Testing Samsung Applications

Applications that are used for testing:

- Samsung My Files
- Samsung Camera
- Samsung Gallery
- Samsung smart switch
- Samsung galaxy wearable
- Samsung quick share

Android used 3 types of libraries for transferring files:

We have often come across three types of libraries after reverse engineering the above applications.

- zip.ZipEntry;
- zip.GZIP
- Zip4j

zip.ZipEntry:

zip.ZipEntry belongs to the .zip library which creates a zip file when it is called. It can or add remove files to an already created zip. When multiple files are requested for sending it creates a zip file with a single file in it and keeps adding files to this zip. I have not seen any code for compression which is using .ZipEntry class.

The size of the file doesn't change after using the.ZipEntry class.

Here's a test case for zip.ZipEntry which takes any type of files and merges into one single zip file and zipoutputstream. Here I have used only images but we can use any type of files.

MyMultipleFileZip.java

zip.GZIP:

zip.Gzip belongs to the .zip library which compresses the byte code received from ByteArrayOutputStream. Whenever a file is sent through ByteArrayOutputStream it converts the file to byte code. The byte code is sent to GZIP class for compression. Although, .GZIP is only used for compression I have not seen any code that is using both zip.Gzip and zip.ZipEntry classes.

Also, I have noticed a reduction the in the image size when the program is run but while transferring in the android it's not happening.

This is an example of zip.Gzip which compresses and decompresses the byte code of an image. Further implemented any file can be turned into byte code and can be compressed using GZIP.

GzipImage.java

Zip4j:

Zip4j was started by Srikanth Reddy Lingala back in 2008/2009 when he realized the lack of support for the majority of zip format features in Java. Both compression and zipping can be done using this library.

Zip4j is only used in the Samsung smart switch and wasn't found in any other applications.

Features:

- Create, Add, Extract, Update, and Remove files from a zip file
- Support for streams (ZipInputStream and ZipOutputStream)
- Read/Writpassword-protected zip files and streams
- Support for both AES and zip standard encryption methods
- Support for Zip64 format
- Store (No Compression) and Deflate compression method
- Create or extract files from split zip files (Ex: z01, z02,...zip)
- Support for Unicode file names and comments in zip
- Progress Monitor - for integration into apps and user-facing applications