SWF2Go Professional 2.6
User Guide

SWF2Go Professional enables you to create rich, powerful and engaging Flash Lite applications rapidly.

SWF2GO PROFESSIONAL™

VERSION 2.6

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www.swf2go.com

Explore New
Possibilities

Deliver next-generation mobile applications & games by combining the expressiveness of Flash Lite and power of Python for S60.

Reach over 250 million Symbian S60 3rd and 5th Edition devices world-wide to make great revenue and impact.

A product by

ORISON
TECHNOLOGIES

Powered by **Microsoft® .net™**

Compatible with (intel)

AMD

SWF2Go Professional 2.6 - User Guide

Introduction

SWF2Go Professional enables you to create rich, powerful and engaging Flash Lite applications rapidly by combining the power of Python for S60 and Net60. Making professional class deployment packages is now one-click operation with new redesigned and friendlier user interface.

SWF2Go Professional supports all versions of Adobe Flash Lite Player up to v4.x. It produces compatible SIS installers for latest Symbian S60 3rd, 5th Edition and Symbian ^3 / ^4 multimedia devices such as Nokia N8, N97, Nokia X6, Samsung Omnia HD and Sony Ericsson Satio with most recent version of Adobe Flash Lite Player.

Figure 1 - SWF2Go Packaging Process

SWF2Go is a RAD (Rapid Application Development) friendly tool, allowing Flash Lite developers to deliver fast and on-time through simplified SIS packaging process.

What's New

SWF2Go Professional 2.6 introduces development of next-generation mobile applications using Adobe Flash Lite, Python for S60 v2.x and Net60 (.Net CF for S60) on latest Symbian S60 based devices.

This new version now supports Symbian ^3 / ^4 with Flash Lite 4.x, allows developers to make trial version of their games & applications with a single click, application protection through S60 data protection mechanism, ability to install applications to custom paths, assigning of additional capabilities, integrated Nokia RDA service for easy testing of applications on real devices. Compatibility with Symbian Signed and Express Signed allows developers to reach broader audience with confidence.

Key Features

SWF2Go v2.6 brings the most exciting new features for Flash Lite developers to develop next-generation mobile games and applications.

- **Easy to Use:** The best and complete professional SIS installer and SWF launcher toolkit, now with new redesigned user interface.
- **Broad Compatibility:** Support for all versions of Adobe Flash Lite Player (1.1 - 4.x) and all versions of Symbian Platform including latest Symbian ^3 / ^4 (9.1 - 9.4+).
- **Industry Standard:** Produces Symbian Signed and Express Signed compatible SIS installers. Used and trusted by industry leaders as well as many small startup companies.
- **Advance Extensions:** With support of Python for S60 and Net60 (.Net CF) runtimes, make powerful Flash Lite applications. Use existing Open Source frameworks or make your own customized solutions.
- **Intelli-Launch Technology v2.6:**
  - Python for S60 v2.x background script launcher
  - Net60 (.Net CF for Symbian) background process launcher
  - Even more memory. 8MB for Flash Lite 2.x and up to 32MB for Flash Lite 3.x – 4.x
  - Support for custom installation paths, including */private* folder for better protection of Flash Lite applications
  - Intelligent detection and start of SWF with the latest on-device Flash Lite player
  - Info-note with URL to download Flash Lite from Adobe's website, if Flash Lite is not detected on mobile device
  - Support to launch multiple Flash Lite applications simultaneously
- **Make Try-Before-Buy:** Make trial version of applications with one click. Show a splash screen during trial, and optionally open Buy Now link at end of each trial run.
- **Additional Features:**
  - Option to export PKG and SIS source for making customized SIS installer
  - Option to keep temporary SIS source files for making customized / advance SIS
  - Optionally display of readme and/or license agreement during SIS installation
  - Embed other SIS files into main SIS (Flash Lite Player / PyS60 / Net60 / APIBridge)
  - Supports build automation by XML project files and command-line compiler option
  - Express-Compile technology helps rapidly build SIS file(s) in seconds
  - Integrates with Windows Explorer to quickly compile SWF2Go Project files with right-click context menu

System Requirements

- Intel / AMD 1GHz or faster processor with 512MB system memory
- 100MB Hard disk space for installation (Including MS .Net Framework 2.0)
- Microsoft Windows 2000 Family, Windows XP Family, Windows Vista / 7 Family
- Microsoft .Net Framework Version 2.0 or later (Available free from Microsoft website) (Not required if installing on Windows Vista / 7)
  http://www.microsoft.com/downloads/details.aspx?FamilyID=0856eacb-4362-4b0d-8edd-aab15c5e04f5

Extensibility with Python for S60 and Net60 (.Net CF)

SWF2Go Professional v2.5 introduces support for extensibility using Python for S60 v2.x and Net60 (.Net CF for S60 by Red Five Labs) runtimes. Now it is possible to access additional device features such as Bluetooth, Camera, File I/O, Phonebook, etc. without knowledge of Symbian C++.

