

Firmware Management

Overview

CONTROL ACS provides comprehensive **Firmware Management** functionality to automate firmware updates across your device fleet. The system is configured through two main areas:

- **Device Profile / Types** ([Inventory > Profile / types](#))
- **Firmware Library** ([Firmware > Images](#))

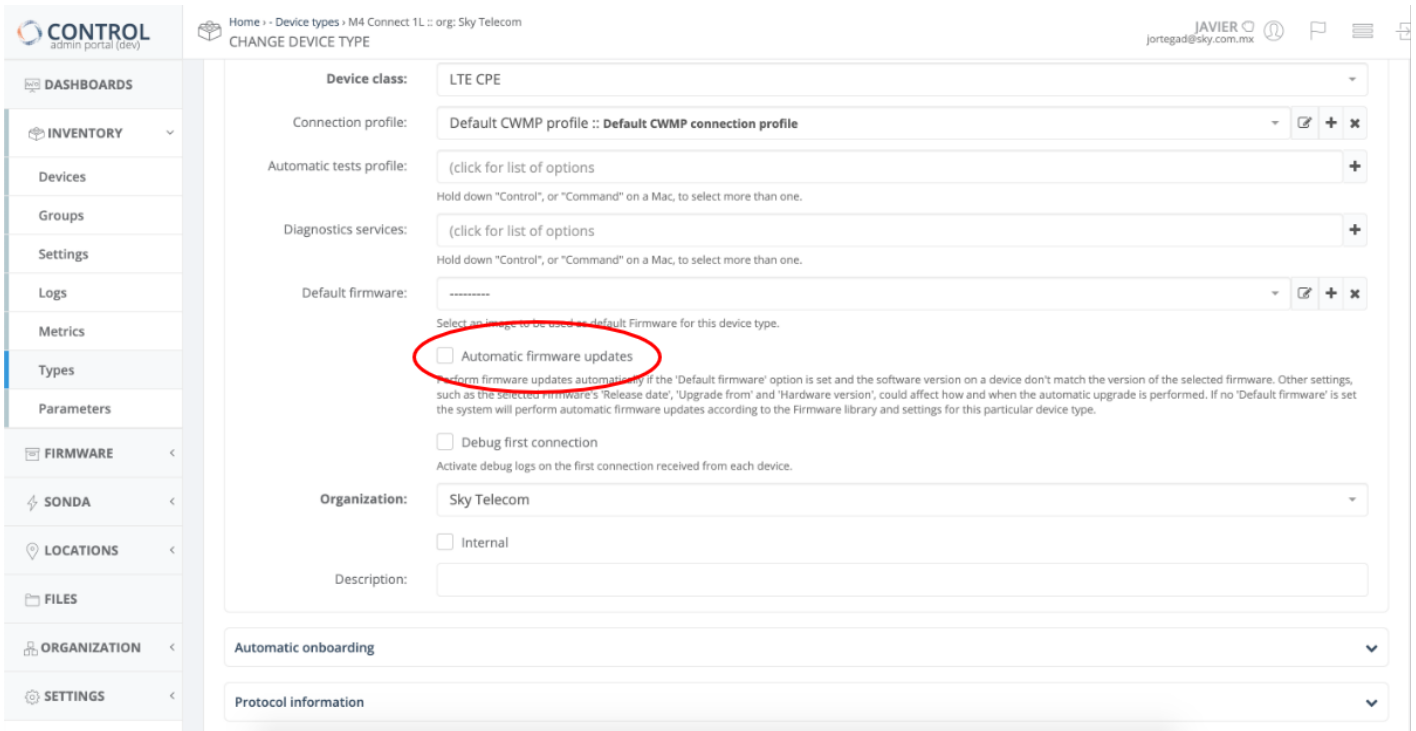
This page explains how to configure and use these features to manage firmware versions automatically.

Device Profiles / Types

Navigate to **Inventory > Profiles / types** to configure firmware management settings for each device type.

Enabling Automatic Firmware Upgrades

Within any **Device Profile / Type** definition, you can activate automatic firmware upgrades by enabling the **Automatic Firmware Upgrades** checkbox:



How It Works

Once the **Automatic Firmware Upgrades** checkbox is enabled, CONTROL ACS will automatically manage firmware updates based on your configuration:

With Default Firmware Image specified:

- CONTROL ACS checks if a device matches the criteria and selection parameters of the configured *Default firmware* image
- If matched, the system initiates a firmware upgrade (or downgrade) automatically

Without Default Firmware Image:

- CONTROL ACS searches the **Firmware Library** ([Firmware > Images](#)) for applicable firmware images
- Advanced rules and policies configured in the library determine which firmware to apply

Firmware Library

The Firmware Library ([Firmware > Images](#)) allows you to manage firmware images with granular control over distribution and applicability.

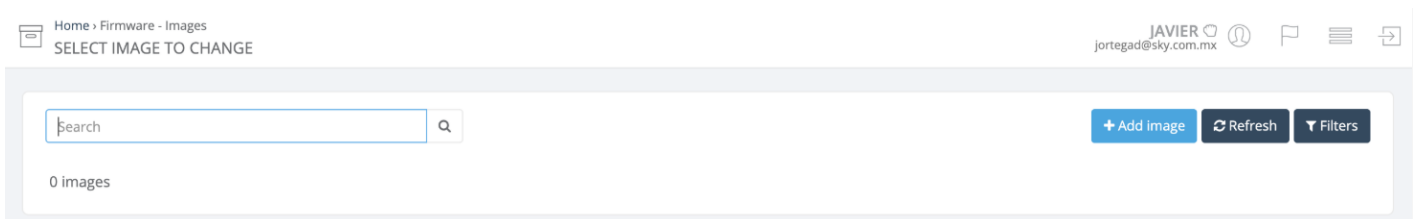
Firmware Image Configuration

Each firmware image in the library can be configured with the following settings:

