acontis technologies GmbH

SOFTWARE

EC-Monitor
Release Notes

V3.2.3.05

Contents

1 New Features

1.1 V3.2

- Codesys EtherCAT® Master support
- KPA EtherCAT® Master support

2 Migration

2.1 From V3.1

- Change EC-Monitor API Prefix from "em" to "emon"

- Update to expat V2.4.9

- Remove Obsolete .NET and Python interface classes, enums and methods

- Replace emllI8254x with emllIntelGbe and support of TTS for Intel® i210 and i211

- Rename emPerfMeasInternal to emPerfMeas, old deprecated API removed

- Refactor EC_T_SB_MISMATCH_DESC

- Rename emCoeGetOdList(), emCoeGetObjectDesc() and emCoeGetEntryDesc()to emonCoeGetOdListReq(), emonCoeGetObjectDescReq() and emonCoeGetEntryDescReq()

3 Enhancements/bug fixes

3.1 V3.2.3.05

Enhancement

- Enable file logging specifically in CEcLogging

- Enhance emonGetMonitorStatus() to include topology and PDO configuration state

- Enhance master state detection

- Add EcWrapperRust

- Rename SafeOs[Free|DeleteEvent|DeleteLock] to OsSafe[Free|DeleteEvent|DeleteLock]

Fixes

- Fix EC_NOTIFY_SB_EEPROM_ACCESS_DENIED is printing Unknown Text instead of the right notification text

Platform

- Update RtaccWin V1.1.1

- Fix -sheth command-line option of examples in user manual

- Add support for Rockchip RK3506 and Allwinner T153 and T527 to emllDW3504

- Add support for emllDW3504 on QNX7 with ARM64

- Add support for emllTemac

- Add support for Microchip PolarFire to emllGEM

- Update emllTiEnetIcssg to TI SDK11

- Add support for SSL/TLS to RAS

- Update RtaccWin V1.1.0

- Add fingerprint support to emllLAN743x

- Fix setting IRQ thread priority with Linux PREEMPT

- Fix EcMasterRasClient, EcDaq Eval artefacts in unrestricted packages for Linux

- Fix EcLinkGetEthernetAddress() in emllFslFec returning unexpected value for iMX8M (broken since V3.2.3.02)

- Fix CEcMasterDotNet.Init() returns EC_E_NOTSUPPORTED after Init() and Deinit() called several times

- Fix CCAT for CX53x0

- Fix thread priority class setting in OsCreateThread() on Windows

- Fix gcc 13.3 compiler warnings

3.2 V3.2.3.04

Enhancement

- Optimize EtherCAT command processing
- Add support for CoE without ENI
- Add EcMonitorDemoGuiDotNet

Platform

- Add support for RTL8126 to emllRTL8169
- Add signed publisher information to Windows installer (MSI)
- Add full scan of Mdio bus in PhyLib
- Add support for Ti DP83869 to PhyLib
- Add support for Renesas RZ/G2L to emllSHEth
- Add connection token to RAS
- Update atemsys V1.4.35
    - Add driver initialization entry point for Kernel >= 6.6.00
    - Fix Xenomai 3.3 support
    - Fix CPSWG for Kernel >= 6.12
    - Add RiscV support
    - Fix PCI IO memory resource management Kernel >= 6.0.00
- Update atemsys V1.4.36
    - Fix PCI MSI interrupt broken since V1.4.35 for Kernel >= 6.0.00
- Fix cmake CFLAGS for native builds
- Add bEalInitDeinitByApp to emllDpdk
- Add signature check for pvInstance parameter to EcLinkFreeSendFrame() in emllIntelGbe
- Fix SGMII support for all instances in emllGEM
- Fix linkParms.eLinkMode command line parsing for emllHPE
- Fix build errors with musl toolchain on Linux

3.3 V3.2.3.03

Enhancement

- Add support for Fingerprint to emonSetLicenseKey()
- Improve bus scan compatibility with third party EtherCAT Masters
- Add ENI Builder(EBI) export
- Add emonGetLicenseFingerprint()
- Add support for EtherCAT Masters without ENI

Fixes

- Remove support for Hilscher netANALYZER
- Fix pbyOutBuf not handled by IoControl() in EC-Wrapper

- Rename CPcapRecorder::InitInstance(…) to CPcapRecorder::StartPcapRecorder(…) (fix overloaded-virtual warning)

- Rename EcMonitorDemoMqttServer to EcMonitorDemoMqtt

- Fix malformed packet handling

Platform

- Rename Xilinx GEM to Cadence GEM/MACB

- Add support for Intel Alder-Lake to emllDW3504

- Add support for AllWinner T536 to emllDW3504

- Fix RtaccDevice driver eval version in protected link layer packages

- Reset adapter if RX or TX disabled on reconnection in emllRTL8169

- Fix project files for uC3 on iMX8

3.4 V3.2.3.02

Enhancement

- Add support for packet capture files with LINKTYPE_ETHERNET_MPACKET(IEEE 802.3 mPackets)

- Add support for legacy parameters to emonInitMonitor()