SWF2Go combines the best RAD (Rapid Application Development) technologies Adobe Flash Lite, Python for S60 and Net60 available on Symbian S60 platform to develop rich, powerful and engaging games and applications.

The communication with Flash Lite and background process can be done via implementing a mini-HTTP server or XML Socket server.

In mini-HTTP server implementation, Flash Lite applications polls for updates from server as the connection is only one sided. However, it allows returning text as well as media content back to Flash Lite application in response to a request.

In XML Socket server implementation, the textual data can be pushed to both sides as the connection is kept alive. It is best suited for applications which need real time information, such as accessing Accelerometer, GPS data or multiplayer Bluetooth games for real time updates to user.

Intelli-Launch Technology v2
Better Flash Lite Player detection and PyS60 Support

- Flash Lite 3.x
- Flash Lite 2.x
- Flash Lite 1.1

Python for S60 Background Server

Figure 2 - Powerful Extensibility with Python for S60 and Net60

There are two sample Python scripts installed in Samples folder with basic functionality. You can extend the scripts to add required functionality. We will be posting more samples on timely basis on SWF2Go developer community.

You can also use other Open Source and freeware frameworks for extending Flash Lite capabilities.

- SWF2Go Dev. Community: http://www.swf2go.com/community
- Python for S60: https://garage.maemo.org/projects/pys60/
- APIBridge: http://www.forum.nokia.com/Tools_Docs_and_Code/Tools/Extensions/APIBridge/
- Flyer Framework: http://code.google.com/p/flyer/

Using SWF2Go Professional

SWF2Go provides simple one-screen and one-click solution for creating powerful Flash Lite applications and packaging in Symbian SIS installation file for easy distribution.

Home Screen

The new Home Screen of SWF2Go allows you to get started quickly. You can create a new project or load existing one. You can also open the comprehensive user guide or launch SWF2Go online developer community website directly from the Home Screen.
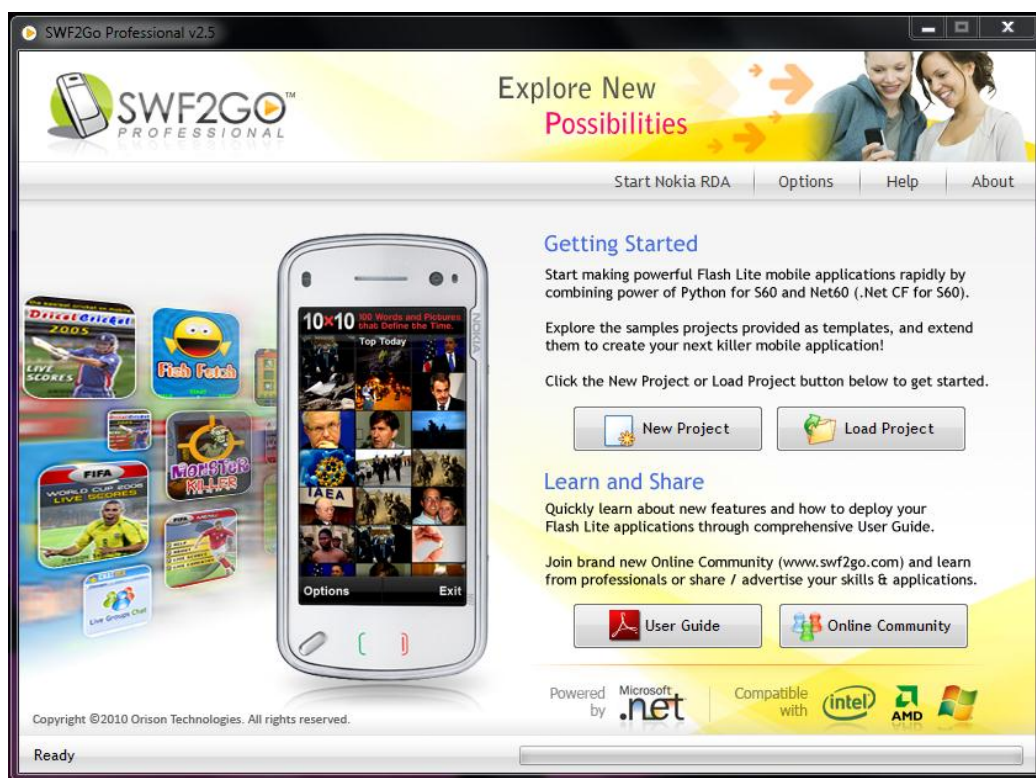

Figure 3 - SWF2Go Home Screen

Project Screen

The Project Screen of SWF2Go has been redesigned with all necessary info and input fields you require to build your SIS packages. After filling out the required fields, all you have to do is to press the *Build Project* button to get your SIS file.

