EtherCAT® Workbench - Release Notes

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Revision history

Listed below are the improvements, changes and fixes between different releases of the [EtherCAT Workbench](#) in reverse chronological order.

Version 1.4.2

Release date: 2021-09-11

New features

- Startup of the EtherCAT Workbench without elevated privileges, elevation only for local master service start
- ETG.5001 Modular Device Profile support with modules/slots
- DC-settings from EEPROM
- Cyclic data update option for "Process Data/Image" and Slave "CoE Dictionary"
- "colored" filter for CoE dictionary entries
- Scan online net options in global settings (Standard = like before, Manual and Always)
- CoE Tool under Slave "Device Specific" tab
- New menue under "Tools" to copy a folder to the slave library
- General scripting functions: GetSelectedSlaveAddr
- CoE scripting functions: SlaveCoEInitCmdRemoveAll, CoEDictionaryRecreateFromESI, CoEPDORecreateFromESI, CoEPDORecreateFromEEPROM
- DC scripting functions: DCRecreateFromESI, DCRecreateFromEEPROM, DCRecreateEmpty
- MDP script functions: MslGetSlots, MslListAllModules, MslListModules, MslGetSlotAssignment, MslSetSlotAssignment, MslClearSlotAssignment, MslAssignModule, MslUnAssignModule, MslGetModuleSetNames, MslGetModuleSet, MslRequestSlotAssignment
- Example script "ModulesSlotsDC.py"
- Show slot number for CoE dictionary objects
- Data types according to ETG.1020 (base data types)
- CoE/SDO Read/Write extended to data length 4096 (from 1024)
- Added support for SI/SO/SP flags of FSoE related objects

Fixes

- Export of Config/Slave/ProcessData/"Pdo-Type"/Sm sometimes missing
- EEPROM size calculation fixed
- Import CoE Access Read/WriteRestrictions fixed
- Scanned slave: don't generate init commands for default values of WatchdogMultiplier, WatchdogPdiValue and WatchdogSmValue
- ENI export: VendorId, ProductCode, RevisionNo, SerialNo as "uint" instead of "int"
- Exit the EtherCAT Workbench after the last finished script when running as hidden
- General bugfixes and improvements

Component Updates

- XXXXXXXXX

Version 1.4.1

Release date: 2020-01-08

New features

- ESD ESI files are pre-installed in repository.
- Improved handling of device cache

Fixes

- Fixed EtherCAT Workbench binaries not signed with new EV publisher certificate.
- Fixed crash processing <Dictionary/DictionaryFile> key in ESI files if device cache was enabled.
- Fixed crash parsing <Dictionary/Objects/Flags/Attribute> key in ESI files.

Component Updates

- N/A

Version 1.4.0

Release date: 2019-12-20

New features

- Added support to distribute PDOs of a single slave which exceed 1486 bytes on consecutive Ethernet frames (EtherCAT commands).
- Added support to indicate master *Link Level Driver Framework* support in *Master Info* dialog.
- Added *MinSize*, *MaxSize* and *DefaultSize* member to mailbox classes Send/Recv.
- Added support for *IdentificationAdo* bit.
- Added support to create an offline CoE object dictionary derived from a separate file referenced inside the ESI.
- Device cache for slave library speeded up
- GUI: Splash dialog, minor design modifications and improvements in user guidance
- GUI: Add Slave dialog with detailed info area (revision, ports, FMMU, SM, mailbox, SDO, PDO, DC)
- GUI: Change slave revision dialog
- GUI: Indication of cable redundancy in the topology view as redundant adapter
- Scripting: No interactive scan dialog when running scripts
- Scripting: New "eewHelper" modal dialogs (WorkbenchMessageBox, WbMBoxConfirm, WbMBox)
- Scripting: New "eew" methods: VarGetList, CoEGetObjectName, AppendRx/TxPDO
- Scripting: New samples: "GetVariableList", "Append PDO", "Python Std Lib Usage"

Fixes

- Fixed wrong WKC for PDOs distributed on consecutive Ethernet frames if process variable definition leads to LRW commands where data is only read or written.
- Install and run under .NET 4 (without .NET 2 / 3.5)
- Preserve slave names on scan and merge with existing project.
- "Reset all windows settings" retains configured user password.
- Fixed crash for SII/EEPROM DC category with more than one entry.