- Add EcMonitorDemoMqttServer

Fixes

- Fix PDO mapping related prints of object dictionary in examples

- Fix truncated lines in log file about skipped/dropped messages in examples

- Add support for packet capture files generated by TwinCAT Promiscuous Mode

- Reject complete access read for non complete access objects

- Fix emonCoeSdoUpload() return codes for non-existing objects

Platform

- Add EC_LINKIOCTL_GET_INTELGBE_STATISTICS to emllIntelGbe

- Update RtaccWin V1.1.0

- Add RAS Server as shared library for Linux

- Add UDP Mailbox Gateway Server to EC-Wrapper

- Add support for iMX8 on uC3

- Add support for Raspberry Pi 5 to emllGEM

- Add ZEROCOPY Driver mode to emllSockXdp

- Add OsPlatformMemoryBarrier for x86_64Bit and ARM_64Bit

- Increase stack size of RAS Server worker threads for SWIFT

- Fix occasional wrong link status disconnected in emllETSEC

- Fix print performance histogram on console for FreeRTOS

- Update atemsys V1.4.34

    – Fix for platform devices without 32-bit DMA

    – Add Device Tree Ethernet driver support for Raspberry Pi 5

    – Fix non-PCI IO Memory for PCI devices

- Fix emConfigureNetwork() over RAS returns EC_E_INVALIDPARMS for GenOpENI

- Add bDisableForceBroadcast to emllHpe

- Add workaround for I210 Errata 25 (Slow System Clock) to emllIntelGbe on VxWorks7

3.5 V3.2.3.01

Enhancement

- Include EcDemoTimingTaskPlatform.h through EcDemoApp.h

- Fix dependencies to EcMaster, EcSimulator and EcMonitor in EcText.cpp and EcLogging.cpp

- Add Master variables support

Fixes

- Fix EC_T_PD_VAR_INFO_ENI::wWkcStateDiagOffs

- Fix ecwDeinitSimulator() was only called by DeinitInstance() in EC-Wrapper if RAS Server closed after Simulator

- Add support for ENIs without FMMU init commands

- Fix out-of-bounds process data access for 32Bit DC ENI

- Fix configured PDO to SyncManager assignment

- Add support for ENIs without Config:ProcessImage element

Platform

- Add ZEROCOPY Driver mode to emllSockXdp

- Add Perfmeas to RFS4 and RFS5

- Create EcRtEthDemo Package

- Add Wrapper DLLs to RAS for Windows

- Add support for RK3576 and RK3562 to emllDW3504

- Add emllDpdk for Linux ARM 64Bit

- Generate SHA for delivery packages

- Add armv7-vfp-eabihf to Linux ARM 32Bit

- Add promiscuous mode setting to emllSockRaw ("–promiscuousmode")

- Add support for Intel X700 adapter family to emllDpdk

- Add emllHpe for INtime

- Add support for ET2000 to emllMultiplier

- Set bind flags to XDP_COPY and remove unneeded structures in emllSockXdp

- Fix interrupt mode for Xenomai4

- Fix LinkOsUnmapMemory() on SylixOS

- Resolve "Fix emRasGetConnectionInfo() returning wrong SPOC Information"

- Fix crash in LinkOsInterruptDisable on VxWorks70 64Bit

- Fix crash in RAS Server receiving malformed data during connection establishment

- Fix GEM_CLK_CTRL handling to emllGEM on Ultrascale

- Add workaround for I210 Errata 25 (Slow System Clock) to emllIntelGbe on VxWorks

3.6 V3.2.2.05

Enhancement

- Add eCnfType_FileByApp to emonConfigureNetwork()
- Add histogram export to EC-Wrapper examples
- Report missing DLLs in EC-Wrapper

Fixes

- Fix ENI parser error handling
- Fix emCoeGetODList() delivering 0xAnnn objects for unexpected bus slaves
- Fix hot-connect slave detection with SuperSetENI
- Fix process data image in case of TAP inside topology

Platform

- Update RtaccWin V1.0.9
- Add instance identification by PCI location for emllNdis
- Fix access violation during emllCCAT initialization with invalid parameters
- Fix crash in OsDeleteThreadHandle() on Linux with musl libc

3.7 V3.2.2.04

Enhancement

- Add support for EtherCAT open mode
- Add performance measurement jobs MON_FrameRoundTripTime and MON_MasterCycleTime
- Add emonGetCfgSlaveSmInfo()

Platform

- Add EC_OS_NAMESPACE
- Add support for Xenomai4 ARM 64Bit
- Add RAW mode to emllEom
- Add support for second port to emllCPSWG on Linux (Ti AM64x)
- Add support for WAGO PFC200 and CC100 with Ethernet Switch Chip
- Fix support for MacOS
- Fix emllGem bNoPhyAccess
- Add bNoPhyAccess parameter to emllFslFec
- Remove bpf dependency from emllSockXdp
- Fix CRC error handling of emllDW3504 for GMAC4.x, …
- Add support for INtime Distributed RTOS
- Fix emllIntelGbe link reconnect
- Update atemsys V1.4.32

