MoIN

Release Notes

Version 2.5.2

25.07.2023

2wcom Systems GmbH – Am Sophienhof 8 – 24941 Flensburg – Germany
+49 461 662830-0 (Fax11) – contact@2wcom.com **– www.2wcom.com**

Table of Contents

Version 2.5.2

25.07.2023

New Functionality

- n/a

Fixed issues

- Improved NET-SNMP communication that could cause errors and CPU load
- Fixed agentx master agent error by increasing app queue stack from 256 to 2048

Known bugs

- n/a

Version 2.5.1

07.07.2023

New Functionality

- n/a

Fixed issues

- Fixed high CPU load after MoIN start / reboot.
- Improved MoIN transcoding performance.

Known bugs

- n/a

Version 2.5.0

03.07.2023

New Functionality

- Decoder backup switching events do generate now event log entries (finally) with the cause of the backup switching (in case of inferior backup level activation) and the backup level which was activated. A corresponding SNMP trap will also be sent out.
- The event log web page will now update automatically when new events arise while having the page open
- First steps to more advanced / extended logging: For some events, which were previously only counted (like missed packets) there's now the possibility to check the point in time when these events occur. There's a new "Extended Log" tab on the Log web page, which shows these events. Currently we added events for RTP Rx start, RTP missed packets, RTP unrecovered packets, RTP Rx timeout, SIP register/connect/disconnect/ declined/error and SRT connect/disconnect. Like the counters this extended log is volatile, meaning it is cleared after a reboot. If syslog is enabled, these events will however also be sent out to syslog, making them externally persistent.
- Added optional support for NFS storage (for audio files; in addition to the internal storage)
- Added optional support for AWS S3 storage (for HLS Push encoding)
- Added interface (and VLAN) selection to the SNMP trap manager configuration
- HLS encoder: HLS container format is now configurable
- Added alarm/monitoring for the optional ASI input

Changed functionality

- The Icecast Server did still answer with "ICY 200 OK" to a connection request and only for certain user agents / browsers with "HTTP/1.0 200 OK". For some time now the ICY answer is however deprecated and should no longer be used, so we do now always answer to a connection request with the HTTP answer, thereby hopefully improving the general compatibility of the Icecast server to certain clients.

Fixed issues

- Fixed a bug that RIST connections can cause reordered packages
- Fixed bug that only one MoIN was accessible via SNMP by using Linux sockets instead of global port
- Fixed MoIN reboot via web GUI so that the MoIN does not hang on waiting page
- Fixed links for external APIs
- Encoder did not react on SRC on/off in audio input config (potentially changing input sample rate)
- RIST receiver improved for RTP streams, where the encoder has RIST disabled (could lead to audio buffer not building up)
- RIST didn't work in dual streaming setup for the redundant line
- RTP: Overall packet lost counter could be too large in rare cases
- HLS encoder: fixed a problem with some HLS clients reporting faulty HLS segments (especially with the AAC codecs)