Application Name

There are two text fields for Application Name, in the first field you can input descriptive name of your application which will be shown when user will select the List Mode menu in his or her mobile. In the second field, you can enter a short name which will be shown when the user will select the Grid Mode in phone's menu.

App. UID

Application UID is required by Symbian platform. You can click the refresh button next to UID field to get a new random UID for testing purposes.

When an application is to be Symbian Signed (either during development using a Developer Certificate or via the Symbian Signed program), it must use a UID from the protected range. New UID allocations are made from the 2 range (0x20000000 to 0x2FFFFFFF). Before being submitted for Symbian Signed testing, an application must have a UID allocated from the 2 range.
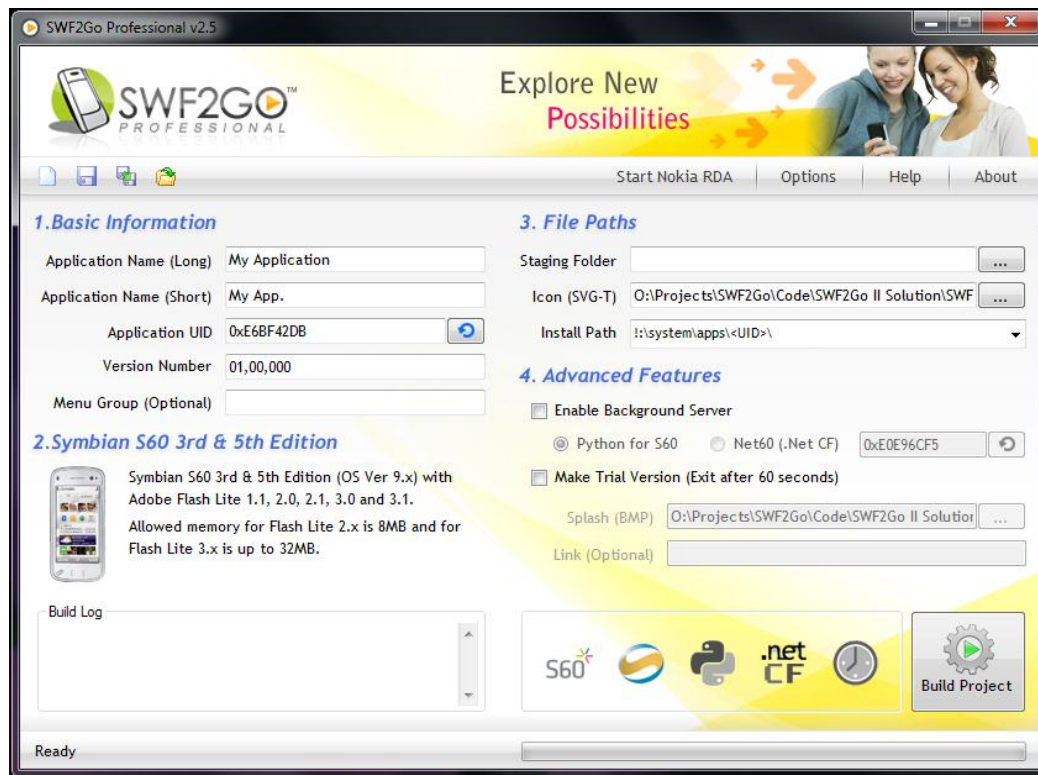
Figure 4 - SWF2Go – Project Screen

When an application is self-signed, it must use a UID from the unprotected range. New UID allocations are made from the A range (0xA0000000 to 0xAFFFFFFF). A self-signed application must have a UID allocated from the A range before being released to end users. Alternatively, it is also possible to use your existing allocations for self-signed applications on Symbian OS v9.1 (that is, those applications not requiring access to sensitive APIs); to do this, simply replace the first hex digit (a 1) with F.

For development and testing purposes, E range UIDs (0xE0000000 to 0xEFFFFFFF) or allocated A range UIDs from the unprotected range can be used. If a 0 range UID is used, a Developer Certificate is required so it may not be a feasible option.

You can get UIDs for your applications from Symbian Signed (www.symbiansigned.com) which you can use for final distribution of your applications. Registration and requesting UIDs is free. When you plan to distribute your applications, it is highly recommended to use UIDs allotted by Symbian Signed.

Version

Enter the complete version number for your application. The format of version number is as follows, Major.Minor.Build. For example: 01.50.233

Menu Group

You can optionally input a *Menu Group* where the application icon will be created. By default new application icons are created under Applications / Installations folder on S60 devices.

Symbian S60 3rd and 5th Edition

This new version now supports Symbian S60 3rd, 5th Editions and Symbian ^3 / ^4 (9.1, 9.2, 9.4+). SWF2Go supports all mobile devices based on Symbian Platform with any version of Adobe Flash Lite Player (1.1 - 4.x).

