Release Information
VCI V4

Content of Release 4.0.1003

Type	File/Subcomponents	File updated in this release
Document	ReleaseInformation.pdf	Yes
Setup	For Windows 10 (32/64), Windows 11 (64) with or without enabled UEFI-BIOS Secure Boot	Yes

Reason for Release

- Bug fixes on the windows kernel drivers (CAN-IB2xx, CAN-IB6xx, CAN-IB640)
- Firmware update (CAN-IB2xx, CAN-IB6xx, CAN-IB640)
- Update C- and C++ manual
- Windows 11 support

Update recommendation

	Description
☐ Update required for conformance testing ☒ Only devices in the field showing problems ☐ All devices in the field	-

Affected Drivers

Drivers are hardware-specific parts. The following interfaces are supported by the VCI. Drivers that are affected by the current release are marked.

	CAN/CAN FD		INpact
☐	All passive CAN-IB PCIe boards: CAN-IB1xx	☐	IXXAT INpact PCIe Slave
☒	All active CAN-IB PCIe boards: CAN-IB2xx	☐	IXXAT INpact PCIe Mini Slave
☐	All passive CAN-IB PCI boards: CAN-IB3xx	☐	IXXAT INpact M.2
☐	All active CAN-IB PCI boards: CAN-IB4xx		
☐	All passive CANIB PCIe boards for CAN-FD: CAN-IB5xx		
☒	All active CAN-IB PCIe boards for CAN-FD: CAN-IB6xx		
☐	All active CAN-IB PCI boards for CAN-FD: CAN-IB8xx		
☒	CAN-IB640/PCIe		
☐	USB-to-CAN V2 (compact / professional / embedded / automotive / Plugin)		
☐	USB-to-CAN FD (compact / embedded / automotive / PCIe Mini)		
☐	iPC-I XC16/PCI		
☐	PC-I 04/PCI		
☐	USB-to-CAN compact		
☐	USB-to-CAN II		
☐	CAN@net II/VCI		
☐	CAN@net II/generic		
☐	CAN@net NT 200/420		
☐	CAN@net NT 200/420 (USB)		
☐	CANbridge NT 200/420 (USB)		
☐	FRC-EP 170, FRC-EP 190, CANnector		
☐	CANblue II		

Affected Components

Components are hardware independent parts. Components that are affected by the current release are marked.

	Name
☒	Core
☒	Setup
☐	CoInstaller
☐	Flashloader
☐	.NETSDK_V3

	Name
☐	.NETSDK_V4
☒	canAnalyserMini
☒	ConsoleSample
☒	NPL (Native Programming Library)
☐	DevService
☐	UCI2VCI
☐	CANatNET IP configurator
☒	FSL (Frame and Signal Library)

Release History

Version 4.0.1003 (2022-02-28)

Setup

Component	Solution	Description	Revision
Setup	Other change	Updated C- and C++ manuals. restrict to Win10 (caused by an issue with the driver signing)	4.0.1004

Drivers

Driver	Solution	Description	Revision
Core / API	New functionality	Extensions: - Added support for matlab - Added support for extended device information functions (struct VCIDEVRTINFO) - Added support for ARM and ARM64	4.0.246
CAN-IB2xx/PCIe, CAN-IB6xx/PCIe	Bug fix	update to firmware `CAN-IB_FW_0_3_21_0_R1634.srec` - #8032 LIN Bus doesn't recognize "slave not responding" error - #7833 LIN Controller replies to fast in slave mode - #6558 LIN doesn't report timestamp overflows - Change on handling of the interrupt status register solved issues: - with the communication between driver and VCI firmware - with the CANopen firmware - on the baudrate detection - on handling of CAN-IB630/PCIe 104 - on loosing CAN transmit messages	4.0.174
CAN-IB640/PCIe,	Bug fix	Update to firmware CAN-IB640_FW_0_3_21_0_R64.srec - CAN: Change of the TxFifo entry number to 100 solved issues: - Fixed problems with the communication between driver and VCI firmware	4.0.75

Components

Component	Solution	Description	Revision
NPL	New functionality	- Update to new core revision 246 - Added support for extended device information functions (struct VCIDEVRTINFO) - Add projects / solutions for VS2017 and VS2019 - Added support for ARM and ARM64	157

Component	Solution	Description	Revision
FSL	Bug fix	solved issues: update to SignalAPI version 2.0.1026.0 - CANDB import: fix import of frame id (extended ID 0) - fix compatibility of DIMXML import to canAnalyser2 compatible DIMXML files (support global ID mux) - update dependency: msxml30 to msxml60 - Fibex import: removed obsolete parts in the Fibex stylesheets, which caused an access violation in MSXML 6.30.19041.746 (only on 64bit targets) - Lua API: fix implementation of l_L7Db_enumIdentElements and l_L7Db_enumClusters (Lua methods enumIdentElements and enumClusters) - everything on the Lua side (imports) is now encoded in UTF8: unecessary file unicode.lua is removed - Decode: implement special cases for LinearComputations where scale is 1.0 when computing the physical value - DBC Import: remove handling of escape sequences in string literals, as they are not defined in CANDB - DBC import: fix conversion of strings from CP1252 to UTF8 - LDF import: fix memory leak - fixes result BSTR of L7Db_importGetAvailableFilters which could contain embedded '\0' chars - Fibex import: fix import of lower and upper limit for coding/computation - DIM import: fix access to global msecsTo100ns function (#8228) - Imports: fix lookup path for lua modules	166
FSL	Other change	Remarks: - switch to VCI core rev 246 - switch to Lua 5.3.6 (utf8 variant) - cleanup C-API/Lua interfacing	
Console Sample	Other change	switch projects to visual Studio 2019	136
canAnalyserMini	Bug fix	solved issues: canAnalyserMini: - fix create/open log file path for event logger - CANFD default setting: remove CANFD_OM_FASTDATA and CANFD_OM_EXTDATA from InitialExOpMode so that the default settings works on CAN only cards - CAN/CANFD: use 1000 CiA as default bitrate - Remove the split between CAN and CANFD bus types in favour of CANFD (CAN is kept only for compatibility reasons) - CAN and CANFD propertypage: only show LowSpeed bitrates in bitrate dropdown if CAN LowSpeed flag is selected (#6052) - VCI4Adapter: fix bus component in unique controller id - fix #7324: error frames are shown even they are disabled via OpMode - ConfigTree: determine bitrate of running and remote controlled controller from controller itself	3.3.8350.0

Component	Solution	Description	Revision
canAnalyserMini	Other change	switched to UILib version 3.1.1618 - rename uiDll.dll to uiDll3.dll (to prevent Dll compatibility problems) - remove WinXP support	
canAnalyserMini	Other change	Remarks: - switch to HmsDlgAppInfo_32.dll version 1.0.1612 as about box component - switch to vcredist_x86.exe version 14.29.30133 - switch to .NET framework v4.8 - change build number scheme to maj.min.build.release - switched to DSLib version 3.0.1615 - based on canAnalyser SDK 3.3.8278.0	

Version 4.0.959 (2021-09-01)

Setup

Component	Solution	Description	Revision
Setup	Other change	Updated installation manuals.	4.0.959

Drivers

Driver	Solution	Description	Revision
CAN-IB640/PCIe,	Bug fix	update to new firmware CAN-IB640_FW_0_3_20_0_R56\CAN-IB640_FW_0_3_20_0_R59.srec solved issues: - adaptions to the new 2.0.0.0 FPGA design - #8032 LIN Bus doesn't recognize "slave not responding" - #7833 LIN Controller response on request is to fast - #6558 no LIN timestamp overruns - #8096 changes to solve an DPC timeout issue (Blue Screen) - #8130 solves problems with the CAN communication	4.0.56

Version 4.0.939 (2020-08-20)

Setup

Component	Solution	Description	Revision
Setup	Improved functionality	The FRC, DPA06, CANnector component will now be installed within the standard installation type.	4.0.939

Drivers

Driver	Solution	Description	Revision
CAN-IB640/PCIe,	New functionality	Integration of CAN-IB640/PCIe as an additional target platform.	4.0.41
FRC-EP 170, FRC-EP 190, CANnector	New functionality	Integration of CANnector as an additional target platform. Upgraded IxAdmin to V2.15.2613.0 Upgraded Fibex-to-Ini to V1.12.1359	4.1.300
CAN@net NT 200/420	Improved functionality	Internal: Updated to FW/PC components V1.2.0.0_FRC (from V1.0.2.9)	4.0.136

Version 4.0.925 (2020-04-06)

Setup

Component	Solution	Description	Revision
Setup	New functionality	Support of the commandline switch '/NOICONS' to prevent the setup to create shortcuts in the Start menu.	4.0.925
	New functionality	Integration of vcifsl manual.	
	Improved functionality	Update to the Microsoft certified vcisrv.sys driver	
	Improved functionality	Change on the vcisrv.sys image path set during the installation.	
	Bug fix	Correction on uninstalling of the vcisrv registry entry.	