- Fixed compatibility issues when MM01 is the audio encoder and RTP packet fragmentation is activated via “RTP max payload”
- MPEG/TS decoder: enabled the possibility to decode audio streams not announced via PAT/PMT automatically without the need to set the codec type manually
- MPEG TS decoder: fixed compatibility of private data TS decoding if the PID is not announced via PAT/PMT
- MPEG/TS decoder: enhanced audio decoding compatibility of RTP streams inside MPE
- Added support to transcode TS/Demux input sources with private data in Pipe mode
- Changing just the LNB config for a SAT input source was not applied
- Optional Live Listening feature did not work with Safari browser
- Fixed ancillary data descriptor in MPEG TS encoding for better compatibility
- A configured source IP for SSM (Source Specific Multicast) could not get deleted
- When switching between different web interface menu items the page will now always scroll back to top
- DTE baudrate changes were not applied immediately, but only after a reboot – Fixed
- Ancillary data was not shown on the Overview page for XLR audio input sources
- NFS handling improved
- HLS server push improved for S3 storage
- HLS encoder: Fixed issues with xHE audio on stream start with Safari and iTunes
- Fixed Livewire routing protocol LWRP not working after changing the IP address of the device
- MPE decoder: MPE ancillary data output was not working
- RIST encoder retransmission improvements in case of SFN
- Fixed possible timestamp display problems in new Extended Log
- VLAN output streams will be now refreshed after config changes to VLAN parameters
- Decoder input sources with backup policy "Active when needed" might not get deactivated again when activating superior source
- MPEG TS Decoder: optional decoding of 192kHz PCM in PES mode without external clock did not work
- Ancillary data output for SRT input sources may not work when having configured "Audio Output X" as input source for the Ancillary Output
- The new “Auto Refresh” of the event and extended log web page sometimes didn’t work
- Livewire stream names with more than 15 characters could crash the system if the Livewire Routing Protocol LWRP is active
- SNMP get for virtual IP address nodes did always return 0.0.0.0 (e. g. virtCslIpcfgtempCtrlIp, OID 1.3.6.1.4.1.21529.1001.35.2.42.43.1)
- Improved stability (jitter) of AES67 output
- Fix possible crash when changing the sample rate of an audio input
- RIST receiver improved for low latency transmissions, avoiding sometimes quite aggressive retransmission requests
- RIST receiver improved for dual streams with encoder send delay
- Switching VLAN activation without modification doesn't work
- Control services are not correctly setup in VLAN environment
- When a sampling rate for an audio input in analog mode is set to a value different than 48kHz, the decoded audio is distorted
- File input source from NFS source does not perform auto-reconnect on XML settings import

- Fixed shown name of radio input source during Drag&Drop
- Drag&Drop of TS Data Demux input sources did not always work
- RTP receiver information in case of dual streaming improved

Known bugs

- n/a

Version 2.4.0

19.04.2023

! Only released as moin-container image. No full release planned.

moin-container:2.4.0

The moin-container is the part of the software that contains most of the audio over IP code base and the user can start multiple instances of this container. It is mentioned separately in this document to differentiate between the software orchestration and the actual audio over IP software.

New Functionality

- NFS Storage can now be setup on page “Storage” and can be used for file playout
- AWS S3 Storage can be mounted and used for HLS PUSH
- Log Entries when switching between main and backups

4999	2023-04-19 11:25:29	Informational	Audio 1 Output Silence Detection (left:-8, right:-8)
4998	2023-04-19 11:25:28	Warning	Output 1 - Backup 2 activated
4997	2023-04-19 11:25:28	Warning	Output 1 - Main source failed: ES - no input data

- Added interface (and VLAN) selection to the SNMP trap manager configuration
- HLS encoder: HLS container format is now configurable

Changed functionality

- The Icecast Server did still answer with “ICY 200 OK” to a connection request and only for certain user agents / browsers with “HTTP/1.0 200 OK”. For some time now the ICY answer is however deprecated and should no longer be used, so we do now always answer to a connection request with the HTTP answer, thereby hopefully improving the general compatibility of the Icecast server to certain clients.

Fixed issues

- Encoder did not react on SRC on/off in audio input config (potentially changing input sample rate)
- RIST receiver improved for RTP streams, where the encoder has RIST disabled (could lead to audio buffer not building up)
- RTP: Overall packet lost counter could be too large in rare cases
- HLS encoder: fixed a problem with some HLS clients reporting faulty HLS segments (especially with the AAC codecs)
- Fixed compatibility issues when MM01 is the audio encoder and RTP packet fragmentation is activated via “RTP max payload”
- MPEG/TS decoder: enabled the possibility to decode audio streams not announced via PAT/PMT automatically without the need to set the codec type manually
- MPEG TS decoder: fixed compatibility of private data TS decoding if the PID is not announced via PAT/PMT
- MPEG/TS decoder: enhanced audio decoding compatibility of RTP streams inside MPE
- Added support to transcode TS/Demux input sources with private data in Pipe mode
- Changing just the LNB config for a SAT input source was not applied

