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USB Protocol Suite™ 7.20 Build 2085 Release Notes

Updated: October 7, 2015

***Note to M310C Power Delivery
Exerciser Users: See warning
below in Section 2.5.***

Compatible with **USB Compliance Suite 2.56 b
342** or higher.

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1. Overview

This Read Me file contains last-minute product information for the USB Protocol Suite™ software for Microsoft Windows.

For full instructions on using the software and the hardware, please see the User's Manual and other documents provided with this product.

**Important Note: Please uninstall all older
CATC/Teledyne LeCroy USB software (USBTracer,
USBAdvisor and USBMobileHS)**

before installing USB Protocol Suite. The older applications are NOT compatible with the new software and device drivers.

Traces recorded with the older software can be loaded in the new USB Protocol Suite software. It automatically converts the traces to the new file format (the original file will remain).

Notice of End of Support for legacy CATC and LeCroy USB Analyzers

Note: Beginning with Release 4.90, validation of the USB Protocol Suite is done only on the Advisor T3, Mercury T2, and Voyager M3i, M3x, M310, and M310C analyzers.

No further testing will be done with USBTracer/Trainer, Advisor, USBMobileHS, USBMobileT2, and Voyager M3, which have been End-Of-Life since 2011.

Nothing will be done to remove support of these older devices from the software, but the user should be cautioned that no new bug fixes will be implemented for these analyzers. If problems occur on these EOL'd analyzers in future releases, you will have to uninstall the newer software and install **Release 4.80** which is available on the Teledyne LeCroy Web Site.

Notice of 3.1 Super Speed 10 Gbps Cable Loss Issue on Voyager M310

We advise customers to be careful to create a setup that has the best Signal Integrity as possible, due to these stringent USB 3.1 SS+ requirements. The cables shipped with M310 have been tested to meet these requirements.

2. System Requirements

The following is a list of recommendations for the host machine that runs the USB Protocol Suite™ application and that is connected to the USB Analyzer systems.

For optimal performance, it is recommended that the software is installed and operated on a host machine that is of a recent generation of personal computers architecture. However, the software should also operate on machines that are below the minimum requirements specified here, at the cost of slower performance, provided that memory, storage and display requirement are kept.

2.1. Software

Operating System (Voyager M3i / M3x / M310 / M310C, Advisor T3, Mercury T2 / T2C, Eclipse X34):

- Windows 10 (x86 and x64), Windows 8.1 (x86 and x64), Windows Server 2012 (x64), Windows 7 (x86 and x64), Windows Server 2008R2 (x64).
- The latest Service Pack available for the Windows OS in use is required.
- It is recommended that you use one of the supported 64-bit Windows versions listed above as they allow using more RAM than the 32-bit ones.
- **You may need to turn off Virus Protection software to install this application.**

If you have problems setting up an Ethernet connection, please refer to the USB Protocol Suite User Manual, Chapter: "Installation", section 3.3.

Required applications:

Microsoft Internet Explorer, version 6 or newer. To view the manuals, datasheets and other documents, you would need to install 'Adobe Acrobat Reader' (<http://get.adobe.com/reader>).

Note for Non-English Language Systems:

To load and save filenames with non-English (Unicode) characters, it is necessary that you correctly set the corresponding System Locale in the Operating System.

Note regarding loading of Audio/Video support files:

CATC Walk Enhanced Markers playback of audio/video files - On some systems, the USB Protocol Suite may not be able to playback audio/video files embedded in markers even if the appropriate media codecs are installed. The root cause is usually a 3rd-party application that installed a faulty filter that prevents the Microsoft DirectShow subsystem from loading the required audio/video filters. One known 3rd-party application that causes this problem is Corel WinDVD v10. The recommended solution is to uninstall Corel WinDVD v10 if it is not being used.

Important note regarding User File Locations:

Windows user editable files (Automation, Samples, Scripts, etc.) are stored in:

<drive
letter>:\Users\Public\Documents\LeCroy\USB Protocol
Suite\

This is due to those Operating Systems' policy that the Program Files (application) folders are read-only.

2.2. Hardware

Memory (RAM):

This software application may use up to 64GB or more of the RAM in the host machine. For improved performance of the software, it is recommended that 16GB of RAM is installed on the host machine. Memory as little as 4GB would still allow the software to function, but would limit its performance and user experience with large traces.

Capturing:

It is strongly recommended to have the host Machine's Physical System RAM and free disk space be at least **three times** the size of the recording buffer you select. This will allow the application to perform best:

System RAM	Max Analyzer Buffer Size
4GB	1.5GB
8GB	3GB
12 GB	4.5GB
16 GB	6GB
32 GB	12GB
64 GB	16GB
96 GB	32GB

Loading Trace Files:

You should have at least as much physical RAM in the host as the size of your trace file + the size of the folder of metadata for that trace file (Identified by having the same filename.) You can find this value by checking the File Properties of the folder in Windows Explorer. If your physical RAM is smaller than this, lots of swapping to disk will occur, decreasing the performance greatly.

Minimum system RAM size supported is 4 GB.

Non-volatile Storage (SDD or Hard Disk):

- Storage space of 1GB is required for installing the USB Protocol Suite™ software on the host machine.

- Additional storage space is needed for the operation of the software application and for storing recorded data in files.
- Please remember that storing large captured traces can result in multiple gigabytes of file sizes and can quickly fill your available storage space.

Display:

- To take full advantage of the rich visualization and analysis of Teledyne LeCroy software it is recommended that the display is set to at least **1050** lines of vertical resolution with at least 24-bit color depth.
- The minimum requirement for the display is a resolution of 1024x768 with at least 16-bit color depth.

Connectivity:

- It is recommended that a Gigabit (1000Mbps) Ethernet or a Super Speed 3.1 link is used for the connection with the Voyager M3x/M310/M310C and Eclipse X34 analyzers. A Gigabit (1000Mbps) Ethernet or Hi Speed USB 2.0 link should be used for the connection with the Voyager M3i analyzer.
- USB 2.0 Full-Speed host interfaces are not supported on Voyager systems.
- For Ethernet host interfaces, both DHCP and Static IP configurations are supported; however, Static IP configuration requires a USB 2.0 connection for first time IP address configuration.
- If multiple analyzers are daisy chained and connected to the same host machine, one Ethernet connection or one USB port is required for each analyzer.
- Mercury T2/T2C and Advisor T3 support USB 2.0 Hi-Speed or Full-Speed host interfaces.
- Please note that there is no connectivity requirement if the analysis application is used to only view pre-recorded traces.
- For tips as for how to improve on the performance of the Teledyne LeCroy analysis system and more specifically on the performance of the software, please refer to the User Manual.
- Problems have been found using on systems Texas Instruments xHCI driver version 1.12.20.0 and 1.12.25.0 which prevents maintaining communication with the analyzers. This can be fixed by using driver version 1.12.16.0 Rev. A 3 Jul 2012, or by using a different host controller.

2.3. Supplemental Teledyne LeCroy Applications

CrossSync:

The CrossSync Application is included to allow you to control recording from more than one technology and/or Platform. It also adds the ability to synchronize the viewing of Traces in more than one application. Details on the requirements and usage may be found in the Cross Sync User Manual. This application is included without charge in the USB Protocol Suite installation.

USB Compliance Suite:

The USB Compliance Suite enables the testing of USB Hosts and Devices to verify their compliance with the USB Specification. It is currently in Beta, due to the USBIF Compliance Specification not having been released yet at 1.0 level for Link Compliance. It is an optional feature which may be purchased for use on a Voyager M3i system. Details on its operation can be found in its manual: USBComplianceSuiteUserManual.pdf.

The above applications are NOT designed to be run at the same time, nor in conjunction with any other applications which connect to the USB Protocol Suite through the Automation API. If you use any of these applications, please close the applications and verify that USB Protocol Suite has shut down before running any other of these applications or USB Protocol Suite in its normal configuration.

Note: Users of CrossSync, USB Compliance Suite or any code which uses Automation Interface to the USB Protocol suite:

If you run into a problem where the system says it cannot write the trace files to the disk, please check the following:

- The destination folder of the Trace File has write/create permissions for this capability. (Often this is NOT the case when
 - a network file system is the target directory.)
- Try changing the Firewall Settings for USB Protocol Suite to Public. This can be done through Windows Firewall or through whatever Firewall you are using.

2.4. Voyager M310C and Mercury T2C Specific Setup Notes

The Type-C connectors on the front should be connected as follows:

Connector 1 (left connector) should connect to the Device (which normally has a UFP)
Connector 2 (right connector) should connect to the Host (which normally has a DFP)

For more information on Voyager M310C setup, see the included App Note "VoyagerM310C_Setup.pdf" that was included with your installation. For Mercury T2C, see the Mercury T2C Quick Start Guide included with your installation.

