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Multi-Stack Controller Upgrade Instructions

Application Note

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1. Overview

This Application Note provides instructions to upgrade Nuvation Energy Multi-Stack Controller running software versions (`msc_bundle`) 20.0.0 and earlier to the latest software version 22.5.0.

There are two main stages to the process:

Preparing for the Upgrade

Gathering all the files needed for the upgrade process. This includes contacting Nuvation Energy Product Support to convert your configuration file to a supported format.

Performing the Upgrade

The detailed steps to ensure a successful Multi-Stack Controller upgrade. The upgrade process can only begin after the previous step is fully complete and all required files are acquired.

We thrive on your feedback and what we build is driven by your input.
Please submit support tickets to support@nuvationenergy.com.

2. Preparing for the Upgrade

The Platform Interface is accessible by navigating to http://ncontroller-<serial number>.local/platform and enables configuration and management of the Nuvation Energy Multi-Stack Controller.

This URL can be accessed via a compatible computer with its networking setup configured to access the Nuvation Energy Multi-Stack Controller. Please see *Product Manual* for details.

Replace `<serial number>` with the Multi-Stack Controller serial number - this can be found on a label on the exterior of the product. Below is an example of a product label, with the relevant serial number listed beside the field "SN".

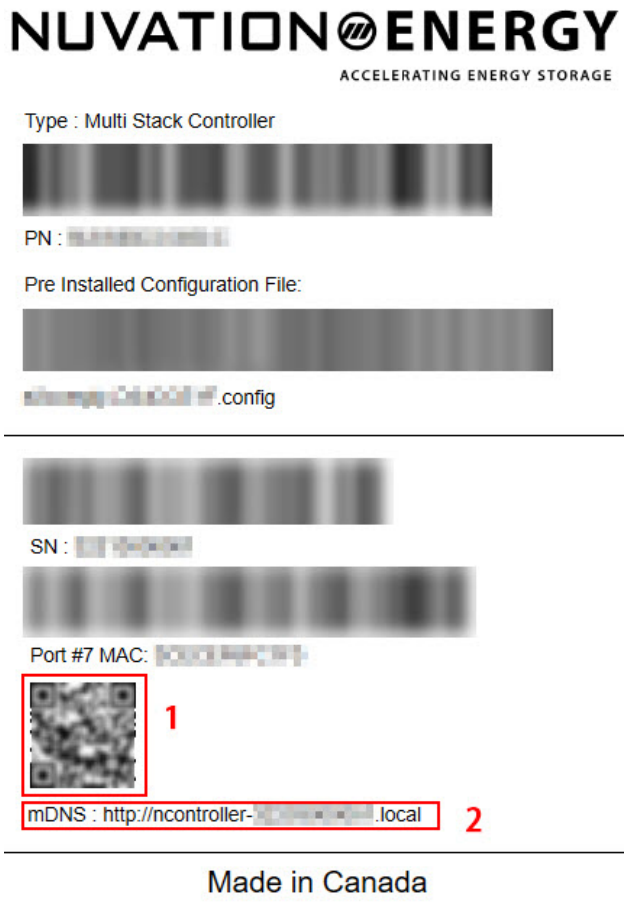

Figure 1. Sample Product Label with URL to the Platform Interface.

The Platform Interface currently supports the most recent versions of Mozilla Firefox and Google Chrome. Other browsers such as Internet Explorer are not supported.

2.1. Check 'MSC Bundle' Version

Confirm that the current 'MSC Bundle' (`msc_bundle`) version is eligible for upgrade by visiting the **Functions** page.

Navigate to: http://ncontroller-<serial number>.local/platform/functions

1. Check the `Installed Functions` table.
2. If the `msc_bundle` version is 20.0.0 or earlier, the system may be upgraded using this Application Note.

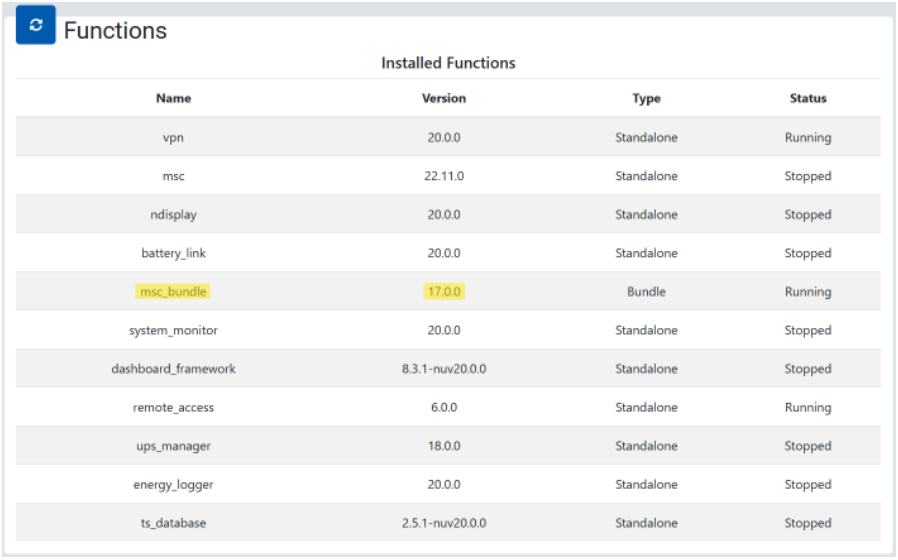

Figure 2. Example of Installed Functions table

2.2. Export the System Configuration file

Export the current System Configuration `.cfg` file from the **Services** page.

