

Windows Standard

2024

This is **BATON Standard** version **9.0.2** for installation on the **Windows** platform.

The details of features added to **BATON Standard** version **9.0.2** are listed in the following sections.

The procedure for installing BATON is available in *BatonInstallationManagerGuide.pdf*.

- BATON help is available as an online help. After BATON installation, click the help icon available on BATON's home page.
- The BATON API help is available as *BatonAPIHelp.pdf*.

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Release 9.0.2

Data Migration Tool

The **Data Migration Tool (DMT)** facilitates seamless migration of BATON database when a BATON setup is upgraded.

Upgrade Scenarios

- DMT is:
 - **Installed as a standalone tool:** In case of an **upgrade from version 9.0.1 to 9.x**, where the database is the same and there is no requirement of database migration, this tool can be installed as an independent tool. This independent tool can be used to **migrate any old Test Plans (8.3 or older) and Conformance Checks (8.4 or older)**.
 - **Embedded in BIM:** In case of an **upgrade from 8.x, or previous to 9.x**, DMT is automatically launched during BATON upgrade for migration of all BATON resources.

Accessing the Tool's WebHelp

- A detailed help guide for upgrading Test Plans, Database, and Conformance Checks is available on the DMT interface.

Services and Microservices

- A new internal service, *Baton MT TP Migrator* is added for exporting all previous version Test Plans to 8.4, so they can be directly imported into BATON 9.x.

To know more, refer [BatonInstallationManager Guide](#)

Format Support

New Formats

- Support added for:
 - ARRIHDE in MXF and elementary video formats.

A separate license named **BatonARRIHDE** is available to analyze ARRIHDE video format files.

- ARRIALEXA 35 in MXF and ARRIRAW video formats.

Enhancements

- Support added to decode TIFF files with JPEG compression.

To know more, refer [Online Help >> Getting Started >> Formats Supported](#)

Test Plans

Test Plan Settings' Update

- Analyze, decode, and report errors in JPEG2000 files. For this, a new setting **Motion JPEG2000** added with a sub-setting, **Analyze entire file for L1/L2 Testplan**.

To know more, refer [Online Help >> Know Your Test Plan>> Configuring Test Plan Verification Settings>> Motion JPEG2000 Settings](#)

Algorithm Improvement

- The algorithm of **QR code** detection improved.

BATON Settings

File Verification

- Enable or disable the image sequence file scheduling as a package, using the **Consider image sequence file as a package** setting.

To know more, refer [Online Help >> Get Your Files Verified>> Use Smart Folders>> Define Workflow using Smart Folders>> Configure Basic, Advanced and Global Settings](#)

Release 9.0.1

Product Improvements

Tech-stack Upgrade

- Transitioning of BATON code base from **Python 2** to **Python 3**
- Migration of database from **ZODB** to **Postgres**
- Introduction of **Nginx** into BATON architecture plays a pivotal role in optimizing the application. Nginx runs as a service with BATON installation. This introduces advanced caching capabilities and enhanced scalability.
- Replacement of **Zope** framework by **Django**
This helps to enhance our platform's capabilities, ensuring **improved development efficiency, scalability, and maintainability**
- Upgradation of **MainConcept Codec SDK** to version 13.4 for enhanced decoding of MPEG4, H.264, and H.265 media files

BATON Installation

- **Database Migration Tool**

An inbuilt **Database Migration Tool** is integrated directly into the BATON installer. This tool is designed to facilitate the smooth transition of **ZODB** (Zope Object Database) to **PostgreSQL**, streamlining the upgrade process for moving from earlier versions to BATON 9.0.1.

- **Services and Microservices**

- Services and Microservices have been restructured to enhance manageability and align functionalities for improved performance
- The **BatonScanner** microservice is now available as a sub-process
- The **BatonCStoiler** and **BatonWebService** microservices have been removed

Changes in Installation Folders

- **Updated folder structure**

With the 9.0.1 release, the BATON folder has been restructured and renamed from **BatonSites** to **Baton**

Product Improvements

File Download and Performance Optimization

- Real-time analysis of 4K media files
- **File reading speed for QC operations** optimized when the files are getting directly analyzed from S3 content locations
- **S3 Download Acceleration**
With the integration of **s5CMD**, you can experience significantly improved download speeds from S3 locations

Verification Improvements

- **MXF file verification for growing file mode improved**
BATON does not wait for the complete file to download in growing mode. During the download, BATON checks the initial 50 KLV data units, and if no data is found, the track is not initialized for verification
- **Long file path support** added for both Smart Folder and manual scheduling
- Direct analysis of **ADM BWF** files from **S3 location** is now supported
- Decoding of J2K frames with Tile length 0 improved
- Reporting of 12-bit, bit depth on ProXQ files is now supported
- New 4K PSE NABJ Test Plans added to verify 4K content. Additionally, the existing built-in Test Plan, **Generic 4K Testplan with Quality Checks** is updated as per the latest 4K video practices

