

Series 40: Nokia Flash Lite (NFL) Package Format

Version 1.0; September 17, 2008

Flash Lite

NOKIA

Copyright © 2008 Nokia Corporation. All rights reserved.

Nokia and Forum Nokia are trademarks or registered trademarks of Nokia Corporation. Java and all Java-based marks are trademarks or registered trademarks of Sun Microsystems, Inc. Other product and company names mentioned herein may be trademarks or trade names of their respective owners.

Disclaimer

The information in this document is provided “as is,” with no warranties whatsoever, including any warranty of merchantability, fitness for any particular purpose, or any warranty otherwise arising out of any proposal, specification, or sample. This document is provided for informational purposes only.

Nokia Corporation disclaims all liability, including liability for infringement of any proprietary rights, relating to implementation of information presented in this document. Nokia Corporation does not warrant or represent that such use will not infringe such rights.

Nokia Corporation retains the right to make changes to this document at any time, without notice.

License

A license is hereby granted to download and print a copy of this document for personal use only. No other license to any other intellectual property rights is granted herein.

Contents

1	Introduction.....	5
2	What is .NFL?.....	5
3	Format details	5
4	The icon file.....	6
5	The descriptor file.....	6
6	MIME type.....	7
7	Limitations	7
8	Evaluate this resource	7

Change history

September 17, 2008	Version 1.0	Initial document release

1 Introduction

This document outlines a procedure and file format for distributing Flash Lite from Adobe content to Series 40 devices. The format is handled correctly by Nokia devices compatible with Series 40 5th Edition, Feature Pack 1 or newer.

The .NFL format offers developers the chance to package related resource files together and to launch content using an icon in the same way as “full” applications. This format improves both the publishing and user experience of Flash Lite content onto a wide range of Nokia devices.

2 What is .NFL?

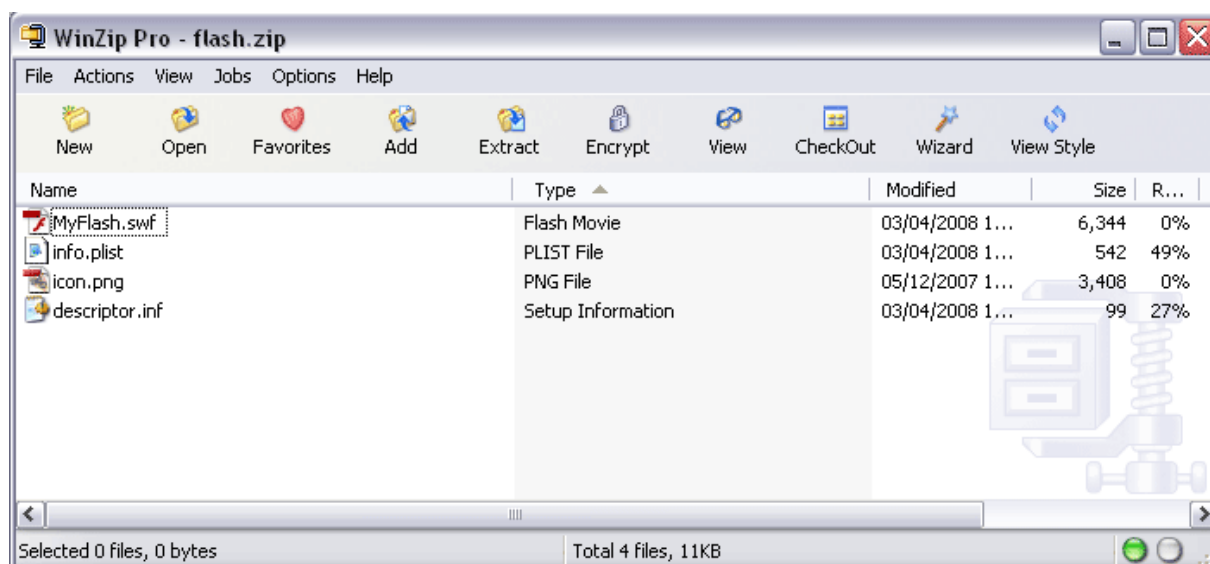
The Nokia Flash Lite package format provides developers with a convenient way of distributing Flash Lite applications consisting of several files.

