Release Notes - ZEBRA TC70 Lollipop GMS FIPS Patch on v02.10.02

Introduction

The Zebra TC70 based on Lollipop / Android 5.1 provides FIPS 140-2 Level 1 Validated cryptography for both Data in Motion (DIM) and Data at Rest (DAR). FIPS 140-2 Validation is required for Federal agencies that use cryptographic-based security systems to protect sensitive information in computer and telecommunication systems (including voice systems) as defined in Section 5131 of the Information Technology Management Reform Act of 1996, Public Law 104-106.

Description

TC70 Lollipop FIPS Patch on v02.10.02 with GMS

FIPS 140-2 Provided Components

- DAR is achieved via Full-Disk encryption using Safe Zone FIPS Cryptographic Module - **Certificate number 2389**.

- DIM is achieved via applications using OpenSSL FIPS Object Module SE or BC-FJA - Bouncy Castle FIPS Java API - **Certificate numbers 2473 and 2768**

Developer's Reference:

- OpenSSL FIPS complaint

OpenSSL FIPS Link - https://www.openssl.org/docs/fips.html
OpenSSL and FIPS 140-2 - https://www.openssl.org/docs/fipsvalidation.html
User Guide: https://www.openssl.org/docs/fips/UserGuide-2.0.pdf

- FIPS complaint Spongy Castle

    o Refer "**Legion of the Spongy Castle User Guide**" document which is part of this patch release.

Configuring the device for FIPS compliance:

- To enable FIPS DAR

    o Settings->Security->Encryption->Encrypt Phone

- To use FIPS DIM

    o Load an app that uses Open SSL or SCFIPS.

Component Description and Version

Component / Description	Version
Product Build Number	02-10-02-L-00-A
Finger Print ID	Zebra/TC70/TC70:5.1.1/02-10-02-LG-00-A/35:user/release-keys
Android Version	5.1.1
Linux Kernel	3.4.0 Jenksvc@z17sp-gitapp04 #1 Thu Jun 9 14:01:07 IST 2017

Contents

File	Description
T70N0L5XARPXX21002	FIPS patch to be applied on TC70 GMS v02.10.02 only

Device Compatibility

This software release has been approved for use with the following Symbol devices.

Device	Operating System
TC700H-GC11ES-A4	Android 5.1.1

Special Note:

- Button_L1 (SCAN BTN) cannot be remapped with Recent Apps key

Installation Requirements

This Software has to be used with compatible devices listed above. Internal SD Card should have 500 MB of free space.

How to find the Internal SD card free Space? Here are the methods:

Method 1:
1. Connect the device to a PC using Snap-on and allow the PC to access the device storage.

2. Check the Free storage available in "Internal Storage". Make sure the free storage is more than 500MB.

3. Factory reset or Enterprise Reset can be performed to free up internal storage space.

Method 2:
1. In the device, Open "Storage" under "Setting" menu and look for Available space under "Internal Storage" section (which has total space as 1GB).

2. The Available memory should be more than 500MB.

3. Factory reset or Enterprise Reset can be performed to free up internal storage space.

Installation Instructions

1. Plug the TC70 to the USB Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it.

2. You will be connected as a media device.

3. Download following packages from here.

   a. T70N0LXXARGEF21002.zip (Full Package Update v02.10.02)

   b. T70N0LXXARFXX21002.zip (Factory Reset Package v02.10.02)

   c. T70N0LXXAREXX21002.zip (Enterprise Reset Package v02.10.02)

4. Now, copy the .zip files (and the Optional files too) to your TC70's storage.

5. You will need to put your device into Recovery Mode.

   a. Hold the "Power Key" until "Reset" option appears and then release

b. Tap "Reset" and then immediately hold the "Scan Key" until recovery mode is initiated (Let go after you feel the vibration)

c. Once on the Recovery Screen, scroll down using "Volume Keys" +/- to the location where you copied the files and press the "Scan Key"

d. Follow same procedure and select the **T70N0LXXARGEF21002.zip** (the Full Package Update v02.10.02), with "Scan Key"

e. Upon completion, you will be back at the Recovery Mode screen.

f. Note: Since Partition has changed, system by default will not backup user data partition. To end user, this is like Enterprise Reset.

g. Next step only if you are switching between GMS and NON-GMS software, otherwise this step is not required.

If you are updating device from GMS to NON-GMS or Vice Versa, it is required to either use **T70N0LXXARFXX21002.zip** (Factory Reset, this will give complete OOB experience) or at Minimum, please do a **T70N0LXXAREXX21002.zip** (Enterprise Reset).

h. If you are going to install the optional packages, then do so now with the same procedure used above.

i. Upon completion of all the updates, you will be back at the Recovery Mode screen. Select, "reboot system now" with the "Scan Key", you will see it reboot, then you will see "Android is upgrading…" and then you will see the main screen, then

6. Go to "Settings" and scroll down to "About phone" and look at the "Build number". It should end with "02-10-02-LG-00-A". Now, you can start using the TC70, please manually set the date and time. Go to "Settings" and scroll down to "Date & time" and set the correct Date/Time by un-checking "Automatic date & time" and "Automatic time zone" and then select "Select time zone", "Set date", "Set time" to set the desired values. Lastly, put check marks back in "Automatic date & time" and "Automatic time zone".

7. Now you are all set to use your updated TC70 with GMS.

8. Download the FIPS patch **T70N0L5XARPXX21002.zip** from Support central and apply the same with above mentioned in step 5

9. Apply T70N0LXXAREXX21002.zip (Enterprise Reset Package v02.10.02)

10. Perform a reboot after completing step 8 and 9. Please verify the **kernel date and time** as mentioned in Component Description and version section to make sure the FIPS patch is applied correctly.

Part Number and Release Date

Part Numbers
T70N0L5XARPXX21002

August 23, 2017