- Add support for dsa driver with Device Tree (insmod atemsys bRegisterDtbNetDevice=1)

- Fix Device Tree support for Kernel > 6.1.00

- Add support for TI AM64 CPSWG Second Port

- Fix compiler error due to INVALID_SOCKET defined in EcOsPlatform.h on Linux

- Fix occasional 5ms freeze in emllTiEnetCpswg on FreeRTOS

- Fix emonGetCfgSlaveInfo() over RAS on PPC

3.8 V3.2.2.03

Enhancement

- Add support for emllDpdk to EC-Wrapper

- Increase pcap recorder default buffer size from 50 to 1000 frames and write interval from 1ms to 50ms

- Replace OsDbgAssert() with assert() in xmlparse.cpp

- Add cmake build files for Linux

Fixes

- Use data type identifier 0x000A (DEFTYPE_ARRAY_OF_BYTE) for data type name "ARRAY [0..XXX] OF of USINT" (DEFTYPE_ARRAY_OF_USINT not defined in ETG.1020)

- Fix memory leak in pcap recorder re-usage

- Fix crash in emonGetSlaveInfo() if auto increment address outside boundaries

- Fix missing EcMbxGatewaySrv.h in packages

Platform

- Add ATEMRAS_T_SRVPARMS::dwMaxQueuedNotificationSize

- Add emllIntelGbe for QNX71 ARM_32Bit

- Add support for EC_NOTIFY_SLAVE_STATECHANGED, EC_NOTIFY_SLAVE_ERROR_STATUS_INFO to RAS Client on PPC

- Update RtaccWin V1.0.8

- Reduce Socket timeout if IP address is not available

- Add emllEom supporting EtherCAT Open Mode

- Add support for Xenomai4

- Update atemsys V1.4.31

  - Set license to "SPDX-License-Identifier: GPL-2.0+ WITH Linux-syscall-note"

- Add protocol version negotiation to emllRemote

- Add device IDs for I219LM and I219V

- Replace OsPrintf() with EcLogMsg() in EcSocket

- Fix handling of EC_T_LINK_PARMS_DW3504::dwRxDmaDesCnt, dwTxDmaDesCnt in emllDW3504

- Reduce large memory allocations in RAS Server

- Fix EcLinkOpen() sporadically returning EC_E_TIMEOUT in emllBcmGenet

3.9 V3.2.2.02

Enhancement

- Add mailbox error type processing
- Add support for SuperSetEni

Fixes

- Fix bus scan detection in packet capture processing
- Fix missing string termination in GetCfgSlaveEoeInfo(), GetSlaveProp() and CoeReadObjectDictionary() if string length equals buffer size
- Support ENI with missing DataLength field of cyclic command

Platform

- Add EC-Master shared library for QNX
- Add EC_LINKIOCTL_GET_PCI_INFO to emllIntelGbe for Windows and Linux
- Add support for Semidrive D9 to emllDW3504
- Add support for emllDW3504 on Intel Tiger-Lake
- Fix CPU affinity for up to 64 cores
- Fix link open failed in emllCCAT for some Beckhoff CX
- Add RtaccDevice_DmaFree() to Windows LinkOsFreeDmaBuffer()
- Fix ecatGetSrcMacAddress() returns wrong MAC address if link down for emllCmsisEth
- Update atemsys V1.4.30
  - Fix for Kernel > 6.4.00
  - Fix for systems without 32-bit DMA

3.10 V3.2.2.01

Enhancement

- Add EC_IOCTL_MONITOR_SET_COESDO_CLEAR_ON_READ
- Add "-readod …", "-readvars …" to examples

Fixes

- Fix performance measurement: JOB_Total was sometimes bigger than Task Duration (JOB_Total + App)
- Consider frame index in frame direction detection
- Fix memory corruption if ENI file contains more than 64 cyclic frames
- Fix unexpected MSU WKC state errors
- Fix crash in emonBacktracePacketCapture if job task paused
- Fix packet capture processing for frames bigger than 1536 bytes
- Fix crash while monitoring fragmented CoE SDO info transfer

Platform

- Add support for EC_NOTIFY_MBSLAVE_COE_SDO_ABORT, EC_NOTIFY_SLAVE_INITCMD_RESPONSE_ERROR, EC_NOTIFY_MBSLAVE_INITCMD_TIMEOUT, EC_NOTIFY_MASTER_INITCMD_RESPONSE_ERROR to RAS on PPC

- Add support for PENTIUM4llvm_SMP on VxWorks70

- Add support for EC_NOTIFY_SB_MISMATCH, EC_NOTIFY_HC_TOPOCHGDONE, EC_NOTIFY_FRAME_RESPONSE_ERROR, EC_NOTIFY_SLAVE_PRESENCE, EC_NOTIFY_SLAVES_PRESENCE to RAS Client on PPC

- Add support for STM32H743 on uC3

- Move AtXmlParser.cpp and .h to SourcesCommon

- Add emllSockXdp (Linux AF_XDP sockets)

- Add missing notifications to marshalNotify() switch case that may cause an assertion failure