NOTE: Analysis of USB SS+ (10Gbps Gen 2) traffic requires the use of short, low-loss, high quality cables. The cables provided by Teledyne LeCroy, which have the Teledyne LeCroy label on them, have been verified to provide excellent signal quality. Using other cables may compromise the signal quality and prevent capturing of clean traffic.

2.5. Voyager M310C Power Delivery Exerciser Warning !

Warning: The Voyager M310C Power Delivery Exerciser allows the customer to set Voltages and Current levels to be delivered to/from Devices and Hosts and their connecting cables which may exceed their capabilities.

- **This may cause damage to the devices under test and their cables. Please use caution when writing scripts so that these limitations are not exceeded.**
- **Please Power-cycle the M310C unit after PD usage to insure that the connectors go back to their default Voltage and Current states.**

3. Release Notes

3.1. What's New

- This is version 7.20 of the USB Protocol Suite.
- New Features

- Power Delivery Exerciser
 - Power Delivery Packet and Transaction Display Enhancements
 - Power Delivery Triggers
 - Bug Fixes
 - Windows 10 Support (Windows XP no longer tested or fixed)
- This release supports the following Teledyne LeCroy products:
 - Eclipse X34
 - Voyagers: M3i, M3x, M310, M310C
 - Advisor T3
 - Mercury T2, T2C
 - This release supports the following specifications:
 - USB 3.1 Specification Version 1.0 of August 11, 2014 (Including all ECN's)
 - SuperSpeed Inter-Chip Spec 1.01 February 11, 2013
 - USB 2.0 Specification up to ECN of July 16, 2007
 - This release includes fixes for the following issues

Bug ID	Summary
PnW17161	USB 3.1 Exerciser - Do not open Graphic Scenario
PnW17144	Display Object Position cell on Enter Mode command
PnW17104	Crash on right Click "show VDM" or "View TRA fields" causes hang
PnW17076	Error Report button is not working with PD trace
PnW17075	Max Trace Segment Size in summary option page not reflect to Recording Options setting changes
PnW17032	PD Adapter not connecting
PnW17013	PD: CRC32 error behavior: Spec View shows expected rather than captured CRC-32 value
PnW16914	CC Events: Port Status should describe Power Role (Source/Sink)
PnW16903	Compliance: TD 7.1: M3i begins sending LFPS early
PnW16900	Remove yellow Cable Status LED from software
PnW16891	PD/CC Event packets out of order
PnW16888	Not issuing ERDY in SS+ Device Emulation enumeration (SET_ISOCH_DELAY support)
PnW16887	Scrambled Data Incorrect in Link Tracker
PnW16884	Decode 0xFF01 commands from Display Port spec
PnW16881	PD: Modal & Rsvd fields swapped in ID Header
PnW16847	Unable to open Spec View after capturing PD trace
PnW16846	M310C issuing prompt with USB 2.0/3.1 are disabled
PnW16787	Ability to insert 192 Bit SKP's using Voyager Exerciser (Documentation update)

PnW16767	PD Spreadsheet View Crash
PnW16764	ExportToCsv API information in manual need to be corrected
PnW16725	Crash happens when changing SCSI command set in temporarily "Find All" trace
PnW16703	No traffic captured with large buffer (> 2047 MB) when amount of traffic is tiny
PnW16688	Place PD with USB 2 and 3 in Rec Options
PnW16680	Audio Device Class request decoding
PnW16652	Recording Options won't save with Manual Trigger selected
PnW16573	SS+ false CRC Errors trigger
PnW16568	SSIC Filter out of Logical IDLE, SKPs and LUP/LDN isn't working
PnW16561	When running Snapshot or Manual Trigger, trigger tooltip only displays Packet 0 Triggered On for MT2 and MT2C for all HS FS LS
PnW16558	M310C cannot be DFP in Hub Compliance
PnW16521	PD Needs view of raw bytes/symbol (4b5b)
PnW16496	Rec Rules: State change doesn't reset timer
PnW16494	PD: Simple Triggers needed for Power Delivery and CC on M310C and Mercury T2C
PnW16491	Automation Recording Status percentage complete indicates values larger than 100%
PnW16484	Status information in analyzer devices windows show inverted IP Address for M3x
PnW16456	Need to identify partners in case of power role swap
PnW16448	Host exerciser does not respond with the SS+ LPMA link command in response to LAU link commands
PnW16446	Host exerciser fails to generate SS+ Framing Error
PnW16400	Crash calling "Save As" in automation API
PnW16390	Compliance: TD 10.117, TD 10.115:: Not sending LCRD for LMP
PnW16274	Add Hiding for CC events + Stacking on CC events
PnW16273	Adding Transaction Layer for PD traffic
PnW16271	Add GetFullPathAndName() to API
PnW16197	USB2 - Trigger on data pattern not as expected (Needs to support up to 16 bytes)
PnW16192	Scale Power Tracker Automatically
PnW15952	SW crashes after spooled in limited disk space
PnW15512	Need to mirror X34 status LED's in SW pane
PnW13238	Couldn't load the saved search option

3.2. Known Issues

Bug ID	Summary
2537	In some cases, you may have to recompile a USB 3.0 exerciser script if you disconnect/reconnect the Voyager M3.
2873	Exerciser failure caused by switching 3.0 emulation scripts
16435	Preview in Multimedia Markers not working in Windows 10
17091	CC Values in Status Bar clipped when recording and when on small screens

General

- Voyager and Eclipse X34 may not work correctly if connected over Ethernet and USB at the same time. Please use only one type of interface.
- Errors may appear in the last couple of packets of a recording which are not real errors. They are a side effect of the recording terminated during the middle of a packet. Also, the first packet in a trace may be a partial one.
- In USB 2.0 Auto Speed Detect mode, the first few (up to ~20) packets may have errors on a high speed trace due to bouncing of the speed selection relay. These packets should be ignored.
- The External Trigger Out signal level is forced low at the beginning of each recording. This might cause false triggers on externally attached equipment.
- M3/M3i: For USB 3.1 SS traffic capture, in some cases the analyzer might not correctly lock to the 5Gbps signals on power up, or it may lose lock after a long period of usage. If this occurs, you may issue a soft reset to the capture engine by selecting "Record | Reset SuperSpeed Capture Engine" from the menu. After performing this reset, you will have to retrain the link on your devices.
- The "Auto RxDetect" mode is designed to recognize 3.1 hosts and devices and present 3.1 terminations to them when they are both plugged in. In some cases, the timing is such that the Host and Device go into USB 2.0 mode, or don't connect. If this occurs, try doing a Disconnect/Reconnect cycle of VBus by hitting the "Momentary Disconnect" button on the toolbar. In other cases, you will have to disable then re-enable the xHCI Host controller driver in the Windows 7 Device Manager of your PDK.
- Some hiding options stored in old display options files are stored incorrectly and cannot be restored.

3.3. API

Automation:

- There are several sample projects included with the application. To run them, you should make sure that the USB Protocol Suite application is already installed.
- The library file name to be used is:
USBAutomation.tlb.
- **HTML Sample:**
- For editing the HTML sample code you can use a text editor or other HTML-editing tools.
- **CPP sample:**
 1. To compile the Visual C++ sample project you first need to install the Microsoft Visual Studio.
 2. You can select to install the USB Protocol Suite software in a directory different than the default one. If you choose to do so, make sure you add a path to the installation directory in your project's

- paths list. You can find the **USBAutomation.tlb** file in the installation directory. When using Microsoft Visual Studio, the path to the installation directory should be added to the following places in the 'Project Settings' property sheet:
- (1) Under 'C/C++' tab, 'Preprocessor' category in the 'Additional include directories'.
 - (2) Under 'Resources' tab, in the 'Additional resource include directories'.
- When a remote server is disconnected abruptly while a client application is still connected, the client application might hang up for several minutes. At the end of this timeout, the client would be released with a "The RPC server unavailable" notification. This is due to Windows conduct. [C0004997]

Note on VSE scripts which use the methods to access Address and Endpoint fields (GetAddr(), GetEndp(), variables Addr and Endp): a bug was returning these values in their lsb->msb order for 3.1 traffic, and in normal msb->lsb order for 2.0 traffic. This has been fixed in 4.60 release so that the 3.1 values are now in the same format as USB 2.0 values, msb->lsb. You may have to update your scripts if they depended on this bug.

