

Samsung Apps

Application Protection Guide

Samsung Apps Applications Android Protection Guide

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1. Background

This document introduces how developers apply Samsung Apps's application protection to their application through the Seller Office and the Zirconia1 library. Furthermore, this document introduces the procedures for developing and submitting an application.

2. Set USE_ZIRCONIA_DRM=1 in config.bat

3. Register for testing from Seller office

1. Go to <http://seller.samsungapps.com/>
2. Login with ID : astore@gameloft.com PW : apps000
3. Do following steps:

The screenshot shows the Samsung Apps Seller Office interface. The browser address bar displays <http://seller.samsungapps.com/product/content/listAndroidUid.as>. The page header includes the Samsung Apps logo, "Seller Office", language options (ENGLISH, 中國語), and a "Log Out" button. The main navigation bar contains "My Profile", "Buyer Support", "Applications" (highlighted with a red box and number 1), "Accounting", "Statistics", and "Support". Below this, a sub-navigation bar lists "My Applications", "Coupon", "Discounts", "Banner" (highlighted with a red box and number 2), "UID" (highlighted with a red box and number 2), "Widget ID", "Item", "Bulk", "Add New Application", and "Guide".

The "UID" section is active, showing a breadcrumb "HOME > Applications > UID". On the left, there are tabs for "Window Mobile" and "Android DRM" (highlighted with a red box and number 3). Below the tabs, a message states: "For more information on how to register Android DRM, please refer to Zirconia for ANDROID Operation Manual." Below this message is a link "Zirconia for ANDROID Operation Manual Download" with buttons for "English", "中文", and "한국어".

The "Package Name (App ID)" field contains "oid.SAMSUNG.GloftA6HP" (highlighted with a red box and number 4), and a "Register" button is next to it. Below this, a message says "4 registered Package Name (App ID)(s).".

Package Name (App ID)	IMEI	Date ▼
com.gameloft.samsung.drm	357858010034783 Add IMEI Delete IMEI	Aug 13, 2011
com.gameloft.android.SAMSUNG.GloftA6HP	355310040009569 004999010640000 358414046102274 358414046191053 358414046191368 358414046191343 358414046083219 358414046089869 358414046191335 358414046181773 358414046191350 357957040157471 357957040237091 357957040156416 357957040176265 A0000029D81D4C 357470040668679 355890040310463 Add IMEI Delete IMEI	Aug 8, 2011

4. Develop application

Zirconia is the name of the application protection library released by Samsung Apps.

Developers develop their applications using the application ID (UID) issued by the Seller Office.

The Zirconia library needs to be applied to the application to protect it from piracy. Otherwise, the application will not be protected (unless protected by a different system).

During the process of developing the application, there are mandatory and optional implementation lists as outlined below.

1) **Mandatory implementation lists**

- ① Display pop-up window notifying the user that the program will use network to connect to the license server in the following case

When Zirconia tries to use the network to get a license from its server (ex: Zirconia checks for the license on the local system. If there is no license, Zirconia will use an internet connection to get the license. In this case, the application should display pop-up window to ask the user whether to proceed, and if user selects OK, Zirconia will look online for the license.)

- ② Display pop-up windows showing the error code and its corresponding message under the following circumstances

When the following error codes return from the Zirconia library (ex: the Zirconia library returns the error code EZIRCONIA_NOT_PURCHASED, and the application then displays a pop-up message with error code. If the user confirms the message, it terminates the application.)