Please visit the following link for a full list of S60 devices:

- http://www.symbian.org/devices

Staging Folder

SWF2Go simplifies file selection by providing *Staging Folder* option. Place all the application files such as application SWF, additional SWF, JPG, TXT, XML, MP3, 3GP, FLV etc. in staging folder.

You must name the file *main.swf* that you want to be launched through menu icon. Or you can add the main application SWF filename in the install path.
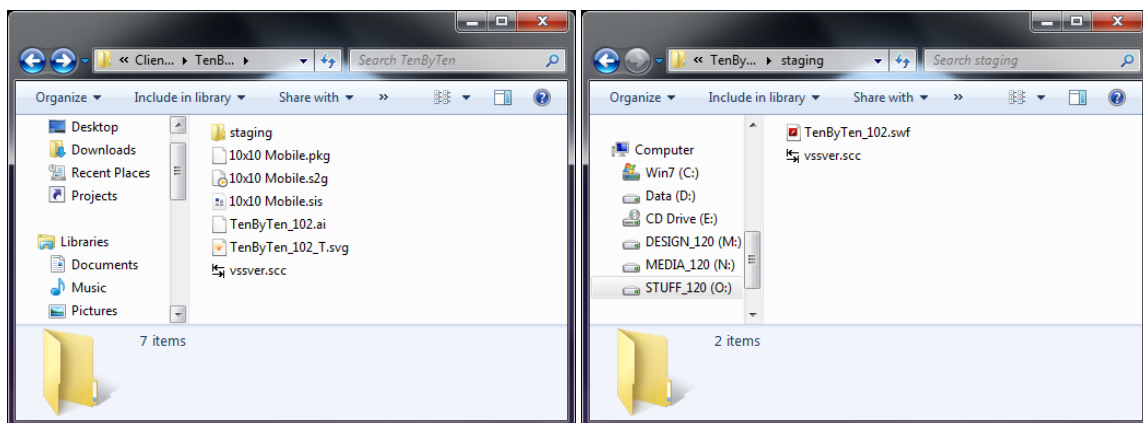
All the files in staging folder will be packaged in SIS and same directory structure will be preserved as in staging folder. An example project and staging folders would look similar to one shown in Figure 5 above. Remember not to save application icons or source files in staging folder.

Recognizable Files in Staging Folder

Python for S60: To start PyS60 background script, simply enable the PyS60 process in your SWF2Go project and name the main script as *default.py* and put it into the *Staging Folder*. The script will be launched in background before Flash Lite application is started. If PyS60 runtime is not installed on device, the launcher silently ignores the script.

.Net CF: To start .Net CF background process, enable the Net60 process in your SWF2Go project and put your .NetCF file named *default.exe* in *Staging Folder*. The process will be launched in background before Flash Lite application is started. If Net60 runtime is not installed on the device, the launcher silently ignores the process.

Readme.txt & License.txt: If you put a text file named *readme.txt* in *Staging Folder*, it will be displayed during the installation process on the phone. Also, if you want to display a license agreement during the installation, you can place a *license.txt* file in the *Staging Folder*.

Embedded SIS File: You now have option to embed plug-ins or additional SIS files by just dropping them into *Staging Folder*, SWF2Go compiler will automatically detect the UID of the SIS file and embed it into the SWF2Go generated SIS file in one package as illustrated in Figure 6 below.
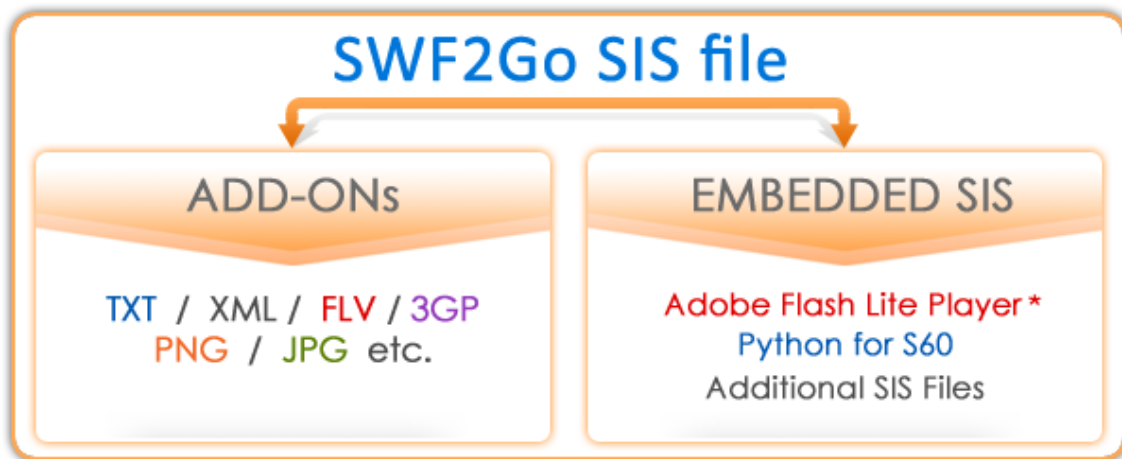

Figure 6 – Additional SIS files can be packaged in one SIS

* Adobe Flash Lite Player can only be embedded with specific permission / license from Adobe. We deny any responsibility for misuse of this feature.

