go2signals

**RELEASE NEWS
VERSION 22.2**

Cooperative working:
multiple workstations with a central go2MONITOR

With this new release, go2MONITOR offers the possibility to share the results and resources of a server-centric core software installation with additional configurable user workstations. This makes it possible to divide user tasking across different workstations (e.g. special workstations for special signals) or to configure small systems with multiple operators sharing a more powerful core go2MONITOR software.

Core software and workstations are connected via LAN. All workstations access the central results database to correlate operational objectives and share outcomes.

Work with go2MONITOR and multiple workstations
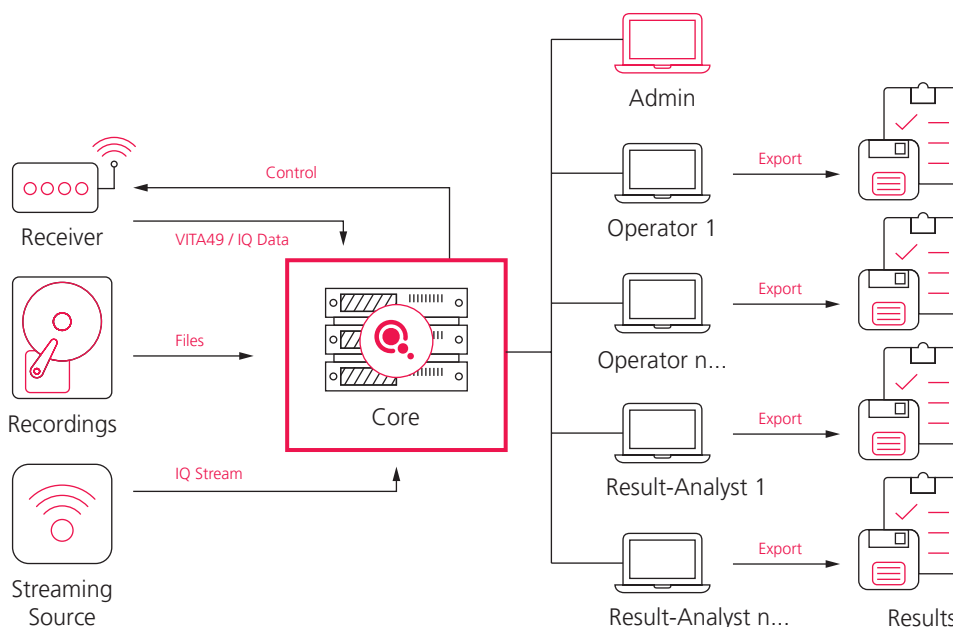
Three workstation roles are available to fulfill this operational configuration:

Administrator (order "go2MONITOR" default product)

- Complete functionality is available
- Control automatic jobs for all other operators (with option AMT)
- Control receivers
- Only one workstation could be administrator of the core

Operator (order "go2MONITOR Operator" product)

