How to Update your TSC3/Ranger Operating System Firmware to Deal with the SHA-1 depreciation

In November 2013, Microsoft announced that it is deprecating the use of the Secure Hash Algorithm-1 (SHA-1) in SSL and code signing certificates. The older and less secure algorithms started being phased out in 2015-2016 by the providers of SSL certificates, to ensure that the new and improved algorithms are being used.

After July 7th 2016, Trimble can no longer support AccessSync, Equipment Manager, or Mobile Email on devices with SHA-1. These users will need to upgrade to the latest TSC3 Operating System version 3.0.3 if they wish to continue to use AccessSync.

If your device cannot support SHA-2 it will continue to operate and software will still run in most cases. The limitation is when you need to connect to a certified, secure server. Most license servers are secure and this connection will be rejected by the server and fail.

NOTE* The Tsc2 and earlier model controllers are not supported. They will still function for field collection but will not support the new sha-2 algorithms.

Please visit this *link* for more detailed information regarding the Microsoft digital certificates and which Trimble hardware is affected.

Firmware Update Workflow Overview

- Retrieve your software versions
- Backup your data
- Run the Operating System Update
- Reload your software
- Copy your data back to the TSC3/Ranger 3
- Update your field software if needed

Firmware Update Detailed Workflow

1. **Retrieve your software versions by opening Trimble Access, clicking on the icon in the top left corner and go to about.**

    a. Watch this video on ***How to Install and Run TAIM currently TIM***

2. **Backup your data to your PC**
    a. Create a folder on your desktop. We recommend company/field crew name and Software Version Example NEI 2015.22, Crew1 2015.22
    b. Connect the TSC3/ Ranger 3 to your computer via Windows Mobile Device Center and use File Explorer to copy the data into the desktop folder. The Trimble data will be located under *My Mobile Based Device/Trimble Data*

3. **Instructions for Installing the TSC3/Ranger 3 Operating System Update Windows Installer Package to your PC or you can watch this _video_.**

   Before installing this firmware you need to copy all data files from the Ranger 3 / TSC3 to your PC. Also, be prepared to reinstall all 3rd party programs. When you install this firmware, you will lose all data and 3rd party programs that are currently on your Ranger 3 / TSC3. Factory installed applications such as CellStart, SatViewer and ScanAgent will be automatically re-installed.

   a. Download and Save the Windows installer package to your PC. _**TSC3/ Ranger 3 Firmware version 3.0.3, TSC3/Ranger 3 OS v3.0.0 Build 117 Release Notes**_
   b. Open the Windows Installer Package on your computer and begin the installation
   c. Click on the '_Next_' button
   d. Click in the radial button next to: '_I accept the terms in the License Agreement_' and click the '_Next >_' button.
   e. Click the square button next to 'Install'.
   f. Click the 'Install' button.
   g. When the installation has completed, click the 'Finish' button.

4. **Once the Windows Installer Package file is installed on the computer, you can then update the Operating System on your Ranger 3 / TSC3 at any time by using the instructions below.**

   a. Open the Firmware Update Wizard by browsing to: Start > All Programs > Trimble > TSC3_RANGER3_FWUpdateV3.0.2.0_LP > TSC3_RANGER3 Firmware Update Wizard / Run the TSC3_RANGER3 firmware update wizard.

   b. Click the 'Next >' button.

   c. Click the 'Next >' button.

   d. Place the Ranger 3 / TSC3 in USB mode by doing the following:

      - Reset the Ranger 3 / TSC3 by holding the Power button down for a few seconds until the countdown appears, then release and tap the 'Reset' button.

      - After you see the white screen that says 'Bootloader' at the top, you will briefly see the Red/Green/Blue/Gray vertical striped lines. Then a gold screen appears

      - As soon as you see the gold screen appear press the power button and THEN the ok button to enter USB mode.

      - If you fail to get into USB mode, you must repeat these steps.

   e. Connect the AC Adapter to the Ranger 3 / TSC3.

f. Connect the Ranger 3 / TSC3 to the PC with the USB cable provided with the handheld. The USB Host side attaches to the computer and the mini USB side attaches to the Ranger 3 / TSC3.

g. Click the 'Next >' button on the Firmware Update Wizard.

h. Click the 'Next >' button.

i. Click in the radial button next to: 'I accept the terms in the license agreement' and then click the 'Next >' button.

j. After the installation is complete, click on the 'Next >' button.

k. Click the 'Finish' button to close the Firmware Update Wizard.

5. **Instructions for installing the language on the TSC3/Ranger 3**

a. On the Ranger 3 / TSC3, use the up and down arrows on the 4-way directional arrow pad to select your language and press the Enter key (square key in the center of the 4-way directional arrows) to select the language.

b. Use the up arrow key to highlight the square box next to: *'Yes, I want to use English as the language on this device'*.

c. Press the *Enter* key to place a check in the box.

d. Press the down arrow key twice to highlight the '*Next >*' button and press the Enter key to proceed.

e. Your Ranger 3 / TSC3 will then be configured for the language that you selected.

6. **Run TIM to reload your software.**

    a. Watch this video on ***How to Install and Run TAIM***

    <mark>NOTE. If you update the software to a newer version the files will not open and you will need to run a batch conversion on the files.</mark>

7. **Copy your data back to the TSC3/Ranger 3**

    a. Connect the TSC3/Ranger 3 to the PC via a USB cable

    b. Use file explorer to copy the Trimble Data folder from your PC back onto the device. **See step 2**

8. **Update your field software if needed**

    a. Run TIM to update your software