EKMPush 3 and 4 Changelog

Download as PDF

Changelog

This changelog describes the behavior present in the current repository. It does not list intermediate implementations that were later removed or superseded.

Release — 2026-11-22

Agent version: `3.261122102`
Changes since: `3.261107051`

Updater version: `3.261122103`
Changes since: `3.261107011`

Behavior changes to know about

- Gateway status is sent every 120 seconds. The interval is fixed in the agent and is no longer set in the cloud config.
- The cloud settings that could turn off command handling, status sending, and read uploads (`accept_commands`, `send_status`, `post_as_read`) are removed. Those are now always on.
- The file manager summary server now comes from the account collector host instead of the `post_15_summary` setting.

New features

- Command tracking in the read loop. Each minute the agent logs the slowest device command, with its device, command, and outcome.
- Updater: the gateway status monitor tracks RTC bad post counts. The RTC bad state is cleared automatically after four successful gstat uploads.
- Updater: media network configuration is validated and imported. The status LED shows when a configuration is applied, for 30 seconds.

Fixes and improvements

- Fixed command messages being dropped on the command channel.

- Improved serial bus contention handling: collision guard, DONE message handling, and contention for the same MAC address. Serial probes back off when a response cannot be used.
- Logging now uses the public `readgateway` field names.
- HAProxy sends the additional API hosts (API, channels, collector, psrv1, psrv2) to the API backend pool. `collector.ekmpush.com` was added to the requests proxy host list.
- Updater: VFAT media handling improved in the data mount monitor.
- Updater: OS update script updated, OS version `3.261122016`.

Release — 2026-11-07

Agent version: `3.261107051`
Changes since: `3.261010220`

Updater version: `3.261107011`
Changes since: `3.261010220`

New features

- Added BACnet support with configuration management, validation, a configuration page, and service monitoring.
- Added Wi-SUN worker management and a Wi-SUN mesh tree view.
- Added `wisunreport` (replacing `wisunsignal`) and `wsbrdcli` (replacing `runwisuntest`).
- Added a high-load monitor that reboots the gateway after sustained high load.
- Added handling for oversized JSON and gzip files in the file manager, so they are skipped instead of failing.
- Added account logging in the file manager for development troubleshooting.
- Added summary field rules.
- Added a `readdata` remote support command with device, address, and timestamp checks.
- Added collector entries to round-robin hosts, and `channels.ekmpush.com` to all entries.

Fixes and improvements

- Added RF bus collision guarding and loop-end handling, with padding increased to 10%, to reduce serial read collisions.

- Improved adaptive timeouts for partial responses and Wi-SUN ports, and improved CRC error logging.
- Reworked reliability tracking to use a rolling window (24 hours, then 12), with equal-weighted buckets and age-aware restore after reboot.
- Improved time sync: `settime.sh` now uses a lock and logs offsets, and RTC bad-file checks were added to the monitors.
- Improved gateway monitoring: removed redundant heartbeat checks, terminate file manager workers on summary failure, and added a summary parity check.
- Migrated `ekm_device.conf` to `cloud_profile.conf`, keeping compatibility with older versions, and standardized device property names.
- Improved network scanning for SSID selection and signal strength.
- Improved read loop device assignment and probing intervals.
- Reduced memory use in file processing by releasing large variables sooner.
- Aligned proxy host ACLs with `haproxy.cfg`.
- Improved log tailing (UTF-8 decoding) and log page error handling.
- Fixed OS update service file permissions and removed unused netfilter config.
- Improved Wi-SUN `wsbrd` cache handling for clean starts.

Release — 2026-10-10

Agent version: `3.261010220`
Changes since: `3.260820050`

Updater version: `3.261010220`
Changes since: `3.260820021`

Behavior changes to know about

- Stored data URLs changed. `/data/reads/...` and `/data/summaries/...` (the key-checked JSON listings) have been removed. Stored read and summary files are now served by WebDAV at `/data-archive/...`, using Basic auth with user `admin` and the admin password, or the gateway key if no admin password is set. The meter and ioStack pages and `/datatree` link to the new location.
- Setup Wi-Fi network name changed. It was the fixed name `ekmpush3`; it's now the gateway hostname, falling back to `EKMPush`.
- MQTT page is visible on every account, not just Development. New MQTT setups start disabled with no broker host filled in.

- SFTP host key is now enforced. In July the saved host key was never used because of a setting-name mismatch. Gateways with a saved host key will now verify it.
- The no-internet relay action moved. The network monitor used to fire a relay just before an offline reboot; that's gone. It's replaced by an internet trigger condition in the agent ("offline for N seconds"), which runs the trigger's commands.
- `cycle_count` and `cycle_interval_avg` were removed from the agent status output.

Network

- APIPA on Ethernet. When Ethernet is plugged in, nothing is configured (no static IP, no Wi-Fi) and DHCP doesn't answer, the gateway assigns itself a `169.254.x.x` address.
- On Push3, DHCP keeps retrying in the background, and the 169.254 address is dropped once a lease or the internet arrives.
- A dhclient hook keeps the 169.254 address when a saved lease fails its check.
- While on APIPA, the setup portal is reachable at `http://169.254.x.x:8081/captive` and the internet LED shows the APIPA state.
- Never-connected gateways aren't restarted. If a gateway has no configuration and has never reached the internet, the network monitor no longer restarts the network over DHCP failures.
- Agent no longer killed. Network restarts no longer kill the agent.
- Avahi restart. Avahi (mDNS) is restarted after a network restart.
- Firewall. `169.254.0.0/16` is now allowed for HTTPS, ping and mDNS, plus SSH on non-Production gateways.
- IPv6. Still off on eth0 and wlan0; now on for loopback and tun0. The settings moved from `/etc/sysctl.conf` to `/etc/sysctl.d/99-ekm-push.conf`.

Wi-Fi setup (captive portal and advanced UI)

- Password spaces. Wi-Fi passwords have leading and trailing spaces removed in both the captive portal and the advanced UI.
- WPA2-Enterprise. The captive portal now writes the user name, password and phase2 without quotes, the same as the advanced UI.
- WPA key. The WPA key extraction (`psk=`) was fixed.
- Portal page. It has a show-password toggle and says the reboot takes 30 seconds.

Web UI

- Status and Ethernet pages. These show the Gateway ID (the Ethernet MAC) and a clearer IP status for each interface, such as "connected by Wi-Fi" or "connected by Ethernet".
- Plot fields. The meter and ioStack plot fields come from the `ekmdevice` definitions, and the meter protocol follows the configured meter version.
- SFTP page. It now notes that validation is skipped automatically when the SFTP server is too slow.
- Web server. lighttpd allows more connections per IP.

MQTT

- Integration modes. There are three: Raw, Home Assistant and eBus (Homie 5). Each keeps its own device and field list, and the required fields are checked before saving.
- Broker discovery. MQTT brokers on the local network can be found through mDNS (the new `/mqtt_brokers` endpoint).
- Mode changes. Old retained discovery and availability topics are cleared when the mode or devices change.

Meter reading (agent)

- Read loop. Reading moved into a dedicated worker thread with one manager owning the serial devices. That improves port reassignment, reconnection and multi-bus probing.
- Bus probes. A probe error no longer leaves the read loop in a bad state.
- Reliability tracking. Skipped reads, a 6-hour history and unassigned devices are now tracked. The saved reliability ratio is restored once per device per agent start.
- Startup. Read loops start with a random skip count.
- Rate triggers. These require positive thresholds.
- `rs485_diag`. It has serial port options and better scanning, and the read loop waits while a diagnostic holds the port.
- Config files. Settings files are written atomically with a `.bak` copy, and are loaded from the `.bak` if the main file is missing or corrupt.

File manager and summaries

- Two workers. Summaries are processed by two workers, odd and even device addresses, each with its own state and heartbeat.

- SFTP logging. An SFTP summary is logged every 10 minutes: uploads, failures, average and maximum time, bytes.
- Skip counting. Summary and SFTP skips are counted and logged per day.
- CSV values. ioStack Name and Serial are always summarized as text (First/Last), and CSV comments are allowed.

Gateway status, logs and time

- mDNS publishing. Gateway status (reads, summary, devices, storage, versions) and LED status are published over mDNS (`_ekmpush-gstat._tcp`, `_ekmpush-led._tcp`).
- Summary health. It checks both file manager workers over 60 minutes (was 15). Bandwidth figures use uptime, so clock jumps don't skew them.
- Syslog.
- rsyslog reads from the journal.
- Log lines no longer include the hostname.
- The rsyslog spool is in RAM (`/run/ekm/spool`).
- journald no longer also forwards to syslog.
- Known harmless kernel messages are dropped.
- Log rotation now works by sending rsyslog HUP.
- Clock.
- The RTC is marked bad when it is more than 10 minutes off internet time.
- A new uptime tracker (`last_good_adjustment.sh`) keeps the trusted time moving forward across reboots without internet.
- The release time is used as the minimum.
- Reboots. Disks are synced before a forced reboot.

Updates, recovery and storage

- Recovery downloads. Recovery images are downloaded in 2 passes, then retried once every 30 days if both fail; it used to retry forever.
- Recovery reinstall. An image set needs `version.txt` to count as valid. Reinstall triggers are skipped when no recovery images exist, so the snaps are never wiped without something to reinstall.
- Storage formatting. It refuses unsafe targets, so it can never format the eMMC.
- Storage folders. New cache and state folders on storage; the cached TOU settings moved to cache.
- OS update. It cleans up the old Avahi autoipd files and restarts journald and rsyslog at the end.

Setup button

- Factory reset counter. The press counter resets when the button is released, so short presses no longer add up to a factory reset (more than 30 seconds held).

Push4 support (same build, Push4 hardware only)

- Builds and names. Architecture-specific snaps and file names (`ekmpush4*`).
- Hardware. Storage, EEPROM and MAC address, multiple serial ports, RS485 mode, user button through GPIO keys, and WS2812 status LEDs.
- Wi-Fi. The scan includes 5 GHz.
- AP mode. The radio is reset before hostapd starts.
- System. Flash scripts, SSH banner and fstab.

Wi-SUN (in the build; used only with Wi-SUN hardware)

- Border router. wsbrd v2.9.1, with PAN state saved to eMMC and restored before startup and reboot.
- Read loop. It adds a Wi-SUN read loop when tun0 is present.

Release — 2026-08-20

Agent version: `3.260820050`
Changes since: `3.260725124`

Updater version: `3.260820021`
Changes since: `3.260725005`

New features

- Added eBus support over MQTT using the eBus SDK and Homie 5 device model. Meter data is mapped through the bundled eBus specification, with support for MQTT authentication, TLS, device availability, retained discovery data, and per-device field selection.
- Added selectable Raw, Home Assistant, and eBus MQTT integrations. Each mode keeps its own device and field configuration so switching modes does not overwrite another mode's setup.
- Added local MQTT broker discovery through mDNS/DNS-SD, including support for multiple MQTT service types.
- Added an option to create MQTT components automatically when configuring a device.

- Added authenticated WebDAV access to the gateway data archive, including safe file access, collection/directory listings, and links from the meter and ioStack pages.
- Added internet-based trigger conditions and commands.
- Added native multi-serial-port startup support on ARM64 gateways.
- Added Push4 WS2812 status LED support, including internet-state indication, LED mirroring, retry handling, and controlled shutdown behavior.
- Added automatic IPv4 link-local (APIPA) fallback on Ethernet when DHCP is unavailable, with removal of the fallback address when normal networking returns.

Fixes and improvements

- Moved device reading into a dedicated worker and centralized serial-device ownership, improving read-loop responsiveness, shared-state handling, port reassignment, reconnection, and multi-bus probe reliability.
- Improved bus-probe failure handling and logging so probe errors do not leave the read loop in an invalid state.
- Improved MQTT mode transitions by clearing obsolete retained discovery and availability topics when devices or integrations change.
- Improved MQTT device-field configuration and validation across meter and ioStack devices.
- Consolidated meter and ioStack field metadata on the `ekmdevice` definitions and removed the obsolete duplicate JSON and JavaScript field tables.
- Improved meter protocol selection so meter pages consistently use the protocol associated with the configured meter version.
- Improved WebDAV path validation, URL handling, XML collection responses, and directory navigation while preventing access outside the data archive.
- Increased the web server's per-IP connection allowance for concurrent local requests.
- Improved DHCP failure handling so startup failures are retried without immediately restarting otherwise healthy network interfaces.
- Improved setup Wi-Fi recovery by restarting the associated Wi-Fi interface when Ethernet is unavailable.
- Improved network and internet-state coordination between network monitoring and Push4 LED reporting.
- Improved recovery-image downloads with stronger validation before an image is accepted or installed.
- Improved OS update synchronization and preservation of required network configuration, permissions, hooks, and MAC-address setup.

