Changelog DTS 4150, DTS 4160, DTS 4210

All notable changes to this project will be documented in this file.

The format is based on Keep a Changelog, and this project adheres to Semantic Versioning.

Possible log types:

- [Update instructions] for essential requirements and information about the firmware update procedure
- [Added] for new features
- [Changed] for changes in existing functionality. Improvements should appear under the 'changed' section
- [Deprecated] for once-stable features removed in upcoming releases
- [Removed] for now removed features in this release
- [Fixed] for any bug fixes
- [Security] for security related changes or vulnerabilities

[2.42.24] - 2026-11-11

Fixed

- GNSS: Fix race condition (dtsapp crash) in GNSS thread startup logic
- GNSS: Improve the internal UART port communication during reset and module identification
- GNSS: Hardening the UBX message decoder logic
- GNSS: Improve I2C message reception if FIFO size is a multiple of 128 Bytes
- GNSS: Fix edge case showing invalid GNSS status data while it is being updated

[2.42.19] - 2026-09-17

Added

- MIB: Add noise and jamming detect feature for gnss multi band receiver modules
- MIB: Add Security-Signal detector for GIDAS GNSS security suite

- dtsmenu: Add noise and jamming detect feature for gnss multi band receiver modules
- dtsmenu: Add SECURITY_SIG detector for GIDAS GNSS security suite
- GNSS: Install Galileo NeQuick files for GIDAS GNSS Security suite to /usr/local/share/
- GNSS: Add antenna gain pattern for navX 027 multi band antenna *(development testing only)*
- GNSS: Add support for TW3742AJ antenna
- GNSS: Add support for TW3885T antenna
- GNSS: Add SECURITY_SIG detector
- GNSS: Configure receiver dynamic model as stationary
- GNSS: Support for NEO-F10T module *(development testing only)*

Removed

- MIB: Remove GNSS security suite from DTS 4150 (not supported by the hardware)

Changed

- GNSS: Load antenna gain patterns from json file
- GNSS: Rename "default" antenna type to "User Defined"
- GNSS: Make antenna gain pattern loading more robust
- GNSS: Update GIDAS GNSS security suite making adjustments for the NEO-F10 modules
- GNSS: Improve GIDAS GNSS security suite overall handling
- GNSS: Make UART communication more robust
- NTP: DTS 4150: Do not reset noSampleCounter in case of a server rotation
- NTP: DTS 4150: Non reachable servers do not set the noSampleCounter immediately to the limit (120s)
- dtsapp: Prevent file locks during hardware device access
- dtsapp: Extend unit tests with gcov and cppcheck
- gitlab-ci: Use ci-cd-toolbox docker image across all publish and release jobs

Fixed

- PTP: Fix calculation of offset scaled log variance
- MIB: Fix syntax command value to uninstall GIDAS licence file
- NTP: DTS 4150: Fix ntp alarm toggle in case no configured ntp server is reachable
- NTP: DTS 4150: Fix reboot in case a non-reachable ntp server is configured with name (FQDN)
- GNSS: Fix potential process state lock after a gnss source configuration change (introduce in v2.30.12)
- GNSS: Fix alarm "High offset to GNSS" (ALARM_BIG_OFFSET_GNSS) never set (introduced in v1.24.7)
- GNSS: Prevent signed/unsigned conversion issues in ubx protocol

