Lantronix AVL FIRMWARE RELEASE

VERSION: avl_4.6.0_RC3

BIOS version: 3.0.6

Official release date: 13/02/2026 (D/M/Y)

List of firmware files: avl_4.6.0_rc3_20260211.signed.frp

                                     avl_4.6.0_rc3Z8b76fd6d.signed.zip

                                     avl_4.6.0_rc3_20260211.signed.txt

Hardware compatibility: This firmware applies to the following LANTRONIX products with
                                        Cortex processor:

Devices	Hardware Revisions	Supported firmware versions	Notes

FOX4	13,15,17,19,20,21	avl_4.x.x (only)	1) Use the PFAL command `$PFAL,MSG.Version.HardwareRev` to get shown the hardware revision of your AVL device. The device responses with (second line shows the hardware version):
			    $<MSG.Version.HardwareRev>
			    $11-NUCHB
			    $SUCCESS
			2) The hardware revision is also printed on the product label, located on the back panel of the device. In the Serial Number (S/N) field there are 3 digits in parenthesis, for example, 60148(9XX)50600014, and the number "XX" is the hardware revision of the device. If the number is "11", it means that the hardware revision is 11.

* On request

IMPORTANT

➢ This firmware version is ONLY for the LANTRONIX products explicitly mentioned above! Do not try to update other LANTRONIX products with this firmware, otherwise, you will not be able to operate your device anymore.

➢ Before updating the new firmware on your FOX4 series, it is strongly recommended to back up the configuration with the command **$PFAL,CNF.Backup**

➢ Before upgrading the firmware on your FOX4 series, it is recommended to upload and back up all history data on your server (if needed) and finally delete this data on the device.

NOTE

> ➢ If FOX4 devices with older firmware versions (e.g. 4.0.0_xx) are upgraded to this new firmware version (4.6.0_xx), please contact LANTRONIX to receive the BLE activation codes and continue to use this feature without additional costs.

> ➢ The latest FW avl_4.6.0_rc3 is for FOX4 with the CORTEX CPU

DOCUMENTATION:

The following document(s) is (are) provided on https://www.lantronix.com/ as part of the AVL firmware release " avl_4.6.0_rc3".

Filename	Description
PFAL Command Reference	Lists and describes all PFAL commands supported by this firmware release.

Version	Description	Created by	Date (M/D/Y)
4.6.0	Firmware release "avl_4.6.0_rc3"	Lantronix	13/02/2026
4.5.0	Firmware release "avl_4.5.0_rc3"	Lantronix	22/12/2025
4.4.0.0	Firmware release "avl_4.4.0_rc1"	Lantronix	27/03/2025
4.3.0.0	Firmware release "avl_4.3.0_rc4"	Lantronix	03/01/2025
4.1.0.0	Firmware release " avl_4.1.0_rc6"	Lantronix	04/06/2024
4.1.0.0	Firmware release " avl_4.1.0_rc5"	Lantronix	28/05/2024
4.0.0.0	Firmware release " avl_4.0.0.0_rc15"	Lantronix	28/02/2024

1) Preface

This release note describes the new functionalities of the firmware release " avl_4.6.0_rc3" and is intended for use as a reference when updating an AVL device to version " **avl_4.6.0_rc3**".

2) Important Notes

The firmware file with extension "***.frp**" is for the update through the **Workbench** and for the update remotely OTA (RUpdate). The firmware file with extension "***.txt**" is for the update through **terminal emulators** (e.g.: Hyperterminal, PComm Pro). The firmware file with extension "***.zip**" is for the WebUpdate. To update the firmware with the extension "***.frp**", please use the **Workbench** version **10.7127.beta**. To update the firmware with the extension "***.txt**" you can use any **terminal emulator** (example: Hyper terminal, Pcomm Pro). To initiate a WebUpdate use the command

$PFAL,SYS.WebUpdate.Start,"http://url",80 or $PFAL,SYS.WebUpdate.Start,"http://url" or $PFAL,SYS.WebUpdate.Start,"https://url",443 or $PFAL,SYS.WebUpdate.Start,"https://url" on the device. DON'T switch off the AVL device while it reboots after the firmware update. The duration of the reboot after the firmware update may take approx. 45 seconds.