Timecode Related Changes

- **Handling TimeCodes in IMF Packages with Missing Resources**
Support added to handle the missing resources in IMF Packages. This enables exact navigation of BATON-reported error timecodes and matches them with IMF's complete timeline

To know more, refer Online Help >> Register >> Appendix >> Handling TimeCodes in IMF Packages with Missing Resources

- Timecode format made **consistent** across all report types

To know more, refer Online Help >> Verification Reports >> Insight into VR Templates and Layouts

Product Improvements

BATON Health

- The integration of **Diagnostic Tool** aligns with our revamped tech stack. This enhances the overall stability of our product and ensures that the diagnostic capabilities are readily available
- **Enhanced System Alerts:** Leveraging the advanced capabilities of the Diagnostic Tool, our system alerts have been fine-tuned to deliver more accurate and timely notifications
- **System Metrics**
The **System Metrics** section displays system memory and CPU usage data for sub-processes of:
 - BATON Verification Manager Services - **Baton Task Scheduler** and **Baton Scanner**

To know more, refer Online Help >> BATON Diagnostics Tool >> System Metrics

Compatibility with Add-ons

- BATON version 9.0.1 is compatible with **BCC 9.0.1**, **BATON+ 3.0** and **BMP 9.0.1**

BATON 9.0.1 version will not work with older versions of **BATON+** smoothly. Therefore, upgrade **BATON+** to version **3.0** for live sync to work as expected.

Formats Support

New Formats

- Support added for **IAB Audio** for **MXF** Containers and **IMF** Packages
- **EBU-TT-D**, **IMSC1.1** and **TTML-2** formats added in Subtitle library
- **AVC-Intra Class 200, 1080p24/30/60 (ai23)** format for **MP4** file verification

To know more, refer Online Help >> Getting Started >> Formats Supported

Test Plans

New Checks

Video Quality

- **Unwanted Frame Detection:** Detect and report unwanted fields/frames in a video
- **Report spatial error coordinates** for the following video dropout errors:
 - Checkerboard Pattern
 - Vertical Line Pattern
 - Blocky Dropouts

To know more, refer Online Help >> Test Plan Checks >> Video Quality Checks >> Dropout

- **Actions Safe Area:** Detect and report content outside the action-safe area based on the automatically computed safe margins

To know more, refer Online Help >> Test Plan Checks >> Video Quality Checks >> Action Safe Area

Elementary Audio Video

- **New Metadata Checks added in AC3 Format**

Support added to detect metadata in **ADM BWF files** for Atmos.

For this the following checks have been added in the **AC3 Audio** section:

- **Metadata Format:** Signifies the Dolby Atmos Master file type and the version of the specification this master file adheres to
- **ADM Profile:** Denotes the Audio Definition Model (ADM) profile and its version
- **FFOA:** Denotes the First Frame of Action (FFOA) and is relative to the Start TimeCode value
- **Offset:** Is the sample position (relative to the beginning of the master) at which this event takes effect
- **Bed Count:** Detects the total number of beds in each Dolby Atmos frame. Audio beds are channels, like the channels in 2.0, 5.1, 7.1, etc
- **Start TimeCode:** Denotes the location of this master on an external timeline.
This value is useful for synchronizing master playback with another media stream, such as video
- **Creation Tool:** Denotes the name of the creation tool
- **Creation Tool Version:** Denotes the version of the creation tool
- **Frame Rate:** Detects the frame rate of Dolby Atmos file

To know more, refer Online Help >> Test Plan Checks >> Elementary Audio Video Essence Checks >> AC3 Audio Features

Data Checks

- **Compare Metadata with Container**
A new check added to detect mismatch of **MaxCLL** and **MaxFLL** parameters in a Dolby Vision Metadata file

To know more, refer Online Help >> Test Plan Checks >> Data Checks >> Dolby Vision Metadata Features >> Compare Metadata with Container

Test Plans

MXF File Features

- **Omneon Metadata**

Detect Omneon metadata in MXF files

To know more, refer Online Help >> Test Plan Checks >> Container File Formats >> MXF File Features >> Omneon Metadata

Container Description Checks

- **SHA1 Checksum Support added in BATON**

Detect SHA-1 value present in media files

To know more, refer Online Help >> Test Plan Checks >> Container Description Checks >> SHA1 Value

Container File Format Checks

- **Matroska**

- **Video Track Properties:** Detect mismatch in color matrix, color primaries, and transfer characteristics in Matroska file

To know more, refer Online Help >> Test Plan Checks >> Container File Formats >> Matroska >> Video Track Properties

Elementary Checks

- **MPEG-2 Video**

- **SMPTE328M Timecode:** Detect and report error if SMPTE328M timecode is missing from MPEG-2 streams