[2.30.12] - 2026-03-10

Added

- gitlab-ci: Add code coverage statistics for unit tests
- gitlab-ci: Add test for dtsmenu standalone application
- dtsmenu: DAYTIME/TIME network services configurable by menu
- dtsmenu: Added NTP statistics about client requests
- dtsmenu: Add standalone version for the dtsmenu application for tests and mocks. Uses .ini file for hardware mocking. *(development debugging only)*
- dtsmenu: Show extended GNSS status information (hardware rev >= 06)
- dtsmenu: Show detailed satellite information from file `/ram/gnss-satellite-data.jsn` (hardware rev >= 06)
- MIB: Add Hardware information group under system node OID (PCB Revsion, supported Hardware features).
- MIB: Add snmp trap version 3 support
- dtsapp: Check feature availability depending on hardware (E1, GNSS security)
- GNSS: Support for NEO-F10N module with NavIC constellation signal support
- GNSS: Add extended status information about used constellations and satellites (hardware rev >= 06)
- GNSS: Add UART bridge mode to the `gnss.act` file to forward data from the GNSS module to an external serial interface. *(development debugging only)*
- GNSS: Add test flag option to `gnss.act` file to test GNSS Security feature. *(development debugging only)*
- GNSS: Write UBX-NAV-SIG data to json status file in `/ram/gnss-satellite-data.jsn` (hardware rev >= 06)
- SNMP: Add SNMPv3 trap configuration option. Traps are encrypted with snmp user `dtsUser1`
- Recover /etc/shadow from the /etc/shadow.default file if an invalid file is detected
- log: Log error conditions during user password change to dts.log

Changed

- ftp: Disable name resolution for ftp service. For incoming connections ip address will be logged instead of hostname to /var/log/messages.
- diagnostic: Add VLAN and LAG information to diagnostic log file
- Timehandler: Log stratum change to `/var/log/dts.log`
- DTS 4210 extension: Allow file transfers from and to the baseboard with disabled ftp-service
- DAYTIME/TIME network services off by default
- GNSS: Refactor startup logic for more robust GNSS module detection

- GNSS: Use UART for all gnss module communication in case hardware supports it (hardware rev >= 06). Previously, the UART was only used for the GNSS Security feature.
- Config: Set factory default setting for GNSS constellation to GPS only. Until now, it was GPS & GLONASS
- dts-snmpd: Update snmp subagent to version 2.4.0
- gcc: Update toolchain to arm gcc version 7.5.0:v2.11.0
- gitlab-ci: Update toolchain docker image to ubuntu:24.04
- dtsmenu: Allow negative coordinates for longitude, latitude and height above ellipsoid
- MIB: Allow negative coordinates for longitude, latitude and height above ellipsoid

Removed

- configure: Remove version firmware fill during general config change

Fixed

- Fix log rotation for file `/var/log/gnss-security.log`
- DTS 4210 extension: Use correct file name length for a configured serial telegram during a configuration change for DTS 4210 extension boards
- DTS 4210 extension: Communicator: Copy firmware version file from extension boards in background. Fixes unwanted restarts of extension boards in some network environments during device startup.
- Serial output 2: Always close serial port device handle before open it again in case of a configuration change
- Serial output 2: Log error message and stop thread in case serial device open failed
- dtsmenu: Correct display of longitude and latitude for negative coordinates
- GNSS: Fix antenna delay configuration, delay was always set to 0
- GNSS: In `/var/log/gnss-security.log` move 'SPF' field to last position for logfile header. Value position is correct, only the header was wrong.
- GNSS: Fix GNSS module detection during startup for hardware with MAX-M8 module equipped.
- SNMP: snmpd service is now completely stopped when SNMP is disabled, closing port 161
- dtsapp: Resolve gcc warnings

[1.27.10] - 2024-06-24

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Changed

- Communicator: Add additional size check for datatype string
- Extension: DTS 4210: Request versions.log from extension in case of firmware mismatch is detected

Added

- PowerSupply: Add exception handling for adc data conversion

Fixed

- dtsmenu: Fix ping command for LAN5-16 for DTS 4210
- dtsmenu: Fix routing information for LAN1-4
- Communicator: Handle space characters for datatype string
- Communicator: Allow smaller data size then the transmitted data size. Disabled corresponding tests.
- Timehandler: Fix segfault exception in case no source with highest priority is available
- GNSS: Fix leap second detection in automode for GNSS time source.
- GNSS: Fix antenna power switch configuration (3.3V/5V). Antenna power was fixed configured to 3.3V