3)   Firmware Installation Notes

The installation package consists of firmware in three different formats *.frp and *.zip. and *.txt. You can choose whether you want to update the firmware via following interfaces:

Interfaces	File	Description	References
RS-232 PORT	*.frp	This is primarily intended for updating one device first, to ensure the process completes properly before rolling the update to a group of other devices. Use " **Workbench** " and update the "*.frp"-file via the serial port.	
WEB-SERVER	*.zip	This is a perfect solution when multiple deployed AVL devices need updating. The firmware file is located in your webserver and you send to the AVL device the URL of a web server you have set up for downloading over-the-air the firmware file.	
Remote with Workbench	*.frp	This solution lets you update the firmware remotely on several AVL devices. More details can be found in the online help in the Workbench software.	
TCP-SERVER	*.frp	This solution lets you update the firmware remotely on several AVL devices.	
Remote with Percepxion	*.zip	This solution lets you update the firmware remotely on several AVL devices. More details can be found in the online help in the Percepxion software.	
Terminal SW	*.txt	You can upload the firmware with the extension *.txt serially over a terminal SW such as PComm Lite, Tera Term, etc.	

4) Prerequisites concerning the PC

A 32/64-bit-WINDOWS operating system (Windows XP, Vista, 7) or Linux is running on your PC and about 50 MByte free space on your hard disk is required. The RS-232 interface must be configured

with the following parameters:
- Baud rate: 115200
- Data Bits: 8
- Parity: None
- Stopbits: 1
- Flow Control: None

5) Firmware Update Process

These instructions are specific to updating your LANTRONIX AVL device via COM interface (Serial Port).

(a) Download the firmware file and Workbench software needed from the following hyperlinks.

1. https://www.lantronix.com/products/workbench/#tab-docs-downloads
2. https://www.lantronix.com/products/Fox4-series/#tab-docs-downloads
3. Download " **avl_4.6.0_rc3**" and extract the file you downloaded into a temporary folder on your PC.
4. Run the "**workbench**" software. If this software is still not installed on your PC, download it first and start the installation.

	Release Notes	Lantronix AVL Products
![LANTRONIX logo]		Release date: Feb 13th,2025
	Firmware version: avl_4.6.0_rc3	Document revision: 4.6.0
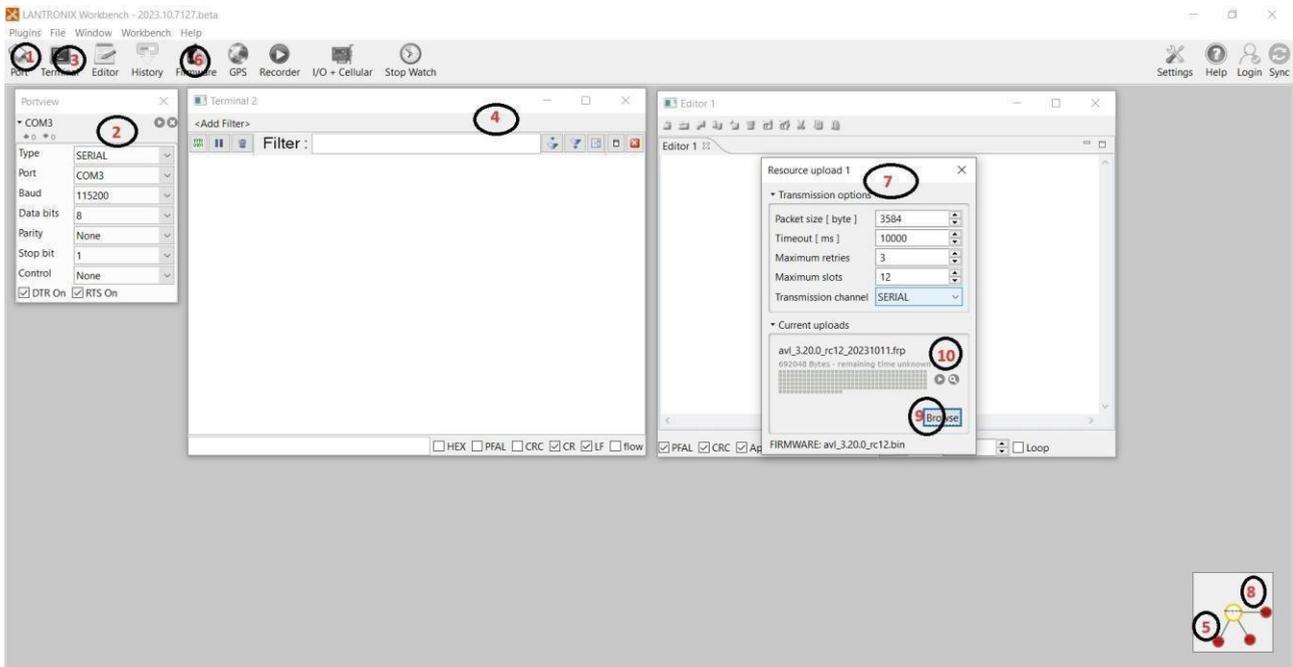
(b) Begin the firmware update process (refer to the fig. above).

