

COREMEDIA CONTENT CLOUD

Release Notes



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July 11, 2024 [Release 12.2404]

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1. Preface

This manual contains the release notes for all *CoreMedia Content Cloud* releases. You will find the latest version of this manual at the following URL: <https://documentation.coremedia.com/cmcc-12/release-notes>.

1.1 Audience

This manual is intended for everyone interested in the detailed changes between *Core-Media Content Cloud* releases. It is specifically intended for developers and operators who want to update their CoreMedia system.

1.2 Typographic Conventions

This manual contains different fonts and types in order to label different elements. The following table lists typographic conventions for this documentation:

Element	Typographic format	Example
Source code	Courier new	<code>cm systeminfo</code>
Command line entries		
Parameter and values		
Menu names and entries	Bold, linked with	Open the menu entry Format Normal
Field names	Italic	Enter in the field <i>Heading</i>
CoreMedia Components		The <i>CoreMedia Component</i>
Entries	In quotation marks	Enter "On"
(Simultaneously) pressed keys	Bracketed in "<>", linked with "+"	Press the keys <Ctrl>+<A>
Emphasis	Italic	It is <i>not</i> saved
Buttons	Bold, with square brackets	Click on the [OK] button
Glossary entry	>>-shaped icon	>> LDAP
Code lines in code examples which continue in the next line	\	<code>cm systeminfo \ -u user</code>

Table 1.1. Typographic conventions

2. Overview

CoreMedia Content Cloud releases have one of the following types:

- **Advanced Maintenance Pack (AMP)** contain mostly bug fixes and minor improvements. AMPs are kept free of breaking changes, meaning that projects usually have only minor upgrade work to carry out, for example merging and regression testing.
- **Advanced Enhancement Pack (AEP)** also contain bug fixes and improvements. But they also include new features and enhancements, which might be breaking. Therefore, projects are often required to carry out upgrade tasks.

The very first AEP release of a new major version (for example, CoreMedia CMS 9) that is available to all customers, is also called the **General Availability (GA)** release.

The release overview site at <https://releases.coremedia.com/cmcc-12/overview/archive.html> provides an overview of all available release versions of *CoreMedia Content Cloud*.

Subscribe to the help center at <https://support.coremedia.com/hc/en-us/sections/360005297394-CoreMedia-Content-Cloud-Self-Managed> to receive notifications about release and product announcements.

The release notes of *CoreMedia Content Cloud* are sorted by the main modules of the CoreMedia system. Each section bundles details about a number of technical components as shown in the following table:

- **CoreMedia Core:** All changes related to the CoreMedia core components.
 - Content Server
 - Workflow Server
 - Content Application Engine (CAE)
 - Content Feeder
 - Importer
 - Search Engine
 - Command Line Tools
- **CoreMedia Studio:** All changes related to *CoreMedia Studio*
- **CoreMedia Elastic Social:** All changes related to Elastic Social
- **CoreMedia Adaptive Personalization:** All changes related to Adaptive Personalization
- **CoreMedia Frontend:** All changes related to the CoreMedia Frontend Workspace.
 - Templates

Release types

Available releases

Helpcenter

Module organization

Bricks
Themes

- **CoreMedia Headless Server:** All changes related to CoreMedia Headless Server
- **CoreMedia Workspace:** All changes related to the CoreMedia Workspace.
- **CoreMedia Deployment:** All changes related to the CoreMedia Deployment.
- **Miscellaneous:** All changes which cannot be assigned to a specific module.

3. Software License Agreement Changes

This notice is to inform you of some important changes to our software license agreement, beginning with the general availability of CoreMedia Content Cloud version 10 (CMCC 10).