4. Previous Releases

5. Release Notes

5.1. Version 7.10 b 2006 (June 4, 2015)

- This is version 7.10 of the USB Protocol Suite.
- New Features
 - Mercury T2C USB 2.0 and Power Delivery Analyzer with USB Type-C Connectors
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Eclipse X34
 - Voyagers: M3i, M3x, M310, M310C
 - Advisor T3
 - Mercury T2, T2C
- This release supports the following specifications:
 - USB 3.1 Specification Version 1.0 of August 11, 2014 (Including all ECN's)
 - SuperSpeed Inter-Chip Spec 1.01 February 11, 2013

- USB 2.0 Specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW16653	Analyzer hang when running RTS before any traffic started
PnW16644	Fix crash when loadin 2 nd Recording Options file
PnW16580	Use same decoders for SS+ and SSIC and SS transfers
PnW16512	Triggering on U3 exit instead of Warm Reset
PnW16477	ProtoSync is not able to process second trace complaining that the previous import is in progress
PnW16451 , PnW16657	incorrect trigger USB 2.0 traffic on M310 and M310C
PnW16450	incorrect trigger on SS+ Training Sequence Reset bit
PnW16449	Document: exerciser script manual on description of Disable LPMA
PnW16447	crash while viewing SS+ IPS tooltip in link tracker
PnW16440	Unplugging the Ethernet Cable Of M3x Causes Crashes And Error Message
PnW16439	Disconnect Ethernet Device Causes A Crash
PnW16424	Crash when Traffic Summary view is open during upload; Not enough disk space to complete the operation error message appear
PnW16423	Additional option not applied if press "X" on SCSI Event Properties in advanced mode
PnW16370	Status information in analyzer devices windows show inverted IP Address for M310 and M310C
PnW16324	Force trigger marked in PD snapshot trace.
PnW16314	Slow Clock hyperlink is not working
PnW16309	Allow changing colors of PD Fields
PnW16186	PD: Need Idle Time Field Cell between packets on th PD channel
PnW16185	Alternate color scheme for Power Tracker (Addresses Red/Green Color blindness)
PnW16184	Quick Timing Markers should be added to Packet, Tra number cells, and combined Timestamp/Packet number cells
PnW16179	Added Spec View of PD packets
PnW16077	Need "C" Connector LED's reflected in SW
PnW15898	SS+ RTS always zero on graph and statistic
PnW15880	SSP polarity not working
PnW15660	Compliance / API: Unable to run Compliance when powering on Voyager when USB Suite already opened
PnW15614	Better behavior when trying to open an already-opened file
PnW15540	Updates to SCSI Decoding

PnW15512	Need to mirror X34 status LED's in SW pane
PnW13428	Glitch in showing speed LED indicators in mainframe in small sizes

5.2. Version 7.02 b 1957 (April 23, 2015)

- This is version 7.02 of the USB Protocol Suite.
- New Features
 - Supports all current USB and SSIC analyzers
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Eclipse X34
 - Voyagers: M3i, M3x, M310, M310C
 - Advisor T3
 - Mercury T2
- This release supports the following specifications:
 - USB 3.1 Specification Version 1.0 of August 11, 2014 (Including all ECN's)
 - SuperSpeed Inter-Chip Spec 1.01 February 11, 2013
 - USB 2.0 Specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
16007	Update Exerciser Manual to include USB 3.1 instructions
15823	SSIC Data Packet Header cannot be triggered
16261	Unable to select USBTMC decoding
16180	PD "Data" Field Cell should be expandable/collapsible, SVID should be decoded
16230	X34: Low Speed not captured
16208	TD.10.113 Failed in 2.40.0321 but Passed in 2.10.0272
16057	Update Exerciser Manual to include USB 3.1 instructions
15163	Crash during huge spooling upload
5114	Save Traffic Summary in Excel or CSV format besides the existing HTML format
15741	Automation API needs "Ex" versions of GetPacket(), GetPacketsCount(), GetTriggerPacketNum() to support 64-bits
15864	Update SSIC Manual to show new Link Tracker features
15513	SSIC LTSSM and Link State Timing Views needed
15708	Strange glitch before Hot Reset
16167	Change BE default for RxDetect interval from 5ms to 12ms (5ms was preventing Customer's Hardware from coming out of warm reset for unknown electrical reasons)

16215	Wrong analyzer picture shown in About page and Add Device page for M310C
15857	Random crash by deleting markers from All marker dialog
16128	SW crash when try to open compliance generated trace
15877	Recording Option page refresh to first analyzer in list after load the recording option setting
15880	SSP polarity not working
16120	M3i: Upstream Polarity Inversion causing errors during Host compliance testing 6.1 and 6.1.1 (explicit settings ON and OFF)
14583	If a packet is selected it should remain on the screen after expand/collapse or compact/uncompact events
16187	PD: Missing last packets (need to flush capture buffer)
16110	M310C USB 2 Exerciser Failure: Devices don't respond (Tested with Compliance) LS, FS, and HS.
16199	M310C Host Compliance Failures
16178	PD: VConn Event seen on unmarked cable
16208	TD.10.113 Failed in 2.40.0321 but Passed in 2.10.0272

5.3. Version 7.00 b 1942 (March 19, 2015)

- This is version 7.00 of the USB Protocol Suite.
- New Features
 - Support for Voyager M310C USB 3.1 Analyzer with C Connectors and Power Delivery

Note: FSK Power Delivery over VBus not supported in the Voyager M310C model
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Voyagers M310C
 - *This Release was not validated for other Teledyne LeCroy USB or SSIC analyzers*
- This release supports the following specifications:
 - USB 3.1 Specification Version 1.0 of August 11, 2014 (Including all ECN's)
 - SuperSpeed Inter-Chip Spec 1.01 February 11, 2013
 - USB 2.0 Specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
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<u>16057</u>	Add info on SS+ exerciser parameters to USB Exerciser Script Manual.
<u>15467</u>	Clean up decoder temp files menu item needed, allow user to NOT create them
<u>16000</u>	Change IPS packets from Errors to Warnings
<u>15513</u>	SSIC LTSSM and Link State Timing Views added
<u>16043</u>	Crash when opening two traces from 3.1 SS example folder
<u>15876</u>	SW crash if detaching device when recording option is open and go to sequence rule
<u>15961</u>	SW crash when opening Trace Preview in USB3.1 Exerciser window
<u>15841</u>	SSIC VSE support and Manual Update
<u>14800</u>	Glitch at Navigator after opening trace that has a need for update.
<u>15732</u>	Trace view mode is not saved in default display options
<u>11025</u>	Multiple view of document has basic problems with Transfer Levels design and implementation
<u>15786</u>	'Delete all markers for this Packet' function not working
<u>15911</u>	SSP Advanced mode to Simple mode did not clear SS+ DPHP Framing Error trigger
<u>15921</u>	crash during merging SS or SSP trace files
<u>15912</u>	SSP Standard Request/SCSI commands can't be triggered through direct events
<u>15860</u>	SSIC Crash during scrolling specific trace that contains many errors
<u>8661</u>	SCSI traffic summary or search not update with command set changed
<u>15945</u>	Fix Go To (Min, Max) in Power Tracker
<u>15163</u>	Crash during huge spooling upload
<u>15856</u>	Crash during spooling after 6-7 hours
<u>15944</u>	Add Power Tracker example file
<u>15716</u>	User can't set Trace file name from Automation, Serial # appended

5.4. Version 6.05 b 1898 (February 10, 2015)

- This is version 6.05 of the USB Protocol Suite.
- New Features
 - SSIC Analysis with Eclipse X34 Platform
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Eclipse X34
 - Voyagers M3i, M3x, M310
 - Advisor T3
 - Mercury T2
- This release supports the following specifications:

- USB 3.1 Specification Version 1.0 of August 11, 2014 (Including all ECN's)
 - SuperSpeed Inter-Chip Spec 1.01 February 11, 2013
 - USB 2.0 Specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW15739	More CDC Decoding problems
PnW15661	Vendor defined device class incorrectly decoded as unknown on interfaces
PnW15655	Buffer Size unit in Recording Option is missing after chose Spooled Recording
PnW15635	Remove Export to USB 3.1 Exerciser Script option, as it does not work as customers would think
PnW15606	Add explicit casting to .vbs examples
PnW15589	Change distribution from CD to DVD
PnW15537	Trigger Mode doesn't automatically set to Event Trigger after add new trigger event in advance mode
PnW15536	Software crashes with Double click on packet header
PnW15535	X34: Timestamp reset with trigger after 2 hours
PnW15534	X34: incorrect actual time stamp inside trace information
PnW15509	X34: Spec View for SSIC Traffic
PnW15508	X34: Link Tracker for SSIC Traffic
PnW15445	Wrong parsing of UVC Interrupt control message
PnW15431	Crash when saving range of USB3.0 trace
PnW15401	Send link command advertisement in alternate sequence
PnW15308	"Wait_Termination" instruction of USB2.0 trainer does not compiled for hardware if the target unit is M310
PnW15260	Stacking packet count and range broken in multiple cases in display
PnW15171	USB 3.0 link does not come up for some disk drives in exerciser mode.
PnW15169	Timing calculator producing incorrect results
PnW15166	"Keep Across Recordings" overridden by enumeration
PnW15163	Crash during huge spooling upload
PnW15158	Communication Class serial_state decode is not decoding correctly
PnW15146	[M3i/M3x] Update BusEngine to generate SCD1 signature
PnW15131	Voyager M310 cannot capture SS or SS+ traffic, sometimes just 1 direction, different boxes different symptoms with identical SW and BE
PnW15107	Panda AV neutralized UnitAgent.exe
PnW15106	USB Suite crashed at end of decoding on trace just recorded from Mercury