- Fix crash in EC-Wrapper .NET with multiple RAS connections after first connection closed

- Fix emllNdis interrupt mode (broken since V3.2.1.05)

- Fix RAS Client performance issue

- Fix occasional crash in emllCPSWG on Jacinto and AM654x

3.11 V3.2.1.05

Enhancement

- Add support for EC_T_UINT64 ("0x%016llX") to EcSnprintf()

- Add EC-Monitor for Linux ARM 64Bit

Fixes

- Fix invalid read in emConfigureNetwork() in case of missing InitCmd comments

- Fix notification handlers not called after first client deregistered

- Replace assert() with OsDbgAssert() in xmlparse.cpp

Platform

- Add support for Ti AM243x to emllTiEnetIcssg on FreeRTOS

- Add QNX8 support

- Update atemsys V1.4.29

    – Add support for TI AM64 CPSWG

    – Fix PCI dma_coherent bit handling for Kernel between 4.15.0 and 5.4.0

- Add PCI device IDs for Intel DWMAC 43a2 and 43ac

- Add emllDW3504 for VxWorks x86

- Add support for emllBcmNetXtreme to EC-Wrapper

- Add support for RISC-V on Microchip Polar Fire

- Add emllDpdk for Linux x86 64Bit

- Add emllVlan

- Replace EcatDrv with RtaccDevice

- Add emllCPSWG on TI AM64x and TI AM62x

- Add support to set frequency using OsMeasCalibrate() multiple times on Linux

- Fix PHY initialization for 8168H/8111H in emllRTL8169

- Enable bus master and memory space in PCI command register on QNX

- Change name of TI Jacinto 7 from "TI J721E" (eCPSWG_J721E) to "TI TDA4x (Jacinto 7)" (eCP-SWG_TDA4X) in emllCPSWG

- Add EC_T_LINK_PARMS_DW3504::bNoPhyAccess for emllDW3504

- Fix MAC Protected License Check in emllBcmGenet

- Fix emllIntelGbe returns EC_E_NOMEMORY if cable redundancy and bResetOnDisconnect is used

- Fix start with link disconnected for emllBcmNetXtreme

- Fix LinkOsAllocDmaBuffer() fails on RtaccWin due to wrong RtaccWin InstanceID in case of multiple RtaccWin devices

- Disable OsDbgAssert(…) in EcMonitor.dll on Windows

- Fix undefined symbol LinkOsGetPciInfo in emllBcmNetXtreme for Linux

- Fix legacy parameters handling in emllIntelGbe

- Fix missing PCI info for Real-time Ethernet Drivers on Windows

- Add OsReleaseLinkLayerRegFunc to Linux

- Fix PHY handling in case of link disconnected for emllCPSW, emllDW3504, emllFslFec, emllGEM, emllICSS, emllRTL8169

3.12 V3.2.1.04

Enhancement

- Update Expat V2.6.0

Platform

- Add EC_T_LINK_PARMS_INTELGBE::bNoPhyCtrlOnConnect to emllIntelGbe

- Fix emllIntelGbe PHY reset blocked handling for I225, I350

- Add emllBPF for QNX7.1

- Change Real-time Ethernet Driver package nomenclature from "EC-Master-…", "EC-Simulator-…" to "EC-RtEth-…"

- Add EC_COMPAREBITS

- Fix legacy parameters handling in emllIntelGbe

- Fix RX stucks in emllI8254x in case of frames exceeding buffer size

- Fix memory corruption in RAS Server in emNotifyApp if dwInBufSize exceeds LARGEST_NOTIFICATION

3.13 V3.2.1.03

Enhancement

- Set calling convention at callback function types

- Add support for SylixOS on ARM64

- Add emonGetSlaveInpVarByObjectEx(), emonGetSlaveOutpVarByObjectEx()

- Add support for Codesys EtherCAT Master

- Improve hash table performance

Fixes

- Fix Kunbus TAP Curious support

- Fix invalid read in EC_COPYBITS at end of pbySrc

- Fix missing update of MonitorOD after slave address change

Platform

- Add support for emGetSlaveInpVarByObjectEx() and emGetSlaveOutVarByObjectEx() to RAS

- Add support for TI J721E to emllCPSWG

- Add emRasSrvSetLogParms()

- Add emllTap

- Add support for TI CPSWG AM6x and Jacinto 7 (j784s4) based on Enet LLD on FreeRTOS (emllTiEnetCp-swg)

- Add support for AMD Xilinx Vitis on FreeRTOS

- Add support for TI AM65x to emllCPSWG on Linux

- Add EC_LINKIOCTL_SET_MSECCOUNTERPTR to emllGEM

- Add emllDW3504 for Xenomai3 ARM_64Bit

- Add support for EC_NOTIFY_CLIENTREGISTRATION_DROPPED, EC_NOTIFY_CYCCMD_WKC_ERROR, EC_NOTIFY_*_INITCMD_WKC_ERROR, EC_NOTIFY_COE_MBXSND_WKC_ERROR, EC_NOTIFY_SLAVE_NOT_ADDRESSABLE, EC_NOTIFY*_ALL_DEVICES_OPERATIONAL to RAS client on PPC