CMCC 10 introduces new software add-on components that require a separate license, specifically:

- CoreMedia Content Hub
- CoreMedia Experience Feedback Hub
- CoreMedia Commerce Hub

The following components require a license for CoreMedia Commerce Hub:

- CoreMedia Connector for Salesforce Commerce Cloud
- CoreMedia Connector for SAP Commerce Cloud
- CoreMedia Connector for HCL Commerce
- CoreMedia Marketing Automation Hub

The following components require a license for CoreMedia Commerce Hub:

- CoreMedia Connector for Salesforce Marketing Cloud

For more details, see the file marked Schedule 1 Product Specification CMCC.

CoreMedia plans to release more Hubs and Connectors in the future and reserves the right to amend the software license agreement with regards to these new components and connectors.

Existing Customers

Existing CoreMedia customers may be entitled to the Commerce Hub component and connector at no additional cost. Additional connectors may need to be licensed.

A license for the first three adapters for the components Content Hub and Experience Feedback Hub is included in your existing software license agreement; additional connectors will require a license upgrade.

Software License Agreement Changes |

For full details regarding your contract please contact your CoreMedia account manager.

4. Release Information

This chapter contains all release notes for CoreMedia Content Cloud ordered by release version. Each release version shows the changes to its predecessor. Each subsection provides the following information:

- Notable highlights of the release.
- Breaking changes, which require action on your side. The necessary steps are described later in the upgrade section of this document.
- Changes and improvements that introduce new features or change behavior. These usually do not require any action.
- The issues that are fixed with this release.

4.1 Release 2404.4

The release contains:

- Breaking changes: 0
- Changes and improvements: 3
- Bugfixes: 2

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-07-11

Breaking Changes

Changes and Improvements

- CMS-25345: [Updated Tomcat to mitigate CVE-2024-34750](#)

Bugfixes

4.1.1 Breaking Changes

This release contains no breaking changes

4.1.2 Changes and Improvements

CoreMedia Core

Updated Tomcat to mitigate CVE-2024-34750

Updated [Tomcat](#) to version 10.1.25 to mitigate [CVE-2024-34750](#).

[CMS-25345]

4.1.3 Fixed Issues

4.2 Release 2404.3

The release contains:

- Breaking changes: 4
- Changes and improvements: 12
- Bugfixes: 24

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-07-08

Breaking Changes

- CMS-24165: [Third-Party Update: Apache Solr 9.6.1](#)
- CMS-24909: [Removed dependency management for Google APIs Client Library for Java](#)
- CMS-25260: [Changed return types in ElasticSocialSettings to allow encryption and decryption of secrets](#)
- CMS-24683: [HeadlessServer: Missing support for blobs in structs fixed](#)

Changes and Improvements

- CMS-25131: [Removed plugins.early-starters property in favor of new plugin descriptor property](#)
- CMS-25048: [Updated Maven dependencies and plugins](#)
- CMS-24944: [Changed management of reactor dependencies to BOM imports](#)

Bugfixes

- CMS-15270: [Theme Importer Logging](#)
- CMS-24946: [Fixed Bug Where Content Items Could Not Be Opened From Library When DefaultTabStateManager is Disabled](#)
- CMS-24881: [Control Room: Fixed non localized label 'Withdraw All'](#)
- CMS-24709: [Removed "SiteAwareFeatureUtil.preLoadConfiguration\[\]" from Startup](#)
- CMS-24551: [Added Taxonomy Context Documentation](#)

- CMS-24935: [Handled StackOverflowError While Resolving Default Picture](#)
- CMS-24682: [Bugfix: Maximum search limit was ignored](#)
- CMS-25076: [Downgraded Micrometer to 1.12.6](#)

4.2.1 Breaking Changes

CoreMedia Core

Third-Party Update: Apache Solr 9.6.1

Apache Solr has been updated to version 9.6.1. Alongside, a new coremedia/solr-base Docker image with tag 2.3-cm-9.6.1 was released. As part of this change, Solr's transitive dependency to Jetty has been updated to version 10.0.20, which fixes security vulnerability CVE-2024-222-01.

Follow [Section "Third-Party Update: Apache Solr 9.6.1" \[107\]](#) for upgrade information.

