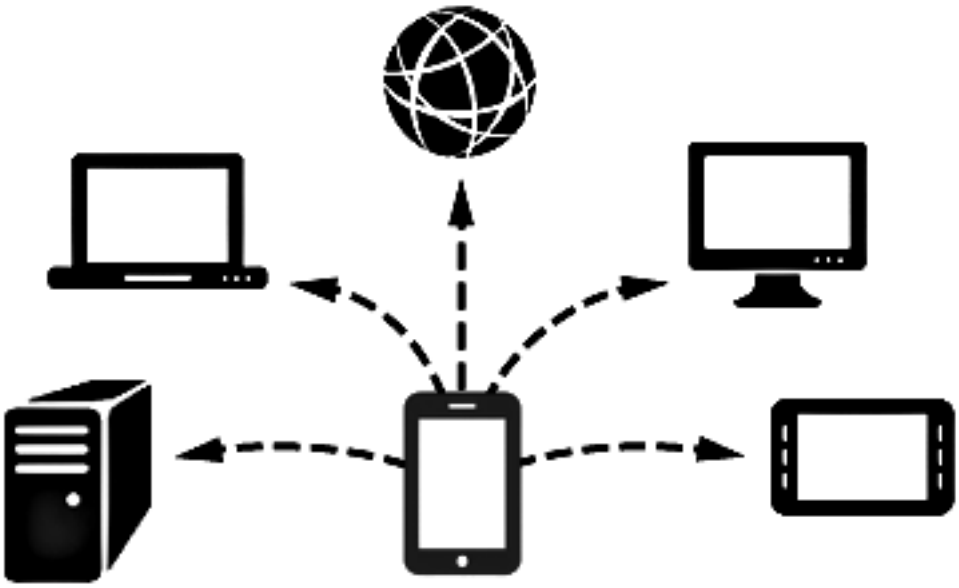
Good ol' Sockets



– for free version of Unity –
– supports iOS & Android –

by

LOST POLYGON

User Manual

v. 1.3.1

General information

Good ol' Sockets is a drop-in substitute for `System.Net.Sockets` namespace subset. It is designed to make it possible for Unity developers to use sockets on Android and iOS platforms without a Pro license. It also includes an automatic patcher tool that allows converting popular assets (such as **Photon Networking**, **Tasharen Networking**, **UniWeb**, **BestHTTP** and others) in a *single click!*

Good ol' Sockets aim to replicate the API of .NET sockets as close as possible. What this means for you is that you can use pretty much any code that uses `System.Net.Sockets`, including MSDN and hundreds of tutorials over the Web. Two simple commented demo scenes are also included.

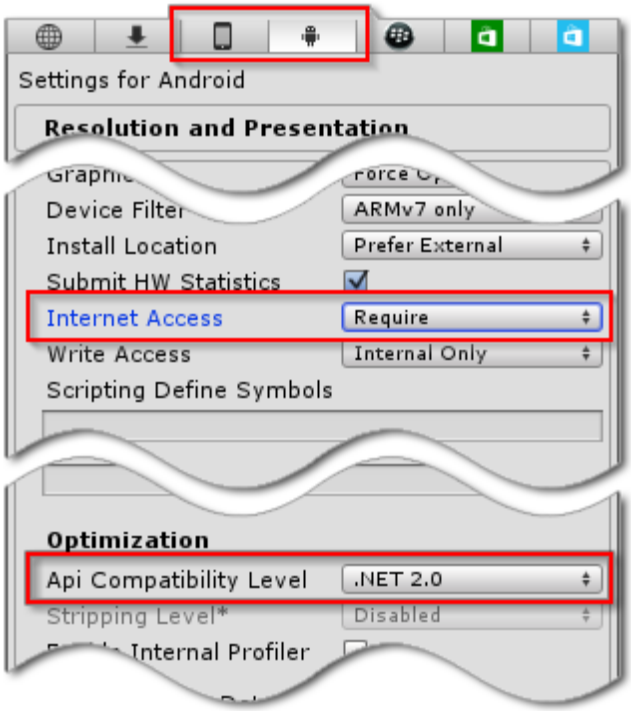
Note: Good Ol' Sockets is a bit slower than native Unity implementation, and do not implement whole `System.Net.Sockets` and `System.Net` namespaces. However, this *won't* affect most applications, as sockets are rarely the bottleneck, and the chosen API subset is sufficient for almost any needs.

