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Tableau Forensic Firmware Revision History

2010 – present

22.3 (August 10, 2022) – TX1, T6u-R2, T6u, T7u, T8u, T356789iu-R2, T356789iu

This release includes a firmware update for the Tableau Forensic Imager model TX1, Tableau Forensic USB Bridge model T8u, Tableau Forensic SAS Bridge models T6u-R2 and T6u, Tableau Forensic PCIe Bridge model T7u and Tableau Forensic Universal Bridge model T35678iu and T356789iu-R2. The changes are described below.

TX1 Forensic Imager – version 22.3

There are no changes to the user guide for this release. Please refer to the TX1 22.1 User Guide to learn how to use the latest TX1 features.

TX1 22.3.0.3 SD card package file SHA-256 hash value:

4ce8c334f29c3c24370341e587fca99fdb04f533ae97307d103866e7070a30c0

Issues Fixed

- During readback verification of an LX01 file set, the first source directory structure element encountered (file or folder) may not be properly verified. In the case of a file, that first file may not be verified. In the case of a directory, the unit may crash. This issue was caused by a race condition between internal processing elements. Note that, while this is a critical issue, it is exceedingly rare, occurring less than 1% of the time in Tableau testing. Also, it is common for LX01 file sets to be fully verified when importing them into higher-level forensic analysis tools (such as EnCase), which helps provide confidence that all TX1-acquired source files will be verified at some point during an investigation. [TBL-4846]

- If an evidence drive provides non-sensical AMA related information (for example, an AMA that indicates the drive is larger than the actual maximum density of the drive), TX1 will indicate in the user interface and logs that an AMA is present and that your duplication job will result in partial data capture. As with non-sensical HPA/DCO information, non-sensical AMA information is an indication that the drive does not reliably support that feature. With the fix for this bug, TX1 will ignore non-sensical AMA information all together so as not to give false indication of a partial acquisition. [TBL-4842] [GUIDTS-5367]
- File and folder names on a FAT32 filesystem that use non-ASCII characters are not being handled properly by TX1. This can result in non-ASCII characters in the file/folder names being replaced by '?' as viewed on the TX1 or when viewed on a Windows machine after being written to a FAT 32 destination by TX1. [TBL-4879] [GUIDTS-5596]
- SMB/CIFS share mounts may fail in specific network configurations due to an issue with NTLMSSP authentication. [TBL-4845] [GUIDTS-5348]

T8u Forensic USB Bridge – version 22.3

Issues Fixed

- For evidence drives with a USB and/or SCSI serial number longer than 16 characters, the T8u's LCD will display a partial, possibly non-unique USB/SCSI serial number. This has been addressed by displaying longer USB/SCSI serial numbers over several screens with the ability to scroll between the screens. The T8u's LCD will indicate the serial number segment displayed in the top line with text of the form "USB serial# XofY", where X is the current 16-character segment and Y is the total number of segments. For drives with USB/SCSI serial numbers of 16 characters or less, there is no change. Note that this change affects both T8u (USB and SCSI serial numbers) and T6u (SCSI serial numbers). [TBL-4872]
- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by '0x'. [TBL-4890]

T6u-R2 Forensic SAS Bridge – version 22.3

Issues Fixed

- For evidence drives with a USB and/or SCSI serial number longer than 16 characters, the T8u's LCD will display a partial, possibly non-unique USB/SCSI serial number. This has been addressed by displaying longer USB/SCSI serial numbers over several screens with the ability to scroll between the screens. The T8u's LCD will indicate the serial number segment displayed in the top line with text of the form "USB serial# XofY", where X is the current 16-character segment and Y is the total number of segments. For drives with USB/SCSI serial numbers of 16 characters or less, there is no change. Note that this change affects both T8u (USB and SCSI serial numbers) and T6u (SCSI serial numbers). [TBL-4872]
- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by '0x'. [TBL-4890]

T6u Forensic SAS Bridge – version 22.3

Issues Fixed

- For evidence drives with a USB and/or SCSI serial number longer than 16 characters, the T8u's LCD will display a partial, possibly non-unique USB/SCSI serial number. This has been addressed by displaying longer USB/SCSI serial numbers over several screens with the ability to scroll between the screens. The T8u's LCD will indicate the serial number segment

displayed in the top line with text of the form "USB serial# XofY", where X is the current 16-character segment and Y is the total number of segments. For drives with USB/SCSI serial numbers of 16 characters or less, there is no change. Note that this change affects both T8u (USB and SCSI serial numbers) and T6u (SCSI serial numbers). [TBL-4872]
- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by ‘0x’. [TBL-4890]

T7u Forensic PCIe Bridge – version 22.3

Issues Fixed

- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by ‘0x’. [TBL-4890]

T356789iu-R2 Forensic Universal Bridge – version 22.3

Issues Fixed

- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by ‘0x’. [TBL-4890]

T356789iu Forensic Universal Bridge – version 22.3

Issues Fixed

- Tableau Forensic Bridge USB serial numbers are being reported incorrectly to host applications like Tableau Imager (TIM) and EnCase Forensic. Instead of reporting the full 16-digit USB serial number, the leading zeros are replaced by ‘0x’. [TBL-4890]

22.2 (May 20, 2022) – T6u-R2, T6u, T7u, T8u, T356789iu-R2, T356789iu

This release includes an update to the Tableau Firmware Update (TFU) utility that provides a product branding update from “Tableau Hardware” to “Tableau Forensic” and some general security related updates.

This release also includes a firmware update for the Tableau Forensic SAS Bridge models T6u-R2 and T6u, Tableau Forensic USB Bridge model T8u, Tableau Forensic PCIe Bridge model T7u and Tableau Forensic Universal Bridge with LCD model T35678iu+LCD. The changes are described below.

T6u-R2 Forensic SAS Bridge – version 22.2

Enhancement

- The branding displayed on the LCD was changed from "GSI" to "OpenText". [TBL-4695]

T6u Forensic SAS Bridge – version 22.2

Enhancement

- The branding displayed on the LCD was changed from "GSI" to "OpenText". [TBL-4695]

T7u Forensic PCIe Bridge – version 22.2

Enhancement

- The branding displayed on the LCD was changed from "GSI" to "OpenText". [TBL-4695]

T8u Forensic USB Bridge – version 22.2

Enhancement

- The branding displayed on the LCD was changed from "GSI" to "OpenText". [TBL-4695]

T356789iu+LCD Forensic Universal Bridge – version 22.2

New feature

- Support was added for a new display board. [TBL-4683]

T356789iu+LCD-R2 Forensic Universal Bridge – version 22.2

New feature

- Support was added for a new display board. [TBL-4683]

22.1.1 (March 31, 2022) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager – version 22.1.1

Please download and read the updated TX1 version 22.1 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
787d7c1aee229e3ac58b4b6d7653ab32581fedad6262828011199dfd21c6a15a

Issues Fixed:

- When operating TX1 in Korean, the TX1's virtual keyboard does not handle Korean text entries correctly. [GUIDTS-5165] [TBL-4781]
- The TX1's virtual keyboard is not changing to reflect Korean when Korean is the selected language in 'System Settings'. [TBL-4780]

22.1 (January 26, 2022) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager – version 22.1

Please download and read the updated TX1 version 22.1 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
e049feed32a877997489586257a2ce80aa8002dfa1fddce25693d0729c9048aa

Enhancements:

- In TX1 version 20.4, the ability to filter the log list based on case and/or drive information was added. This feature has been enhanced to allow exporting and deleting of only the filtered log set for jobs that are not currently active. [TBL-4129]
- Logs for past jobs may now be deleted when other jobs are actively running. [TBL-4702]
- When powering down TX1 from a remote browser, the user is now informed that the connection was lost, and the shutdown is complete. [TBL-4135]
- TX1 will no longer allow SMB 1 to be used for mounting CIFS shares due, in part, to known security vulnerabilities of SMB 1. [TBL-4722]
- Localizations have been updated for strings changed in this release. [TBL-4662]

Issues Fixed:

- Starting in firmware version 21.3, when using SMB 3 to mount CIFS shares, TX1 was inadvertently causing share-level encryption to be enabled, which significantly impacted read/write performance. Users will now have the option of enabling encryption when mounting SMB 3 shares, with the default condition being disabled. [GUIDTS-4765] [TBL-4656]
- When using static IP addresses, TX1 will not connect across local sub-nets. [GUIDTS-4935] [TBL-4731]
- Trimming of Tableau encrypted destination drives is allowed. This regression was introduced in the 20.3 firmware version. [TBL-4715]
- Wipe verification is not being done comprehensively within each block of drive data. [TBL-4625]
- It is possible for a wipe job to show in the forensic log as both successfully completed and then failed. Note that, while this is confusing, the condition that resulted in the failure was real and therefore the overall job status was not inaccurate. [TBL-4247]
- General security related updates. [TBL-4585] [TBL-4586] [TBL-4587] [TBL-4588] [TBL-4589] [TBL-4590] [TBL-4591] [TBL-4592] [TBL-4593] [TBL-4594] [TBL-4595] [TBL-4630]

21.3 (July 28, 2021) – TX1, T356789iu, T356789iu-R2, T6u, T6u-R2, T7u, T8u

This release includes a firmware update for the Tableau Forensic Imager model TX1, Tableau Forensic SAS Bridge models T6u-R2 and T6u, Tableau Forensic Universal Bridge models T356789iu-R2 and T35678iu, Tableau Forensic USB Bridge model T8u and Tableau Forensic PCIe Bridge model T7u. The changes are described below.

TX1 Forensic Imager – version 21.3

Please download and read the updated TX1 version 21.3 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
000ef68e24cc8aa04e8694a8e186bb697d81f02f6b7956dae25e8504ef2f76be

New Features:

- Korean is now a TX1 supported language (user interface and virtual keyboard). [TBL-3141] [TBL-4411]
- TX1 now supports unlocking a BitLocker encrypted drive that has had its encryption disabled (also known as Clear Key mode). [TBL-4478]
- For BitLocker encrypted drives/partitions, the BitLocker identifier is now provided on the TX1's 'Encryption Unlock' screen. [TBL-4187]
- TX1 now supports encrypted connections to Windows CIFS/SMB shares. [TBL-4471]
- Support has been added for the new Tableau Forensic TDA7-9 PCIe FireWire Adapter. [TBL-4346]

Enhancements:

- TX1 will now identify all FAT filesystem variants (FAT12, FAT16, and FAT32) as simply "FAT" in the TX1's user interface and logs. Note that when formatting destination drives as FAT, FAT32 will be applied. [GUIDTS-4134] [TBL-4513]
- Localizations have been updated for user interface changes made in the 21.1 and 21.3 TX1 releases. [TBL-4424]

Issues Fixed:

- TX1 fails to detect/mount an NTFS filesystem on a large drive (approximately 1TB+) when no partition table is used (full disk filesystem format). [GUIDTS-4447] [TBL-4468]
- TX1 fails to identify and report enabled Opal encryption on NVMe drives. [TBL-4430]
- TX1 fails to unlock encrypted APFS volumes on an unlocked OPAL drive. [TBL-4597]
- If an Automated Acquisition is setup to "auto-acquire new" and "auto-acquire current" while a Tableau encrypted source drive is in the process of unlocking, TX1 may create two jobs for that Tableau encrypted drive. [TBL-4515]
- File timestamp information related to the 'Last Written' date (file contents change) and 'Entry Modified' date (file contents change or file metadata change) is captured incorrectly by TX1 when creating the LX01 logical evidence file output. These two timestamp parameters were being swapped. Note that this problem affects only the following TX1 supported filesystems: APFS, HFS+, EXT4, NTFS, CIFS. [TBL-4450]
- For SMB versions other than 3.0, the SMB version is not preserved in the created CIFS bookmarks. [TBL-4419]
- TX1 no longer allows removal of DCO on IDE drives connected via the Tableau Forensic TDA7-5 PCIe IDE Adapter. [TBL-4330]
- General security related updates. [TBL-4469]

T7u Forensic PCIe Bridge – version 21.3

New Features:

- Support has been added for the new Tableau Forensic TDA7-9 PCIe FireWire Adapter. [TBL-4347]

Issues Fixed:

- General security related updates. [TBL-4442]

T356789iu-R2 Forensic Universal Bridge – version 21.3

New Features:

- Support has been added for the new Tableau Forensic TDA7-9 PCIe FireWire Adapter. [TBL-4347]

Issues Fixed:

- General security related updates. [TBL-4442]

T356789iu Forensic Universal Bridge – version 21.3

New Features:

- Support has been added for the new Tableau Forensic TDA7-9 PCIe FireWire Adapter. [TBL-4347]

Issues Fixed:

- General security related updates. [TBL-4442]

T6u-R2 Forensic SAS Bridge – version 21.3

Issues Fixed:

- General security related updates. [TBL-4442]

T6u Forensic PCIe Bridge – version 21.3

New Features:

Issues Fixed:

- General security related updates. [TBL-4442]

T8u Forensic USB Bridge – version 21.3

Issues Fixed:

- General security related updates. [TBL-4442]

21.2 (May 7, 2021) – T356789iu, T356789iu-R2, T6u, T6u-R2, T7u, T8u

This release includes firmware updates for the Tableau Forensic SAS Bridge models T6u-R2 and T6u, Tableau Forensic Universal Bridge models T356789iu-R2 and T35678iu, Tableau Forensic USB Bridge model T8u and Tableau Forensic PCIe Bridge model T7u. The changes are described below.

Forensic SAS Bridge (T6u-R2)

New Features:

- SATA drives are now supported on the SAS/SATA port of T6u-R2. [TBL-3605]

Issues Fixed:

- Some SAS drives were failing to detect on T6u-R2. [TBL-3868] [TBL-3871] [TBL-3998]
- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

Forensic SAS Bridge (T6u)

Issues Fixed:

- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

Forensic Universal Bridge (T356789iu-R2)

New Features:

- SATA drives are now supported on the SAS/SATA port of T356789iu-R2.[TBL-3605]

Issues Fixed:

- Some SAS drives were failing to detect on T356789iu-R2. [TBL-3868] [TBL-3871] [TBL-3998]
- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

Forensic Universal Bridge (T356789iu)

Issues Fixed:

- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

Forensic USB Bridge (T8u)

Issues Fixed:

- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

Forensic PCIe Bridge (T7u)

Issues Fixed:

- General security related updates. [TBL-4415] [TBL-4416] [TBL-4417] [TBL-4418] [TBL-4420] [TBL-4421]

21.1 (March 2, 2021) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager - version 21.1

Please review the updated TX1 version 21.1 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
e6621204e5ca507f58974527d07cbd02f844a0d8bef7f8643115f301233a4d28

New Features:

- The Wipe function will now allow users to configure a wipe so that it is compliant with the NIST 800-88 R1 media sanitization guidelines. A newly added Sanitize wipe type allows users to wipe media to meet NIST "Purge" requirements. And, when previously supported wipe settings are configured properly, a NIST "Clear" wipe will be done. When manually configured wipe settings match the requirements of one of the NIST wipe standards, a green checkmark will identify compliance. Users may also directly select "Clear" or "Purge", when enabled, and TX1 will automatically configure a wipe job that is compliant with either of these data sanitization techniques. Forensic logs for these wipe types will clearly show compliance to the appropriate NIST wipe standard, which creates a formal compliance report for traceability purposes. [TBL-4080]
- When setting up a single-pass or multi-pass Overwrite Wipe, TX1 now provides users the option to define a custom data pattern to be applied for the wipe. The custom data pattern is specified using hexadecimal characters (combination of 0-9, a-f, or A-F) and is limited to a two-byte maximum. For a multi-pass wipe, the custom data pattern will be applied on the last pass. [TBL-1507] [TBL-4193]

Enhancements:

- HEIF, HEIFS, HEIC, HEICS, AVCI, AVCS, AVIF and AVIFS picture type file extensions are now supported in TX1's logical imaging filetype search and documented in the logs for jobs that use this type of search. These file extensions will not appear in logs generated by TX1 20.4 or prior when viewed in TX1 21.1 or later. [TBL-4207]
- When using the Filter Logs utility, the behavior of the "Use Case Info Defaults" fast filter has been improved to ensure the activation of the button is sensible and consistent with other button activation standards in the TX1 user interface. [TBL-4130]
- When a duplication destination is selected, TX1 will now only auto-select a filesystem if there is a filesystem on the largest partition of the drive or across the whole drive. In the case of an APFS system drive as the destination media, this logic prevents TX1 from auto-selecting the relatively small FAT32 EFI partition. [TBL-4058]
- The Network Address field within the TX1's Filter Logs utility now supports using an IP address to filter on jobs that used iSCSI targets as a source or destination. [TBL-4124]
- When no iSCSI server or targets are discovered, TX1 now displays a "Discovery Failed" message. [TBL-4103]
- Localizations have been updated for user interface changes made in the TX1's 20.2, 20.3 and 20.4 releases. [TBL-4035] [TBL-4100]

Issues Fixed:

- HTML logs falsely report the presence of an HPA for unlocked Tableau encrypted drives. [TBL-4216]
- When a drive fails to redetect after a failed wipe job, two failures are captured in the forensic log, which can be confusing. TX1 will now prioritize the initial failure and show only that one in the log. [TBL-4228]
- When using the hex viewer in Content Breakdown on multiple attached drives and navigating through sectors using the arrow buttons, it is possible for hex data from one drive to be shown as existing on the other drive. [TBL-4202]
- Wipe verifications do not stop on failure. [TBL-4180]
- The USB drive details screen does not report USB protocol information when ATA information is also present. [TBL-4134]
- A buffer overflow may occur if a password longer than 32-bytes is provided to the ATA Security function. [TBL-4203]
- After authenticating to an 802.1X network that is using DHCP, TX1 may report the pre-authentication automatic private IP address in the "Current status" section of Network Settings. [TBL-4126]
- When a SATA destination drive is formatted with an EXT4 filesystem, the filesystem becomes unavailable after a disk-to-file image is created and the TX1 is power cycled. [TBL-4110]
- When a user directly selects explicit folders/files for a Logical Image job, all folders/files that start with the same base name as what was selected are erroneously included. [TBL-4138]
- When a user directly selects the $MFT metadata file for a Logical Image from the "Select files and folders to include" modal, the $MFT file is not included. [TBL-4139]
- TX1 may incorrectly indicate a GPT Partition Table type in the Drive Details screen and forensic log for disks formatted for Windows Logical Disk Manager (LDM) with an MBR. [TBL-4191]
- For ATA drives exposed to TX1 via USB, not all ATA information was being passed through to the system. Opal SED detection support (TX1 3.0 release) required partial ATA information pass through on USB. Prior to that, no ATA information was being passed through. [TBL-4227]

20.4 (October 21, 2020) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager - version 20.4

Please review the updated TX1 version 20.4 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
9979f881c6e709cf2d695569791df2217377bccf4ab1fecd169397084263beea

New Features:

- While APFS support was previously released in TX1 20.3, TX1 could only detect when encryption was enabled on APFS volumes. TX1 now supports unlocking APFS encrypted volumes with known credentials. See the TX1 20.4 User Guide for more information on the new Encryption Unlock media utility, which now handles unlocking of APFS, BitLocker, and Opal encrypted volumes/drives in one convenient location. [TBL-3905]

- TX1 can store up to 100 forensic logs, which can make it difficult to find the logs in which you are interested. A Filter Logs feature has been added to allow targeted viewing of only the logs of interest, based on specific attributes like examiner name, case ID, notes, and drive information. This Filter Logs function is accessed by tapping on the filter icon at the bottom left of the log list screen. See the TX1 20.4 User Guide for more information on this convenient new feature. [TBL-4020]
- The Hash function will now allow a targeted custom sector range to be hashed on source media. The default will still be to hash the full drive, but users may select a specific sector range to hash during job setup. This may be beneficial when dealing with failing media that is throwing read errors and in other special circumstances. [TBL-2709]
- To help ensure proper and secure TX1 operation, the hash value of the selected firmware package can now be calculated prior to using it to update the unit's firmware. This hash value can be manually compared to the known firmware hash value available in the Release Notes in the Download Center on the Tableau products page of guidancesoftware.com. [TBL-4007] [TBL-4005]
- Special NTFS hidden files $MFT and $MFTmirr can now be logically imaged on TX1. Note that there is a known issue in that $MFT will not be acquired when using the manual selection method of identifying which files to logically image. Using a search to obtain $MFT instead of manual selection will work. This will be addressed in the next TX1 release. [TBL-4031] [TBL-4094]
- A TX1 shutdown can now be initiated via the remote user interface. The shutdown button is in the top right portion of the About screen. If active jobs are running, a dialog box provides the option to continue or cancel the shutdown. [TBL-4028]
- Forensic log files can now be downloaded to the host computer system directly from a remote TX1. This option is available in the kabob menu at the bottom right side of the log display window on the remote host system. [TBL-3646]

Enhancements:

- NTP server settings are now retained by TX1 when navigating away from the NTP settings screen and across power cycles. [TBL-4072]
- Updating TX1 firmware from the remote user interface is a two-step process involving a firmware package upload (to the TX1) and then a subsequent automated firmware update step. If another user initiates a job on the TX1 after the firmware upload process has started that is not complete when it is time for the firmware update step to begin, the firmware update will fail. Previously, this situation would generate an un-useful error message on the remote user interface from which the update was initiated. This has been improved to explain to the remote user why the firmware update has failed. [TBL-4066]
- When a TX1's custom hostname is populated within Network Settings, the custom hostname will now be displayed within the tab area of the remote web UI browser window. This is a convenience feature that allows remote users accessing multiple TX1 units from a single host system to tell at a glance which tab belongs to which TX1. [TBL-4059]
- When using the "Expand All" or "Collapse All" option within TX1 HTML logs, all parent and child elements in the log details will be expanded/collapsed. [TBL-4120]
- Drives that have been previously acquired by TX1 will show with a green checkmark in their Drive Tiles. In the past, an acquired drive that had been removed from a powered TX1 and then reinstalled would not show as having been acquired. This behavior has been changed to show a re-attached drive as having been acquired. Note that drive acquired indicators will not persist over TX1 power cycles. [TBL-4049]
- OpenText has always recommended ejecting media (using the soft Eject function available in the Media Utilities list for each connected drive) to help ensure reliable drive and partition/filesystem operation after removal of the drive. But the Eject feature has become more valuable with the

addition of a drive spin down command being issued. For rotating media that support it, ejecting the drive will now help ensure that the platters are spun down, which will significantly decrease the chance of media damage during physical removal from TX1. [TBL-4038]
- DMG image files created from non-512 Byte block size source media will not be mountable on Apple systems without use of special command line mounting options. This condition is not specific to how TX1 creates DMG files. TX1 will now warn the user of this condition during duplication job setup when a non-512 Byte block size source drive is detected and DMG is selected as the output image file type. [TBL-4078]
- Read errors that occur during partition table parsing will now generate a prominent warning on Drive Tiles and in the Drive Details screen. This will bring attention to the fact that a partition table is/was present on the affected media, which is valuable forensic information that could warrant further analysis. [TBL-4048]
- Read errors encountered during a logical imaging job will now generate a warning message in the job status screen and will also be noted in the forensic log for the affected job. This will help clarify and document the reason for disparate matched and imaged file counts on such jobs. [TBL-4041]
- Logical imaging searches now utilize a Unicode normalization scheme based on the NFC standard. This ensures that TX1 will find files/folders that match the intended search string values regardless of the specific text encoding method used by the system on which the files/folders were originally created. This mostly applies to non-English/non-ASCII characters and search strings. [TBL-3221]
- Certain user input field validation warning messages were not clearing out even after the offending user input was removed/fixed. This has been improved to remove the invalid input warning message immediately after the issue has been resolved. [TBL-4098]

Issues Fixed:

- The "Collapse All" option within TX1 HTML logs does not change state after manually collapsing all individual sections. [TBL-3956]
- Minor capitalization and punctuation issues within the PIN mismatch string. [TBL-4101]
- Starting in TX1 firmware version 20.3, APFS volumes detected on source drive ports will be mounted and usable for all forensic operations. However, APFS volumes were incorrectly being shown as mountable for destination use as well. [TBL-4099]
- When a drive configured with an MBR extended partition is connected to TX1, no information about the extended partition or logical volume(s) within the extended partition are reported. [TBL-4076]
- When selecting a destination file system for a disk-to-file duplication and the destination drive has two partitions, TX1 may not display a drive's second partition as a selectable option. [TBL-4074]
- When there is a problem with the source drive while DCO has been shelved, TX1 will repeatedly attempt to restore the DCO after failure. Each failed restore attempt will create a new entry in the job log and system resources are wasted attempting to restore the DCO indefinitely. [TBL-4082]
- TX1 job status for a verification job may report 99% completion too early and remain at 99% even after the job's time remaining reaches zero. [TBL-4055]
- When using a Firefox browser for a TX1 remote session, the horizontal scroll bar in the Browse/File Viewer may not work correctly. [TBL-4043]
- TX1 HTML logs do not honor line-breaks for the "Case Notes" section. [TBL-4027]

20.3 (July 29, 2020) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager - version 20.3

Please review the updated TX1 version 20.3 User Guide to learn how to use the new features included in this release.

New Features:

- Drives/partitions encrypted with Microsoft BitLocker can now be unlocked by TX1 with the known credentials. See the 'Media Utilities' section of the TX1 20.3 User Guide for more information. [TBL-3944]
- TX1 can now be configured to automatically start a duplication job for each detected source drive. Automated Acquisition mode can be enabled in the Source selection area when setting up a Duplicate job. Once enabled, a new Automated Acquisition section will appear at the top of the 'Jobs' tab indicating what type of image file will be created for each automatic job and the quantity of automatic jobs that have been created since that Automated Acquisition mode instance was enabled. When Automated Acquisition mode is enabled, a spinner will show in the 'Jobs' tab header section for at-a-glance indication regardless of which tab is being viewed. See the 'Duplicating' section of the TX1 20.3 User Guide for additional details on this valuable new feature. [TBL-2625]
- Apple APFS volumes can now be mounted on TX1, which enables source side filesystem-based features such as browsing and logical imaging. Note that all writeable ports (destination and accessory) currently do not support APFS. [TBL-2629]
- In addition to being able to mount APFS volumes, TX1 will also detect the presence of APFS encryption and warn the user. This warning will show in drive tiles, drive detail screens, content breakdown screens, on partition cards for filesystem-based operations, and in forensic logs. [TBL-3530]
- Queued jobs can now be drag-and-drop reordered. As shown in the Queued Jobs section of the Jobs tab, a handle (grid of dots) is now present on each queued job tile. Clicking/holding that handle will allow that job to be moved to the desired location in the queue. [TBL-3883]
- Drive tiles in the TX1's user interface will now indicate when a drive has been duplicated. A solid green checkmark will show in the bottom right area of each drive tile after successful completion of a duplication job. A hollow checkmark will be shown when a duplication job is in progress. If the duplication job was started in Automated Acquisition mode, "(auto)" will appear to the left of the check-mark. This feature provides a convenient way of determining which drives have been successfully duplicated, which is particularly useful when using Automated Acquisition mode. [TBL-2627]
- When using the 'Restore' function to turn a logical evidence file (e01, ex01, dd, dmg) back into the original source media format, hash values have always been calculated during the unpacking of the logical evidence file for use during read-back verification at the end of the job (if enabled). However, the forensic log file only contained the read-back verification hash values. TX1 forensic logs for Restore jobs will now include the restoration hash values that were calculated during the 'Restore' operation. [TBL-3937]
- TX1-generated packed log files can now be viewed directly in the TX1's user interface and are now used to examine original job details during setup of certain job types. Examining packed log files is now done during setup of jobs that use them as input, which includes 'Restore' and standalone 'Verify'. This new step allows TX1 to pre-check for conditions that could cause the job to fail and warn users of these conditions prior to the start of the job. This is a valuable timesaving feature as it can prevent job failures for things like too small of a destination drive and mis-matched source/destination sector sizes. [TBL-3852]

Enhancements:

- Parsing of Apple Core Storage volumes has been enhanced to more reliably detect the existence of FileVault 2 encryption in various volume configurations. This should result in fewer situations where the user will see the "FileVault 2 encryption possible" message in favor of a more concrete encryption presence indication. [TBL-3513]
- TX1 firmware updates can now be initiated from the remote web user interface. On a remote browser connected to a TX1, an option now exists to upload a firmware package to the TX1, which will initiate a local firmware update/reboot cycle on the target TX1. [TBL-3514]
- When mounting a network share (iSCSI/CIFS) during job setup, the newly connected share will now be automatically selected for the job. [TBL-3788]
- When encrypting a destination drive, a warning will now be provided to make it clear that existing drive data will be lost. [TBL-4039]
- Changes were made to the BitLocker encryption detection mechanism to use a more standardized method which will reduce the likelihood of future BitLocker detection issues. [TBL-3990]
- The user interface branding now displays OpenText logos. [TBL-3945]

Issues Fixed:

- Starting in TX1 firmware version 20.2, imaging and verification jobs done on large source drives (approximately >2TB) will experience performance degradation that worsens over the duration of the job. [TBL-4056]
- Using the TX1's remote user interface, multiple files/folders can be selected in certain filesystem browsing situations, but TX1 does not actually support multiple selection in most browsing situations (all except logical imaging manual file selection). [TBL-4042]
- Unlocked Tableau encrypted drives may show an incorrect drive size. [TBL-4036]
- The jQuery version used in TX1 has been updated from 3.4.1 to 3.5.0. No user facing behavior deltas are expected from this change. [TBL-4012]
- After iSCSI login, the iSCSI Qualified Name (IQN) field shows the IP address instead of the IQN. [TBL-4009]
- When viewing job status screens for logical imaging jobs, it is possible for previously viewed file statistics (scanned, matched, and imaged file counts) from the active job to be shown in the job status screen of a queued job. Note that this was purely a user interface information display issue that did not impact this same information in the forensic log for the logical imaging jobs. [TBL-3996]
- Single quote marks (apostrophes) used in case notes will show as markup in the HTML view of the log. [TBL-3994]
- TX1 will keep track of information for drives that are removed from the system to enable viewing of drive tiles in the original job status page format even though the drive was removed. In certain situations, the information from disconnected drives is no longer available for viewing in the job status page. Note that this was purely a user interface issue, as the original drive information always persists in the forensic logs for a job. [TBL-3983]
- When power is unexpectedly removed from a TX1 during a job, the forensic log for that job will show a warning message indicating that a possible power loss event was detected. This warning message does not always show in the HTML version of the forensic log. Note that this was an HTML log display issue only. The forensic log information was always properly captured and shown in the text version of the log. [TBL-3981]
- Clone and Restore jobs done using source and destination drives that have mismatched sector sizes could fail at the end of the job with an error of "Destination unreadable". This issue has been addressed by disallowing startup of 'Clone' and 'Restore' jobs when TX1 detects that the

chosen destination drive's sector size does not match that of the original source drive. [TBL-3874], [TBL-3941]
- Verification may fail when the evidence file set has an inordinately large number of segment files. The exact number of segment files required to trigger this condition is not deterministic due to dynamic memory availability being a factor. Note that the evidence file set itself is not in question here, and such an image file set could be verified in EnCase (or similar forensic analysis tool). [TBL-3863]
- When a multi-pass wipe job fails after completion of one or more wipe passes, the forensic log for the failed job will show zero passes completed. [TBL-3797]
- When an Opal self-encrypting drive is attached to TX1 via a USB docking station, the drive's Opal information is not accurately shown in the TX1's user interface and forensic logs. Also, the hex view of the encrypted drive data in the 'Content Breakdown' media utility will show as all zeros. With the fix for this issue, Opal information for drives connected with USB docking stations that support ATA command pass-through will now show accurate Opal information as if the drive were connected directly to TX1. Note that the 'Content Breakdown' media utility will not be active for locked Opal drives (in general, not just on USB ports). Once an Opal drive is unlocked, 'Content Breakdown' will be available for exploring drive details and viewing the decrypted hex data. [TBL-3776], [TBL-3777]
- Selecting the packed log from a logical imaging job for a restore operation is allowed and fails shortly after starting the restore job. Note that the restore operation is only available for physical image files (e01, ex01, dd, dmg). This issue has been addressed by not allowing the selection of a logical imaging job's packed log file when starting a restore. [TBL-3754]
- When setting up restore and standalone verification jobs that cannot be immediately started (due to unavailable drive resources, mostly), the button at the bottom of the job setup screen inappropriately shows "Start Restore" and "Start Verification". These should say "Enqueue Restore" and "Enqueue Verification", respectively. [TBL-3750]
- TX1 may fail to detect drives when GPT information resides on unreadable sectors. [TBL-3526]
- If the "Enter" key is used when adding job Case Notes on TX1, the new line will not be respected by Notepad when viewing the text log in a Windows environment. [TBL-3386]
- Filesystems are not properly mounted when using a TX1 to connect to an iSCSI target that is exported by a different TX1. [TBL-3355]
- During a logical imaging job, if error handling is set to "Continue" and filesystem read errors are encountered during the job, the job status screen will never show complete. Note that, if metadata file capture was enabled for these jobs (which is the default), the metadata files would accurately show the files that failed to capture due to the read errors. [TBL-3163]

20.2 (September 7, 2010) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager - version 20.2

Please review the updated TX1 version 20.2 User Guide to learn how to use the new features included in this release.

