Release Note CODESYS V3.5 SP17 Patch 2

29.10.2021

1 Release Notes

Key	Summary	Release Note	Component/s
CDS-71069	Library Manager: Documents or files are displayed or executed without first checking their validity	**[[GENERAL]]** For more details see Advisory 2021-03, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14639&token=fa836f8bd4a2184aa9323a639ca9f2aaf1538412&download=	CODESYS
CDS-40084	Packages: Introduce signatures	**[[GENERAL]]** For more details see Advisory 2021-02, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14636&token=1ce7e6e4cbe4651989ede418450d7c82e972bdf2&download=	CODESYS
CDS-68721	Compiler: Special initialization construct with Property of REFERENCE TO ARRAY OF <interface> and THIS^ pointer may not lead to expected result	**[[GENERAL]]** The problem exactly occured in the following situation: a function block instance is assigned to a property of reference to array of interface type: x.RefToArrayOfITF[0] := inst; in this case, the pointer assigned to the array is corrupted and a call results in a crash. Fixed with Compiler Version >= 3.5.17.0	CODESYS

CDS-72724	J1939: Database violates terms of use!	**[[COMPATIBILITY_INFORMATION]]** With CODESYS 3.5.17.0 and higher the J1939 configurator does not contain the deprecated parametergroup/signal database anymore. Now it is possible to install a new updated parametergroup/signal database via a DBC file in the J1939 Manager editor. An up to date J1939 DBC database can be purchased from CSS Electronics: https://www.csselectronics.com/screen/product/j1939-dbc-file-pgn-spn You can use the 5% discount code: J1939DBC_CODESYS	CODESYS

CDS-71157	Build Commands: Remove Build and Rebuild commands from menu by default	**[[GENERAL]]** The build menu for a project now contains only 3 commands - Generate Code (F11) - Clean - Clean All The icon that was used for build is now used for generate code. The short cut F11 and the tool bar button now invokes generate code. The old build command can be customized, if necessary. Removed from the build menu are: - Build - Rebuild - Generate runtime system files (m4 export) The build menu for a library has changed, too: Generate runtime system files is now only available for a library. Check all pool objects now uses the same short cut F11 and the same icon and the same tool bar button as the generate code command. A new command Generate Code for Active Application is available in libraries in case that the library contains an application in order to build this application. No short cut and no tool bar button is available for this command.	CODESYS
CDS-72734	CodeMeter: Update to current version 7.10a	**[[GENERAL]]** For more details see Advisory 2020-06, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=13245&token=12e702eb28edb2de082dc2f5e1375bea35c2fd1d&download=	CODESYS, CODESYS Control, CODESYS Control RTE, OPC Server

CDS-71574	CodeMeter: Update to current version 7.00b	**[[GENERAL]]** For more details see Advisory 2020-06, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=13245&token=12e702eb28edb2de082dc2f5e1375bea35c2fd1d&download=	CODESYS, CODESYS Control, CODESYS Control RTE, OPC Server
CDS-70909	Compiler: Move Parsetree duplication to later phase	**[[GENERAL]]** More phases of the compile process are now done in parallel in several threads. This increases speed and lowers the peak in memory consumption during the compile process, because a lot of data is now only created temporary. To achieve this, it was necessary to restructure the compile process largely. This could have an effect on AP-Plugins that directly intervene in the process, especially for instrumentation of existing code. If, for example, a plugin reacts on OnAfterCompile with introducing additional statements in compiled POUs, this will no longer work by simply manipulating the ParseTree of a CompiledPOU. In order to get a ParseTree that can be manipulated a new Method is introduced: sequence = (comcon as ICompiledApplicationSetForInstrumentation).CreateParseTreeOfPOUForInstrumentation(cpou); This will only work during compile! The function should only be used on selective POUs, since it destroys the positive effect on memory consumption an compile time of the rework.	CODESYS

CDS-73957	CODESYS SoftMotion WinV3 / RTE V3: add deprecation warning to description of device description.	[[COMPATIBILITY_INFORMATION-EndUser]] New versions of the Windows-based soft PLC can now run Soft Motion applications, so the old special Soft Motion Controllers are no longer needed. The Windows Soft Motion device descriptions may not be updated in future service packs. Use the CODESYS Control devices instead of the CODESYS for new applications and consider updating existing applications to the new PLC device descriptions.	CODESYS Control, CODESYS Control RTE
CDS-58839	ResetOriginDevice: Should be configurable	[[COMPATIBILITY_INFORMATION]] The reset origin device can now be configured to keep dedicated objects during the reset. If the reset origin device is triggered by an old client (e.g. a CODESYS IDE <= V3.5.16.0) all objects for which the current user has the needed rights will be deleted. This behaviour does already apply for the UserManagement since V3.5.12.0 (only if an administrator executes the reset origin device, the user management is deleted) and is now extended for all new options (e.g. certificates).	CODESYS Control
CDS-72923	CODESYS Control for Linux (and ARM) SL: update wibu codemeter package to 7.10a	[[GENERAL]] For more details see Advisory 2020-06, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=13245&token=12e702eb28edb2de082dc2f5e1375bea35c2fd1d&download=	CODESYS Control