Plugin is tested in Unity 4.0.1 - 5.0.x. Android and iOS platforms are supported, Pro license is not required.

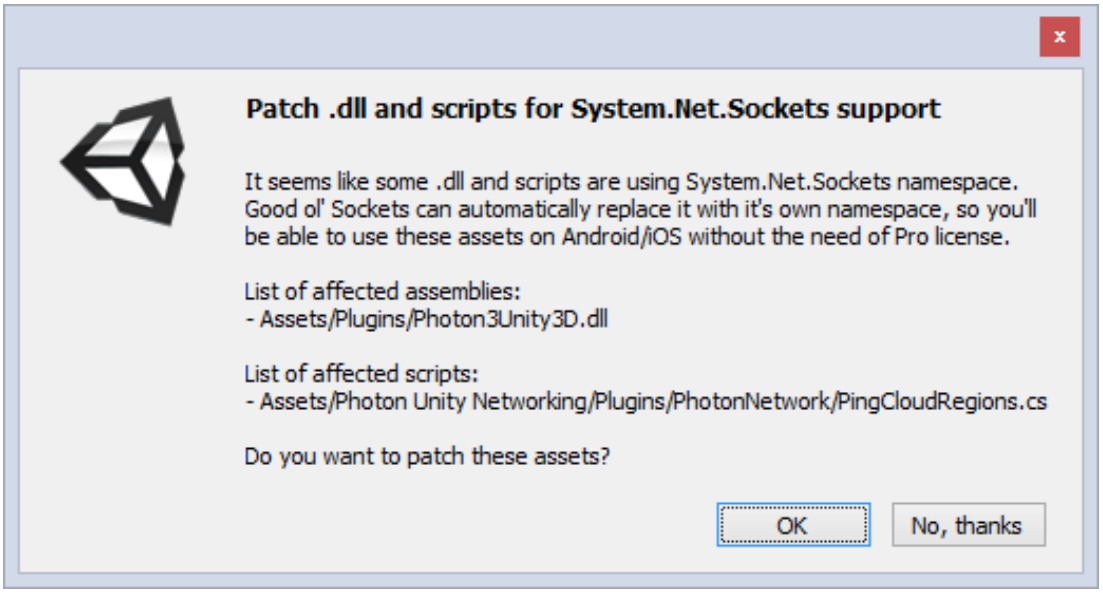
Integration

The process of integrating *Good ol' Sockets* is as simple as it can be.

First, go to *Build Settings…* → *Player Settings* → *Other Settings* and set *"Internet Access"* to *"Require"*. Also set *"Api Compatibility Level"* to *".NET 2.0"*.



