

Summary

This document outlines the procedure for updating the firmware on Motiv components (Full system).

If additional support is required, contact Motiv Power Systems, Inc. at (650) 678-0264.

Revision History

Revision	Author	Date	Approver	Date	Description
A	LA	8-May-20	PH	8-May-20	Document created.
B	LA	8-Mar-21	AV	9-Mar-21	Deleted steps 16-21.
C	AV	12-Oct-23	AV	12-Oct-23	Updated Steps 10, 11, 12, and 14, of the message boxes to reflect Upgrader GUI Message Unification and updated all the screenshots. Created Section 2 with failed examples

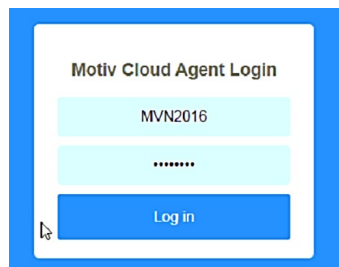
Prerequisites

- Latest copy of the release notes for the software being installed.
<https://motivinc.atlassian.net/wiki/spaces/SOF/pages/396197896/Software+Release+Notes+outline>
- Vehicle MVN
- Upgrader.exe (latest revision)
- Vehicle 12V battery must supported with an external power supply

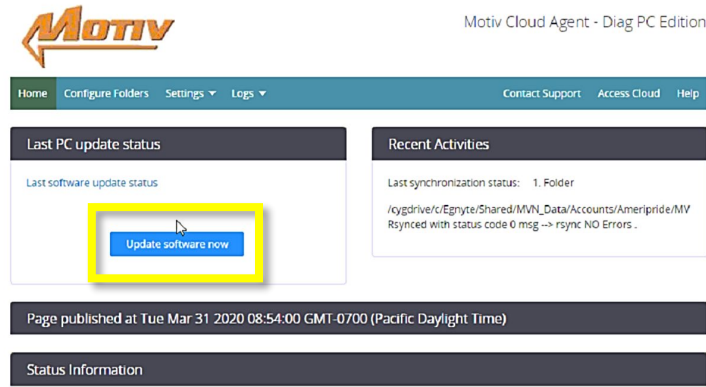
1. Upgrade Firmware

1. Open the web browser.
2. Go to <https://127.0.0.1:9906>
3. Enter vehicle MVNXXXX, where “XXXX” is the vehicle number you are working on and password.

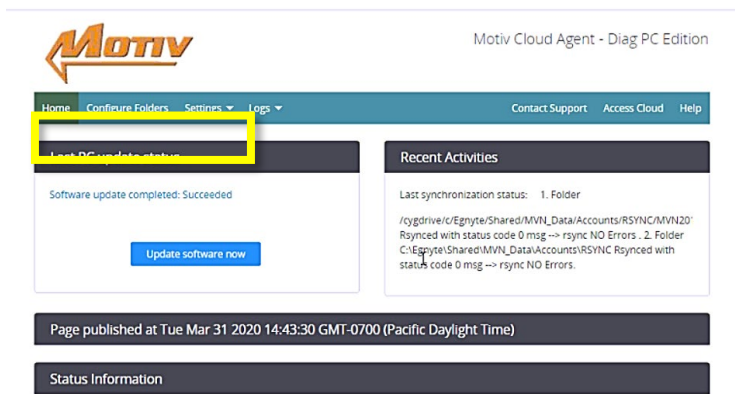
NOTE: Contact Software Support for the password if none is provided.



4. Click **Update Software Now**.



5. When the files are updated, the 'Last Software Update Status will be **Succeeded**.



6. Proceed to log data through Frontend Logging:

- a) In Frontend Logging (Driver Display), confirm that data collection is not occurring.
- b) Enter the Frontend Monitor through the Motiv Service Monitors shortcut.
- c) Open and start recording (*log all to file*) the settings for the monitors for future record.
 - PCU-Nvmon
 - Battery instances 1-6 & 14-pmon
 - Motor instance 17-nvmon
 - Charger instance 18-nvmon
- d) After recording the parameter monitors for 2-4 minutes, data has been collected.
- e) Close the Frontend by selecting **Quit**.

7. Navigate to C:\Egnyte\Shared\MVN_Data\00SYS\PROD\BIN

8. Open Upgrader.exe.

NOTE: It may take up to 30 seconds for the program to start.

9. Confirm the manifest firmware is correct.

NOTE: The upgrader displays the currently installed firmware and the firmware to upgrade to based on the vehicle definition.

NOTE: If the manifest firmware is not correct, contact Software Support.



10. Click **Upgrade**.

Refresh	Manifest Firmware	Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A Build 2588	PCU @ R2.7.3.A Build 2582	--- PEND ---
Node 16	ABC @ R3.0.0.A Build 2589	ABC @ R2.7.3.A Build 2583	--- PEND ---
Node 17	MCU @ R3.0.0.A Build 2591	MCU @ R2.7.3.A Build 2584	--- PEND ---

Status: idle...