TX1 SD card package SHA-256 hash value:
4cceea035d11130f7a6d49dc819d2039e31f124a794aa60a01e0ebf9647fdc2c

New Features:

- TX1 now provides support for 802.1X port-based Network Access Control. TX1 can provide security certificates and/or credentials that 802.1X networks require to identify and authorize it for network access. See the TX1 20.2 User Guide for more details about this feature. [TBL-3203]
- Some proprietary USB drives expose a compact disk filesystem (CDFS) formatted volume to the host, which is typically used for storing OEM-specific information that is used by applications on the host system. Proprietary self-encrypting USB drives are typically formatted in this manner, with the unlocking application stored in the CDFS volume on the USB stick. While TX1 cannot run the applications stored in these CDFS volumes (as they are typically meant for Windows-based x86 systems), TX1 will now detect these types of drives and inform the user what they are dealing with. [TBL-3844]
- In addition to the legacy text format, forensic log files are now also available in HTML format. HTML logs include all the same forensic information as the text logs, but with the ability to expand and collapse sections and highlight key data with bold and/or colored text to make them more organized and easier to read. [TBL-3850]
- When entering the destination image name during setup of an imaging acquisition job (via defaults or manually), TX1 will now allow variables to be entered to create valuable, meaningful, and unique image file names to meet workflow and case documentation needs. The following variables are supported: ?d (date), ?t (time), ?s (source drive serial number), ?m (source drive model number), and ?c (case ID). [TBL-3778]
- When mounting a CIFS share, a list of available servers with shares can now be generated to make server identification easier. [TBL-3200]

Enhancements:

- In TX1 3.0, the ability to pause and resume imaging jobs was added. That feature has been enhanced to include the ability to resume jobs that failed due to the following conditions: source drive missing/disconnected, destination drive missing/disconnected, destination drive full. Note that for the full destination failure mode, space must be cleared on the same destination drive by deleting unneeded files before resuming. This feature does not support spanning to a different destination drive. [TBL-3805]
- When using a destination drive that has been formatted with Tableau encryption and a power loss event occurs during an imaging job, the resume duplication startup screen will now inform the user that the destination drive must be unlocked before the job can be resumed. [TBL-3799]
- The Source and Destination drive lists in the user interface will now appear in the same order as the physical orientation of the drive interface ports on TX1. Previously, drives appeared in the order in which they were mounted. [TBL-2349]
- The iSCSI and CIFS mounting screens/workflows have been updated to be more intuitive and user friendly. [TBL-3557]
- When mounting an iSCSI share, the list of discovered shares will now indicate shares that have been previously connected with italics and a green check mark. [TBL-2822]
- In addition to being able to export all logs at once, it is now possible to export an individual log. [TBL-3920]
- TX1 forensic logs will now capture the Username to allow for identification of who initiated each job. If multiple users are not setup on TX1, the default username (User1) will be shown. For historical logs that were created prior to the 20.2 release, this new Username field will still show when the log is viewed on TX1, but with an entry of "not available". [TBL-3787]
- When entering a static IP address, invalid characters (non-numerals) are no longer allowed to be saved, which prevents the TX1 user interface from hanging. [TBL-3358]
- Stand-alone Verification job logs now include the file type extension of the input image file. [TBL-3780]

- ExFAT and HFS+ drivers were updated to generally improve performance and stability. [TBL-3891]
- Localizations have been updated for user interface changes made in the TX1 3.0 and 20.1 releases. [TBL-3832]

Issues Fixed:

- When ejecting a Tableau encrypted, unlocked, or exported drive, an unintelligible system error message will appear. Ejecting such a drive is now disallowed, and a new error message prompts the user that they must remove export before ejecting the drive. [TBL-3447]
- When running a SMART query on a drive, the detailed SMART information may fail to display for drives that return a failing status. [TBL-3758]
- When attempting to unlock an Opal drive, the fifth unsuccessful attempt should display an enhanced error message informing the user that the number of unlock attempts has been exceeded and that a drive power cycle is required. Instead, an unhelpful "Unknown error" message is displayed. [TBL-3906]
- Some Format jobs may fail to show as complete in the user interface and appear to be hung in an active state requiring a power cycle to resolve. [TBL-3935]
- For iSCSI shares that require a username and password, logging in via a bookmark will fail. [TBL-3970]
- In some cases, and on some older TX1 firmware versions, the Refresh button at the bottom of the log details screen would fail to activate after the job was finished. [TBL-3180]
- Ejecting a drive that is attached to TX1 via a card reader device ejects the reader and not just the removable media. [TBL-3714]
- When viewing raw hexadecimal data in the ‘Content Breakdown’ media utility, spaces (ASCII hex 20) are not shown. [TBL-3765]
- Duplication rate information shown in the ‘Job Status’ screen is not as accurate as it should be. In one case, the overall duplication rate shown in the header of the ‘Job Status’ screen matched the verification phase rate. [TBL-3794],[TBL-3879]
- In some rare cases and typically in a remote user interface environment, Case ID entries may not be shown properly in the summarized view in the ‘Job Notes’ section of the job setup stepper. Note that the actual Case ID value was properly stored and was visible if the Job notes section was expanded. Also, the Case ID information would always have been stored properly in logs. This issue was limited to how that Case ID information was displayed in that summarized (non-expanded) ‘Job Notes’ section. [TBL-3955]
- If preceding slashes are used in the Mount CIFS share Server Name field, they would be ignored as the system automatically adds them, but the summarized view of that field entry would then show double sets of slashes (e.g. \\\\cifs-share-name). TX1 will no longer allow entry of any slashes (\ or /) in the ‘Server Name’ field. [TBL-3977]
- On the ‘Job Status’ screen, the Duplication transfer rate will be cleared to zero if the job was paused/resumed during the verification phase. [TBL-3745]
- An NTFS filesystem on a non-512 byte sector drive will not be detected/mounted. [TBL-3881]
- In limited scenarios with a specific drive and a corrupted NTFS filesystem, a read-only volume may appear to be writeable. [TBL-3884]
- While disallowed from the local user interface, partial source drive duplication is possible through use of the TX1's API. When doing a partial duplication to a destination drive that is smaller than the source, the imaged LBA range may not be what was intended. [TBL-3886]
- HTTPS Strict Transport Security (HSTS) was not being enforced. Fixing this issue means that communications with TX1's web server will always use HTTPS and will thus always encrypt network data traffic. [TBL-3896]

- The warning message when deleting the log of a paused job should be the enhanced version, which informs the user that deleting the job will prevent it from ever being resumed. Instead, only the basic confirmation warning is shown ("Are you sure you want to delete this log?"). [TBL-3908]

20.1.1 (March 10, 2020) – T356789iu-R2, T6u-R2

This release includes a firmware update for the Tableau Forensic SAS Bridge model T6u-R2 and Tableau Forensic Universal Bridge model T356789iu-R2. The changes are described below.

Forensic SAS Bridge (T6u-R2) - version 20.1.1

Issues Fixed:

- Some SAS drives were failing to detect on T6u-R2. [TBL-3638]

Forensic Universal Bridge (T356789iu-R2) - version 20.1.1

Issues Fixed:

- Some SAS drives were failing to detect on T356789iu-R2. [TBL-3638]

20.1 (February 24, 2020) – TX1, T3iu, T35u, T35u-R2, T356789iu, T356789iu-R2, T6u, T6u-R2, T7u, T8u

This release includes a firmware update for the Tableau Forensic Imager model TX1, Tableau Forensic SATA/IDE Bridge model T35u, Tableau Forensic SATA Drive Bay model T3iu, Tableau Forensic SAS Bridge model T6u, Tableau Forensic PCIe Bridge model T7u, Tableau Forensic USB Bridge model T8u and Tableau Forensic Universal Bridge model T356789iu. The changes are described below.

TX1 Forensic Imager - version 20.1

Please review the updated TX1 version 20.1 User Guide to learn how to use the new features included in this release.

New Features:

- Self-generated SSL certificates can now be created by TX1 on demand. If preferred, a custom SSL certificate can now be installed on TX1. This feature greatly improves the security and user experience of remote TX1 access. [TBL-3772]
- Opal self-encrypting drives (SEDs) can now be unlocked with TX1 using known credentials on ATA and PCIe-based drives, that are compatible with SEDUtil. This will allow decrypted access to all drive contents and use of these drives in any TX1 function (e.g., browsing, physical imaging, logical imaging, etc.). [TBL-3008]
- In situations where a specific type of file is being selected (such as a packed log file for Restore or Verify, or a TX1 firmware package file for Update Device Firmware), TX1 will now only display the files that match the desired type in the associated browser window. [TBL-3837]

Enhancements:

- Several updates were made to improve the TX1's remote data security and reduce susceptibility to an external, malicious attack. [TBL-3773]

Issues Fixed:

- When a 4 KB sector size native drive formatted with an MBR or GPT is converted to be a Windows Dynamic Disk, the dynamic disk volumes are not detected. [TBL-3604]
- Due to the nature of e01 segment file extension sequencing, imaging large source drives (10TB and larger) with a 2GB image file size setting can result in an overwrite of the log file for that job. This is because the characters "log" is a legitimate e01 segment file extension on a job with a large number of segment files. To remove this conflict, TX1 will now save forensic log files with a ".log.txt" file extension. [TBL-3804]
- When using a Tableau bridge between a source drive with a DCO/AMA and a TX1, TX1 will hang after starting a Duplication job if the 'Shelve DCO/AMA' feature is enabled. This has been addressed by not allowing 'Shelve DCO/AMA' to be enabled when a Tableau bridge is detected. [TBL-3828]
- When at least one job is active, no source drive can be selected for a separate Restore job. [TBL-3853]
- After ejecting an iSCSI drive with unlocked Tableau encryption, that same drive cannot be mounted again until TX1 is power-cycled. [TBL-3743]
- When operating TX1 in Russian or Portuguese language modes, the text in the buttons at the bottom of the 'Log Details' screen overlap. [TBL-3786]
- When selecting a package file to update the TX1's firmware, if no package file is actually selected when the 'Update' button is pressed, then the 'Update' button will not be available until the 'Browse' screen is refreshed. [TBL-3800]
- In TX1 forensic logs, the value in the 'Total Bytes' field for NTFS formatted volumes is incorrectly showing the free space for that filesystem instead of the total bytes. [TBL-3878]

Forensic SATA/IDE Bridge (T35u) - version 20.1

New Features:

- T35u has always flashed the 'Device' LED when an HPA or DCO is detected on the source media. It will now also flash that LED when an AMA is detected. For more information on AMA, see the TX1 3.0 (or later) User Guide. [TBL-3818]
- The HPA removal routine has been updated to address incompatibilities with specific drive makes/models. [TBL-3178]

Enhancements:

- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS-3) based drives is now supported. As with DCO, T35u now reports drives that are detected with hidden areas configured using the AMA feature set and can remove the AMA as directed by the host (TIM). [TBL-3056]
- T35u now detects drives that use the alternative drive capacity identification method from the ATA/ATAPI Command Set (ACS-2) specification and reports the proper capacity information to the host system. [TBL-3053]

Issues Fixed:

- 4K native format drives are not able to be mounted by a host system through T35u. [TBL-2813]
- When using TIM, T35u will show DCO in use on a drive that has only an HPA. [TBL-3802]
- The 'Model' and 'Vendor' fields in the 'Drive Details' screen of a TX1 with a SATA drive connected through a T35u will not be populated correctly. [TBL-3829]
- ATA drives with Host Protected Areas (HPAs) connected to TX1 via a T35u may show an incorrect drive size in the TX1 user interface and forensic logs. [TBL-3866]

Forensic SATA Drive Bay (T3iu) - version 20.1

New Features:

- T3iu has always flashed the 'Device' LED when an HPA or DCO is detected on the source media. It will now also flash that LED when an AMA is detected. For more information on AMA, see the TX1 3.0 (or later) User Guide. [TBL-3820]
- The HPA removal routine has been updated to address incompatibilities with specific drive makes/models. [TBL-3452]

Enhancements:

- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS-3) based drives is now supported. As with DCO, T3iu now reports drives that are detected with hidden areas configured using the AMA feature set and can remove the AMA as directed by the host (TIM). [TBL-3068]
- T3iu now detects drives that use the alternative drive capacity identification method from the ATA/ATAPI Command Set (ACS-2) specification and reports the proper capacity information to the host system. [TBL-3811]

Issues Fixed:

- 4K native format drives are not able to be mounted by a host system through T3iu. [TBL-2814]
- When using TIM, T3iu will show DCO in use on a drive that has only an HPA. [TBL-3803]
- SATA drives connected to TX1 through a T3iu will not correctly populate the model and vendor fields. [TBL-3831]
- ATA drives with Host Protected Areas (HPAs) connected to TX1 via a T3iu may show an incorrect drive size in the TX1 user interface and forensic logs. [TBL-3833]
- Host interface UASP mode is incorrectly identified as supported when evidence drives are used that do not warrant it (older SATA drives that do not support native command queuing). This is benign, as the bridge will handle the discrepancy between the two sides even with UASP mode enabled, but this is being updated so the capabilities of the two sides match. [TBL-877]
- Vital Product Data (VPD) pages that are not required/useful were being transmitted to the host. [TBL-881]

Forensic SAS Bridge (T6u) - version 20.1

New Features:

- T6u bridges made with the new hardware version (PCB design with new SAS host controller) will identify themselves as "T6u-R2" in the Tableau Firmware Update (TFU) utility. While the same

firmware applies to both old and new hardware versions, this unique product name in TFU allows for easy identification of the hardware version. [TBL-3680]
- The T6u will now alert the user when the maximum allowed operating temperature of any of its key components is exceeded. Note that the bridge will not automatically take action in response to this over-temperature condition. After seeing the warning message, the user is expected to assess the cooling situation and decide whether to terminate any active imaging jobs. [TBL- 3596]

Issues Fixed:

- Bridge firmware updates may inconsistently fail with specific host system USB 3.1 controllers/drivers. [TBL-3857]
- When a faulty evidence drive is encountered, it's possible for the host system's USB interface to timeout before the bridge can respond in a meaningful way, resulting in a harsh, host-side USB interface error that requires power-cycling the bridge. A bridge-level timeout value has been reduced to help ensure that only the host command fails, not the USB interface itself. [TBL- 3801]

Forensic PCIe Bridge (T7u) - version 20.1

New Features:

- The T7u will now alert the user when the maximum allowed operating temperature of any of its key components is exceeded. Note that the bridge will not automatically take action in response to this over-temperature condition. After seeing the warning message, the user is expected to assess the cooling situation and decide whether to terminate any active imaging jobs. [TBL- 3596]

Issues Fixed:

- Bridge firmware updates may inconsistently fail with specific host system USB 3.1 controllers/drivers. [TBL-3857]
- When a faulty evidence drive is encountered, it's possible for the host system's USB interface to timeout before the bridge can respond in a meaningful way, resulting in a harsh, host-side USB interface error that requires power-cycling the bridge. A bridge-level timeout value has been reduced to help ensure that only the host command fails, not the USB interface itself. [TBL- 3801]

Forensic USB Bridge (T8u) - version 20.1

New Features:

- The T8u will now alert the user when the maximum allowed operating temperature of any of its key components is exceeded. Note that the bridge will not automatically take action in response to this over-temperature condition. After seeing the warning message, the user is expected to assess the cooling situation and decide whether to terminate any active imaging jobs. [TBL- 3596]

Issues Fixed:

- Bridge firmware updates may inconsistently fail with specific host system USB 3.1 controllers/drivers. [TBL-3857]
- When a faulty evidence drive is encountered, it's possible for the host system's USB interface to timeout before the bridge can respond in a meaningful way, resulting in a harsh, host-side USB interface error that requires power-cycling the bridge. A bridge-level timeout value has been reduced to help ensure that only the host command fails, not the USB interface itself. [TBL- 3801]

Forensic Universal Bridge (T356789iu) - version 20.1

There are no changes to the T356789iu Integration Guide as a result of this release.

New Features:

- The T356789iu will now alert the user when the maximum allowed operating temperature of any of its key components is exceeded. Note that the bridge will not automatically take action in response to this over-temperature condition. After seeing the warning message, the user is expected to assess the cooling situation and decide whether to terminate any active imaging jobs. [TBL-3596]
- For T356789iu units with LCDs, the user messaging scheme related to taking the bridge out of 'Read/Write' mode has been changed. If DIP switch 1 was turned on to enter 'Read/Write' mode, a user pressing the 'Write Enable' button will now be informed that the switch needs to be flipped and the bridge power-cycled to enable 'Read Only' mode. If the 'Write Enable' button was used to enter 'Read/Write' mode, then the legacy message informing the user to power- cycle the bridge to return to 'Read Only' mode will be displayed. [TBL-1582]

Issues Fixed:

- Bridge firmware updates may inconsistently fail with specific host system USB 3.1 controllers/drivers. [TBL-3857]
- T356789iu-R2 may shutdown when an attached SAS drive is removed while being used in an imaging job. [TBL-3660]
- On LCD based T356789iu units, if no devices are selected when 'Export Selected' is pressed, no drives will be detected/exported until the bridge is power-cycled. [TBL-1579]
- When a faulty evidence drive is encountered, it's possible for the host system's USB interface to timeout before the bridge can respond in a meaningful way, resulting in a harsh, host-side USB interface error that requires power-cycling the bridge. A bridge-level timeout value has been reduced to help ensure that only the host command fails, not the USB interface itself. [TBL- 3801]

7.32 (January 2, 2020) – T356789iu, T356789iu-R2

This release includes a firmware update only for Tableau Forensic Universal Bridge units that have LCDs, model T356789iu+LCD. The changes are described below.

T356789iu+LCD Forensic Universal Bridge - version 2.2.1

New Features:

- On newer T356789iu+LCD units, a low-level communication bus failure can occur during boot that will cause certain undesirable behaviors, such as front-panel status LEDs not functioning properly, and Drive Power not being turned on.