1. Connect the AVL device to your PC either directly using the programming cable or the corresponding evaluation board.

2. Do **NOT** update the firmware version 4.x.x on FOX4 devices with an older processor. The firmware version 4.x.x is **ONLY** for FOX4 with the **CORTEX (CT)** processor. Please verify the hardware revision from the table "**Hardware compatibility"** above and make sure you are upgrading a FOX4 device with CORTEX processor. LANTRONIX takes no liability and no responsibility for any cases, firmware versions have been flashed wrongly nor will LANTRONIX cover any costs associated with this happening.

3. Click **Port** (1) icon, select the COM port settings from the **PortView1** (2) and click the **Play** button next to the text "COM.." to open the selected COM port.

4. Click **Terminal** (3) icon, select the **TerminalView** 1 (4) and go to the **ConnectionView** (5) and connect it to the **Serial Port COM1**.

5. Click **Firmware** (6) icon, select "SERIAL" from the **Transmission Options** (7), go to **ConnectionView** (8) and connect it to the **Serial Port COM1**.

6. Click **Browse** (9) button and select the firmware file as "*.frp" from the temporary folder where the firmware was expanded.

7. Click **Play** (10) button to start the firmware update. This button appears only if the firmware file has already been selected.

8. Wait until the update process completes. While the update is running, do not send any command to the device and do not manually reboot it until the device restarts itself.

9. After the update process successfully completes, a success message will appear. Click "OK" button to restart the AVL device.

10. After device restarts and configuring the unit, you can execute the command **$PFAL,Cnf.Backup** to save the user configuration as factory settings. If the AVL device was already configured, you can execute the same command after the firmware update to save the user configuration as factory settings.

11. LANTRONIX recommends updating one device first, to ensure the process completes properly before

rolling the update to a group of other devices.

6) New and Modified Functions

IMPROVEMENTS and BUGS FIXED:

- added support for new modem type QUECTEL EG91
  - added control io_expander IO_ENABLE_GSM and IO_EN_WLAN
  - added switch for PB13
  - Fixed usage of GetNetState() for PPP/WLAN

PFAL commands:

SYS.WLAN.Enable	-- Enable the WIFImodule
SYS.WLAN.Disable	-- Disable the WIFI module
SYS.WLAN.Reset	-- Reset the module
WLAN.State	-- State of the module
WLAN.MAC	-- MAC address of the module
WLAN.Scan	-- Scan the network

- Implemented FOTA procedure for SARA-R500S devices

- Added autostart for BLE/WIFI
- Use console switch on higher API level
- Merged with avl_3_19_6_rc12 for latest consoleflow updates
- Updated wifi-host-driver 2.6.1.20115, see wifi_43439A0_bin.h
- Added HW id FOX4

PFAL commands:

GSM.StartFOTA,"<resource>"[,<port>] -- Set the FOTA resource and start update

The update resource is encoded as "ftp://[user:pwd@]ftp.server.com/path/file.zip"

GSM.StopFOTA   -- Stop a pending update procedure

TCP.CF.ClearCertificate	-- Clear used certificates
TCP.CF.GetRootCA	-- Show RootCA certificates
TCP.CF.SetRootCA	-- Set RootCA used by TLS library
TCP.CF.GetCertificate	-- Show used certificates
TCP.CF.SetCertificate	-- Set certificate used by TLS library
TCP.CF.GetPrivateKey	-- Show used private key
TCP.CF.SetPrivateKey	-- Set private key used by TLS library

-The certificates or key data must send after the command
and the transmission is finished by ".<CR><LF>"

    CNF.Lock=<"password">   -- Lock the config (rdonly)
    CNF.Unlock=<"password">   -- unLock the config