[1.26.17] - 2024-02-29

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Added

- dtsmenu: MIBs: Add tDOP limit as configuration parameter
- dtsmenu: MIBs: Add tAcc (internal accuracy) limit as configuration parameter
- dtsapp: Add GNSS source timeout to `gnss.act` file
- dtsapp: Log boot reason state to dts.log on startup
- dtsapp: Catch segfault signal and log info to `/var/log/dts.log`
- dtsapp: Add consistent exception log for all processes to `/var/log/dts.log`
- Add Mars ZX3 SoM hardware information to `/ram/mars-zx3-info.txt`

Changed

- dtsapp unittest: Change all unittest to Catch2 Version3
- dtsapp: Improve watchdog interface handling
- SyncE: Simplify ethernet interface handling
- PTP: Handle ethernet link speed changes for ptp4l instances per LAN interface
- SNMP: Improve handling of alive notification timeout calculation

Fixed

- checklogfile.sh: fix missing PTP7 log entry --> ptp4l6.log has not been rotated
- dtsapp: Use correct size for e1 minor device read operation and validate it
- dtsapp: Fix race condition in concurrent queue used by LogPrinter and PLL/Timehandler processes
- dtsapp: Fix double open device handles

Security

- Disable IPv4 TCP timestamps

[1.25.1] - 2023-11-02

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Fixed

- gitlab-ci: On firmware 1.24.7 kernel & devicetree from firmware 1.21.3 was released. Revert kernel and devicetree to firmware version 1.23.1.

[1.24.7] - 2023-10-23

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Added

- New configuration parameter GNSS source drop for alarm 'GNSS Security Warning'
- MIBs: Add USB backup command

Changed

- gitlab-ci: Download kernel as pre-built package
- Update GNSS security suite
- Avoid unwanted 'UDPv6.write(..) failed ...' log entries in dts.log during DTS 4210 extension firmware update

Removed

- Removed 1GBit half duplex mode, it is not supported by the hardware

Fixed

- MIBs: Set correct GNSS constellation bit mask for the supported constellations by the hardware (GNSS-Module)

[1.23.1] - 2023-08-29

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Added

- Add GNSS security suite as licensable feature
- GNSS: Add GALILEO as configuration option (available only for hardware revision 06 or higher)
- Add 122104.00 to hardware revision 0 detection

Changed

- NTP: Update to version 4.2.8p17

Removed

- GNSS: Removed FPM mode (Fixed position mode)

Fixed

- Fix permission for user 'dts' for a generated diagnostic file in /ram/ folder
- DNS: Fix internal handling of resolv.conf as a file link (rcS init script, DHCPv6 script)
- dtsmenu: Allow LAN interface selection in ping menu for DTS 4150.grandmaster
- Release all resources after shadow file read operation (may fix login issues for dts user after changing the password or a parameter in general section)

[1.22.13] - 2023-03-17

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Added

- Support the Mars ZX3 SoM hardware revision 7.1
- Devicetree: Add version and product string
- gitlab-ci: Firmware deployment with GitLab

Changed

- VLAN: Allow VLAN ID 0
- dtsmenu: Improve PTP config texts
- PTP: Set default value for AnnounceTO to 0 for profile G8275.1 and G8275.2 to comply with profile specification
- PTP: Adjust default parameters for profile C37.238-2011 C37.238-2017 to comply with profile specification
- Enhanced IP validation covering 255.255.255.255 as invalid address
- Devicetree: Change PCA9555x access to Linux GPIO driver implementation
- u-boot: Update u-boot to version 2022.01

- u-boot: Replace autoboot stop with autoboot delay

Fixed

- Correct device naming and commands in dtsbackup script
- PTP: Configuration changes were not always applied for ptp-configs 4-12 used by DTS 4210.timecenter. Issue was introduced with firmware v1.15.0

[1.21.3] - 2022-08-24

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Changed

- PLL: DTS 4150 (G566N oscillator): Change pll regulation mode to source follow mode (slave mode)
- PTP: Set internal transmit timeout for hardware timestamping to default linuxptp value
- PLL: Stop offset correction on offset sign change
- GNSS: Improve hardware status data (UBX-MON) handling during initial synchronization
- Minor improvements for automated build and test

