

NCC V2 Changelog

All notable changes to this project will be documented in this file.

The format is based on [Keep a Changelog](#), and this project adheres to [Semantic Versioning](#).

Possible log types:

- [Update instructions] for essential requirements, instructions and information about the software update procedure
- [Added] for new features
- [Changed] for changes in existing functionality. Improvements should appear under the 'changed' section
- [Deprecated] for once-stable features removed in upcoming releases
- [Removed] for now removed in this release
- [Fixed] for any bug fixes
- [Security] in case of vulnerabilities or other security related changes

[1.5.0] - 2026-01-19

- **Added** : Finalize the firmware update concept. The device now automatically reboots after a successful firmware update and reverts back to the previous version in case something goes wrong (e.g. powered off during update). The update state is now communicated using alarms (`firmware-update-in-progress` and `firmware-update-failed`).
- **Changed** : Rework webinterface layout, naming and features according to internal feedback. The UI now refreshes information automatically. Pages were reorganized to `Overview` , `Outputs` , `Time` , `Network` , `Supervision` , `Maintenance` and `Logs` .
- **Added** : Add individual timeouts for NTP client and clock line that trigger synchronization alarms.
- **Added** : Add SNMP functionality (read access, traps, SNMPv3 security).
- **Changed** : Simplify monitoring of clocks. MOBALine movement polarity no longer matters for single-sided clocks.

[1.4.0] - 2025-12-01

- **Added** : Implement backup and restore mechanism for the device config.
- **Added** : Implement handling of LED driver power budget. The illumination output now limits the brightness according to the power available (PoE, PoE+, 230 VAC) and reports an error if insufficient power is available.
- **Changed** : Optimize RESTCONF and webinterface performance (rate limits, crypto optimizations, ...).
- **Added** : In the webinterface, add a UI element that allows the user to select the device timezone from a list of all supported values.
- **Fixed** : Fix DNS not working when DHCPv4 is enabled.
- **Added** : Add network statistics to the API (received / transmitted packets, ...).
- **Changed** : Improve device reliability (automatically reboot in case of irrecoverable errors, add timeouts to initialization procedures, installation of firmware updates, ...).

Update instructions: The update needs to be installed twice when upgrading from an earlier version. The new firmware will only start running after the second installation.

[1.3.0] - 2025-11-03

- **Added** : IPv6 / DHCPv6 are now fully functional and tested.
- **Fixed** : Prevent user from deactivating IPv4 and IPv6 at the same time.
- **Changed** : Show NTP reference timestamp instead of seconds since last synchronization.
- **Added** : Show IP of current NTP time source in UI.
- **Changed** : Optimize firmware image size by using a more aggressive compression algorithm.
- **Changed** : Prevent unhandled config errors from crashing the device on startup.
- **Security** : Harden the device against potential denial of service attacks by limiting the total amount of memory allocated to web uploads.

[1.2.0] - 2025-10-16

Version for internal usability tests. Based on core v1.1.0.

- **Added** : Setup development and release workflow.
- **Fixed** : Fix id conflict in webinterface layout ("save" buttons for hostname and timezone would get mixed up).
- **Fixed** : Fix inaccurate time keeping.
- **Added** : Automatically charge the NCC V2 VB supercaps.
- **Security** : Update security-critical packages to latest versions.

- **Changed** : Simplify log file structure.
- **Changed** : Adjust parameter naming to match RESTCONF YANG naming convention.
- **Changed** : Rename "io" account to "operator".
- **Security** : Implement anti-rollback protection.

[1.0.0] - 2025-08-20

Test build with core [v1.0.0](#). Upgrading from previous versions not supported.

- **Added** : Implemented monitoring for single- and double-sided clocks.
- **Added** : Add persistent log file storage (e.g. audit and alarm logs).
- **Added** : Loading of persistent parameters set during production (e.g. default password, serial numbers, ...).
- **Added** : Add support for the illumination schedule generated by the MOBA switch editor.
- **Added** : Implement different users and permissions.
- **Security** : Root login is disabled by default. Only unlock it when built on a development branch.
- **Security** : Boot chain is now locked down.

[0.8.0] - 2025-05-01

Test build with [v0.9.0](#) of the core firmware.

- **Changed** : Adjust format of firmware version descriptor (currently only for non-release builds).
- **Fixed** : Fix MOBALine time wrong by 2 seconds.
- **Fixed** : Fix DNS server setting not working when a static IP configuration is used.
- **Security** : Implement defense in depth strategy (Firewall added, low-level linux parameters hardened)

[0.7.0] - 2025-04-01

- **Added** : Implement timezone handling for the clock line.

[0.6.0] - 2025-03-31

Test build based on core version v0.7.0. Changes are mostly related to the core firmware / build process and don't affect functionality. See core changelog for full details. Downgrading to earlier versions is possible but not recommended.

[0.5.0] - 2025-02-27

Test build based on core version v0.6.0.

- **Added** : Show link speed on the ethernet jack's yellow LED (on = 100 Mbps, off = 10 Mbps).
- **Added** : Implement secure update (using development keys for now).
- **Added** : FIT image authentication and encryption (using development keys for now).

[0.4.0] - 2025-01-31

Test build based on core version v0.5.0. Encrypts sensitive user data on disk but doesn't yet support secure boot.

[0.3.0] - 2024-12-19

Last version fully compatible to the non-secure MOBA SoM. Uses network slave clock core v0.3.0.

[0.2.0] - 2024-11-22

NCC V2 firmware mockup based on core version v0.2.0.

[0.1.0] - 2024-09-20

- **Added** : Initial repository setup and documentation.