- Increased the captive-portal reboot delay to allow configuration changes to finish cleanly before restart.

Version history before the release notes

Reference only. This is the version history reconstructed from the gstat snapshot and git history, itemized by commit date. The release notes above describe the current behavior.

Source: gstat snapshot `2026-11-26_090155.json` (8,385 Production gateways). "Gateways" is the number of gateways on that version in this snapshot.

Date comes from the version number when it has one. Otherwise it comes from the first device_agent git tag that contains that version. Rows marked "unknown" have no recoverable date; they are listed first, sorted by version.

Date	Component	Version	Gateways	Date source
unknown	ekmpush	`0`*	4	unknown
unknown	ekmpushupdater	`0`*	7	unknown
unknown	ekmpushupdater	`0.0623`	1	unknown
unknown	ekmpushupdater	`0.0640`	1	unknown
unknown	ekmpushupdater	`0.0641`	5	unknown
unknown	ekmpushupdater	`0.0644`	3	unknown
unknown	ekmpushupdater	`0.0787`	22	unknown
unknown	ekmpushupdater	`0.0794`	11	unknown
unknown	ekmpushupdater	`0.0799`	83	unknown
unknown	ekmpushupdater	`0.0803`	75	unknown
unknown	ekmpushupdater	`0.0810`	198	unknown
unknown	ekmpushupdater	`0.0811`	1	unknown
unknown	ekmpushupdater	`0.0815`	61	unknown
unknown	ekmpushupdater	`0.0817`	208	unknown
unknown	ekmpushupdater	`0.0821`	24	unknown
unknown	ekmpushupdater	`0.0824`	464	unknown
unknown	ekmpushupdater	`0.0825`	311	unknown
unknown	ekmpushupdater	`0.0828`	596	unknown

Date	Component	Version	Gateways	Date source
unknown	ekmpushupdater	`0.0833`	552	unknown
unknown	ekmpushupdater	`0.0842`	333	unknown
unknown	ekmpushupdater	`0.0854`	2	unknown
unknown	ekmpush	`1.6597`	1	unknown
unknown	ekmpushupdater	`2.0`*	4	unknown
2022-11-16	ekmpush	`1.6740`	1	git tag
2023-01-30	ekmpush	`1.6785`	1	git tag
2023-02-15	ekmpush	`1.6795`	12	git tag
2023-02-16	ekmpush	`1.6796`	19	git tag
2023-03-15	ekmpush	`1.6811`	418	git tag
2023-06-08	ekmpush	`1.6819`	1	git tag
2023-10-13	ekmpush	`1.6829`	215	git tag
2024-01-01	ekmpush	`1.6840`	1335	git tag
2024-05-30	ekmpush	`1.6852`	303	git tag
2024-07-23	ekmpush	`1.6859`	311	git tag
2024-11-19	ekmpush	`1.6874`	331	git tag
2025-01-18	ekmpushupdater	`1.250118135`	6	version number
2025-02-21	ekmpush	`1.7250221190`	33	version number
2025-02-24	ekmpushupdater	`1.250224152`	49	version number
2025-04-08	ekmpush	`1.7250408202`	24	version number
2025-04-17	ekmpushupdater	`1.250417162`	3	version number
2025-04-18	ekmpush	`1.7250418223`	153	version number
2025-04-19	ekmpushupdater	`1.250419012`	192	version number
2025-04-23	ekmpushupdater	`1.250423152`	91	

Date	Component	Version	Gateways	Date source
				version number
2025-05-01	ekmpush	`1.7250501203`	83	version number
2025-08-29	ekmpushupdater	`1.250829173`	1	version number
2025-08-30	ekmpushupdater	`1.250830052`	28	version number
2025-08-31	ekmpush	`1.7250831000`	10	version number
2025-09-01	ekmpush	`1.7250901205`	132	version number
2025-09-11	ekmpush	`1.7250911070`	7	version number
2025-09-18	ekmpushupdater	`2.250918204`	13	version number
2025-09-29	ekmpushupdater	`2.250929182`	14	version number
2025-10-08	ekmpushupdater	`2.251008024`	1	version number
2025-10-08	ekmpushupdater	`2.251008032`	6	version number
2025-10-17	ekmpush	`1.7251017111`	5	version number
2025-10-17	ekmpush	`1.7251017191`	15	version number
2025-10-17	ekmpushupdater	`2.251017030`	1	version number
2025-10-17	ekmpushupdater	`2.251017161`	3	version number
2025-10-18	ekmpushupdater	`2.251018030`	7	version number
2025-10-18	ekmpushupdater	`2.251018225`	7	version number

Date	Component	Version	Gateways	Date source
2025-10-19	ekmpushupdater	`2.251019224`	16	version number
2025-10-22	ekmpushupdater	`2.251022220`	45	version number
2025-10-23	ekmpushupdater	`2.251023070`	4	version number
2025-10-24	ekmpush	`2.251024143`	21	version number
2025-10-29	ekmpush	`2.251029191`	4	version number
2025-10-29	ekmpushupdater	`2.251029160`	4	version number
2025-11-15	ekmpush	`2.251115150`	1	version number
2025-11-15	ekmpushupdater	`2.251115033`	11	version number
2025-11-16	ekmpush	`2.251116194`	48	version number
2025-11-16	ekmpushupdater	`2.251116185`	17	version number
2025-11-17	ekmpushupdater	`2.251117214`	2	version number
2025-11-17	ekmpushupdater	`2.251117224`	4	version number
2025-11-19	ekmpushupdater	`2.251119205`	3	version number
2025-11-20	ekmpushupdater	`2.251120232`	4	version number
2025-11-22	ekmpushupdater	`2.251122155`	2	version number
2025-11-26	ekmpushupdater	`2.251126153`	1	version number
2025-11-26	ekmpushupdater	`2.251126233`	32	version number

Date	Component	Version	Gateways	Date source
2025-12-03	ekmpush	`2.251203225`	4	version number
2025-12-04	ekmpushupdater	`2.251204035`	6	version number
2025-12-05	ekmpushupdater	`2.251205025`	72	version number
2025-12-07	ekmpush	`2.251207174`	114	version number
2025-12-08	ekmpush	`3.251208050`	4	version number
2025-12-12	ekmpushupdater	`3.251212215`	2	version number
2025-12-19	ekmpush	`3.251219041`	4	version number
2025-12-19	ekmpushupdater	`3.251219032`	3	version number
2025-12-20	ekmpushupdater	`3.251220190`	1	version number
2025-12-21	ekmpush	`3.251221211`	13	version number
2025-12-23	ekmpushupdater	`3.251223033`	18	version number
2025-12-26	ekmpush	`3.251226023`	1	version number
2025-12-26	ekmpushupdater	`3.251226222`	2	version number
2025-12-27	ekmpush	`3.251227020`	16	version number
2025-12-30	ekmpushupdater	`3.251230112`	1	version number
2025-12-30	ekmpushupdater	`3.251230172`	11	version number
2026-01-10	ekmpush	`3.260110040`	5	version number

Date	Component	Version	Gateways	Date source
2026-01-13	ekmpushupdater	`3.260113230`	5	version number
2026-01-14	ekmpushupdater	`3.260114164`	124	version number
2026-01-15	ekmpush	`3.260115230`	122	version number
2026-02-25	ekmpush	`3.260225234`	87	version number
2026-03-06	ekmpushupdater	`3.260306090`	4	version number
2026-03-11	ekmpushupdater	`3.260311174`	67	version number
2026-04-10	ekmpushupdater	`3.260410200`	3	version number
2026-04-20	ekmpushupdater	`3.260420161`	1	version number
2026-04-21	ekmpushupdater	`3.260421024`	1	version number
2026-04-21	ekmpushupdater	`3.260421205`	5	version number
2026-04-24	ekmpushupdater	`3.260424200`	4	version number
2026-04-27	ekmpush	`3.260427211`	33	version number
2026-04-28	ekmpushupdater	`3.260428150`	32	version number
2026-05-15	ekmpush	`3.260515111`	4	version number
2026-05-15	ekmpushupdater	`3.260515124`	4	version number
2026-05-21	ekmpush	`3.260521151`	1	version number
2026-05-21	ekmpushupdater	`3.260521165`	16	version number

Date	Component	Version	Gateways	Date source
2026-05-22	ekmpush	`3.260522055`	16	version number
2026-06-02	ekmpush	`3.260602212`	18	version number
2026-06-03	ekmpush	`3.260603045`	1	version number
2026-06-03	ekmpushupdater	`3.260603003`	3	version number
2026-06-03	ekmpushupdater	`3.260603044`	1	version number
2026-06-04	ekmpush	`3.260604225`	6	version number
2026-06-04	ekmpushupdater	`3.260604230`	23	version number
2026-06-07	ekmpush	`3.260607064`	3	version number
2026-06-07	ekmpushupdater	`3.260607162`	2	version number
2026-06-08	ekmpush	`3.260608001`	6	version number
2026-06-09	ekmpush	`3.260609163`	320	version number
2026-06-09	ekmpushupdater	`3.260609163`	5	version number
2026-06-12	ekmpushupdater	`3.260612084`	1	version number
2026-06-12	ekmpushupdater	`3.260612201`	320	version number
2026-06-20	ekmpush	`3.260620171`	26	version number
2026-06-22	ekmpush	`3.260622082`	154	version number
2026-06-22	ekmpushupdater	`3.260622082`	173	version number

Date	Component	Version	Gateways	Date source
2026-06-30	ekmpushupdater	`3.260630003`	39	version number
2026-07-01	ekmpush	`3.260701155`	37	version number
2026-07-03	ekmpush	`3.260703153`	1	version number
2026-07-14	ekmpushupdater	`3.260714060`	1	version number
2026-07-17	ekmpush	`3.260717033`	2741	version number
2026-07-17	ekmpushupdater	`3.260717212`	2640	version number
2026-07-18	ekmpushupdater	`3.260718145`	105	version number
2026-08-06	ekmpush	`3.260806140`	2	version number
2026-08-19	ekmpushupdater	`3.260819184`	118	version number
2026-08-20	ekmpush	`3.260820050`	117	version number
2026-08-26	ekmpushupdater	`3.260826184`	1	version number
2026-09-02	ekmpush	`3.260902175`	1	version number
2026-10-09	ekmpush	`3.261009001`	4	version number
2026-10-09	ekmpush	`3.261009194`	1	version number
2026-10-09	ekmpushupdater	`3.261009020`	1	version number
2026-10-09	ekmpushupdater	`3.261009040`	3	version number
2026-10-09	ekmpushupdater	`3.261009200`	1	version number

Date	Component	Version	Gateways	Date source
2026-10-10	ekmpush	`3.261010220`	78	version number
2026-10-10	ekmpushupdater	`3.261010220`	78	version number
2026-10-11	ekmpush	`3.261011161`	130	version number
2026-10-11	ekmpush	`3.261011171`	1	version number
2026-10-11	ekmpushupdater	`3.261011161`	130	version number
2026-10-12	ekmpush	`3.261012025`	1	version number
2026-10-12	ekmpushupdater	`3.261012024`	1	version number
2026-10-15	ekmpushupdater	`3.261015181`	316	version number
2026-10-17	ekmpush	`3.261017010`	300	version number
2026-10-20	ekmpush	`3.261020204`	16	version number
2026-10-21	ekmpushupdater	`3.261021182`	48	version number
2026-10-22	ekmpush	`3.261022161`	1	version number
2026-10-26	ekmpush	`3.261026012`	39	version number
2026-11-01	ekmpush	`3.261101165`	2	version number
2026-11-06	ekmpush	`3.261106222`	4	version number
2026-11-07	ekmpush	`3.261107051`	63	version number
2026-11-07	ekmpushupdater	`3.261107011`	64	version number

Date	Component	Version	Gateways	Date source
2026-11-11	ekmpush	`3.261111002`	6	version number
2026-11-11	ekmpushupdater	`3.261111003`	2	version number
2026-11-12	ekmpush	`3.261112031`	393	version number
2026-11-12	ekmpushupdater	`3.261112043`	396	version number
2026-11-16	ekmpush	`3.261116202`	1	version number
2026-11-16	ekmpushupdater	`3.261116230`	1	version number
2026-11-22	ekmpushupdater	`3.261122022`	1	version number

Notes

- `*` marks special versions. Read these before using the list.
- `0*` (ekmpush and ekmpushupdater): the gateway has completely failed. A `0` is normal only while a gateway is reporting during an update. If it is still sitting at `0`, it will almost never recover on its own and needs to be reflashed. If it still connects to remote support, you can try there, but the chances are very slim.
- `ekmpushupdater 2.0*`: special repair version, not a normal updater release. It is for gateways that failed to update between 2.x and 3.x (the Core 22 update). It contains report code for the known problem. Most gateways fix themselves after it installs. If one gets stuck on it and keeps reporting to the cloud, it can sometimes be repaired with the remote support console. If it never recovers, it will usually keep reading meters and sending summaries on this version.
- In the changelogs, each entry starts with `ekmpush:` or `ekmpushupdater:` to show which snap changed. `ekmpush and ekmpushupdater:` means the change touched both. Updater releases read "ekmpushupdater `version` released".

