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# Release Notes – Zebra TC20 and TC25 Android N Update 13 for 04-14-30-0-NN-00-M1 (Non-GMS) – China Only

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## Description

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This release contains the following software package which is compatible with the TC20 and TC25 NON-GMS products.

LifeGuard patches are cumulative and include all previous fixes that are part of earlier patch releases.

## Component Contents/Updates

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Component / Description	Version
Build_version	04-14-30.00-NN-U13-STD
Android_version	7.1.2
Android_SDK_Level	25
Android Security Patch Level	June 1, 2019
Linux_kernel	3.18.31
Wifi	FUSIONLITE_QA_1_0.0.0.024_N Application QA_1_00.0.0.007_N Middleware QA_1_00.0.0.010_N

	Radio QA_1_00.0.0.022_N
Platform	Qualcomm MSM8937
Scanning_Framework	19.57.37.0
DWDemo	2.0.15
OSX	QCT.71.7.9.UL
MXMF	9.0.4.1
Touch	Focaltech V1.1 20161103 (fw:0x24)
Bluetooth_Stack	CNSS-PR-4-0-552-166444-1/01050102
Flash_Size	16G /32G
RAM_Size	2G
GPS	MPSS.JO.3.0-00295-8937_GENNS_PACK-1
MMS	7.1.2
RIL_Version	1.0
BT_Pairing_Utility	3.8
Datawedge	7.3.24
Camera	LA.UM.5.6.r1-04600-89xx.0-1
PTT	3.1.35
RxLogger	5.4.10.0
StageNow	3.3.1.2000
Data_Analytics	3.3.0.1113
EMDK	7.3.19.2319
IMEI SV Number	06
OEM Config	8.1.0.9
File Browser	1.19.1.5
DDT	v1.17.0.9
EIS	1.0.0.5
Zebra Software Licensing Manager	3.1.1
Audio SW Version	0.11.0.0
Acoustic Profiles	General: CN2.4 Cellular: CN2.6
Fingerprint	Zebra/TC25/TC25FM:7.1.2/04-14-30.00-NN-U13-STD/190730:user/release-keys, Zebra/TC20/ TC20RT:7.1.2/04-14-30.00-NN-U13-STD/190730:user/release-keys, Zebra/ TC20/ TC20RD:7.1.2/04-14-30.00-NN-U13-STD/190730:user/release-keys, Zebra/ TC20/ TC20KB:7.1.2/04-14-30.00-NN-U13-STD/190730:user/release-keys

## 1. CFE v13 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-13.zip (Non-GMS)

### 1. **Android Security Patch Level:** June 01, 2019

Use the below link to see the Android Security bulletin for more information:

<https://source.android.com/security/bulletin/>

2. SPR36557- Resolved an issue wherein Google quick search application was being deleted after rebooting the device with EHS running..
3. SPR36906 – Resolved an issue wherein performing Factory reset using StageNow resulted in formatting of cache.
4. SPR36970 – Resolved an issue wherein scanner was not working intermittently on few units after factory reset.
5. SPR36457 – Resolved an issue wherein period key was not working when used in RDP on Linux CentOS 7 server. User needs to push an empty file namely SPR36457.txt and copy it into /enterprise/usr/persist/ and reboot the device for this functionality to get enabled.
6. SPR36440 - Resolved an issue wherein EMDK service crash is observed intermittently with multi scanning android apps.
7. Scanner Framework: v19.57.37.0
  - SPR37064 - Resolved wrong property.
  - SPR36712 - Resolved an issue wherein Scanner does not work consistently when switching between customer applications using EMDK for scanning.
  - SPR36685 - Resolved an issue wherein scan engine was failed to initialize during powerup.
  - SPR37175 - Resolved an issue wherein multiple application can enable the same scanner without one app releasing it.
  - SPR36925 - Resolved an issue wherein scanner was not available for second app when an ANR or crash occurred on the first app.
  - Integrated new imgkit version IMGKIT\_8.02T01.16.
8. MX, StageNow, EMDK, Datawedge components update:

Note: For detailed release notes, please refer <http://techdocs.zebra.com>

  1. MX: v9.0.4.1
    - a. SPR36994 – Resolved MX initialization issue wherein EHS was calling MX before completion of MX initialization process.
  2. StageNow: v3.3.1.2000
  3. Datawedge: v7.3.24
    - a. SPR37124 – Resolved an issue where in ADF rule with crunch spaces was removing last character from barcode data with space.
    - b. SPR37060/SPR36880 - Resolved an issue wherein Datawedge was not disabling the scanner upon resume during app transition from background to foreground causing intermittent scanning failures.
  4. EMDK: v7.3.19.2319
  5. DDT: v1.17.0.9
9. Service Dialing Numbers (SDN) feature added.
  - SDN feature has been added for the issue: BSPA- 106337: Hawkeye N - The DUT doesn't have a SDN option and doesn't read this information from the SIM card.

## 2. CFE v12 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-12.zip (Non-GMS)

1. SPR36685 - Resolved an issue wherein image distortion issue was observed while scanning a barcode using any application.

## 3. CFE v11 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-11.zip (Non-GMS)

1. **Android Security Patch Level:** March 01, 2019

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. SPR36233 - Resolved an issue wherein scanner would stop working randomly.

## 4. CFE v10 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-10.zip (Non-GMS)

1. **Android Security Patch Level:** February 01, 2019

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. SPR36220 - Resolved an issue where Google Play Services disabled after bypassed GMS Setup Wizard.

## 5. CFE v9 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-09.zip (Non-GMS)

1. **Android Security Patch Level:** January 01, 2019

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. SPR36021 – Resolved an issue wherein voice call quality was getting degraded when phone is slightly moved away from the mouth area.
3. SPR35855/35695 – Resolved an issue wherein datawedge is slow in scanning output data.
4. Updated below mentioned components:
  - Scanner Framework: Version 19.50.37.0
    - a. SPR35288 - Fixed an issue wherein initialization of scanner was taking ~1sec.
    - b. SPR35054 - Added support for reduced quiet zone barcode decoding.
  - WLAN/BT Firmware: Version CNSS-PR-4-0-552-166444-1/01050102
    - a. CVE-2018-5383 was corrected preventing unauthenticated BT pairing.
    - b. WiFi: FUSIONLITE\_QA\_1\_0.0.0.019\_N

- c. SPR35609 - Resolved an issue where WLAN operation is affected when BT was in use.

## 6. CFE v8 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-08.zip (Non-GMS)

1. **Android Security Patch Level:** December 01, 2018

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. SPR34310/35785 – Resolved an issue wherein CANCEL READ API was not working when continuous Mode was enabled.

## 7. CFE v7 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-07.zip (Non-GMS)

1. **Android Security Patch Level:** November 01, 2018

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. MX, StageNow, EMDK, Datawedge component updates:

Note: For detailed release notes, please refer <http://techdocs.zebra.com>

- MX: Version 8.2.2.0
    - a. SPR35665 - Resolved an issue wherein google keyboard settings are not persisting through a reboot when configured directly after factory reset.
    - b. SPR34771 - Resolved a synchronization issue in Mx.
  - StageNow Client: Version 3.1.1.1019
  - EMDK: Version 7.0.0.2000
  - Datawedge: Version 7.0.4
3. B2M client included in disabled mode.
  4. SPR35581 – Resolved an issue wherein soft Keyboard was not coming up upon explicitly invoking via API on hard keypad devices.