Navigate to: http://ncontroller-<serial number>.local/platform/services

1. Click the `Export Configuration` button.
2. Save the System Configuration file.

Figure 3. Services page view

2.3. Send System Configuration file for Conversion

The latest `msc_bundle` (version 22.5.0) uses the YAML file format for the System Configuration file. The exported file will need to be converted to this new format.

Please contact Nuvation Energy Product Support by sending an email with the following information:

- **To**: support@nuvationenergy.com
- **Subject**: [Your Company Name] Multi-Stack Controller Configuration Conversion Request
- **Attachment**: The exported `.cfg` configuration file

Nuvation Energy Product Support will convert the provided `.cfg` format System Configuration file into a ready-to-import `.yaml` format System Configuration file.

Please allow up to 48 hrs for Nuvation Energy Product Support to generate the new configuration file.

Please avoid making changes to the system after sending the configuration file to Nuvation Energy Product Support for conversion.

Nuvation Energy Product Support will respond with the following:

- `.yaml` formatted System Configuration file
- Download link for the Multi-Stack Controller upgrade packages

2.4. Download the latest Packages

Refer to the email response from Nuvation Energy Product Support and navigate to the provided download link. The please download all files from the folder.

3. Perform the Upgrade

Before starting the upgrade process, confirm that you have the following files:

- System Configuration for your system (`*.yaml` provided by Nuvation Energy Product Support)
- MSC Bundle (`msc_bundle_22.5.0.fns`)
- Service Pack `.nosp` file version 2.2.0
- Service Pack `.nosp` file 2.3.0
- Service Pack `.nosp` file 2.4.0
- Service Pack `.nosp` file 2.5.0
- Service Pack `.nup` file 2.5.2

Please contact support@nuvationenergy.com if you encounter any issues during the upgrade or have any questions.

3.1. Create a Backup

Create a Backup of the system state via the **Backups** page. A Backup state includes configured settings, installed functions, and all logged data at the time of the backup creation.

The backup will take approximately 20 minutes.

During the backup the Multi-Stack Controller will be functional but may experience slower performance.

Navigate to: http://ncontroller-<serial number>.local/platform/backups

1. Click the `Create` button.
2. Confirm that a backup was created.

Figure 4. Backups Page

3.2. Upgrade the Service Pack and nPlatform Packages

Upgrade the Service Pack and Platform packages via the **Settings** page.

Each upgrade will take approximately 10 minutes and the Multi-Stack Controller will not be functional during the upgrade. On slower network connections, upgrade times may be longer.

The page will automatically refresh once the upgrade is complete.

Upgrades must be done in the correct order.

Navigate to: http://ncontroller-<serial number>.local/platform/settings.

Install the 2.2.0 Service Pack

1. Click the `Choose File` button
2. Select the Service Pack 2.2.0 `.nosp` file
3. Click `Upgrade` to upgrade the unit

Install the 2.3.0 Service Pack and create a backup

1. Click the `Choose File` button
2. Select the Service Pack 2.3.0 `.nosp` file
3. Click `Upgrade` to upgrade the unit

Install the 2.4.0 Service Pack and create a backup

1. Click the `Choose File` button
2. Select the Service Pack 2.4.0 `.nosp` file
3. Click `Upgrade` to upgrade the unit

Install the 2.5.0 Service Pack and create a backup

1. Click the `Choose File` button
2. Select the Service Pack 2.5.0 `.nosp` file
3. Click `Upgrade` to upgrade the unit

Install the 2.5.2 NUP file and create a backup

1. Click the `Choose File` button
2. Select the NUP file 2.5.2 `.nup` file
3. Click `Upgrade` to upgrade the unit

Please note after the above updates, the platform cannot be rolled back to previous states.

Restoring a backup from an earlier platform version will restore functions and data but will not roll back the platform version.

> To create more backup disk space, please delete older backups.

3.3. Install the MSC Bundle

Install the `msc_bundle` via the **Functions** page.

> The install will take approximately 10 minutes and the Multi-Stack Controller will not be functional during the install. On slower network connections, install times may be longer.
>
> The page will automatically refresh once the install is complete.

Navigate to: http://ncontroller-<serial number>.local/platform/functions

1. Click the `Choose File` button
2. Select the MSC Bundle file (`msc_bundle_<version>.fns`)
3. Click `Install` to install the function

Figure 5. Install card in Functions page

4. Import the System Configuration File

Upload and Import the System Configuration via the **Settings** page. This file is the newly converted `.yaml` formatted system configuration provided by the Nuvation Energy Product Support.

Navigate to: http://ncontroller-<serial number>.local/platform/settings

1. Click the `Choose File` button
2. Select the System Configuration file (`.yaml` file from Nuvation Energy Product Support)
3. Click `Import`

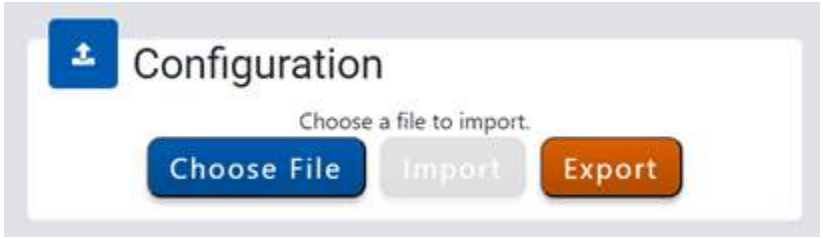

Figure 6. Configuration card in Settings page

Your Multi-Stack Controller upgrade is now complete!

Please contact support@nuvationenergy.com if you encounter any issues during the upgrade or have any questions.

From time to time Nuvation Energy will make updates to products in response to changes in available technologies, client requests, emerging energy storage standards, and other industry requirements. The product specifications in this document, therefore, are subject to change without notice.

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