4888 Firmware Update Information

The flash order for the devices is as follows:

1. Bill Acceptor (or BNR if recycling)
2. Bill Dispenser (or BNR if recycling)
3. Coin Handler
4. JavaPOS
5. Security Controller

In IBMSelfCheckout\Database\Performance\DB2LaneDaily.bat and on initial lane build installation, the FlashSelfCheckoutHardware.trg file is created in the IBMSelfCheckout\Bin directory. Due to this file's presence, when SCS_Startup.bat restarts it will call the FlashSelfCheckoutHardware.bat batch file, also located in IBMSelfCheckout\Bin. This batch file will check the contents of IBMSelfCheckout\DeviceList, in which files with the names of the devices (BillAcceptor, BillDispenser, CoinHandler, etc.) that are currently on the machine are located. For each device listed in this file, the corresponding Flash routine will be run, which is located in IBMSelfCheckout\Bin\Flash-_____(Device Name)\FlashDevice.bat. For the Bill Acceptor, Bill Dispenser, and Coin Handler, the program HwVersionToGui, located in IBMSelfCheckout\Bin, is run with a flag indicating which device is being flashed. The file structure of these firmware update subfolders and the reasons for flashing vary depending upon the device in question.

NOTE: Running FlashSelfCheckoutHardware.bat can be run to update the firmware. If new firmware is in the folders described in the above paragraph, then the device firmware will be updated.

Bill Dispenser (BND or BNR): The bill dispenser (or BNR) has a Firmware subfolder, which contains Override, Update, and Base folders. The folders are checked in order of Override, Update, and Base, and if a version of firmware is located in a file, the search stops and the most recently modified file in that folder is used for the update. If the version of firmware on the device is the same as what is in this file, no update is done. If it is different (either higher or lower level), the firmware flash is begun. The result of the firmware update will be outputted to the command window.

Bill Acceptor (BNA or BNR): The bill acceptor (BNR) has a Firmware subfolder, which contains Override, Update, and Base folders. The folders are checked in order of Override, Update, and Base, and if a version of firmware is located in a file, the search stops and the most recently modified file in that folder is used for the update. If the currency country code in SystemConfig.ini does not match what is currently on the device, a firmware update is done, which contains the bill set changes for the new currency. In addition, if the currencies are the same but the firmware versions are different (either higher or lower level), the firmware update is also done. The result of the firmware update will be outputted to the command window.

CoinHandler (Standard Coin Handler & Recycling Coin Handler): The coin handler (both recycling and non-recycling) has a Firmware subfolder, which contains Acceptor, Controller, and CoinSets folders. The Acceptor and Controller folders have Override, Update, and Base subfolders. The folders are checked in order of Override, Update, and Base, and if a version of firmware is located in a file, the search stops and the most recently modified file in that folder is used for the update. These two firmwares are currency-independent, so if the version of firmware on the device is the same as what is in this file, no update is done. If it is different (either higher or lower level), the firmware flash is begun. For the CoinSets folder, there is a subfolder for the two letter currency code for each currency currently supported by the device. Each of these folders has Override, Update, and Base folders. Currently, changing coin sets between currencies is not supported, so the folder must match the currency type indicated in SystemConfig.ini. If the currency matches and a file is found in one of these folders, this folder is used for the update. For each file in the folder, if the denomination is not currently on the device, such as a new value of coin, this update is applied automatically. For denominations that are currently on the device, if the version in the file is different than that on the device, the update is done. Note that all three of these updates will be attempted during a single call to the program. If there are multiple firmwares present, the device will update the Controller firmware first, then the Acceptor, followed by Coinsets. The result of the firmware update will be outputted to the command window.

For each run of the firmware flash for each device, a log file IBMSelfCheckout\Logs____(DeviceName)FirmwareUpdate.log will be created. A new one of these will be created each time it is run, and will save the previous 4 log files for each device. These log files have details about the file being flashed, whether there were problems, and what the previous version was. The IBMSelfCheckout\Capture\FrameworkDeviceAccess.cpt files will have details on the actual flashing of the devices.

In addition to these files, a supplementary IBMSelfCheckout\Logs\FirmwareUpdate.log file will be created, which has the date and time of when the devices were checked for new firmware and whether they were flashed or not. This list is continuous.

Security Controller (Model 4845), Scanning Unit Controller (Model 4888), Conveyor Unit Controller (Model 4888 Full Lanes): The FlashDevice.bat file determines which of these three devices is present and at what level. If a newer version of firmware is available in the C:\FirmwareUpdate directory for any of these devices, the device is flashed to that level. Results are logged into C:\IBMSelfCheckout\Logs\Flash-SecurityModule.log.

JavaPOS devices, including Printer: The FlashDevice.bat file invokes JavaPOS's Flash Utility.

Once all the devices are completed, SCS_Startup continues as it normally would. The FlashSelfCheckoutHardware.trg file is deleted. In addition, these updates may take upwards of 30 minutes for each device, so do not be alarmed if nothing seems to be happening.

Finally, while able to be handled in most cases, it is not recommended to keep multiple versions of a firmware in a single Override, Update, or Base directory. For Coin Sets, this may have especially negative effects, as the newest file is not found for each denomination, which may cause the wrong coin version to be placed on the device.