7.31 (November 13, 2019) – TX1

This release includes a firmware update for the Tableau Forensic Imager model TX1. The changes are described below.

TX1 Forensic Imager - version 3.0

Please review the updated TX1 version 3.0 User Guide to learn how to use the new features included in this release.

New Features:

- Any network connected TX1 can now be remotely accessed using a web browser from any device on the same network. See the TX1 3.0 User Guide for instructions on setting up a TX1 for remote access. [TBL-3194]
- Imaging jobs (E01, EX01, DD and DMG output file types) can now be paused and then later resumed, even across TX1 power-cycles, including situations of unexpected power loss. Manual pausing is done via the Jobs tab, and there are multiple ways to resume a paused job (Jobs tab, Job Status screen and Log Details screen). See the TX1 3.0 User Guide for more information. [TBL-3547]
- Text and image files can now be viewed directly on TX1 from the Browse window. File extensions are used to determine which file types can be viewed. See the TX1 3.0 User Guide for a list of viewable file types and other details. [TBL-3506]
- Saved logical imaging searches can now be imported to and exported from a TX1 (to/from any mounted media – local or networked based). This is done through the Manage Saved Searches item under Default settings. [TBL-3520]
- User profiles can now be setup and managed to enable credentialed unit access for local and remote use cases. [TBL-3013]
- Partition information is now shown more prominently throughout the TX1 user interface and in forensic logs. This shows in the user interface in a new Content Breakdown media utility and also during any task that displays filesystem tiles under drive tiles, such as selecting a source filesystem for a logical imaging job or browsing media (partition tiles are now shown with the filesystem tiles). Note that partition-based encryption information is now also shown throughout the user interface (previously only shown for whole disk encryption). This partition/filesystem information is also shown in the forensic logs with a separate section for each partition on each drive, whether each contains a mountable filesystem or not. [TBL-3507], [TBL-3326]
- Opal self-encrypting drives (SEDs) that have their encryption enabled will be detected and TX1 will warn of the existence of such encryption at various places in the user interface and forensic logs. TX1 does not support unlocking encrypted Opal SEDs at this time. As a result, such drives cannot be used for any TX1 operations since they are not readable when locked. [TBL-3593]
- Drives from certain types of RAID systems will be detected and identified as such in various places in the user interface (drive tiles, Drive Details screen). See the TX1 3.0 User Guide for more information on supported RAID types. [TBL-2652]
- The date and time for any network connected TX1 units can now be set with a call to an available Network Time Protocol (NTP) server. Due to the need to maintain date and time settings during active jobs, this feature can only be initiated manually when there are no jobs running. See the TX1 3.0 User Guide for more information. [TBL-3202]
- A custom hostname can now be added to TX1 (in Network Settings) to allow for easier identification on the network and easier remote user interface connectivity. [TBL-3367]
- A TX1 firmware update can now be initiated directly from the unit from any mounted drive/filesystem (local or network based) that contains the new firmware package file. [TBL-3019]

Enhancements:

- More media encryption types are now detected by TX1, including Check Point® Full Disk Encryption, McAfee® SafeBoot, Sophos® Safeguard (Enterprise and Easy), WinMagic® SecureDoc, GuardianEdge™, and Symantec™ Endpoint Encryption. See the TX1 3.0 User Guide for a complete list of detected encryption types. [TBL-3542]
- When using the new remote web interface, individual files from any mounted media can be downloaded directly onto the remote computer/device. On the remote instance of the TX1's Browse window, simply select the desired file and then tap the DOWNLOAD button at the bottom of the screen. [TBL-3511]
- Wildcards can now be used when setting up path/filename searches for logical imaging jobs. Wildcard usage information is available by tapping the help icon next to the Any Path field in the search setup window. [TBL-3518], [TBL-3746]
- The size of each file is now provided after filenames in the Browse window. [TBL-3541]
- TX1 will now set the locked bit on any LX01 filesets it generates. [TBL-3545]
- When adding a logical image search in the Default Settings area that includes a custom folder path/name, if a relative folder path/name is entered, it is possible that the desired folder will be missed in the search. The entry field title now makes it abundantly clear that an absolute folder path/name is required. [TBL-3449]
- User interface text that was introduced/changed in the TX1 2.2 release has now been localized for the supported languages. [TBL-3590]

Issues Fixed:

- When editing a saved logical imaging search, the "File Sizes" parameter unit of measure defaulted to bytes, instead of the most appropriate unit of measure (KB, MB, or GB). [TBL-3717]
- If duplication and logical image jobs are started at the same time, there is a chance that log and packed log filenames between the two jobs could collide resulting in overwritten log and packed log files on the destination. This issue was discovered during development through code inspection and would be very difficult to see in actual usage. [TBL-3719]
- Selecting LX01 or metadata output options on three or more destination targets during a logical imaging job setup will cause screen layout issues. [TBL-3724]
- TX1 may crash/reboot when hot-plugging a MacBook in target disk mode. Note that TX1 will no longer crash/reboot and will retry the USB communications in an attempt to revive the interface. If that fails, the USB host controller may be unresponsive, requiring a power cycle reset. [TBL-3399]
- TX1 DHCP client identifier changes at every boot. [TBL-3466]
- The TX1 fails to format m.2 NVMe drives connected through a T7u in read/write mode with a TDA7-2 adapter. [TBL-3527]
- When restoring an image to a destination which was too small, the error message would incorrectly state that the destination disk was full. [TBL-3570]
- After mounting a CIFS share, the Mount button would incorrectly stay active, and subsequent attempts to mount the share would fail. [TBL-3625]
- Certain job logs may contain redundant partition/filesystem information. [TBL-3725]
- Changing the Timezone setting could cause the locally displayed log list to show as blank (even though the logs are still present on the unit). Resetting the unit would bring the list back. [TBL-3729]
- When editing a saved search in Advanced Logical Imaging Setup mode, modifying the invert switches would not enable the Save Changes button. [TBL-3672]

- Double-clicking on the action buttons of a browse window generates a user interface related communication error message. [TBL-3684]
- Removing a destination drive prior to ejecting it could result in unusable, zero-byte log and packed log files. Note that a change was made in 3.0 to minimize the chance of seeing this issue, but ejecting drives prior to removal from TX1 is the only way to guarantee files will be completely written out to the destination. [TBL-3685]
- Using the TAB key while the TX1 screen is PIN locked will select user interface elements. [TBL-3728]
- A TX1 logical imaging job that contains zero actual files will create an improperly terminated LX01 fileset that is not able to be opened in EnCase (and possibly other forensic analysis tools). [TBL-3727]
- Under certain specific conditions, logical imaging jobs and standalone verification of LX01 filesets may crash the TX1. [TBL-3782]
- Doing a logical search of an HFS+ volume that contains filenames with certain non-standard characters may crash the TX1. [TBL-3759]

7.30 (September 30, 2019) – T6u, T7u, T8u, T356789iu, T356789iu-R2, TD3

This release includes firmware updates for the Tableau Forensic Universal Bridge model T356789iu, Tableau Forensic SAS Bridge model T6u, Tableau Forensic PCIe Bridge model T7u, Tableau Forensic USB Bridge model T8u and Tableau Forensic Imager model TD3. The changes are described below.

Forensic Universal Bridge (T356789iu) - version 2.2

Please review the updated T356789iu version 2.2 Integration Guide to learn about the hardware related changes included in this release.

Enhancements:

- Universal Bridges made with the new hardware version (PCB design with new SAS host controller) will identify themselves as “T356789iu-R2” in the Tableau Firmware Update (TFU) utility. While the same firmware applies to both old and new hardware versions, this unique product name in TFU will allow for easy identification of the hardware version for support purposes. [TBL-3606] [TBL-3298]
- For LCD-based Universal Bridges (Digital Intelligence UltraBay 4d), a border was added to the message dialog boxes to make them more distinct from the background screen. [TBL-3231]

Issues Fixed:

- Read errors encountered on a SATA drive connected to the SATA/SAS port are not being handled properly by the bridge, resulting in a crash of the host system application attempting to read the drive. This issue affects only hardware version 1.4 and prior (non-R2 suffix) units. [TBL-3491]

Forensic SAS Bridge (T6u) - version 2.2

Enhancements:

- Updated field values in data structure for host application (TIM, EnCase) communications to reflect proper hardware ID and firmware stepping values. [TBL-3298]

Issues Fixed:

- Read errors encountered on a SATA drive connected to the T6u SAS port are not being handled properly by the bridge, resulting in a crash of the host system application attempting to read the drive. [TBL-3491]

Forensic PCIe Bridge (T7u) - version 2.2

Enhancements:

- Updated field values in data structure for host application (TIM, EnCase) communications to reflect proper hardware ID and firmware stepping values. [TBL-3298]

Forensic USB Bridge (T8u) - version 2.2

Enhancements:

- Updated field values in data structure for host application (TIM, EnCase) communications to reflect proper hardware ID and firmware stepping values. [TBL-3298]

TD3 Forensic Imager - version 2.1.1

Issues Fixed:

- With the TD3 2.1 firmware update, a change was made to update the MAC address of some units to avoid potential MAC address conflicts. That change was implemented in a manner that resulted in the Ethernet connection not being shown in the user interface. [TBL-3595]

7.29 (July 31, 2019) – TD2u

This release includes a firmware update for the Tableau Forensic Duplicator model TD2u. The changes are described below.

TD2u Forensic Duplicator

Please download and read the updated TD2u version 2.0 User Guide to learn how to use the new features included in this release.

New Features:

- Idle drives will now be powered down or spun down after job completion. [TBL-3159]
- Drives with ATA security enabled are now detected, and a warning will appear indicating the device is locked and cannot be used. [TBL-2732]

- For duplication, verification, and hash jobs, a SHA-256 hash will now automatically be calculated and included in EX01 files, the user interface (Status and Log screens), and the forensic log files. [TBL-449]
- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS) - 3 based drives is now supported. Like HPA and DCO, the TD2u now reports drives that are detected with hidden areas configured using the AMA feature set, and it can permanently disable AMA settings. [TBL-3069]
- A forensic log will now be generated when encrypting a destination drive. [TBL-2668]
- A finish alert can now be configured for wiping and hashing functions. [TBL-1227]

Enhancements:

- The scroll rate for run-time job statistics has been slowed to make them more readable and useful. [TBL-1229]
- TD2u now supports the alternative drive capacity identification method provided in the ATA/ATAPI Command Set (ACS) - 2 specification. [TBL-3088]
- The method by which Host Protected Areas (HPAs) are removed has been changed to be compatible with more drives. [TBL-3177]
- In the past, mistakes made during duplication job setup required cancelling the setup and starting over. It is now possible to simply go back to the previous step to continue with the original job setup flow. [TBL-703]
- When formatting a USB accessory drive that is not blank, the dialog box has been improved to include a warning that the drive may not be blank. [TBL-948]
- Tableau encrypted drives that have been removed and re-inserted in the same TD2u port will show as unlocked/readable without re-entering the password. [TBL-2593]
- Improved drive detection compatibility. [TBL-2733]

Issues Fixed:

- Forensic log files previously would show the destination drives with image destinations first and clone destinations second (when multiples are used). This could result in, as an example, the SATA Dest 2 drive showing up first in the log, before the SATA Dest 1 drive. The ordering of multiple destination drives in the log files has been changed to now always show them in increasing, sequential order regardless of their duplication type. [TBL-2694]
- Cloning to a destination drive that has a different block size than the source will potentially result in an unusable copy of the original drive. The TD2u now provides a warning prior to starting a clone job when the source and destination drive block sizes do not match. [TBL-2450]
- A specific 2TB Seagate Barracuda drive (ST2000LM015) is wiping much slower than expected. [TBL-2719]
- Tableau encryption may not be properly set on certain drives due to the way those drives buffer commands. A low level drive cache sync is required for the affected drives to ensure the encryption information is pushed from the drive's cache memory to its flash memory. [TBL-3492]
- Encrypted drives can be repeatedly encrypted. After the first encryption, only unlocking or changing the password should be allowed. [TBL-2616]
- The pre-condition error message indicating that a clone of a source drive will not fit on a selected destination drive is no longer providing the proper error condition text (only the destination drive interface identifier). [TBL-2711]
- An image job that results in over 4,155 segment files will cause improperly named file extensions that are not usable in EnCase (or possibly other forensic analysis tools). This has been fixed, and the upper limit for segment file count has been extended to 8,887. [TBL-2706]

- Destination drive read/write errors that occur when accessing an unlocked Tableau encrypted drive may result in non-recoverable failures of the associated TD2u job/operation. [TBL-2667]
- HPA/DCO/AMA removal logs may fail to save with an error message. [TBL-3479]
- 'Enter UNKNOWN password' may appear when attempting to unlock a Tableau encrypted USB source drive. [TBL-2710]
- 'UNKNOWN' may appear in header when cancelling a hash job. [TBL-2716]
- IDE drives formatted as ExFAT (which should be rare) will cause the TD2u to hang when requesting ‘Disk Info’ from the user interface. [TBL-2717]
- When using the 700MB image file size setting, other file sizes may be created. [TBL-3472]
- Attempting to remove an HPA/DCO/AMA from a drive with no such protected areas set will result in an error condition. [TBL-3478]
- Log files from jobs with drives that have an HPA will report there was no HPA but that there was a DCO. Note that if a DCO was present, it would always be properly reported. [TBL-3484]
- Certain USB drives will fail to redetect after being encrypted and then removed and reinserted. [TBL-2672]

7.28 (June 7, 2019) – TD3, TX1

This release includes a firmware update for the Tableau Forensic Imager models TX1 and TD3. The changes are described below.

TX1 Forensic Imager - version 2.2

Please download and read the updated TX1 2.2 User Guide to learn how to use the new features included in this release.TX1 version 2.2 User Guide.

TX1 SD card package SHA-256 hash value:
0f4f39d13b05c74c05a725438696c2933a3de02b1c1733f2bf531595f43235ab

New Features:

- A user can now lock the TX1 screen with a temporary PIN code to secure the unit while unattended. A message at the top of the lock screen indicates the date and time the unit was locked. [TBL-2633]
- Logical image searches can now be saved to the TX1 allowing a user to create, name, and store complicated or commonly used searches for future use. Saved searches can be managed by navigating to Default Settings -> Manage Saved Searches. [TBL-2962]
- A user can now list the shares available to mount on a CIFS server by entering the server name or IP address, credentials if required by the server, and tapping the LIST SHARES button. [TBL-3199]
- When entering a password, a user can now toggle between showing or hiding the password by tapping on the visibility icon to the right of the field. [TBL-3364]
- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS) - 3 based drives is now supported. Like HPA and DCO, the TX1 now reports drives that are detected with hidden areas configured using the AMA feature set, can permanently disable AMA, and can shelve and restore AMA during a duplication job. [TBL-2988], [TBL-3031]
- The TX1 now detects volumes (filesystems) of drives configured as a Windows Dynamic Disk using the simple or mirrored volume types. [TBL-3110]
- In uncommon situations where the TX1 operating temperature increases and passes critical thresholds, a warning triangle will now display in the top navigation bar. A yellow warning triangle indicates the unit is reaching higher than normal temperatures and tapping on the triangle

displays some areas to check for potential causes. A red triangle indicates the unit is close to exceeding the allowed maximum operating temperature. A popup message also displays to inform the user the system is extremely hot and that continued use may cause permanent damage. [TBL-3205]

Enhancement:

- The Drive Details screen and forensic log now report the drive partition style (MBR, GPT, or 'None Recognized') and when a drive is configured as a Windows Dynamic Disk ('Windows LDM single drive', or 'Windows LDM multiple drives'). [TBL-3174]
- The Drive Details screen and forensic log now report NVMe Namespace and SCSI LUN identifier. [TBL-3256]
- A user can now manually specify a DNS server IP address and Domain name suffix on the Network Settings screen. [TBL-2986]
- The current Ethernet link speed is now shown on the Network Settings screen. [TBL-3343]
- When a CIFS network share fails to mount, more detail now displays about why it failed. [TBL-3294]
- Lack of an established network connection will now prevent attempts to mount network CIFS shares and iSCSI targets. [TBL-3201]
- The TX1 now attempts to resolve a CIFS server name using NetBIOS over TCP/IP in addition to DNS. Previously when a DNS server was not available, an attempt to mount a CIFS share using the server name instead of its IP address would fail. [TBL-3333]
- The TX1 now properly detects drives that use the alternative drive capacity identification method from the ATA/ATAPI Command Set (ACS) - 2 specification. [TBL-2990]
- The TX1 Secure Erase operation is now compatible with more drives. [TBL-3230]
- The TX1 now displays a message to indicate when Daylight Savings Time is in effect in the Time zone section of the System Settings screen. [TBL-3142]
- When selecting an encrypted source drive for an operation that requires a filesystem, such as Logical Imaging, the drive tile now displays a warning that the TX1 could not detect a filesystem on the drive along with the detected encryption type. Previously the drive tile warning message reported only that the 'Drive has no recognized filesystems'. [TBL-3147]
- The Tableau Encrypted line in the forensic log, which is used to indicate the presence and status of drives encrypted with Tableau-style whole disk encryption, now displays one of the following values: No, Unlocked, or Locked. [TBL-3348]
- The error messages reported in the Job Status screen and forensic log when a job fails are now improved with more detail and context. [TBL-2304], [TBL-2620], [TBL-2993], [TBL-3164]
- When the Shelve DCO/AMA option is selected for a source drive during a duplication job, the forensic log now reports the original (DCO/AMA) state of the drive along with an indication that the DCO/AMA was shelved during the job. This additional detail provides a more accurate representation of modifications made to the drive. [TBL-2747]
- The redundant Verification Results header displayed in the forensic log for jobs with read-back verification is no longer displayed. [TBL-3131]
- The Factory Reset confirmation/warning message now clearly indicates that all existing logs will be deleted. [TBL-2879]
- The shutdown confirmation message that appears when the power button is pressed now indicates when there are active jobs. [TBL-2278]
- Imaging and verification speeds now display in the status subsections on the Job Status screen for completed logical imaging jobs. [TBL-3135]