PnW15056	Truncate Data and SS+ traffic
PnW15043	M3x (and M310) requires power-cycle between exerciser scripts
PnW15008	Get few CRC16 errors on low speed device
PnW14989	Unable to open Trace Information
PnW14982	No trigger marker in trace when doing timer trigger for PD
PnW14981	SW crash during uploading if PD traffic capture for 40 sec and above
PnW14971	API ReportTrafficSummary output files were different by running twice or more
PnW14928	M310 failed on 2.0 Host and Device Emulation
PnW14916	SS+ SKP packets found in USB3 SS trace
PnW14914	Idle is still visible in trace after set to filter out bus events
PnW14913	LFPS.Ping still in trace after filter out bus events is enabled for M3i
PnW14912	Polarity Inversion setting in M3i is not working in manual mode
PnW14907	User able to check/uncheck 'Select to view the readme file ..' after installation completes even after unchecked it (Readme files) in features selection to install
PnW14897	Add x34 drivers to USB Suite
PnW14895	USB 2.0 Host Emulation Broken. No Device side traffic seen.
PnW14893	Looping error message when click 'Timing and Bus Usage Calculation' button for all .utg file
PnW14892	Timer trigger only support up to 77 sec
PnW14886	HS Isochronous Endpoint decoded as Bulk
PnW14885	DP length error triggers incorrectly
PnW14879	Wrong trigger tooltip and in trace info for framing error trigger
PnW14878	Update the slow clock verification manual
PnW14870	Recording Channels in Recording Options for MT2 disappears
PnW14863	Need to wait long time to open RTS graph's properties when actively run high throughput data
PnW14851	Disable SS+ settings when using an analyzer that does not support SS+
PnW14833	The current selected search options are not cleaned when users load stored search options.
PnW14831	Add information of trigger condition for USB2 in tooltip and Trace Info
PnW14812	Vertical display captures side slide bar not available
PnW14811	Can't Update license when 2+ units attached.
PnW14809	Window title doesn't show the trace name after the trace path for trace inside example folder.
PnW14755	SUPER SPEED PLUS_ISOCHRONOUS_ENDPOINT_COMPANION added
PnW14641	Billboard Class Decoder added
PnW14627	Traffic Summary range doesn't apply to All Traffic report for Transaction and Transfer value
PnW14612	Strange USB2 behavior when triggering on a single ACK
PnW14574	No analyzer is detected when PS Suite run through 'Run As Administrator'
PnW14465	Timing Calculator features acting inconsistently

PnW14460	Link test TD 7.25: Passes on M3i, M3x, fails on M310
PnW14257	License Information will shows wrong available features list after connecting another analyzer
PnW14107	Link Commands not listed as options for Packet Type Trigger however exist and can be selected in event properties
PnW13860	Tick box shown in black in Analyzer Device window
PnW13832	Document that ECM Decoding is included in the CDC Class Decoder
PnW13801	Error column in spreadsheet view not filled with error information
PnW13677	Show last modified version of trace in Trace Information.
PnW13397	Some issues with import scope file [not valid extension .usbraw and creating raw files always]
PnW13319	Data pattern search fields become inaccessible with some fonts
PnW13238	Couldn't load the saved search option
PnW13135	SW always hangs when connecting M3x into USB3 port in Intel Z87 chipset. (ALSO Sierra M122!)
PnW12972	Eliminate the unit agent (UnitAgent.exe)
PnW11996	Wrong Sequence Number Error - add to Traffic Summary
PnW9914	Make the Compliance Suite VSE scripts appear in VSE window
PnW9274	Mis-alignment GUI in Misc.USB 3.0 Recording option
PnW8934	One of the item in drop down menu in Initiator Setting looks truncated
PnW8661	SCSI traffic summary or search not update with command set changed
PnW6457	all HS compliance tests fail on M3i PHY board rev 0xA & M3
PnW6239	Spreadsheet View add the Delta time for packet or transaction
PnW3724	Show single bit framing errors as Warnings

5.5. Version 5.10 b 1773 (September 23, 2014)

- This is version 5.10 of the USB Protocol Suite.
- New Features
 - Large File Traces. Trace files are supported up to 64 GB in size. No more Segmented captures.
 - Decode Once. Decoding information is retained in the file system, so files load quickly after the first decoding pass.
 - USB Compliance **2.13 b 280** or higher.
Check [UsbComplianceSuiteReleaseNotes.htm](#) file to verify compatibility with this version.
 - All USB 3.1 ECN's supported (Including SSP SKP ECN)
 - Automatic DFE feature for cleaner SS+ captures

- Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.19
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.49
 - Serdes BusEngine version 1.11
 - Firmware version 1.63
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.05
 - Firmware version 1.02
 - Voyager M3x
 - Main BusEngine version 1.36
 - Firmware version 1.34
 - IOHub Bus Engine 3.37
 - Voyager M310
 - Main BusEngine version 1.24
 - Firmware version 1.04
 - IOHub Bus Engine 1.18
- This release supports the following specifications:
 - USB 3.1 specification version 1.0 of August 11, 2014 (Including all ECN's)
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW14716	Add Grounding suggestions to the User Manual
PnW14710	Packets count in All Report does not match with total packets count in Packet Report
PnW14676	HS EOP message should describe 8 bits
PnW14635	SCSI search not working
PnW14632	SS transfers are split at NRDY
PnW14612	Strange USB2 behavior when triggering on a single ACK
PnW14579	Slow clock mode does not work in 5.00 SW release
PnW14497	Add Trigger Reason to Tooltips and Trace Info
PnW14496	Add support for SCDx
PnW14409	External Trigger IN Not working with USB 2.0 Sequencer on AT3, Mercury, M3x, M310
PnW14364	Power Tracker amplitude scaling problems

PnW14333	M3x/M3i/M310/AT3/MT2: USB2.0 tracer missing last amount of captured traffic (stuck in BE fifos, needs Flushing)
PnW14326	Automation client cannot retrieve error descriptions with some API methods
PnW14325	Incorrect parameter returned for IsUsb3GenerationIdle() in API
PnW14289	Power Delivery Decoding and Support (BETA)
PnW14288	Improve checking for Disk Space and Memory Space before recording and/or opening a trace file
PnW14274	Crash with direct navigate from transfer to packet 0
PnW14271	Need to add SDS to Hide commands
PnW14268	USB 3.0 Loopback mode (In Electrical Tests) is ineffective
PnW14221	Bulk IN for Device Emulation USB 2.0 does not work (M3i)
PnW14212	Max packets in burst should be bMaxBurst+1
PnW14199	Trigger on Simple triggers events in sequencer doesn't work properly when Only Tx selected
PnW14197	Upstream simple trigger cannot be triggered
PnW14194	Restore Factory Settings (display options) not working
PnW14185	SW crash after open Bus Utilization once the memory usage almost full
PnW14173	MMC SCSI decoding crash
PnW14171	M3i capture nothing with power measurement & full buffer (4095MB)
PnW14127	M3x USB2 trig on error(default settings) happened but no errors
PnW14122	Trigger doesn't work properly on some Link commands in SSP sequencer (LAU, Header Pattern, LCRD, LCRD2, LRTY, LBAD)
PnW14121	M310 cannot mix with M3x or M3i in hub compliance test (CATC SYNC FAILURE)
PnW14119	NAKed and STALLeD transactions not filtered out
PnW14113	Reconsider USB 2.0 "Standard Errors" default
PnW14094	M310 is recognized as "Unconfigured Voyager Device" when connecting M310 through Ethernet
PnW14086	Support for "Device Firmware Upgrade" (DFU) Class Decoder
PnW14080	External Trigger In happens on M310 and M3x even though no SMA cable attached.
PnW14076	Software crashes when exporting transaction info with VSE
PnW14057	Handle read-only mode of USB3.1/3.0/2.0 Rec Rules in Recording Options dialog
PnW14055	CATC Walk playlist will stop after played audio/video file
PnW14025	IOHub Trigger Issues (Pulse width and repeating ext triggers)
PnW13999	Support for USB 3.1 SKIP ECR/ECN
PnW13998	More accurate time values in Link Tracker view
PnW13988	M3i, AT3, M3x, M310: truncate SS traffic rarely causing CRC error
PnW13974	Show SCDx, LBPMs messages in Transaction layer

