
```

For more examples, please see the scripts under *Example Integration*.

5. Control via CLI

TPS can be controlled via CLI. Please see the examples below.

5.1. Windows

```
"<path to Unity>\Unity.exe" -batchmode -projectPath "<your project path>" -
executeMethod Crosstales.TPS.Switcher.SwitchCLI -tpsBuild <your build target>
```

5.2. macOS

```
open -a "<path to Unity>/Unity.app" --args -batchmode -projectPath "<your
project path>" -executeMethod Crosstales.TPS.Switcher.SwitchCLI -tpsBuild <your
build target>
```

5.3. Linux

```
./"<path to Unity>/Unity" --args -batchmode -projectPath "<your project path>"
-executeMethod Crosstales.TPS.Switcher.SwitchCLI -tpsBuild <your build target>
&
```

5.4. Arguments

There are six arguments:

Argument	**Value** (bold is default)	Description
-tpsBuild	**win64**	<u>name of the build target</u>
-tpsExecuteMethod	e.g. *Crosstales.TPS.Switcher. SayHello*	execute this method after the switch (optional)
-tpsBatchmode	true or **false**	run Unity in batch-mode (optional)
-tpsQuit	**true** or false	quit Unity in batch-mode (optional)
-tpsNoGraphics	true or **false**	Disable graphics devices in batch-mode (optional)
-tpsCopySettings	true or **false**	copy the project settings (optional)

6. Benchmarks

Turbo Switch can be up to **100x** faster than traditional platform switching with AssetDatabase V1. You will hit that mark when switching to iOS using "hot" cache. By hot we mean that everything is cached and nothing has changed. Switching with a "cold" cache (equals to no cache at all) results in zero benefits except for the fact that you're initializing your cache for subsequent benefits. On average, with a "warm" cache you should see improvement between 30-50x on platform switches which is still a considerable gain in terms of time.

We've compiled a few benchmarks below which do not hold any scientific value. They aren't meant to be exact or precise but rather to give a general trend of what to expect in terms of maximum benefits when switching platforms in various environments.

So your mileage may vary!

6.1. Viking Village

https://assetstore.unity.com/packages/slug/29140

Current platform	New platform	Cache-type	Duration	Factor
Windows	iOS	none	41:52	-
Windows	**iOS**	**Hot**	**1:02**	**41x**
iOS	Windows	none	13:42	-
iOS	**Windows**	**Hot**	**0:59**	**14x**

6.2. The Courtyard

https://assetstore.unity.com/packages/slug/49377

Current platform	New platform	Cache-type	Duration	Factor
Windows	iOS	none	43:33	-
Windows	**iOS**	**Hot**	**1:19**	**33x**
iOS	Windows	none	14:20	-
iOS	**Windows**	**Hot**	**1:15**	**12x**

6.3. Used test specs

Processor: Intel Core i7-4700HQ

RAM: 32GB

GPU: nVidia GeForce GTX 780M, 4GB

HDD: Hitachi HTS72757

7. API

Please read the TurboSwitch-api.pdf for more details.

8. Verify installation

Check if TPS is installed:

```
#if CT_TPS
     Debug.Log("Turbo Switch installed: " + Util.Constants.ASSET_VERSION);
#else
     Debug.LogWarning("Turbo Switch NOT installed!");
#endif
```

9. Upgrade to new version

Follow this steps to upgrade the version of "Turbo Platfom Switch PRO":

1. Update " Turbo Platfom Switch PRO" to the latest version from the "Unity AssetStore"
2. Delete the "Assets/Plugins/crosstales/TurboSwitch" folder from the Project-view
3. Import the latest version downloaded from the "Unity AssetStore"

10. Important notes

- AssetDatabase V2 (Unity 2019+) switches the platforms as fast as this asset.
- Please be patient - TPS is working as fast as your machine can but if you have large projects, it will need some time! After you hit the "Switch"-button, TPS does all the work. Wait until it's finished or you risk a corrupt project.
- Because TPS caches data for each platform at switch time, it takes up valuable disk space which can become quite large depending on your project size. If you run on low disk space, please delete some caches from unused platforms.
- TPS isn't meant to replace Unity's Cache Server. It's a personal caching utility for individuals and small teams. If you're already using Unity's Cache Server you should not use TPS, because you would be caching your data twice and would probably lose time and disk space.
- Always backup your project. TPS was carefully designed and extensively tested. Nevertheless, it works on your filesystem and something could go wrong. If your project is corrupted, close Unity and delete the "Library"- and "TPS_cache"-folders in your project. Unity will then re-import all assets for your current platform.
- We don't recommend saving the cache on cloud-storage-folders like Google Drive, Dropbox etc. since it can lead to a lot of traffic and stress for the cloud-services. If possible, use a local folder.

11. Problems, improvements etc.

If you encounter problems with this asset, just <u>send us an email</u> with a problem description and the invoice number and we will try to solve it.

12. Release notes

See "VERSIONS.txt" under "Assets/Plugins/crosstales/TurboSwitch/Documentation" or online:

https://crosstales.com/media/data/assets/tps/VERSIONS.txt

13. Credits

The icons are based on <u>Font Awesome</u>.

14. Contact and further information

crosstales LLC

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CH-8002 Zürich
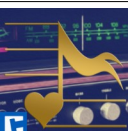
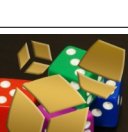|	
Homepage:	https://www.crosstales.com/en/portfolio/tps/
Email:	tps@crosstales.com
AssetStore:	https://assetstore.unity.com/lists/crosstales-42213
Forum:	https://forum.unity.com/threads/turbo-switch-pro-fast-and-save-platform-switches.434860/
Documentation:	https://www.crosstales.com/media/data/assets/tps/TPS-doc.pdf
API:	https://www.crosstales.com/media/data/assets/tps/api/

15.   Our other assets

3D Skybox	Those beautiful packages contain professional 8k, HDR, stereoscopic 360° real-world skyboxes for your projects.
Bad Word Filter	The "Bad Word Filter" (aka profanity or obscenity filter) is exactly what the title suggests: a tool to filter swearwords and other "bad sentences".
DJ	DJ is a player for external music-files. It allows a user to play his own sound inside any Unity-app. It can also read ID3-tags.
File Browser	File Browser is a wrapper for native file dialogs on Windows, macOS, Linux and UWP (WSA).
Online Check	You need a reliable solution to check for **Internet availability**? Here it is!
Radio	Radio allows implementing free music from Internet radio stations into your project..
RT-Voice	RT-Voice uses the computer's (already implemented) TTS (text-to-speech) voices to turn the written lines into speech and dialogue at run-time! Therefore, all text in your game/app can be spoken out loud to the player.
True Random	True Random can generate "true random" numbers for you and your application. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs.
Turbo Backup	Turbo Backup is the fastest and safest way to backup your Unity project. It only stores the difference between the last backup, this makes it incredible fast.

	Turbo Builder creates builds for multiple platforms in one click. It works together with <u>Turbo Switch</u> to offer an incredible fast build pipeline.
Turbo Builder	