Changelog: ekmpush after 3.261116202

Order is the date each change was committed. Features that were added and later removed are left out.

2026

- 2026-11-16 ekmpushupdater `3.261116230` released. Changes: media network configuration validation and import; LED signaling when a media network configuration is applied; VFAT media handling in the data mount monitor; filesystem handling refactored in the updater scripts; OS update script and version number updated.
- 2026-11-22 ekmpushupdater `3.261122022` released. Changes: wsbrd state management refactored in scripts; OS version number updated to 3.261122016.

Changelog: ekmpush 3.261112031 to 3.261116202

2026

- 2026-11-12 ekmpushupdater `3.261112043` released. Changes: RTC bad post count logic adjusted in the gateway status monitor.
- 2026-11-13 ekmpush: Logging in the device agent aligned with the public readgateway field names.
- 2026-11-13 ekmpush: Read request state and bus loop termination managed in the read loop; serial probe backoff for unusable responses.
- 2026-11-14 ekmpush: Serial communication handling improved; RF bus handoff state management and CRC-checked loop-end frame handling; empty serial discovery handling.
- 2026-11-15 ekmpush: RF bus handling and contention management refactored; RF bus renamed to serial bus; tests added for RS485 loop-end handoff.
- 2026-11-15 ekmpush: Collision detection and collision guard logic enhanced; serial bus silence handles consecutive DONE messages; DONE guard and START/END message support added; immediate contention loss handled without a gap wait.
- 2026-11-15 ekmpushupdater: Media network configuration validation and import; LED signaling for media network configuration; VFAT media handling in the data mount monitor.

- 2026-11-15 ekmpush and ekmpushupdater: Filesystem handling refactored in the updater scripts and the Wi-SUN start script.
- 2026-11-16 ekmpush: Serial bus DONE message support; contention handling with an acknowledgment byte; contention logic for the same MAC.

Ends at ekmpush version `3.261116202`.

Changelog: ekmpush 3.261111002 to 3.261112031

2026

- 2026-11-11 ekmpushupdater `3.261111003` released. Changes: RTC bad post counts tracked in the gateway status monitor.
- 2026-11-11 ekmpush: Command handling and configuration updates refactored in the agent; EKM configuration and device agent cleaned up.
- 2026-11-11 ekmpush: HAProxy configuration and proxy settings updated to include additional API hosts.
- 2026-11-11 ekmpush: Gateway status update interval fixed at 120 seconds; it is no longer set in the cloud config.
- 2026-11-11 ekmpush: Removed the cloud settings that could turn off command handling, status sending, and read uploads (accept_commands, send_status, post_as_read); those are now always on.
- 2026-11-11 ekmpush: Fixed command messages being dropped by the accept-commands check on the command channel.
- 2026-11-11 ekmpush: The file manager summary server now comes from the account collector host instead of the post_15_summary setting.
- 2026-11-11 ekmpush: HAProxy sends the API, channels, collector, and psrv1/psrv2 hosts to the API backend pool; collector.ekmpush.com was also added to the requests proxy host list.

Ends at ekmpush version `3.261112031`.

Changelog: ekmpush 3.261107051 to 3.261111002

2026

- 2026-11-07 ekmpushupdater `3.261107011` released. Changes: `readdata` renamed to `storage_readdata` in the remote support script; BACnet

support and service monitoring; channels.ekmpush.com added to the round-robin hosts; agent build documentation and summary field rules; collector entries added to the round-robin hosts.
- 2026-11-07 ekmpush: Command tracking added to loop stats and for specific targets in the read loop.
- 2026-11-07 ekmpush: Added command tracking to the loop stats; each minute logs the slowest device command with its device, command, and outcome.
- 2026-11-10 ekmpushupdater: RTC bad post counts tracked in the gateway status monitor; OS version incremented.
- 2026-11-10 ekmpushupdater: Added automatic clearing of the RTC bad state after four successful gstat uploads.

Ends at ekmpush version `3.261111002`.

Changelog: ekmpush 3.261106222 to 3.261107051

2026

- 2026-11-06 ekmpush: Wi-SUN worker management and BACnet label handling.
- 2026-11-06 ekmpushupdater: OS version updated; collector entries added to the round-robin hosts.
- 2026-11-06 ekmpush: Added hot-add of the Wi-SUN read-loop worker: when tun0 appears the worker starts. With no Wi-SUN worker running, the agent checks for tun0 every 5 minutes. Before, a Wi-SUN link that came up after boot was not picked up until restart.
- 2026-11-06 ekmpush: Added hot-remove of the Wi-SUN worker after 30 seconds of continuous radio or transport errors (send, open, or discover). Meter timeouts do not count. Removal frees the loop, device assignments, and IPv6 entries so a dead radio no longer keeps a stuck worker alive.
- 2026-11-06 ekmpush: Per-loop command queues can grow at runtime, so a hot-added worker always has a valid queue.
- 2026-11-06 ekmpush: Fixed the BACnet gateway name length limit: it now counts the UTF-8 bytes left after the Object_Name prefix, instead of a fixed 63-character limit that could overflow.

Ends at ekmpush version `3.261107051`.

Changelog: ekmpush 3.261101165 to 3.261106222

2026

- 2026-11-01 ekmpush: `update-repo` and `build-bacnet` scripts improved for repository management.
- 2026-11-02 ekmpush: BACnet configuration page gets example placeholders and better error handling.
- 2026-11-06 ekmpush and ekmpushupdater: Agent build documentation enhanced; summary field rules added.
- 2026-11-06 ekmpush: BACnet configuration gets new settings and validation.

Ends at ekmpush version `3.261106222`.

Changelog: ekmpush 3.261026012 to 3.261101165

2026

- 2026-10-25 Requests proxy (shared): Proxy host handling aligned with the host ACLs in `haproxy.cfg`.
- 2026-10-25 ekmpush: Fixed the requests proxy sending every non-local host through the local HAProxy, where unrelated hosts were rejected. It now rewrites only the known EKM API and server hosts.
- 2026-11-01 ekmpush and ekmpushupdater: BACnet support added, with configuration management and service monitoring.
- 2026-11-01 ekmpushupdater: channels.ekmpush.com added to every round-robin host entry.
- 2026-11-01 ekmpush: The command channel subscription and pub_callback always use channels.ekmpush.com, not the configured collector host, so the channel no longer restarts when the collector host changes.
- 2026-11-01 ekmpush: Added BACnet/IP gateway support (off by default): a BACnet settings page at /config/bacnet.html, a bacnet.conf file, and a service that restarts the ekm-bacnet binary when its config changes. The build script needs BACNET_REV set and an ARM build host.

- 2026-11-01 ekmpushupdater: monitor_webhook_ports.sh watches bacnet.conf; when BACnet is enabled it adds iptables rules for the configured UDP port.

Ends at ekmpush version `3.261101165`.

Changelog: ekmpush 3.261022161 to 3.261026012

2026

- 2026-10-22 ekmpush and ekmpushupdater: `readdata` renamed to `storage_readdata` in the remote support script.
- 2026-10-22 ekmpush: Adaptive timeout handling simplified (maximum parameter removed).
- 2026-10-22 ekmpush: RF bus padding logic updated (padding fraction 0.10; renamed to padding silence).
- 2026-10-23 ekmpush: RF bus silence, loop-end, and collision guard handling added to serial communication.
- 2026-10-24 ekmpush: RF bus silence logging and timeout handling improved; loop end called only when no Wi-SUN port is present and candidates exist; maximum total timeout parameter removed.
- 2026-10-25 ekmpush: Log page handler improved: better error handling and UTF-8 decoding of log lines.

Ends at ekmpush version `3.261026012`.

Changelog: ekmpush 3.261020204 to 3.261022161

2026

- 2026-10-20 ekmpushupdater: Obsolete file manager heartbeat checks removed from the gateway status monitor; file manager workers are terminated based on summary failure.
- 2026-10-20 ekmpushupdater: `ekm_device.conf` is copied to `cloud_profile.conf` when the latter is missing, so the updater can recognize the account type with older ekmpush versions.
- 2026-10-20 ekmpush: Development logging added for accounts in the file manager.

- 2026-10-21 ekmpushupdater `3.261021182` released. Changes: `cloud_profile.conf` replaces `ekm_device.conf`; `wisunreport` command added to remote support; file manager workers terminated based on summary failure; `ekm_device.conf` copied to `cloud_profile.conf` for compatibility; devices counted by address occurrences; `readdata` function added to the remote support script; high load monitoring and reboot logic; OS version incremented.
- 2026-10-21 ekmpush: Oversized `.gz` and JSON files skipped in `process_file`; memory use reduced in `process_file`.
- 2026-10-21 ekmpushupdater: Device monitoring scripts count devices by address; `readdata` function added to the remote support script; high load monitoring and reboot logic added to the gateway status monitor.
- 2026-10-21 ekmpush: Adaptive timeout overlap handling in the data device manager (later renamed to gap timeout).
- 2026-10-22 ekmpush: Timeout logic accounts for Wi-SUN ports; CRC error logging improved for Wi-SUN ports; CRC flags reset for serial ports when not using Wi-SUN.

Ends at ekmpush version `3.261022161`.

Changelog: ekmpush 3.261017010 to 3.261020204

2026

- 2026-10-18 ekmpush: Device configuration property names standardized (`address`, `protocol`, `name`) across modules; config timestamps use integers instead of floats.
- 2026-10-18 ekmpush and ekmpushupdater: `ekm_device.conf` replaced with `cloud_profile.conf` across modules.
- 2026-10-18 ekmpush: Firmware configuration removed from GatewayConfig and the templates; reliability ratio restoration takes the age of the last archive into account.
- 2026-10-19 ekmpush: `wsbrdcli` replaces `runwisuntest`; obsolete Wi-SUN test scripts removed; unnecessary build dependencies (cargo, libdbus-1-dev) removed; wsbrd integration and D-Bus policy management improved; libsystemd dependencies added for linking.
- 2026-10-20 ekmpush and ekmpushupdater: `wisunreport` command added to the ekmpush snap, replacing `wisunsignal`; remote support script updated.
- 2026-10-20 ekmpush: Mesh tree printing added to `wisun_report.py`.

Ends at ekmpush version `3.261020204`.

Changelog: ekmpush 3.261012025 to 3.261017010

2026

- 2026-10-12 ekmpushupdater `3.261012024` released. Changes: network scanning logic improved for SSID selection and signal strength.
- 2026-10-12 ekmpushupdater: Whitespace handling in the gateway status monitor cleaned up.
- 2026-10-13 ekmpushupdater: Redundant heartbeat checks removed from the gateway status monitor; time retrieval in `settime.sh` improved with locking.
- 2026-10-14 ekmpushupdater: Time offset logging in `settime.sh` improved; data mount monitor sets time conditionally; file reading logic improved across scripts; RTC_BAD_FILE checks added to the storage failure condition and to LED state, reboot, and `settime.sh` scripts; premature storage failure logging prevented on first pass; systemd service file permissions changed in the OS update scripts; unused netfilter configuration removed from sysctl.
- 2026-10-15 ekmpushupdater `3.261015181` released. Changes: the 10-12 to 10-14 updater script changes listed above (gateway status monitor, `settime.sh` locking and time offset logging, conditional time set in the data mount monitor, file reading logic, RTC_BAD_FILE checks, OS update script permissions, sysctl cleanup).
- 2026-10-15 ekmpush: Reliability tracking moved to a rolling window (24 hours, later 12 hours); reliability values clamped between 0 and 100; float reliability buckets.
- 2026-10-16 ekmpush: Device assignment logic in the read loop streamlined; reliability calculations use equal-weight averaging of success rates across non-empty buckets, with bucket indexing relative to the start time.