Fixed

- TH: Set correct stratum on manual time set
- TH: Enable time outputs after manual time set
- Redundant-Link: Set always master state flag in single mode (standalone mode)
- PTP: Fix calculation of offsetScaledLogVariance variance used by BMCA defined in IEEE 1588 2008/2019 7.6.3.3.
- PTP: Set correct values for offsetScaledLogVariance for telecom profiles ITU-T G8275.1 and G8275.2
- SyncE: Improve ESMC packet generation to meet the target 1 packet/sec average
- SNMP: Fix "DTS Restart" trap not send during startup
- GNSS: Set GNSS state to valid after FPM (Fixed Position Mode) has been successful completed

[1.20.2] - 2022-05-02

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Changed

- gitlab-ci: Changed rootfs build to detached repository
- PLL: Log all pll state changes to /var/log/pll_trim.log
- PLL: Add offset correction value to /var/log/pll_trim.log
- PLL: Change logging date format to YYMMDD instead DDMMYY for /var/log/pll_trim.log

Fixed

- GNSS-DCF: Fix window calculation in JitterFilter for high negative values
- dtsmenu: Update timestamp info also in the general time status info section for the GNSS-DCF source
- PLL: Discard all source data after entering holdover state
- PLL: MV197 oscillator: Set 1ppb factor to 64
- PLL: G566N oscillator: Set 1ppb factor to 3
- PLL: G566N oscillator: Adjust correction factor for slow speed to 4 and fast speed to 50
- Fix invalid network configuration for LAG static modes
- TH: Update current source alarm offset in case of a time configuration change
- TH: Update current source alarm offset after initial time set
- Allow write permission for dts user on /var/local/dts/ folder used for telegram file handling

[1.19.17] - 2021-12-23

This is the consolidated changelog since last official released version 1.18.10

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Added

- Display: Add LAN 4 interface information to display by clicking through options
- PTP: Add PTP unicast master table for PTP time source

- PTP: Add 37.xx power profiles without alternate Time Offset TLV
- GNSS: Add new log files for gnss in /ram/gnss.log and /ram/gnss-module-data.log
- GNSS-DCF(DCF-In): Add new timesource log files in /ram/gnss-dcf.log and /var/log/gnss-dcf.log
- GNSS-DCF(DCF-In): Add new timesource jitter filter implementation calculated with Standard Deviation over 10 samples
- Add general support and compatibility for hardware revision 06 and 07
- gitlab-ci: Added FPGA module as pipeline based linkage

Changed

- GNSS: Improve GNSS reception during initial synchronization
- GNSS: Improve internal i2c communication to the GNSS module
- GNSS: Propagate internal GNSS module status more frequently
- GNSS-DCF(DCF-In): Improve overall timesource handling
- Extended GNSS logging in /var/log/gnss.log
- PLL: Change correction speed for DTS 4150 form 50ns/s to 100ns/s
- PLL: Reduce correction timeout for G566N oscillator from 1h (default) to 15min instead
- PLL: Improved calculations for MHDEV
- Powersupply: Changed internal adc-mux addressing from register based to GPIO based configuration
- linuxptp: Update to version 3.1.1

Removed

- gitlab-ci: Removed FPGA as git submodule
- Remove dtshwtest application, it is moved to own repository

Fixed

- dtsmenu: Fix wrong value show for internal gnss accuracy under Status->GNSS->Internal accuracy
- dtsmenu: Correct notation for GNSS-DCF time source
- dtsmenu: Set max timesource priority to 6 for DTS 4160 and DTS 4210
- dtsmenu: Allow to configure 5th source priority for DTS 4150
- dtsmenu: Show correct max page number on timeinfo page
- dtsmenu: Show same text for GNSS status parameter "internal time accuracy" as defined in snmp mibs
- dtsmenu: Show selected serial telegram for serial outputs
- PLL: Fixed max offset handling in case of time source changed