Drivers

Driver	Solution	Description	Revision
CAN-IB1xx, CAN-IB3xx, CAN-IB5xx	Improved functionality	Restructure of the interrupt handling A DPC Watchdog timeout shows that an interrupt couldn't be handled complete within the Interrupt and Dispatch Level. Now the driver executes on a interrupt the following sequence - checks which controller raises the interrupt - disables all interrupts on this controller - trigger a WorkItemWorker (a system thread) So the whole CAN message handling is performed within a system thread. (BUG #7608, #7768)	4.0.162
	Improved functionality	Inf File change on the section for the MSI configuration	4.0.162

Components

Component	Solution	Description	Revision
NPL	Other change	Fixed an issue with transmit events that occur while there is no free space within the FIFO	137
	Bug fix	Fixed the return value of WaitRxEvent in the case of infinite timeout values.	
	Bug fix	removed unsupported functions from vcinpl2.h.	
FSL	New functionality	For a detailed description please refer to the manual.	147
Console Sample	Bug fix	removed unsupported functions from vcinpl2.h.	129

Version 4.0.875 (2019-11-15)

Setup

Component	Solution	Description	Revision
Setup	Bug fix	VCI could not be installed under Windows XP.(BUG #7747)	4.0.875
	Other change	Updated installation and C++ manuals.	4.0.875

Drivers

Driver	Solution	Description	Revision
Core	New functionality	Added support for simplified SSP positioning	4.0.224
		Added support for Embarcadero (Borland) C++ Builder	4.0.224
		Added macros CAN_CTRL_ISCAN and CAN_CTRL_ISCANFD which allow to check whether a given controller type is a CAN or CANFD controller	4.0.224
INpact	Bug fix	Driver: vci4115wx.sys Fixed crash after closing the application (BUG #7792)	4.1.405
	Bug fix	Driver: vci4115wx.sys Interface was not recognized under Win10 after a fresh OS BOOT (BUG #7789)	4.1.405
	Bug fix	Application: Demo Long wait time after a Reset over Ethernet IP (BUG #7751)	4.1.405
USB-to-CAN V2	Bug fix	Driver: vci4114wx.sys Corrected hardware info shown in the Device Manager (BUG #7115)	4.1.212
	Bug fix	Driver: vci4114wx.sys Fixed BSOD on unplugging the device (BUG #7774)	4.1.212
	New functionality	Driver: vci4114wx.sys Integration of product ID for USB-to-CAN V2 Plugin	4.1.212
	New functionality	Driver: vci4114wx.sys Integration of B+L product id	4.1.212
	Important Hardware Update/Upgrade	With the new firmware 1.07.00 some bugs were solved. To get the latest firmware go to the updates section on the Ixxat homepage (https://www.ixxat.com/support/file-and-documents-download/software-firmware-updates).	
USB-to-CAN FD	Bug fix	Driver: vci4116wx.sys Fixed BSOD on closing the canAnalyser3 (BUG #7677)	4.1.149
	New functionality	Driver: vci4116wx.sys Integration of the USB-to-CAN FD PCIe Mini device	4.1.149
	New functionality	Integration of device informations about the used chip	4.1.149
CAN@net II/generic	Bug fix	Driver: vci4113wx.dll Transmitting more than 1024 messages with increasing ID could stop message transmission on CAN@Net generic devices. (Bug #7775) This is caused by the code that handles client ID lookup for self reception frames. As the CAN@Net does not support self reception frames and this code behaves wrong when it does not get SRR messages, the code that handles client ID lookup for self reception frames has been removed.	4.0.122

Driver	Solution	Description	Revision
CAN@net NT (USB), CANbridget NT (USB)	Bug fix	Driver: vci4117wx.sys Changes on the USB communication to avoid BSOD	4.1.73
	Bug fix	The firmware update from a larger firmware via the USB interface aborts.	4.1.73

Version 4.0.856 (2019-07-04)

Setup

Component	Solution	Description	Revision
Setup	Bug fix	The setup (4.0.848) didn't create the environment variable 'VciIDLDir'. This is necessary to compile the IDL example. (BUG #7686)	4.0.856

Drivers

Driver	Solution	Description	Revision
INpact	Bug fix	Library: vciIDLc.dll Status change Events got lost, because function vciIDLcAnbState was also called within another thread. (BUG #7692)	4.1.398

Version 4.0.848 (2019-05-28)

Setup

Component	Solution	Description	Revision
Setup	Other change	Update of the VCI installation scripts (Vci4.iss, Vci4rc.iss, Vci4beta.iss) - inserted new Ixxat logos/ICONs	4.0.848

Drivers

Driver	Solution	Description	Revision
INpact	New functionality	Driver: Inserted an eventlog mechanism. Now the NP40 state changes and the reset are monitored in the windows eventlog.	4.1.391
	Improved functionality	Driver: Changes of the Anybus debug capabilities to enable the interpretation of Ethernet destination objects.	
	Improved functionality	Driver: Updated the display of the hardware revision in the additional device manager tab (hardware info).	
	Bug fix	Driver: Changed the handling of the FIFO, located on the hardware DPRAM. Fixed an extremely rare communication error on the transmission of FIFO packages.	
	Improved functionality	Library: Changes in the module status handling	

Driver	Solution	Description	Revision
	Bug fix	Firmware: (update to revision 951) The Rx DMA is now only executed if Process data is mapped. (BUG #7603).	
	Important Hardware Update/Upgrade	ANNOTATION (FPGA Design) With the new FPGA flash design (1.7.0) a problem with the reset handling of the hardware is solved. In some cases, if the firmware crashed, the hardware was only useable after a manual hardware shutdown and restart. (BUG #7408) **Solution:** Update the FPGA and Bootmanager on the hardware ! Observe the update application 'IxxatINpactCardUpdate' on the download section on www.ixxat.com/inpact-download	

Version 4.0.793 (2019-01-25)

Setup

Component	Solution	Description	Revision
Setup	Other change	- Solved error within the scan for the destination OS - Removed message box if the Setup is executed on Win10 - Integrated the Rhode & Schwarz interface - Added .NET4 API manuals - Installed VS2010 runtime if mixed .NET assemblies are installed	

Components

Component	Solution	Description	Revision
.NETSDK_V4	Other change	Switched to VCI4 .NET API 4.0.436 (strongnamed): - fixed version record of native assemblies - sync to .NET core variant: fixed assembly copyrights, changed loader code to load architecture specific implementation (vcinet.x??.dll) from same directory as the loader - switched help file generation to SandcastelBuilder v2018.7.8.0	436
.NETSDK_V4 samples	Other change	Switched to .NET API samples 4.0.69: - set references to VCI4 .NET API 4.0.436 (strongnamed) - revert dependencies to NuGet packages - VB.NET sample: changed VCI V3 -> VCI4, fixed comments	69
FlashLoader	Other change	Updated to core revision 207	154
	New functionality	Integrated Rohde & Schwarz TS-PSYS Interface	
	New functionality	Integrated USB-to-CAN compact and USB-to-CAN II	
	New functionality	Small extension to show if a device is supported or already used	
	New functionality	Integrated functions to handle the new CDC device (CAN-IDM100)	
	Improved functionality	Extension to scan the Location Information	