PnW13973	8-Bit Data capture and Display for M310
PnW13969	Performance Optimizations and Large File Support
PnW13968	M3x/M310: USB 2.0 Device traffic generator not wrapping
PnW13965	2 new API's needed: ApplyRecordingOptions(ro), SetBugffferSizeEx(ULONGLONG num_bytes)
PnW13866	Different subnet add device failed with more than one network adapter
PnW13710	Software crashes when exporting CSV via API at transaction level when there are no transactions
PnW13672	USB 2 compliance not working on M3x or M310 through Ethernet connection
PnW13357	Make exporting .csv at levels above Transactions easier to do
PnW12363	Short Packet Protocol (zero length data packets) support needed for USB 3 SS and SSP exercisers (was Exerciser SendPipeCommand (length = zero) being ignored)
PnW11370	Decoding engine has a problem to decode more than 4 bytes.
PnW11278	Add Timestamp to ProtoSync traces
PnW11264	Remove all PSG installed files when doing an uninstall
PnW6322	User requests an API callback for display decoding complete
PnW5095	zero "framing symbol error" in "Simple Trigger - Framing Error" triggered trace
PnW5078	Save decoded data structures in files in a folder so they only have to be processed once
PnW3022	Explicit CRC in Exerciser script doesn't match what is sent

5.6. Version 5.00 b 1711 (June 16, 2014)

- This is version 5.00 of the USB Protocol Suite.
- New Features
 - Voyager M310: USB 3.1 Gen II SuperSpeed Plus Enhanced 10 Gbps Analyzer and Exerciser
 - USB Compliance **2.03 b 265** or higher.
Check
UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.14
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.45
 - Serdes BusEngine version 1.11

- Firmware version 1.63
- IOHub Bus Engine 9.00
- Mercury T2
 - Main BusEngine version 1.01
 - Firmware version 1.02
- Voyager M3x
 - Main BusEngine version 1.32
 - Firmware version 1.31
 - IOHub Bus Engine 3.37
- Voyager M310
 - Main BusEngine version 1.19
 - Firmware version 1.01
 - IOHub Bus Engine 1.17
- This release supports the following specifications:
 - USB 3.1 specification version 1.0 of July 26, 2013 (Including updates to SDS, TSEQ, new LGOODS (8-15) and new header sequences for pending ECR's. SKP length ECR not currently supported.)
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW13943	Graphic Scenario Editor in USB3 Exerciser is broken
PnW13937	Fix sampling rate of Power Data
PnW13877	CDC-NCM class decoding: Spec Change
PnW13874	Changing USB2 speed in recording option will make the recording broken
PnW13871	GoToMarker menu has problem with more than 20 Markers
PnW13866	Different subnet add device failed with more than one network adapter
PnW13826	Compliance TD 7.25: U3 Wakeup LFPS not generated correctly
PnW13800	CATC walk partially broken
PnW13773	Recording for USB3 will not automatically stop with M3i PHY rev 0xA
PnW13767	Idle Time tooltips provide inaccurate uncertainty
PnW13743	Hub Compliance: TD10.102 / 10.106 - LVSD should not respond to WARM RESET
PnW13736	Message got separated into different lines
PnW13711	USB 2.0 Host traffic generator not wrapping
PnW13703	New automation API GetHardwareInfo()
PnW13684	Buffer size and Trigger Position not shown in trace file's Recording Options
PnW13668	Warm Reset grayed out in Search (trace has LFPS Warm Reset)?
PnW13313	Compliance: Need to exit to U1 quicker (without lots of idles)

PnW12575	M3x and M310: Add VBus On and VBus Off events to trace for Compliance and End User
PnW11760	SW crashed when not enough memory
PnW11759	Sluggish when scrolling trace up and down while packet length graph is opened
PnW11432	AT3 external trigger out with simple triggers option was not working
PnW11278	Add Timestamp to ProtoSync traces
PnW10044	Occasional failed state change from U2 to U0 on device emulation
PnW8174	Performance Optimizations of Transaction Decoding

5.7. Version 4.90 b 1645 (April 3, 2014)

- This is version 4.90 of the USB Protocol Suite.
- New Features
 - SCSI Metrics to VSE and in Spreadsheet View
 - USB Compliance **1.99 b 245** or higher.
Check UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.
 - Bug Fixes
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.13
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.30
 - Serdes BusEngine version 1.11
 - Firmware version 1.63
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.01
 - Firmware version 1.02
 - Voyager M3x
 - Main BusEngine version 1.17
 - Firmware version 1.24
 - IOHub Bus Engine 3.37
 -
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW13579	Software crashes when try to edit "Header patterns" in USB 3.0 Sequencer
PnW13526	Compliance GUOT-04 FS and GUOT-04 HS tests fails
PnW13514	Error message when loading a trace captured via Crosssync
PnW13452	Application capturing hang with power tracker enabled and >1G buffer(M3i)
PnW13451	Message box preventing .utg file execution from API
PnW13434	Trace view missing after app termination
PnW13336	Need to Add version info to the BERawFileCreator executable file
PnW13330	Compliance - Voyager does not complete HotReset.Active exit in device mode - TD 10.108 part 5
PnW13320	Fix User manual regarding Advisor T3 and Mercury trigger cables
PnW13217	Enhancement: Add SCSI Metrics to VSE and in Spreadsheet View
PnW13213	Capturing trace in Not-real time mode of record interrupted by access violation error in case of heavy file process by OS
PnW13209	Graph plotted in Link States Timing view will disappear slider was moved in saved trace
PnW13208	State transition in LTSSM View will mess up after trace saved using Rename method
PnW13193	TD 7.11: Compliance Device failed train up with 1.98b239 but passed with 1.95 Build 220.
PnW13147	Unable to delete temporary file warning message with shortcut key shift + scroll wheel up/down
PnW12750	Foreign character instead of "us" for Delta Time
PnW12718	Using VSE SetMarker will not generate bookmarks on both trace captured using CrossSync.
PnW12647	Add incomplete transfers to Traffic Summary
PnW12266	Eight digit or more for packets number will looks truncated in stacking view
PnW11992	Hub Comp: [TD.10.118, TD.10.126 and TD.10.127] Device emulator incompletes status stage before transition to non-active states when the HUB's DFP time-out is set.
PnW11760	Crash due to insufficient memory
PnW11706	Copy to exerciser for SCSI Command does not work for USB2.0
PnW11028	<esc> does not quite Recording Options dialog unless you click on a widget first
PnW10793	In Link Tracker (text Mode) TSEQ are displayed as Symbols instead of Text
PnW10414	Two scroll bar in Recording Option's information panel when setting in medium or large size of text

PnW7063	Add ability to add Power Tracker fields to Spreadsheet view
PnW6266	Application will crash if API start recording is called again before display decoding is complete
PnW3682	Problem with Graphical Bus Utilization
PnW712	Not enough memory to display Graphs

5.8. Version 4.80 b 1603 (February 10, 2014)

- This is version 4.80 of the USB Protocol Suite.
- New Features
 - USB Compliance **1.98 b 239** or higher.
Check UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.
 - Save Search Options
 - Dockable CATC Trace View
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.13
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.28
 - Serdes BusEngine version 1.11
 - Firmware version 1.63
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.01
 - Firmware version 1.02
 - Voyager M3x
 - Main BusEngine version 1.15
 - Firmware version 1.24
 - IOHub Bus Engine 3.37
 -
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug ID	Summary
PnW13133	USB Upload Performance Improvements
PnW13117	M3x exerciser stop generation does not work with Ethernet connection