## 8. CFE v6 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-06.zip (Non-GMS)

1. **Android Security Patch Level:** October 01, 2018

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

2. SPR35440- Resolved an issue where device did not show private APN when it was created using StageNow.

## 9. CFE v5 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-05.zip (Non-GMS)

1. **Android Security Patch Level:** September 01, 2018

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

**2. Updated below mentioned components:**

- File Browser: Version 1.19.1.5
- Diagnostic Tool: Version 1.16.0.1
- OEMConfig: Version 8.1.0.9
- WiFi – FUSIONLITE\_QA\_1\_0.0.0.018\_N
- DataAnalytics – Version 3.3.0.1113

**3. MX, StageNow, EMDK, Datawedge component updates:**

Note: For detailed release notes, please refer <http://techdocs.zebra.com>

- MX: Version 8.1.0.10
    - a. SPR34716 - Resolved an issue wherein the MX was getting killed by Backup manager and didn't restart properly.
    - b. SPR33323 - Added new feature to enable/disable physical keyboard via StageNow.
  - StageNow Client: Version 3.1.1.1018
  - EMDK: Version 6.10.12.1312
  - Datawedge: Version 6.9.49
    - c. SPR34429 – Resolved an issue wherein DataWedge failed to load “default Profile0”.
    - d. SPR34614 – Resolved an issue in DataWedge wherein scanner could not be enabled due to quick enabling and disabling of scanner through Intents.
    - e. SPR34972 – Implemented new parameters in scanner\_input\_plugin API so that the API takes considerable less time to suspend/reenable of the scanner.
4. Included Zebra Software License Manager v3.1.1.
5. SPR33207- Resolved an issue wherein the Device Diagnostic tool had an issue with reading the Battery Cycles in the application for PP+ batteries.
6. SPR35252- Resolved an issue wherein the device reboots when DO mode is enabled and user tries to turn data saver on.
7. SPR35568 - Resolved an issue wherein device does not show preview information in Messaging App when language toggles from right-to-left.
8. Data Analytics changes:
- DataAnalytics has been renamed to Zebra Data Service.
  - DAInBuiltDCA has been renamed to Zebra Data Service Plugin.
  - SettingsEULA has been renamed to Zebra Data Services.
  - In this release, the ZDS-EULA pop up during configuring the device, can be automatically skipped if the device is configured for Device Owner mode or when SUWByPass is used.
  - DO mode configuration mechanism includes NFC bump, QR code, AFW# and Zero touch.
  - SUW Setup Wizard Bypass can set with PowerMgr CSP.
  - On Automatic skipping of Zebra EULA, Zebra's default settings and data collection rules will be configured on the device.
9. Disabled the Qualcomm Location from GMS build for both TC20 and TC25.

**10. CFE v4 Updates:**

❖ CFE-TC2X-N-XX-041430-N-00-04.zip (Non-GMS)

1. **Android Security Patch Level:** August 01, 2018  
Use the below link to see the Android Security bulletin for more information:  
<https://source.android.com/security/bulletin/>
2. Updated below mentioned components:
  - MXMF – Version 8.0.1.2
  - DataWedge – Version 6.8.54
  - EMDK – Version 6.9.16.1216
  - StagingClient – Version 3.0.1.1038
  - File Browser -- Version 1.19.1.5
  - DDT -- Version 1.15.0.14
  - OEM Config - Version 8.0.0.4
  - Data Analytics -- Version 3.3.0.1113
  - Wifi -- Version FUSIONLITE\_QA\_1\_0.0.0.017\_N
3. SPR35005 - Resolved an issue wherein the Proximity being Suspended.
4. Added cellular WAN changes to support some Latin American (LATAM) carriers certification. TC25 now supports following Latin America Carriers
  - AT&T Mexico
  - Telcel Mexico
  - Telefonica Columbia
5. Changes for Telenor Denmark carrier certification:
  - SPR34858 – Corrected SIM PIN Retry Count
  - Danish language translations

## 11. CFE v3 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-03.zip (Non-GMS)

1. **Android Security Patch Level:** July 01, 2018  
Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>
2. Updated below mentioned components:
  - a. MXMF – Version 8.0.1.2
  - b. DataWedge – Version 6.8.54
  - c. EMDK – Version 6.9.16.1216
  - d. StagingClient – Version 3.0.1.1038
  - e. File Browser --1.19.1.5
  - f. DDT -- 1.15.0.14
3. SPR34716 - Resolved an issue wherein the MX was getting killed by Backup manager and didn't restart properly.
4. SPR34145 - Resolved an issue wherein indexing of the WEP key was not handled correctly.
5. SPR34429 - Resolved an issue wherein failed to emit scan beam if the application was launched during device suspend.