- Optional Live Listening feature did not work with Safari browser
- Fixed ancillary data descriptor in MPEG TS encoding for better compatibility
- A configured source IP for SSM (Source Specific Multicast) could not get deleted
- When switching between different web interface menu items the page will now always scroll back to top
- DTE baudrate changes were not applied immediately, but only after a reboot – Fixed

Known bugs

- Page “System Settings – Ancillary Data” is blank and should be removed.
- The WebUI crashes completely when the NFS connection runs into a timeout due to a not accessible NFS server.
- In inconsistent conditions when a moin-container subscribes two times to the same multicast or if the multicast is sent two times on the same address and port, the container can get unstable due to heavy tracing of the error.
- xHE-AAC: Ancillary data and GPIO Forwarding does not work.

Version 2.3.0

08.12.2022

moin-container:2.3.0

The moin-container is the part of the software that contains most of the audio over IP code base and the user can start multiple instances of this container. It is mentioned separately in this document to differentiate between the software orchestration and the actual audio over IP software.

New Functionality

- Added gain configuration to all input sources to e. g. allow alignment of main and backup sources
- Added playlist support (m3u, m3u8, pls) to the file input source
- Added VLAN support to the Icecast client input source
- Major Livewire integration enhancements:
- Added optional Livewire Sources for the audio inputs, providing its physical XLR audio inputs as Livewire audio streams and optional Livewire Sources for the audio outputs (instead of AES67 streams), allowing to have a Livewire audio stream instead of physical XLR as audio output.
  An IP-4c with 4 channels will announce 8 Livewire Sources, where SRC1 – SRC4 will reflect the audio inputs and SRC5 – SRC8 will reflect the audio outputs
- The Livewire input sources for the Encoder section will now be a fixed number of Livewire Destinations (as much as encoders are available), thereby allowing the configuration via LWRP (corresponding to the fixed number of Livewire Destinations for the Audio Decoder section).
  An IP-4c with 4 channels will now announce 24 Livewire Destinations, where DST1 – DST16 will reflect the possible Livewire input source for Audio1/Main, Audio1/Backup1 and so on and DST17 – DST24 will reflect the possible Livewire input sources for Encoder 1 to 8.
- GPIO Tunneling has now the option to tunnel the Livewire GPO state instead of the physical GPI state.
- Added Livewire level meters for Sources and Destinations (enhance compatibility to e. g. Pathfinder)
- Added support for the Livewire GPIO snake mode, allowing to link the GPOs of the IP-4c to the GPIs of a different Livewire device.
- Added two virtual Livewire GPI ports (GPI 3 and 4), which will reflect the state of GPO port 1 and 2. This will allow other Livewire devices to register for GPI changes via snake mode and thereby follow a GPO change on the IP-4c (e. g. via GPIO Tunneling), reflected as a virtual GPI change. The virtual GPI ports will thereby provide a GPO pass-through to other Livewire devices.
- Allow decoding of not announced TS audio services (with missing DVB tables)
  The codec has to be set manually ("Automatic" will not work)
- Added VLAN interface status

Changed functionality

- Improved the file upload via the Storage page
  The upload limit was increased to 100 MB and the error handling was improved.