- A border is now displayed around the Drive Utilization section of the Drive Details screen to help indicate that the utilization information displayed when selecting and viewing filesystems is isolated from the other drive info and media utilities on the screen. [TBL-2471]
- When returning to the log list after viewing a log, the most recently viewed log will be highlighted. [TBL-2130]

Issues Fixed:

- TX1 may incorrectly report that drives with MacOS Core Storage volumes are encrypted with FileVault 2. [TBL-3370]
- Files and directories on HFS+ volumes named with Unicode characters that are 4-bytes long in UTF-8 may not be detected when browsing files or performing a logical imaging job. This does not affect physical duplication jobs (clone and image). [TBL-3170], [TBL-3171]
- The TX1 does not report that MacOS Core Storage exists for drives with non-512 byte sectors. [TBL-3217]
- Formatting certain density drives of non-512 byte sector size with the FAT filesystem can fail. [TBL-3223]
- HPA removal may fail on specific drives. [TBL-3139]
- The TX1 may fail to detect the filesystem on AHCI PCIe drives with an HPA configured. [TBL-3441]
- When iSCSI Discovery succeeds, and no target shares are available, the TX1 only displays a "Discovery Successful" message. It may be unclear to some users that no target shares are available to mount from the server. [TBL-3161]
- When the Case Number and Case Notes fields are left blank during a TX1 logical imaging job setup, they may show random characters when imported into EnCase and possibly other third party forensic tools. [TBL-3417]
- Verification of E01 and Ex01 images will sometimes perform slower than expected. [TBL-3445]
- Detecting filesystems with errors may take longer than normal and appear to hang. [TBL-3152],[TBL-2980], [TBL-3186]
- Browsing or performing a logical imaging job on source filesystems with errors may take longer than normal and appear to hang. [TBL-3127]
- Verifying or restoring image files created before TX1 version 2.0 will fail in version 2.0 and later.[TBL-3443, TBL-3444]
- A duplication image job with more than 950 output segment files may fail read-back verification and restore operations. [TBL-3442]
- Exporting logs to a mounted CIFS share fails. [TBL-3389]
- After deleting all logs, some logs may still show in the log list even though they have been deleted. Moving away from and back to the log list will accurately show that all have been deleted. [TBL-3144]
- Adding a logical imaging job to the queue when two duplication jobs are active may cause the logical imaging job to show in the Active Jobs section of that screen, even though it is queued and waiting for one of the prior duplication jobs to complete. [TBL-3179]
- Under certain, rare conditions a zero-length forensic log file may be generated, thus causing system instability. [TBL-2339]
- TX1 allows certain ASCII characters to be used in file and directory names that will cause issues with Windows-based systems. For example, ending a name in a period or space, and using reserved characters such as >, <, &, '', and |. [TBL-3117], [TBL-3119], [TBL-3122], [TBL-3126]
- More than four destination drives can be selected for a logical imaging job, but only the first four will be used. [TBL-3134]

- Labels for the blank check type setting are inconsistent between the user interface and logs. [TBL-3419]
- The View Log button is not shown on the job status screen after a Secure Erase job. [TBL-3394]
- Using an external USB keyboard with the TX1 may cause delays in the user interface. [TBL-3363]
- The Job Status screen for a job with a CIFS destination will not clearly show the final status of the job in the case of a write failure. [TBL-3114]
- The Browse option in the drive tile menu does not function on the Browse screen, when navigating from the Browse icon on the main screen. [TBL-3148]
- The Drive Utilization graph on the Drive Details screen may not render properly with certain combinations of media and filesystem states. [TBL-3120]
- When changing the type of file output for a duplication image job (ex01, e01, dd, dmg) in the Default Settings screen, the previously selected hash settings may be automatically changed to meet the requirements of the desired file type. Under certain conditions, the message displayed to inform the user of this automatic change is hidden behind other screen elements. [TBL-3412]

TD3 Forensic Imager - version 2.1

TD3 SD card package hash value: 0ec7a347153ae9abc53e07fc1c4d7eff2809becc

Enhancements:

- The operations to shelve and restore a drive's DCO area during duplication are now recorded in the forensic log. [TBL-147]
- The SHA1 acquisition hash is now included in E01 image files along with the MD5 hash. [TBL-809]
- E01 and Ex01 image files created by the TD3 now reflect the TD3 firmware version in use when the files were created (for example, "TD3 2.1.0.1") for the EnCase Version and System Version header values. [TBL-980]

Issues Fixed:

- The TD3 fails to format a Western Digital WD Blue drive, model WD60EZRZ. [TBL-2065]
- TD3 Imaging jobs with a large amount (in the thousands) of Ex01 files may fail to import into EnCase. [TBL-3407]
- Host Protected Area (HPA) removal may not function properly on some specific drives. [TBL-3176]

7.27 (February 21, 2019) – TX1

This release includes a firmware update for the Tableau Forensic Imager (TX1). The changes are described below.

TX1 Forensic Imager - version 2.1.1

TX1 SD card package SHA-256 hash value:
dc8ebbe00565add0995a16ab4011e10454462085a363ad6dee02c009bd0c0a4a

Issues Fixed:

- Destination drives with many file systems may fail to re-detect at the end of a clone job. [TBL-2772]
- Jobs using network shares on some 10 Gigabit networks with jumbo frames configured may perform slowly or fail to start or complete. [TBL-3250]
- When an MTU value is configured that exceeds the maximum amount allowed for the current Ethernet link speed, network operations may fail. [TBL-3344]

7.26 (December 19, 2018) – T6u, T7u, T8u, T356789iu, TX1

This release includes a firmware update for the Tableau Forensic Imager (TX1), Forensic SAS Bridge (T6u), Forensic PCIe Bridge (T7u), Forensic USB Bridge (T8u), and Forensic Universal Bridge (T356789iu). The changes are described below.

TX1 Forensic Imager - version 2.1

TX1 SD Card SHA-256 hash value:
6e1884946e2e6123459a356b58ed035a3f8f289da5ed6aa6a63f878a54a5aa72

Enhancement:

- Non-English language interfaces are now updated with the changes introduced in the previous TX1 2.0 release.

Issues Fixed:

- Acquiring an E01 image of a drive with a specific set of data may create E01 files that cause the TX1 to hang or fail during verification. [TBL-3189]
- Acquiring an E01 image of a drive with a specific set of compressible data may fail. [TBL-3281]
- File systems on Windows Dynamic disks using MBR partition style are not detected. [TBL-3285]
- When the TX1 is configured with a subnet mask using numbers other than 255 or 0 and has a live network connection, the user interface may become sluggish and unresponsive and a 500 Internal Server error will eventually display. [TBL-3267]
- Form input fields can be manipulated by JavaScript. [TBL-2958]

Forensic SAS Bridge (T6u) - version 2.1

New Features:

- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS) - 3 based drives is now supported. [TBL-3057]
- The alternative drive capacity identification method provided in the ATA/ATAPI Command Set (ACS) - 2 specification, is now supported. [TBL-3054]

Issues Fixed:

- Host Protected Area (HPA) removal may not function properly on some specific drives. [TBL-3175]

Forensic PCIe Bridge (T7u) - version 2.1

Issues Fixed:

- Host Protected Area (HPA) removal may not function properly on some specific drives. [TBL-3175]
- A T7u in read/write mode will not accept writes from the destination USB port on a TX1. [TBL-3121]
- Some PCIe AHCI SSDs that do not properly implement standard HPA/DCO information requests report incorrect HPA/DCO capacities. [TBL-2959]

Forensic USB Bridge (T8u) - version 2.1

Issues Fixed:

- Apple Mac devices that have only one LUN may not detect properly. [TBL-3166]
- Devices with internal USB hubs, and devices connected to some USB hubs, may not mount properly. [TBL-3073]
- Some non-standard USB drives are not detected. [TBL-2589]

Forensic Universal Bridge (T356789iu) - version 2.1

New Features:

- The Accessible Max Address (AMA) feature set for ATA/ATAPI Command Set (ACS) - 3 based drives is now supported. [TBL-3058]
- The alternative drive capacity identification method provided in the ATA/ATAPI Command Set (ACS) - 2 specification, is now supported. [TBL-3055]

Issues Fixed:

- Host Protected Area (HPA) removal may not function properly on some specific drives. [TBL-3175]
- Apple Mac devices that have only one LUN may not detect properly. [TBL-3166]
- Some PCIe AHCI SSDs that do not properly implement standard HPA/DCO information requests report incorrect HPA/DCO capacities. [TBL-2959]
- Some non-standard USB drives are not detected. [TBL-2589]
- The Universal Bridge may fail to export the HDD/SSD LUN of some Apple MacBook Pro computers with an internal CD drive. [TBL-3072]
- Devices with internal USB hubs, and devices connected to some USB hubs, may not mount properly. [TBL-3073]
- When used with Tableau Imager (TIM), DCO disable steps are not consistent between SATA/SAS and SATA Gen3 ports. [TBL-3246]
- The Universal Bridge connects to a Windows 10 computer at USB 2.0 speeds when duplicating some IDE drives. [TBL-1589]

Digital Intelligence UltraBay 4d - version 2.1

Issues Fixed:

- When used with Tableau Imager (TIM), DCO disable requests for manually exported drives are not supported. [TBL-3246]
- Drive manufacturer and product name values are not displayed on the LCD for PCIe NVMe SSDs. [TBL-1556]

7.25 (October 9, 2018) – TX1

This release includes a new major firmware update for the Tableau TX1 Forensic Imager. The changes are described below.

TX1 Forensic Imager - version 2.0

Please note: this is a mandatory update for TX1 users.

Please download and read the updated TX1 2.0 User Guide to learn how to use the new features included in this release.TX1 version 2.0 User Guide.

TX1 SD Card SHA-256 hash value:
7932ee2f423fcc239e268ac8cac8f11ff8f4b9b817c3c4a0da50818feb65e1f6

New Features:

- Logical imaging and search – A user can now acquire forensically-sound logical images from locally attached drives and network shares. A user can image the entire filesystem, manually select specific folders and files, or use the powerful Files to Acquire screen to define a targeted search profile using pre-defined and custom criteria. The Files to Acquire search function provides a basic (default) and advanced mode, which can be simply enabled and disabled in the default settings screen. [TBL-2643]
- Detect drives with whole disk encryption – Automatically detects drives encrypted with the following whole disk encryption types: Microsoft BitLocker & BitLocker To Go, Apple FileVault 2, Linux LUKS, BestCrypt, Symantec PGP Disk. When the TX1 detects an encrypted drive, it displays an information message indicating the encryption type on the drive tile summary and the drive detail screen. The encryption type is also reported in the forensic log. [TBL-2635]
- Detect Apple Fusion Drives on Apple Macs connected in Target Disk Mode – Detects and presents both physical drives (HDD and SSD) configured as one Fusion Drive on Apple Macs connected to the TX1 in Target Disk Mode. Fusion Drives are configured on some Apple iMacs and Mac Minis. [TBL-2843]
- Display more USB device descriptors – The following USB descriptors are now displayed in the USB device media detail screen and reported in the forensic log: Class, SubClass, Protocol, VID (Vendor ID), and PID (Product ID). [TBL-2836]

Enhancements:

- SMB 3.0 is now the default SMB version selected when adding a CIFS share. [TBL-3025]
- A user can now select file sizes larger than 2GB for E01 file types. [TBL-2518]
- The physical port to which a drive is connected is now reported in the forensic log. [TBL-2323]
- iSCSI and CIFS network shares can now be added within the job setup workflow. [TBL-2465]
- Performance is now improved when using the E01 file format. [TBL-2810]

- Increased the height of the language selection list window so that it now displays all values without scrolling. [TBL-2957]

Bug Fixes:

- After performing a secure erase on some SSDs the TX1 will report the drive has Security Lock enabled. [TBL-2762]
- TX1 falsely indicates HPA is temporarily removed from some SSDs configured with a 28-bit HPA. [TBL-3138]
- Unable to remove DCO from an Intel 320 SSD when the DCO and HPA are set using the same capacity. [TBL-2809]
- Some PCIe AHCI SSDs may report incorrect HPA or DCO configuration and display a non-functioning HPA/DCO remove button in the drive detail screen. [TBL-3103]
- Cannot properly mount some iSCSI targets that have the iSCSI service bound to more than one live Ethernet interface. [TBL-3090]
- Windows Dynamic disks with MBR partition style are not detected. [TBL-3107]
- CIFS shares protected by NTLM authentication may not mount. [TBL-2538]
- Some USB drives with a FAT32 filesystem that is larger than the size of the drive are not detected. [TBL-2804]
- Dates stored in the E01 header are interpreted incorrectly by some third-party software (but are interpreted correctly by EnCase). [TBL-2996]
- E01 or Ex01 images created with a large number of segment files (in the thousands) may not import into EnCase. [TBL-2712]
- Writing E01 or Ex01 images to a Windows 7 CIFS fileshare using SMB version 2.1 or 3.0 may create corrupted files. [TBL-2977]
- E01 duplication jobs with non-ascii characters entered into user data entry fields (Examiner name, Case ID, Notes, or Image name) will cause the TX1 to reboot when the job starts. [TBL-2989]
- Duplication jobs with case notes that are very long (40+ lines) will cause the TX1 to reboot when the job starts. [TBL-3187]
- The forensic log list may report stale information for active jobs. [TBL-2298]
- TX1 shows zero errors in forensic log for a drive that encountered recoverable read errors. [TBL-2744]
- Unable to queue a verification job on a drive that is concurrently being used in a duplication job. [TBL-2280]
- Jobs added to the queue behind an active restore job may not run immediately even if the drives used in the new jobs are available. [TBL-2818]
- Attempting to eject a PCIe NVMe SSD may display the error "Failed to eject drive" and not eject properly. [TBL-2299]
- Incorrect warning message displays when wiping unlocked drives encrypted by the TX1. [TBL-2832]
- iSCSI duplication log displays "FIXME" for the source file system location instead of the IQN and IP address. [TBL-3128]

7.24 (August 6, 2018) – T6u, T7u, T8u, T356789iu

This release includes a firmware update for multiple Forensic Bridges (T6u, T7u, T8u, and Universal Bridge). The changes are described below.

Forensic SAS Bridge (T6u), Forensic PCIe Bridge (T7u), Forensic USB Bridge (T8u), Forensic Universal Bridge (T356789iu) – version 2.0.1

Enhancement:

- The firmware update process now supports a new version of a component installed on some new units. This change does not include any user-facing changes to the product, and is only included in TFU for support purposes.

7.23 (May 10, 2018) – T6u, T7u, T8u, T356789iu, TX1

This release includes a firmware update for the Forensic Imager (TX1) and for multiple Forensic Bridges (T6u, T7u, T8u, and Universal Bridge). The changes are described below.