## 12. CFE v2 Updates:

❖ CFE-TC2X-N-XX-041430-N-00-02.zip (Non-GMS)

1. **Android Security Patch Level:** June 01, 2018

Use the below link to see the Android Security bulletin for more information: <https://source.android.com/security/bulletin/>

1. Updated below mentioned components:
  - a. MXMF – Version 8.0.0.10
  - b. DataWedge – Version 6.8.50
  - c. EMDK – Version 6.9.16.1216
  - d. StagingClient – Version 3.0.1.1037
  - e. File Browser --1.19.1.5
  - f. DDT -- 1.15.0.14
2. SPR33671 - Resolved an issue wherein user was unable to create WIFI profile with username as backslash followed by number
3. SPR34267 - Resolved an issue wherein the device was failed to enable USB debugging when a barcode was scanned.
4. SPR33862 - Resolved an issue wherein the Screen Time off settings using Display manager CSP was not working.
5. SPR34145 - Resolved an issue wherein indexing of the WEP key was not handled correctly.
6. SPR33973 - Resolved an issue wherein erroneously loading default profile by providing feature to ignore disabled profiles in DataWedge
7. SPR33848 - Added support to included category field in intent profile in StageNow.
8. SPR34189 - Resolved an issue wherein low ram and oom limit adjustments to provide more free memory.
9. SPR33639 - Resolved an issue wherein the customer app install and launch during device sleep state and device stop emitting scan beam after awake from suspend.
10. SPR33876 - Resolved an issue wherein Display Timeout was unable set via StageNow
11. SPR33607 - Resolved an issue where few fresh devices were unable to stage after unbox the device.
12. SPR33538 - Resolved an issue wherein the Scanner beam stuck off and No LED beam while pressing scanner button.
13. SPR33977 - Resolved an issue wherein Time Zone setting through StageNow profile was not working.
14. SPR33981 - Resolved an issue Czech Republic Regulatory Country could not be set using Wifi config profile.
15. SPR33799 – Resolved an issue wherein DataWedge was sending char 10 instead of char 13.
16. SPR31491- Resolved an issue wherein device not able to stage devices from manufacturing with StageNow.

## Device Compatibility

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This software release has been approved for Android TC20 Nougat Non-GMS models mentioned below. Please note that GMS OS images are not compatible with China based SKUs

Device	Operating System
TC200J-20C112CN	Android N (Non-GMS Only) China Only
TC200J-20A111CN	Android N (Non-GMS Only) Plus SKU - China Only



TC200J-2KC111CN	Android N (Non-GMS Only) Keyboard SKU - China Only
TC200J-20C213CN	Android N (Non-GMS Only) Premium SKU - China Only

This software is also approved for Android TC25 Nougat Non-GMS models mentioned below

Device	Operating System
TC25CJ-20B101CN	Android N (Non-GMS Only) China Only
TC25CJ-20C102CN	Android N (Non-GMS Only) China Only

## Installation Requirements

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### HW Requirements

- Windows PC running Windows 7/10 32/64 bits
- USB Type C Cable
- Micro SD Card with at least 2GB capacity (optional)

### SW Requirements

Please make sure following components are installed on your computer before commencing OS installation.