- PLL: Add check for max source deviation to oscillator intersection (offset was set to 1 instead to max)
- PLL: Fix overshoot during offset correction for DTS 4150 (osci g566n)
- TH: Fix edge case for high offset after first time set
- TH: Fix big offset alarm calculation in case a time source only provides partial nano second part only(e.g. GNSS-DCF)
- TH: Clear high offset alarm for a timesource if source is not configured
- PTP: Priority 2 parameter allows values also above 128
- GNSS: Fix sporadic GNSS timesource lost
- GNSS-DCF(DCF-In): Fix issue where GNSS-DCF(DCF-In) stops providing new samples
- GNSS-DCF(DCF-In): Do not provide a sample on second 59
- GNSS-DCF(DCF-In): Fix Alarm synch lost not set as source timeout was never reached
- GNSS-DCF(DCF-In), F-In: Apply user configuration also during startup
- LOG: Fix log rotation for file /var/log/pll_msg.log

[1.19.17-rc] - 2021-12-23

Fixed

- Fix clearing SynchLED, LED was set instead cleared
- Fix set and clear 10MHzSine mode

[1.19.16-rc] - 2021-12-09

Removed

- IO-Expander: Remove PCA9555x access with Linux GPIO driver implementation (added with 1.19.14-rc)

Fixed

- GNSS: Fix sporadic GNSS timesource lost
- Fix timecore initialization during startup

[1.19.15-rc] - 2021-12-03

Added

- PTP: Enable 37.xx power profiles without alternate Time Offset TLV

Changed

- PLL: G566N oscillator has correction timeout of 15min on default instead of 1h as all other oscillators

[1.19.14-rc] - 2021-11-29

Added

- Support changes for PCB revision 07

Changed

- IO-Expander: Change PCA9555x access to Linux GPIO driver implementation

Removed

- Remove dtshwtest application, it is moved to own repository

Fixed

- Fix Initial time set for DTS 4210 extension boards (bug introduced in version 1.19.8-rc)

[1.19.13-rc] - 2021-11-23

Added

- PTP: Add PTP unicast master table for PTP time source
- PTP: Prepare parameter for C37.238 power profile

Fixed

- Display: Fix display not show any text after startup on PCB rev. 06 and later
- dtsmenu: Show selected serial telegram for serial outputs
- dtsmenu: Show same text for GNSS status parameter "internal time accuracy" as defined in snmp mibs

[1.19.12-rc] - 2021-10-12

Added

- dtsapp: Add support for linuxptp 3.1.1

Changed

- linuxptp: Update to version 3.1.1

Fixed

- GNSS-DCF: Reduce sample filling for /var/log/gnss-dcf.log
- GNSS-DCF: Remove sample outlier logging in dts.log
- GNSS-DCF: Fix Alarm synch lost not set as source timeout was never reached

[1.19.11-rc] - 2021-10-01

Changed

- GNSS: Improve GNSS module reset handling by using reset-io if hardware supports it (avail. since PCB rev. 03 or higher)

Fixed

- GNSS-DCF: In JitterFilter do not half window size in case Standard Deviation is greater then new window size
- GNSS-DCF, F-In: Apply user config also during startup

[1.19.10-rc] - 2021-09-30

Added

- Display: Add LAN 4 interface information to display by clicking through options

Changed

- GNSS-DCF: Change JitterFilter calculation to Standard Deviation

Fixed

- GNSS-DCF: Do not provide a sample on second 59

[1.19.9-rc] - 2021-09-13

Added

- GNSS-DCF(DCF-In): Add new timesource log file in /ram/gnss-dcf.log and /var/log/gnss-dcf.log
- GNSS-DCF(DCF-In): Add new timesource jitter filter implementation calculated with Standard Deviation over 10 samples