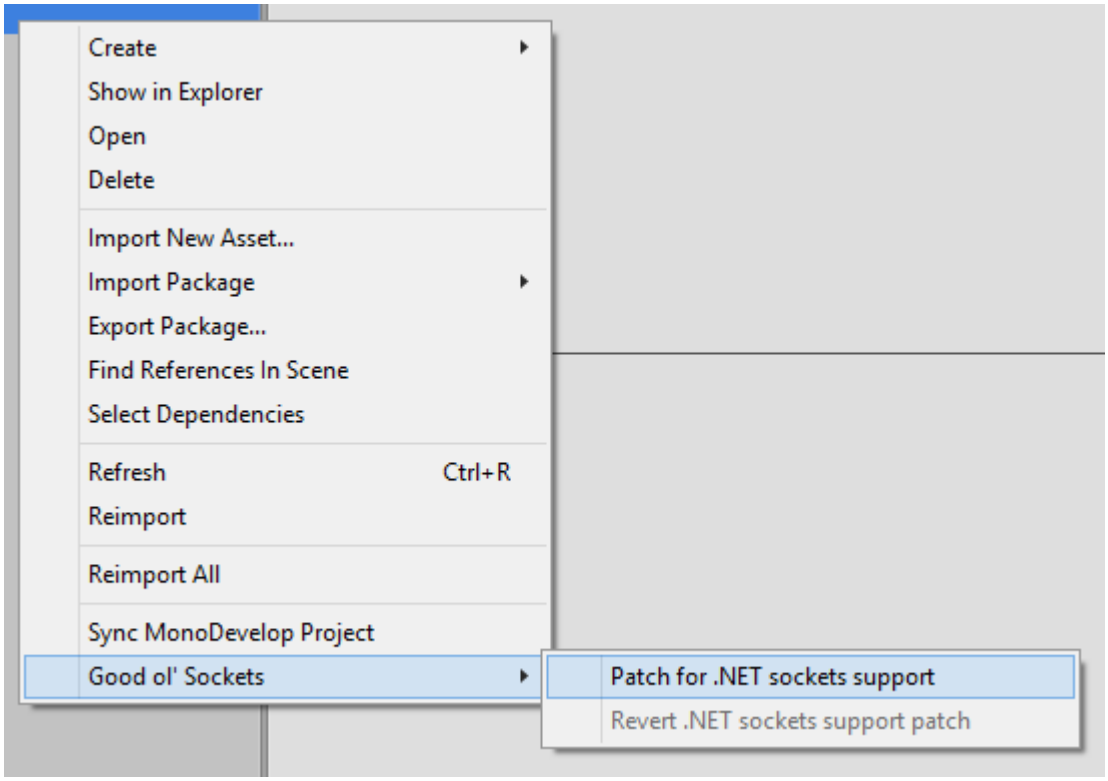
After that, when you import anything that uses `System.Net.Sockets` namespace, a dialog window will appear, allowing you to replace `System.Net.Sockets` (which is not supported without Pro license) with our own. Click OK, and… *that's it!*



You can call the automatic patcher manually by using:

Tools → *Lost Polygon* → *Good ol' Sockets* → *Patch System.Net.Sockets usages*

You can also patch a single file or a whole directory using the context menu item:



In case of any problems with automatic patcher, or in case you are writing your own socket code, just prefix a namespace usage with "`LostPolygon`" like this:

C#

```
using System.Net;
using System.Net.Sockets;
```

→

```
using LostPolygon.System.Net;
using LostPolygon.System.Net.Sockets;
```

JavaScript

```
import System.Net;
import System.Net.Sockets;
```

→

```
import LostPolygon.System.Net;
import LostPolygon.System.Net.Sockets;
```

Boo

```
import System.Net
import System.Net.Sockets
```

→

```
import LostPolygon.System.Net
import LostPolygon.System.Net.Sockets
```

Reverting the patch

It is also possible to revert the patching process. This is sometimes required when you want to build for a platform that is not supported by *Good ol' Sockets* supports (Web Player or Windows Phone, for example). In that case, revert the changes by using:

Tools → Lost Polygon → Good ol' Sockets → Revert back to original System.Net.Sockets namespace

and you'll be able to build your project again.

Known issues

Issue: *On Mac OS X, building the project from MonoDevelop fails with a compiler crash.*

Solution: This happens because MonoDevelop uses a different version of Mono compiler on Mac OS X by default. That compiler has issues with *Good ol' Sockets* library. The solution is to use Unity's built-in compiler instead. To do that:

1) Open MonoDevelop.
2) Go to *Preferences → Projects → .NET runtimes*.
3) Add a new runtime with path *"/Applications/Unity/Unity.app/Contents/Frameworks/Mono"*.
4) Set that compiler to be the default one.
5) Go to *Project → Active Runtime* and select Mono 2.6.5 Unity runtime.

Known incompatibilities

- Badumna Network Suite
- uLink (reportedly works on Android, but not iOS)

Implemented System.Net.Sockets counterparts

This is a list of .NET classes, structures and enumerations that are mirrored in *Good ol' Sockets*. You can use this list as a documentation reference – just Ctrl+Click to open your browser at the corresponding MSDN documentation page.