Ends at ekmpush version `3.261017010`.

Changelog: ekmpush 3.261011171 to 3.261012025

2026

- 2026-10-11 ekmpushupdater `3.261011161` released. Changes: summary parity check added to the gateway status monitor.
- 2026-10-11 ekmpush: Read loop device assignment and probing intervals improved.
- 2026-10-11 ekmpush and ekmpushupdater: Network scanning logic refactored for better SSID selection and signal strength handling.
- 2026-10-11 ekmpush: Fixed bus probe replies not moving a device to the port that answered; a device that changed ports stayed on its old, silent port.
- 2026-10-11 ekmpush: Meter and IOStack probing for missing devices runs at most once every 60 seconds per type; before, it could run on every read loop once the miss count reached 10.
- 2026-10-11 ekmpush: Meter probing uses ekmmeter.serial_broadcast_discover, which stores the Read A for the owning device without the old version check.
- 2026-10-11 ekmpush: Wi-Fi scan results are one row per SSID (strongest signal), and 5 GHz networks are now included.
- 2026-10-11 ekmpush: WPA3-only (SAE) networks are hidden from the Wi-Fi lists in web settings and the captive portal; signal strength is shown; choosing an 802.1x-only network selects WPA2-Enterprise and shows the password field.
- 2026-10-11 ekmpushupdater: The SSID cache essids.json moved to /run/ekm/state/essids.json, is written atomically, and is shared by button watch, the captive portal, and web settings.
- 2026-10-11 ekmpushupdater: ekm_net_check.sh enters setup mode based on button_press.state instead of whether essids.json exists.

Ends at ekmpush version `3.261012025`.

Changelog: ekmpush 3.261010220 to 3.261011171

2026

- 2026-10-10 ekmpushupdater `3.261010220` released. Changes: captive portal password handling and DHCP logic; recovery download logic and error handling; factory reset counter reset on user button release; OS version incremented.
- 2026-10-11 ekmpush and ekmpushupdater: Summary parity check added to the gateway status monitor; data store device read state management updated.
- 2026-10-11 ekmpushupdater: Fixed the gateway status monitor failing summary status when only one odd or even address parity has devices installed; an idle parity with no pending reads now counts as healthy.
- 2026-10-11 ekmpush: Each successful device read writes a last_device_read_odd/even state file for that parity check.

Ends at ekmpush version `3.261011171`.

Changelog: ekmpush 3.261009194 to 3.261010220

2026

- 2026-10-09 ekmpushupdater `3.261009020` released. Changes: wsbrd storage path and state sync; Wi-SUN agent and read loop; LED state monitoring and heartbeat age; IPv6 and sysctl updates; diagnostics and cache file paths; file locking in `last_good_adjustment` and `settime` scripts.
- 2026-10-09 ekmpushupdater `3.261009040` released. Changes: RTC time retrieval in `settime.sh` refined to remove trailing drift information; OS version incremented.
- 2026-10-09 ekmpushupdater `3.261009200` released. Changes: WPA key extraction logic refactored in the captive portal and network config.
- 2026-10-10 ekmpush and ekmpushupdater: Password handling and DHCP logic refactored in the captive portal and network monitor.
- 2026-10-10 ekmpush: DataTreeHandler URL construction refactored; unused static file handler removed.

- 2026-10-10 ekmpushupdater: Recovery download logic and error handling improved.
- 2026-10-10 ekmpush: Reliability tracking added to DataDevice and the read loop.
- 2026-10-10 ekmpushupdater: Factory reset counter reset on user button release; OS version incremented.

Ends at ekmpush version `3.261010220`.

Changelog: ekmpush 3.261009001 to 3.261009194

2026

- 2026-10-08 ekmpushupdater: File locking added to `last_good_adjustment` and `settime` scripts; RTC time retrieval in `settime.sh` refined; OS version incremented.
- 2026-10-08 ekmpushupdater: Fixed last_good_adjustment.sh and settime.sh racing on the last-good-time files; they now share a file lock, and the adjustment marker updates only after a successful write.
- 2026-10-08 ekmpushupdater: Fixed settime.sh failing to parse hwclock output with trailing "N.NNN seconds" drift text, which made the drift check wrong or the RTC fallback fail.
- 2026-10-09 ekmpush: MQTTManager disconnect logic and client update handling improved.
- 2026-10-09 ekmpush and ekmpushupdater: WPA key extraction logic refactored in the captive portal and network config.
- 2026-10-09 ekmpush: Fixed the MQTT client continuing to retry in the background after an authentication failure; disconnecting while not connected is no longer logged as an error.
- 2026-10-09 ekmpush: Fixed the Wi-Fi settings reader not falling back to the disabled-interface file when the main file was unreadable or empty.
- 2026-10-09 ekmpush: Fixed the Wi-Fi PSK read matching any line containing "psk=" instead of only lines that start with it, which could return a wrong key.
- 2026-10-09 ekmpushupdater: The same psk= line fix applies to the captive portal WPA key creation.

Ends at ekmpush version `3.261009194`.

Changelog: ekmpush 3.260902175 to 3.261009001

2026

- 2026-09-02 ekmpushupdater: wsbrd state sync script added with conditional rsync; wsbrd storage path added to the runtime directory script; wsbrd state sync logged before reboot.
- 2026-09-02 ekmpush: PAN state restored from eMMC into `/run` before starting wsbrd; Wi-SUN file paths reorganized.
- 2026-09-23 ekmpush and ekmpushupdater: Wi-SUN agent and read loop functionality enhanced.
- 2026-09-24 ekmpush: Adaptive timeout management and logging improved.
- 2026-09-24 ekmpushupdater: LED state monitoring and heartbeat age handling refactored.
- 2026-09-25 ekmpushupdater: IPv6 re-enabled for loopback and tun0, later for all interfaces except eth0 and wlan0; legacy sysctl configuration files removed.
- 2026-09-25 ekmpush: Reliability ratio method improved.
- 2026-10-08 ekmpush and ekmpushupdater: File paths for diagnostics and cache management updated in ekmpush scripts.
- 2026-10-08 ekmpush: Reliability tracking added and enhanced in DataDevice and the read loop, including skipped read counts and unassigned devices; account type checks refactored; client naming and MQTT configuration handling improved; reliability restoration logic enhanced and a reliability history constant introduced.

Ends at ekmpush version `3.261009001`.

Changelog: ekmpush 3.260820050 to 3.260902175

2026

- 2026-08-20 Repo: CHANGELOG updated for WebDAV path handling.
- 2026-08-23 ekmpushupdater: Avahi service restarted after a network restart.
- 2026-08-24 ekmpushupdater: Avahi service name clarified; OS version updated.

- 2026-08-24 ekmpush: WebDAV directory listing and path handling improved.
- 2026-08-24 ekmpush and ekmpushupdater: WebDAV security and access control enhanced.
- 2026-08-25 ekmpush: WebDAV authentication error messaging and configuration checks improved.
- 2026-08-25 ekmpushupdater: Remote support command handling refactored.
- 2026-08-26 ekmpushupdater: Remote support gets reboot logging, pending summaries, recovery, gateway mode, summaries reprocess, and clearer command parsing; gstat-mdns state management added in the data mount and gateway status monitors.
- 2026-08-26 ekmpushupdater `3.260826184` released. Changes: lighttpd max connections per IP raised and captive portal reboot delay changed; Avahi restart after network restart and Avahi service name; WebDAV security and access control; remote support command handling and new commands; gstat-mdns state management.
- 2026-09-01 ekmpush: Wi-SUN test app and border router support added to the snap; wsbrd moved to mbedtls 3.x (tag v2.9.1); wsbrd build and linking fixes; Wi-SUN test script improved with CRC validation.
- 2026-09-01 ekmpush and ekmpushupdater: wsbrd storage prefix and runtime directory added.
- 2026-09-02 ekmpush and ekmpushupdater: Wi-SUN wsbrd documentation added.

Ends at ekmpush version `3.260902175`.

Changelog: ekmpush 3.260806140 to 3.260820050

2026

- 2026-08-06 ekmpush: `clear_retained` method added to EbusPublisher; MQTTManager handles mode transitions.
- 2026-08-09 ekmpushupdater: Unused WPS functionality removed from button watch.
- 2026-08-17 ekmpush: WebDAV path API: path validation and safety checks, XML response for collection requests.
- 2026-08-17 ekmpush and ekmpushupdater: `data_path_api.lua` removed and WebDAV configured for data-archive access.

- 2026-08-19 ekmpushupdater `3.260819184` released. Changes: Push4 support in the updater scripts (architecture-specific build, flash, storage, button, LED, EEPROM, network scanning, hostapd SSID, rsyslog/journald, sysctl, RTC and time handling, error pages and branding, SSH banner, MAC handling); wpa_supplicant function library; storage formatting safety checks; file manager odd/even worker parity; internet trigger; recovery image validation; link-local connectivity policy, DHCP failure handling and APIPA address assignment; WPS functionality (later removed); WebDAV support; LED control and recovery image validation.
- 2026-08-19 ekmpush and ekmpushupdater: README AI project notes added; WebDAV directory listing improved; lighttpd max connections per IP raised; captive portal reboot delay changed.
- 2026-08-19 ekmpush: Device field handling refactored and deprecated JSON files removed; IOStack page field value handling improved.
- 2026-08-20 ekmpush: Meter protocol handling in `metershandler.py` improved for version management.

Ends at ekmpush version `3.260820050`.

Changelog: ekmpush 3.260717033 to 3.260806140

2026

- 2026-07-17 ekmpushupdater `3.260717212` released. Changes: RS485 diagnostic script help text and command handling; Wi-Fi restart logic in the network monitoring script.
- 2026-07-18 ekmpushupdater `3.260718145` released. Changes: password visibility toggle in the captive portal template.
- 2026-07-18 ekmpush: Bluetooth connection script added; data path validation and directory listing improved.
- 2026-07-19 ekmpush and ekmpushupdater: Push4 support: snap build scripts, error pages, and branding made architecture-specific.
- 2026-07-19 ekmpushupdater: autoflash, flashemmc, data mount scripts, SSH banner, and mksnap made architecture-specific.
- 2026-07-19 ekmpush: `start-agent.sh` serial port handling made architecture-specific.
- 2026-07-20 ekmpushupdater: Push4: MAC address handling, sysctl and rsyslog/journald configuration, GPIO button handling, LED handling and EEPROM access, network scanning frequency filtering, RTC drift check and

`settime.sh` rework, wpa_supplicant function library, time handling and status lock management.