PnW13103	Data Truncate Feature doesn't work properly with latest BEs for M3x, Advisor T3
PnW13063	Compliance: Run performance increase on HUB Compliance
PnW13060	Need to hit VBus Reconnect Button once to enable capturing traffic on Voyager M3i.
PnW12917	Error "An unnamed file has a bad format" pops up when opening Bus Utilization.
PnW12841	Ugly fonts in higher zoom levels of Spreadsheet and compressed views
PnW12798	Recording option truncate payload is generating errors
PnW12750	Korean character instead of "us" for Delta Time
PnW12741	Enhancement: add option to configure collapsed/expanded sizes of Data Fields
PnW12651	GET_PACKET API speed up
PnW12650	GET_PACKET API speed up
PnW12649	Problems in USB Vision Scripts
PnW12633	Need "Any" - (don't care) case for handshake portion of Transaction filter for USB 2
PnW12575	Add VBus On and VBus Off events to trace for Compliance and End User
PnW12559	Compliance TD 10.120 - LVSD is sending Ping.LFPS while in U2 (U1 ->U2 timeout needs to be implemented)
PnW12545	Packet Number in traffic summary report truncated.
PnW12544	Provide the path to the merged file after merge completed
PnW12526	Hub Compliance TD.10.115 failed with 1.95b220 but passes with 1.91b212
PnW12522	Intermittent crash with Real-Time Statistics
PnW12521	M3X falsely triggers on a pattern
PnW12501	M3x: Pings Interspersed with Polling on both Device and Host side
PnW12489	Mass Storage Decoding - Details not appearing in Detail View - "Assigned Script Decoder Rejected..."
PnW12482	VBus disconnect does not last through recording start
PnW12469	USB3 Device -> Analyzer -> Host Signal Profiles have no affect
PnW12457	M3i and M3x the device emulator hangs or crashes sometimes during TD.10.126 and TD10.128
PnW12447	Customer request SendPipeCommand, PipeType = Interrupt
PnW12426	TD 6.5 Suspicious FAILs on M3x
PnW12360	Cursor get pulled to the left when opening trace through drag and drop method
PnW12266	Eight digit or more for packets number will looks truncated in stacking view
PnW12253	Incorrect decode of data payload for a NCM Class Request
PnW12181	Add LFPS events to Link State Timing View
PnW12136	Problems updating FW M3x through USB3 connection
PnW12076	USB 2.0 & UAS decoding issue- UAS decode Fails to group CMDs with DATA
PnW11992	Hub Comp: [TD.10.118, TD.10.126 and TD.10.127] Device emulator incompletes status stage before transition to non-active states when the HUB's DFP time-out is set.
PnW11969	Right click context menu could be more packet sensitive
PnW11946	USB P.S. - Field bcdVDC in CS_INTERFACE Displays 2 times
PnW11927	(TD.10.118) Routed requests to the downstream of HUB incompletes when the hub downstream port link is in non-active states
PnW11790	LTSSM View does not show U1 transitions when many transitions occurred.
PnW11706	Copy to exerciser for SCSI Command does not work for USB2.0

PnW11512	Trace Information was shown with HTML code
PnW11463	SCSI level decoding not set in display options
PnW11159	Not decoding Radio Class Decodes Properly
PnW11068	Unable to open recording options in advance mode (implement read-only mode for rec options)
PnW9533	Keeping raw data file as original trace file
PnW8948	Bus Utilization Graph shows some options twice in the drop down menu
PnW7885	Drop down lists are not showing up in Korean and Japanese versions of USB Protocol Suite
PnW463	[SW] Another HID decode problem

5.9. Version 4.75 b 1561 (October 18, 2013)

- This is version 4.75 of the USB Protocol Suite.
- New Features
 - Voyager M3x Platform with USB 3.0 Host Interface
 - USB Compliance **1.95 b 220** or higher.
Check UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.
 - Separate Idle and SKP filtering
 - Stop Recording on Trigger
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.10
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.20
 - Serdes BusEngine version 1.11
 - Firmware version 1.62
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.00
 - Firmware version 1.02
 - Voyager M3x
 - Main BusEngine version 1.09
 - Firmware version 1.22
 - IOHub Bus Engine 3.37
 -
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug Id	Summary
PnW12476	RNDIS IOD Decoder not working
PnW11135	U1exit LFPS issued and the link goes to incorrect state
PnW11938	Stop Recording on Trigger for 3.0 added
PnW11873	Compliance Voyager keeps sending POLLING.LFPS while termination is removed
PnW11864	[API] GetPacket does not return consistent data
PnW11846	Voyager mistakenly goes to U1 instead of U2 when other side is sending LGO_U1 when rejecting
PnW11723	Voyager does not exit successfully from U2 state. (Hub Compliance TD 10.120)
PnW11810	Fix displaying of Triggering state in main window
PnW10653	recording option dialog box and display option unusable in Hebrew Windows
PnW10325	Document Plug/Unplug API
PnW10448	TD 7.37 Need to alter Pending bit to be deasserted on STATUS TP
PnW10340	Need to be able to force a SKP ordered set between the last TSEQ and the first TS1
PnW11093	TD.10.118 - Device Emulator does not send LGO_U1 after it receives the U2_Inactivity_Timeout
PnW11488	CPLT = No when the data and ACKs line up
PnW11479	Custom Header Packet does not trigger with type value changed
PnW11466	USB3 Vision Decoding problems
PnW11461	END & SDP framing error not triggered
PnW11436	remove Enable/Disable WA decodings from shortcut list
PnW11435	[API] MakeRecording does not return if manual stop recording from USB PS
PnW11431	USB 3.0 external trigger not support with simultaneous USB2.0 & USB3.0 capture
PnW11429	Markers export to USB2 UTG files was embedded with HTML tag in search list
PnW11427	USB3.0 exerciser script range option not working
PnW11412	Add Set Marker Shortcut
PnW11398	Add CATC Sync Overrides to AT3 Rec Options.
PnW11395	Add "Simple Trigger" event details to Tooltip.
PnW11320	Glitch happens on Playback window when resizing the frame after playlist finished.
PnW11300	Sometimes exerciser does not send Credit(s) and cause that link goes to recovery
PnW11274	Real-time Statics: Throughput values do not match that reported by WIN system and that in timi
PnW10883	Add "One Transaction as One Transfer" option in decoding assignment and decoding script
PnW10681	FR - Show entry into Compliance Mode in LTSSM views
PnW10462	Audio and Video attached in marker is not playing at the same session the marker created.
PnW10403	USB Suite Exerciser Documentation missing numerous register definitions
PnW9557	License Hub Compliance through multiple analyzer API
PnW9519	Drive Emulation doesn't work with Intel xHCI
PnW8858	View Level color code becomes red after system wakeup from sleep or hibernate
PnW6926	USB 2.0 Device Emulation does not respond to Suspend properly
PnW4701	SCSI operations not decoded through the whole trace
PnW2385	Graphical Bus Utilization misbehavior
PnW10697	HID device decodes incorrectly

5.10. Version 4.60 Build 1402 (June 14, 2013)

- This is version 4.60 of the USB Protocol Suite.
- New Features
 - USB Compliance **1.80 b 197** or higher.
Check
UsbComplianceSuiteReleaseNotes.htm file to verify compatibility with this version.
 - New Decoders for RNDIS, USB Vision, ATA Pass-thru
 - Simple Triggers events (CRC errors, Low Power (*Un*) states, BCNT, etc...) now available in Sequencer (Advanced mode)
 - TERM ON, TERM OFF Trigger Events
 - Momentary drop VBus button can now operate in “toggle” mode (VBus ON / OFF)
 - Improved LFPS Detection
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 2.07
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 2.15
 - Serdes BusEngine version 1.11
 - Firmware version 1.59
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.00
 - Firmware version 1.02
 - USBTracer/Trainer
 - Analyzer-only BusEngine version 2.62
 - Host Emulation BusEngine version 2.62
 - Device Emulation BusEngine version 2.62
 - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
 - Advisor
 - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
 - Firmware version 1.07
 - USBMobileHS, USBMobile T2
 - BusEngine version 1.03
 - Firmware/Driver version 1.00
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
PnW11352	Acknowledge feature in Timing Calculator broken
PnW11315	MakeRecording API not working
PnW11313	Software crashes by entering 0 in column count in DataView
PnW11305	Simple Filters is not working with Advisor T3
PnW11300	Sometimes exerciser does not send Credit(s) and causes the link to go to recovery
PnW11298	Miscalculating the Data Payload when NRDY was sent
PnW11214	"No Bus Activity" error randomly
PnW11181	CrossSync: USB crash when opening the saved CrossSync traces without launching the protocol s
PnW11176	default.umd file causing system to hang when starting
PnW11165	Cannot jump to any packet using the Traffic Summary Report
PnW11160	Move simple triggers BCNT, TERM-OFF, and TERM-ON to the Advanced Sequence Recording Res
PnW11103	Bandwidth calculations incorrect
PnW11083	Voyager M3i does not capture last TERM-OFF
PnW10979	Anchor point reverts to Packet Zero
PnW10908	Feature request: Trigger on TERM ON & TERM OFF states
PnW10905	DPH packet with the asserted deferred bit , causes generation timeout - TD.10.116
PnW10872	Some RNDIS devices uses USBIF class code [E0] and some uses Microsoft's [02]
PnW10871	Markers don't export correctly to USB2 UTG files
PnW10840	Bulk-In data value miscalculated in the transaction level
PnW10839	Change Momentary VBus disconnect to ON - OFF mode
PnW10831	Delay PING.LFPS 100ms when using device emulation
PnW10780	LFPS trigger problem
PnW10764	Markers cannot be saved into a new file with save as
PnW10698	Config Descriptor decode - incorrect in 4.50
PnW10682	decode of SCSI commands is broken in 4.50
PnW10665	Bad Packet Length Error incorrect in new version of software
PnW10658	Different start time for traces captured by Sync
PnW10538	Last Term-off packet is lost if there is no traffic on BUS after that
PnW10510	Tx traffic has been lost when Voyager (Host mode) is in U3 and Rx side initiate U3 wakeup (Block Hub Compliance TD 10.115)
PnW10484	NCM Interrupts transfer is not decoded correctly
PnW10478	CP packet information not visible in spreadsheet view
PnW10458	Status bar in Japanese version disappears
PnW10452	UTG compile with potential false error message "Endpoint 0 must always correspond to end_mem_seg=1"