Changed

- GNSS-DCF(DCF-In): Improve overall timsource handling

Fixed

- TH: Fix big offset alarm calculation in case a time source only provides partial nano second part only(e.g. GNSS-DCF)

[1.19.8-rc] - 2021-08-23

Fixed

- GNSS-DCF: Fix issue where GNSS-DCF(DCF-In) stops providing new samples (was still partial broken in 1.19.7)
- dtsmenu: Set max timsource priority to 6 for DTS 4160 and DTS 4210

- dtsmenu: Allow to configure 5th source priority for DTS 4150
- dtsmenu: Show correct max page number on timeinfo page
- PLL: Fix overshoot during offset correction for DTS 4150 (osci g566n)
- TH: Fix edge case for high offset after first time set

Security

[1.19.7-rc] - 2021-08-14

Added

- gitlab-ci: Added FPGA module as pipline based linkage

Changed

- Powersupply: Changed internal adc-mux addressing from register based to GPIO based configuration

Removed

- gitlab-ci: Removed FPGA as git submodule

Fixed

- GNSS-DCF: Fix issue where GNSS-DCF(DCF-In) stops providing new samples
- PLL: Add check for max source deviation to oscillator intersection (offset was set to 1 insted to max)
- PTP: Priority 2 parameter allows values also above 128
- LOG: Fix log rotation for file /var/log/pll_msg.log

[1.19.6-rc] - 2021-08-05

Fixed

- dtsmenu: Correct notation for GNSS-DCF time source
- Clear hight offset alarm for a timesource if source is not configured

[1.19.4-rc] - 2021-07-14

Added

- Changes from release 1.19.2-rc1 also applies to this release

Changed

- PLL: Change correction speed for DTS 4150 form 50ns/s to 100ns/s
- GNSS: Improve internal i2c communication to the GNSS module
- GNSS: Propagate internal GNSS module status more frequently

Fixed

- PLL: Improved calculations for MHDEV
- PLL: Fixed max offset handling in case of time source changed

[1.18.10] - 2021-05-27

Update instructions

- DTS 4210.timecenter: Former version has to be at or above v1.18.8

Fixed

- Fix dts configuration restore
- Fix product branding for MBS factory
- Add missing OIDs and preferences for F-In in snmp mibs for DTS 4160.grandmaster and DTS 4210.timecenter

[1.19.2-rc1] - 2021-05-18

Added

- Add general support and compatibility for pcb hardware revision 06
- Add support for NEO-M9N gnss module

- Add support for several new oscillators for testing purpose
- Add new log files for gnss in /ram/gnss.log and /ram/gnss-module-data.log

Changed

- Improve gnss reception during initial synchronization
- Extended gnss logging in /var/log/gnss.log

Fixed

- dtsmenu: Fix wrong value show for internal gnss accuracy under Status->GNSS->Internal accuracy

[1.18.8] - 2021-04-13

Update instructions

- DTS 4210.timecenter:
  - Version 13 (V07150219.020003.010012) or earlier is installed: --> Please contact customer support if you have installed an earlier version then release No. 14 (V07150219.020003.010014)
  - Version 14 is installed:
    - Validate the device is running on Firmware version V07150219.020003.010014 (release No. 14, see SR-801223.14)
    - Install the patch named `dtsapp` as single-file-update as described in user-manual BE-801214 The "dtsapp" patch is available together with the firmware release version No. 18 (V1.18.8)
    - After installing the patch the version of the dtsapp must show 1.14.0003 (without patch the version is 1.14.00022)
    - Install the firmware release version 18 or later as described in the user manual BE-801214 Important: Do NOT copy the patch "dtsapp" to device during this step; otherwise, the update of the images will be skipped
    - Validate firmware version after update. See SR-801223.18 or later for detailed version information
- DTS 4160.grandmaster: No restrictions, install the firmware as described in the user manual BE-801214
- DTS 4150.grandmaster: No restrictions, install the firmware as described in the user manual BE-801214

Changed

- DTS 4210: The firmware update for DTS 4210 extension boards are now executed in parallel. Dueto the update procedure takes much less time