- Zebra Android USB Driver V2.2 or higher
- Android Debug Bridge version 1.0.39 or higher
- TC20/TC25 Non-GMS Android OS Release Images

### Image Compatibility

To use this Update, the terminal must have the BSP 04-14-30-0-NN-00-M1 installed as the baseline OS.

## Installation Instructions

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### Using the “adb sideload” method

#### Assumptions

1. ADB installed on PC
2. TC20/TC25 has Developer options enabled
3. USB debugging ON

#### Procedure

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.

2. You may need to pull down notification bar, and tap on the notification which says, “USB charging this device”, and change it to “Transfer files”.
3. Open Command Prompt on PC, run “adb devices” and check to see if you can see the device’s serial number... If yes, proceed... if not you will need to get the PC set up with the proper drivers or install an External SD Card.
4. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player... this can be ignored.
5. Entering Recovery Mode
  - a. Choice 1: In Command Prompt, type “adb reboot recovery” and click enter.
  - b. Choice 2:
    - i. Reboot and hold PTT key
    - ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.
7. To select Sideload Method
  - a. Use the Volume + and – to highlight, “Apply update from ADB” and press the Power Key to select it
8. With your Command Prompt, open, type “adb sideload” and add a space and then drag and drop the zip file which you want to apply to the device and press enter.
  - a. When the file download starts, the command window will show progress with a percentage completed.
  - b. Device display will show a series of messages indicating it is downloading, verifying and installing the image on to the device.
9. After successful update, the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom... it will stay at this screen up to 4 minutes and then present the “Lock Screen”.
10. To make sure the OS Update took place, once the initial setup is complete;
  - a. Go to “Settings” and scroll down to “About phone” and look at the “Build number”. It should state “04-14-30.00-NN-U13-STD” and the Patch Version should indicate as “13”.
11. Now you are all set to use your TC20/TC25.

## Using External SD Card

1. Plug the TC20/TC25 into the USB & Charging Cable and then the Cable to the PC. If you have a Cradle with USB connectivity, connect it now.
2. You may need to pull down notification bar, and tap on the notification which says, “USB charging this device”, and then change it to “Transfer files”.
3. You may also get a pop up on your PC (Win 7) that you will be connected as a Portable Media Player... this can be ignored.
4. Copy the required files to the SD Card. This can be done in two ways
  - a. Copy the files to the Micro SD card with the help of a SD Adapter which gets inserted to the SD slot of your PC/Laptop/SD Writer.
  - b. Directly transfer files to the Micro SD card which is inserted in to the back of the device. Please refer to the user guide on how to open the back door and inserting the SD card to the device.
5. Entering Recovery Mode
  - a. Choice 1: In Command Prompt, type “adb reboot recovery” and click enter.
  - b. Choice 2:
    - i. Reboot and hold PTT key

- ii. When Zebra Technologies logo appears on the screen Release the PTT Key
6. Your TC20/TC25 will reboot and take you to Android Recovery screen.
7. Applying update via External SD card
  - a. Use the Volume + and – to highlight select option to “Apply update from SD card” and press the Power Key to select it
  - b. Use the Volume + and – to highlight package to be installed (downloaded Zip file) and press the Power Key to select it.
8. After successful update, the device will auto reboot and you see Zebra on top and POWERED BY android at the bottom and after about 10 second will transition to the TC20/TC25 Touch Computer splash screen with 5 dancing white dots at bottom... it will stay at this screen up to 4 minutes and then present the “Lock Screen”.
9. To make sure the OS Update took place, once the initial setup is complete;
  - a. Go to “Settings” and scroll down to “About phone” and look at the “Build number”. It should state “04-14-30.00-NN-U13-STD” and the Patch Version should indicate as “13”.
10. Now you are all set to use your TC20/TC25.

## Downloadable Software Included in this Release

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Filename	Description
<b>CFE-TC2X-N-XX-041430-N-00-13.zip</b>	OS Update LG Patch for BSP 04-14-30-0-NN-00-M1

Last Revised: 05-04-2020