[CMS-24165]

CoreMedia Studio Server

Removed dependency management for Google APIs Client Library for Java

The dependency management for `com.google.api-client:google-api-client` has been removed, because there're no more usages of that dependency.

[CMS-24909]

CoreMedia Elastic Social

Changed return types in ElasticSocialSettings to allow encryption and decryption of secrets

To allow that the secret settings in the [Elastic Social Credentials](#) document can be stored as encrypted secrets instead of only plaintext strings, the return types of the respective getters in the `com.coremedia.blueprint.base.elastic.social.configuration.ElasticSocialSettings` had to be changed to `java.lang.Object`.

Follow [Section "Changed return types in ElasticSocialSettings to allow encryption and decryption of secrets" \[108\]](#) for upgrade information.

[CMS-25260]

CoreMedia Headless Server

HeadlessServer: Missing support for blobs in structs fixed

HeadlessServer had a problem delivering blobs stored in structs of a linked settings document, e.g. in a page. This bug was fixed.

Follow [Section “HeadlessServer: Missing support for blobs in structs fixed” \[108\]](#) for upgrade information.

[CMS-24683]

4.2.2 Changes and Improvements

CoreMedia Core

Removed `plugins.early-starters` property in favor of new `plugin.descriptor` property

The plugin manager property `plugins.early-starters` was removed in favor of the new plugin descriptor property `plugin.independent`. CoreMedia Plugins, like the `awskms-encryption-plugin`, which are independent plugins and can be started on their own - possibly early in an application lifecycle - will provide the necessary configuration themselves now.

[CMS-25131]

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- CoreMedia Plugins Maven Plugin → 1.2.0
- [Apache HttpComponents Client](#) → 5.3.1
- [AssertJ](#) → 3.26.0
- [Byte Buddy](#) → 1.14.17
- [Commons CLI](#) → 1.6.0
- [Commons Compress](#) → 1.26.2
- [Commons Exec](#) → 1.4.0
- [Commons IO](#) → 2.16.1

- Commons Text → 1.12.0
- Enterprise Security API → 2.5.4.0
- Error Prone → 2.28.0
- Freemarker → 2.3.33
- Google Analytics Data Client for Java → 0.56.0
- Google API Common for Java → 2.32.0
- Google API Extensions for Java → 2.49.0
- Google HTTP Client Library for Java → 1.44.2
- gRPC-Java → 1.64.0
- Gson → 2.11.0
- Hibernate → 6.4.9.Final
- Jackson → 2.17.1
- Jakarta Validation API → 3.1.0
- Jib Maven Plugin → 3.4.3
- Micrometer → 1.12.7
- Netty → 4.1.111.Final
- PF4J → 3.11.1
- Spring Boot → 3.2.6
- Spring Data BOM → 2023.1.7
- Spring Framework → 6.1.9

[CMS-25048]

CoreMedia Content Application Engine

Changed management of reactor dependencies to BOM imports

The dependency management for the `io.projectreactor:reactor-core` and the `io.projectreactor.netty:reactor-netty-http` dependencies have been replaced with imports of the `io.projectreactor:reactor-bom`.

Using the latest [Reactor Project BOM](#) version 2023.0.7, the dependencies have effectively been updated to:

- Reactor Core → 3.6.7
- Reactor Netty → 1.1.20

[CMS-24944]

4.2.3 Fixed Issues

CoreMedia Core

Theme Importer Logging

The output of the theme importer has been cleaned up to distinguish user interaction (unformatted on stdout, like the usage message) from logging (more detailed, formatted with timestamp and severity in the logfile).

[CMS-15270]

CoreMedia Studio Client

Fixed Bug Where Content Items Could Not Be Opened From Library When DefaultTabStateManager is Disabled

The editorContext allows to disable the DefaultTabStateManager. We fixed a bug where content items could not be opened from the library in that case.

[CMS-24946]

Control Room: Fixed non localized label 'Withdraw All'

Fixed non localized button 'Withdraw All' in the Control Room.