The format caters to developers by:

- Allowing the inclusion of an application icon to be displayed by the Gallery instead of the default Flash icon.
- Allowing a localised application name to be displayed by the Gallery instead of the file name.
- Allowing digital rights management (DRM) protection of IPR.

3 Format details

The package format is based on the universally accepted ZIP archive format, with some requirements for mandatory content as well as file extension.



In order for the device to be able to recognize the ZIP file as a Nokia Flash Lite package, the file must have the extension `.nfl`. It must also contain a valid descriptor file and at least one `.swf` file referenced by the descriptor.

Here is an example of the content of an NFL package:

```
sample.nfl>>
./descriptor.inf
./hello_world.swf
./image.png
```

It is recommended that compression is only used when necessary for NFL packages, as it increases the startup time as well as the time required for file access from the archive.

Chapter 5 describes the descriptor file and how it is used.

4 The icon file

The icon file should typically be created as a 36 x 36 or 43 x 43 pixel, 256 color .png file with a transparency background. This is in keeping with normal specifications for Series 40 application grid icons.

5 The descriptor file

The descriptor file must be named '**descriptor.inf**', and it contains a set of keyword-value pairs. Each pair is located on a separate line (split by the newline character), and the format for each line is 'KEYWORD: VALUE'. The EOF character at the end of the file is regarded as a newline. Blank lines are ignored. The file must be encoded in UTF-8 format and the content is case sensitive. Each predefined keyword starts with the 'FL-' prefix. The maximum supported size for the descriptor file is 8Kb.

The keywords listed below are recognized by Series 40 5th Edition devices. If the descriptor file contains keywords not in the list they will be ignored. If the same keyword is detected more than once then the last definition will be used. If the descriptor file contains a syntax error then the file is treated as a corrupted Flash Lite file (file name will be shown in Gallery and it cannot be played).

Keyword	Required	Value
FL-Version	Optional	Version string of content. The string will be shown when the user selects Options > Details while the archive file is highlighted in Gallery.
FL-Icon	Optional	Name of the file in the archive containing the icon to be shown in Gallery. If the file does not exist, the default Flash Lite icon is shown. The maximum allowed size of the icon file is 16Kb. If this size is exceeded the icon will not be shown in Gallery. Only png , gif , and jpeg formats are supported.
FL-Name	Optional	Default package name. The name is shown in Gallery/Applications.
FL-Name-[LL]	Optional	Localised package name. This name is shown instead of FL-Name when the display language (LL) is selected in the mobile device. LL is named according to ISO639 2 letter code. See example below.
FL-Root	Required	Name of file in archive representing the root application, which is launched when the archive is played. The name must have the .swf extension; otherwise the archive is regarded as corrupted. If the file name is valid but does not exist, an error message is shown when the user attempts to play the archive.

Here is an example of a descriptor file:

```
FL-Version: 1.0  
FL-Icon: image.png  
FL-Name: Hello World  
FL-Name-da-DK: Goddag Verden  
FL-Root: hello_world.swf
```

6 MIME type

The MIME type used for .nfl files is 'application/vnd.nokia.flashlite-archive'.

7 Limitations

The following limitations apply to archive files:

- Archive files containing an FL-Name(-) attribute cannot be renamed in Gallery.
- Files outside of the archive cannot be read.
- The maximum supported size of the `descriptor.inf` file is 8Kb.
- The maximum supported size of the icon file is 16Kb.
- Directory names in folder (and `descriptor.inf`) must only contain ASCII characters.

8 Evaluate this resource

Please spare a moment to help us improve documentation quality and recognize the resources you find most valuable, by [rating this resource](#).