Upgrade

11. Physically confirm that vehicle 12V battery is supported with an external power supply during this upgrade process and external EVSE charger is disconnected, then click **Acknowledge**.

Upgrade

Warning: The following conditions must be met before upgrading the firmware. Otherwise, unexpected events may happen.

1. Ensure that the **12V** battery is being sustained by an external 12V charger before proceeding.
2. **DISCONNECT** the external **EVSE** charger.
3. Turn **OFF** the key.

Acknowledge Abort

- The progression will show in yellow.

Refresh	Manifest Firmware	Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A Build 2588	PCU @ R2.7.3.A Build 2582	--- PEND ---
Node 16	ABC @ R3.0.0.A Build 2589	ABC @ R2.7.3.A Build 2583	--- PEND ---
Node 17	MCU @ R3.0.0.A Build 2591	MCU @ R2.7.3.A Build 2584	--- PEND ---

Status: Pending(None); Upgrading(0, 16, 17); Done(None).

Upgrade

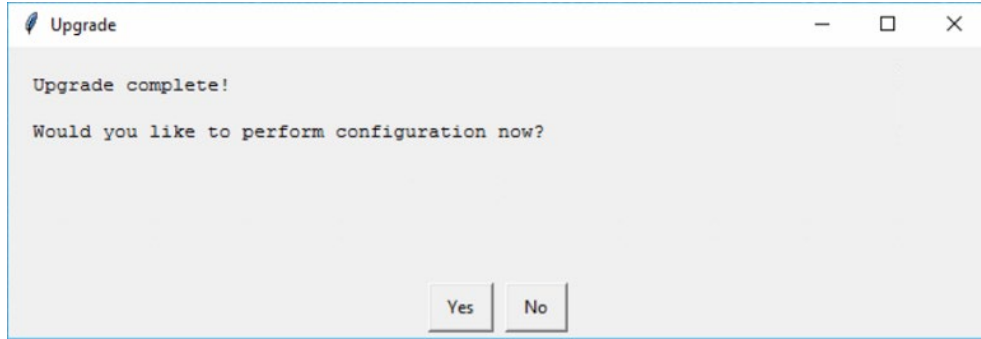
- When the upgrade is complete, the bar will show in green.

Refresh	Manifest Firmware	Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A Build 2588	PCU @ R3.0.0.A Build 2588	--- PEND ---
Node 16	ABC @ R3.0.0.A Build 2589	ABC @ R3.0.0.A Build 2589	--- PEND ---
Node 17	MCU @ R3.0.0.A Build 2591	MCU @ R3.0.0.A Build 2591	--- PEND ---

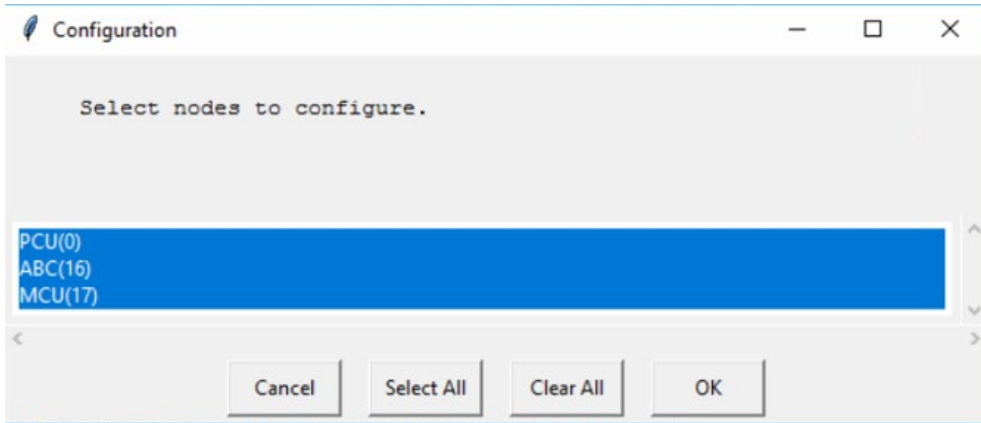
Status: Pending(None); Upgrading(None); Done(16, 17, 0)...

Upgrade

12. Click **yes**.



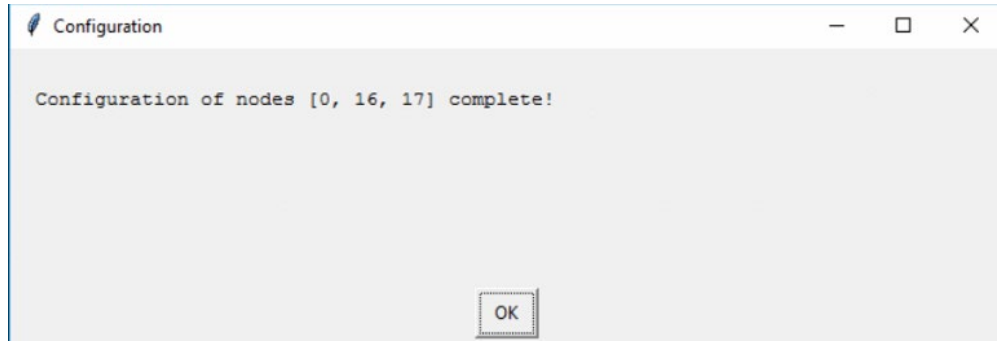
13. Click **Select All** or the desired modules, and then **OK**.