- Add device IDs for I219LM and I219V

- Add support for emUnregisterClient(), EC_IOCTL_UNREGISTERCLIENT to RAS Client on PPC

- Update atemsys V1.4.28

  – Fix PCIe compatibility for atemsys < V1.3.5

  – Fix support for Kernel > 6.05.00

  – Fix ATEMSYS_IOCTL_CPSWG_CMD Kernel version

  – Add support for Device Tree Ethernet driver to CPSWG

  – Fix support for arm/aarch64 Kernel >= 6.00.00

  – Fix of_dma_configure version

  – Add ATEMSYS_IOCTL_IOMEM_CMD for Kernel mode access to protected registers

  – Add ATEMSYS_IOCTL_CPSWG_CMD to configure K3_UDMA_CPSWG channels, flows and rings

- Add emllRemote for Linux, Windows

- Fix OsWaitForEvent(…, dwTimeout) on RTOS-32

- Fix missing DLLs in EC-STA packages

- Fix dependency of compiled OsLayer to Sources/OsLayer on Windows

- Deactivate Filters in the NDIS driver

- Fix emCoeGetODList(), emCoeGetObjectDesc(), emCoeGetEntryDesc() for RAS Client on PPC

- Remove duplicate warning of missing PREEMPT RT patch on Linux

- Fix long timeout at RAS Client disconnection after socket shutdown

- Fix emNotifyApp() over RAS without emRegisterClient() at RAS Client

- Fix EcMbxGatewayClnt uploads not existing object for internal config slave cache

- Fix EcMbxGatewayClnt logging (EC_T_MBX_GATEWAY_CLNT_CONDESC::LogParms)

- Fix erroneously deregister client in RAS Server for previously dropped client

- Fix RAS Client EC_LOG_LEVEL_INFO_API logging

3.14 V3.2.1.02

Enhancement

- Add eEthTap_PortMirror
- Add emonTferSingleRawCmd to support register read via RAS
- Add swap data support
- Add application performance measurements to CSV output

Fixes

- Fix emonGetSlaveFixedAddr() for MASTER_SLAVE_ID
- Fix timing task CPU affinity
- Fix potential naming conflict of Expat library
- Fix crash if ENI contains no logical commands
- Fix missing refresh of EC_T_SLVSTATISTICS_DESC::wAlStatusCode
- Fix erroneous EC_NOTIFY_FRAME_RESPONSE_ERROR in case of mailbox repeating
- Fix emonBacktracePacketCapture in case of packet capture processing and job task paused
- Fix console logging freeze on RTOS-32 (regression since V3.1.4.05)
- Fix cycle time performance measurement is implemented in eUsrJob_SendAllCycFrames instead of eUsrJob_StartTask (regression since V3.1.2.03)
- Fix registered client lookup on notification
- Fix missing string termination in SDO value log message of DEFTYPE_VISIBLESTRING in CoeReadObjectDictionary() in examples
- Fix Master OD reading canceled at RX PDO mapping and TX PDO mapping in CoeReadObjectDictionary() in examples

Platform

- Remove support for T-Kernel and eT-Kernel
- Add FP Real-time Accelerator for Windows
- Add support for Broadcom BCM5719 (emllBcmNetXtreme)
- Remove obsolete EC_LINKIOCTL_REGISTER_FRAME_CLBK, EC_LINKIOCTL_UNREGISTER_FRAME_CLBK
- Add MAC Protection for Rockchip RK3588 and RK3568
- Use poll() or epoll() instead of select() for sockets
- Add support for i.MX93 to emllFslFec
- Fix support for KSZ9131 (disable EEE in Phylib)
- Add EC_T_LINK_PARMS_GEM::bNotUseCacheSync to fix performance issue with emllGEM e.g. on older systems by disabling internal LinkOsCacheDataSync() (default: enabled)
- Add support for MAC protection to emllDW3504 on Rockchip RK3399
- Fix crash in rt_task_inquire due to bug in Xenomai3 API
- Fix emllIntelGbe EcLinkGetSpeed()
- Fix DW3504 Altera Cyclone Performance issue by turn off cache sync

- Fix memory leak in emllAlteraTSE

- Fix emRasSrvStop hangs on EC-Win(RTOS-32)

- Configure TTS interrupt only if EC_T_LINK_PARMS_ICSS::TtsParms::pfnStartCycle set

- Fix emllRZT1 MAC address reset

- Fix RAS server on RTX64 (broken since V3.1.4.01)

- Fix threading on TI-RTOS AM65x (e.g. RAS server starved)

3.15 V3.2.1.01

Enhancement

- Add CopyInfo to EC_T_PROCESS_VAR_INFO

- Change IPv4 parameter variables type from EC_T_DWORD to EC_T_IPADDR

- Remove legacy performance measurement APIs

- Add pdwVersionType parameter to emonGetVersion()

- Add EC_T_MONITOR_STATUS::eEthTapType

- Rename RAS client and server to EcMonitorRasClient and EcMonitorRasServer

- Rename emPerfMeasInternal… to emPerfMeas…

Fixes

- Fix erroneous detection of RX frames as TX for Wireshark traces containing only RX frames.

