Android O OS Update Instruction for Family of Products Including TC51, TC56, TC70x, TC75x, VC80x, MC3300 and MC3300r

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The installation instructions assume user have ADB installed on their PC (the adb drivers etc..) and the user device has developer options enabled and USB debugging ON. Instructions on HOW TO enable ADB is also captured in the user guide.

1. Recovery Mode

Recovery mode is used to install Full OTA packages, Diff OTA packages, Reset packages and any other Special Recovery packages. User needs to follow below steps to put the device in the recovery mode.

- 1. Connect the device to the PC using the USB data cable or through the cradle.
- 2. User may need to pull down the top menu and if user sees "USB for charging", touch it and then change it to "File transfers".
- 3. Open Command Prompt, run "adb devices" and check if user can see the device's serial number... If yes, proceed... if not, user will need to get the PC set up with the proper drivers or install an External SD Card or USB stick.
- 4. User may also get a pop up on their PC (Win 7) that user will be connected as a Portable Media Player... this can be ignored.
- 5. Entering Recovery Mode
 - Choice 1: In Command Prompt, type "adb reboot recovery" and click enter.
 - Choice 2:
 - TC5x/TC7x: Reset and hold PTT key
 - VC80x: Reboot the VC80x using the power button menu and when the screen goes black, hold the Power and + buttons
 - MC33x/MC3300r: Reboot the device while holding the Pistol Grip Trigger (GUN Device) or the Right Scan Trigger (BRICK Device)
 - When Zebra Technologies logo appears on the screen release the PTT Key/Buttons/Trigger
 - User device will reboot and put the device on the Android Recovery screen.

Recovery UI will have following different options to apply different packages from different ways.

- a. Reboot system now
- b. Apply upgrade from ADB
- c. Apply upgrade from SD card
- d. Apply downgrade from ADB
- e. Apply downgrade from SD card
- f. Power off

Different UI options and their functionalities are explained below in detail

Reboot system now
 When this UI option is selected by user, device will boot to OS.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

Apply upgrade from ADB
 Upgrade packages via adb will be applied when user select this option. User can only perform OS
 Upgrade operation and not downgrade operation using this option.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

Apply upgrade from SD card
 Upgrade packages via External SD card or USB Stick will be applied when user select this option.
 User can only perform OS upgrade operation and not downgrade operation using this option.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

Apply downgrade from ADB
 Downgrade packages via adb will be applied when user select this option. User can only perform
 OS Downgrade operation and not upgrade operation using this option.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

Apply downgrade from SD card
 Downgrade packages via External SD card or USB stick will be applied when user select this option. User can only perform OS Downgrade operation and not upgrade operation using this option.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

Power off.
 By selecting this option user can power off the device.

```
Android Recovery
Zebra/TC51/TC51
8.1.0/02-32-04.00-OG-U00-STD/293
user/release-keys
Use volume up/down and power.

Reboot system now
Apply upgrade from ADB
Apply upgrade from SD card
Apply downgrade from ADB
Apply downgrade from SD card
Power off
```

2. OS Upgrade and Downgrade

Customer can upgrade the device to another Baseline image or to a patch image on a given baseline. In both cases user data is persisted on all OS Upgrade operation.

Customers can perform OS downgrade to an older baseline or to a patch image belonging to an older baseline. If customer performs **OS downgrade** operation, forced **auto data reset** is performed. **Data persistence is not supported on OS Downgrade**.

On 8956 O, following is the experience related to OS Update,

- 1. Customers shall be able to perform OS Upgrade (move to a higher version of OS Image) using higher version Full OTA / Diff OTA package.
- 2. Existing OS update interface shall be able to perform only OS upgrade operation and not OS Downgrade operation
- 3. Using a new interface, customers shall be able to perform OS Downgrade operation with lower version Full OTA / Diff OTA package.
- 4. The Downgrade interface shall be able to perform only downgrade operation and not OS Upgrade operation.
- 5. All OS downgrade operation will result in an Enterprise Reset operation i.e. user data is erased on OS downgrade operation.
- 6. Following parameters will be considered for OS downgrade operation
 - a. OS Google Security patch level (ro.build.version.security_patch)
 - b. OS patch version (ro.device.patch.version)
 - c. OS Hotfix version
 - d. Custom OS version