- 2026-07-20 ekmpush: Ethernet MAC shown on the network page; network interface validation in `get_hwkey`.
- 2026-07-21 ekmpushupdater: Hostapd SSID format made consistent and set from the hostname; storage formatting safety checks; journald config file removed; network monitor delay removed.
- 2026-07-21 ekmpush: Ethernet MAC ID and network interface status shown on the status page.
- 2026-07-22 ekmpush: RS485 diagnostics: serial port options, lock checks against the read loop, port scanning, Push4 RS485 mode (07-23).
- 2026-07-23 ekmpush: Serial port reconnection improved in DataDeviceManager.
- 2026-07-24 ekmpush: `assigned_port` added to DataDevice; SFTP summary logging; positive rate thresholds enforced for DataRateCondition; skip counting and logging for summary and SFTP failures; CSV comments and string fields; random skip count for device read loops; command queue sized by configured ports; command routing refactored.
- 2026-07-24 ekmpush and ekmpushupdater: File manager supports odd/even worker parity.
- 2026-07-24 ekmpushupdater: Gateway status monitor recent file check duration extended; OS version updated.
- 2026-07-25 ekmpush: Trigger management in the read loop; dedicated worker thread for read loop processing; BusProbeState and SerialDeviceManager integrated.
- 2026-07-25 ekmpush and ekmpushupdater: Internet trigger; multiple serial ports for arm64 in `start-agent.sh`.
- 2026-07-25 ekmpushupdater: Recovery image validation and download improved.
- 2026-07-28 ekmpushupdater: Push4 LED control enhancements; LED mirroring and brightness; LED retry logic with adjustable backoff (07-29).
- 2026-07-29 ekmpush and ekmpushupdater: eBus SDK support added; MQTT configuration enhanced; eBus integration refactored (07-30).
- 2026-08-02 ekmpushupdater: Connectivity policy supports link-local addresses; DHCP failure handling improved; avahi-autoipd installed and removed (08-05) in favor of APIPA address assignment in the network monitor.
- 2026-08-05 ekmpushupdater: WPS functionality in button watch; internet state management in LED and network monitors.
- 2026-08-05 ekmpush and ekmpushupdater: WebDAV support in lighttpd.
- 2026-08-05 ekmpush: WebDAV links on the IOStack and meter pages; MQTT device configuration `create_components` parameter.

- 2026-08-06 ekmpush: MQTT broker browsing handles multiple service types; avahi-utils added to the snap.

Ends at ekmpush version `3.260806140`.

Changelog: ekmpush 3.260703153 to 3.260717033

There is no tag for 3.260703153. Commits are split at 2026-07-03.

2026

- 2026-07-04 ekmpush: Device command handling and normalization added to the command queue.
- 2026-07-04 ekmpushupdater: Remote support script commands, help, and syslog handling; recovery version handling in the gateway status monitor (07-04 to 07-05).
- 2026-07-05 ekmpush: `scan_slots_full` flag added to the OneWire inventory refresh.
- 2026-07-06 ekmpush: Data upload and read loop improved; DataDevice timeout handling refactored; dead-meter backoff logic added.
- 2026-07-07 ekmpush: Connectivity configuration handler and templates added; summary server assignment, data uploading, and command processing check the firewall mode.
- 2026-07-07 ekmpushupdater: Wi-Fi WPA key generation, captive portal, and Wi-Fi configuration handling; time sync logic in `settime.sh`; connectivity policy in `rc.local`; gateway change detection in the network monitor; firewall mode in the gateway status monitor and firewall LED status; `@@INTERNET_ONLINE@@` token for internet status; firewall checks in the updater scripts.
- 2026-07-07 ekmpush: DataDevice timeout handling improved.
- 2026-07-08 ekmpush: RF bus padding sleep added; DataDevice logging includes more read metrics.
- 2026-07-09 ekmpush: Serial port configuration improved; inter-byte timeout calculation fixed; adaptive timeout settings refined (minimum 15.0 seconds); RS485 diagnostic functions added.
- 2026-07-10 ekmpush: Reliability ratio tracking and restoration from archives added to DataDevice; error logging includes the largest byte gap; meter address normalized; configurable parameters for device removal.
- 2026-07-10 ekmpushupdater: Gateway status monitoring logic improved.
- 2026-07-11 ekmpush: DataDevice uses monotonic time for timestamps.

- 2026-07-12 ekmpush: Serial port reset and device type change handling improved; Wi-SUN detection added; Meter class error handling and read throttling; read data retry logic simplified.
- 2026-07-13 ekmpush: `GetOneWireBuses` command added; time synchronization adjustments and read harvesting; temporary autodiscover patch removed.
- 2026-07-14 ekmpush: Read handling, session handling, and timeout management refined; public parameter handling and settings logging.
- 2026-07-14 ekmpushupdater `3.260714060` released. Changes: remote support script commands, help, and syslog handling; recovery version handling; Wi-Fi WPA key generation, captive portal, and Wi-Fi configuration handling; time synchronization logic; connectivity configuration and policy (rc.local); gateway change detection and network monitoring; firewall mode and firewall LED status; `@@INTERNET_ONLINE@@` token for internet status; updater scripts firewall checks.
- 2026-07-15 ekmpush and ekmpushupdater: RS485 diagnostic help text and command handling.
- 2026-07-15 ekmpush: `json_to_csv` and CSV handling improved; session retry logic; time sync bad drift count in DataDevice.
- 2026-07-16 ekmpush: Timestamp handling in the read loop improved; meter reading handles multiple protocols.

Ends at ekmpush version `3.260717033`.

Changelog: ekmpush 3.260701155 to 3.260703153

There is no tag for 3.260703153. Commits are split at 2026-07-03.

2026

- 2026-07-01 ekmpush: Command channel process logic fixed; retry wait added for the firmware update command.
- 2026-07-02 ekmpush: IOStack firmware update: retry wait, `max_retries`, attempts-based status verification, serial timeout configuration, error handling and retry error reporting, progress reporting with block count.
- 2026-07-02 ekmpush: Last read error handling and adaptive timeout adjustments in DataDevice; time synchronization logic; unneeded IOStack slot fields removed from skip fields.

- 2026-07-03 ekmpush: Firmware update retry logic, block size calculation, and progress reporting adjusted; settings timeout and command timeout handling added; data uploading enhanced.

Ends at ekmpush version `3.260703153`.

Changelog: ekmpush 3.260622082 to 3.260701155

2026

- 2026-06-22 ekmpushupdater `3.260622082` released. Changes: updater only updates the ekmpushapp image when no ekmpush snaps remain to update first; remote support file search covers more JSON file extensions; pending file estimates include middle-directory files; data mount function error handling and logging; ekmpushapp started with the new script; OS version incremented.
- 2026-06-22 ekmpush: IOStack firmware update gets a force reset NVRAM option.
- 2026-06-23 ekmpush: OneWire name caching, `SetOneWireName` and `ClearOneWireNameAndHoldSlot` commands, and sorted OneWire inventory by slot ID; error handling in command processing.
- 2026-06-23 ekmpush and ekmpushupdater: Monotonic time functions used across scripts; heartbeat handling and time management updated.
- 2026-06-24 ekmpush: Timestamp validation in DataAPIHandler improved.
- 2026-06-25 ekmpush: OneWire field names, descriptions, and types (float, with precision) updated in the JSON configuration.
- 2026-06-26 ekmpush: OneWire name caching and overlay refactored; names and fields cached and retrieved.
- 2026-06-29 ekmpush: OneWire JSON fields for temperature, humidity, and lux added for slots 01 to 09; data source field and units added; MQTT error handling and configuration validation improved; legacy firmware update handling enhanced.
- 2026-06-30 ekmpushupdater `3.260630003` released. Changes: monotonic time functions across scripts and heartbeat handling; time management in EKM scripts; agent version and syslog handling in the remote support script.
- 2026-06-30 ekmpush: Device check functionality added in settings; legacy IOStack firmware update utilities removed.
- 2026-07-01 ekmpush: Device check logic refactored with a verification option; firmware update process refactored.

Ends at ekmpush version `3.260701155`.

Changelog: ekmpush 3.260620171 to 3.260622082

2026

- 2026-06-20 ekmpushupdater: Remote support file search covers more JSON file extensions; pending file estimates include middle-directory files; OS version updated.
- 2026-06-20 ekmpushupdater: The pending-file summary counts .json files (not only *.json) and reports an estimated pending total, assuming 96 files per middle directory.
- 2026-06-22 ekmpushupdater: Data mount function error handling and logging improved.
- 2026-06-22 ekmpushupdater: ekmpushapp started through the new script in the updater and LED state monitor.
- 2026-06-22 ekmpushupdater: Fixed the mount monitor returning success after a storage check failed and could not be repaired; a failing ext4 volume is left in place and ekmpush is not stopped for it.
- 2026-06-22 ekmpushupdater: The mount monitor restarts ekmpush whenever it stopped it, using a new EKMPUSH_STOPPED flag. Before, the restart depended on EXTERNAL_STORAGE_MOUNTED, so the app could stay stopped.
- 2026-06-22 ekmpushupdater: updater.py and monitor_led_states.sh start the app directly with manage_ekmpush_app.sh start, instead of only touching the lock file and waiting for the mount monitor.

Ends at ekmpush version `3.260622082`.

Changelog: ekmpush 3.260609163 to 3.260620171

2026

- 2026-06-09 ekmpushupdater `3.260609163` released. Changes: logs work off the RAM drive; gz read files supported; reads written to the run directory; data path and lighttpd configuration updates; app management and monitor scripts updated.
- 2026-06-09 ekmpush: Data store updated.

- 2026-06-12 ekmpushupdater `3.260612084` released. Changes: LED state monitor and ekmpush app management updated; `.gitignore` updated.
- 2026-06-12 ekmpushupdater `3.260612201` released. No update details available.
- 2026-06-17 ekmpush: File manager refactored to use constants for directory paths and to streamline state file handling; utility functions moved to `ekm_fm_functions`.
- 2026-06-18 ekmpush: Upload interval configuration simplified; minimum upload interval enforced; legacy device checks removed from config and file manager.
- 2026-06-20 ekmpush: Logging in the file manager simplified.

Ends at ekmpush version `3.260620171`.

Changelog: ekmpush 3.260608001 to 3.260609163

2026

- 2026-06-07 ekmpush: Version, data store, and file manager function updates.
- 2026-06-08 ekmpushupdater: Updater and ekmpush app management updated.
- 2026-06-08 ekmpush and ekmpushupdater: Logs work off the RAM drive; data path, lighttpd, and runtime directory configuration updated; file manager supports reading gz files; reads are written to the run directory; device data, data store, and file system monitor updated.
- 2026-06-09 ekmpush: Data store and file manager function updates.

Ends at ekmpush version `3.260609163`.

Changelog: ekmpush 3.260607064 to 3.260608001

2026

- 2026-06-07 ekmpushupdater `3.260607162` released. Changes: start scripts and install/update scripts for the updater, file manager, and web services; button watch; network monitoring; LED scripts; data mount and file system monitors; OS update script.

- 2026-06-07 ekmpush: Data device, settings, data store, config, and read loop updates.
- 2026-06-07 ekmpush: Time sync interval removed completely.
- 2026-06-07 ekmpush: Config, device agent, and device config updated.
- 2026-06-07 ekmpushupdater: monitor_leds, monitor_network, and monitor_data_mounts start from new systemd units instead of rc.local; os_update.sh enables every /ekm/ systemd service; the LED monitor writes led_red at start.
- 2026-06-07 ekmpush: Fixed commands running with the wrong serial timeout after a port is reconfigured; the timeout now resets from the device adaptive read timeout.
- 2026-06-07 ekmpush: Removed the weekly device time sync. Time sync now runs only when measured clock drift is detected, and the drift value is passed to sync_time.
- 2026-06-07 ekmpush: Fixed devices that were offline at boot missing their one-wire scan and TOU fetch; a one-time startup command per device now runs after its first successful read.
- 2026-06-07 ekmpush: Fixed ekm_file_manager failing when the post_15_summary_flag or summary_server keys were missing; the old devices config layout is no longer supported.
- 2026-06-07 ekmpush: Removed the serial_port_timeout, use_legacy_meter_api, read_interval, and meter_timesync_interval config keys; gateways that still set them get defaults (60-second send interval).

Ends at ekmpush version `3.260608001`.