- Manual control of multiple processing channels (narrowband channels)
- Result viewing, editing and export
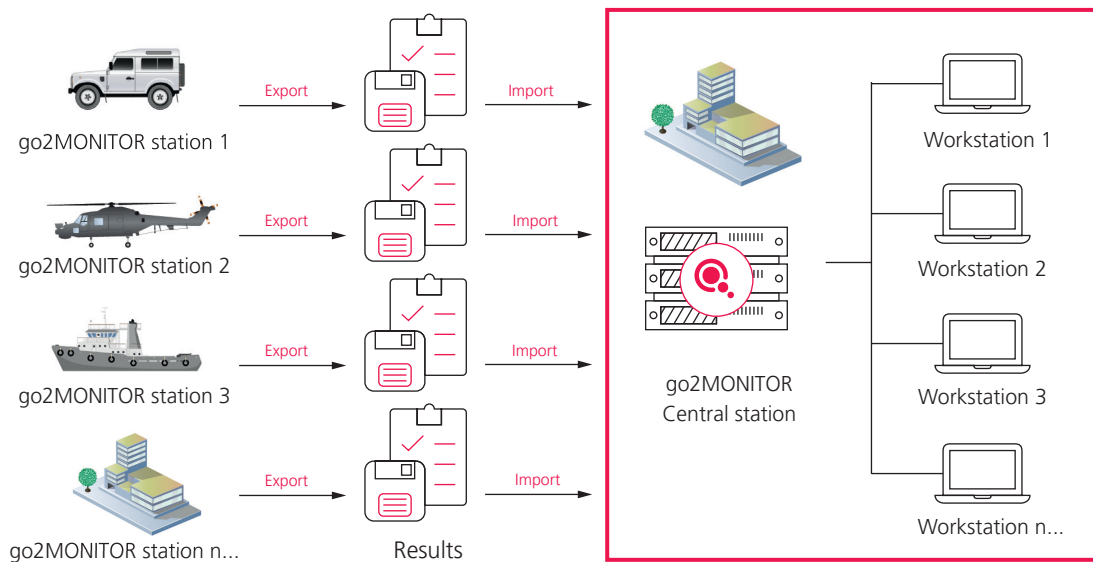- Multiple operator workstations are possible

Result-Analyst (order "go2MONITOR Result" product)

- Result viewing, editing and export
- Multiple result workstations are possible

Cooperative working:
go2MONITOR installed on different stations

With new, enhanced functionality for results export and import it's now even easier to exchange data between go2MONITOR running at different sites and stations. Data exchange can be achieved manually (e.g. if no connection is available) or triggered automatically using go2MONITORs scheduler feature (e.g. if sites are connected).

Work with go2MONITOR on multiple sites

go2MONITOR station 1   Export   Import

go2MONITOR station 2   Export   Import

go2MONITOR station 3   Export   Import

go2MONITOR station n...   Export   Import

Results

go2MONITOR Central station

Workstation 1

Workstation 2

Workstation 3

Workstation n...

Export and import is achieved by file exchange, therefore no connection (e.g. LAN) between sites and stations is required. To exchange results a simple data storage technique can be used.

Improved Wideband Recording Features

Loop-Recording

The AMT option for go2MONITOR includes the feature to run scheduler based wideband recording tasks storing the complete I/Q input. Recordings can be used as input for later automatic processing or for extracting a Signal of Interest (includes DDC function).

With the new feature to limit the duration (keep latest xxx minutes/hours) it's now possible to run loop-recording in combination with the parameterized time schedule.

Example: Run loop-recording with 1 hour duration from 7:00 am to 5:00 pm

Improved Recording Displaying

Improved Signal Detail View in ResultViewer by addition of functions for easier navigation through wideband recordings (go to time function) and easier switching between fast spectrum overview data stored and dynamic calculated zoom.

Enhanced Recording Features

Wideband recordings do not store their WAV-files into one directory anymore. The files are distributed across different result storage directories and recordings are deleted partially if the disk is almost full (similar as Loop-Recordings).

Increased max WAV file size for WB-Recordings from 2 GB to 4 GB.

Decoder and Demodulator Enhancements

As with every release, we update our demodulators and decoders to stay current with the changing signal world and provide a quality experience.

Demodulator News

- Improved morse detection/demodulation:
  - Reduced false positive detection rate
  - Support for dot/dash ratio from 2.5
  - Faster automatic adaptation if morse speed is changing

- F7B: Improved morse demodulation

- MIL-188-110 39 Tone
  - Improved preamble detection
  - New option to disable burst detection for manual processing

- QAM: Improved initial frequency synchronization for non-rectangular constellations

- Voice H3E: Improved detection due to suppression of carrier

Decoder News

- CODAN Selcal:
  - Added beacon request format (123)
  - Added output preamble length

