



Technical Service Bulletin

Monitoring Products

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Subject: TSB – WAST, Restoring Bootloader Devices

Distribution Scope: WA Internal
WA Technical Support, Product Service, & International Service Centers

Product(s) Referenced: Welch Allyn Service Tool (WAST)

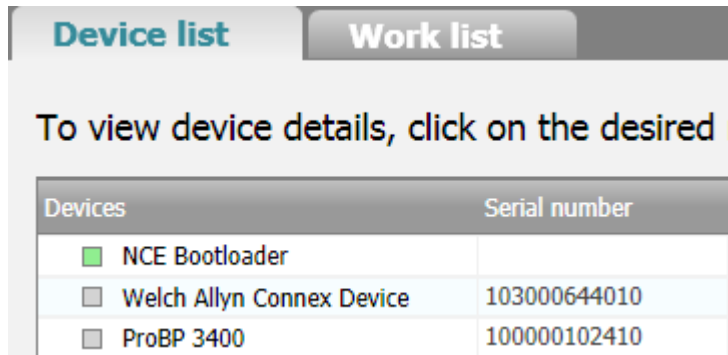
Summary: This TSB describes how the Welch Allyn Service Tool may be used to restore a device when the application firmware is unusable, a possible outcome of a failure during the firmware update process.
This process requires use of the WelchAllyn super-user login for the WAST, and may only be executed by Welch Allyn personnel.

Issue: Welch Allyn platform devices and finished subsystems may become unusable if there is an error in the installed application firmware. In this event, the device will attempt to revert to a bootloader state. When in this bootloader state, the Welch Allyn Service Tool may be used to reinstall the application firmware.

Possible causes of this issue include:

- Communications failure during firmware update
- Corrupted firmware file in device memory

When a device or subsystem in the bootloader state is connected to the WAST, it will appear in the device list as a bootloader module, as shown in the example below:



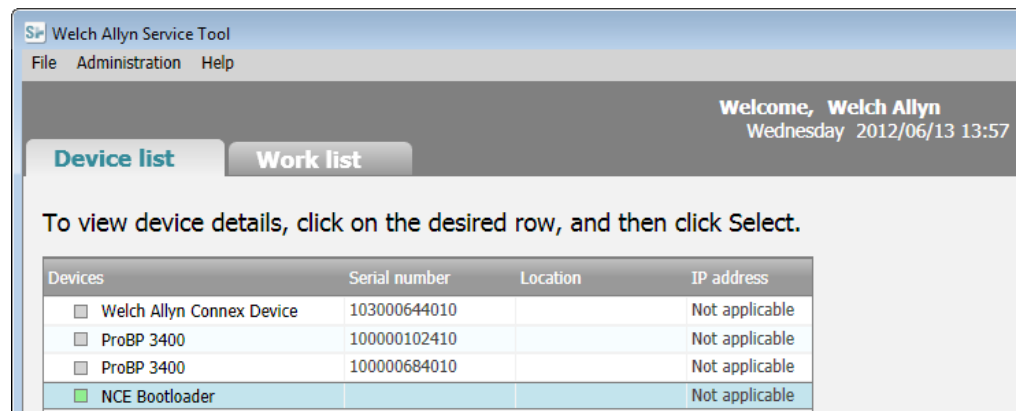
Action:

When a platform device connects to the WAST in the bootloader mode, the application firmware can be reinstalled using the WelchAllyn super-user login, per the following steps. If you are assisting a customer remotely, establish a remote desktop session prior to beginning this process:

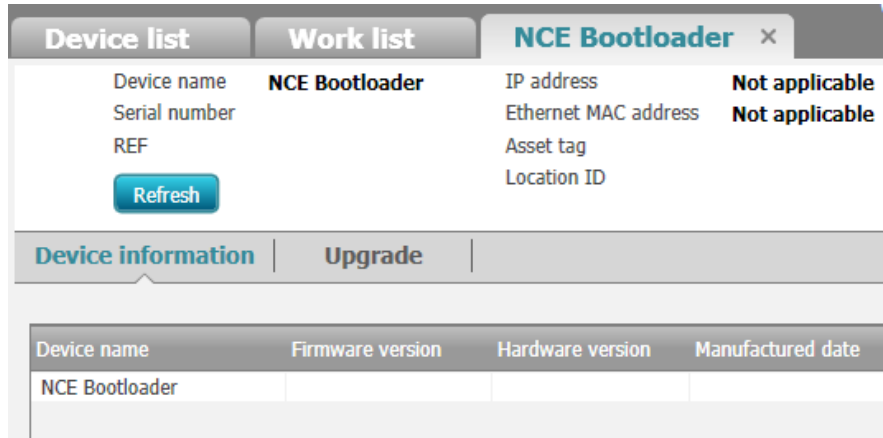
1. Determine the model of device or subsystem connected to the PC and the intended update (e.g. CVSM, Host Firmware 1.70.00).