To know more, refer Online Help >> Test Plan Checks >> Elementary Audio Video Essence Checks >> MPEG-2 Video Features >> SMPTE328M Timecode

- **FFV1**

- Detect and report **Slice Count** and **Version** in FFV1 format files

To know more, refer Online Help >> Test Plan Checks >> Elementary Audio Video Essence Checks >> MPEG-2 Video Features >> FFV1 Video

Test Plans

Enhancements

Algorithm Improvements

Video Quality Checks

- Algorithm for the following Video Quality checks improved:
 - Field Order
 - Ghosting Artifact
 - Black Bars
 - Video Dropout
 - Blocky Dropouts
 - Concealment Artifacts (High Sensitivity)
 - Frame/Field Corruption

Criteria/Log Settings

Video Quality Checks

- **Black Bars Check**
 - Detection of black bars present on all sides of a video frame
A new configuration type **Window Box** has been added within the **Configuration** section of the Black Bars check
 - **Report black bars in a window box** configuration. For this, new error schemas have been added

To know more, refer Online Help >> Test Plan Checks >> Video Quality Checks >> Black Bars

- **Video Signal Level and Black Level checks**
 - Support enhanced to verify videos up to **16-bit depth** range

To know more, refer Online Help >> Test Plan Checks >> Video Quality Checks

- **Blank Frames Detection Improved**

Detection of blank frames improved when text or logos are present within a frame.

For this, a new setting **Ignore presence of minor content pixels** is added.

To know more, refer Online Help >> Test Plan Checks >> Video Quality Checks >> Blank Frames

- **Freeze Frames**

Added support to report Freeze Frame errors based on the percentage of the video duration.

For this, percentage unit has been added for the Freeze Frames duration restriction

Test Plans

Audio Quality Checks

- **Neilsen Watermark Check Enhanced**

- Detect and report **CBET Watermark** in media files
- NWM Watermark type renamed to **NW Watermark type**
- Report **RTVOD C3/C7 flags** in the watermark types

To know more, refer Online >> Test Plan Checks >> Audio Quality Checks >> Nielsen Watermark

MP4 Features

- **Video Track Properties**

- Support for multiple severity added for **Mastering Display Minimum Luminance** and **Mastering Display Maximum Luminance** components

To know more, refer Online >> Test Plan Checks >> Container File Formats >> MP4 Features >> Video Track Properties

Data Checks

- Detection of Dolby Vision Metadata in MXF files enhanced

To know more, refer Online >> Test Plan Checks >> Data Checks >> Dolby Vision Metadata Features

Test Plans

Test Plan Verification options

Common Settings

- **Drop Frame Mode**

A new setting **Drop Frame Mode** added under **Frame Rate** settings to set frame rate in drop frame and non-drop frame format for elementary audio files

To know more, refer [Online >> Know Your Test Plan >> Configuring Test Plan Verification Settings >> Common Settings >> Frame Rate](#)

- BATON now analyzes media files that contain only video and no audio and has multiple sidecar files (.WAV) that might have audio or not

To know more, refer [Online >> Know Your Test Plan >> Configuring Test Plan Verification Settings >> Common Settings >> Related Audio/Video Files](#)

Audio Settings

- Support added for the following specifications, which are considered while calculating loudness parameters using DPLM Technology:

- ITU-R BS.1770-3
- ITU-R BS.1770-4

To know more, refer [Online Help >> Know Your Test Plan >> Configuring Test Plan Verification Settings >> Audio Settings >> Loudness](#)

MXF Settings

- Multicore analysis has been optimized when reading MXF container files directly from cloud locations. For this, a new setting Use Multicore Optimization is added in the Test Plan Settings

To know more, refer [Online Help >> Know Your Test Plan >> Configuring Test Plan Verification Settings >> MXF Settings >> Use Multicore Optimization](#)

Data Settings

- **Allow detection of single frame text(Burnt-In)**

Support added for detection of single-frame burnt-in text

For this, a new setting "Allow detection of single frame text(Burnt-In)" has been added under the Data settings section

To know more, refer [Online Help >> Know Your Test Plan >> Configuring Test Plan Verification Settings >> Data Settings](#)

BATON Settings

Content Locations

- **Application Default Credentials (ADC)** support added while registering a GCS location. Now the **service account** of the **Google Compute Engine (GCE)** will be used to access the GCS bucket

Additionally, a **JSON file** is to be provided in place of the **.P12 key file** during the registration process

To know more, refer Online Help >> Register and Access BATON Components >> Register Content Locations >> Connect to Various Content Locations >> Google Cloud Storage

- Support added for handling special character, "@" in password field while registering FTP content locations