Error codes from Zirconia library	Definition
EZIRCONIA_NOT_PURCHASED	After running the application, the server discovers the application has not been purchased, so the license is not sent to the application.
EZIRCONIA_INVALID_VALUE	After running the application, the server checks the parameters of the application. At least one of the parameters is null. (This can occur with the phone is off)
EZIRCONIA_CANNOT_CHECK	After running the application, the server is unable to check whether the application is purchased because of server failure, such as

	a DB access failure.
EZIRCONIA_RECEIVE_FAILED	After running the application, the license is not sent to the application because of a network failure. (The application could not receive a response from the server)
EZIRCONIA_SEND_FAILED	After running the application, the license is not sent to the application because of a network failure (The request from the application could not be sent to the server)
EZIRCONIA_KEY_CREATION_FAILED	After running the application, the license could not be saved to the local disk. The reasons for this can be: Disk I/O error, not enough space in the folder, no permission to save the license on the disk.
EZIRCONIA_CLIENT_MISMATCH	This occurs if the client requests a license from a server that is not from the Zirconia library.
EZIRCONIA_VERSION_MISMATCH	This occurs if the client requests a license from the server that is from an invalid version of the Zirconia library not supported by the license server.
EZIRCONIA_LICENSE_MISMATCH	The license from the server is not valid.
EZIRCONIA_SERVER_MISMATCH	The license was sent to the application from an invalid server.
EZIRCONIA_APPLICATION_MODIFIED	The user has modified the application.

- ③ Terminate the application when user confirms the error displayed on the pop-up windows.

When the error pop-up window is displayed, the user's confirmation of the pop-up window terminates the application.

2) Optional implementation lists

- ① Display pop-up windows showing the code and its corresponding message under the following circumstances.

When the license is successfully retrieved from server and the application is successfully approved.

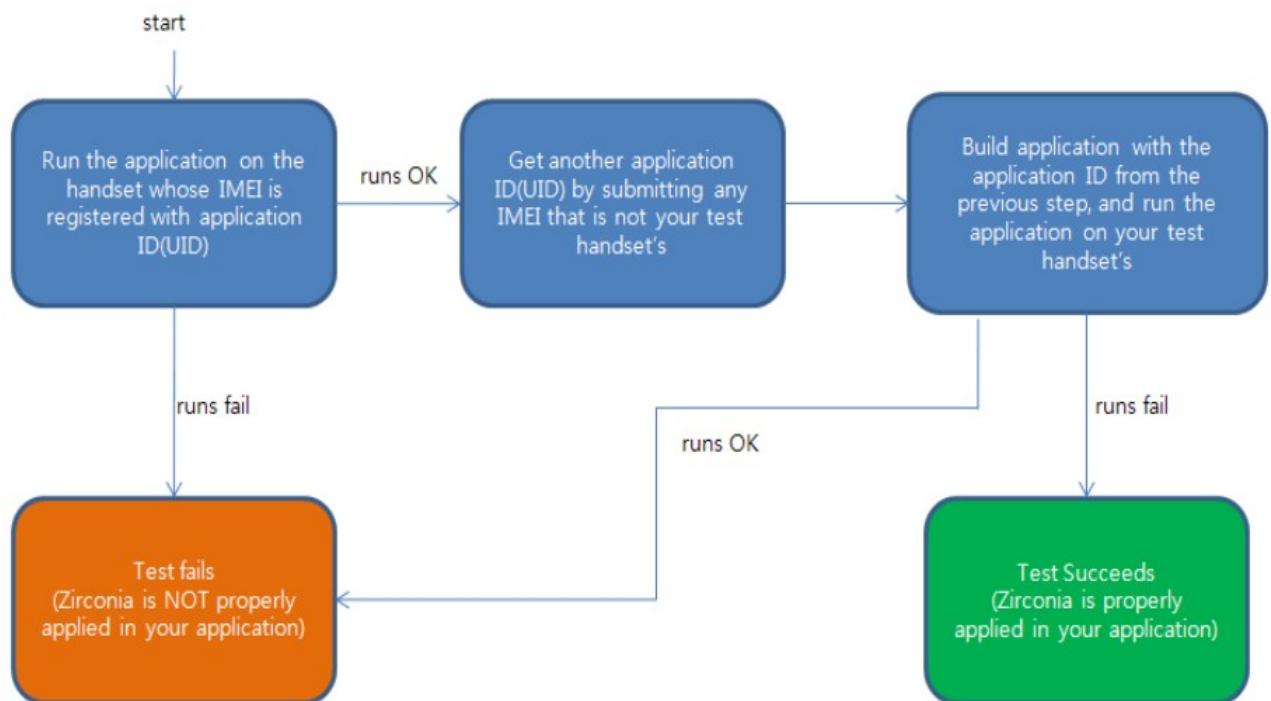
Code from Zirconia library	Definition
EZIRCONIA_NOT_PURCHASED	After running the application, a valid license is successfully received. The application runs successfully.