Fixed issues

- Fixed a bug in Icecast transcoding where some streams had audio interruptions.
- Fixed display error on overview page when a specific number of encoders are created (e.g. 25 or 27)
- Fixed a possible crash with NTP synchronization and “Bind to interface” option enabled
- Fixed an issue with syslog messages stop working after a reboot
- Fixed a possible crash on the Overview page, when RTP with dual streaming, VLAN and multicast is enabled
- Fix GPIO Tunneling info not shown for encoder if no ancillary data source is selected
- Fix xHE-AAC problems with low bitrates
- Icecast input source handling improved for faulty meta data from some Icecast servers
- IGMP binding improved for RTP multicast (in case of interfaces with identical addresses)
- Livewire: increased general compatibility with Pathfinder
- Livewire: changes done to Livewire Destinations via LWRP were not applied
- SIP: calls could not be cancelled during connection establishment
- SIP: redial improved
- SIP/SDP: (EBUACIP:VERSION) information moved, enhance compatibility to Unify OpenScape SBC
- NMOS: improved compatibility with STAGED mode (SDP parameters)
- AES67 output compatible with DHD (silent mode)
- AES67 outputs loose the PTP synchronization after reconfiguration the AES67 output parameters
- AES67 output: improve stability of empty packets mode
- Fixed MPEG TS signaling for MPEG2-AAC
- Improved transcoding of MPEG TS with ancillary data
- Fixed an issue with the ancillary output not working and providing no data when a TS ancillary data or a private data input source is configured and only assigned to one of the ancillary outputs without using the same TS source in one of the decoders (or maybe encoders)

Known bugs

- n/a

Version 2.1.0

24.08.2022

New Functionality

- Added VLAN Support for AES67 Inputs/Outputs
- Adding VLANs to running moin-containers

Fixed Issues

- Offline installation is now working
- Installations without DHCP are now working
- Fixed a bug that caused moin-containers to have no license even if a correct license was installed
- The NTP synchronization was having big jumps every hour that also resulted in audio errors each hour, this has been fixed by moin-container version 2.1.0
- Fixed a bug that resulted in a crashing ntp service every 12 hours
- The MCU network page sometimes changed the order of interfaces or left out some interfaces. This has been fixed by moin-mcu version 2.1.0
- Uploading new images to page Maintenance was not possible, this has been fixed by a new installation script
- Fixed too low memory allocations for moin-containers that could result in occasional crashes shown as an out of memory crash

Known bugs

- For more than 16 channels (encoders + decoders) the web interface starts to get slow and is not responding well enough
  Workaround: use multiple instances each with up to 16 channels
- MN-63: Unstable results of MoIN MCU Networking page. Hitting the save button can result in a miscommunication not setting the VLANs correctly.
  Workaround: click save 2-3 times
- MN-62: Removing network connection and re-applying it can cause the decoder to lock on Backup 1, which is not recovering from that situation automatically. The problem is caused when the sequence number rolls over
  Workaround: an active RTCP connection (RTP Port + 1) will mitigate the issue, because the decoder recovers quickly from that wrong behavior when it detects a problem with the IP stream via RTCP
- MN-61: Installations with management interfaces of netmasks with 25 bit or more do not work
- MN-60: CPU and memory limits are not using the number of encoders/decoders, this can result in misbehaving moin-containers when too many decoders are used simultaneously
- MN-59: Policy based routing is not working for interfaces with VLANs, that causes problems when an interface with a VLAN tries to send IP data to a destination outside of its subnet that can’t be reached by the systems default gateway

moin-container:2.1.0

The moin-container is the part of the software that contains most of the audio over IP code base and the user can start multiple instances of this container. It is mentioned separately in this document to differentiate between the software orchestration and the actual audio over IP software.