Component	Solution	Description	Revision
UCI2VCI	Other change	Changed comparison condition for the rounding of the calculated time quanta for SJW	193

Drivers

Driver	Solution	Description	Revision
RS_TS-PSYS10	New functionality	New driver	10
USB-to-CAN compact	Bug fix	Flashloader: solved problem within the KFldAdapter::ReadBlock implementation. Before the change the function always returnd a fault.	115
	New functionality	Integrated the PowerManagement functionality	
	Other change	Deleted WaitOnStop methods. This functionality is no longer necessary because the transferobject now deletes itself after a CancelIrp.	
	Other change	Changed the calls to strcat, sprintf, to the Kernel-Mode Safe String functions RtlStringCbCatA or RtlStringCbPrintf	
	Other change	Sychronization to the last changes on the USB-to-CAN V2 driver (vci115). The main change is that the Irp canceling handling is changed. Now there is no longer a timeout to wait on the correct return of an Urb.	
	Bug fix	Solved problem with measuring the period in the function ExecCommand	
	Other change	Do not call PipeGetStatus during CUSBPipe::Reset() (before firmware download), because it leads to a crashed VM on VMWARE WS 14.1.3.build-9474260 (Host Win10, Guest Win 10).	
	Other change	Updated build to Core revision 207	
	Bug fix	Solved a crash dump if the SOCKETINFO was not correct allocated -> inserted with the updates caused by the VBS implementation	
	Improved functionality	Change on the function KUsbDevice::GetStringDescriptor	
	Improved functionality	Rework of the KUsbDevice::GetString funtion caused by problems on the WHQL test	
USB-to-CAN II	Bug fix	Solved problem within the KFldAdapter::ReadBlock implementation. Before the change the function always returned a fault.	60
CANblue	Other change	Switched to VCI2UCI version 4.0.193	144
	Other change	Switched to devservice version 4.0.175	
	Other change	Resync with usermode driver template (fix ComputeTQ, ProcessRxMsg)	
	Other change	Disabled filter in InitLine	
	New functionality	Reimplemented timestamp overrun detection which had been dropped during switched of driver from UCI framework to VCI4 framework in rev 62	
	Other change	Updated to core rev 207	
	Improved functionality	Better compatibility with USB-to-CAN V2 (allow InitLine - StartLine - X - InitLine - StartLine sequence without intermediate StopLine at X, #7456)	
	Bug fix	Fixed capabilities (dwTscClkFreq) for CANBlueII devices -> fixes timestamp calculation	
CAN@net generic	Other change	Switch to core rev. 207	118
	Other change	Switch to VCI2UCI version 4.0.193	
	Other change	Switch to devservice version 4.0.175	
	Other change	Resync with usermode driver template (fix ComputeTQ, ProcessRxMsg)	

Driver	Solution	Description	Revision
	Other change	Disabled filter in InitLine	
FRC-EP190/DPA06	Other change	Switch to core rev. 207	283
	Other change	Switch to VCI2UCI version 4.0.193	
	Other change	Switch to devservice version 4.0.175	
	Other change	Setup: check for .NET prerequisite before IxAdmin install	
	Other change	Send a negative response to the VCI in case of a communication timeout.	
	Other change	Set communication timeout from 1 to 5 seconds.	
	Other change	PassThru live test results added.	
	Other change	PassThru live test directory added.	

Version 4.0.768 (2019-01-11)

Drivers

Driver	Solution	Description	Revision
CAN-IB2xx	Bug fix	Solved problem with the display of the control Panel TAB	133
	Other change	Updated to the core revision 207	
	Improved functionality	Defined timeout of 10s for the Flash actions, changed error return codes from STATUS_*** to VCI_OK VCI_E_****	
	Improved functionality	Changed the DetectBaud Handling	
	Improved functionality	Changed the calls to strcat, sprintf, to the Kernel-Mode Safe String functions RtlStringCbCatA or RtlStringCbPrintf	
	Other change	Updated to new firmware (CAN-IB_FW_0_3_17_1_R1529.srec): - changes on the detectBaud functionality - adaption to new LIN IP core 1.17b - solved a problem with LIN Sleep	
	Other change	Changed project.vendorid and project.vendoridlong properties (to HMS, ...)	
	Other change	Changes caused by the adaption to the VBS (virtual based security) -> VS2017	
	Bug fix	Corrected a small fault in the INF file shown by INFverif.exe	
	Improved functionality	Inserted code to translate the DCAN error to a Vci4 CAN error	
	Improved functionality	Correted error code on the function InitLine, if Initline is called with a wrong CAN-FD non raw bit rate the function should fail with VCI_E_INVALID_TIMING	
	Other change	Changes on the LIN implementation caused by the new LIN core functionality (sleep, wake up)	
	New functionality	Inserted the CAN-IB630/PCIe card (104) into the INF file	
	Improved functionality	Change on the KDeviceObj::OnPnpQueryCapabilities to avoid that this device is shown in the 'Safely Remove Hardwaare' Taskbar Application.	
CAN@net VCI	Other change	Updated to core rev 207	139
	Other change	Switched to VCI2UCI version 4.0.193	
	Other change	Switched to devservice version 4.0.175	

Version 4.0.760 (2018-12-22)

Setup

Component	Solution	Description	Revision
Setup	Other change	- Solved error within the scan for the destination OSComponent - Removed message box if the Setup is executed on Win10	

Version 4.0.751 (2018-12-19)

Components

Component	Solution	Description	Revision
.NETSDK_V4	Other change	Switch to VCI4 .NET API 4.0.425 (strongnamed), added missing LinFeatures flags (Sleep and Wakeup)	425
ConsoleSample	Other change	CAN FD sample: use predefined CAN FD bitrate 500/5000 kBaud	104

Drivers

Driver	Solution	Description	Revision
USB-to-CAN II	Bug fix	Solved problem with measuring the period between in the function ExecComman	60
	Bug fix	Do not call PipeGetStatus during CUSBPipe::Reset() (before firmware download), because it leads to a crashed VM on VMWARE WS 14.1.3.build-9474260 (Host Win10, Guest Win 10).	
	Other change	Updated build to Core revision 207	
	Improved functionality	Minimized use of sizeof(type)	
	Bug fix	Solved crash dump if the SOCKETINFO was not correct allocated -> inserted with the updates caused by the VBS implementation	
	Improved functionality	Change on the function KUsbDevice::GetStringDescriptor	
	Other change	Changes caused by the bugs and requirements of the WHQL test	
	Improved functionality	Rework of the KUsbDevice::GetString funtion caused by problems on the WHQL test	
	Bug fix	Solved fault on the calculation of the string descriptor length	

Version 4.0.738 (2018-12-11)

Components

Component	Solution	Description	Revision
Core	New functionality	Added IVciDevice2 and IVciDevInfo interfaces to provide extended device status information (removed undocumented IDevStatus)	207
	New functionality	Added default implementation for IVciDevInfo interface to driver framwork libraries vcikmd.lib and vciumd.lib	
	New functionality	Added support for IVciDevInfo to the driver examples	

Component	Solution	Description	Revision
	New functionality	Added buffer overflow checks to driver I/O command header files balcmd.h, cclcmd.h, dalcmd and fldcmd.h	
	New functionality	Added definitions for new types of CAN-FD controllers	
	New functionality	Added predefined controller independent bit timing parammeters for CAN-FD	
	Bug fix	Fixed a bug within the dialog box window class CDioalogWnd which caused a failure of CreateDialogParam when it was called more than once	
	Bug fix	Bugfix and revision of CDialogWnd class implementation	
	Bug fix	Fixed a bug within the receiver part of CAN channel version 1 which causes invalid messages while receiving CAN FD messages.	
NPL	Other change	Changed the order of selecting the CAN operating mode within InitSocket depending on the CAN capabilities	122
	Bug fix	Fixed rounding error in computation of the time quanta for specific CAN timing parameters	
	Bug fix	Fixed DLL revision number to contain the revision number of the base directory	