- ② Display the pop-up window notifying the user that Zirconia is attempting to connect to the server. (ex: Display a pop-up window with the message, “Connecting to the license server ...”)

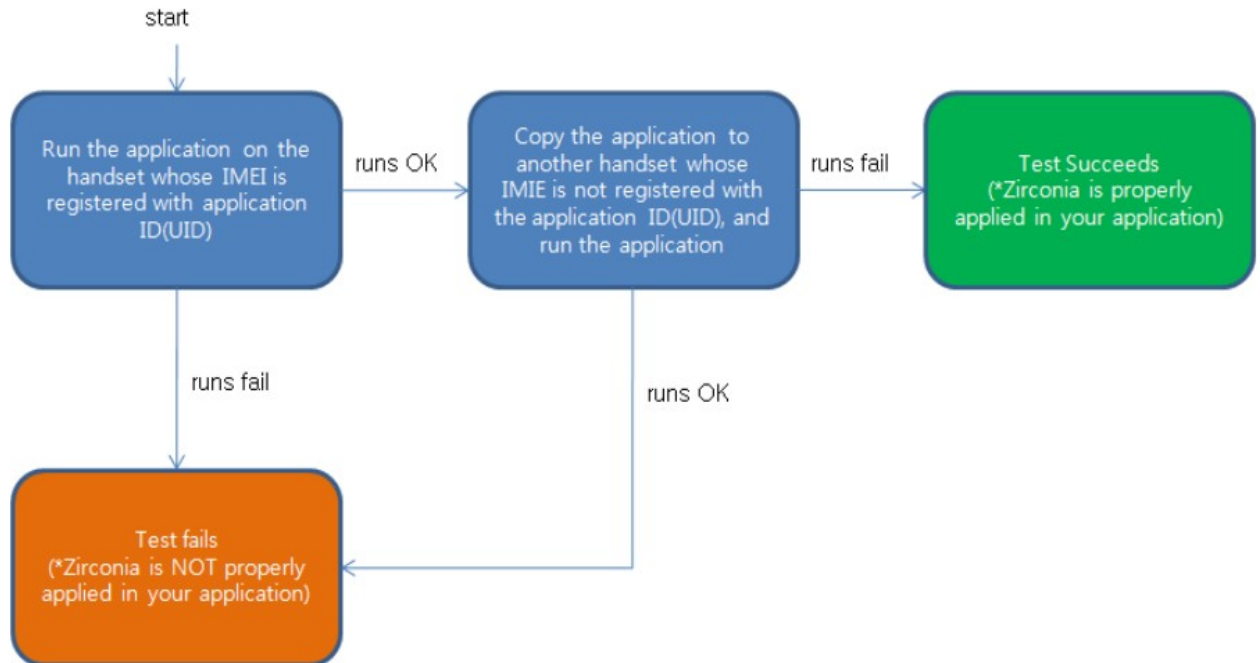
5. Test application

After developing the application, the developers can test whether Zirconia library is being properly applied to the application using a handset whose IMEI is registered in Seller Office or emulator (For testing, internet connectivity is required). There are three kinds of testing available depending on the available number of handsets.

