BATON Release Notes

Windows Enterprise

2024

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

The details of features added to **BATON Enterprise** 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.



BATON

Table of Contents

RELEASE 9.0.2	4
DATA MIGRATION TOOL	4
Upgrade Scenarios	4
ACCESSING THE TOOL'S WEBHELP	4
SERVICES AND MICROSERVICES	4
FORMAT SUPPORT	5
New Formats	5
ENHANCEMENTS	
TEST PLANS	5
TEST PLAN SETTINGS' UPDATE	5
ALGORITHM IMPROVEMENT	
BATON SETTINGS	5
FILE VERIFICATION	5
RELEASE 9.0.1	6
PRODUCT IMPROVEMENTS	6
Tech-stack Upgrade	6
BATON Installation.	
CHANGES IN INSTALLATION FOLDERS	
FILE DOWNLOAD AND PERFORMANCE OPTIMIZATION	7
VERIFICATION IMPROVEMENTS	7
TIMECODE RELATED CHANGES	
BATON HEALTH	
Compatibility with Add-ons	8
FORMATS SUPPORT	8
New Formats	8
TEST PLANS	9
New Checks	9
Video Quality	9
Elementary Audio Video	9
Data Checks	9
MXF File Features	
Container Description Checks	
Container File Format Checks Elementary Checks	
ENHANCEMENTS	
Algorithm Improvements	
Video Quality Checks	
Criteria/Log Settings	
Video Quality Checks	11
Audio Quality Checks	
MP4 Features Data Checks	
TEST PLAN VERIFICATION OPTIONS.	

BATON

Common Settings	
Audio Settings	
MXF Settings	
Data Settings	13
BATON SETTINGS	14
CONTENT LOCATIONS	
TASK CLEANUP POLICY UPDATES	14
Renamed Options	14
BATON SETTINGS	15
SAML Integration Updates	15
LDAP Support Updates	15
BATON EXPANSION	16
Auto-Scaling	16
ADVANCED CONFIGURATION	16
OTHER SETTINGS	17
Expansion Alerts	17
Expansion Policy Updates	17
Renamed Options for CS Auto Scaling	17
APIS	18
EXTENSIVE REST API SUPPORT	18
XML-RPC API	18
SOAP API	18
CONFORMANCE CHECKS	19
New Checks	19
ENHANCEMENTS	19
BUG FIXES	20
DEPRECATED FEATURES	20
Formats	20
BATON Logs	20
APIs	20
CONTENT LOCATIONS	20
Отнере	20

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 MTTP 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:
 - o 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
 - o The **BatonScanner** microservice is now available as a sub-process
 - The BatonCSToiler and BatonWebService microservices have been removed
- DB Failover Cluster Configuration and Upgrade Process have been revised

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 Checker Server Service Baton Task Runner
- 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-π-D, IMSC1.1 and πML-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

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
- o **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

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 >> \$MPTE328M Timecode

- FFV1
 - o 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

Enhancements

Algorithm Improvements

Video Quality Checks

- Algorithm for the following Video Quality checks improved:
 - Field Order
 - Ghosting Artifact
 - o 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



Audio Quality Checks

- Neilsen Watermark Check Enhanced
 - o Detect and report CBET Watermark in media files
 - NWM Watermark type renamed to NW Watermark type
 - o 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 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:
 - o ITU-R BS.1770-3
 - o 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

BATON Settings

SAML Integration Updates

- Support to register multiple SSO IdPs, such as OneLogin and Azure
- Register an IdP option available through SAML Settings page
 A new feature to register IdP is now available on the SAML Settings page. The option is named Add IDP

IdP registration is now service provider initiated. With this, an SP metadata file in .json format can be downloaded from the BATON interface. The service provider details mentioned in this file are to be provided while configuring the IdP.

• The single sign-on URL format to configure Okta has been updated

To know more, refer Online Help >> >> Configure BATON Setup >> Manage Accounts >> Integrate SAML

LDAP Support Updates

 LDAP user roles are now stored in the BATON Database rather than at the LDAP server. With this, the option to assign the Viewer role as the default role is now available under both the LDAP Server register option and from User Settings.

The Authorization Settings, which were earlier used to store user roles at the LDAP server has now been discontinued.

With this, the following new options, have been added **LDAP Groups** and **LDAP Users** sections:

- **View Mapped Groups:** To view the lists of groups with assigned roles
- o **View Mapped Users:** To view the lists of users with assigned roles

To know more, refer Online Help >> >> Configure BATON Setup >> Manage Accounts >> Manage LDAP Server Settings:

- Configure LDAP Server Advanced Settings
- Register LDAP Server
- Manage LDAP Users and Groups



BATON Expansion

Auto-Scaling

Dynamic scaling for Verification Managers

This feature empowers the system to seamlessly scale on-demand ensuring optimal performance

The Verification Managers now possess the capability to scale dynamically based on workload demands. When faced with high load peaks, the system can automatically and intelligently deploy additional Checker Servers, ensuring responsiveness and efficient task handling

To know more, refer Online Help >> BATON Expansion >> Expand BATON on Cloud >> Expansion Policy

Advanced Configuration

• The ability to configure high-end machines provisioned by AWS, providing better control over network and IOPS settings. This helps to achieve better throughput in file analysis while ensuring flexibility in AWS infrastructure costing

BATON Expansion

Other Settings

- A new setting **Instance Volume Configuration** added to specify volume, IOPS, throughput, and disk size values for CS instances
- The instance type option now provides a wide range of high-configuration instance types
- **Disk size limits** revised to align with the supported volume types on AWS
- A new setting Backup Logs folder added to back up the logs of on-demand VM and CS instances

Expansion Alerts

- New events are added while configuring expansion alerts for VM and CS:
 - Auto Scaling of Verification Manager Failed
 - o On-demand Verification Manager could not be scaled down
 - o On-demand Verification Manager instance is terminated manually
 - Unable to return On-demand Checker Server Licenses

To know more, refer Online Help >> Configure BATON Setup >> Setup Alerts and Mails >> Set Alerts >> Configure Expansion Alerts

Expansion Policy Updates

- Option to set scale-down interval added
- Option added to enable direct QC on newly scaled Checker Server
- The time duration for scale-up has been optimized

To know more, refer Online Help >>BATON Expansion >> Expanding BATON on Cloud >> Expansion Policy

Renamed Options for CS Auto Scaling

Options	Renamed to
Instance Settings	Checker Server Instance Settings
AMI id	Checker Server AMI id
Planned Expansion Settings	Planned Expansion Settings for Checker Servers
Auto Expansion Settings	Auto Expansion Settings for Checker Server

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:

- o Complete REST API Integration
- o Robust Endpoint Management
- Secure Access with Role-based Permissions
- o 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_WEBVTT_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
- Checker Server Interface at 9000 would not be available.
 Instead, a new settings section named Advanced Settings is added in the Checker Server page

To know more, Online Help >> Register and Access BATON Components >> Checker Server >> Configure Advanced Settings

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.