Note: To restore a subsystem using the WAST, the subsystem module must be directly connected to the PC via USB, i.e. removed from the host device.

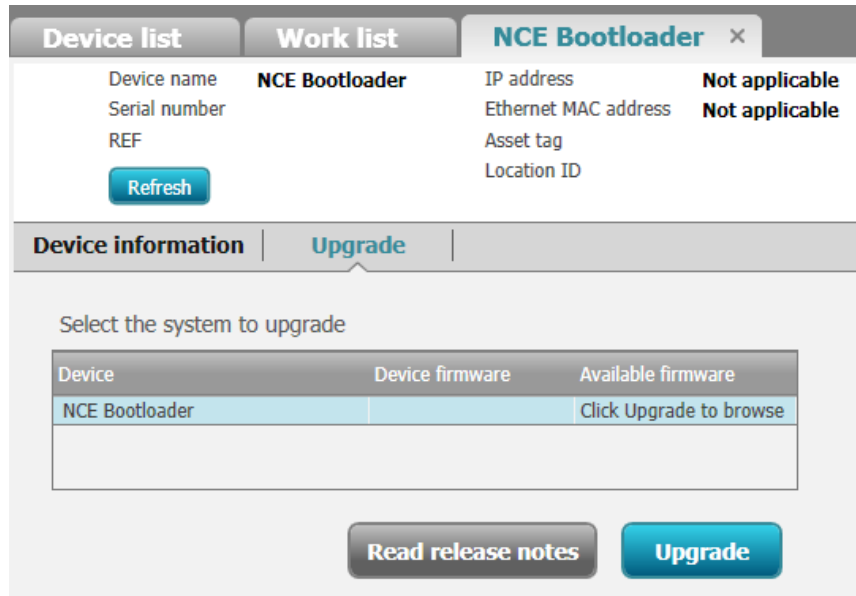
2. Log in to the WAST using the WelchAllyn account



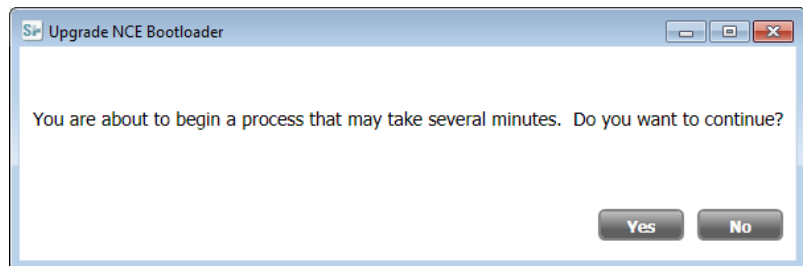
- 3. Select the bootloader module from the Device List and open the device tab