New Functionality

- Completely revised ancillary data handling for full flexibility
- The fixed linkage between ancillary inputs/outputs and corresponding audio inputs/outputs is entirely removed. Instead a variable number of UDP ancillary inputs/outputs can be configured besides the available DTE inputs/outputs.
- When configuring the Encoders on the Codec page, each configured audio input source can be accompanied by one of the ancillary input sources to be encoded together using the given profile. In that way the ancillary input sources are no longer limited to the physical XLR audio input sources, but can now be used together with any audio input source, e. g. Livewire, AES67 or Icecast. In addition there's a special "Pipe" ancillary input selection for the Encoder. Using the Pipe mode the ancillary data of the audio input source (including possible GPI Forwarding) will be preserved and transcoded together with the audio. Moreover there's a new "Ancillary Output" tab on the Codec page allowing to configure freely the input sources to use for the available ancillary outputs (DTE and UDP). When using one of the "Audio Output" input sources (that's the default), the ancillary data coming from the input sources configured on the Decoder tab including the backup switching will get used.
- Ancillary data and GPI Forwarding state available on Overview page
  If ancillary data or GPI Forwarding information is contained in an input source, the Audio info blocks on the Overview page will allow to inspect that data. This is especially useful in a transcoding setup, where the ancillary data would otherwise not be available for examination.
- TS private data output
  It's now possible to configure private data only TS Demux input sources (without the need to configure an audio PID). These "data only" sources can be used on the new "Ancillary Output" tab.
- Optional audio PID removal from TS Multiplexer in case of audio input loss (to e. g. trigger external backup)
- Added NMOS support (Networked Media Open Specifications, https://specs.amwa.tv/nmos/)
- The NMOS support can be enabled on the new "External APIs" page, which summarizes the configuration of the external APIs SNMP, Ember+ and NMOS
- AES67 inputs/outputs can now optionally replace the physical XLR inputs/outputs, e.g. for SIP
- The optional AES67 input stream can also be a Multichannel input stream – it's possible to select the channel(s) to use from it
- Added audio output buffer level alarm (to get e. g. a fast relay alarm before the audio buffer runs empty and trigger thereby an external backup)
- Added audio error count alarm (to get an event log entry in case the audio error counter increases)
- Added new ancillary input and output alarms for the dedicated inputs and outputs
- Added ancillary data decoding support to Icecast input sources
- Added the possibility to bind the optional syslog output to a certain interface
- Added optional support for ASI input (available with the satellite tuner or standalone)
- Enhanced optional MPE encoding capability of TS Multiplexer to support RTP, too

- Added xHE-AAC support to optional HLS encoder
- In case external clock synchronization is active, the transcoding elementary stream output of an unsynchronized RTP stream used as encoder input source can now be synchronized to the external clock (activate the “Synchronous Playout” switch in the RTP elementary stream output settings)

Changed functionality

- RIST: the additional bandwidth used by the RIST encoder can be limited now
- Increased compatibility to not RFC2250 standard compliant MPEG audio streams (e. g. from Telos iPort)
- SAP is now also available with the Livewire license and no longer limited to the Ravenna license

Fixed issues

- A memory leak caused a reboot of the device after a few hours up to a few days in case PTP clock synchronization was enabled
- TS/Demux: fetching the service list could sometimes fail to get all service names
- Livewire source select was wrong in Livewire input source configuration dialog
- Livewire was always able to set GPO without respecting switch source setting
- Changing the manual decoder config of a TS/Demux source did not trigger a reconfiguration
- Fixed a crash when changing the TS/IP input source used by a Demux source in MPE mode
- Audio Output as TS input source did not show its levels in the payload info block on the TS Multiplexer overview page
- When only the port of an elementary stream output was changed, the SAP/SDP announcement wasn’t Updated
- MPEG TS encoder: improved compatibility to certain decoders (PTS offset reduced)
- MPEG TS decoder: private data encapsulated as ES (without PES) wasn’t decoded
- SAP information wasn’t updated on external clock configuration change
- SIP: Support of mobile VoIP devices which don't handle SIP correctly
- SIP: status information for SNMP improved and enhanced
- SIP: Invalid SIP number shown in log if SIP call failed
- SIP: RE-INVITES improved (https://datatracker.ietf.org/doc/html/rfc3581#section-3 is now implemented
- correctly)
- The optional SIRC Data Channel was included in the TS only every 2nd time on TS Multiplexer changes

Known bugs

- Codec page: some PHP error messages will get shown on the TS/IP and TS/SRT input source tabs, when the TS_Decoder license is missing