You can also export the PKG and SIS source files via setting in SWF2Go Options and make customized SIS packages or do advance tweaks. Follow the links below to learn more about PKG file format.

- http://www.newlc.com/How-to-create-a-SIS-file.html
- http://www.symbian.com/developer/techlib/v9.2docs/doc_source/toolsandutilities/Installing-ref/PKG_format/index.html

SVG-Tiny Icon

Select a SVG-Tiny icon for your application which will be displayed in mobile phone menu. For S60 3rd Edition and later, menu icon is required in SVG-Tiny (Scalable Vector Graphics) format. You can create SVG graphics using Adobe Illustrator CS2 or Inkscape. Adobe Illustrator CS2 and later supports direct export to SVG-Tiny format. Suggested size of icons is 80x80 pixels, and avoid using complex effects.

If you use Inkscape, you will have to save the file as *Plain SVG* and then convert it to SVG-Tiny with a command-line tool called *svg2svgt* that comes with S60 3rd Edition SDK. *svg2svgt* tool can be found in *C:\Symbian\9.1\S60_3rd_MR\S60Tools\svg2svgt*

- To find out more about creating and optimizing SVG, read the following documents
  http://www.adobe.com/svg/pdfs/illustrator_svg.pdf
  http://sw.nokia.com/id/9bb4b488-ca66-441f-bda9-cae2214500b2/S60_Platform_Vector_Graphics_Optimization_v1_0_en.pdf
- Adobe Illustrator CS4 – a commercial SVG drawing tool
  http://www.adobe.com/products/illustrator/
- Inkscape – a free SVG drawing tool
  http://www.inkscape.org/
- GIMP – free graphics drawing tool
  http://www.gimp.org/

Install Path

Now you can set custom installation path for your applications. Select a predefined path from the drop-down or input your own. The paths defined in drop-down list are recommended until you need a specific requirement.

You can also apply S60 3rd Edition application data protection mechanism by using the */private/<UID>/* as install folder. Applications installed in this folder are protected from being explored and copied by advance file managers.

Another advantage of using */private/<UID>/* as install folder is, the Adobe Flash Lite 3+ treats SWFs installed in this folder as Trusted. You no longer need to recompile your SWF with Network Access Only policy in Flash Authoring. SWFs installed in this folder can access local files as well as network access without any special modifications.

Background Server Process

Check Enable Background Process to enable start of Python for S60 or Net60 server process before SWF is launched.

For Net60, you also need an additional UID which must be different from the main application UID. All the selected capabilities in SWF2Go Options will also be applied to Net60 executable.

Make Trial Version

Now you can easily make 60 seconds trial versions of your Flash Lite games and applications with just checking the Make Trial Version option. Select a 24bit BMP file to be displayed as splash during trial mode.

The splash image is displayed three times during the 60 second trial run. 1) Start of application, 2) after 30 seconds and 3) at end of trial time. The application exits automatically after 60 seconds trial.

You can optionally enter a Buy Now link. If a link is specified, user is asked at end of each trial run, if he would like to buy the application now. The link is then opened in mobile browser if user selects Yes to the question.