To know more, refer Online Help >> Register and Access BATON Components >> Register Content Locations >> Connect to Various Content Locations >> Standard, Nexio or Seachange BML FTP Server

- The **Dropbox** location support in BATON has been enhanced to comply with recent architectural and SDK changes done by Dropbox

Task Cleanup Policy Updates

- BATON now provides option to configure the task cleanup policy based on **Task count** and the **Number of days**
- Retain tasks of specific result types – failures and warnings

Renamed Options

Options	Renamed to
Hard Cleanup Limit	Max Tasks (Option is now configurable)
Soft Cleanup Limit	Tasks to retain
Soft Cleanup Limit [Warning]	Ensure Task count with result as 'Warning' is less than or equal to
Soft Cleanup Limit [Failure]	Ensure Task count with result as 'Failure' is less than or equal to

To know more, refer Online Help >> >> Configure BATON Setup >> Cleanup Tasks and Logs >> Cleanup Tasks

APIs

Extensive REST API Support

- A comprehensive set of REST APIs is available to streamline your interactions with BATON covering all the resources that are fully REST-based

Key highlights of REST API support include:

- Complete REST API Integration
- Robust Endpoint Management
- Secure Access with Role-based Permissions
- Comprehensive Documentation Coverage

To know more, refer [BATONRESTAPI Guide](#)

XML-RPC API

- Implementation of all the APIs have been converted from **Python 2** to **Python 3**.
All the earlier versions will be supported as is without any change requirements in the existing integration

To know more, refer [BATONCMLRPCAPI Guide](#)

SOAP API

- SOAP APIs are no longer supported in BATON from the 9.0.1 release

Conformance Checks

New Checks

- **Conformance Check: 10068** added in the Motion JPEG2000 Video section to report the "**JPC2K_INVALID_FRAME**" error if an invalid frame appears while verifying the JPEG2000 image format file. The error contains the file sequence index of the invalid frame
- **Conformance Check: 10069** added in the Motion JPEG2000 Video section to report the "**JPC2K_CORRUPT_FRAME**" error if a truncated frame appears while verifying the JPEG2000 image format file. The error contains the file sequence index of the truncated frame
- **Conformance Check: 1627** added in the QuickTime container section to report the "**MP4_INVALID_ATOM_LENGTH_ERROR**" error if the atom size in an MP4 file is greater than the file size and the range limit of **64 units**
- **Conformance Check: 19554** added in the Data section to report "**CC_SRT_BLOCKSKIP_ERROR**" error if the SRT block is missing in the subtitle file
- **Conformance Check: 19706** added in the Data section to report the "**CC_WEBVT_EXTRA_TIMESTAMP_INDICATOR_ERROR**" error if the timestamp indicator in the subtitle file is present at the forbidden location
- **Conformance Check: 5066** added in the MXF container section to report an error when the essence item in the content package is not aligned to the KAG boundary
- **Conformance Check: 5067** added in the MXF container section to report an error if the KLV fill item length is more than the minimum required to align to the KAG boundary

It is mandatory to select **RDD9 Compliance** in the **Compliance** section of the **Verifications Settings**, for conformance checks **5066** and **5067** to report an error.

Enhancements

- **Conformance Check:19501** enhanced to report the "**CC_SAMI_LANGUAGE_DEF_UNAVAILABLE_ERROR**" error when the class used is not defined in the HEAD section of the SAMI file
- **Conformance Check:19758** enhanced to report the "**CC_TTML_PROFILE_VALIDATION_ERROR**" error when the TTML file has failed profile validation
- **Conformance Check: 19755** enhanced to report the "**CC_TTML_LOAD_ERROR**" error when the subtitle XML file loading fails
- **Conformance Check: 20607** enhanced to report the "**BATON_FFV1_CRC_ERROR**" error when an invalid slice value is present in the media file

Bug Fixes

- Support added to report the **Canopus video scanning** type

Deprecated Features

Formats

- BATON no longer supports ASF, VC1, and WMA formats

BATON Logs

- The option to **Download Logs** has been removed from this release. **BATON Log Zipper** will directly download and dump all the logs of the system

APIs

- SOAP API support is no longer available in BATON
- Some XML-RPC APIs are no longer supported

To get the list of unsupported APIs, refer DeletedAPIsInBATON.pdf

Content Locations

- Support for **Spectrum Server** and **AVID Interplay** locations removed

Others

- The **Basic mode** support of Smart Folder is removed
- The **Database Manager Interface** is no longer available in BATON. With this, the Database Manager utilities, such as Backup, Selective backup Restore, Packing, Rollback, and Recover would not be available
- Support for **Watch Folder** has been eliminated

In the previous version, you had the option to transition from Watch Folder to Smart Folders.

However, moving forward, it is mandatory to migrate Watch Folders to Smart Folders before initiating any other change. Failure to do so will require you to create new Smart Folders in the fresh setup.