Fixed

- Fix sporadic source lost/change for GNSS-DCF
- Fix alarm not set/cleared for source F-In (frequency input)
- Justify permission user dts, such as dtsdevice.config, log files, ... The user dts was not always authorized access the files over scp/sftp/ftp.
- Preserve Oscilator trim file during firmware update
- Improve PLL for unstable sources and/or big source offsets
- SNMP MIBs: Add missing DTS Alarm bits and precise their wording
- DTS 4210: Fix high cpu usage for DTS 4210 extension boards issued by memory leak
- DTS 4210: Improve firmware update for DTS 4210 extension boards
- dtsmenu: Parameter 'Alarm delay fail. hightest source prio' can now be configured
- dtsmenu: Precise wording for DTS Alarms

[1.17.2] - 2021-02-04

Update instructions

- DTS 4210.timecenter: Do not update to this version

Added

- Add new schema handling the firmware version. Firmware version follows now the semantic version schema.
- New OIDs in DTS-COMMON mib for semantic firmware version 1.3.6.1.4.1.13842.4.1.3.
- Enable checksum offload for AXI Ethernet MACs (LAN2 - LAN4)

Changed

- Change firmware version schema to semantic version in dtsmenu (1-Status -> 8-product-information)
- Update also the bootlaoder (u-boot) in MBS production during firmware programming
- Do not store trim value for oscillator in case the time source is not stable enough

Deprecated

- The OID 1.3.6.1.4.1.13842.4.1.2.6.0 for firmware is deprecated. Use the new OIDs under 1.3.6.1.4.1.13842.4.1.3 for firmware version

Fixed

- Synchronization lost alarm is set for all time sources
- Fix GNSS timesource alarm flippering
- Fix edge case where pll regulates the wrong way after initial time set from GNSS
- First pll cycle must be more than 4 seconds long
- Avoid invalid pll correction value by verify the maximum trim value against oscillator specification
- Clear alarm for GNSS-DCF in case source is not configured
- DTS 4150: Fix unwanted log entries in dts.log in case an ntp server query failed

[00191020.030003.020116] - 2020-10-27

Release is for the DTS 4150.grandmaster only

Update instructions

- DTS 4210.timecenter: Do not update to this version
- DTS 4160.grandmaster: Do not update to this version

Added

- Add NTP as timesource for DTS 4150
- Add new feature for MBS production for product branding by ProductVersion.txt

Changed

- Update dropbaear ssh to version 2019.78
- Update ntp to version V4.2.8p15
- Adjust PTP profiles default parameter according their standards
- Improve handling for timesources such as DCF-HQ, E1, F-IN
- Enhance command set for MBS production in u-boot

- Adjust factory defaults
- Rename timesource DCF-HQ to GNSS-DCF

Fixed

- Fix clearing big offset alarm in case a source is not locked
- Fix special case where leap second was not always correctly detected over GNSS during startup
- Fix invalid packet loss shown in ping statistic result page

Security

- remove hmac-sha1-96 MAC algorithm for dropbear ssh
- Add ntpq 'access control status' as configuration option to dtsmenu

[1.15.0]

Internal release for MBS production

Added

- Add DTS 4150.grandmaster
- Add DTS 4160a.grandmaster I
- Add DTS 4160c.grandmaster I

[07150219.020003.010014] - 2019-06-04

Added

- Add config options for Alarm “Time Source Big Offset”

[07150219.020003.010012 / 20190327] - 2019-03-27

SR-801223.13

Changed

- First time synch adjustment for MBS production
- Improvements time source handling

[07150219.020003.010012 / 20190215] - 2019-02-15

SR-801223.12

Added

- New feature configure multiple timesources for DTS 4210

Changed

- Adjustments on internal pll synchronization
- Improved DCF-In as time source

Fixed

- Bugfix Firmware update for DTS 4160b
- Bugfix SNMPv2c with IPv6
- Minor Bugfixes & Improvements