CDS-71310	CmpRouter/CmpRouterEmbedded: Crafted packet may cause a DoS	**[[GENERAL]]** For more details see Advisory 2020-02, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=13077&token=3bfc6d1d08415a6260b96093520071f5786e7fd4&download=	CODESYS Control
CDS-73742	CODESYS Control: Enable online user management by default	**[[GENERAL]]** The user management on the device is now enforced by default. No login to the runtime is possible any longer without activating the user management. Activating the user management can be done by connecting with a CODESYS IDE (version must be at least V3.5 SP16). During the first connect, the user is allowed to configure an administrator user with own credentials. For more details see Advisory 2019-08, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=12943&token=d097958a67ba382de688916f77e3013c0802fade&download=	CODESYS Control, CODESYS Control RTE
CDS-69923	New placeholder needed for CmpCodeMeter .cmact_licenses folder ($.cmact_licenses$)	**[[COMPATIBILITY_INFORMATION-OEM]]** New placeholder can be used to specify the folder to store CmAct container on CodeMeter Embedded runtimes: "$.cmact_licenses$" On systems with CodeMeter Runtime, the placeholder can be used to backup/restore licenses.	CODESYS Control

CDS-67954	Router: Prevent broadcasts as receiver address	**[[GENERAL]]** For more details see Advisory 2021-01, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14640&token=623b6fceb0579ef0f7505e29beefa5b3f8ac7873&download=	CODESYS Control
CDS-66960	CmpFileTransfer/CmpUserMgr: Many files in FilePath might lead to longer bootup times	**[[COMPATIBILITY_INFORMATION]]** If UserManager is part of the runtime FileTransfer supplies the UserManager with a directory tree at startup. The standard directory is recursively parsed and every folder becomes an object in the file tree in the access rights window. To preserve memory and time at startup, the parsing depth can be limited with two new settings: UserMgrDirLevel and UserMgrDirEndpoint, see https://customers.codesys.com/product-info/RTSOnlineHelp/Reference/group___cmp_file_transfer_itf___settings.html for details.	CODESYS Control

CDS-66448	CmpOpenSSL: improve interface for native OpenSSL implementation	**[[COMPATIBILITY_INFORMATION-OEM]]** If an OpenSSL version lower than 1.1.0 is used, the scrypt algorithm is not available. Therefore, the user management of the CODESYSControl Run-Time System is not available as well in this case.	CODESYS Control
CDS-63463	Freewheeling Task : Implicit cycle time and setting of load/sleep duration	**[[COMPATIBILITY_INFORMATION-EndUser]]** - Short running freewheeling tasks have a minimal sleep time of 1ms and so the CPU load is below 50% - Several running freewheeling tasks consume now in sum only the half of the processorload percentage (maximum 50%)!	CODESYS Control
CDS-73745	Simulation: deactivate user management and external access	**[[COMPATIBILITY_INFORMATION]]** For security reasons, the Simulation runtime within the CODEYS Development System no longer allows communication with the CmpBlkDrvTcp by default. The following setting in SimulationRts.cfg enables the access to the simulation from other local processes via CmpBlkDrvTcp again. We strongly recommend keeping the default value, if no specific clients need to communicate to the Simulation runtime system. [CmpBlkDrvTcp] EnableServer=1	CODESYS Control

CDS-71196	SysTimeRtcVxworks.c : Update of VxWorks TimeZone Information when 3S Timezone is set/changed	**[[GENERAL]]** The VxWorks environment variable TIMEZONE will be set/updated: 1) in initialization phase (either default values or retrieved setting values from <CODESYSControl.cfg> file -> section [SysTimeRtc] 2) when calling the function : SysTimeRtcSetTimezone( ) from IEC or C.	CODESYS Control
CDS-71999	CODESYS Control VxWorks fails to start, if "FilePath" directory does not exist	**[[GENERAL]]** Issue is implicitly solved with CDS-40468 "CmpSettings: It should be possible to add a new setting, even if the section is located in the readonly ini-file" (V3.5.16.0)	CODESYS Control
CDS-71179	VisuServer: Possible uncontrolled memory allocation	**[[GENERAL]]** For more details see Advisory 2020-05, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=13199&token=3e283c3e73fed61f7c181a7fa1169477efaf0c58&download=	CODESYS Control
CDS-75011	Gateway: DOS due to Access Violation	**[[GENERAL]]** For more details see Advisory 2021-04, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14637&token=8dbd75ae7553ae3be25e22f741db783b31e14799&download=	Gateway Server
CDS-72827	J1939: Big endian signals are wrong implemented.	**[[COMPATIBILITY_INFORMATION]]** Bit/Byte position for Big Endian systems were interpreted wrong in previous CODESYS versions. Start position always has to be the least significant bit! If you have existing projects with big endian signals you have to modify the bit positions accordingly when using the new J1939 stack.	Libraries