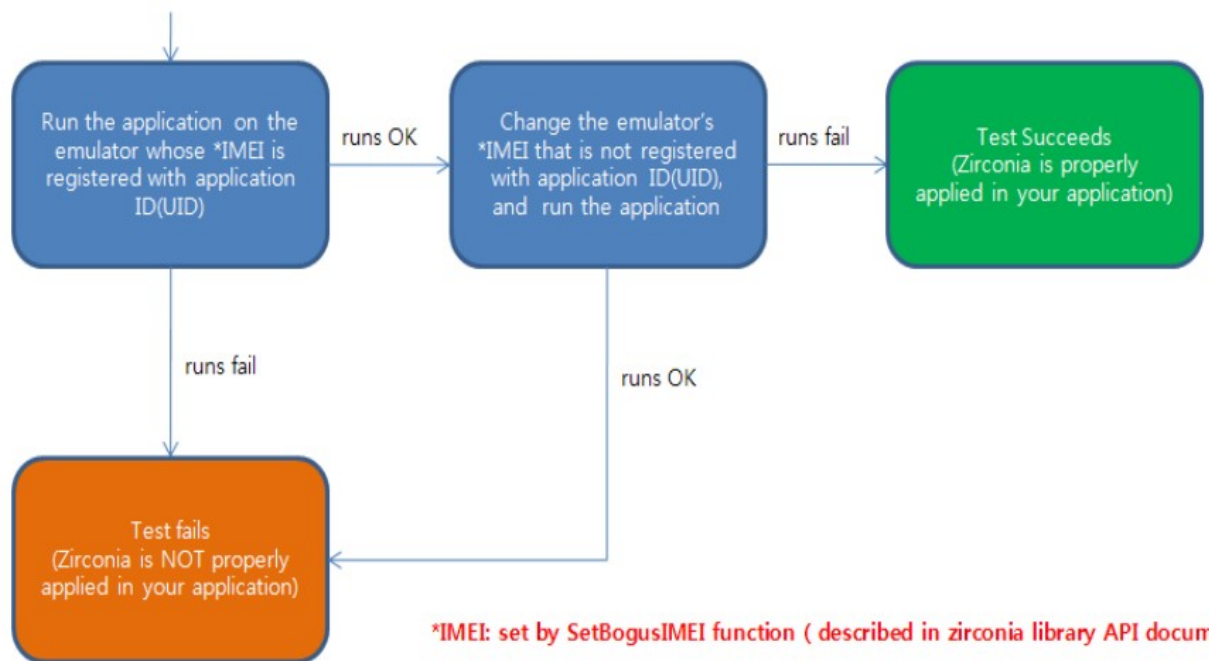
1) *Only one handset is available for testing*



2) *More than two handsets are available for testing*



3) *No handset is available for testing (emulator)*



*IMEI: set by SetBogusIMEI function (described in zirconia library API document)

6. Submit application

After developing and testing the application, it is submitted with the application ID (UID) that was used for development, as seen on the screen shot below. While going through “step 1 Overview”, there are two selections that you guys need to be more careful if Zirconia is applied to your application, please take particular note of the following two listings during “Step 1 Basic Information.”

- ① Click “Select UID” button to select the UID that was used for development.
- ② Answer the question to declare whether you applied Zirconia to your application.
(* Depending on the selection whether your application contain Zirconia, your application would be handled differently by Samsung Apps.)

Binary * Denotes required fields.

* Version	<input type="text"/> Please enter version information in an appropriate format. (For example "1.0")
* Application File	<input type="text"/> <input type="button" value="Browse"/> - Please upload an application file. * Only .cab, .sis, .sisx and .zip file types are supported by Native. - Uploading time is up to the binary size.
* VoIP	Does the application use VoIP? <input type="radio"/> Yes <input checked="" type="radio"/> No ?
UID Information ?	<div><div>UID ?</div><div>* Application Contains Zirconia? ? <input type="radio"/> Yes <input checked="" type="radio"/> No</div></div> <div><input type="button" value="Select UID"/></div>