- Fix crash in emonCoeSdoUpload if CoE storage and notification disabled

- Fix reentrancy of emInitMonitor() after emInitMonitor() was called with bad parameters

- Fix crash in EcLinkFreeRecvFrame for some link layers

Platform

- Fix emllIntelGbe EcLinkGetSpeed()

- Add pdwSpeed parameter to EcLinkGetSpeed

- Add support for 64Bit DMA physical address on INtime6

- Add szLoadPath to EC_T_LINK_PARMS

- Add QNX SMMUMAN support

- Add support for Rockchip DW3504

- Add support for IRQ CPU affinity on Linux

- Add device IDs for Intel Pro/1000 (i8254x) I226

- Add support for Xilinx KR260 SGMII Port

- Fix INVALID_STATE in CEcWrapperDotNet::DeinitInstance() if started with MbxGatewaySrv

- Add support for SGMII on Marvell 88E1510 for Intel DW3504

- Fix DW3504 Rockchip Clocks and second Instance

- Fix EcatDrv to support KeTimer period < 16ms

3.16 V3.2.0.03

Enhancement

- Use default TaskId 0 if eUsrJob_StartTask called with EC_NULL
- EC_COPYBITS_INLINE declare EC_T_BYTE* pbySrc as const
- Add EC-Monitor QNX71 support
- Add emonReadSlaveRegister

Fixes

- Fix IntelGbe EclinkOpen() faulty log messages
- Fix RAS protocol corruption in case of concurrent send requests at server
- Fix crash in EC-Wrapper .NET if variable size exceeds 512 bytes
- Fix text translation crash in EC-Wrapper
- Fix bit offset of process variables Inputs.DevicesState and Inputs.BusTime
- Fix crash in EC-Wrapper .NET if variable size exceeds 512 bytes
- Fix text translation crash in EC-Wrapper EtherCAT Network Monitoring

Platform

- Add Device ID for Intel Pro/1000 I82545EM Copper
- Update atemsys V1.4.25
    - Add IOCTL_INT_CPU_AFFINITY
    - Add Device Tree Ethernet driver support for RockChip

3.17 V3.2.0.02

Enhancement

- Add "-maxbusslaves" parameter to examples
- Prolong Eval time limit from 10 to 30 minutes
- Enhance frame direction detection
- Add pcap file name support to EcMonitorDemo

Fixes

- Fix value distribution for min and max bin in performance measurement histogram
- Remove systematic delay of 250ms within emConfigLoad(), emConfigureMaster(), emConfigExtend(), emDeinitMaster(), emRescueScan(), emSelfTestScan()
- Fix frame processing in case of all RX frames missing
- Fix incomplete wireshark trace recordings
- Fix crash in case of multiple cyclic entry ENI

Platform

- Microsoft ® Windows ® Visual Studio ® project files updated to VS2015
- Add EC_T_LINK_PARMS::dwLinkSpeed
- Add support for STM32MP135 to DW3504
- Add support for ecatNotifyApp() from RAS Server application to RAS Client application

- Change connection type from UDP to TCP for emllProxy

- Fix memory leak in RAS Client if connection lost while EoE-Endpoint active

- Fix EC_COPYBITS out-of-bounds read from pbySrc

- Update atemsys V1.4.24

  – Fix PCI bars

  – Add Device Tree Ethernet driver support for STM32mp135

3.18 V3.2.0.01

Enhancement

- Change EC-Monitor API Prefix from "em" to "emon"

Platform

- Add IstStackSize to all Linklayers parameters

- Change Mutex default setting for Linux

- Update atemsys V1.4.22

  – Fix Build Warnings

  – Fix kernel config depending irq structures

  – Fix kernel version 4.12 to 4.15 for handle of dma_coherent bit

  – Add IOMMU support, new mapping to userspace active and tested for kernel > 5.4, use old mapping with ATEMSYS_LEGACY_DMA=1 define or activate new mapping with ATEMSYS_LEGACY_DMA=0 define for older kernel

3.19 V3.1.4.06

- Add emStartLivePacketCapture to EcMonitorDemo

- Add support for fragmented CoE SDO Info mailbox transfers

- Fix read multiple *.pcap files

- Fix frame type (cyclic/acyclic) detection if cyclic frame contains NOP commands

- Fix rebuild topology from bus scan failed in packet capture processing mode

- Add emNotify - eMbxTferType_COE_GETODLIST

- Add slave station address to EC_T_COE_ENTRYDESC, EC_T_COE_OBDESC and EC_T_COE_ODLIST

- Add frame response error type eRspErr_CRC

- Remove BlockNode handling from CEmNotification

- Fix slave information prints contain "ERROR: Not found" in examples

- Fix crash in case of invalid ENI containing a hot connect group head slave with physical address equal to zero

- Increase log buffer in examples

Platform

- Force disconnection using PHY loopback for emllI8254x if ResetOnDisconnect not set