Changelog: ekmpush 3.260604225 to 3.260607064

2026

- 2026-06-04 ekmpushupdater `3.260604230` released. Changes: updater client and gateway status monitor; data mount and snappy recovery monitors; OS version updated.
- 2026-06-05 ekmpush and ekmpushupdater: Start scripts for the agent, file manager, web, lighttpd, and haproxy reworked; RS485 diagnostics updated.
- 2026-06-05 ekmpush and ekmpushupdater: Boot and start timing changed: the fixed 50 to 90 second sleeps before services are removed; restart loops sleep after a crash; data mounts start the app themselves unless the data directory is tmpfs or external storage is not mounted; a

lock stops two OS updates from running at once; heartbeat files replace the .ok lock files.
- 2026-06-06 ekmpushupdater: Install/update, OS update, updater client, and ekmpush app management scripts updated.
- 2026-06-06 ekmpushupdater: Button watch, network monitor, LED scripts, data mount and file system monitors, and avahi configuration updated (many commits).
- 2026-06-06 ekmpush and ekmpushupdater: Snap build script and runtime directory scripts updated.
- 2026-06-06 ekmpushupdater: Fixed monitor_file_system cleanup find command using the wrong path; it now scans /var/log and skips missing data directories.
- 2026-06-06 ekmpushupdater: manage_ekmpush_app.sh logs failed snap stop/start, unmount, and loop mount commands instead of ignoring them; empty md5 files are caught; install_update.sh starts the app through this script.
- 2026-06-06 ekmpushupdater: Repairs a missing or wrong md5 file for a staged ekmpushapp image and triggers a mount recheck.
- 2026-06-06 ekmpushupdater: Fixed Wi-Fi button and AP mode: button_watch checks the button during the 80-second startup scan (presses were missed before) and writes a heartbeat; monitor_network sets the LED to interactive only once hostapd, wlan0, dnsmasq, and the captive portal are up.
- 2026-06-06 ekmpush: The agent skips serial reads and slows its loop to 10 seconds while an RS485 diagnostic runs; start-agent.sh runs the full serial scan in the background so the agent starts right away; the diagnostic probes v4 only.
- 2026-06-07 ekmpush and ekmpushupdater: Updater and file manager start scripts updated.

Ends at ekmpush version `3.260607064`.

Changelog: ekmpush 3.260603045 to 3.260604225

2026

- 2026-06-03 ekmpushupdater `3.260603003` released. Changes: LED monitor and LED state scripts; requests proxy; snappy recovery monitor; file manager updates (05-21 to 06-02).

- 2026-06-03 ekmpushupdater `3.260603044` released. Changes: LED state monitor, gateway status monitor, network monitor, and `settime.sh` updates.
- 2026-06-04 ekmpushupdater: Updater client and gateway status monitor updated.
- 2026-06-04 ekmpush and ekmpushupdater: IOStack and summary data pages updated.
- 2026-06-04 ekmpushupdater: Data mount and snappy recovery monitors updated.
- 2026-06-04 ekmpush: Summary data page updated.
- 2026-06-04 ekmpush: Fixed the IO stack auto-refresh timer calling undefined functions and variables; the summary page handles the new timestamp fields and non-JSON error replies.
- 2026-06-04 ekmpushupdater: Fixed the factory-reset button check running five times with no delay; it now runs for about 5 seconds, and the status lock clears if the button is not pressed.
- 2026-06-04 ekmpushupdater: monitor_data_mounts keeps a first-mount state file, so a monitor restart no longer repeats first-mount handling.
- 2026-06-04 ekmpushupdater: monitor_gateway_status honors the LED status lock regardless of how old status.state is.

Ends at ekmpush version `3.260604225`.

Changelog: ekmpush 3.260602212 to 3.260603045

2026

- 2026-06-02 ekmpushupdater: LED state, LED, snappy recovery, and `settime.sh` monitors updated.
- 2026-06-02 ekmpush and ekmpushupdater: Gateway status and network monitors, data store, and read loop updated.
- 2026-06-02 ekmpushupdater: Gateway status monitor updated.
- 2026-06-02 ekmpush: Clock-drift state and time-sync checks run only when the local data write succeeded; reads no longer force a serial port reconfigure on recovery.
- 2026-06-02 ekmpush: The gateway status script judges reads healthy from last_device_read.state, since last_read_created.state is no longer written.
- 2026-06-02 ekmpushupdater: Fixed monitor_snappy_recovery.sh erroring when ekm_device.conf was missing; the Production count now defaults to 0.

- 2026-06-02 ekmpushupdater: monitor_led_states.sh checks the RS485 device config only when the file changes and uses fewer subprocess calls, which lowers CPU use.

Ends at ekmpush version `3.260603045`.

Changelog: ekmpush 3.260522055 to 3.260602212

2026

- 2026-06-01 ekmpush: Data uploader, command queue, and file manager updated.
- 2026-06-01 ekmpushupdater: LED monitor and requests proxy updated (several commits).
- 2026-06-01 ekmpush and ekmpushupdater: LED monitor, LED state monitor, command queue, read loop, and file manager updated.
- 2026-06-02 ekmpush and ekmpushupdater: Shell LED code refined.

Ends at ekmpush version `3.260602212`.

Changelog: ekmpush 3.260521151 to 3.260522055

2026

- 2026-05-21 ekmpushupdater `3.260521165` released. Changes: failing RTC checks in the monitoring scripts; build scripts excluded from the snap; time falls back to device time; router restart trigger support; read and summary status checks optimized.
- 2026-05-21 ekmpush: MQTT configuration page updated.
- 2026-05-21 ekmpush and ekmpushupdater: File manager updated.
- 2026-05-21 ekmpush: Fixed the pending-summaries counter double-counting the emergency store and counting remaining days beyond the one-year limit; the count now decrements only when a file is handled.
- 2026-05-21 ekmpush: The MQTT config page shows the Data field selector for every MQTT device, not only inside the Home Assistant discovery section.

Ends at ekmpush version `3.260522055`.

Changelog: ekmpush 3.260515111 to 3.260521151

2026

- 2026-05-15 ekmpushupdater `3.260515124` released. Changes: repos joined and build scripts updated for the merged repo; run directory organized; config file locations cleaned up; shell scripts build with shared functions; LED state files replace direct LED script calls; central LED daemon; LED queues removed; data mount and LED monitor updates.
- 2026-05-18 ekmpush and ekmpushupdater: Device agent skips setting device times if the time is bad.
- 2026-05-18 ekmpush: Device address and device time state file added; timezone adjustment and read time added to the state file.
- 2026-05-18 ekmpush: Config update interval removed (fixed at five minutes); dead config fields cleaned out; manual time sync value removed (05-19).
- 2026-05-20 ekmpush: Adaptive timeout and timeout touch-ups in the data device.
- 2026-05-20 ekmpush: Home Assistant MQTT filter added so only requested fields are streamed.
- 2026-05-20 ekmpush and ekmpushupdater: Reads and summary status checks optimized.
- 2026-05-21 ekmpush and ekmpushupdater: File manager and gateway status updates.

Ends at ekmpush version `3.260521151`.

Changelog: ekmpush 3.260427211 to 3.260515111

2026

- 2026-04-28 ekmpushupdater `3.260428150` released. No update details available.
- 2026-04-30 ekmpush: Makefile, pyproject, config, constants, and version updated; log error fixed in the command queue.
- 2026-04-30 ekmpush and ekmpushupdater: Joined repos: the ekmpush and ekmpushupdater snap sources (`device_snaps`) and their build scripts were merged into this repo; build scripts updated for the merged repo.

- 2026-05-01 ekmpush and ekmpushupdater: Run directory organized; config file locations cleaned up.
- 2026-05-01 ekmpushupdater: `rc.local`, media auto-mount rule, and requests proxy updated.
- 2026-05-02 ekmpushupdater: Shell scripts build with shared functions.
- 2026-05-15 ekmpush and ekmpushupdater: LED handling: scripts set LED state files instead of running LED scripts directly; central LED daemon; LED to RS485 removed from the device agent; LED queues removed completely.
- 2026-05-15 ekmpushupdater: Data mount monitor and LED monitor updated.
- 2026-05-15 ekmpush: Device agent updated.

Ends at ekmpush version `3.260515111`.

Changelog: ekmpush 3.260225234 to 3.260427211

2026

- 2026-03-06 ekmpushupdater `3.260306090` released. No update details available.
- 2026-03-10 Python version and dependencies updated.
- 2026-03-10 Venv location changed to uv.
- 2026-03-10 Stream chunking disabled; CTE error handling added.
- 2026-03-10 Fix for testing on macOS.
- 2026-03-10 uv used for dev and test.
- 2026-03-10 Fix for ignored test/bin.
- 2026-03-10 Wireless open auth type fixed in the web UI.
- 2026-03-10 Missing dev utilities added.
- 2026-03-11 ekmpushupdater `3.260311174` released. No update details available.
- 2026-04-10 ekmpushupdater `3.260410200` released. No update details available.
- 2026-04-20 ekmpushupdater `3.260420161` released. No update details available.
- 2026-04-21 ekmpushupdater `3.260421024` released. No update details available.
- 2026-04-21 ekmpushupdater `3.260421205` released. No update details available.

- 2026-04-24 ekmpushupdater `3.260424200` released. No update details available.
- 2026-04-27 jQuery updated to fix a potential XSS vulnerability.
- 2026-04-27 New updater.

Ends at ekmpush version `3.260427211`.

Changelog: ekmpush 3.260110040 to 3.260225234

2026

- 2026-01-13 ekmpushupdater `3.260113230` released. No update details available.
- 2026-01-13 More logging to updater.
- 2026-01-13 ekmpushupdater: Downloads from hosts other than api.ekmpush.com go straight out, skipping the local proxy on port 81.
- 2026-01-14 ekmpushupdater `3.260114164` released. No update details available.

Ends at ekmpush version `3.260225234`.

Changelog: ekmpush 3.251227020 to 3.260110040

2025

- 2025-12-30 ekmpushupdater `3.251230112` released. No update details available.
- 2025-12-30 ekmpushupdater `3.251230172` released. No update details available.
- 2025-12-30 ekmpushupdater: Writes the internet-online marker after a successful MD5 fetch or snap download.

2026

- 2026-01-03 Persistent HTTPS via haproxy added.
- 2026-01-03 ekmpush: New ekm_requests_proxy module replaces requests in the uploader, postdata, config, command queue, and IO stack firmware code; HTTPS calls go through the local HAProxy on port 81 for persistent connections, with the original host in the Host header.

- 2026-01-03 ekmpush: A 200 response writes /run/internet-online.state to mark that the internet is up.
- 2026-01-04 ekmpush: If a proxy call fails, the request is retried directly; the process sleeps 1 second if the direct retry also fails. Before, a proxy failure was a hard failure.
- 2026-01-04 ekmpushupdater: Downloads the api.ekmpush.com snap and MD5 through the proxy, falling back to direct on an exception or 5xx.
- 2026-01-04 ekmpushupdater: Removed the check that skipped update cycles while /run/ekmpushupdater-update.lck existed, so a stale lock cannot stall updates.
- 2026-01-05 ekmpush: Fixed malformed proxied requests by normalizing the Host header to one value and stripping hop-by-hop headers.
- 2026-01-06 ekmpush: A 5xx from the proxy forces a direct retry; long-poll /sub/ requests fall back to direct only after the internet-online marker exists.

Ends at ekmpush version `3.260110040`.

Changelog: ekmpush 3.251226023 to 3.251227020

2025

- 2025-12-26 ekmpushupdater `3.251226222` released. No update details available.
- 2025-12-26 ekmpushupdater: If the updater version cannot be read, it now assumes AGENT_VERSION - 1.0 instead of a fixed 2.0, giving update checks a sensible version on new or unusual installs.

Ends at ekmpush version `3.251227020`.

Changelog: ekmpush 3.251221211 to 3.251226023

2025

- 2025-12-23 ekmpushupdater `3.251223033` released. No update details available.
- 2025-12-25 ekmpushupdater: Fixed stale update locks surviving a reboot and blocking updates; the lock files moved from the snap common directory to /run, which is cleared on reboot.

Ends at ekmpush version `3.251226023`.

Changelog: ekmpush 3.251219041 to 3.251221211

2025

- 2025-12-19 ekmpushupdater `3.251219032` released. No update details available.
- 2025-12-20 ekmpushupdater `3.251220190` released. No update details available.
- 2025-12-21 ekmpushupdater: When the md5 fetch fails (416 or after a download), the updater keeps the partial or complete snap and retries later. Before, it treated that as a mismatch and deleted the file, which forced re-downloads.

Ends at ekmpush version `3.251221211`.

Changelog: ekmpush 3.251208050 to 3.251219041

2025

- 2025-12-12 ekmpushupdater `3.251212215` released. No update details available.
- 2025-12-17 Updater client reliability fix on bad internet connections.
- 2025-12-17 ekmpushupdater: Fixed resumed downloads appending a server full 200 reply to a partial file, which corrupted it. Resumes now use Range with 206 (append) or 200 (overwrite).
- 2025-12-17 ekmpushupdater: A 416 response now checks the remote md5 instead of deleting the file; a 429 keeps the local file; an unexpected HTTP status no longer deletes the partial download.
- 2025-12-18 ekmpushupdater: Downloads are checked by size and fsync before the md5 check; md5 is computed in chunks, and the reply must be 32 hex characters.
- 2025-12-18 ekmpushupdater: On a stalled download the chunk size halves (64K down to 1K) for the next retry; timeouts are now 10 and 120 seconds.
- 2025-12-18 ekmpushupdater: The updater no longer loops or sleeps internally; start() runs one pass and exits (exit code 1 if install_update.sh is missing or the install command cannot reach port 7777), relying on the service to restart it. The default version is now 2.0 instead of 1.25.