CDS-71350	Net Base Services : Mechanism for TCP_Client to retry SYN at defined intervals	**[[GENERAL]]** In order to recognize the establishment of a connection securely (system independent), it is necessary to send and receive data. This process is inherently application-specific. For this reason, a new attempt to establish a connection cannot be included generically in the library.	Libraries
CDS-71910	IecVarAccess: IecVarAccGetTypeNode3 returns unexpected TypeNode for ARRAY element behind REFERENCE	**[[COMPATIBILITY_INFORMATION-EndUser]]** The API's IecVarAccGetTypeNode3 (C) and VarAccGetTypeNode3 (IEC) will now return always the effective type node. References are now resolved completely by this function. You will not get a type node of a reference anymore.	Libraries
CDS-76817	CLONE - VxWorks: Implement SysSockGetFirstAdapterInfo to support gateway address	**[[GENERAL]]** Ethernet Adapters may have several default routes. Only first route is displayed. Functionality to read route information of an Ethernet adapter is only supported for VxWorks7 and greater versions.	CODESYS Control
CDS-76146	CLONE - WebServer: The server should not return the content of all files	**[[GENERAL]]** For more details see Advisory 2021-11, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=16803&token=0b8edf9276dc39ee52f43026c415c5b38085d90a&download=	CODESYS Control
CDS-77259	CLONE - Gateway: DOS due to null pointer dereference	**[[GENERAL]]** For more details see Advisory 2021-12, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=16804&token=d8c89c887979b22fdfc9fd5c3aa3804bbb1ddbff&download=	Gateway Server
CDS-77137	CLONE - VxWorks: OPCUA port 4840 down on max. concurrent connection scan	**[[GENERAL]]** For more details see Advisory 2021-10, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14806&token=637e12e86301b83beac1653bd88da3aa5aa3f51b&download=	CODESYS Control

CDS-77136	CLONE - Web server crashes when subjected to HTTP header memory exhaustion attack	**[[GENERAL]]** For more details see Advisory 2021-09, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=14805&token=f0b86f99bb302ddd4aadec483aed5f5d3fddbf1a&download=	CODESYS Control
CDS-77562	CLONE - BinaryFormatter: Vulnerability caused by deserialization of untrusted "MissingTypes" data	**[[GENERAL]]** For more details see Advisory 2021-13, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=16805&token=ee583c498941d9fda86490bca98ff21928eec08a&download=	CODESYS
CDS-77561	CLONE - BinaryFormatter: Vulnerability caused by deserialization of untrusted culture settings	**[[GENERAL]]** For more details see Advisory 2021-13, which is available on the CODESYS website: https://customers.codesys.com/index.php?eID=dumpFile&t=f&f=16805&token=ee583c498941d9fda86490bca98ff21928eec08a&download=	CODESYS
CDS-77178	[CLONE] - AccessDenied exceptions during setup or CODESYS startup	**[[GENERAL]]** ShadowCopy was deactivated for the executables CODESYS, PackageManager, PackageManagerCLI and IPMCLI Every call to one of this executables will result in a selfcall to the same executable, in which the called function is executed. In the wrapping call all files which need to be copied are copied after the inner call finished execution. If an error occurs during the copy operations a rollback is performed. If this rollback is not possible or fails, the installation will be marked as corrupted and a reinstall will be required. **[[COMPATIBILITY_INFORMATION-OEM]]** Having removed the .Net Shadow Copy mechnism may lead to access denied exceptions within OEM code trying to overwrite assemblies that are currently loaded. This may occur with OEM plugins running in a standard CODESYS executable during installation of plugins or packages via Autmation Platform API. Not affected are custom OEM executables still having .Net Shadow Copy active and installations via PackageManager or IPM executables.	CODESYS

2   Known Limitations

WinCE: Installation of licenses on dongles may not work

Licenses cannot be installed on dongles via CODESYS on a WinCE runtime.

To install the license plug the dongle directly to the PC running CODESYS and install the license there.

Once installed on the dongle the licenses will work as usual.

C167

No official release of C167 platform due to issues with test hardware and reference implementation of the runtime.

3   OEM information from JIRA

To read up on implemented features and changes you can use your JIRA account. Please find some **example** filters below.

List of features and changes:

fixVersion = "V3.5 SP17 Patch 2"

fixVersion = "V3.5 SP17 Patch 2" AND issuetype = "New Feature"

List of features and changes since CODESYS V3.5 SP17:

fixVersion in ("V3.5 SP17 Patch 2", "V3.5 SP17 Patch 1")

List of issues with compatibility information and known limitations:

fixVersion = "V3.5 SP17 Patch 2" AND (text ~ COMPATIBILITY_INFORMATION OR text ~ KNOWN_LIMITATIONS)

4   History

Created: Chris Trommeshauser (Quality Assurance)

Reviewed: Sebastian Rothärmel (Quality Assurance)

Released: Sebastian Rothärmel (Quality Assurance)