3. OS Upgrade and Downgrade via EMMs

OS Update via EMM	OS Upgrade	OS Downgrade
Intent Action	com.symbol.intent.action.UPDATE_PACKAGE	com.symbol.intent.action.DOWNGRADE_PACKAGE
	com.symbol.intent.action.VERIFY_UPDATE_PACKAGE	com.symbol.intent.action.VERIFY_DOWNGRADE_PACKAGE
Allowed OTA Packages	Full OTA Package, Diff OTA Package, UPL	Full OTA Package, Diff OTA Package, UPL
Data	YES	NO
persistence		Auto data reset shall be performed
Allowed OS	UPGRADE ONLY	DOWNGRADE ONLY
Update use	Upgrade from Baseline to a higher OS Patch version	Downgrade from Baseline to a lower/older Baseline
case	Upgrade from Baseline to a higher SPL version	Downgrade from Baseline to OS Patch version on lower/older
	Upgrade from Baseline to a higher Baseline	Baseline
	Upgrade from Baseline to a higher Hotfix version	Downgrade from Patch to a lower/older Patch version
	Upgrade from Patch to a higher Patch version	Downgrade from Patch to a lower/older SPL version
	Upgrade from Patch to a higher SPL version	Downgrade from Patch to a lower/older Baseline
	Upgrade from Patch to a higher Baseline	Downgrade from Patch to a lower/older Hotfix version
	Upgrade from Patch to a higher Hotfix version	Downgrade from Hotfix to a lower/older Hotfix version
	Upgrade from Hotfix to a higher Hotfix version	Downgrade from Hotfix to a lower/older SPL version
	Upgrade from Hotfix to a higher SPL version	Downgrade from Custom OS to a lower/older Custom patch
	Upgrade from Custom OS to a higher Custom version	version
	Upgrade from Custom OS to a higher Custom OS SPL	Downgrade from Custom OS to a lower/older Custom OS SPL
	version	version

Upgrade from Custom OS to a higher Custom Baseline	Downgrade from Custom OS Baseline to a lower/older Custom
	OS Baseline version Downgrade from Custom OS Baseline to a Custom OS Patch
	version on a lower/older Custom OS Baseline version

Kindly refer to MX tech docs present on Zebra tech docs portal for more details on supported CSP interfaces for OS Upgrade and Downgrade.

http://zebra-stage.github.io/mx/

4. OS update Installation Instructions

Below are the installation instructions to perform OS Update operation via Recovery Mode.

Download Image

- Download Full OTA package or Diff OTA package from the support portal as per the update requirement
- 1. Follow the steps in "Recovery Mode" Section above to put the device in android recovery screen.
- 2. If applying update via adb sideload Method
 - Use the Volume + and or Up and Down buttons to highlight, "Apply upgrade from ADB" and press the Power or Enter key to select it for applying OS upgrade package.
- 3. If applying update via External SD card or USB Stick
 - Use the Volume + and or Up and Down buttons to highlight "Apply upgrade from SD card" and press the Power or Enter Key to select it.
 - Use the Volume + and or Up and Down buttons to highlight the required OS update package and press the Power or Enter Key to select it.
 - Go to Step 5 once above steps are completed.
- 4. With User Command Prompt open in the Host machine, type "adb sideload" command and add a space and then drag and drop the required OS update package file on to it and click enter.
 - User PC screen will show files being installed and a little blue horizontal progress bar on user device will show the status.
- 5. Once installation finishes and user should be back at the Android Recovery screen. "Reboot system now" is highlighted. Press the Power key to Reboot.
- 6. At the Home Screen, user need to verify that the OS upgrade took place and set the Date & Time.
 - Go to "Settings" and scroll down to "About phone" and look at the "Build number". Verify "Build number" is as per the release notes document for the OS update package.

5. Reset Packages and Special Recovery Packages

Zebra devices support reset packages to erase userdata and enterprise partition. These packages will be applied via recovery mode.

Enterprise Reset → Erase userdata partition and persist enterprise partition

Factory Reset → Erase both userdata and enterprise partition

Special recovery packages \rightarrow packages used to modify WLAN region code, audio tuning files etc can also be applied via recovery mode.