- Add support for emllTiEnetIcssg on AM64xEVM with FreeRTOS

- Add emllDW3504 for Xenomai

- Select 'ECAT Protocol Driver' installation on Windows by default if not currently installed

- Fix PCI link layer support for QNX ARM 32 Bit

- Add DCM MasterShift for QNX

- Add support for emllGEM on Xilinx Kria KR260

- Fix missing ATEMRAS_NOTIFY_CONNECTION EMRAS_EVT_SERVERSTOPPED on connection termination by server

- Fix TX hang in emllI8254x for I219 after uncontrolled termination

- Fix lock-up in EC-Wrapper RAS connection on termination by server

- Set default stack size to 0x8000 for 64 Bit architectures

3.20 V3.1.4.05

- Add histogram export to examples

- Fix no messages in error log if NOPRINTF defined

Platform

- Add emllBcmGenet for Raspberry PI 4 (BCM2711)

- Fix reset MAC address at DW3504

- Fix memory leak in OsCreateEvent() on Linux, Xenomai, RTEMS and SylixOs in case of semaphor initialization error

3.21 V3.1.4.04

- Add Hilscher netANALYZER Ethernet TAP support

- Enhance Live Packet Capture

- Add emNotify - eMbxTferType_COE_GETENTRYDESC

Platform

- Add support for VxWorks70

3.22 V3.1.4.03

- Add packet capture processing command line option "-play"

- Add "-oem" command line parameter to examples

- Fix FoE monitoring in Bootstrap

- Extend pcap file format support (nanosecond pcap)

- Add FoE monitoring support

- Add interrupt support

Platform

- Increase resolution for OsSystemTimeGet() on Windows

- Add bDisablePromiscousMode and bDisableForceBroadcast parameters to emllNdis

- Add absolute path support alternative to OsGetLinkLayerRegFunc for VxWork70

- Fix counter overrun in OsQueryMsecCount on VxWorks69 PENTIUM4

- Fix RTOS-32 is not supporting cycle times below 1000us (broken since V3.1.1.06)

- Fix occasional crash in RAS Server on EC_IOCTL_UNREGISTERCLIENT

- Fix occasional crash on emRasClntRemoveConnection after emRasSrvStop

- Fix Interrupt Mode support for emllProxy

- Fix Multi Tasks Configuration doesn't work with emllNdis Linklayer

- Fix memory leak on RAS socket disconnect while API call pending

- Fix to block emRasClntRemoveConnection, emRasSrvStop until all worker threads terminated

3.23 V3.1.4.02

- Add emGetSlaveInfo

- Add performance measurement level to -perf command line parameter

- Add emGetMemoryUsage over RAS

- Fix topology after reconnect/restart/communication timeout

- Fix EC_NOTIFY_TAP_LINK_STATUS in interrupt mode

- Fix CoE response and abort handling

- Fix blocking API handling over RAS

Platform

- Add MAC protection to emllFslFec for i.MX8 and i.MX8m

- Fix CPSW transmit channels to work with acontis CPSW Linux driver patch

- Fix command line contains unexpected application name in RTOS-32 config files

3.24 V3.1.4.01

- Add notifications:

  – EC_NOTIFY_PDIWATCHDOG

  – EC_NOTIFY_STATUS_SLAVE_ERROR

  – EC_NOTIFY_SLAVE_ERROR_STATUS_INFO

  – EC_NOTIFY_SLAVE_STATECHANGED

  – EC_NOTIFY_CYCCMD_WKC_ERROR

- Fix bus load average 0 in case of Monitor and Master run with different cycle times

- Fix unfilled MbxData after emCoeGetODList

- Don't call OsMeasCalibrate() if performance measurement is disabled

- Rename PerfMeas distances to offsets

Platform

- Fix i8254x interrupt mode on ARM/AARCH64

- Updated to ECAT NDIS Protocol Driver Setup V3.1.3.4. Hide command window during driver installation

- Updated to atemsys V1.4.20

    – Fix support for CMA (Contiguous Memory Allocator) for kernel > 4.9.00

3.25 V3.1.3.03

- Add EC_T_MASTER_INFO::dwMasterStateSummary

- EC_T_MASTER_INFO::BusDiagnosisInfo data available even if compiled with EX-CLUDE_MASTER_OBD

- Add EC_IOCTL_SET_NOTIFICATION_ENABLED and EC_IOCTL_GET_NOTIFICATION_ENABLED

- Add MasterSyncUnit support

- Fix interrupt mode support

- Add EC_T_PACKETCAPTURE_PARMS::bReadMultipleFiles for emOpenPacketCapture()

- Cycle time and JOB_Total timer missing in EcSimulator since V3.1.2.10

Platform

- Updated to atemsys V1.4.18
  Remove obsolete ARM cycle count register(CCNT)
  Fix PCI driver do registration for all Ethernet network adapters
  Add modul parameter AllowedPciDevices to adjust PCI driver

- Add CPU affinity support to Link Layers supporting interrupt mode

3.26 V3.1.3.02

- Support ENI file with CU2508 only

- Add support for emCoeGetODList

- Add EC_T_MONITOR_STATUS::bNextCyclicEntryReceived, rename EC_T_MONITOR_STATUS::bFramesInLinkLayerPen to bNextFramesReceived

