

Firmware Update

Changelog



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BCN3D EMBEDDED OS (v0.9.0):

- Repaired an error with the update installer script when it is cancelled.
- Modified configuration files to fit the needs of the BCN3D services.
- Updated SigmaSBC version to v0.8.0.
- Updated BCN3D Marlin firmware version to v0.6.1.

EMBEDDED SOFTWARE (v0.8.0):

- Updated AWS IoT SDK v2 SDK submodule to commit @ efa3dc2
- Implemented a wrapper around the new version of the AWS IoT SDK
- The last message will be only configured when the printer is registered
- MQTT topic 'cloud/state+/PrinterState' marked as deprecated
- Removed unneeded 3rd party libraries and Makefiles.
- Now, while printing, the driver won't wait for the OK for sending the next command. That causes the Marlin firmware RX buffer to always be full and so micro-interruptions can be avoided.
- All the actions related to printing a file will be done without delayed operations.
- Added serial baud rate configuration parameter.
- Added Downloading Print state.
- Added print job download progress MQTT topic for displaying it at the Cloud interface.
- Added a downloading print job pop-up to block the interaction with the machine when it's downloading a print job.
- A cancel button is available to stop a print job download from the machine.
- Now, the current job ID is saved into the cloud service context to improve reconnections handling.
- A job ID is also generated for local prints and will be sent to the cloud with the initial data and printing started topic payload.
- Added cloud connection timeout detector to all critical operations (subscriptions and shadow requests).
- Added two new parameters to CloudServiceSettings: "lastGroupID" and "lastJobID".
- Added JobContextController object to save and retrieve print jobs information.
- The backed jobs data when the connection is resumed or the printer is registered.

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EMBEDDED SOFTWARE (v0.8.0):

- Complete rewrite of the cloud connection state machine controller for better error handling.
- The endpoint retry timer will delay the endpoint request exactly 2 seconds.
- Now all the downloads will be run inside a separate thread if not the event loop reaches the saturation level.
- Created the download worker interface class used to interact with the download worker thread.
- All temporary files are now created using `QTemporaryFile` and `QTemporaryDir`, which makes the `'tmpDir'` configuration parameter deprecated.
- Force writing the target file when saving a file securely.
- Update files will be only downloaded once.
- Set the printer state to `PrintFinished` when a print job is interrupted.
- Added 'Error' state to print finished.
- Changed the behaviour of the chamber fan to be off when turning on the printer and will be only turned on while it is printing and remains on until 15 minutes after the print ends.
- The interrupted firmware flash process will be restarted at the next machine power on.
- Most of the texts have been properly wrapped: Custom Text object template has been created and some QML files refactoring has been necessary.
- Configuration overlay implementation:
 - The printer configuration to use is given by the `machineConfig.json` file. This file provides the printer model and variant. If the machine has a certificate installed, the printer model is overwritten.
 - Configuration files are stored in the following way: Folder names are models and files inside are `variants.json`.
 - The printer configuration is loaded from a JSON file according to the model and variant and is loaded to the Marlin once it is initialized.
 - Firmware's first start will be in a halted state, then by clicking the halted button "Reconfigure" the user will be able to configure its printer.
- Repaired an error that halts the `UpdateService` when the update is ready and the files changed.
- Always cancel the current analysis when the files changed.
- Keep processing the queue when an analysis fails.
- Always take the update file with the latest target version.
- Check available updates after cancelling or finishing one.
- A retract movement was added at the end of the filament loading process.

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EMBEDDED SOFTWARE (v0.8.0):

- Now the total printing time is counted via the QElapsedTimer class, which implements a system-agnostic time counting class. This will repair the errors that sometimes appear while counting the time using the seconds since the last epoch approaches.
- Corrected a bug that turns off the fan before time if a new print is started less than 15 minutes after the last one.
- The target temperatures for load/unload and pre-heat have been revised and now they are the same as in BCN3D Cura.
- The press and hold buttons operation have been repaired as they used to remain checked after the button is released.
- Now the current value of flow rate and print speed is available to all services through the machine model.
- Refactored print settings QML page. This improves the overall UX of this part of the printer interface.
- Improved the print process implementing the begin and end print G-Codes.
- Added set temperatures while busy G-Codes that permit to change the printer settings while it is busy (waiting for temperatures to be reached or waiting for movements to be finished).
- Enhanced position tracking system for differentiating relative and absolute movements. Now the position will be always tracked correctly. This will avoid systems like raise safety Z to fail.
- Repaired update notification text translation.
- Now, when the printer is turned off during a paused print, the next boot the printer will start with the PrintFinished state rather than Idle state.

BCN3D MARLIN (v0.6.1):

- GCODE line counter improvement for resend and pause processes.
- Added Configuration Overlay feature, that permits to configure the printer parameters at runtime using GCODEs.
- Added retract distance control for the Z calibration process.
- Implemented Configuration Overlay parameters reporting to check them after configuring the firmware.
- Changed chamber fan PWM control to a simple On/Off control.

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BCN3D MARLIN (v0.6.1):

- Corrected a bug when a resend is requested but no response is given from the host. Now, while the firmware is waiting for a resend, the maximum discarded characters are two times the serial receive buffer. If this amount of characters is discarded and the host still doesn't respond, it will send the resend message again.
- Improved priority commands detection during a print process, such as changing the print settings or light intensity.
- Implemented begin and end print commands.
- Now, the values of the print settings will be reported after updating them.
- Implemented two new commands (M156/M157) that permit modification of the target temperature values while the printer is busy or printing.
- Changed the GCODE queue maximum length from 4 to 24 GCODEs to leverage unused RAM memory and ensure that during a print job the firmware always has GCODEs to process.
- Improved the algorithm that calculates the bed deviation when bed a levelling process is made.