Drivers

Driver	Solution	Description	Revision
PC-I04/PCI	Other change	Updated to core rev 207	44
	Bug fix	Fixed revision number of driver DLL	
iPC-IX16/PCI	New functionality	Updated to core rev 207	84
USB-to-CAN FD	Bug fix	Resolve BSODs if the USB device is used within a VMware VM.	127
	Bug fix	Solved a crash within the Baud Detection Test: - balcan.cpp: integration of a new command DCAN_DETECT_BAUD_V2_REQ_Sm - hwsupp.cpp: delete call to VCIDBG_CHKRESULT	
	Other change	Change on the return codes for OnCanSetAccFilter, OnCanAddFilterIds, OnCanRemFilterIds	
	Other change	USBTransObj.cpp, USBTransObjBase.cpp: disable debug output	
USB-to-CAN V2	Other change	Updated to core rev 207	172
	Other change	Externals update to - /svn/453_vci3/FW_PC_components/tags/REL_1.0.2.26 - /svn/453_vci3/PC_components/tags/REL_1.1.13.0 - changes on DetectBaud Handling	
	Other change	Changed the calls to strcat, sprintf, to the Kernel-Mode Safe String functions RtlStringCbCatA or RtlStringCbPrintf	
	Other change	Changes on the handling of the TransferObjects, on CancelIrp now the transferObject delete itself	
	Other change	bal implementation: - integration of separate CleanUp functions - change on the KBalAdapter::DeleteSockets caused by a bug, the function GetUsbSocket always return NULL after it is used after the ValidateSockets(FALSE) call.	

Driver	Solution	Description	Revision
	Other change	USBPipe.cpp: - change on CUSBPipe::Stop caused by the updated TransferObject - insertion of a new member variable m_i32TObjHandled to test if current a received TransferObject is handled	
	Other change	USBTransObj, USBTransObjBase: complete update of the implementation	
	Other change	externals update to: - /svn/453_vci3/FW_PC_components/tags/REL_1.0.2.24 - Changes on handling of the DeleteSockets function - Controller function ::Initialize renamed to AssignHw and additional function ReleaseHw implemented	
	Bug fix	Solved a problem on receiving phantom messages if the device is unplugged while the canAnalyser3 Mini is running	
	Improved functionality	Changed the function HandleTransferObj, actions which results on a receive error were reordered	
	Other change	Small extension to make the code more robust: - balcan.cpp: check of the received message length - USBdata.cpp: initialization of the allocated memory - USBTransObj.cpp: if a irp error occures the length is now set to 0, this prevents the driver from receiving phantom messages	
	Bug fix	Fixed return value of CmdBrdGetChannelInfo if USB_COMM_V1 is active (led to OpenComponent(BAL) to fail with error code 0x80070057)	
	Bug fix	Fixed crash in _Send while accessing pRes->ResSize	
	Other change	Changes caused by the synchronization of the USB-to-CAN V2 and USB-to-CAN FD source code: - functionality to ensure that on finalize the RxFifo is not used anymore - synchronization of the SetOpMode function - deleted unused code - changed the handling of the ExecDevRequest, this function already translates the Device Error code to a VCI error so no additional error checking has to be done	
	Bug fix	Fixed parameter checks in KUsbCanSocket::OnCanGetCaps and KUsbCanSocket::OnCanGetStat	
	Bug fix	Fixed possible bug in invoking a BAL_GET_FEATURES_CMD (check sizes and correct RetSize)	
	Bug fix	Fixed requested packet size in KUsbCanSocket::OnCanGetStat() (fixes BSOD in VMWARE Win10 Guest and on AMD systems)	
	Other change	vciusbspV2: take back a change in the function PullCommand which is not necessary	
	Other change	Functions _AllocUrb, _RelUrb, _FreeUrb, _FreeAllUrbs: - change to avoid crash if an URB is allocated within a IRQL Level greater than a DPC. (set pragma to LOCKEDCODE) - insertion of function header to describe them	
	Other change	Function _AllocUrb: set the content of whole URB to 0	

Driver	Solution	Description	Revision
	Bug fix	Fix BSOD on AMD systems: - remember original response size to reset the size in a read loop - previous code crashed on AMD systems if the device did not answer immediately on the first GetResponse. USB stack on AMD systems then modified the size in the response packet which led to more bytes requested on the next iteration. After several iterations the USB stack crashed.	
	Bug fix	Solved problem with the USB Stack on a AMD platform: - On a command request the Response now defines a byte array with the length 0x100, the max vendor request length. -> On success the received data is copied to appropriate data structure	
	Improved functionality	USB handling: changes on the handling of the received length.	
	Improved functionality	device.cpp: change on the return value check of the function IoRegisterDeviceInterface -> otherwise it is possible that the Interface is not enabled	
	Bug fix	Solved problem with the String Descriptor Handling	
	Bug fix	Solved problem with the direct device access to flash a new firmware	
	Improved functionality	Changes caused by the WHQL test on the device class and the string descriptor handling	

Version 4.0.730 (2018-11-23)

Setup

Component	Solution	Description	Revision
Setup	Other change	- Combined attestation and the HMS signed driver files in one setup - Component sdk/vci3net made part of standard install type because it installs necessary GAC components - Removed redistVS2010 from components and install redist if component 'sdk/dotnet' or 'sdk/vci3net' is selected	

Version 4.0.728 (2018-11-22)

Components

Component	Solution	Description	Revision
canAnalyserMini	New functionality	Added CAN FD bitrate combinations 1000/[2000/4000/5000/8000/10000]	7588
	Bug fix	Rixed race condition between status dialog destruction and update timer (could result in crash if device is unplugged)	

Version 4.0.709 (2018-11-08)

Drivers

Driver	Solution	Description	Revision
INpact	Bug fix	update to firmware revision 924	4.1.359

Version 4.0.699 (2018-10-29)

Drivers

Driver	Solution	Description	Revision
INpact	Other change	correction on the installation of the transport provider into the registry	4.1.353
	Other change	update to firmware revision 915	

Version 4.0.660 (2018-08-09)

Drivers

Driver	Solution	Description	Revision
INpact	Bug fix	Solves a bug in the reset of the DMA connect module on executing ABCC ResetSet, ResetRelease	4.1.331

Version 4.0.638 (2018-07-24)

Components

Component	Solution	Description	Revision
USB-to-CAN V2	Improved functionality	Update of the fload firmware	124
	Bug fix	Correction of the wrongly calculated size of the String Descriptor	
	Bug fix	Problem with the newly included USB transfer counter solved. Some messages were deleted if the device received messages on both CANs with a high bus load.	
	Bug fix	Fault on assigning the endpoint to the controller implementation solved.	

Version 4.0.622 (2018-05-11)

Components

Component	Solution	Description	Revision
Core	New functionality	Added support for virtualization-based security and Device Guard in Windows 10.	189
	New functionality	Added support for Windows Driver Kit WDK 10	
	New functionality	Added support for Visual Studio 2017	
VCI NPL	Improved functionality	Revision of the parameter annotations for all exported functions	95
	Improved functionality	Changed the included sample files used by .rc and .ver resource files from afxres.h to winres.h	

Component	Solution	Description	Revision
	Bug fix	Fixed a deadlock situation within canChannelClose which occurs in situations while another thread waits for the return from canChannelWaitRxEvent	
VCI Device Server	Improved functionality	Switched to VCI2UCI version 4.0.186, ParseUrlString: fix parsing of host?query	175
	Improved functionality	VCI device service: fixed GPF on device delete if stop is pending, added VCIDEV_PARM_DEVGUID parameter which is now set by the service (necessary for device DLLs which support more than one device class), added DPA06 specific parameter	
VCI2UCI	Improved functionality	ParseUrlString: fix parsing of host?query	186
	Improved functionality	Switched to core revision 175	