PnW10446	Decode dialog uses incorrect Packet default for trace type. Fix defaults to be consistent with spe and transfer types
PnW10445	both USB2.0 & USB3.0 generator text file range not working
PnW10423	Instruction button in Rec Opt and Setup Display are overlapped and truncated in OS XP Hebrew
PnW10419	Decoding issue with UASP burst IN/OUT transactions
PnW10415	Timing Calculator field are truncated with large size of text in Win 7 & 8
PnW10412	[CATC Walk] Crash when try to resize the playlist player
PnW10380	New Hide Event buttons should indicate when item is hidden/visible
PnW10364	GetHexScriptField and GetDecodedScriptField don't appear to work
PnW10363	numerous bad double quote symbols in VSE sample of VSE document
PnW10359	Last modify date of traces is updated by just opening trace
PnW10325	Automation Unplug / Plug not working
PnW10320	Restore Factory Setting will change the trace filename & path setting
PnW10296	WaitEvent(ET_LINK_STATE, U0) Compile Error
PnW10294	Synchronized Termination Off does not work. blocker for TD 10.102
PnW10282	bandwidth calculations do not include ISO transfers
PnW10281	Link Tracker window disappears when you use the scroll arrow in the Trace View window.
PnW10249	Request for Starting an ISO transfer on particular bus interval
PnW10248	USB3 Vision spec support
PnW10239	USB HID class decoding does not work in the trace, Keep Across Recording ignores max packet si
PnW10207	Random Invalid Block Timestamp on USB3 capture buffer
PnW10186	Incorrect Transaction and Transfer Lengths when sequence errors occur
PnW9940	Cannot run device emulation with a hub in between
PnW9909	USB3.0 users cannot trigger on BCNT
PnW9852	Converting USB Chief files fails
PnW9704	BOT decoding - does not decode many SCSI commands from the CBW's
PnW9575	SB_COUNTER_WORD and SB_COUNTER_BYTE information should be updated in manual.
PnW9557	License Hub Compliance through multiple analyzer API
PnW9556	RTS toolbar button hidden after analyzer connected.
PnW9553	Cell hidden message pop up when searching USB3.0 errors while the cell was not hidden
PnW9549	Payload decoding for MBIM/CDC requests
PnW9505	Prevent system entering sleep or hibernation mode while application still recording, loading and decoding the trace
PnW9439	MBIM NDP decode looks the same as the NTH
PnW9276	Many truncated words and sentences in Win XP Chinese
PnW8851	Concurrent operations of ISO IN + Control IN for UVC+UAC test case
PnW8472	Prepare Wait Packet Modification in emulation
PnW7809	[VSE, CATCWalk] VSE AddEventToTraceFile primitive does not handle CATC Walk markers
PnW7536	Update to newest RNDIS decoding spec
PnW5383	USBSuite (launch by compliance suite) crashes when 2nd voyager connected with Ethernet

PnW5192	NCM Decodes should be assigned automatically during enumeration
PnW5073	Request for Triggering on new SCSI OPs
PnW4566	Rec Rules State label slow to update when Advisor T3 is attached
PnW4433	Add USB Error trigger events in Advanced (Sequencer) Mode
PnW4088	Enhance SCSI Command decoder to include ATA Pass Through commands
PnW4005	update supported SCSI commands sets on current revisions
PnW3838	NRDY transaction should roll up inside the transfers
PnW3154	Change Default value for collapse idle in link tracker
PnW10340	Need to be able to force a SKP ordered set between the last TSEQ and the first TS1

5.11. *Version 4.50 Build 1282 (Jan 8, 2013)*

- This is version 4.50 of the USB Protocol Suite.
- New Features
 - USB Compliance 1.70 b 157 or higher
 - Decode Compliance Patterns CP0, CP1, and CP2 as packets
 - Hub Compliance Support
 - Dockable Decoding Window
 - CATC Sync SW overrides for Voyager M3i
- This release supports the following Teledyne LeCroy products:
 - Advisor T3
 - Main BusEngine version 1.24
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 1.67
 - Serdes BusEngine version 1.11
 - Firmware version 1.57
 - IOHub Bus Engine 9.00
 - Mercury T2
 - Main BusEngine version 1.00
 - Firmware version 1.02
 - USBTracer/Trainer
 - Analyzer-only BusEngine version 2.62
 - Host Emulation BusEngine version 2.62
 - Device Emulation BusEngine version 2.62
 - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
 - Advisor
 - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
 - Firmware version 1.07
 - USBMobileHS, USBMobile T2
 - BusEngine version 1.03
 - Firmware/Driver version 1.00
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including

errata and ECNs through May 1, 2011) of June 6, 2011

- o USB 2.0 specification up to ECN of July 16, 2007

- This release includes fixes for the following issues

Bug Id	Summary
10425	Incorrect time values for USB 3.0 Exerciser events, including SKP interval (~20% off)
10424	Export USB 2.0 .utg files missing Config data for Control Endpoints
10407	Crash during Uploading
10391	Deleting SCSI Trigger event from USB 3.0 event bin causes crash
10133	Typing with CAPs in the Marker field brings up errant search dialog
10118	TD 10.102 Termination Off/On synchronization problem
10011	BCNT being interpreted as IPS - Electrical 3.0 test mode
9996	Crash while setting CATC Walk markers from API
9926	Win 8 .pdf launching support
9866	Voyager Uploading crash
9821	Invalid LFPS detection during transition to low power states
9799	Many wrong errors mark in Errors pane Navigator with USB 2.0 Hi Speed.
9713	Need to allow independent triggers and Disconnection of CATC-Synced
9707	Shrink RTS window to fit all controls on 768 line high screen
9704	BOT decoding - does not decode many SCSI commands from the CBW's
9682	EDB framing symbols is decoded as BEREC
9680	USB Suite software does not show "Warm Reset" in Search options
9672	Apply new terminology to Rec Opts and Display Opts dialogs
9662	Added documentation about Wait Packet functions
9657	High level decodes does not assign automatically HUB request when recipient is other(port) and info exist
9655	False data toggle error in HS
9645	Export data function to not print data headers
9636	1028-byte DP shown when CRC-32 error occurs in an aborted packet.
9631	Improper argument error appears if click on empty field in Assign Decodes in Win XP
9617	[Documentation] Sample Generation/Exerciser File paths are incorrect and files not up to date
9584	Decoding Error - Hub Route string going toward devices marked "reserved"
9570	Power Management changing link states without device connected
9565	Cplt No field not shown in incomplete transaction
9548	Need "Restore Factory Settings", "Save as Default" and "Load Default" for Preferences files
9531	Enhance Stacking Rules
9527	Enhance Show/Hiding buttons and functionality in toolbar
9519	Drive Emulation doesn't work with Intel xHCI

9461	Problem loading Audio/Video playback filter dialog appear when open any USB trace file while n process running.
9440	MBIM decode needs to show the number of DATA bytes remaining after decoding the NTH and M
9439	MBIM NDP decode looks the same as the NTH
9402	Need to update Assign Decoders dialog documentation in USB User Manual for 4.50 to match ne implementation
9382	DisplayLink descriptor decoding problem
9335	Exerciser doesn't work properly until user opens recording options and press ok
9310	Stacking in transaction view is being displayed by transaction type - would like the open to displa addr/endlp
9306	Decode Compliance Patterns CP0, CP1, and CP2 explicitly as packets (was shown as IPS)
9288	[API][Examples] Trace referenced by API Examples is not up to date (needs to be updated...)
9264	[CATC WALK] .wmv file failed to display video in playlist and marker's tooltip in Win XP
9252	incorrect/confusing report of packet count in collapsed view
9169	Improve Placement of U2 Transition
9075	Make "View Decoded Request" window dockable
9013	LTSSM View is reporting an invalid configuration
8941	Transfer view includes wrong transaction
8911	Filter out Polling.LFPS
8903	Counter pattern for byte, word boundaries.
8887	Bus Interval Counter AND period Errors needed: Take into account retries due to Link problems
8882	No trace being capture and upload if record done in exerciser mode with filter out LUP/LDN enab
8865	Can't open Usb3Script document with double click when USB Suite already launched
8852	Window positions cannot always be arranged
8820	Add support for decoding MBIM - Mobile Broadband Interface Model Specification
8807	LTSSM View reporting wrong state when in TRA/Xfer
8734	USB 3.0 SCSI event Address/Endpoint field cannot be saved
8733	USB3.0 SCSI event TAG field cannot be cleared
8713	Rec Opts TP properties: host_notification was not decoded properly
8711	Rec Opts TP properties: host_notification events does not define the bit field properly
8710	Add dev_notification decode for notification type = 0x4 HOST_ROLE_REQUEST
8661	SCSI traffic summary or search not update with command set changed
8650	Automation API needs to support multiple Analyzers and Exercisers
8649	Enable multiple instances of USB 3.0 Exerciser for Hub Compliance Testing
8540	Incorrect stacking on different address
8472	Prepare Wait Packet Modification in emulation
8357	Windows 8: Video Tutorials are not opening
7946	FR: Export to generation file should support From Marker to Marker
4996	Added documentation about Vbus functions
4177	Power Value API's added
3336	Triggering on Eldle not Logic Idle?