- 2025-12-18 ekmpushupdater: Replaced netcat with a send_cmd helper, since netcat may not be installed on core22.

Ends at ekmpush version `3.251219041`.

Changelog: ekmpush 2.251207174 to 3.251208050

2025

- 2025-12-07 Testing core22 build.

Ends at ekmpush version `3.251208050`.

Changelog: ekmpush 2.251203225 to 2.251207174

2025

- 2025-12-04 ekmpushupdater `2.251204035` released. No update details available.
- 2025-12-05 ekmpushupdater `2.251205025` released. No update details available.

Ends at ekmpush version `2.251207174`.

Changelog: ekmpush 2.251116194 to 2.251203225

2025

- 2025-11-16 ekmpushupdater `2.251116185` released. No update details available.
- 2025-11-17 ekmpushupdater `2.251117214` released. No update details available.
- 2025-11-17 ekmpushupdater `2.251117224` released. No update details available.
- 2025-11-19 ekmpushupdater `2.251119205` released. No update details available.
- 2025-11-20 ekmpushupdater `2.251120232` released. No update details available.

- 2025-11-22 ekmpushupdater `2.251122155` released. No update details available.
- 2025-11-26 ekmpushupdater `2.251126153` released. No update details available.
- 2025-11-26 ekmpushupdater `2.251126233` released. No update details available.

Ends at ekmpush version `2.251203225`.

Changelog: ekmpush 2.251115150 to 2.251116194

2025

- 2025-11-15 ekmpushupdater `2.251115033` released. No update details available.

Ends at ekmpush version `2.251116194`.

Changelog: ekmpush 2.251029191 to 2.251115150

2025

- 2025-10-29 ekmpushupdater `2.251029160` released. No update details available.

Ends at ekmpush version `2.251115150`.

Changelog: ekmpush 2.251024143 to 2.251029191

2025

- 2025-10-29 Fix for bridge installs.
- 2025-10-29 ekmpushupdater: Update check and download requests send updater_version to the server so it can choose which build to serve.

Ends at ekmpush version `2.251029191`.

Changelog: ekmpush 1.7251017191 to 2.251024143

Updater releases in this range were transition versions used to bring ekmpush 1.x toward 3.x (Core 22). Their update code built over to Core 22 support.

2025

- 2025-10-17 ekmpushupdater `2.251017030` transition release. No update details available.
- 2025-10-17 ekmpushupdater `2.251017161` transition release. No update details available.
- 2025-10-18 ekmpushupdater `2.251018030` transition release. No update details available.
- 2025-10-18 ekmpushupdater `2.251018225` transition release. No update details available.
- 2025-10-19 ekmpushupdater `2.251019224` transition release. No update details available.
- 2025-10-22 ekmpushupdater `2.251022220` transition release. No update details available.
- 2025-10-23 ekmpushupdater `2.251023070` transition release. No update details available.

Ends at ekmpush version `2.251024143`.

Changelog: ekmpush 1.7250911070 to 1.7251017191

Updater releases in this range were transition versions used to bring ekmpush 1.x toward 3.x (Core 22). Their update code built over to Core 22 support.

2025

- 2025-09-11 Repo cleanup.
- 2025-09-18 ekmpushupdater `2.250918204` transition release. No update details available.
- 2025-09-29 ekmpushupdater `2.250929182` transition release. No update details available.
- 2025-10-03 README updated.
- 2025-10-08 ekmpushupdater `2.251008024` transition release. No update details available.

- 2025-10-08 ekmpushupdater `2.251008032` transition release. No update details available.
- 2025-10-14 Trigger inverted time range check fixed; trigger time range tests added.
- 2025-10-15 Inverted time range fix.
- 2025-10-15 Trigger test updated.
- 2025-10-15 Import fixed to find the relocated `ekm_log` and `version` modules.

Ends at ekmpush version `1.7251017191`.

Changelog: ekmpush 1.7250901205 to 1.7250911070

2025

- 2025-09-09 Log output normalized.
- 2025-09-09 Minor cleanup.
- 2025-09-09 Serial port reconnects if broken; port config forced; stats added; logging normalized; meter read throttle added.
- 2025-09-09 ekmpush: Fixed stuck or corrupted serial ports: after more than 10 consecutive bad reads (and more than the number of devices), the read loop closes and reopens the serial port and clears its buffers.
- 2025-09-09 ekmpush: Fixed stale serial port settings after switching between meter and ioStack devices: the port is now reconfigured before every device read.
- 2025-09-09 ekmpush: Meters and ioStacks are read from one device list instead of separate fixed passes; fixed the read order being set on the wrong variable (_device_sequence instead of device_sequence).
- 2025-09-09 ekmpush: Added explicit pauses: 0.2 s before meter reads when switching protocols, 0.1 s before every meter read, and 0.5 s between retries.
- 2025-09-09 ekmpush: Bad-read and good-read counts reset only after a successful upload of that device data; the send log reports lifetime reliability percentages.

Ends at ekmpush version `1.7250911070`.

Changelog: ekmpush 1.7250501203 to 1.7250901205

2025

- 2025-06-12 IOStack firmware retries increased; `max_retries` added to the command message.
- 2025-06-12 Firmware update test script updated.
- 2025-06-13 Time-of-use cache and archive added, in summary style.
- 2025-06-27 MQTT and Home Assistant integration added.
- 2025-07-07 "Internet" condition supertype added.
- 2025-07-07 Read loop refactored.
- 2025-07-07 MQTT support added and updated.
- 2025-07-07 MQTT test renamed and kept outside pytest.
- 2025-07-09 IPC and MQTT discovery fixes.
- 2025-07-14 Typo fix.
- 2025-07-24 `sftp_skip_validation` attribute and web UI added.
- 2025-08-10 Read A/B update fix; new MQTT config layout.
- 2025-08-26 `hkey` auth added to the command handler.
- 2025-08-26 MQTT connection test utility added.
- 2025-08-26 MQTT TLS connection support added.
- 2025-08-28 MQTT TLS support with certificate files added.
- 2025-08-29 ekmpushupdater `1.250829173` released. No update details available.
- 2025-08-30 ekmpushupdater `1.250830052` released. No update details available.

Ends at ekmpush version `1.7250901205`.

Changelog: ekmpush 1.7250418223 to 1.7250501203

2025

- 2025-04-19 ekmpushupdater `1.250419012` released. No update details available.
- 2025-04-23 ekmpushupdater `1.250423152` released. No update details available.

Ends at ekmpush version `1.7250501203`.

Changelog: ekmpush 1.7250408202 to 1.7250418223

2025

- 2025-04-17 ekmpushupdater `1.250417162` released. No update details available.

Ends at ekmpush version `1.7250418223`.

Changelog: ekmpush 1.7250221190 to 1.7250408202

2025

- 2025-02-21 `is_dev` check added in config.
- 2025-02-21 Read errors logged at ERROR level instead of INFO.
- 2025-02-24 ekmpushupdater `1.250224152` released. No update details available.

Ends at ekmpush version `1.7250408202`.

Changelog: ekmpush 1.6874 to 1.7250221190

2024

- 2024-12-19 `get_tou_settings` added; local meter config updates.
- 2024-12-19 Minor cleanup.

2025

- 2025-01-18 ekmpushupdater `1.250118135` released. No update details available.
- 2025-02-07 `readdata` API fixes; CSV and HTML output added; displayed fields fixed.
- 2025-02-07 IOStack summary pane calendar pickers fixed.

Ends at ekmpush version `1.7250221190`.

Changelog: ekmpush 1.6859 to 1.6874

2024

- 2024-08-14 Ruff lint and format; pub/sub collector fix; reset interval trigger logic refactored.
- 2024-10-16 "LAN" renamed to "Ethernet" in the web UI.
- 2024-10-24 `read_device` command added; IOStack UFW command updated for the new protocol.
- 2024-10-24 Dev/debug API origin, MAC, and hardware key support.
- 2024-10-24 Fix for `.gz` summary files.
- 2024-10-28 Web UI fix for missing config at startup.
- 2024-11-19 Config download uses the current gateway key when no password is set, so key changes in AdminUI carry through to the gateway default password. Pushed to development for testing on gateways.
- 2024-11-19 Status bug and reboot text fixed; mDNS info added.

Ends at ekmpush version `1.6874`.

Changelog: ekmpush 1.6852 to 1.6859

2024

- 2024-06-03 `ekmdevice` constant references updated.
- 2024-06-04 `start_cmd_session` argument order fixed.
- 2024-06-17 Syntax fix.
- 2024-07-22 Gateway setup template wording changed so the network setup links are easier to find on mobile.
- 2024-07-23 WLAN MAC address added to the wireless page; LAN MAC label clarified.

Ends at ekmpush version `1.6859`.

Changelog: ekmpush 1.6840 to 1.6852

2024

- 2024-01-24 IOStack API rename update; lint.
- 2024-02-07 Log level and log file options for local development; debug option.
- 2024-02-07 Rate trigger fixes; reset interval terminal option for threshold triggers.

- 2024-02-12 Blank keepalive message fix; trigger fixes.
- 2024-02-13 Navbar toggle fix; password reset text.
- 2024-03-06 Reboot message fix.
- 2024-03-12 `ekmmeters.py` removed.
- 2024-03-21 IOStack device type added to the summary API.
- 2024-03-27 IOStack temperature divided by 100.
- 2024-04-02 Inverted time range constraint fix.
- 2024-05-30 Tests added; synced with `ekmdevice` changes.

Ends at ekmpush version `1.6852`.

Changelog: ekmpush 1.6829 to 1.6840

2023

- 2023-11-09 IOStack firmware updater added; `ekm_legacy.py` removed; Makefile combined.
- 2023-11-20 IOStack firmware update test; type cleanup.
- 2023-11-22 Host added to IOStack firmware update; legacy API support removed.
- 2023-11-25 Cython version pinned.
- 2023-12-14 IOStack `set_do_waveform` support.
- 2023-12-14 Clearer error messages; support for older firmware without HMAC.
- 2023-12-18 `ekm_file_manager` references removed.
- 2023-12-19 `set_do_waveform` settings fixed; terminal flag added to triggers; empty command message check.

2024

- 2024-01-01 `ekmdevice` used for IOStack fields.
- 2024-01-01 `device_www` repo combined into this repo.
- 2024-01-01 Initial commit for the current repo state.

Ends at ekmpush version `1.6840`.

Changelog: ekmpush 1.6819 to 1.6829

2023

- 2023-10-13 Action and post flag checks.
- 2023-10-13 Trigger event description, max pulse ratio, and target ID fixes.

- 2023-10-13 ekmpush: Fixed bad pulse input ratios going straight to the meter; ratio commands are now limited to 1 to 9999.
- 2023-10-13 ekmpush: Fixed gateway-targeted commands without a target_id being rejected or mishandled; target_id now defaults to the gateway MAC address.
- 2023-10-13 ekmpush: Trigger actions default post_enabled to False when it is missing.
- 2023-10-13 ekmpush: Fixed the high-threshold trigger event description using the wrong comparison operator; float values in event descriptions drop trailing zeros.

Ends at ekmpush version `1.6829`.

Changelog: ekmpush 1.6811 to 1.6819

2023

- 2023-03-16 Trigger state persistence fixes (DD 355, DD 357, DD 358).
- 2023-03-20 Event description start time fix.
- 2023-04-18 Refactor for `ekmdevice` v0.1; `set_time` timezone fix.
- 2023-05-05 Meter power settings logged and uploaded; settings made more concise.
- 2023-05-05 Version bump.
- 2023-05-17 Updater version added to the status log.
- 2023-05-31 Time sync interval is one day by default.
- 2023-06-08 Time sync default clarified.

Ends at ekmpush version `1.6819`.