Drivers

New supported hardware: DPA06

Driver	Solution	Description	Revision
USB-to-CAN V2	Improved functionality	Updated to core revision 189	117
	Bug fix	Correction of the implementation of KHwSupport::GetCtrlCount	
	New functionality	Integration of the fact that only a BAL software can support the USB_COMM_V2 commands	
	Bug fix	Adaption of the USB communication to support some fault corrections within the firmware	
	New functionality	Implement VBS (Virtual Based Security) compatibility	
iPC-IXC16 PCI	Improved functionality	Update to core revision 189	79
	New functionality	Return of an Error code if a CAN-FD baud rate should be initialized	
	Other change	Change filter reset: now the filter is first disabled	
	Other change	Changes caused by the adaption to VBS (Virtual Based Security)	
	Other change	Removed VCI2 support in the kernel driver	
USB-to-CAN compact	Improved functionality	Update to core revision 189	79
	Other change	Changes to fulfill the code integrity rules of Win10	
	Other change	Removed VCI2 support in the kernel driver	
FRC-EP 190/DPA06	Improved functionality	Dialog of the VCI Device Server Control revised (new interface of IxAdmin "-sn:<Serial Number> -ip:<IP Address> -usb" applied).	246
	Improved functionality	Changed to IxAdmin 2.12.2233 (from 2.9.2023)	
	Bug fix	Uninitialized pointer member fixed	
	Improved functionality	Determine device class (GUID) from URL parameter	
	Improved functionality	Switched to VCI2UCI version 4.0.189	
DPA06	Improved functionality	DPA06 device implemented	246
	Improved functionality	Device GUID for DAP06 added	
FRC-EP 190	Bug fix	Header for FRC device GUID fixed	246
	Bug fix	Fix connect to FRC-EP-190 via IP-Address	
	Bug fix	Stop script tag in the application configuration file of the VCI	

Driver	Solution	Description	Revision
	Bug fix	Fieldbus driver revised	
	New functionality	USB support for the FRC-EP190 platform added	
	Bug fix	Spelling error fixed in the FRC dialog	
CAN@net Generic	Bug fix	Fixed timestamps in Rx messages (use PC generated timestamps)	105
USB-to-CAN II	Improved functionality	Update to core revision 189	38
	New functionality	Return of an Error code if a CAN-FD baud rate should be initialized	
	Improved functionality	Change on the handling of the acceptance and the id Filter	
	New functionality	Changes to fulfill the code integrity rules of Win10	
USB-to-CAN FD	Improved functionality	Update to core revision 189	82
	New functionality	Correction of the implementation of KHwSupport::GetCtrlCount	
	New functionality	Integration of the fact that actual only a BAL software can support the USB_COMM_V2 commands	

Version 4.0.598 (18-04-13)

Components

Component	Solution	Description	Revision
VCI Device Server	Improved functionality	Fixed handling of device enabled flag across machine reboot	168

Version 4.0.590 (18-03-29)

- Added C API Manual
- Added C CAN-FD API Manual

Components

Component	Solution	Description	Revision
Core	Bug fix	Fixed bug in software-generated time stamps used by drivers which do not support hardware time stamps	175
	Other change	Adjusted the behavior of the clients receive event notification to match the undocumented behavior of VCI version 3 for backward compatibility	
	New functionality	LIN: added bit masks for protected id field	
	New functionality	LIN: added new LIN error information code LIN_ERROR_WAKEUP	
	Other change	CAN: changed comparison condition for the rounding of the calculated time quanta for SJW	
	Bug fix	Fixed a bug in UnlockHandle function used by CHandleTable caused by an asynchronous change of the reference count	
VCI fload	Bug fix	Correction of a bug in the relative SRecord write functionality	139
	Bug fix	Correction of a bug in the read functionality	
	New functionality	Support for INpact Mini and INpact M2	

Component	Solution	Description	Revision
CanAnalyser Mini	Bug fix	Fixed bug in usage of VCI receive event	3.2.0.7509
	New functionality	New LIN error code LIN_ES_WAKEUP_ERROR	
	Improved functionality	Mark LIN wake-up message and LIN sleep message in Description column of TxGrid	
	New functionality	Sending of LIN Wake-Up frames in slave mode was not possible	
	Improved functionality	Improved calculation of ideal column widths	
	Improved functionality	Improved user experience of text zooming	
	Improved functionality	Improved mouse wheel text zooming	
	Bug fix	Fixed bug timestamp strategy initialization	
	New functionality	Add EventLog messages to debug timestamp strategy initialization	
VCI NPL	Improved functionality	Removed compatibility issues with VCI version 3	84
	New functionality	Added new function argument to supply additional parameters to canMsgSwitchSigSetLoadDB and canMsgSwitchSigSetSaveDBA	
	Improved functionality	Extended CAN signal API with ASCII versions of functions	
	Improved functionality	Extended canMsgSwitchSigSetRead and canMsgSwitchSigSetWrite to support conversion between physical and raw signals	
	Other change	Samples: Completely initialize transmit frames. Had problems with random values in flags2 member.	
VCI2UCI	New functionality	SciSocket: always create a new log file for channel	182
	New functionality	SciSocket: add more error logging	
	Other change	Channel implementations: removed unused (and obsolete) CancelBlockingCall() members	
	Improved functionality	uci2vci.dll: sync to UMD sample, added support for listen only mode, added range check for SJW to ComputeTQ routines. SJW must not be larger than TS2.	
VCI Device Server	New functionality	Implemented device specific error list	168
	New functionality	Specified display name as device description on device startup. This enables identification of a specific device in the user application.	
	Improved functionality	VciSrvCtrl: - made main dialog resizable - updated start/stop button state in timer callback - fixed drawing of device list items - limit update region to status icons - new icon set for status icons to better mark start/running/stopping/stop device states	
	Bug fix	VCI device service: - fixed assignment of connection string - fixed result code of device info update - fixed device info update - fixed Readme.txt for VCI4 device server - fixed handling of device enabled flag across machine reboot	

Component	Solution	Description	Revision
Cannot II IPconfig	Bug fix	CAN@NetServer: - fixed configuration of CAN@Net generic devices: fallback now tries configuration 3 times with increasing timeout. CAN@Net generic devices are switched to bootloader via reset request. It seems that the corresponding response is missing, which we classified as a failure in previous versions.	96
	Other change	If ConfigNode results in a timeout try 3 times with increasing timeout time.	
	New functionality	Scanner thread: signal event in scan sink to flush thread	
	Other change	Prolonged timeout for device configuration from 5 sec to 10 sec	
	Other change	Config/reset device: use different error codes for timeout and unexpected answer situations	
	Bug fix	Fixed (more responsive) termination of scanner thread on program exit	

Drivers

New driver: CAN@net Generic 4.0.100

Driver	Solution	Description	Revision
INpact	Bug fix	Corrected a fault in the driver\vci4115_yaskawa.inf	4.1.299
	Other change	Updated the external link /453_vci3/PC_components/tags/REL_1.1.D.0	
	New functionality	Integrated a new GUID to support the INpact M.2 device	
	Improved functionality	Updated the INF File to support the INpact M.2 device	
	Improved functionality	Updated the INF file because Microsoft driver signing detects an error: driver\vci4115.inf does not have NTARM64 decorated model sections. driver\vci4115.inf does not have NTARM64 decorated model sections. driver\vci4115_yaskawa.inf does not have NTARM64 decorated model sections. driver\vci4115_yaskawa.inf does not have NTARM64 decorated model sections.	
USB-to-CAN compact	Bug fix	Bug: #7000, corrected the hardware description to USB-to-CAN compact	66
	New functionality	Inserted the filter disable in the CAN reset function (caused by a C API test fault)	
USB-CAN@net NT	Improved functionality	Changed the behavior of GetDeviceCaps. Now it does not report existing CAN controllers. This confuses the canAnalyser3 mini (It can see the same CAN controller over Ethernet and USB.) The CAN controller cannot be accessed via the USB driver. (The USB driver is only for the configuration.)	46
USB-to-CAN FD	Improved functionality	Change to ensure that the function OnCanInit returns the correct error if the function is called with a faulty bitrate.	66
	Bug fix	Error correction in the handling of USB Tx packet	
	Bug fix	Fixed interpretation of the return code of ExecDevRequest	
	Improved functionality	Change in the function CmdBrdGetFwInfo on the recognition of the correct USB communication version (USB_COMM_V1 or USB_COMM_V2)	
	Improved functionality	New handling of receive USB packets	