--TCP buffer initialisation in MQTT client improved
- Bugfix for SYS.Security.HideAlarm
- Cleanup optinal certs in MQTT, MQTT & CFLOW clients.
- Fixed init of the network scan timer
- Check kill switch in modbus_rtu_send()
- Check disable debug port in CModBusDevice::Enable()
- Added additional events to the PX client

PFAL events:

-TCP.PX.eRegistered	-- PX client is registered on the server
-TCP.PX.eCapabilityNegStarted	-- PX client starts the capability negotiation
-TCP.PX.eCapabilityNegCompleted	-- PX client completed the capability negotiation
-TCP.PX.eReceivedMessage	-- PX MQTT client got a subscription
-TCP.PX.eMQTTConnected	-- PX MQTT client was connected with server
-TCP.PX.eMQTTDisconnected	-- PX MQTT client was disconnected from server
-TCP.PX.eStarted	-- PX MQTT client was started
-TCP.PX.eStopped	-- PX MQTT client was stoped
-TCP.PX.ePublished"	-- PX client published telemetry data
-TCP.PX.eUpdatesAvailable	-- PX client got available updates

LUA Types:
ALARM_PX_CLIENT_STARTED,ALARM_PX_CLIENT_STOPPED,ALARM_PX_CLIENT_CAP_
NEG_STARTED,
ALARM_PX_CLIENT_CAP_NEG_COMPLETED, ALARM_PX_CLIENT_MQTT_RECEIVED,
ALARM_PX_CLIENT_MQTT_CONNECTED, ALARM_PX_CLIENT_MQTT_DISCONNECTED,
ALARM_PX_CLIENT_REGISTERED, ALARM_PX_CLIENT_PUBLISHED,
ALARM_PX_CLIENT_UPDATES_AVAILABLE

-Added country setting for WIFI
- Rewrote o_NetInterface.Shutdown()

Config settings:
        WLAN.COUNTRY=XX<REV>   -- Country code setting
- Added secure boot support
- Adapted more AT commands for the EG91 device
- Fixed firmware header magic

- Increase DNS timeout to 30 seconds
- Fixed timeout for TLS handshake
- Fixed parsing MBEDTLS_SSL_TLS1_3_NEW_SESSION_TICKET state
- Using UTC time from +CCLK only SARA-R412
- Replaced buggy doEscapeSpecialCharacters()
- Fixed SNI for EnableSecurity()
- Fixed SNI for EnableSecurity()
- Simplfy DNS timeout usage
- set TLS handshake time to 60s
- remove duplicate publish event for telemetry
- support minimum refresh rate of 1s

- deEscapeSpecialCharacters for CLI command
- Added trces for low_level_input(), low_level_output()
- Make WIFI network traffic more noisy
- More detailed error answer for SYS.LUA.Start,SYS.LUA.Stop,SYS.LUA.Info
- Avoid TLS input buffer overflow in ReceiveBytesTLS()
- Avoid a deadlock when calling ASYNC event handler in WIFI driver
- Removing PX credentials from MSG.Info.Serverlogin
- Changed return parameter for CNetSocket:DataRcvd()
- Changed configuration for lwIP
- added commands to write default MAC address

PFAL commands:

Secured,"10h[MAC:6 Byte]"   -- Write default WLAN MAC
Secured,"11h[MAC:6 Byte]"   -- Write default BLE MAC

PFAL dyn.Variablen:

&(BLE.Addr)   -- local BLE address
&(WIFI.MAC)   -- WIFI MAC address

- Bugfix to prevent content corruption of the MQTT send buffer
- Increase MQTT content size
- Added host_platform_get_mac_address()
- Alternate implementation to read the BLE scan results
- Set TCP.MQTT.SEND as ACTION_FLAG_VALUE_HIGH_PRIO
  to help with synchronizing nvCounter used for messageSequenceNumber
- PX certificate files differ between PFAL and PX Client
- Using local BDADDR for BLE
- Fixed bug while transition between wifi <-> modem
- Skipped test for additional MNF data in advertisement
- Bugfix for SYS.WLAN events,

- Bugfix for additional telemetry data
- Bugfix for changed polarity of the GSM antenna switch
- Bugfix for failed MNO profile set up
- Deactivate DBG_NET_WIFI_INFO by default
- Bugfix for FOTA SARA-R500S-01Bmodule firmware update
- New feature: dynamic variable for the current value of a CAN variable, displayed in hexadecimal
- Extended format for BLE tag listings
- Increase buffer size of UDP.Client