SWF2Go Options

SWF2Go now comes with pre-set options, you can compile your first project without going through anything in Options. There's a demo Self Certificate already setup which you can use for testing your applications out of the box.
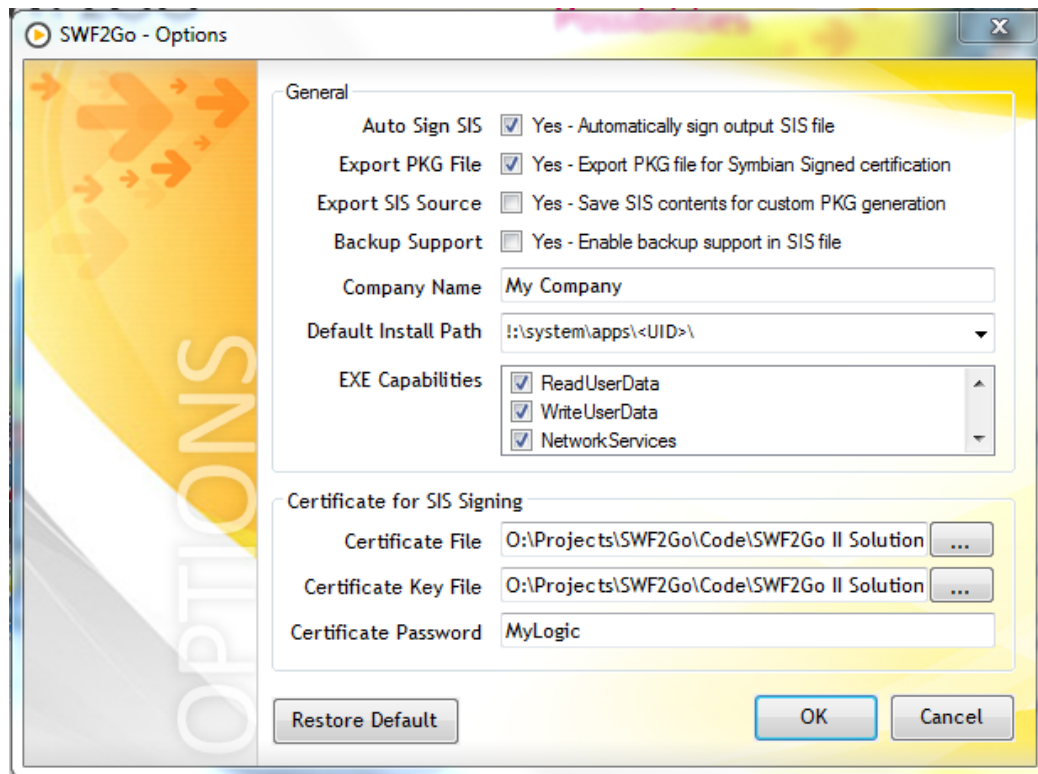

Figure 7 - SWF2Go Options

When you enable to export the PKG file, the file is saved in same folder as your output SIS. If you enable to export SIS contents, the files are saved in *Temp* folder under SWF2Go installation folder.

Default path can be set in Options, and is automatically used in every new project as install path. You can input absolute path as well. i.e. *c:\private\<UID>*

You can now also add more capabilities to your application if required or in case you are using Net60 background process which needs more capabilities. You can always reset to default settings any time by pressing the *Restore Default* button.

Integrated Forum Nokia RDA Service

You can access and manage Forum Nokia RDA (Remote Device Access) to test your applications on latest Symbian S60 devices. You only need a Forum Nokia account to access the RDA service. The registration and use of RDA is free. Find out more about Forum Nokia RDA service at the link below.

- http://www.forum.nokia.com/rda

Quick compile from Windows Explorer

You can also compile SWF2Go project files via Windows Explorer right-click context-menu. This option will help you compile SIS file without first opening project files into SWF2Go.
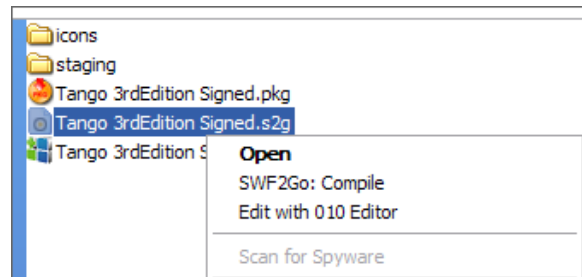

Figure 8 - Compile SWF2Go project from Context-Menu

Using SWF2Go from Command-Line

SWF2Go features command-line compilation for supporting automated build tasks. Developers can include SWF2Go in build automation processes or command shortcuts in authoring tools such as Adobe Flash Professional.
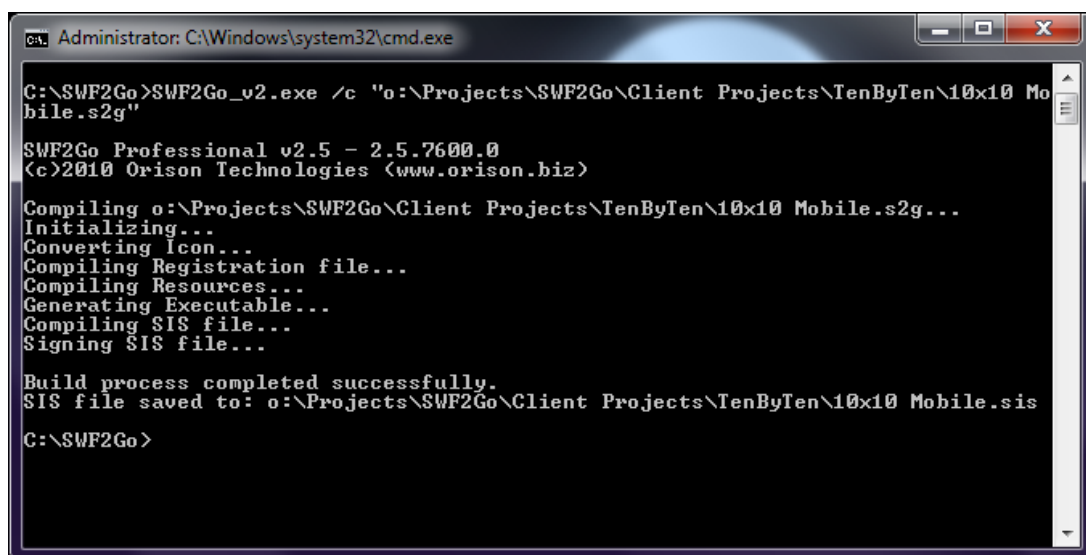