Driver	Solution	Description	Revision
	Improved functionality	Changes to set the USB communication mode on different channels (additional receive counter)	
	New functionality	Inserted new commands to read the card info and the FPGA info from the device	
	New functionality	INF-template: inserted product id 0x1B (USB-to-CAN FD PCIe mini) and 0x1C (USB-to-CAR)	
CAN@net Vci	Bug fix	Fixed logfile path checks	135
	Other change	Put device display name into VCI device info description field	
	Improved functionality	Made logfile path configurable	
CANblue II	Bug fix	Fixed ScanForDevices to extract Bluetooth port number	125
	Bug fix	Fixed ScanForDevices to support new device firmware which maps the Config port first for better Android compatibility	
	Bug fix	Fix dialog handling of Enable Heartbeat flag	
	Improved functionality	Added more debug output	
	Other change	Put device display name into VCI device info description field	
FRC-EP 190	Other change	Put device display name into VCI device info description field	220
CAN@net NT	Other change	Put device display name into VCI device info description field	122

Version 4.0.507 (18-01-16)

Drivers

Driver	Solution	Description	Revision
INpact	New functionality	Updated INpact to version 4.1.282: - updated to the latest core revision (rev 170) - prevent possible GPF in driver if device name is longer than 16 characters - IDLc_TestApp: implemented the new CmdInitArray function to Initialize the messaging communication structures on startup - inserted some debug code to debug the messaging	282
	Bug fix	Division of the installation into two separate setup files. VCI-4_0_507_0.exe – for Windows 8, 7 (32/64) and Windows XP SP2 VCI-4_0_507_0_ATTEST.exe - for Windows 10 (32/64) with or without enabled UEFI-BIOS Secure Boot	

Version 4.0.496 (17-08-17)

Component	Solution	Description	Revision
vci4ipconfig	Improved functionality	Prolonged timeout for device configuration from 5 sec to 10 sec. If device configuration fails with timeout try 3 times with increasing timeout time.	93

Component	Solution	Description	Revision
	Improved functionality	Config/reset device: use different error codes for timeout and unexpected answer situations	
	Bug fix	Fixed (more responsive) termination of scanner thread on program exit	
	New functionality	Scanner thread: signal event in scan sink to flush thread	

Version 4.0.482 (17-08-17)

Components

Component	Solution	Description	Revision
.NETSDK_V4	Improved functionality	Created strong named assemblies and NuGet package Ixxat.VCI4.StrongName	386
.NETSDK_V4 samples	Improved functionality	Changed samples to use NuGet package Ixxat.VCI4.StrongName	45
canAnalyser Mini	Other change	Updated to version 3.2.0.7460	7460
ConsoleSample	Other change		93
DevService	Improved functionality	Update device URL before device restart	135
	Improved functionality	Remember in registry key if we are in progress to change the device state(s). If this state persists on restart, we know that a GPF has occurred. In this case we disable all devices on start and save the new states.	

Drivers

Driver	Solution	Description	Revision
CAN@net NT (USB)	Improved functionality	Updated to core revision 168	38
	Other change	vci4117guid.h: deleted the GUID for the CAN@net NT Ethernet (Now part of the vci4118guid.h)	45
	Bug fix	Solves a problem with the USB communication. It was possible that some USB packets were not sent because they were stored in the USB buffer, but the transmission was not triggered correctly.	7460
	Improved functionality	Updated to the flash firmware 1.01.05: Fload FW v1.01.05, CAN@Net-NT/CANbridge-NT, PLL start waits for PLL locking	135

Version 4.0.472 (17-07-20)

No changes

Version 4.0.469 (17-07-18)

Drivers

Driver	Solution	Description	Revision
INpact	Improved functionality	Updated the flash loader default timeout (solves a problem on erasing the flash on a program task)	267
	Bug fix	Correction update to firmware 3.20.0 Revision 734	
	Improved functionality	Several changes to get more information (revision number, CardInfo, FPGA Info) from of the INpact firmware and show it in the device manager.	
	Bug fix	Firmware: corrected a fault on the access to the Anybus message map through commands	
CAN@net NT usermode	New functionality	Added CAN@net NT usermode driver	108

Version 4.0.436 (17-02-23)

Components

Added installation of VC2010 runtime redistributable (dependency of VCI4 .NET Wrapper mixed mode components).

Component	Solution	Description	Revision
Core	Improved functionality	Changed TDO computation so that the value is calculated directly from the cycle time of the CAN system clock and not from the pre-scaled cycle time.	157
	Improved functionality	Added registry entries for VCI 4 interface class to VCISETUP script	
	Improved functionality	Changed the implementation of ICanControl.GetLineStatus such that the function returns valid SJA1000 compatible timing values even if the controller was initialized by ICanControl2.InitLine with hardware dependent timing values (RAW values).	
	Other change	Fixed incorrect description of CANINITLINE2 structure	
	Other change	Improved description for CANBTP structure	
	Bug fix	Changed '§' symbol within open parameter strings to '#' because of problems with Japanese character translation inside the Windows API function CreateFile.	
	Bug fix	Fixed problems with signability test tool which does not allow localizable strings within source disk files section of INF files	
	Improved functionality	Added device and CAN controller status interfaces	
	Improved functionality	Replaced status code returned by KBalFirmware::Invoke with VCI specific error code	
	Other change	Fixed documentation for CANLINESTATUS2	
	Bug fix	Fixed mismatched IOCTL code used by CCanControl2::GetFilterMode and CCanControl2::SetFilterMode	
	Bug fix	Fixed some bugs in CAN message distributor which are possibly the reason for accidentally lost TX events	
	Improved functionality	Added conditional support for thread-based CAN message distributor	

Component	Solution	Description	Revision
	Improved functionality	Added a call to reset the CAN message scheduler when the CAN controller is closed	
	Bug fix	Fixed bug in handling transmit interrupts	
	Bug fix	Fixed bug in handling self reception transmit messages	
.NETSDK_V3	Bug fix	Fixed uninstall of VCI .NET components from GAC	3.5.71.0
.NETSDK_V4	Other change	Changed samples to use NuGet based references	355
.NETSDK_V4 samples	Other change	Updated	42
CanAnalyser Mini	Other change	Updated to version 3.1.7326	7326
FlashLoader	New functionality	Implemented a store to manage several device communication connections to different devices	123
	Improved functionality	Changed the BGI communication layer to enable multiple parallel connection to different BGI devices	
	Improved functionality	Changed the FindDevice function (the function returned OK even there is now device found)	
	Bug fix	Small correction on the insertion of the devices (on execution of the flashloader made the device hide and popup as a new device)	
	Improved functionality	Adaption to the flash GUI (Now the Hardware serial number is shown instead of the VCI ID)	
	New functionality	Insertion to call vdpFLDwrite and vdpFLDverify with a Unicode string	
	New functionality	Inserted a new function vdpGetFwInfo	
	Improved functionality	Updated to revision 1.1.A of the device IO Control definition	
	Improved functionality	Corrected the version handling	
	Improved functionality	Updated the communication IO Controls to USB devices	
	Improved functionality	Extension of the BGI / CCL communication (Now the FIFO can also store the length in each entry)	
	Improved functionality	Changed the handling of the copied data length in the functions CBGIProg::Send and CBGIProg::Read	
	Bug fix	Corrected the BGI communication	
	Improved functionality	Optimized the Scan for Information in the Flash memory Especially the scan on the CAN-IB1xx was very slow (On these devices no info is stored, so the scan runs through all flash sectors.	
	Bug fix	VdpFindDevcie change of the parameter sDeviceGuild from GUID to REFGUID (const GUID *) This was necessary to fix a problem with labview.	
	Bug fix	vdpFormatError: fixed a bug when checking the facility mask	
	Bug fix	vdpFormatError: if the Error is not defined in the VciDevProg the call is redirected to the vciFormatError function.	
	Improved functionality	Change on the AppModeInit function, after resetting the flash loader the Device is searched with a special serial number.	
	Bug fix	Corrected an error on the define for the vdpFormatError	
	Bug fix	Changes on the handling of Error codes, solves a fault with the changed vcierr.h definitions	