-Percepxion: improve script updates from Percepxion

- Fixed DNS resolution in UDP.Client

PFAL commands:

$PFAL,SYS.BLE.ListExt -- List scanned tags with MAC,Name,RSSI,MNF-Data

PFAL dyn. variables:

&(CAN.H<variable_slot>)
- Raise the reqiered PDOP value for SaveLastPosition
- Support float parameter for GPS.Nav.eSpeed|sSpeed
- Save module state in SYS.BLE.Disable
- Fixed reset during SYS.Device.Doze
- Unescape results for SYS.ModBus.Scan,
- Make Counter and nvCounter alarms more flexible
- Adding a $GPNET protocol to show cellular/wifi states
- Set the correct date/time in SetCurrentTime()
- Adding an iperf client for bandwith measurement

Config settings:

PROT.NET=<interval> -- Shows $GPNET protocol at the specified interval

PFAL commands:

TCP.Iperf.Start,"<[udp://]server|IP>",<port> -- Start the iperf client
TCP.Iperf.Stop   -- Stop the iperf client
TCP.Iperf.State   -- Show the state of the iperf client

PFAL events:

SYS.Counter.e<id><'=','!=','<','>','<=','>='><value>   -- counter change event
SYS.nvCounter.e<id><'=','!=','<','>','<=','>='><value>   -- nvcounter change event
- Fixed stack overflow in PX client
- Increased MQTT_TELEMETRY_DATA_LEN size

LANTRONIX

Release Notes

Firmware version: avl_4.6.0_rc3

Lantronix AVL Products

Release date: Feb 13th,2025

Document revision: 4.6.0

- Reduced I2C clock to 100 KHz

- corrected misleading trace messages in PX-MQTT

- Bugfix for enabling Quectel EG91 lte module

- Fixed pooling GPRS in tls_net_recv()

- Fixed in case of disconnecting a serial connection, resets Modbus variables

- Fixed 1-wire temperature value stuck at 85.0ºC

- Fixes for better DNS handling
- Fixes memory leak in the WIFI driver

  - Improved robustness for PX/MQTT client

  - Use seperate thread for handling TCP sockets

  - Fix udp send in case of not ready gsm or not connected

  - Improved stability of the PX MQTT client

  - Improved fitering for WIFI scan results

  - Leave the WIFI network for low RSSI level

  - Reset watchdog when defining subscriptions for MQTT

  - Blocking duplicate execution for EnableHW(),DisableHW()

  - Fixed event creation for Counter and nvCounter

  - Block the TCP clients during shutdown

  - Fixed polling GPRS in tls_net_recv()

  - in case of disconnecting a serial connection

  - Fixes memory leak in the PX client
  - PX - Failed jobstatus not sent during FW update once WLAN drops.
  - More cleanup and hints for used DNS addresses
  - Changed rootCA for PX
  - Using IPV4V6 context type for GPRS connections
  - Corrected SatID's for NMEA 2.X-4.0
  - Added support for WPA3
  - Merged PX client with avl_4.2.0_RC7
  - Fixed values in LUA modbus functions

  Config settings:
    WLAN.NET[0-9].SECURITY=<mode:OPEN|WPA|WPA2|WPA3|WPA2mixed>
  - Increased PX.MQTT client timeout to handle slow network
- For intenal tracking.
- Updated mbedTLS to 3.6.2
- Security fixes for LUA,
- CANx Variable Support for Floating Point and Signed Format.
  Use "CAN.F" for floating point, and "CAN.S" for signed values.
- Implements CAN.MSG.CLEAR.
- Write flash RDP fuse to disable JTAG
- implement ACK mechanism for can_write in LUA.
- Removing CAN debug messages.