[CMS-24881]

Removed "SiteAwareFeatureUtil.preLoadConfiguration()" from Startup

The pre-caching call SiteAwareFeatureUtil.preLoadConfiguration() has been removed from the Studio startup since it is too expensive when used with many sites and is only used in combination with the SiteAwareFeaturePlugin.

[CMS-24709]

Added Taxonomy Context Documentation

Added documentation of how to fix context problems with new taxonomy trees.

[CMS-24551]

CoreMedia Studio Server

Handled StackOverflowError While Resolving Default Picture

We fixed a bug where a `StackOverflowError` was thrown while resolving default pictures for cyclicly linked content items.

[CMS-24935]

CoreMedia Headless Server

Bugfix: Maximum search limit was ignored

The bug, that the configuration property `caas.search-max-search-limit` was ignored, was fixed.

[CMS-24682]

Miscellaneous

Downgraded Micrometer to 1.12.6

Micrometer has been downgraded to version 1.12.6.

In the previous AMP, Micrometer was upgraded to a new version [1.13.x] that is not fully supported by the current Spring Boot version [≤ 3.2]. As a result, the Prometheus actuator did not work anymore. To fix that, the Micrometer version had to be downgraded.

[CMS-25076]

4.3 Release 2404.2

The release contains:

- Breaking changes: 0
- Changes and improvements: 8
- Bugfixes: 50

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-05-28

Breaking Changes

Changes and Improvements

- CMS-24613: Updated Maven dependencies and plugins
- CMS-24348: cm query Provides Format Option

Bugfixes

- CMS-24789: Fixed CAE Feeder Configuration of Content Repository
- CMS-24773: Fixed Loading of Multiple Document Type Model Files in XML Repository
- CMS-24765: Fixed Content ID Comparison on Client-Side Query
- CMS-24310: Improved Performance for Large Structs
- CMS-24109: Improved Publication Performance
- CMS-22943: Configuration of Custom MIME Types
- CMS-24830: Old SiteFilter is configured to avoid unwanted site resolvings
- CMS-24711: Updated and optimized @coremedia/brick-mediaelement
- CMS-24745: Locale Switcher: Wrong Master Site Information
- CMS-24730: Taxonomy Performance Issue
- CMS-24336: Exclude internal documents of type EditorProfile from "My Edited Content"
- CMS-23482: Content-Disposition Header for BLOB Download in Studio Fixed
- CMS-23104: Content Hub: Improved Logging
- CMS-18687: Fixed Translation Status Widget

- [CMS-24768](#): Lookup of Augmented Pages improved
- [CMS-23916](#): Bugfix: Headless-Server MediaController does not consider validity date

4.3.1 Breaking Changes

This release contains no breaking changes

4.3.2 Changes and Improvements

CoreMedia Core

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [CoreMedia Client API and Mock Adapter for Commerce Hub](#) → 3.0.4
- [CoreMedia Adapter for SAP Commerce Cloud](#) → 3.0.3
- [CoreMedia Adapter for Salesforce Commerce Cloud B2C](#) → 3.0.4
- [CoreMedia Adapter for HCL Commerce](#) → 3.0.3
- [Angus Activation](#) → 2.0.2
- [Angus Mail](#) → 2.0.3
- [AspectJ](#) → 1.9.22.1
- [Bouncy Castle for JDK 1.8 and up](#) → 1.78.1
- [Commons Codec](#) → 1.17.0
- [Error Prone](#) → 2.27.1
- [Google Analytics Data Client for Java](#) → 0.54.0
- [Google API Common for Java](#) → 2.31.0
- [Google API Extensions for Java](#) → 2.48.0
- [Google APIs Client Library for Java](#) → 2.5.0
- [Google OAuth Client Library for Java](#) → 1.36.0
- [gRPC-Java](#) → 1.63.0
- [Hibernate](#) → 6.4.8.Final
- [Jib Maven Plugin](#) → 3.4.2
- [Micrometer](#) → 1.13.0
- [Netty](#) → 4.1.109.Final
- [SLF4J](#) → 2.0.13
- [Spring Boot](#) → 3.2.5

- [Spring Data BOM](#) → 2023.1.5
- [Tomcat](#) → 10.1.24

[CMS-24613]

cm query Provides Format Option

The `cm query` command has been enhanced to support a `--format` option.