- The progression will show in blue along with Configure Verification field displaying “PEND” in yellow.

ePCS Firmware Upgrade Utility (MVN8995R1)				
Refresh	Manifest Firmware		Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A	Build 2588	PCU @ R3.0.0.A Build 2588	--- PEND ---
Node 16	ABC @ R3.0.0.A	Build 2589	ABC @ R3.0.0.A Build 2589	--- PEND ---
Node 17	MCU @ R3.0.0.A	Build 2591	MCU @ R3.0.0.A Build 2591	--- PEND ---
Status: Upgrade complete				
Configure				

14. When the configuration is complete, the complete screen will pop up, then click **OK**.



- The Upgrader will display the Manifest and the Current in green along with Configure Verification field displaying “PASS” in green.

Refresh	Manifest Firmware	Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A Build 2588	PCU @ R3.0.0.A Build 2588	--- PASS ---
Node 16	ABC @ R3.0.0.A Build 2589	ABC @ R3.0.0.A Build 2589	--- PASS ---
Node 17	MCU @ R3.0.0.A Build 2591	MCU @ R3.0.0.A Build 2591	--- PASS ---

Status: Upgrade complete.

15. Close the application.

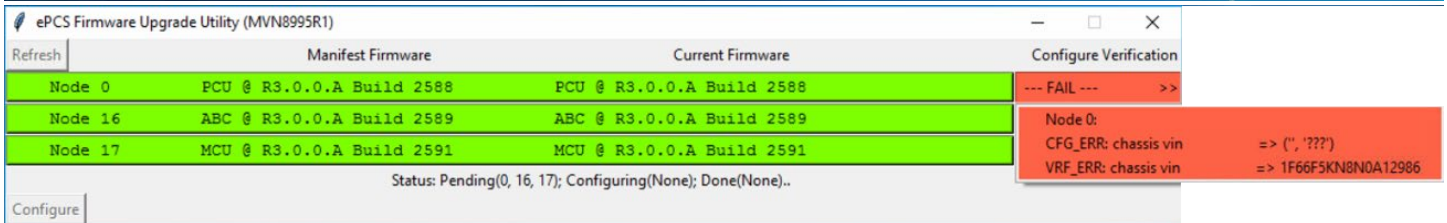
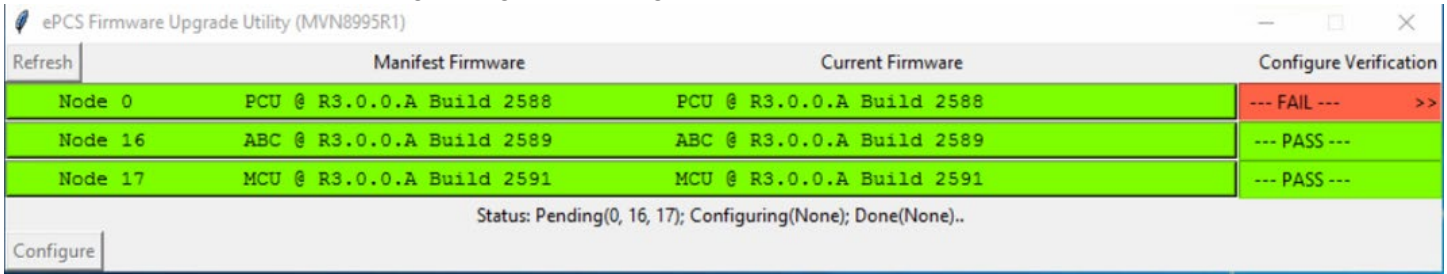
2. Configuration Verification FAIL

1. In case of “FAIL” observed during configuration stages the following faults will be displayed to the operator

Refresh	Manifest Firmware	Current Firmware	Configure Verification
Node 0	PCU @ R3.0.0.A Build 2588	PCU @ R3.0.0.A Build 2588	--- FAIL --- >>
Node 16	ABC @ R3.0.0.A Build 2589	ABC @ R3.0.0.A Build 2589	--- PASS ---
Node 17	MCU @ R3.0.0.A Build 2591	MCU @ R3.0.0.A Build 2591	--- PASS ---

Status: Pending(0, 16, 17); Configuring(None); Done(None)..

- If you hover cursor towards the Configure Verification “FAIL” it displays the variables name with “???” marks that had issues during configuration stages



- “Warning!!!” Failed to verify configuration commands. Please check each node for failed commands will be displayed to the operator.