Component Updates

- EtherCAT Master V1.10.2

Version 1.3.4

Release date: 2016-07-29

New features

- Added compatibility to .NET 4 framework and show .NET framework in use in *About* dialog.
- Added properties to modify *MboxDataLinkLayer*, *IdentALSts* and *IdentPhyM* flag located @ offset 0x0B in the category *General* according to ETG.2010.
- Added support to edit *DC category* of SII/EEPROM data.
- Added *Fast Hot Connect* type as port type.
- Added missing support for *ExplicitDeviceID* mechanisms in SII category 'General'.
- Added support to choose between 32- and 64-bit DC timestamp distribution.

Fixes

- N/A

Component Updates

- EtherCAT Master V1.9.6

Version 1.3.3

Release date: 2014-08-08

New features

- Workbench Scripting

  - Added method *SlaveCoEInitCmdAdd()* to add CoE init Cmds to slave
  - Added *AddBeckhoffSlave()* to add Beckhoff® Slaves by their name (e.g. "EK1100-0000-0017") instead of product code and revision number.
  - *SetSlaveProperty()* enhanced by properties: "PDOContent" and "SupportsCompleteAccess"
  - New methods *AddedSetWorkbenchExitCode()*, *SetWorkbenchCloseOnScriptEnd()* and *GetWorkbenchCmdLine()*

- Minor enhancements

  - Project GUID to avoid using different projects when connecting to master in monitoring mode now relaxed
  - If the local EtherCAT master service is unchecked during installation, the System does not ask for / require admin privileges at Workbench startup anymore

Fixes

- Issues with certain digital I/O Modules

  - 1-byte-SMs were assumed to be in 3-buffer-mode / single FMMU handling multiple adjacent SMs wasn't recognized

Component Updates

- EtherCAT Master V1.9.1

Version 1.3.2

Release date: 2014-08-08

New features

- Support for esd EtherCAT Master's new monitor mode

    - In that mode the master runs independently from Workbench by its own application
- Output variables can now be monitored, too

    - Output variables are read from master's process image, just as inputs
- Minor enhancements

    - Added option to send process data commands for a slave only in Op and not in SafeOp.
    - Variables for EtherCAT bridge can now be created automatically according to a given image size.
    - Added support for addressing slaves by alias/fixed address only.
    - *Switch Port* is now the default EoE mode for EoE slaves without ESI file.
    - DC Diagnostic tab to create variable monitors for deviation can now handle multiple slaves.
    - Scripting's *AddSlave()* now supports `null/None` also for previous port, to automatically select a suitable previous slave.
    - Supporting esd EtherCAT Masters with password protected connection.
    - Minor updates to variable monitor window: Statistics button, Min/Max selectable by mouse.
    - Several master settings are now verified when going to free run, to warn if something differs from configured/expected setting.
    - Slave images: If no image exists parent (group/vendor) image now used.
    - Included master's server socket can now be bound to a specific IP address.

Fixes

- Offline CoE dictionary creation failed if items with MaxData/MinData element exist.

Component Updates

- EtherCAT Master V1.9.0
- Remote Interface V1.6.0

Version 1.3.0

Release date: 2014-03-04

New features

- SoE support added

    - Servo drive profile support: Complete online dictionary and init command support for AT/MDT lists, similar to CoE
- Support for "Hot Connect Groups"

    - To define groups of slaves that may be connected/disconnected any time (currently only for export to ENI, not yet supported by included Master)

- Support for "Sync Units"

  - By assigning slaves to sync units it's possible to define which slaves' process data is handled by the same EtherCAT command
- Minor enhancements

  - Forms now correctly scaled where Windows DPI setting was increased.
  - IP addresses of some remote esd Masters can now be discovered automatically.
  - Topology View enhanced / now also shows some ESC error counter.
  - Messages log flickering reduced.
  - Keeping temporary history of entered master IP addresses.
  - EtherCAT Bridge page allows to clone variables from other slaves.
  - Slave EEPROM data "Comparison" menu. Some more scripting functions.
  - ENI export now automatically saves Workbench project file there too.