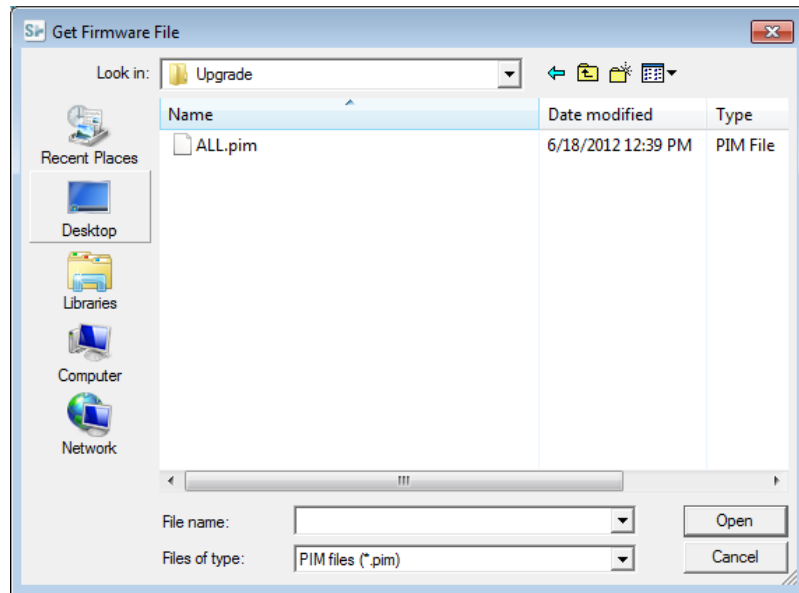


- 4. Navigate to the Upgrade tab

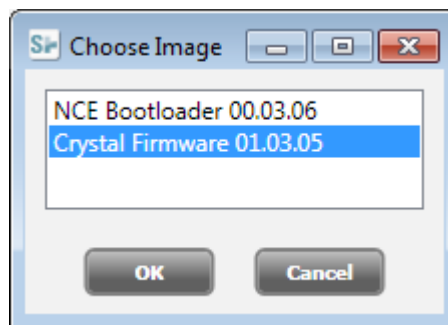


- 5. Select the bootloader module and click Upgrade. Click Yes when prompted to continue. A Windows file browser will open





6. Navigate to the appropriate firmware image (*.PIM) file and click Open. The WAST will prompt you to select an image



7. Select the device firmware and click OK. The WAST will now reprogram the corrupted device.
8. After restoring the device to a normal state, perform a full firmware update using standard WAST processes to ensure compatibility between all firmware images within the device.

Locating the appropriate firmware:

The appropriate firmware file to install on the device may be located in differing places, depending on the method of distribution. Below are some methods that may be used to identify and locate the appropriate PIM file to install.

If the failure occurred during a firmware update using the WAST, the PIM file may still exist in the RSDS directory on the local computer,

Win XP: **C:\Program Files\Welch Allyn\RSDS\DefaultProject
\<Model>\<SN>\Upgrade**

Win 7: **C:\Program Files (x86)\Welch Allyn\RSDS\DefaultProject
\<Model>\<SN>\Upgrade**

where <Model> is the type of device being updated and <SN> is the serial number of the device being updated.

If available, you can push out a new PIM file directly to the gateway using PartnerConnect. Firmware files pushed directly to the gateway will reside in the following directories,

Win XP: **C:\Program Files\Welch Allyn\RSDS\DefaultProject
\WA_Gateway\Downloads\<Package>**

Win 7: **C:\Program Files (x86)\Welch Allyn\RSDS\DefaultProject
\WA_Gateway\Downloads\<Package>**

where <Package> is the package that was deployed.

If the PIM file no longer resides on the end-user's computer and cannot be pushed to the gateway, the PIM file may be downloaded to the local computer via PartnerConnect or SAP. After downloading the PIM file locally, transfer the file to the end-user's computer via PartnerConnect. Reference DIR 20011619, *Getting Started with PartnerConnect*, for instructions on this process.

Note: If the "Destination directory" field is left blank during a file transfer, the file will download to the following directories by default:

Win XP: **C:\Program Files\Welch Allyn\RSDS**

Win 7: **C:\Program Files (x86)\Welch Allyn\RSDS**

Reference to Standards:

- 21 CFR Part 820, ISO 13485, MPD SOP-0002

Required Training:

Employees engaged in the service and repair of the products referenced in this bulletin should complete a read & sign training on this document.

Quality Documents: **All service centers using SAP to record service transactions:** For each monitor serviced, record the service activity in SAP.

All other service centers and Field Service: For each monitor serviced, complete and file a service report and attach to the service DHR.

Notes:

1. Contact the Welch Allyn Complaints Department to initiate or process a medical device complaint resulting from this or other issues.
2. Drawings, illustrations, and part numbers in this document are for reference purposes only and subject to change.

End of Bulletin

Revision History					
Version	Description	Change #	Init	Release Date	Appr
A	TSB – WAST, Restoring Bootloader Devices	D*	CB	D*	D*
D* - Refer to SAP DIR digital signature log for approval details.					