Changelog: ekmpush 1.6796 to 1.6811

2023

- 2023-02-20 Test option; get/list data command added; ruff cleanup.
- 2023-02-28 Interval average filter; rate trigger fix; simulation tests.
- 2023-03-02 Rate trigger minimum sample interval fix.
- 2023-03-05 Backup of one summary per hour, gzipped to eMMC while at least 1 GB is free. Kept until posted to the cloud or old.
- 2023-03-08 Emergency directory handling and total file count limit.
- 2023-03-09 Cloud send code moved into its own function for the emergency store loop.

- 2023-03-10 Emergency store processing added; RAM freed after processing.
- 2023-03-11 Shared function for removing summary and read paths; cleanup.
- 2023-03-12 Temporary send-disable handling simplified; corrupt file handling when space is low.
- 2023-03-13 Handling when tmpfs is full.
- 2023-03-14 Emergency store on by default when the file manager starts; reset interval fix.
- 2023-03-15 Emergency store bug resolved.

Ends at ekmpush version `1.6811`.

Changelog: ekmpush 1.6795 to 1.6796

2023

- 2023-02-15 ekmpush: Fixed the rate data filter being applied to the computed rate; it is now applied to the raw value before the rate is computed.
- 2023-02-15 ekmpush: Fixed saved trigger state causing errors after a schema change; restored state ignores attributes the condition no longer has.
- 2023-02-15 ekmpush: TriggerManager counts trigger checks and records timing (avg_check_interval) and resets its timing when the config changes.
- 2023-02-16 Trigger time range constraint cleanup and tests.
- 2023-02-16 ekmpush: Rate triggers no longer wait for a minimum sample interval; the rate is the change in value divided by elapsed time, and a zero change reports a rate of 0.
- 2023-02-16 ekmpush: Day-of-week and time-range trigger checks use gateway local time; time ranges are treated as naive local times.

Ends at ekmpush version `1.6796`.

Changelog: ekmpush 1.6785 to 1.6795

2023

- 2023-02-01 Day reset fix; info added to the email; false initial delta trigger fix.
- 2023-02-06 Delta and interval trigger fixes; SSL verification; more tests.
- 2023-02-07 Snap restart time added to the log.

- 2023-02-10 Trigger conditions persist across restarts.
- 2023-02-12 Primary queue size limited.
- 2023-02-13 Chunk size ramp-up added; timeout added to HEAD requests.
- 2023-02-13 Trigger state persistence.
- 2023-02-13 ekmpushupdater: Changed requests to use `with`; added a timeout to the HEAD request.
- 2023-02-13 ekmpushupdater: Fixed error in if clause.
- 2023-02-13 ekmpushupdater: Removed raise_for_status.
- 2023-02-15 Rate trigger fixes and tests.
- 2023-02-15 ekmpushupdater: Reboot sleep changed.

Ends at ekmpush version `1.6795`.

Changelog: ekmpush 1.6740 to 1.6785

2022

- 2022-12-07 IOStack API changes; trigger interval added.
- 2022-12-22 File manager fix for JSON files with only one row.
- 2022-12-23 End session enabled for v3 meters.
- 2022-12-23 Cython annotations removed.
- 2022-12-30 Logging clearer, including SFTP errors.
- 2022-12-30 Unprocessed files purged at 5% of space.

2023

- 2023-01-01 Delta condition fix.
- 2023-01-19 Better handling when SFTP fails.
- 2023-01-22 Backfill skips a day or month when behind, so new summaries keep up. Sleep time carried across loops.
- 2023-01-22 Device order is random when behind, so meters at the top of the list are not favored.
- 2023-01-23 Trigger tests; timezone fixes; named reset intervals fixed.
- 2023-01-23 Ruff replaces pylint; typing for stricter mypy; `pytz` removed; `zoneinfo` backport added.
- 2023-01-23 Close buffer bug fixed.
- 2023-01-24 Chunk size ramp-up ignores HTTP status; loop runs every 60 seconds.
- 2023-01-24 File timestamps parsed with regex.
- 2023-01-28 Delta threshold trigger fixes; trigger tests updated.
- 2023-01-29 Regression fix for an exception.
- 2023-01-30 ekmpush and ekmpushupdater: Overlap closing on days fixed.

Ends at ekmpush version `1.6785`.

Changelog: ekmpush .0001 to 1.6740

Individual version numbers are not listed because the true version IDs for these features were lost.

2017

- 2017-03-28 Initial device agent check-in, with LED support.
- 2017-04-04 Process management fixes for clean shutdown; local configuration.
- 2017-04-17 Snapcraft packaging.
- 2017-04-29 Full logging before first read; local log queue over REST; hard reboot call.
- 2017-04-30 Serial port logging; local configuration return.
- 2017-05-03 Diagnostics for disconnects and reconnection issues.
- 2017-06-05 Platform versioning (Ubuntu support, serial logging toggle).
- 2017-10-02 Save model, get, and field support.
- 2017-10-30 Enhanced read and report logging for diagnosis.
- 2017-11-27 First read fix and timing.
- 2017-11-28 Donedone fix (issue #56).
- 2017-11-29 Transaction ID in meter table returns to InfluxDB; table naming cleanup.
- 2017-12-04 Bad read handling.

2018

- 2018-02-26 Experimental packet size fix.
- 2018-03-04 Encoding fix for JSON strings from Redis.
- 2018-03-05 Command receipts table (`Meter_<n>_Cmd_Rcpts`) stores the full device result string.
- 2018-03-06 Server-bound message queue; first half of HTTP(S) measurement support.
- 2018-03-14 HTTPS for all calls, including subscription; 32k body chunking.
- 2018-04-03 setMeter fix; housekeeping timers isolated.
- 2018-04-09 IntervalQoS calculation.
- 2018-04-14 IntervalReadAttempts; fix for stashed read buffer overwrite.
- 2018-05-02 bz2 upload; summary to InfluxDB working.
- 2018-05-10 Exception handling and log reporting.
- 2018-05-12 Major summary and summary upload cleanup.
- 2018-06-13 Format cleanup and build test binaries.

- 2018-10-15 device_agent makefile and snap build setup.
- 2018-12-09 Snap build updates; requirements generated and imports trimmed.

2019

- 2019-03-21 QoS and intervals refactor.
- 2019-06-03 Good/bad read fix.
- 2019-06-04 CmdRcpt settings fix.
- 2019-07-22 Upload to summary server.
- 2019-09-06 ekmmeters.py supports Python 3.
- 2019-10-25 Python 3 update.
- 2019-11-04 Summary feed.
- 2019-11-15 Subscription fix (hostname used consistently instead of IP).
- 2019-12-01 TCP posts go to `/readpost` instead of InfluxDB directly; faster TCP queue.
- 2019-12-02 Device key read from local config; address added to summary feed.
- 2019-12-03 Summary and read feed service checked in.
- 2019-12-30 Buffered read post.

2020

- 2020-01-30 Influx functions moved to `ekm_influx.py`.
- 2020-01-31 LED patterns changed; updater process monitor fixed.
- 2020-02-01 LED off unless sending status; single-thread LED.
- 2020-02-03 MAC lookup on SC network for new device config.
- 2020-02-06 Gateway config endpoint; meter settings add and fix.
- 2020-02-10 Support for new config.
- 2020-02-11 Gzip compression; post errors go to error log.
- 2020-02-22 Summary archive written as JSON instead of CSV.
- 2020-02-26 Archive query function; summary feed runs at lower priority.
- 2020-03-29 No JSON file created when there are no reads.
- 2020-04-11 Bad timestamp handling.
- 2020-04-20 Auto purge.
- 2020-05-09 Remote support updates.
- 2020-05-12 WiFi changes.
- 2020-05-16 Reboot fix.
- 2020-07-04 requestB only when needed; 2-second timeout.
- 2020-07-09 Development snap deployment; updater production and development updates.
- 2020-07-30 Hardware key support (continued Sep 2020).

- 2020-09-23 Read purge fixed; summary files created on device.
- 2020-09-28 SFTP support.
- 2020-09-29 TOU commands; exception handling cleanup.
- 2020-10-19 Command targets support.
- 2020-10-31 TOU settings.
- 2020-11-03 Network monitor and network manager.
- 2020-11-04 Seasons in ekmmeters and settings.
- 2020-11-24 Shared command and response queues.
- 2020-11-27 Relay controls and command/response queue support.
- 2020-11-28 Log only mutable actions.
- 2020-12-03 Sanity checks; PID list for process debugging.
- 2020-12-04 Updater changes to support Core 18.
- 2020-12-07 Client-specified response channel ID.
- 2020-12-09 Python 3.6 support.
- 2020-12-15 `update_config` command; LED shutdown; improved shutdown mechanism.

2021

- 2021-01-02 File manager reads directories one at a time to reduce memory use.
- 2021-01-07 LED fixes; device auto-restarts if internet is down for 15 minutes.
- 2021-02-06 Snap cleanup and file manager fixes.
- 2021-02-23 ekmpushupdater: Moved into device_agent; makefile for Cython build.
- 2021-03-15 ekmpush and ekmpushupdater: Development updater support; summary fix.
- 2021-03-31 Test utilities; channel connection timeout raised to 60 s.
- 2021-04-04 Configurable config host; force update.
- 2021-04-15 New data directory layout.
- 2021-04-27 Meter list and config rewrite.
- 2021-05-02 Triggers and email command.
- 2021-05-19 Email triggers.
- 2021-06-22 Trigger UUIDs.
- 2021-07-13 Trigger conditions.
- 2021-08-01 Data upload for bad connections.
- 2021-08-06 Recovery key fixes.
- 2021-08-22 Read loop stats.
- 2021-09-18 Meter time; configurable read timeout.
- 2021-10-01 LED moved to GPIO.

- 2021-10-02 Green/red OK/fail LED; LED max queue size; request A/B mix-up check; meter address check on request.
- 2021-10-20 Boolean expression trigger; port timeout fix.
- 2021-10-21 File manager closes processed directories and months to reduce load.
- 2021-10-24 When space is full, only processed days are removed; removed meters handled.
- 2021-11-16 Meter and ioStack directory support.
- 2021-11-28 Improved trigger emails.
- 2021-12-01 ekmpush and ekmpushupdater: Makefiles and docs updated for Python 3.8.
- 2021-12-10 Rate triggers.
- 2021-12-20 Good/bad read ratio trigger.

2022

- 2022-01-14 ekmpushupdater: Updates itself after boot without delay.
- 2022-01-15 Retry on password failure (RS485 timing).
- 2022-01-17 ekmpushupdater: Added try to requests.
- 2022-02-04 Compression in file manager.
- 2022-02-05 Python 3.8 upgrade.
- 2022-03-08 ekmpush and ekmpushupdater: Fixed timeouts for requests.
- 2022-05-10 ekmdevice integration; new meter and ioStack APIs.
- 2022-05-18 Private key option for SFTP.
- 2022-05-23 ekmpushupdater: Linted updater.
- 2022-05-30 ekmpushupdater: Moved sentry inside the while loop in the updater.
- 2022-06-24 ioStack data read and store.
- 2022-06-27 ekmpushupdater: Updated the Push3 updater URL.
- 2022-07-14 Initial ioStack commands.
- 2022-07-20 Read cycle stats.
- 2022-07-27 Trigger time range; start of config refactor.
- 2022-08-02 ioStack one-wire attributes and scan.
- 2022-08-19 Minimum read loop interval removed.
- 2022-08-20 Startup and shutdown cleanup; read loop refactor.
- 2022-08-21 Reboot command thread.
- 2022-09-10 Summary cleanup: unneeded fields removed; power factor conversion in JSON-to-CSV.
- 2022-09-11 Summary moves to next meter after a failed send.
- 2022-09-15 Remote ioStack firmware updates.
- 2022-09-16 Cleanup of invalid files and folders in data path.
- 2022-09-20 Serial reconnect.

- 2022-09-27 ekmpush and ekmpushupdater: ioStack firmware fixes; incremental download size logged.
- 2022-09-27 ekmpushupdater: Removed URL from log.
- 2022-09-28 ekmpushupdater: Fixed a bug in the delete snap.
- 2022-10-03 ekmpushupdater: Removed sentry.
- 2022-10-05 ekmpushupdater: Fixed try nesting.
- 2022-10-24 ekmpushupdater: Added info to the logs.
- 2022-11-09 Config file exception handling.
- 2022-11-15 Password for encrypted keys.
- 2022-11-16 Server host key value.

Ends at ekmpush version `1.6740`.