- Clearing CAN.Msg also clears its associated can.variables values.
- Consistent display after CAN.msg.clear in can.var.info command output.
- UDP packet is not buffered.
- While reading F32 bit value device gets freeze and resets with watchdog 1.
- Seen some unwanted data in debug logs.
- Fixes F32 freeze in BE.
- Increased PX.MQTT client timeout to handle slow network
    - Increased PX.MQTT client timeout to handle slow network
    - Updated mbedTLS to 3.6.2 (15-Oct-2024), see folder lib_TLS
    - Security fixes for LUA
    - CANx Variable Support for Floating Point and Signed
      Format. Use "CAN.F" for floating point, and "CAN.S" for
      signed values.
    - Implements CAN.MSG.CLEAR.
    - Write flash RDP fuse to disable JTAG
    - implement ACK mechanism for can_write in LUA.
    - Removing CAN debug messages.
    - Clearing CAN.Msg also clears its associated can.variables values.
    - Consistent display after CAN.msg.clear in can.var.info command output.
    -UDP packet is not buffered.
    -While reading F32 bit value device gets freeze and resets with watchdog 1.
    - Seen some unwanted data in debug logs.
    - Fixes F32 freeze in BE.
    - Fixed CAN float issue found in field test.
    - Fixed accuracy for big numbers.
    - Added support for TerminalIO service
    - Added support for sending TCP data in SORACOM Binary
     Format PFAL commands:
       TCP.Client.SendSCOM,<protocols>,<"text"> -- send data over TCP with SORACOM
    - Fixed crash in code path for power switch mode, see makefile
    -Percepxion Support debugging location inaccuracy.
    - Able to Update the .cfg file in place of ca certificate in Update Certificate from the Explore tab.
    -error scanning SMS list shows continuously every 2 seconds in debug logs
    -SMS READ/UNREAD loop
    -TLS Handshake timeout with 4096 length certificate
    -Firmware update from PX over WiFi
    -Add Retarder parameters
    - IMSI switch AT+CRSM, ATURATSCAN=5, AT+URATCONF=1
    -Fix calculation for mcc (3 digits)
    - FMS ERC1: fix formatting
    - Implemented BLE Connect Mode Support for
     LUA LUA commands:
          // BLE sensor connect access and triggers
          // ALARM_SYS_BLE_CLIENT_CONNECTED,
          // ALARM_SYS_BLE_CLIENT_DISCONNECTED LUA events
          res := avl.ble_connect("MAC", addr_type)
          res := avl.ble_disconnect()
          res := avl.ble_is_connected()

```
// Discover available services
res,s := avl.ble_discover()

// Read/Write from/to characteristic
res,s := avl.ble_read("service", "char")
res := avl.ble_write("service", "char", "data")

// Enable notifications from characteristic
res := avl.ble_notify("service", "char",
value)
```

LUA event types:
ALARM_SYS_BLE_CLIENT_NOTIFY
ALARM_SYS_BLE_CLIENT_CONNECTED
ALARM_SYS_BLE_CLIENT_DISCONNECTED

- Fixed SYS.LUA.Stop when using nested pcalls
- Added commands for motion auto
 calibration PFAL commands:
   SYS.Motion.AutoCalibration -- use the current motion vector for auto calibration
   SYS.Motion.ClearCalibration -- clear auto calibration motion vector

-duplicate message seen for TCP.mqtt.send.
- Fine tuned TCP, MQTT, PX clients with respect to GSM/GPRS disconnect & connect.
- Issue with TCP Client Getting Stuck - fine-tuned fix.
- Using and store SHA3 hash for CNF.Lock, CNF.Unlock
- Using and store SHA3 hash for SYS.LUA.Lock, SYS.LUA.Unlock
- Using and store SHA3 hash for SYS.Security.Lock, SYS.Security.Unlock
- Using and store SHA3 hash for SYS.Security.HideAlarm, SYS.Security.UnHideAlarm
- Fixing AT+CPIN for ublox modems
- Fixes Device getting resets every 3 minutes with Watchdog5 when device connected to MQTT server.
- Firmware update intermittently fails (1/10 times) with Watchdog 7 error after reboot retry also
 failed.
- Sending a wrong config file which is 57 kb showing config file too big and then
 resetting device with watchdog7 and then going into loop.
- After FW upgrade complete GPSSTATE event shows error as cancel download.
- Intermittent-Sometimes connect to server failed is showing but next retry works.
- Detailed Config file error message.
- PXMQTT: retry the connection if subscribing fails
- Protected subscription topic changes, updated client description text, firmware download retries
- with PFAL,sys.can.send,........................ flags RTR in Peakview tool.
- PXMQTT: reconnect if subscribe fails
- Changed Percepxion watchdog enum for backward compatibility
- CAN bus, PX, MQTT, TCP client improvements.
- PX, MQTT, TCP client improvements.
- checking for available content should check for all types and retry on failure
- Percepxion: client connection is blocked after running for several hours
- TCP Connect/Disconnect and sending the same TCP packet
- TCP disconnect loop

- Added DisableClient() to bring to TCP client to idle and setup the reconnect timeout.
- Check network disconnects during TLS handshake.
- Various improvements in PX client, potential deadlock/race condition fix.
- Watchdog5-Device resets with watchdog reset every3 minutes.
- Device fails to connect with PX & Azure MQTT.