Forensic Imager (TX1) - version 1.3

TX1 SD Card SHA-256 hash value:
736092e06dc8c65c1150158dc02367a31a3170357d17e080a4a7ba3fc278e8b4

New Features:

- The TX1 now supports multiple languages for the UI and virtual keyboard. A user can easily change the language in the settings menu to English, French, German, Portuguese, Russian, Simplified Chinese, Spanish, or Turkish. [TBL-2777]

Enhancements:

- The timeout to redetect destination drives after a clone duplication is now two minutes to allow more time for drives that are slow to detect. [TBL-2842]

  Please note: *For all version 2.0 bridge updates below, a change was made to improve the reliability of the firmware update process using TFU. The initial load of this new firmware may still show the previous issue (hang waiting for unit reset). If this occurs simply power cycle the bridge, and future firmware updates should not exhibit the same behavior. As always, please contact your Tableau reseller or OpenText Technical Support if you experience any issues during the firmware update process.*

Forensic SAS Bridge (T6u) – version 2.0

Enhancements:

- Read and write performance for SAS drives is now faster. [TBL-1751]
- The sector count for SAS drives now displays in the Device Info menu. [TBL-494]

Issues Fixed:

- Seagate Savvio 10K and Constellation ES SAS drive detection is now more reliable. [TBL-1101]
- The T6u firmware update process is now more reliable. [TBL-2949]

Forensic PCIe Bridge (T7u) – version 2.0

Issues Fixed:

- The T7u firmware update process is now more reliable. [TBL-2949]

Forensic USB 3 Bridge (T8u) – version 2.0

New Features:

- The T8u now detects Apple Macs with a USB-C port in target disk mode. Connect the Mac to the T8u using a USB-A to USB-C cable such as this Belkin cable available from many suppliers including Apple. [TBL-2833]
- The T8u now detects and exposes both physical drives from an Apple Fusion Drive volume (one SSD and one HDD) on Apple Macs in target disk mode. [TBL-2845]
- USB device descriptors (Vendor ID (VID), Product ID (PID), Class, SubClass, Protocol, and USB spec) now display in the Device Info menu. [TBL-386]

Enhancements:

- The sector count for USB drives now also displays in the Device Info menu. [TBL-2949]

Issues Fixed:

- The sector count and disk size now display properly for Advanced Format drives that report different physical and logical sector sizes. [TBL-1756]
- The T8u firmware update process is now more reliable. [TBL-499]

Forensic Universal Bridge (T356789iu) – version 2.0

New Features:

- The Universal Bridge now detects Apple Macs with a USB-C port in target disk mode. Connect the Mac to the Universal Bridge using a USB-A to USB-C cable such as this Belkin cable available from many suppliers including Apple. [TBL-2834]
- The Universal Bridge now detects and exposes both physical drives from an Apple Fusion Drive volume (one SSD and one HDD) on Apple Macs in target disk mode. [TBL-2847]

Issues Fixed:

- Samsung 850 Pro SSDs can now be formatted with NTFS when connected to the bridge in read/write mode. [TBL-1954]
- Non-volatile removal of HPA regions from drives only configured with an HPA, and not configured with a DCO, now work properly. [TBL-2849]
- USB drives that do not report a serial number now detect properly. [TBL-2588]
- The Universal Bridge firmware update process is now more reliable. [TBL-2949]

7.22 (February 16, 2018) – TX1

This release includes a firmware update for the Forensic Imager (TX1). The changes are described below.

Forensic Imager (TX1) - version 1.2

Check out the updated TX1 version 1.2 User Guide.

TX1 SD Card SHA-256 hash value:
316de70d517c82ca448b80ef7a8f365db981553d0416d84cd6e3ec7a3bb6ed4c

New Features:

- Image Apple Macs with USB-C in target disk mode (TDM) - A user can now image Apple Macs with a USB-C port in TDM. Connect the Mac to the TX1 using a USB-A to USB-C cable such as this Belkin cable available from many suppliers including Apple. [TBL-2523]
- Restore image to drive - A user can now restore a drive image previously made with the TX1 to one or more destination drives. The source image can be a file or set of files in any of the TX1 supported file formats such as E01, Ex01, or raw images (DD or DMG). A restore icon now exists on the Home screen to start a restore job. [TBL-2503]
- Export drive as iSCSI target for remote access - A user can now export source, destination, or accessory drives connected to the TX1 as read-only iSCSI targets. A remote user can connect to the exported TX1 iSCSI targets from another computer using an iSCSI client (initiator) to browse the filesystem or image it over the network. [TBL-2504]
- Shelve & restore DCO on source drive after duplication - When duplicating a source drive with a DCO configured, a user can now choose to have the TX1 automatically remove the DCO, duplicate the drive, and then attempt to restore the original DCO back to the drive. [TBL-2520]
- Dynamic accessory drive menu - A user can now view and manage accessory drives through the drive menu located at the bottom of the Home screen. The accessory drive menu dynamically appears while a USB accessory is connected to the front of the TX1. [TBL-2521]

Enhancements:

- A user may now mount a CIFS share using SMB versions 2.1 and 3 (3.02). [TBL-2488]
- A user can now conveniently view the forensic log associated with a job by tapping on a button named "View log" that appears on the job detail screen when a job is complete. A button to view the associated job also now displays on a forensic log screen when a job is complete. [TBL-2303]
- The TX1 now boots about 8 seconds faster. [TBL-2411]
- Read performance is now faster for SATA and SAS drives. [TBL-2357]
- Overall performance is now faster when performing jobs on drives with the ExFAT filesystem. [TBL-2575]
- The media utilities are now accessible for a drive from any context. [TBL-2519]
- A user can now eject a drive from the Media Utilities screen. [TBL-2415]
- The TX1_packed_log file now displays at the top of the list of files in a directory for easier selection during a Verify or Restore job. [TBL-2756]
- A user can now simply restore the TX1 default settings in addition to resetting the TX1 to a factory default state. [TBL-2270]
- The CIFS Share input field now displays a hint value showing the expected format for entering the share path on the Mount CIFS Share screen. [TBL-2348]

- When performing a Verify job with only one destination connected, the TX1 will now automatically select the destination. [TBL-2335]
- The date and time value displayed on the sidenav menu is now a shortcut link to the Date and time section of the System settings screen. [TBL-2237]
- The IP address value displayed on the sidenav menu is now a shortcut link to the Network settings screen. [TBL-2238]
- The Firmware version value displayed on the sidenav menu is now also a shortcut link to the About screen. [TBL-2239]
- When editing the name of a new folder in the Browse screen, a user can now press the Enter key to submit the name and exit out of the edit dialog. [TBL-2580]
- When a user enters the job setup screen while the TX1 is formatting a destination drive, the default/suggested duplication type is now Image instead of Clone, when a user selects the drive as a destination after the format is complete. [TBL-2314]
- A confirmation prompt now displays when a user removes a queued job from the Job screen. [TBL-2687]
- A warning now displays when a user attempts to format a drive larger than 2 TiB with a FAT32 filesystem. [TBL-2286]
- A warning now displays when users attempt to configure invalid default setting combinations in the Defaults settings screen. [TBL-2318]
- A warning now displays when a user attempts to perform a factory reset when there is an active job. [TBL-2341]
- A warning now displays when a user performs a clone job where the source and destination drives have different block sizes. The user may proceed with the clone job, but the destination clone may be unreadable. [TBL-2449]
- A more specific message now displays when a user reaches the maximum job queue depth. [TBL-2285]
- A duplication job no longer fails when it detects conflicting image file names on the destination drive, and will instead automatically append a number to the end of the new image file names to make them unique. [TBL-2419]
- The Backing drive sector size value for an encrypted drive now wraps to a second line on the Drive details screen. [TBL-2354]
- The forensic log now reports "File Format: DD/DMG" instead of "File Format: DD" when DD or DMG file format is selected for an image job. [TBL-2086]
- The Job Status for a Duplication job now displays "DCO Trimming" instead of "DCO Trimming Destinations" while applying a DCO to trim a clone destination to match the size of the source drive. [TBL-2725]

Issues Fixed:

- The TX1 is now compatible with newer NVMe drives. [TBL-2397, TBL-2476]
- The TX1 now automatically replaces illegal characters entered in text input fields with an underscore character. [TBL-2343]
- The TX1 now checks NTFS filesystems connected to the destination side by replaying the journal before mounting them to attempt to prevent filesystem corruption. [TBL-2437]
- The TX1 is now less restrictive when scanning partitions for filesystems to improve detection of drives with incorrect or corrupt partitions. [TBL-2679]
- HPA removal now works properly for small drives configured with a 48-bit HPA. [TBL-2605]
- The Trim option is now disabled for non-ATA destination drives. [TBL-2295]

- When a user performs a DCO removal on an IDE drive connected to the TX1 using the Tableau PCIe to IDE adapter (TDA7-5), the TX1 now informs the user that a reboot will be required and performed at the end of the DCO removal in order to redetect the IDE drive. [TBL-2282]
- When an unlocked encrypted drive disconnects during a Verify job, the drive is now properly removed from the destinations list and the job fails. [TBL-2344]
- Performing certain media utilities on an unlocked encrypted drive no longer causes the TX1 to believe encryption was removed from the drive after redetection. [TBL-2474]
- The TX1 can now properly encrypt drives with non-512 byte logical sectors. [TBL-2686, TBL-2722]
- Duplicating to a destination 4k USB drive now works properly. [TBL-2761]
- A drive that is first formatted with the EXT4 filesystem on the TX1 while connected to the destination side, then moved to the source side, now properly detects the EXT4 filesystem. [TBL-2433]
- The TX1 no longer incorrectly reports that a drive without HPA support has an HPA limiting the drive size. [TBL-2724]
- A user can now remove a DCO from a drive after being encrypted by the TX1. [TBL-2727]
- When too many devices are attached to the TX1 during the boot sequence, the TX1 now reboots instead of hanging indefinitely. [TBL-2678]
- Deleting a saved network share bookmark will no longer cause the TX1 to become unresponsive in certain cases. [TBL-2755]
- A log entry is now removed from the displayed log list as soon as it is deleted. [TBL-2800]
- The status of an unlocked encrypted drive is now spelled properly in the drive detail screen. [TBL-2723]
- The Duplication results section header in the forensic log now reports "Duplication Results" instead of "Disk-to-Disk Duplication Results" for Image jobs. [TBL-2743]
- The IP address for an iSCSI share now displays properly in the drive detail screen. [TBL-2750]
- The CIFS Nickname value now properly displays "None" when the nickname value is undefined. [TBL-2751]
- The log for a Hash job now reports "Hash ..." instead of "Acquisition ..." for the hash result. [TBL-2204]
- Text input fields now wrap the value when it is longer than the width available for one line. [TBL-2316]
- The connected drive count value now updates properly when navigating to the Home screen from the job screen in certain cases. [TBL-2760]

7.21b (January 17, 2018) – TX1

This release includes a firmware update for the Forensic Imager (TX1) and an update to the TFU utility. These related changes are minor, yet critical to improving the user experience of updating TX1 SD cards.

Please note: *any customers experiencing difficulties in updating their TX1 SD card should install this update immediately.*

TFU utility - version 7.21b

Issues Fixed:

- TFU no longer includes the TX1 SD card disk signature in the hash verification sequence. Previously, the hash verification would fail if the SD card disk signature did not match the value

set by TFU. This would occur in certain cases where Microsoft Windows automatically changes the SD card signature to prevent signature collisions with other devices. [TBL-2671]

Forensic Imager (TX1) - version 1.1.3

TX1 SD Card SHA-256 hash value:
98e5bec99be37699603e1184238051674000a195a33455ba7424b8c884336e35

Issues Fixed:

- TX1 no longer includes the SD card disk signature in the verification performed during the boot sequence. Previously, this verification would fail if the SD card disk signature did not match the value set by TFU, and the TX1 would fail to boot. This would occur in certain cases where Microsoft Windows automatically changes the SD card signature to prevent signature collisions with other devices. [TBL-2752]

7.21 (January 4, 2018) – TDP6, TD2u

This release includes firmware updates for the Forensic Duplicator (TD2u), the SAS Expansion Module for the Forensic Duplicator (TDP6), and an update to the TFU utility. The changes are described below.

TFU utility - version 7.21

Issues fixed:

- Fixed an issue where TFU would not detect TX1 or TD3 SD cards when using the built-in SD card reader on some Dell laptops. [TBL-2472]
- Fixed an issue where TFU would fail while updating or formatting a TX1 or TD3 SD card when using the built-in SD card reader on some Dell laptops. [TBL-2602, TBl-2603]
- Fixed an issue where TFU demonstrated unexpected behavior when performing certain prepare operations on a TX1 SD card. [TBL-2597, TBL-2598]
- Fixed an issue where TFU may crash when detecting two or more TD3 SD cards. [TBL-2728]
- The expandable more detail window at the bottom of the TFU screen is now shorter and scrollable. [TBL-2609]
- Pressing the ESC key no longer closes TFU. [TBL-2595]

Forensic Duplicator (TD2u) - version 1.3

New Features:

- Parallel imaging and cloning - A user can now simultaneously create both an image and a clone of a source drive in one job. Previously a user needed to perform two separate, sequential jobs to create a clone and an image. [TBL-270]
- Multi-lingual UI support - The TD2u now supports multiple languages for the UI and character input. A user can easily change the language from the settings menu to English, Turkish, German, French, and Spanish. [TBL-2372]
- Easy Access to Imaging Setup Settings from Operation Setup Screens - A user can now view and change the Imaging Setup settings directly from the operation setup/start screen for a given operation. A settings gear icon is now displayed at the bottom-center of any operation screen that makes use of Imaging Setup settings. Pushing the center (square) keypad button will take the user directly to the Imaging Setup settings screen, making it much easier to change settings,

without the need to back out of the current operation setup screen. Note that the Imaging Setup settings displayed for a given operation type will be a subset of the main settings list, with items removed that are not pertinent to the intended operation. Also note that changes made to settings using this new method will affect the main default settings list and will apply to all subsequent operations unless changed again. Previously, a user could only change Imaging Setup settings via the main menu. [TBL-1396]

Enhancements:

- The IDE detect LED now stops blinking once the TD2u detects an IDE, SATA, or USB source drive. [TBL-1520]
- E01 evidence files created by the TD2u now report the E01 version as "TD2u". [TBL-979]
- The GUID for partitions formatted by the TD2u is now the same in both the primary and backup GPT. [TBL-2677]

Issues fixed:

- 4K sector drives encrypted by TD2u are now compatible with VeraCrypt. [TBL-1708, TBL-1709]. ***IMPORTANT:*** *4K drives previously encrypted by TD2u with a firmware release older than Version 1.3 are incompatible with VeraCrypt. If a user must save their data located on an old-style encrypted drive, they can attach the drive to the source port, unlock it (using the new "Legacy Unlock" feature), and duplicate the data to a new, correctly encrypted destination drive. Note that this only applies to 4K sector size drives, so all other previously encrypted drives will not have this issue.*
- Fixed an issue where the TD2u presented an error when imaging multiple drives to a single destination in a certain order. [TBL-592]
- Improved method for retrying failed transfers when USB drives encounter transfer errors. [TBL-1379]
- Fixed an issue where the TD2u UI and buttons appear unresponsive for a short time when detecting some external USB drives. [TBL-1387]
- Fixed an issue where the numbers in the menu header would disappear by navigating the menus in a specific sequence. [TBL-1424]
- Fixed an issue where the pre-condition check incorrectly indicated a wiped destination drive was not blank. [TBL-1499]
- The TD2u now properly detects a Toshiba Canvio 3TB external USB 3.0 drive. [TBL-1962]
- Fixed an issue where E01 evidence files created by the TD2u only reported the MD5 hash when imported into EnCase. The SHA1 hash and MD5 hash now both report in EnCase. [TBL-2404]
- Fixed an issue where the TD2u would create an empty log on an encrypted destination. [TBL-2666]

SAS Expansion Module for the Forensic Duplicator (TDP6) - version 1.1.1

Please note: *to update the TDP6 firmware you must connect the TDP6 to a host computer with a FireWire cable and power the TDP6 from the TD2u using the Tableau unified SATA/SAS signal cable (model TC4-8-R2).*

Issues Fixed:

- The TDP6 now properly detects more SAS drives including, but not limited to, Seagate model ST1000NM0023, Seagate model ST4000NM0023, and Western Digital model WD3001FYYG. [TBL-1102]

- The TDP6 no longer reports WD model WD3001FYYG SAS drives as having a capacity of 0 bytes. [TBL-2067]

7.20 (October 30, 2017) – T356789iu, TX1

This release includes firmware updates for the TX1 Forensic Imager, the Forensic Universal Bridge model T356789iu, and an update to the TFU utility. The changes are described below.

TFU utility (Version 7.20)

Issues fixed:

- TBL-2573, TBL-2591: TFU previously incorrectly displayed TX1 SD cards with corrupt MBRs as "Up to date" or "Update available" and allowed a user to begin an update process that would fail. These corrupt TX1 SD cards no longer appear in the list of devices to update and instead require a user to select the **SD Cards** menu, **Prepare New TX1 SD Card**, and follow the instructions to prepare the TX1 SD card for an update. Once the SD card appears in the list of devices to update, a user can select the card and click Update to format the card with the latest TX1 firmware.
- TBL-2585: The dialog that appears when a user selects Hash SD Cards from the SD Cards menu without first selecting an SD card previously displayed "No TD3 Cards selected". This dialog now generically displays "No SD Cards selected."

TX1 Forensic Imager (version 1.1.2)

Enhancements:

- TBL-2288: The TX1 now displays the message "Errors encountered, job may take additional time" on the Job Status screen when it encounters unreadable sectors on a source drive during a hash or duplication job.
- TBL-2461: A clone destination drive is now treated as evidence and remounted as read-only after a clone job completes.

Issues fixed:

- TBL-2486: Verification jobs that encounter an error now end with a failure instead of hanging indefinitely.
- TBL-2469: Encrypting a drive now reports an operation type of "Encrypt" instead of "Format" in the forensic log.

Forensic Universal Bridge (Version 1.6.1)

Enhancements:

- TBL-1179, TBL-2477, TBL-2478, TBL-2479: Imaging performance is now faster for SATA, SAS, PCIe, and USB 3.0.

Issues fixed:

- TBL-1996, TBL-2396, TBL-2480: The Universal Bridge is now compatible with newer NVMe drives.
- TBL-2509 (only affects Digital Intelligence UltraBay 4d model with LCD): The LCD previously displayed subtle, vertical blue lines on the bottom of the screen intermittently on some units. This no longer occurs.