Fixes

- Few slaves could not be scanned

  - Where link bit in DL Status register was not set as expected
- Setup failed to update some existing installations

  - Uninstalling these versions first is now mandatory

Component Updates

- EtherCAT Master V1.8.0
- Remote Interface V1.4.1

Version 1.2.1

Release date: 2013-05-30

New features

- Added FoE support

  - See new page "FoE" in Slave's mailbox tab

Fixes

- Removed item limitation when creating CoE dictionary from online data

Component Updates

- EtherCAT Master V1.6.0
- Remote Interface V1.4.0

Version 1.2.0

Release date: 2013-03-22

New features

- Process image layout more configurable

  - "Packed" layout (i.e. without gaps for Ethernet frame / command headers) now possible

- Slave2Slave Communication

  - Slave input variables/PDOs can now be mapped to slave output variables/PDOs
    (The master performs the copy operation, see in ETG.2100 specification)
- Custom cyclic commands

  - Added convenient editor to add own cyclic EtherCAT commands
- EtherCAT Bridge Devices

  - Added device specific tabs for EtherCAT Bridge devices (e.g. esd ECX-EC)
- Distributed Clocks

  - Topology form now shows some DC items (Deviation, Delay and Time)
  - Added DC diagnostics tab that allows to setup slaves DC sync units manually
- Minor enhancements

  - CoE init. commands can now be cloned to other slaves
  - ESI EEPROM data creation can now use items from .xml ESI
  - Other minor changes to usability/GUI etc.

Fixes

- Minor bugfixes and performance improvements

Component Updates

- EtherCAT Master V1.5.0
- Remote Interface V1.3.1

Version 1.1.1

Release date: 2012-07-16

New features

- Custom EtherCAT Frames

  - For diagnostic purposes it's now possible to send any EtherCAT frame with the Workbench
- Minor changes

  - Master info now also show version number of remoting interface
  - Slave EEPROM details list slightly enhanced EoE

Fixes

- EERPOM Writing

  - EEPROM write access in Workbench V1.1.0 was incorrect

Component Updates

- EtherCAT Master V1.4.8
- Remote Interface V1.3.0

Version 1.1.0

Release date: 2012-06-12

New features

- EoE

  - Added *Virtual Port* (The master forwards frames between EtherCAT and local virtual network interface)

- CoE variables

  - The variable editor now has basic support for Unicode strings

- Scripting support

  - The EtherCAT Workbench GUI is now scriptable via [IronPython](#) V2.6.2
  - Current main features:
  - Going online/offline/free run etc.
  - Reading/writing process variables
  - Reading/writing CoE objects
  - Reading/writing complete slave EEPROMs
  - Adding custom buttons to the Workbench GUI

- MDP specific pages

  - Profile No. 5000, "CAN Interface" (Set/get baud rate, send/receive CAN frames via CoE dictionary if supported by device, etc.)

- Adjustable delay for EEPROM write access

- Some slave EEPROMs failed to be written without increased delay

Fixes

- Editing CoE variables with custom length

  - The variable editor is now able to handle PDOs with flag "Fixed"
  - Now correctly excluded when downloading PDO configs

- Mailbox SM size

  - Mixed size calculation error when mailbox settings are changed

- Minor bugfixes and performance improvements

Component Updates

- EtherCAT Master V1.4.7
- Remote Interface V1.2.0

Version 1.0.1

Release date: 2011-08-23

New features

- Added alias address editor
- Allows to edit alias addresses for all slaves at once
- Added PDO configuration editors
- Allows to add/remove or change contents of PDOs manually
- New options
- Slave Init Commands: "PreOp retries" -> Affects ENI: "Retries" value for commands to change state to PreOp
- Master: "Max acyclic frames" - Max. No. of acyclic frames the master will send in each cycle

Fixes

- Slave process data / PDO assignment

    - Wrong SM size was calculated when PD objects were recreated from ESI multiple times
    - Upload of PD objects ("Online by SDO info service") now also includes current assignment
    - Minor bugfixes and performance improvements

Component Updates

- EtherCAT Master V1.4.2
- Remote Interface V1.1.0

Version 1.0.0

Release date: 2011-05-19

New features

- Initial release