- STANAG 4539 HDR: Detection of 12800 bps mode

- D-STAR: Decoding of DV fast data mode and included DPRS, NMEA and APRS

- TETRA DMO: Use of receiver frequency from signal, manual input is no longer necessary

pyDDL News

pyDDL development envi-
ronment based on Spyder
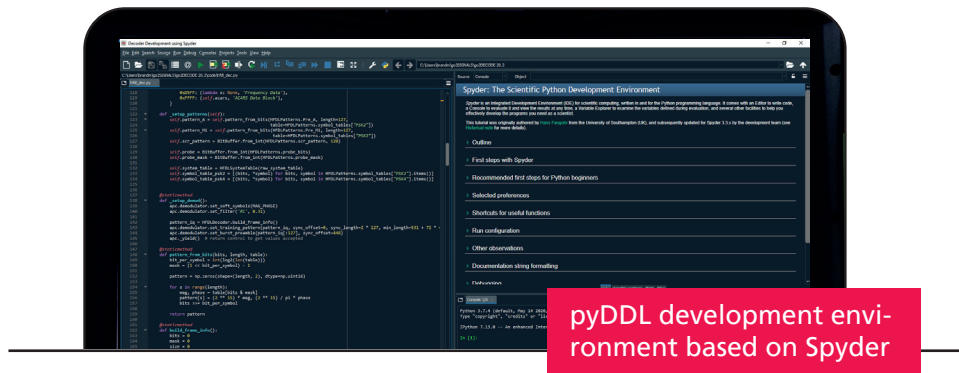
A special feature of go2signals is the ability for user-groups to develop their own, bespoke decoders and to import and integrate them easily into other software products from the package. Therefore, a complete decoder development environment is integrated in go2DECODE Professional.

This release is the next step in expanding the decoder development language from DDL to pyDDL. The long list of new features and converted decoders underlines this progress.

Additional pyDDL features

- Tuned receiver frequency can now be queried in the decoder

- New functions BitBuffer.to_bytes() and BitBuffer.from_bytes() for converting pythons builtin bytes type

- Added the option to change the description of text1 output channel

- New class PrettyBitFormatter for formatting binary data to a pretty text representation

- Added direct cast of BitBuffer to int

- Reed Solomon Decoder - improved calculation of the number of uncorrectable errors

Updated decoders to pyDDL

- Autocab
- BIIS
- Codan 3212 16 Channel
- Contestia
- Coquelet
- Ermes
- Inmarsat-C-TDMA
- MIL-188-110 39 Tone
- Mobitex
- Morse

- NMT450
- Pactor
- Pactor 2
- Pactor 2 FEC
- Pactor 3
- Pactor-FEC
- Piccolo
- STANAG 4415
- Visel

Classifier Enhancements

Modulation and modem classifiers process the entire wideband input band to obtain detailed information about all signals received and filter for Signals of Interest (SOI). The entire input band is split into individual signals, classified, and signal changes are tracked. The most important new improvements are listed below:

- Improved Voice AM classification in V/UHF

- Improved QAM32 classification

- Improved MCPSK classification

Additional Noteworthy Changes

- Signal Classifier Library (SCL):
  - New feature: classify_samples(..) - directly classify I/Q samples
  - Eliminate QT event loop dependencies for easier integration
  - Improve classification for narrowband signals in wideband input

- New functions added for the management of antenna profiles and establishing links etween wideband inputs and antennas. Antenna information can be used for triggering in AMT tasks (search or fixed-frequency) and is stored within all results.

- Quality-based coloring of results in ResultViewer, Time/Frequency view

- Frequency management performance improved. It is now possible to work with >50000 frequency entries or with >20000 frequency groups.

- Results can now be assigned to AutoMon tasks from ResultViewer

- GUI automation script can now be added in the context of one narrowband channel, and added to its toolbar as custom function

- Linking results in ResultViewer with matching recordings is now done on result selection (including multi-selection), instead of waiting for the result to be actually displayed in the Detail-View.

- Max number of characters which can be stored in decoder text field of a result increased from 256 to 1024.

- Removed channel bandwidth limitation for narrowband classification

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