It allows to control to output either using the default multi-column output or new single-column outputs suitable, for example, for forwarding results to subsequent processing via shell pipes.

Supported formats despite the default:

- `id`: Prints the CoreMedia Content or Version ID
- `uuid`: Prints the UUID
- `path`: Prints the path of the content related to the `CapObject` found.

The Content Server Manual has been updated accordingly.

[CMS-24348]

4.3.3 Fixed Issues

CoreMedia Core

Fixed CAE Feeder Configuration of Content Repository

CAE Feeder failed to connect to content repository as 'feeder' user under certain circumstances. This bug was fixed by tweaking the auto configuration order of the feeder auto configurations.

[CMS-24789]

Fixed Loading of Multiple Document Type Model Files in XML Repository

Loading of multiple Document Type Model (DTM) files for the XML Repository was broken and has been fixed now. Multiple DTM files may again be stated as a comma-separated list with property `repository.params.contentxml` of test class annotation `@TestPropertySource` (see Blueprint workspace for examples).

[CMS-24773]

Fixed Content ID Comparison on Client-Side Query

`QueryService#getContentsFulfilling(...)` did not work for numerical Content ID comparisons, e.g., `TYPE Document_ : id > 10000`, and threw an exception. This is fixed now.

[CMS-24765]

Improved Performance for Large Structs

The code for loading struct properties was optimized, especially for large structs. This speeds up various operations for content that contains a larger struct value.

[CMS-24310]

Improved Publication Performance

The code for destroying intermediate versions after publication was optimized, especially for very large version histories, and/or if many derived multi-site contents exist with possibly large version histories. This reduces the time needed for publication for some cases.

[CMS-24109]

Configuration of Custom MIME Types

A central configuration for custom MIME Type definitions was added to the Blueprint workspace with file `shared/common/modules/shared/custom-mime-types/src/main/resources/org/apache/tika/mime/custom-mimetypes.xml`. All relevant CMS components depend on this configuration file so that MIME Type definitions added here are active everywhere.

[CMS-22943]

CoreMedia Content Application Engine

Old SiteFilter is configured to avoid unwanted site resolvings

In very rare cases it could happen that the CAE SiteFilter resolves a wrong site for certain requests. The SiteFilter was not actually responsible for these requests (e.g. fragment calls). In addition, this could only occur if legacy mode was used, i.e. if no site patterns

had been configured. To avoid these unwanted hits even in legacy mode, we have now at least activated the ignore patterns in the default configuration (cae application.properties).

[CMS-24830]

Updated and optimized @coremedia/brick-mediaelement

The external library mediaelement has been updated to latest version 7. In the past the library has been loaded asynchronously only if a video or audio is used. But this caused a ~250ms delay for initializing mediaelement, which results in a short video flickering for videos with autoplay=true. To avoid the flickering the library (~150kb) is now loaded directly in the brick.

[CMS-24711]

CoreMedia Studio Client

Locale Switcher: Wrong Master Site Information

Fixed Locale Switcher so that it allows contents from intermediate sites to be a master document.

[CMS-24745]

Taxonomy Performance Issue

Fixed the auto-focusing of the document form inside the taxonomy manager which took up to several seconds.

[CMS-24730]

Exclude internal documents of type EditorProfile from "My Edited Content"

To exclude internal documents of type "EditorProfile" from being displayed in "My Edited Content", the folder `/Home/*/EditorProfile` has been added to the application property `userchanges.excluded-paths` of the User-Changes App.