Figure 9 – SWF2Go Console Compiler

The project files are saved in XML format, and can be modified programmatically or by using any XML / Text editing tool. This allows making customized SIS installers automatically without even opening the SWF2Go main window. The command-line compiler can also be used in different combinations, such as compiling multiple SWF2Go Project files at once by use of a .BAT file.

SWF2Go command-line syntax is as follows:

```
SWF2Go_v2.exe </option> <swf2go-project.s2g>
     Options
     /?    Syntax help
     /c    Compile the project
```

Keyboard Shortcuts

The following keyboard shortcuts will help you work better with SWF2Go.

- Build Project (Ctrl + B) - Compile the SWF2Go project
- New Project (Ctrl + N) - Start a new SWF2Go project
- Save Project (Ctrl + S) - Save the project to specified location
- Save As (Ctrl + A) - Save the project to new location / name
- Load Project (Ctrl + O) - Load a saved SWF2Go project from specified location
- Nokia RDA (Alt + R) - Open Nokia RDA service
- Options (Alt + O) - Open Options window
- User Guide (Alt + H) - Open SWF2Go User Guide
- About (Alt + A) - Open SWF2Go About window

Testing & Distribution

The final step is to test the output SIS file on your target mobile phones and make it available for download through your own website or through any online market-place, such as Ovi Store by Nokia, Nokia Software Market, Handango, GetJar and others.

SWF2Go now have integrated support for Forum Nokia RDA (Remote Device Access) service to allow easily test your applications on latest S60 devices. The service is free of charge, however you will have to register at Forum Nokia to access the RDA service, which is free as well.
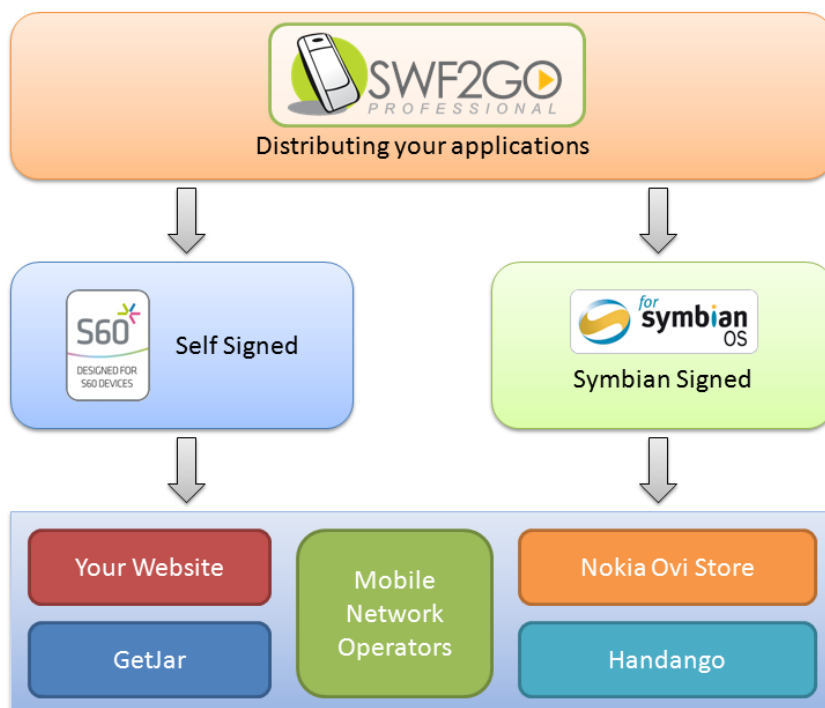

Figure 10 – Application Distribution Channels

As illustrated in Figure 10 above, you have plenty of options to distribute your applications made with SWF2Go Professional. Getting an application Symbian Signed is preferred option if your application is commercial value, and Self Signed is preferred for freeware applications.

Some content aggregators also accept Self Signed commercial applications to support freelance developers and small companies, these include Handango, ClickGamer and some others.

You can also make available SIS files on your own mobile website (WAP / XHTML-Mobile). To support OTA installation of SIS files from your website, you will need to setup MIME Type for SIS files on your webserver.

Configure your server as follows:

- For SIS files: `application/vnd.symbian.install`
- For SISX files: `x-epoc/x-sisx-app`

If you do not know how to setup MIME Type on your webserver, please ask your web hosting provider to help you with the configuration.