2623	LTSSM view does not work in the trace starting in U3 state
712	Out of Memory for Bus Utilization
389	Find option Transactions - Split was not able to find Spits present in the recorded trace.

5.12. Version 4.40 Build 1239 (July 31, 2012)

- This is version 4.40 of the USB Protocol Suite.
- New Features
 - Mercury T2 USB 2.0 Analyzer
- This release supports the following LeCroy products:
 - Advisor T3
 - Main BusEngine version 1.22
 - Firmware version 1.18
 - Voyager M3/M3i
 - Main BusEngine version 1.62
 - Serdes BusEngine version 1.11
 - Firmware version 1.53
 - Mercury T2
 - Main BusEngine version 0.75
 - Firmware version 1.02
 - USBTracer/Trainer
 - Analyzer-only BusEngine version 2.62
 - Host Emulation BusEngine version 2.62
 - Device Emulation BusEngine version 2.62
 - Firmware version 1.10 (UPA2500) or 1.09 (UPA2500H)
 - Advisor
 - BusEngine version 1.67 (MBID 0x40) or 2.02 (MBID 0x50)
 - Firmware version 1.07
 - USBMobileHS, USBMobile T2
 - BusEngine version 1.03
 - Firmware/Driver version 1.00
- This release supports the following specifications:
 - USB 3.0 specification version 1.0 (including errata and ECNs through May 1, 2011) of June 6, 2011
 - USB 2.0 specification up to ECN of July 16, 2007
- This release includes fixes for the following issues

Bug Id	Summary
PnW9456	Missing Electrical Idles in capture
PnW9388	Error message appears when clicking OK in Assign Decodes windows

PnW9387	VSE Shortcut not working
PnW9381	Added "Other Manuals" entry in Help Menu
PnW9376	CATC Walk: Open trace file with marker will prompt false error
PnW9367	Fix for Decoding Assignments Dialog
PnW9364	High performance BOT transfers in Exerciser Device Emulation
PnW9362	Include Tell LeCroy information in user manual
PnW9302	Bulk Transfers are incorrectly listed as "Transfer not completed" (CPLT NO)
PnW9248	Add support for Interrupt endpoint on 3.0 Exerciser
PnW9247	Update User Manual for new example trace files directory
PnW9222	XFR does not display bulk out properly due to SW missing short packet as Xfer
PnW9095	bug report and request option through Help Menu
PnW9083	Fix Mechanism for sync/unsync views
PnW9082	Invalid Recording Rule Configuration Message wrong for Counters on Advisor T3
PnW9018	[Documentation][API] GetSerialNumber and GetVersion C++ Examples use wrong variable m_poAnalyzer instead of poUsbAnalyzer
PnW9017	[Documentation][API] C++ Examples use the wrong class ID: CLSID_UsbAnalyzer instead of CLSID_UsbAdvisor
PnW8998	LFPS subtype specified incorrectly as U1 Exist because of wrong LTSSM state
PnW8943	Endpoint Descriptor wMaxPacketSize incorrect
PnW8936	GetNBits does not always work as expected
PnW8913	Add to USB TT Ext Trig In documentation: 1.5K pull up to 3.3 V . Trigger is the rising edge condition.
PnW8907	VSE - GetHexPktField() for EoB on 3.0 DataPackets returns incorrect value
PnW8905	Invalid LGO_U1 raw representation in the API
PnW8903	Counter pattern for byte, word boundaries.
PnW8883	Symbol for framing error only corrupt at 1st symbol even set to other number.
PnW8882	No trace being capture and upload if record done in exerciser mode with filter out LUP/LDN enabled
PnW8876	Hiding ISO Time Stamp Packets cause LCRD's to disappear
PnW8857	[VSE][Documentation] References to functions GetNBits(), NextNBits(), or PeekNBits() not clearly defined to point to the Script Decode Manual
PnW8856	The USB VSE Manual does not mention what language it is based on or reference the Script Decode Manual
PnW8850	Control Number of Bursts within 125us
PnW8848	[CATC Walk] Tooltip marker playback played at unmark Transfer packet
PnW8828	TD 7.01 Hub Invalid FAIL - analyzer missing LFPS Polling
PnW8757	Misleading information for update bus/firmware engine after downgrade software version.
PnW8756	Loop option for traffic generation become grayed out in device emulation mode
PnW8748	Desktop host drive emulation failure
PnW8743	[Crash] SW Crashes when attempting to add max length comment to trace

PnW8726	Update the application notes installation to include all of them
PnW8721	Could not select repeat option in drop-down menu for traffic generation
PnW8705	Two Search backward items in Shortcuts List
PnW8695	UASP Decode Order Mix Up
PnW8641	Bulk Transfers decode incorrect for ENET
PnW8630	Slider bar for playing time is locked for first video or audio played and its sound slider bar is missing in CATC playback window
PnW8616	Go to selection point in menu/toolbar
PnW8615	Scroll by mouse wheel doesn't work if packet selected by double-click
PnW8602	Stacking button causes some transactions to disappear
PnW8579	Warm Reset LFPS not appearing in Search Menu
PnW8548	Update the USB Comm Class Spec
PnW8522	Hide/Show packets based on Stream ID
PnW8468	"SB_COUNTER" will not count up when running SendPipeCommand
PnW8442	Voyager Exerciser function ACK/NAK response
PnW8408	Warn user if Cross-Sync prevents recording from starting.
PnW8367	CPLT No shows up when the transfer has completed
PnW8329	Add External Trigger In to Exerciser to Initiate script
PnW8295	2.0 Bad Packet Length errors are reported when there shouldn't be
PnW8249	Reset for exerciser/re-activation of emulation
PnW8114	Trigger event names are missing after reopening the dialog
PnW7974	Unable to generate Data Symbol Babble (3.0)
PnW7947	FR: Allow Exerciser to accept External Trigger in
PnW7946	FR: Export to generation file should support From Marker to Marker
PnW7945	UAS MSC Decoding only applied on some Traffic when Warm Reset occurs
PnW7915	Go To menu enhancements
PnW7863	"update only on request" for data & spec view, scroll buttons not working correctly
PnW7483	Add new trigger function on bad DPP
PnW6653	Issue sending LMP in device emulation
PnW5609	Win 7 hang with SS spool recording on voyager
PnW5572	Time stamp sync issues using b1020 with hub and PM enabled -
PnW5558	Hub Decoding Issue -
PnW539	[SW, b415] Should not build up transactions/transfers from corrupted packets
PnW5074	v4.20 Clarification of External Trigger Pulse High, Low & Toggle setting
PnW4712	Display "Cplt No" status after switching from Interrupt Transfer to Bulk Transfer
PnW4632	In Timing Calculations, measurement of USB 3.0 "Data_Only_BW" field is incorrect
PnW4610	GUI elements are slow to open/close or move in Advanced Triggering
PnW2768	Pulse High in ext. triggering in Actions in UBS2 rec. Rules does not send Pulse. Pulse Low toggles.
PnW2358	Disconnecting Voyager during update caused the software to crash
PnW2332	Occasional crashes in the end of uploading of two cascaded units

5.13. *Earlier Versions...*

Removed in Read-Me 7.02. Contact Teledyne LeCroy Support if interested in this information.

6. GPL License Statements

The Qt library is used under the terms of the GNU Lesser General Public License version 2.1 (<http://www.gnu.org/licenses/old-licenses/lgpl-2.1.html>) and the Nokia Qt LGPL Exception version 1.1. Full sources for Qt may be downloaded from the following website:
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The Qxt library is used in USB Protocol Suite, see <http://libqxt.bitbucket.org/doc/tip/index.html> and <http://www.atlassian.com/hosted/terms.jsp>

The LAME library is used in USB Protocol Suite, see <http://lame.sourceforge.net/license.txt>

7. Support

Online Download

Please periodically check Teledyne LeCroy Protocol Solutions Group's web site for software updates and other support related to this product. Software updates are available to those users with current Maintenance Agreements.

Online Support

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