[CMS-24336]

CoreMedia Studio Server

Content-Disposition Header for BLOB Download in Studio Fixed

When downloading a BLOB from Studio, you may have experienced an invalid type information in Content-Disposition header. The type has been fixed and adjusted to `attachment` instead.

As CoreMedia Studio user you will experience a different behavior in BLOB download, which are now always downloaded instead of possibly directly opened within a Browser tab.

[CMS-23482]

Content Hub: Improved Logging

If `com.coremedia.contenthub.api.ContentHubBlob#build` fails, it now logs a warning with the relevant information to analyze the problem. Moreover, it logs a DEBUG message about successful creation of ContentHubBlob instances.

[CMS-23104]

Fixed Translation Status Widget

Fixed issue with the translation status widget that did not show translated sites for some site hierarchies.

[CMS-18687]

CoreMedia Commerce Hub

Lookup of Augmented Pages improved

The lookup of commerce pages that are augmented in in the CMS was changed to using the AugmentationService with the help of observed properties instead of content queries.

[CMS-24768]

CoreMedia Headless Server

Bugfix: Headless-Server MediaController does not consider validity date

Headless-Server did not consider the validity dates 'from' and 'to' on the media delivery endpoint. The validation was fixed and now includes the validity dates.

Since this is the wanted behavior, this bugfix is not considered breaking. Be aware, that this might lead to 404 responses on media content, where the validity date is set and validation does not pass anymore!

[CMS-23916]

4.4 Release 2404.1

The release contains:

- Breaking changes: 25
- Changes and improvements: 69
- Bugfixes: 121

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-04-22

Breaking Changes

- CMS-24179: [Support for Blobs Larger Than 2GB](#)
- CMS-23184: [Update of MongoDB driver to 4.11.1](#)
- CMS-23183: [MongoDB update to version 7.0.5](#)
- CMS-24130: [TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans](#)
- CMS-24098: [Default of publisher.autoextend.latest-approved-version has been changed to true](#)
- CMS-24219: [Remove RequestRejectedExceptionHandler](#)
- CMS-24213: [Remove Commerce Context Interceptors](#)
- CMS-23644: [Configured Content Security Policy for Live CAE](#)
- CMS-24585: [Reworked CAE security configuration API](#)
- CMS-24132: [Transformed Blob Cache Requires Writeable Base Directory](#)
- CMS-23583: [Changed Site Resolution of Requests](#)
- CMS-24139: [Changed Linter Rules](#)
- CMS-24095: [CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated](#)
- CMS-23769: [Third-Party Update: Upgraded Node.js to 20 LTS](#)
- CMS-23579: [Moved Classes](#)
- CMS-23319: [Upgraded TypeScript to 5.3.3](#)
- CMS-22181: [Removed deprecated richTextPropertyFieldRegistry](#)
- CMS-20144: [Removed deprecated CSS/JS property "ieExpression"](#)
- CMS-17725: [Thirdparty Upgrade: Upgraded Webpack to 5.90.3](#)

- CMS-19714: Headless-Server major update to Spring-GraphQL
- CMS-24249: Headless-Server Missing CORS configuration now disabled CORS protection
- CMS-24338: Removed Package `com.coremedia.transform.impl` from Public API
- CMS-24111: Rename service "mysql" to "db" in `global/deployment/docker`
- CMS-23501: Removed Sencha CMD
- CMS-22469: Using `DataSize` in `ConfigurationProperties` for Human-readable Capacity Specifications

Changes and Improvements

- CMS-24725: Third-Party Update: Bouncy Castle
- CMS-24115: Updated Maven dependencies and plugins
- CMS-23846: Added Taxonomy Access Configuration
- CMS-23573: New Default Start Workflow Form With Two Column Layout
- CMS-21202: Fixed Pre-Loading of `SiteAwareFeatureUtil`
- CMS-16960: `SingleLinkField` is Public API now
- CMS-24087: Deprecation of overloading frontend `ImageFunctions#getImageLinkForAspectRatio`
- CMS-23768: Third-Party Update: Upgraded `Node.js` to 20 LTS
- CMS-23707: Deprecated `com.coremedia.caas.web.persistedqueries.Hash#md5`
- CMS-24053: Third-Party Update: Apache Commons DBCP
- CMS-24025: Developing Studio Apps Public API and Documentation
- CMS-24023: Studio Apps Public API Available