7.19 (September 18, 2017) – T7u, TX1

This release includes firmware updates for the TX1 Forensic Imager and the Forensic PCIe Bridge, model T7u. The changes are described below.

Forensic PCIe Bridge, model T7u (version 1.6.0)

Issues fixed:

- TBL-1563, TBL-1787, TBL-1996: T7u is now compatible with newer NVMe drives.

TX1 Forensic Imager (version 1.1.1)

New features:

- TBL-2414: TX1 now supplies drive power to up to four destination SATA/SAS drives when using both the TX1 and the TX1-S1.

Enhancements:

- TBL-2429, TBL-2258: The duplication log now includes a more descriptive message when a job fails due to the destination desk being full.
- TBL-2418: When only a single drive can be used for an operation, the drive selection window now closes automatically once a drive is selected
- TBL-2430: The TX1 now displays "Free space" instead of "Size" in the summary for selected destination drives in the job setup screen.

Issues fixed:

- TBL-2435, TBL-2445: TX1 now reports the logical block size instead of the physical block size as the official block size of the disk. This fixes an issue where E01 and Ex01 images of some advanced format drives would display as “Unused Disk Area” in EnCase. If you encounter an image that displays this message, one method to access the image contents is to use EnCase to restore the image to a full drive.
- TBL-2074: TX1 is now compatible with more SATA Gen 1 drives.
- TBL-2460: The name field in E01 and Ex01 image files now include the image file name instead of a blank value.
- TBL-2387: After booting, AHCI drives are now detected last to allow other drive types to detect more quickly in the case where ACHI drives require multiple retries to detect or eventually timeout
- TBL-2409: The TX1 now performs a sync of the log file data after writing it to a drive. This resolves an issue where a log file could be empty when a drive was removed without using the TX1 eject function.

- TBL-2453: Partitions on non-512 byte drives formatted by Windows are now properly detected.
- TBL-2443: A CIFS share will now successfully mount from a saved bookmark.
- TBL-2289: To prevent a user from mistakenly overwriting existing image files on a destination drive, the TX1 now fails to start an image if it detects that an image file with the same name already exists on the destination.
- TBL-2220: The drive utilization chart is now formatted properly when a drive incorrectly reports negative HPA or DCO sector data.
- TBL-2291: When the default job settings are configured to use a raw file format such as "DD" or "DMG" and Compression: "On", the job settings screen now properly reports Compression: "N/A" instead of “On”, since compression is not used with raw file formats.
- TBL-2413: The TX1 now requests specific permissions on files it writes to a CIFS destination. This resolves an issue where a duplication to a Linux CIFS share would report a failure at the end of the duplication when the TX1 could not modify and finalize the log file, if the initial log file was created with no permissions.
- TBL-2436: The warning "This will be a partial image" that displays at the bottom of a duplication job setup screen (when the TX1 detects the source drive will not fit into the available free space on the destination drive) will no longer display repeatedly after the message is dismissed. This occurred when another image operation was running simultaneously to the same destination, and would cause the message to reappear every time the filesystem free space changed.
- TBL-2452: The image path variables now display properly on the "Select destination(s)" screen when being changed with multiple image destinations.
- TBL-2200: Fixed an issue that could cause the TX1 to hang during first boot after a firmware update.

7.18 (June 1, 2017) – TX1

This release includes an udpate to the Tableau Firmware Update utility that adds support to update TX1 Forensic Imager SD cards. This release was only distributed internally for support purposes.

7.17 (November 30, 2016) – T8u

This release includes a firmware update for the Tableau Forensic USB 3 Bridge, model T8u. The changes are described below.

Tableau Forensic USB 3 Bridge (version 1.5.0):

- USB 3.0 imaging performance is now even faster at 340 MB/sec.
- The serial number of the connected USB device is now displayed on the bridge’s LCD under the Device Info menu

7.16 (September 12, 2016) – T356789iu

This release includes a firmware update for the Tableau Universal Bridge, model T356789iu.

Tableau Universal Bridge (version 1.4.4):

- Resolved a bug in which the bridge may create images with corrupt data. See TFU 7.15b release notes for more information about this bug.

7.15b (August 24, 2016) – T356789iu

Critical bug fix:

This release includes a firmware modification for the Tableau Universal Bridge, model T356789iu.

We identified a critical bug in the Tableau Universal Bridge firmware v1.4.3, which was part of the Tableau Firmware Update (TFU) v7.15 released on July 28, 2016. If you have a Tableau Universal Bridge with firmware v1.4.3 installed, we strongly recommend you roll-back your bridge to the previous firmware for this model, v1.3.0, which is included in this version of TFU.

This bug may cause the bridge to create images with corrupt data under specific configurations. One scenario where we observed this bug on some systems is by creating an E01 image of a SATA SSD using Tableau Imager software (TIM). If the bug is triggered, the E01 image will contain some corrupt data, and the hash of the image will not match a hash of the SATA SSD.

As soon as we've tested a fix for this bug, we will issue a firwmare update in a new version of TFU.

We apologize for this inconvenience and hope to have it resolved soon.

7.15 (July 28, 2016) – T356789iu, TD3

Please note:

TFU 7.15 is no longer available to download due to a bug recently discovered in the firmware for the Tableau Universal Bridge, Version 1.4.3.

A new TFU version will be available shortly that will contain the previously-released firwmare version for the Universal Bridge, and the TD3 update included in this release, Version 2.0.0. Universal Bridge customers should download this new TFU version to downgrade their products to the previously-released version while we work on a fix for this bug. Further information will be posted here along with the new TFU release soon.

We apologize for this incovenience, and please contact our Technical Services team if you have questions or need assistance.

This release includes firmware updates for the TD3, and the T356789iu. The changes are described below.

TD3 Forensic Imager (Version 2.0.0):

New Features and Enhancements:

- The TD3 now supports writing to NTFS and HFS+ destination filesystems.
- iSCSI read and write performance is now significantly faster.
- International language support now includes improved and more complete menu entries.
- The UI now displays new Guidance Software and Tableau brand logos.
  For more information on these TD3 features and enhancements, please see the TD3 product web page and User Guide version 2.0.0 or later here.

Bug Fixes:

- The network interfaces configuration file is now checked at boot for corruption. If the file appears to be corrupt, the user is notified and may choose to restore default settings, ignore and continue to boot the TD3, or enter a new IP address.
- The capacity of a TDS2 set is now reported and logged correctly when two drives of dissimilar size are used.
- The Eject Disk feature now works correctly on a destination drive within the web interface.
- The Duplicator Info settings module now works correctly within the web interface.
- The directory path is now correctly displayed when the “Destination Dir” settings option is selected within the web interface.
- Log entries from the local and web interfaces are now identical.
- CIFS destination share names are now included in the log.
- A Smart Blank Check on a blank drive now completes properly.
- The user is now alerted when an image file size larger than 2GB is specified when writing to a FAT32 destination file system.
- The time remaining progress bar is now correctly displayed when verifying a duplication created with a custom directory path.
- USB destination drive information is now correctly reported when a set of TDS2 drives are present.
- The option to perform a verification after a secure erase operation is now disabled.

T356789iu Universal Bridge (Version 1.4.3):

- Imaging performance is now faster.
- NVMe PCIe M.2 drives are now quickly detected and mounted.

7.14 (April 11, 2016) – TD2u

This release includes firmware updates for the TD2u. The changes are described below.

TD2u Update (Version 1.2.1):

- USB to USB imaging no longer fails a few minutes into the operation.
- After changing the password on an encrypted drive, a confirmation dialog now displays properly.
- The title bar for the duplication status screen now persists correctly after entering and leaving the detail screen.
- The boot sequence now contains an extra DDR memory check; if the POST fails due to this new test (or due to any of the POST checks) the TD2u will halt at the boot splash screen. If this occurs please contact your Tableau/Guidance Software reseller or Guidance Software Tech Services to obtain an RMA for your TD2u.

7.13 (December 22, 2015) – TDM1, TD2u

This release includes firmware updates for the TD2u, the TFU Application, and the DI UltraBay 3d LCD (TDM1). The changes are described below.

TD2u Update (version 1.2.0):

- The TD2u now supports Whole Disk Encryption. The TD2u can encrypt destination drives with a user-supplied password and uses the XTS-AES encryption algorithm. Please see the TD2u product web page and User Guide version 1.2.0 or later for more information.
- Retry information and error counts are now displayed in red text during a hashing operation.
- The Disk Info screen now displays USB serial numbers from both SCSI inquiry and USB descriptors, which matches the information in the log files.
- The precondition check sequence now aborts properly when a user attempts to start an E01 or Ex01 image with compression disabled, and when the source and destination drives are the same size.
- The TD2u no longer prompts the user to select a supported file size before beginning a Disk-to-File image when default settings are used and the user doesn't complete the first time setup wizard.
- Precondition checks and Disk Info operations with large FAT32 destination drives are now instantaneous.
- More characters are now accepted when using a keyboard to enter text in the case notes fields.
- The Security in Use heading in the Disk Info screen is now capitalized consistently with other attributes.
- The TD2u now properly handles USB devices with no serial number or non-printable characters in the serial number.

TFU Application Update:

- TFU now displays the new Tableau product logo.
- TFU now displays a green status, instead of red, when it detects a new Tableau product model for which a firmware update hasn't yet been released.
- Some of the TD3 SD card Format and Hash screens have updated text that correct some minor typos.
- The About screen now displays text only, and the outdated Tableau artwork is no longer displayed.

Digital Intelligence UltraBay 3d LCD Update (TDM1):

- The DI UltraBay 3d LCD screen no longer turns off after five minutes.

7.12 (October 9, 2015) – T8u, T3iu, T35u, T35u-R2, TDM1, TD3

This release includes firmware updates for the TFU Application, Tableau TD3, T35u, T3iu, T8u, and the DI UltraBay 3d LCD (TDM1). The changes are described below.

TFU Application Update:

- TFU now supports Windows 10.

TD3 Update (version 1.6.0):

New features and Enhancements:

- The web interface now provides an enhanced user experience with modal windows for some screens, improved form navigation, and a more responsive and consistent behavior overall.
- iSCSI and CIFS settings and operations are now available in the web interface.
- Exported iSCSI target names are now unique.
- The TD3 now detects when changes to the current web user profile are made locally on the TD3 LCD interface, and displays an icon in the web interface title bar to inform the user of the changes. The user may click on this icon to synchronize the web interface settings with the local TD3 settings.

Bug fixes:

- The Back button now works properly in the System Settings menu of the web interface.
- The web interface now successfully auto-selects a twinned TDS2 disk set when it is the only detected destination.
- When Wipe Verification Mode is configured for All Passes, the web interface now correctly reports wipe verification.
- The Multi-pass Wipe operation now works properly in the web interface.
- The web interface progress bar now correctly matches the task progress.
- The progress bar now updates properly during a verification task.
- The iSCSI process no longer hangs when enabling an iSCSI target that is bookmarked and configured to connect during startup.
- The iSCSI process no longer hangs when iSCSI targets are rapidly enabled and disabled.
- You can now select, create, and save Destination Directories using the web interface.
- EnCase no longer reports errors due to invalid headers in TD3 E01 files.
- The TD3 web server is more secure.

T35u, T3iu Updates:

- These products are now compatible with more USB 3.0 controllers on Windows 8.1 and Windows 10 systems.
- When using Windows 7, these products now properly mount NTFS partitions formatted by Windows 8.1 and Windows 10 systems.

T8u Update (version 1.2.8):

- The T8u boot sequence is now more stable.

Digital Intelligence UltraBay 3d LCD Update (TDM1):

- The DI UltraBay 3d now displays a message on the LCD when a device with multiple LUNs is detected. It asks the user to select which LUN to mount on the host computer Operating System.

7.11 (August 12, 2015) – TD2u

This release includes a firmware update for the Tableau TD2u Forensic Duplicator. The changes are described below.

TD2u Update (version 1.1.3):

New features:

- The complete directory path for Disk-to-File images is now included in the log.
- You may now disable compression for E01 and Ex01 images. This setting is located in menu 6.2, Imaging Setup.
- You may now view the remaining free space for destination disks. Free Space is displayed in the Disk Info menu.

Bug fixes:

- TD2u would sometimes reset or power off during an operation. TD2u is now more stable with refined memory controller settings.
- TD2u appeared to hang when the error retry count was set to a large number and it encountered media errors. Now more feedback is displayed on the screen during error handling.
- TD2u now properly detects the Toshiba Canvio Basics USB 3.0 External Drive, and the Verbatim Store 'n' Go USB 3.0 External Drive.
- SD card detection while using media card readers is now improved.
- TD2u now correctly informs the user that a setting of UNLIMITED File Size is not available for the E01 and Ex01 file types.

7.10 (July 7, 2015) – T8u, T35u-R2, T35689iu, TD2u

This release includes firmware updates for the Tableau TD2u and T35689iu/Ultrabay 3d models. The changes are described below.

TD2u Update (version 1.1.2) – Mandatory Update:

Critical bug fix:

- The TD2u now properly handles destination hard drives that are formatted with an unrecognized partition type. When the TD2u cannot mount a destination disk for any reason, it now reports that it cannot find a destination file system and prompts the user to format the drive. The TD2u currently supports FAT32 and ExFAT for destination partition types.

TD2u Update (version 1.1.1) – included with 1.1.2:

- The TD2u now properly wipes hard drives with block counts that aren't divisible by 0x4000 and have more than 2^32 blocks. Specifically, the Seagate ST3000DM001 and Western Digital WD3001FAEX drive models, previously reported as not wiping properly, are now working.
- A directory created by the TD2u during a disk-to-file imaging operation is no longer off by one month when Date & Time is the default setting for Directory Name.
- DCO and HPA presence is now properly reported in the disk info screen.

- The soft-key buttons now respond and refresh properly when a USB device is removed after a hash operation is complete.

T35689iu & UltraBay 3d Update:

- The T35689iu (and DI UltraBay 3d) is now compatible with more Windows 8.1 and Windows 7 USB 3.0 controller drivers

T8u & T35u-R2:

- The initial production versions of firmware for these two models are included in this TFU release for support purposes. No changes were made to these models in this release.

7.09 (January 12, 2015) – TD3

This release includes updates to TD3 Version 1.5.1 firmware. The changes are described below.

TD3 Updates (version 1.5.1):

New feature and improvements:

- USB 3.0 performance is now faster.

Bug fixes:

- The TD3 is now secured against the Shellshock vulnerability.
- The TD3 is now secured against the POODLE SSL vulnerability.
- The TD3 web interface now properly saves and synchronizes settings changes to the TD3 device when the 'Back' button at the bottom of the screen is pressed in any settings screen.
- The TD3 no longer halts and displays the message "The remote host closed the connection" during Disk-To-File verification.
- The TD3 no longer halts and displays the message "There was an error finding the device after DCO removal" after removing a DCO from the source drive during duplication.

The TD3 SD card hash for version 1.5.1 is: d21cfda31337114e11e4d8887c08d8b456b7a1e2

7.08 (October 7, 2014) – TD3

This release includes updates to TD3 Version 1.5 firmware. The changes are described below.

TD3 Updates (version 1.5.0):

New feature:

- You can now monitor and control the TD3 using a remote web user interface. See the TD3 Version 1.5 User's Guide for more detail.

Bug fixes:

- Disk-to-file (imaging) logs now report details for both disks in a twinned TDS2 set.
- User, case ID, and case notes are now included in the SMART log fields.

- The entire capacity of a drive is now formatted when it is larger than 2 TB with an MBR partition table and an exFAT file system.
- You can now remove DCO from a drive that doesn't support HPA.
- TD3 no longer exhibits occasional graphical glitches when switching menus.
- Profile operations using a substring of another profile (like "Bo", "Bob") are now handled properly. Logins using these accounts should no longer fail unexpectedly.

NOTE: After applying this update, if you are unable to log in using a profile whose name is a substring of another profile (or vice-versa), use the admin account to perform a password reset on the affected profile.

The TD3 SD card hash for version 1.5.0 is: 53ba1e144652cdf478c3d9aff06e6eb862143b31

7.07 (April 24, 2014) – T35u, T35689iu, TD3

This release includes the following updates for the TD3, T35u, and T35689iu Tableau products. All users of these Tableau devices are advised to apply this update.

TD3 Updates (version 1.4.1):

- You can now configure the TD3 to operate in one of the following six languages:
  - English
  - Spanish
  - Portuguese
  - German
  - Russian
  - Simplified Chinese
- The chime alert now sounds only once, instead of twice, when a disk-to-disk duplication is configured with verification and destination DCO clipping.
- A CIFS share, saved as a destination in a profile, is now persistent after resetting the TD3 power.
- You can now consistently image a Western Digital 3TB MyBook with 4K sectors.
- The disk information display no longer intermittently displays incorrect information when a USB storage device is connected to the destination USB 2.0 port, and two TDS2 units are in use.
- The display no longer jitters occasionally when switching screens.

T35u Updates:

- You can now properly detect Maxtor DiamondMax 10 and 22 drives.
- The Host Detect LED no longer flashes during a firmware update.

T35689iu Updates:

- The T35689iu now communicates reliably with the USB 3 host controller on the ASRock Z87 chipset under Windows 8.