-Device resets and shows memory full with watchdog 1 every 5 minutes when connected to WLAN with MQTT configured.

-FW update fails from PX on FOX4 via WiFi.

-PX: sending additional telemetry while REST API/FW download.

- Improvements in fix of FW update fails from PX on FOX4 via WiFi.

 - BLE commands for the FOX4 device

- - Firmware update is happening in loop after uploading firmware through web update link

- - PFAL commands should only be executed for whitelisted SMS senders

- - Operator selection in manual and restrictive modes

- - WLAN failed to start (<SYS.WLAN.Enable> $failed to enable wlan).

- - Not able to enable GPS.NAV.GNSS.

- - Firmware is not updating for Fox3 device in the stg-01.

- - Security unlock attempting of more than 3 resets device with watchdog6.

- - Not able to configure APN with 3 characters such as (www)

- - Sending $PFAL,CNF.Set,DBG.EN=1 shows $cannot write DBG.EN to flash but enable dbg logs

- - Added support for sending TCP data in SORACOM Binary Format

- PFAL commands:

-     TCP.Client.SendSCOM,<protocols>,<"text"> -- send data over TCP with SORACOM

- - 6.2.6 [AUM-6] Brute force protection

- - Standard-Security Protection: Hide alarms are not working

- - 6.2.5 [AUM-5] Password strength

- PFAL Commands:

- $PFAL,Sys.Security.Lock,"Abcd1234!"

- $PFAL,Sys.Security.Unlock,"Abcd1234!"

- $PFAL,Sys.Lua.Lock,"Abcde1234!"

- $PFAL,Sys.Lua.Unlock,"Abcde1234!"

- $PFAL,Sys.Security.HideAlarm,"Abcd1234!"

- $PFAL,Sys.Security.UnhideAlarm,"Abcd1234!"

- $PFAL,CNF.Lock,"Abcd1234!"

- $PFAL,CNF.Unlock,"Abcd1234!"

- - Applicability of secure storage mechanisms

- - PX client: unset additional telemetry groups still show old values

- -Sending ($PFAL,Sys.Device.FactoryReset) command results not updating on PX server

- - Added lock for CAN send_msg()

- - IO4 Activation on Device Power-Up

  - Device registers to blacklisted operator and is unable to establish a data session #20372

  - Data extraction from CAN bus/FMS for electric buses (experimental)

  - PFAL commands should only be executed for whitelisted SMS senders

        - PFAL Commands:

$PFAL,Cnf.Set,SMS.WHITELIST=disable - disable SMS whitelist
$PFAL,Cnf.Set,SMS.WHITELIST="+491701234567","+491701234568" - enable SMS whitelist andprocess commands from whitelisted senders only
$PFAL,Cnf.Get,SMS.WHITELIST - read current setting

- - Improvements in config, lua and security lock and unlock mechanisms.
  - configuration settings $PFAL,CNF.Set,DEVICE.GSM.STARTUP=on restart the GSM
  - - Fixed config is locked message
  - Device Name and Device Description is not sending to in status update
  - Current Operator is not in blacklist Message in loop
  -When BLE is not enabled and starting ABAX lua script and sending LUA event cause reset with watchdog1
  - Typo- while checking 1 wire temperature when its not active
  - While Unlock the CNF.Lock seen (old fmt found, last use).
  - $PFAL,GSM.SMS.Send is not working
  - When we send the SMS from the Whitelist number, SMS is delivering but "$GPERROR:SMS 3 in slot 0 couldn't be sent, deleting" is seen.
  - FOX4 Firmware Update Issue (v4.3.0 to v4.4.0) – Locked Devices.

Section	Commands
	CNF.Set,PX.CLIENT.CONNECT=1,<URL> **CNF.Set,PX.CLIENT.CONTENT_CHECK_INTERVAL** **CNF.Set,PX.CLIENT.DEVICE_DESCRIPTION** **CNF.Set,PX.CLIENT.DEVICE_NAME** **CNF.Set,PX.CLIENT.STATUS_UPDATE_INTERVAL**

KNOWN ISSUES:

None