Component	Solution	Description	Revision
	New functionality	Integrated a Fill command. Now, with the command line tool a sector within a flash chip can be filled with a data pattern.	
	Bug fix	Solved a problem on the memory dump output	
	New functionality	Changes to support the hardware with multiple flash or eeprom like the USB-to-CAN FD that have LPC Flash BankA, LPC Flash BankB, EEprom, FPGA user Flash, FPGA config Flash	
	Improved functionality	Vci4fload: statically link of the standard library, extension of the Vci fload console application to support the new hardware	
	Improved functionality	Vci4FloadGUI: statically link of the standard library, changes on the output to the dialog on verify and programming a firmware, change on the size of the dialog, disable the device list box if the device thread is running	
	Improved functionality	vciDevProg: - Changes on the handling of the firmware, in some HexFiles the firmware does not start on the address 0 it starts on the address on which the flash controller is located (USB-to-CAN 0x1A000000) - Some rework on the device start functionality in the VciDevProgClass - Updated the library to support the write and read of hexfiles, binary files, and memory dump. - Changes on the exported functions to support also the multiple flash chips - Added the enumeration to this DLL to avoid that the application needs to link to the vcinpl DLL - Enhanced the exported flash functionality to support more chips - Combined the flashing of the PCI and PCIe cards also into this library.	
	Other change	Setup: copied library to System directory because it is used by the 'CanGWconfig' application	
ConsoleSample	Improved functionality	Switched to core rev 157	88
	Other change	Removed VS2008 solution/projects	
	Other change	Changed printf format for HRESULT values	
	Bug fix	Fixed sample description text	
	Bug fix	Fixed copyright in file headers	
	Bug fix	Fixed warning about redeclared static functions	
	Bug fix	Fixed 64bit warning (warning C4311: 'type cast': pointer truncation from 'PDLGPARA' to 'LONG')	
	Bug fix	Fixed compatibility with VisualStudio Express edition	
	Other change	Use CAN_MAKE_MSGFLAGS2 macro to set bFlags2 attribute	
	Improved functionality	Changed CAN/CANFD samples to support multiple ways of message transmission	
	Bug fix	Fixed TransmitViaWriter() to set pMsg->uMsgInfo.Bytes.bFlags2 = 0 which prevents use of high priority messages on HW which supports them	
	Improved functionality	Changed console samples to keep CAN control interfaces open until program terminates	
	Bug fix	Fixed frame output (DLC -> Len)	

Component	Solution	Description	Revision
	Bug fix	Fixed receive thread to read out all messages	
	Bug fix	Fixed transmit to check for transmit queue full	
	Other change	CAN/CANFD samples: - split sample into a CAN and a CANFD part - fixed error output if SetAccFilter() fails - use combined standard/extended mode - catch error on ICanControl::SetAccFilter if controller is already running - split transmit code into TransmitViaPutDataEntry() and TransmitViaWriter() - removed unused global pCanCtl - added CheckBalFeatures() - added check of CAN capabilities - fixed flags for message transmission - cleanup printf formatting	
	Other change	CANFD sample: - switched to 500/2000 kBit/s CANFD bitrates - fixed TransmitViaWriter() to transmit CANFD frames	
	Other change	CAN sample: - fixed handling of message payload length	
NPL	Improved functionality	Switched to core rev 163 (fixed a bug in UnlockHandle function used by CHandleTable caused by an asynchronous change of the reference count)	75
	Bug fix	Fixed error code returned by canControlDetectBitrate when calling the function on devices with no implementation	
	Other change	Changed console application so that it sends messages only on specific key presses	
	Bug fix	Fixed problems with invalid pointer values in 64 bit version	
	Other change	Integration of the vcinpl samples if the NPL2 installation is active	
	Other change	Added support for legacy functions	
	Bug fix	Fixed bug in canMsgSwitchRMsgBufferRead function	
	Improved functionality	Changed the implementation of CCanCtlProxy functions DetectBaud, InitLine and ResetLine so that these functions try to acquire the control interface on the first call. This is useful if the CAN controller was in use by another application at the time the control handle was opened.	
	Other change	Removed sample binaries from setup	
	Other change	Added common solution file for samples	
	Bug fix	Fixed bugs in CAN channel specific functions for adding and removing filter IDs.	
	Improved functionality	Changed implementation of WaitRxEvent so that an error code is returned if no messages have been received within the specified time out interval.	
DevService	Improved functionality	Updated to core rev 157	129
	New functionality	Added FRC specific parameter names	
	Other change	Changed IVciUmdDriverConfig interface from INI file handling to connection string (URL syntax)	

Component	Solution	Description	Revision
	Other change	Changed control program implementation to communicate with the service via named pipe	
	Other change	Changed service implementation to use Json format to communicate with the control program	
	Bug fix	Service control: - removed unused update button - added check if service is running in restart - fixed init of device dialog on "add new device" - fixed modify dialog update (control visibility) - fixed state image index	
	Bug fix	VCI device service: - fixed device restart in state machine - removed SERVICE_INTERACTIVE_PROCESS flag from service entry (not supported on Vista or higher, and results in error entry in event log) - remember device index for later use in StoreDevice (bug led to wrong device GUIDs stored device configs) - added security attributes to service pipe to allow all local users to access the service pipe with read/write permissions - fixed some Unicode glitches (debug and log output) - fixed thread restart when device thread already created	
UCI2VCI	Improved functionality	Updated	164
CAN@net IP configurator	Improved functionality	Updated	81

Drivers

Software Design Guide V1.1 added.

Driver	Solution	Description	Revision
INpact	Other change	Change of the runtime library in the sample project	233
	Bug fix	Fixed a memory leak in the INpact driver	
	Other change	Changes on the export function of the vciIDLc library (The setup state machine was moved to the application.)	
	New functionality	Implemented send/wait/read functions instead of the state machines for setup and userinit.	
	Improved functionality	Updated to new firmware	
	Other change	Reworked the message handler (they are now a global resource)	
	Other change	Reworked the message buffer handling	
	Other change	Changes on the locks (access to the communication resources)	
	Improved functionality	Updated the Starterkit Application (integration of an automatic reboot if an exception pops up)	
	Other change	Changes on the vciIDLtp (Transport Provider)	
CAN-IB1x0	New functionality	IFI CAN implementation: now an error is generated if the ExMode (CAN FD) mode is set.	116
	Other change	Avoid that this device is shown in the 'Safely Remove Hardware' Taskbar Application.	