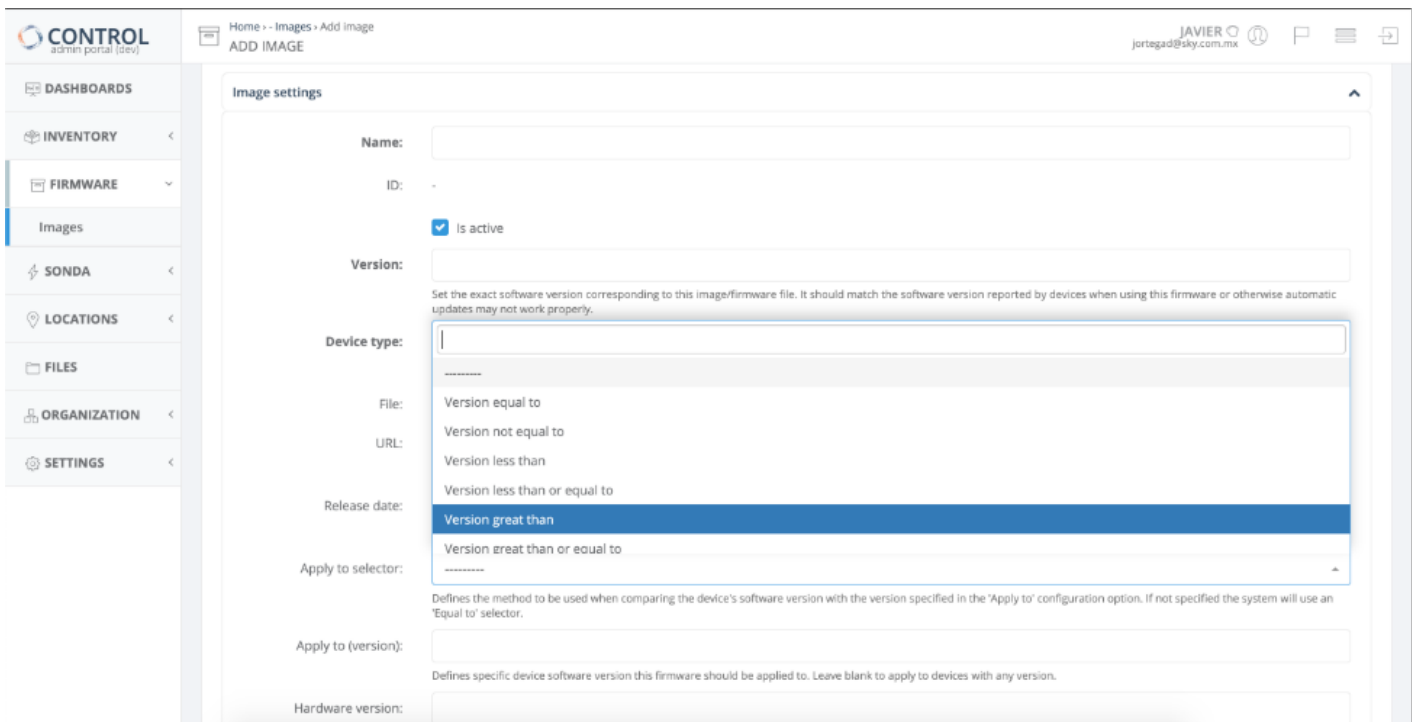
- **Image mnemonic** — Friendly name and description for the image
- **Image location** — Storage location options:
 - ACS platform (suitable for smaller deployments)
 - Local HTTP/FTP server (recommended for large-scale distributions)
- **Firmware applicability rules** — Control when firmware applies based on:
 - Device hardware version
 - Current device firmware version
 - Release date
 - Additional criteria

Adding a Firmware Image

1. Click the **Add Image** button at the top right of the interface:



2. Configure the image settings on the **Add Image** page:



Firmware Image Parameters

| Parameter | Description |
|-----------|-------------|
|-----------|-------------|

| | |
|---------------------------|---|
| Name | Mnemonic identifier for the firmware image |
| Version | Version number of the firmware image |
| Device Profile | Select the Device Profile this image applies to from the dropdown menu |
| Upgrade Profile | <i>To be confirmed</i> |
| File or URL | Upload the firmware file through the GUI or specify an HTTP/FTP URL where the image is located Note: Using a local Service Provider HTTP/FTP server is STRONGLY recommended for massive firmware updates |
| Release Date | Optional. If specified, automatic updates will only be applied after this date |
| Apply to Selector | Comparison method used when matching the device's software version against the 'Apply to' version Default: 'Equal to' |
| Apply to (version) | Target device software version for this firmware Leave blank to apply to devices with any version |
| Hardware Version | Target device hardware version for this firmware Leave blank to apply to devices with any hardware version |

Version Comparison Algorithm

CONTROL ACS uses a direct character-by-character comparison algorithm to determine version precedence.

Comparison Examples

The algorithm evaluates versions as follows:

- `v1.0.1` is a **lower** version than `v1.0.10`
- `v1.0.1a` is a **lower** version than `v1.0.1b`
- `v1.0.1a` is a **greater** version than `v1.0.1`

Important Consideration

The algorithm treats `v1.0.1a` as a higher version than `v1.0.1`, which may not be the desired behavior in all scenarios.

Workaround: Add an underscore character to ensure correct version ordering:

- `v1.0.1_` is a **lower** version than `v1.0.1a`

This allows you to maintain the expected version hierarchy when alphabetic suffixes are used.

Firmware Selection Logic

To be confirmed

Upgrade Profiles

Navigate to **Firmware > Profiles** to manage upgrade profiles.

To be confirmed

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