The TD3 SD card hash for version 1.4.1 is: b09fb93e7cc7a45ba889758d81c7b2ffec97582f

7.06 (January 13, 2014) – TD3

TFU 7.06 includes TD3 Forensic Imager software Version 1.4, which introduces the following changes:

TD3 Updates

- The TD3 now supports the TDPXE Gigabit Ethernet Protocol module.
- The TD3 now supports the TDPX8-RW USB 3.0 Output Protocol module.
- You can now hear sounds for success and failure events.
- You can now restore DCO on a source hard drive after imaging is complete.
- TD3 log data is now stored in the EX01 container.
- An alert is now issued that formatting a large drive with EXT2 will take a long time.
- A spinning indicator has been added to show activity during duplication.
- The TD3 now checks the destination drive for HPA and DCO before formatting.
- The TD3 is now able to format USB storage media larger than 2TB with exFAT.
- The logs now roll-over properly when full.

This is a mandatory update for TD3 users.

The TD3 SD card hash for version 1.4.0 is: adcb8cce1e9332ee90527d5d3b2b43202862bc95

7.05 (September 30, 2013) – TD3

TFU 7.05 includes TD3 Forensic Imager software Version 1.3, which introduces the following changes:

TFU Application Update

- You can now perform a manual rescan for a TD3 SD card that isn't detected properly by Windows.

TD3 Updates

- The TD3 acquisition log now lists relevant CIFS and ISCSI target destination details, including the network address.
- You can now consistently save to a CIFS share.
- The issue where data corruption could occur when performing an image to certain network shares (and would fail the TD3 read-back verification) has been resolved.
- The TD3 no longer writes invalid data during imaging to a destination device connected to the USB 2.0 read/write port.
- You can now print to an attached USB printer.
- The issue where you could re-enter a task-specific Log Screen after deleting the Log has been resolved.
- The CIFS settings status now represents its state (Enabled or Connected) accurately.
- The default partition type setting no longer changes without warning.
- The OSS license document has been added to TD3 menu.
- You can now perform two new modes of blank check: "Smart," which samples random blocks throughout the disk, and "Full," which performs a blank check of all accessible disk blocks.

- You can now perform Secure Erase (also known as Security Erase) of SATA SSD media attached to the SATA destination port.
- You can now view S.M.A.R.T. hard drive information, if available.
- You can now view detailed hard drive information (make, model, serial number, DCO/HPA) for both source and destination drives.
- You can now perform twinning operations when two TDS2 storage modules are connected and populated with SATA drives.

This is a mandatory update for TD3 users.

The TD3 SD card hash for version 1.3.0 is: d4069e71fa00c039281f63d8e901a685b00cf8d4

7.04 (June 28, 2013) – T35689iu, TD3

TFU 7.04 introduces the following changes for the TD3 Forensic Imager, T35689iu Forensic Bridge, and the TFU application:

TFU Application Update

- You can now manually hash a TD3 SD card. Click the menu item **TD3**, then click **Hash TD3 Cards**.

TD3 Updates

- The TD3 NAND flash has been updated to v1.
- The NAND flash now supports ECC.
- The TD3 startup splash screen now displays the NAND flash version when booting without an SD card.
- The issue where TD3 fails to boot and displays a blank LCD screen, due to a corrupt NAND, has been resolved.
- The issue where TD3 prompts the user to enter a serial number, due to a corrupt NAND, has been resolved.

T35689iu Updates

- The T35689iu firmware update process is now much faster.
- T35689iu LEDs now indicate activity during the firmware update process.
- T35689iu now reports the same serial number to TIM and TFU.
- The ability to maintain connection with SAS drives has been improved.
- Support for USB devices with non-512B sector sizes has been added.
- Detection of MacBook Pro devices in FireWire target disk mode has been improved.
- A MacBook Pro connected in target disk mode now appears properly in TIM.
- Intermittent detection of certain FireWire storage devices has been resolved.
- Windows 8 now detects T35689iu properly over USB 3.0.

All users of these Tableau devices are advised to apply this update.

The TD3 SD card hash for version 1.2.1 is: 62caae396d35d0953cf7c7706775b52228b42717

7.03 (May 31, 2013) – T35u, TD2, TD3

TFU 7.03 introduces exFAT support and several other updates for the TD2 Forensic Duplicator and TD3 Forensic Imager. This version also includes Windows 8 USB 3.0 support for the T35u USB 3.0 Forensic IDE/SATA Bridge. New versions of TD2 and TD3 User's Guides are available on their respective product pages.

TFU Application Update

- You can now update TD3 SD cards.

TD2 Updates

- Destination support for the exFAT file system, which supports large files over 4GB, has been added.
- When wiping two disks simultaneously, both are now wiped to completion.
- Disk spanning behavior is now more robust.

TD3 Updates

- Destination support for the exFAT file system, which supports large files over 4GB, has been added.
- UI including menu icons, layout, and flow has been redesigned.
- You can now set DCO on your destination media for Disk to Disk duplication.
- You can now image from an iSCSI share.
- The iSCSI administration UI has more options and is more intuitive than in previous releases.
- You can now configure a static IP.
- You can now connect multiple source devices and select which one to image.
- EnCase Ex01 is now supported.
- TD3 can now acquire media with a non-512B sector size.
- The "_" key has been added to the virtual keyboard.
- TD3 offers improved handling of cases where source media is larger than destination media.
- The HPA/DCO removal UI is more consistent.
- CIFS is set as the default destination when it is the only destination.
- TD3 can now mount CIFS shares greater than 4TB.
- The issue of TD3 failing to image to a FAT32 iSCSI share that is greater than 250GB has been fixed.
- The issue of a prior iSCSI session not disconnecting when starting a new iSCSI session has been resolved.

T35u Update

- Windows 8 now detects the T35u properly over USB 3.0.

All users of these Tableau devices are advised to apply this update.

The TD3 SD card hash for version 1.2.0 is: 770b3dbe5c96599baa947413880d159b3b82d4b1

7.02 (March 21, 2013) – T8-R2, TD1

TFU 7.02 introduces the following fixes for the T8-R2 Forensic USB Bridge and the TD1 Forensic Duplicator:

T8-R2 update:

- Improved detection of media larger than 2TiB.

TD1 update:

- Improved performance when writing to certain SATA RAID storage devices such as the Tableau TMSS.

All users of these Tableau devices are advised to apply this update.

7.01b (February 20, 2013) – T6es

TFU 7.01b corrects a critical issue with the previous version of TFU, 7.01, where the firmware update process for the Tableau T6es SAS forensic bridge would fail and render the bridge unusable.

To resurrect a T6es that failed the TFU 7.01 update process, simply perform the firmware update again with 7.01b.

We apologize for any inconvenience this has caused you. Please contact our support department if you need assistance with this process.

All Tableau T6es users should apply this update.

7.01 (February 6, 2013) – T6es, T35es

TFU 7.01 introduces the following bug fixes for the T35es/T35es-R2, and T6es Forensic Bridges:

T35es/T35es-R2 update:

- Improved detection of media larger than 2TiB.

T6es update:

- Fixed bug where data corruption could occur under certain rare imaging scenarios.

All users of these Tableau devices are advised to apply this update.

6.98 (December 14, 2012) – T35689iu, T3458is, T34589is, TD2

TFU 6.98 introduces numerous bug fixes and improvements for the T35689iu, T3458is, and T34589is Forensic Bridges and the TD2 Forensic Duplicator:

T35689iu updates:

- Changed device detection to exclusively use the USB 3.0 host port. The 1394 port is no longer used.
- Improved detection of legacy IDE devices.
- Improved detection of 1394 devices.
- Improved detection of media over 2.19TB.
- Improved stability and reliability of the USB 3.0 host connection.
- Changed LUN detection (used when mounting Apple Macs in target disk mode via FireWire) to detect and select the first available hard drive.
- Fixed the declaration of write errors and read-only operation over USB 3.0 host interface as dictated by switches 2 and 3 respectively.
- Fixed Transfer Request Block checks for DMA transfers from USB drives.

T3458is/34589is updates:

- Improved detection of media over 2.19TB.
- USB storage devices over 2.19TB will prefer the SATA host connection rather than the 1394 host connection in order to make the entire media visible to the OS. (Potential side effect: this may prevent Windows from mounting the logical file system, but it will still allowing imaging.)
- Fixed bug where "safely remove hardware" did not work properly when mounting a USB storage device via the 1394 host connection.
- The Forensic Bridge will now reset automatically when firmware is unresponsive for seven seconds.

TD2 updates:

- Added feature to detect a certain instance of the device failing to save the date and time. A message will be displayed on the UI if this failure is detected.

All users of these Tableau devices are advised to apply this update.

6.90 (April 6, 2012) – TD1, TD2

TFU 6.90 introduces the following bug fixes and improvements for TD1 and TD2 Forensic Duplicators:

TD2 updates:

- Added twinning (1 source drive to 2 destination drives) support in duplication, verification, formatting, and wiping.
- Added support for formatting Advanced Format disks whose physical sectors are 4096 bytes.
- Added firmware uploading splash image.
- Fixed a bug which incorrectly reported some drive details.
- Fixed a bug which prevented use of some 4GB USB flash drives.

- Fixed a performance bug which occurred when using TD2 with Tableau TMSS Storage units.

TD1 updates:

- Fixed a bug which prevented some recently-manufactured TD1 units from enabling language localization.

Important Twinning Notes:

- In order to correctly support the twinning capability, the TD2 will delete all of its stored logs when this firmware update is applied. Please save your TD2 logs to a USB drive before applying this update.
- Verification with twinning requires a separate pass for each of the two destination drives. Please note the overall time required with verification and twinning is approximately 3 times that required for duplicating without verification and twinning.

All TD1 and TD2 users are advised to apply this update.

6.87 (February 15, 2012) – T8, T35e, TD1, TDW1

TFU 6.87 introduces the following bug fixes and improvements:

- Improved feedback when attempting to detect unsupported disks above 2 TiB (2.19 TB) with the T8 or T35e forensic bridge.
- Fixed a bug where the TDW1 drive wiper was unable to detect some disks larger than 2 TiB (2.19 TB).
- Fixed a bug in the TD1 that could cause an I/O error to occur when using Tableau protocol modules.

All TD1, TDW1, T35e, and T8 users are advised to apply this update.

6.86 (July 20, 2011) – T6es, T8-R2

TFU 6.86 introduces the following bug fixes and improvements for Tableau forensic bridge models T6es and T8-R2:

- Improved eSATA host interface detection of the T6es SAS bridge.
- Improved error handling of the T8-R2 USB bridge.

All T6es and T8-R2 users are advised to apply this update.

6.85 (April 19, 2011) – TD1

TFU 6.85 introduces TD1 REV 2.35 firmware which contains the following changes:

- Improved the speed and reliability with which the TD1 recovers when an unreadable sector is encountered on a disk during imaging.
- Improved the TD1 log entry detail when handling unreadable sectors.

All TD1 users are advised to apply this update.

6.84 (March 11, 2011) – T8-R2

TFU 6.84 introduces firmware for the Tableau Forensic USB Bridge II model T8-R2 which contains the following critical fix:

- Fixed a serious bug in the T8-R2 which made it possible to modify the contents of an attached USB device by sending a write command through the forensic bridge over its USB host interface.

Following are some further details of the behavior of the bug:

- The 1394 host interface on the T8-R2 is not affected by this bug; it applies only to the USB interface.
- Data written to the physical medium is random, and is not related to the data contained in the write command.
- The T8-R2 may hang during a write attempt.

All T8-R2 users are advised to apply this update immediately. Please contact Tableau support if you have any further questions about this bug.

6.83 (March 1, 2011) – TD1

TFU 6.83 introduces TD1 REV 2.34 firmware which contains the following fix:

- Fixed bug where the TD1 would fail to interpret logs created with firmware older than Nov 11, 2010. This bug caused the TD1 to misinterpret the older logs and display incorrect values for duplication length, disk-to-file information, error counts, values, and destination disk info.

All TD1 users are advised to apply this update.

6.82 (January 11, 2011) – T9, T35es, T3458is, T34589is

TFU 6.82 introduces bug fixes and enhancements for Tableau Forensic Bridge models T9, T35es, T3458is, and T34589is. This release contains the following changes:

- Fixed bug where acquisition could fail to complete when imaging a Mac computer, in target disk mode, attached to a T9 or T34589is.
- Fixed bug where a 1394 bus reset could cause a Tableau write-blocker to hang while imaging over a FireWire connection to the host computer.
- Fixed a bug where a T35es may not detect a WD Caviar SATA HDD (WD1600JS).
- Added capability to reprogram the FPGA bitstream after a firmware update.

All affected users are advised to apply this update.

6.81 (November 17, 2010) – TD1

TFU v6.81 introduces TD1 REV 2.32 firmware. The TD1 REV 2.32 firmware contains the following enhancements and fixes: as follows:

- Added support for the TD1 to communicate with the new Tableau TDP8 Forensic USB Protocol Module.
- Added support for GPT (GUID partition table) and multiple FAT32 partitions. This capability allows the TD1 to access and format disks larger than 2TiB.
- Added feature to display available free space on destination drive within the "Disk Utilities" menu.
- Fixed bug where checksum corruption could occur within .e01 files.
- Fixed bug where "Filename of first chunk" field in log was truncated if path and file name exceeded 55 characters.
- Fixed bug where TD1 allowed trailing spaces or periods on path/file names.
- Fixed bug where TD1 displayed "I/O Error" when error threshold was met.
- Fixed bug where long file name collision may obfuscate data when destination directories were similarly named.
- Fixed bug where TD1 log may incorrectly report 3.9GB chunk size for .e01 files.
- Fixed bug where verification status was not displayed in some use cases.
- Fixed bug where some .e01 images created with TD1 did not reflect compression level properly when imported into EnCase.
- Removed case prompts from functions where it wasn't needed, such as format and wipe operations.

All TD1 users are advised to apply this update.

6.80 (September 7, 2010) – TD1, T35es

TFU 6.80 introduces the readback verification feature for the TD1 Forensic Duplicator and a bug fix for the Tableau Forensic Bridge model T35es. Further details of the changes included in this release are as follows:

- Added the readback verification feature to the TD1 Forensic Duplicator. This feature allows the user to verify the integrity of a disk image automatically during duplication. The verify feature

reads back the duplicated data and recalculates the MD5 and SHA1 hash values, compares the verification values to the acquisition hash values, and displays the result on the TD1 LCD when the process is complete. The results of the verification as well as both the acquisition and verification hash values will also be available in the TD1 logs.

Please Note: Performing a readback verification will double the time of the acquisition process, since the entire image must be read back to obtain a verification hash. The verify feature will be enabled by default when this firmware revision is applied. This feature may be enabled or disabled by navigating to the following menu and pressing the "Select" button on the TD1 to toggle your desired setting: 9.Setup -> 2.Imaging Options -> Verify Hash: (On/Off).

- Fixed a serious bug in the T35es which made it possible to modify the contents of a subject drive by sending a WRITE(16) command through the forensic bridge over its USB host interface.

  This bug is present in all prior T35es firmware releases. The 1394 and eSATA host interfaces on the T35es are not affected by this bug; it applies to the USB interface only.

  Tableau believes that this write-block failure is not likely to have been encountered in the field, for the following reasons:

  1. The T35es declares its USB interface to be read-only, and consequently the host operating system will typically disallow writing to the device.

  2. The standard command used to write to a USB mass storage device is WRITE(10), which is blocked correctly in all T35es firmware releases. The WRITE(16) command is typically used only when writing to drives with a capacity of at least 2^32 sectors (2TB, or 2,199,023,255,552 bytes). Note that 32-bit Windows XP and older Windows operating systems are incapable of correctly addressing disks with such a large sector count.

All TD1 and T35es users are advised to apply this update.

6.70 (May 11, 2010) – TD1

TFU 6.70 introduces TD1 REV 2.20 firmware. The TD1 REV 2.20 firmware includes the following enhancements for the TD1:

- Added support for .e01 Disk-to-File images.
- Added support for the following localized languages: German, Spanish, French, and Portuguese. Please note that only TD1 units manufactured after July, 2009 are equipped with the LCD module that supports multi-language characters. All TD1 units with a serial number range of 01D15000 and higher are equipped with this module. Please contact your Tableau Reseller or Tableau support if you need assistance determining whether your TD1 is equipped with the multi-language LCD module.
- Reorganized Setup menu.

All TD1 users are advised to apply this update.

6.61 (February 11, 2010) – T35es, T3458is, T34589is

TFU 6.61 introduces a fix for Windows 7 FireWire communication, and bug fixes and enhancements for Tableau Forensic Bridge models T35es, T3458is, and T34589is. This release contains the following changes:

- Addresses a compatibility issue with the Windows 7 1394OHCI.SYS (FireWire) driver. Consequently, Tableau software applications such as Tableau Firmware Update and TabTest will now work properly with the native Windows 7 1394 bus driver.
- Improved communication between Tableau Disk Monitor / Tableau Imager and bridges using an eSATA or SATA host connection.
- Improved SCSI transfer performance of the T3458is and T34589is.
- Improved serial number reporting of USB devices through the T3458is and T34589is.

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