Driver	Solution	Description	Revision
	Improved functionality	Adapted the baud rate calculation	
	Improved functionality	CANInit implementation: initialization of the Bitrate structs, assign of the calculated bitrates to the return status struct	
	Improved functionality	Switch to core revision 157	
	Other change	Changed TDO computation so that the value is calculated directly from the cycle time of the CAN system clock and not from the pre-scaled cycle time.	
	New functionality	Inserted a timing configuration check	
	Other change	Changes on the IFI CAN FD baud rate definition	
	Other change	Renamed the BDRT_IFIFD define to BDRT_IFIFD_4_12_6_6	
	Other change	Small change on the DDF file (insertion of the DestinationDir), necessary for Attestation Signing	
	Improved functionality	Changes on the IFI timing register value (solves a problem with the CAN-FD timing setup)	
	Bug fix	Solves a fault which was inserted by using the KPciDevice class to read vendor and product id	
	Improved functionality	Updated to present the correct device GUID (CAN-IB1xx, CAN-IB3xx, CAN-IB5xx, CAN-IB7xx), it is now detected on the startup of the driver	
CAN-IB2x0	Bug fix	Fixed problems with the CAN-FD communication	96
	Improved functionality	Updated to REL_1.0.2.5 of the FW_PC_components	
	Improved functionality	Updated to REL_0.3.9.9 of the CAN-IB2xx firmware	
	Improved functionality	Separation of the CANstop in a separate function to call them on the CAN Start if the CAN is already running	
	Improved functionality	Separation of the CANreset in separate function to call them on the CAN initialization.	
	Improved functionality	Updated the function KBalAdapter::GetBalFeatures	
USB-to-CAN V2	Improved functionality	Updated to core revision 157	97
	Improved functionality	Updated to the latest changes on the USB communication layer (updated on the CAN FD implementation)	
	Other change	Deleted the string 'Vci3' in the outputs (shown in the device manager)	
	Improved functionality	Change on the copy of transmit data from the VCI FIFO to the USB transmit package. In the old version some information were lost if the write index reached the packet boundary. Problem with sending 3 Data bytes on 125 kBaud	
	Improved functionality	balcan.cpp: to be compliant to the other drivers the Transmit messages should not be deleted if the CAN Controller is not running.	
	Other change	Set the USB timeout to 500 ms. This big timeout is necessary because the Flash firmware need to erase a sector some time info from (USB-to-CAN FD), LPC (typical 100 ms), FPGA (max 350 ms)	
	Other change	Change on the CheckId implementation	
	Other change	Synchronization of the V2 driver to the FD driver, the receive and transmit are now handled in the separate DPC	
	Bug fix	Corrected a synchronization problem in the LIN implementation	

Driver	Solution	Description	Revision
	Improved functionality	Several changes on the handling of the receive, transmit functions called from the device, the PC and a timer	
	Improved functionality	Changes on the KIRQL lock handling	
	Improved functionality	Enabled the pCaps->EjectSupported flag	
	New functionality	Inserted an explicit Wakeup command before the capabilities are read on the driver initialization	
	Improved functionality	Changes on the KUsbDev::QueryBusInformation implementation. The windows implementation is different to the documentation.	
	Improved functionality	Changes on the handling of the CAN transmit functionality. In the last version were could be message losses on the transmit. They were not transmitted because no transferObject was ready.	
	Improved functionality	Changes due to problems of a customer with many USBTransObj, changed the lock mechanism balfwa: the BAL features are now stored at the firmware start and not ask queried on every GetBalFeatures call. balcan: change on the OnUsbH2DCallback (send) function. This function is called in the context of the timer, the USB callback and the VCI server call.	
	Other change	balcan.cpp: set the action parameter of the structure DCAN_STOP_REQ to DCAN_STOP_ACTION_CLEARALL	
	New functionality	Integrated the new flash firmware	
	Improved functionality	Updated the Flash firmware to REL-1.01.02	
PCI04	Other change	Changed	28
CAN@net VCI usermode	Improved functionality	Updated to core rev 157	117
	Other change	Switched to VCI2UCI version 4.0.164	
	Other change	Switched to vci4devservice version 4.0.120	
	Bug fix	Fixed alignment problems in Win32 targets	
	Bug fix	Fixed a bug in RegisterRxIdsBinary (wrong packet size)	
	Bug fix	CAN@net II VCI3 Firmware V2.4: bugfix interniche core file /mip/m_ipnet.c -> ip_startup(): disable FEC Interrupts during pk_init(), which could otherwise lead to memory corruption and the device stops working. (CAN@net II, VCI3/4 Windows Problem)	
	Other change	Adjusted reconnect timeout for CAN@Net	
	Other change	Replaced INI file config by connection string	
	New functionality	Implemented new Dll interface and parameter scheme	
USB-to-CAN FD	Other change	Changed	51
CANblue	New functionality	Added user mode driver	105
CAN@net NT (USB)	Other change	Changed	28
FRC-EP190	New functionality	Added user mode driver	200
Setup	Improved functionality	Changed check for kb3033929 on Win7 to check for wintrust.dll version 6.1.7601.18741 or higher)	
	New functionality	Added a separate wizard page to announce the checks for installed KBs on Windows 7	

Driver	Solution	Description	Revision
	Improved functionality	Updated to new GACutil.exe (Now the runtime library is statically loaded)	

Version 4.0.247 (16-08-03)

Components

Component	Solution	Description	Revision
Core	Improved functionality	Changes on the VCI socket implementation	134
	Improved functionality	Synchronization with the VCI3 restype.h, with these changes the CANopen Master API now runs also on the active CAN Cards with the included specialized firmware	
	Bug fix	Fixed system deadlock caused by stopping the VCI system service prior to stopping all the currently VCI drivers	
	Other change	Changed the access control for CAN Control and CAN Scheduler interfaces so that the behavior is like in VCI version 3.	
	Bug fix	Fixed bug caused by a change of the original CAN message frame while distributing messages to different clients.	
	Bug fix	Fixed bug caused by a call to KLinControl::WriteMessage whereby pLinMsg is NULL.	
	Improved functionality	Removed restriction to 32 resource sockets within KVciFirmware	
	Other change	Reordered VCI resource types constants (VCI_RESTYPE_xxx) to match VCI 3	
	New functionality	Added status/error logging function LogStatus to kernel mode device and driver base classes	
.NETSDK_V3	New functionality	Added	3.5.68.0
.NETSDK_V4	New functionality	Added	255
canAnalyser Mini	Other change	Updated to version 3.1.7200	7200
ConsoleSample	Improved functionality	Switched to core rev 134	46
	Bug fix	Fixed call to VciFormatError in function DisplayError	
NPL	Other change	Changed implementation of CAN channel and LIN monitor specific functions to be safe for calls from multiple threads	47
	Other change	Removed source files for functions which are not supported by the V3 compatible version of VCINPL DLL	
	Improved functionality	Switched to core rev 134	
DevService	New functionality	Added DevService version 4.0.89	89
UCI2VCI	Other change	New component	103
CAN@net IP configurator	New functionality	Added CAN@NET IP configurator driver for CANatNET_VCI	59

Drivers

Driver	Solution	Description	Revision
INpact	New functionality	Added prototype of serial communication and transport provider	161
CAN-IB1x0	Bug fix	Fixed bug in baud rate detection	101

Driver	Solution	Description	Revision
CAN-IB2x0	Other change	Changes on the function FwTriggerStart (function is now located in the LOCKEDCODE segment)	85
	Improved functionality	Update firmware, the new firmware solves a problem on the cyclic message scheduler (WORD increment)	
USB-to-CAN V2	Improved functionality	Updated to core 132	74
	Improved functionality	Updated the Flash functionality, switching from the Pseudo DFU Firmware (NXP) to the IXXAT Flash FW (understands the DFLD commands)	
	Improved functionality	Reworked the flash functionality (resolves a blue screen)	
USB-to-CAN compact	Improved functionality	Updated to core revision 132	54
	Other change	Removed restriction to 32 resource sockets within KVciFirmware	
	Improved functionality	Synchronization with the VCI3 restype.h	
	Improved functionality	cclres: some changes on the SMEM implementation to avoid a Blue Scree if a wrong resource type is recognized.	
	Improved functionality	hwsupp.cpp: change on the BmGetResInfo function to handle the translation of a CCI resource to VCI resource correctly.	
iPC-IX16 PCI	Improved functionality	Updated to core revision 132	62
	Other change	Removed restriction to 32 resource sockets within KVciFirmware	
	Improved functionality	Synchronization with the VCI3 restype.h	
USB-to-CAN II	New functionality	Added driver	14
PCI04	New functionality	Added driver	21
CAN@net VCI usermode	New functionality	Added driver version 4.0.79	79

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First release

Components

Component	Solution	Description	Revision
Core	New functionality		122
CoInstaller	New functionality		48
FlashLoader	New functionality		78
canAnalyser Mini	New functionality		7169
ConsoleSample	New functionality		39
NPL	New functionality		41

Drivers

Driver	Solution	Description	Revision
INpact	New functionality		148

Driver	Solution	Description	Revision
CAN-IB1x0	New functionality		90
CAN-IB2x0	New functionality		75
USB-to-CAN V2	New functionality		69
USB-to-CAN compact	New functionality		45
iPC-IX16 PCI	New functionality		55