There are two scripts provided in PHP and ASP.Net (1.1 / 2.0) which will allow you to set the correct MIME Type for SIS files without need to make any changes in server settings. You can find the scripts in *Samples* folder under SWF2Go installation directory. Usage and setup instructions are provided along with the scripts.

Symbian Signed Certification

Symbian Signed is an industry-backed program that allows you to digitally sign applications so that they can be installed and used on S60 3rd Edition phones. Certifying an application via Symbian Signed can greatly improve the application's route and time to market.

Symbian Signed Certification is not mandatory; however, it makes your application trustworthy and is also required when you plan to distribute your applications via major content aggregators who offer Over-The-Air (OTA) distribution of applications such as Nokia Ovi Store, Handango or directly through Mobile Network Operators.

SWF2Go Professional 2.6 produced SIS files are compatible with Symbian Signed testing criteria, making signing process fast and easy.

Follow the links below to learn more about submission process and updates for Symbian Signed.

- http://publish.ovi.com/
- http://www.symbiansigned.com
- http://developer.symbian.com/main/signed/
- http://developer.symbian.com/main/learning/press/books/pdf/large_symbian_signed.pdf

Self Signing

Self Signing is easy route to make available your applications without paying any Symbian Signed fees. Self Signing is preferred by individual / freelance developers or small start-up companies.

By default SWF2Go produced SWF launcher and SIS does not require any protected Symbian S60 platform capabilities. You can safely sell Self Signed applications, it is also preferred option for most freeware applications. Handango, ClickGamer and other content aggregators also accept Self Signed applications.

Symbian S60 SDK includes *makekeys.exe* tool to make Self Certificate to sign the SIS files. The tool is located in *C:\Symbian\9.1\S60_3rd_MR\Epoc32\tools.*

Use the *makekeys.exe* tool to make certificate (.cer) and key (.key) files. The usage syntax is as follows (command is broken in multiple lines for better readability):

```
Makekeys.exe -cert -password MyPassword -len 2048 -dname
    "CN=MyName OU=MyUnit OR=MyCompany CO=US EM=my@company.com"
    c:\mykey.key c:\mycert.cer
```

You can make Self Certificate beyond one year limit by downloading a new version of *makekeys.exe* tool from the link below:

- http://www3.symbian.com/faq.nsf/AllByDate/0A641D4666011F9C002572250023F01C?OpenDocument
- http://wiki.forum.nokia.com/index.php/Freeware_signing

Known Issues

- SWF2Go only support ASCII characters in path. Compilation might fail if application path contains any non-ASCII characters.
- If you install SWF2Go to directories which have non-ASCII or Space character(s) in its path or name, SWF2Go may not compile SIS. It is suggested that you install SWF2Go in its default location, which is *C:\SWF2Go*
- SWF2Go is made to work in US English locale. If you encounter any errors during compilation, try setting your OS's locale to US English.

Troubleshooting

- *Icon not visible, but the caption is visible*
  Do not copy/paste icon graphics from Photoshop or other raster drawing tool into SVG tool. If you do so, only Illustrator CS2 and later supports embedded raster graphics in SVG files. Note that raster graphics/effects will increase the SVG size dramatically.
- *SIS build tool exit with ExitCode: 1*
    a. Check if you are using correct UID for S60 3rd Edition.
    b. Application name may have non-ASCII characters.
    c. Version number field might be incomplete. Always input complete version number.

Special Thanks

- Riku Salminen – Nokia (http://www.forum.nokia.com)
- Stefan Wessels – Breakdesign (http://www.breakdesign.com)
- Jerry Amadon – Electricast (http://www.electricast.com)
- Leonardo Risuleo for 10x10 Mobile (http://www.leonardorisuleo.info)

Links to online resources

SWF2Go Online

- SWF2Go Home
  http://www.swf2go.com
- SWF2Go Developer Community
  http://www.swf2go.com/community
- Orison Technologies
  http://www.orison.biz

Content Aggregators

- Forum Nokia and Nokia Ovi Store
  http://www.forum.nokia.com
- Sony Ericsson – Developer World
  http://developer.sonyericsson.com
- Samsung Mobile Innovator
  http://innovator.samsungmobile.com
- Handango
  http://developer.handango.com
- GetJar
  http://developer.getjar.com

Signing SIS

- http://www.symbiansigned.com
- http://wiki.forum.nokia.com/index.php/Freeware_signing

PKG File Format

- http://newlc.com/How-to-create-a-SIS-file.html
- http://www.symbian.com/developer/techlib/v9.2docs/doc_source/toolsandutilities/Installing-ref/PKG_format/index.html

SWF2Go Support

The product is provided without any official support; however I (Faisal) will try to resolve any basic problems you encounter through SWF2Go support forums at http://www.swf2go.com/community

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