- Add EC_NOTIFY_SB_STATUS, EC_NOTIFY_SB_MISMATCH

- Fix build topology immediately in packet capture processing mode

- Add process data input mapping for Inputs.BusTime and Inputs.DevicesState

Platform

- Add RTL8168H support to emllRTL8169

- Fix DMA buffer alignment in emllRTL8169 (regression since V3.1.3.01)

- Fix DMA allocation, requesting memory below 4GB for AARCH64/ARM64 on QNX

- Updated to ECAT NDIS Protocol Driver V3.1.3.2
  Move promiscuous mode setting from NDIS Link-Layer to NDIS protocol driver
  Add an entry "DontSetPromiscuousMode" in the Windows registry to avoid setting promiscuous mode in ECAT NDIS Protocol Driver
  Rename Setup to "ECAT NDIS Protocol Driver"

- Fix EcatDrvGetDrvVersion on Windows (regression since V3.1.3.01)

- Add RTL8125 support to emllRTL8169

- Updated to atemsys V1.4.17.
  Fix atemsys dma_set_mask_and_coherent() missing in kernels under 3.12.55

- NDIS fix start-up with link disconnected

3.27 V3.1.3.01

- Add the InitMonitor parameter dwMbxRecordBufferSize to specify a buffer size for Mailbox recordings

- Fix crash on Xenomai when recording a Coe Object dictionary

3.28 V3.1.2.11

- Fix unset eMbxTferType in COE SDO upload notfication when using emCoeSdoUploadReq

- Add EC_NOTIFY_COMMUNICATION_TIMEOUT and EC_NOTIFY_TAP_LINK_STATUS

- Add EC_T_MONITOR_INIT_PARMS::bApiLockByApp

- Add WKC State Support

3.29 V3.1.2.10

- Extend EC_T_FRAME_RSPERR_DESC with wCycFrameNum and dwTaskId

- Fix emGetBusSlaveInfo returns EC_E_NOTFOUND if called with autoinc addressing for some hot-connect configurations

3.30 V3.1.2.09

- Fix CoE Emergency notification

- Fix high CPU load in eUsrJob_MasterTimer

- Fix emGetSlaveState in case of slave is not present

3.31 V3.1.2.08

- Enhance Hot-Connect support to detect groups on master start-up

- Add EC_NOTIFY_MBOXRCV notification for emCoeSdoUploadReq

- Add API emHCGetSlaveIdsOfGroup and emHCGetNumGroupMembers

- Store eMbxTferType_COE_SDO_DOWNLOAD and eMbxTferType_COE_SDO_UPLOAD in object dictionary accessible through emCoeSdoUpload

3.32 V3.1.2.07

- Add EC_NOTIFY_MBOXRCV for eMbxTferType_COE_SDO_DOWNLOAD and eMbxTferType_COE_SDO_UPLOAD

- Enable jumbo frame support for i8254x by default

- Enhance Hot-Connect support to detect connection and disconnection of Hot-Connect groups

- Enhance cycle/frame loss detection in states INIT, PREOP and during transitions

3.33 V3.1.2.06

- Fix cycle/frame loss detection for cyclic tasks with more than one frame
- emGetSlaveState returns the current and requested state accordingly to AL-Control, AL-Status respectively

3.34 V3.1.2.05

- Add PCAP file format support for "Nokia tcpdump" and "Modified tcpdump"
- Fix Object 0x2001 "Master State Summary", Bit 10: Bus Scan Match and Bit 16: Link Up
- Add PCAPNG file format support
- Add position independent ethernet tap support
- Fix link status after emInitMonitor

3.35 V3.1.2.04

- Fix emGetMonitorParms

3.36 V3.1.2.03

- Add EC_IOCTL_GET_CYCLIC_CONFIG_INFO, EC_IOCTL_IS_SLAVETOSLAVE_COMM_CONFIGURED, EC_IOCTL_CLR_SLVSTATISTICS
- Fix emGetSlaveInpVarInfoEx, emGetSlaveOutpVarInfoEx
- Add QNX7 support
- Add basic hot connect topologies support

3.37 V3.1.2.02

- Add emIsSlavePresent, EC_IOCTL_ISLINK_CONNECTED, EC_IOCTL_GET_LINKLAYER_MODE
- Fix performance measurement in EcMonitorDemo
- Fix invisible slave handling
- Add Xenomai3 support
- Add emGetMonitorStatus
- Add emBacktracePacketCapture

3.38 V3.1.2.01

- Change emOpenPacketCapture parameter set
- Add emStartLivePacketCapture, emStopLivePacketCapture
- EcMonitorDemo exclude EcDaq dependency
- Add Object 0x2200 "Bus Load" support
- Fix Object 0x2002:03 "Bus Diagnosis"

3.39 V3.1.1.07

- Add Object 0x2001 "Master State Summary", Bit 8: Slaves in requested State

3.40 V3.1.1.06

- Initial release of EC-Monitor