System.Net.Sockets.AddressFamily
System.Net.Sockets.IOControlCode
System.Net.Sockets.IPv6MulticastOption
System.Net.Sockets.IPPacketInformation
System.Net.Sockets.LingerOption
System.Net.Sockets.MulticastOption
System.Net.Sockets.NetworkStream
System.Net.Sockets.ProtocolFamily
System.Net.Sockets.ProtocolType
System.Net.Sockets.SelectMode
System.Net.Sockets.SendPacketsElement
System.Net.Sockets.Socket
System.Net.Sockets.SocketAsyncEventArgs
System.Net.Sockets.SocketAsyncOperation
System.Net.Sockets.SocketError
System.Net.Sockets.SocketException
System.Net.Sockets.SocketFlags
System.Net.Sockets.SocketInformation
System.Net.Sockets.SocketInformationOptions
System.Net.Sockets.SocketOptionLevel
System.Net.Sockets.SocketOptionName
System.Net.Sockets.SocketShutdown
System.Net.Sockets.SocketType
System.Net.Sockets.TcpClient
System.Net.Sockets.TcpListener
System.Net.Sockets.TransmitFileOptions
System.Net.Sockets.UdpClient
System.Net.EndPoint
System.Net.IPEndPoint
System.Net.IPHostEntry
System.Net.IPAddress
System.Net.CookieContainer
System.Net.Dns

System.Net.WebRequest
System.Net.WebResponse
System.Net.HttpWebResponse
System.Net.HttpWebRequest
System.Net.HttpRequestHeader
System.Net.HttpResponseHeader
System.Net.DecompressionMethods
System.Net.SocketAddress
System.Net.WebHeaderCollection
System.Net.NetworkInformation.OperationalStatus
System.Net.NetworkInformation.NetworkInterfaceType
System.Net.NetworkInformation.NetworkInterface
System.Net.NetworkInformation.NetworkInterfaceComponent
System.Net.NetworkInformation.PhysicalAddress
System.Net.NetworkInformation.IPv4InterfaceStatistics
System.Net.NetworkInformation.IPInterfaceProperties
System.Net.NetworkInformation.UnicastIPAddressInformationCollection
System.Net.NetworkInformation.MulticastIPAddressInformationCollection
System.Net.NetworkInformation.MulticastIPAddressInformation
System.Net.NetworkInformation.GatewayIPAddressInformationCollection
System.Net.NetworkInformation.GatewayIPAddressInformation
System.Net.NetworkInformation.IPAddressCollection
System.Net.NetworkInformation.IPAddressInformationCollection
System.Net.NetworkInformation.IPAddressInformation
System.Net.NetworkInformation.UnicastIPAddressInformation
System.Net.NetworkInformation.DuplicateAddressDetectionState
System.Net.NetworkInformation.PrefixOrigin
System.Net.NetworkInformation.SuffixOrigin

Contact

For any questions about this plugin, feel free to contact me at:
e-mail: contact@lostpolygon.com
Skype: serhij.yolkin

Changelog

1.0:
- Initial release.

1.1:
- Fixed some compatibility issues.
- Fixed build on Windows Phone platform.
- Improved assembly patcher.

1.1.3:
- Fixed SocketAsyncEventArgs.Completed event.

1.2:
- Added an option to revert the namespace patch.
- Added System.Net.CookieContainer support.
- Improved demos.

1.2.3:
- Fixed SocketAsyncEventArgs.Completed event being absent.
- Fixed some compatibility issues.

1.2.4:
- Fixed some regressions introduced in 1.2.3.
- Fixed compatibility with Tasharen Network 1.9.6b.

1.3.0:
- Added per-directory patching.
- Much improved general .NET sockets compatibility.
- Improved Tasharen Network compatibility.

1.3.1:
- Assemblies from "Assets/Plugins/WP8/" directory won't be patched anymore.
- Fixed incorrect type usage on Windows Phone build leading to a linker error.