Bugfixes

- CMS-24288: Third-Party Update: Apache James Mime4J
- CMS-24229: Fixed a Bug Where A Publication Workflow With Content Errors Could Be Started
- CMS-24216: Postgresql driver has been updated
- CMS-24210: Third-Party Update: Apache Commons Compress
- CMS-24076: Content Server DB Transaction Retry
- CMS-24075: Improved Performance Of Deriving Sites
- CMS-24058: Improved Logging for Workflow Errors
- CMS-24051: Method `Content#copyTo(...)` fixed

- CMS-23587: Fixed CAE Feeder Partial Re-Indexing by Actuator or JMX
- CMS-23428: Extended Workflow Server DB Transaction Retry
- CMS-24194: When copy and pasting only valid content types are now accepted to the placement linklists.
- CMS-24086: Richtext Transformation no Longer Swallows Links with Trailing Spaces
- CMS-24083: Dynamic fragments fixed in live side
- CMS-23370: Elastic Social user: number of logins
- CMS-23290: Decoding fragment parameters error fixed
- CMS-23207: Freemarker function bp.getBiggestImageLink gets flag for absolute link
- CMS-24301: Fixed a Bug Where (In Chrome) A New Content Was Created When Dragging A Thumbnail
- CMS-24093: Fixed A Bug Where All Versions Of A Content Item Are Loaded On Withdraw
- CMS-24041: Altered alignment of CKEditor 5 main toolbar dropdowns
- CMS-23925: Fixed Duplicates in InputChecksField
- CMS-23755: Fixed Document Form Layout Issues
- CMS-23647: Fixed Hidden Pop Up Dialogs
- CMS-22465: Outdated Items in Apps Menu
- CMS-21580: Fixed Studio App README.adoc
- CMS-24172: Fixed Scrolling of Create-From-Template Dialog
- CMS-23816: Fixed a Bug with Disappearing Paddings
- CMS-18488: Fixed Translation Search Filter
- CMS-23928: Documentation for Custom Filter Queries
- CMS-24719: Headless Configuration Issue behind a proxy solved
- CMS-24163: The management-tools script to download a remote content-archive was broken
- CMS-24156: Revert Update Of MySQL In Blueprint Docker-Compose Setup
- CMS-23940: Fixed reset of DatePropertyField
- CMS-22695: Marked FavoritesUserItem as public API

4.4.1 Breaking Changes

CoreMedia Core

Support for Blobs Larger Than 2GB

The CMS now supports blobs larger than 2GB (henceforth called “*huge blobs*”) on external media stores. Huge blobs can be up- and downloaded via UAPI clients, serverimport/serverexport, and Studio. They can also be delivered via CAE and Headless Server.

Follow [Section “Support for Blobs Larger Than 2GB” \[111\]](#) for upgrade information.

[CMS-24179]

Update of MongoDB driver to 4.11.1

The thirdparty dependencies `org.mongodb:mongodb-driver-legacy`, `org.mongodb:mongodb-driver-core` and `org.mongodb:bson` have been updated from version 4.8.2 to 4.11.1. This is marked as a breaking change, because custom implementations can potentially use changed API of the MongoDB driver.

[CMS-23184]

MongoDB update to version 7.0.5

MongoDB has been updated to version 7.0.5 for the Docker Deployment. Note that an upgrade is only possible from a 6.0.x version. An upgrade from an earlier version needs to be done successively. Please refer to the official MongoDB documentation on how to upgrade: <https://www.mongodb.com/docs/manual/release-notes/7.0-upgrade-standalone/> The compatibility changes are described here: <https://www.mongodb.com/docs/manual/release-notes/7.0-compatibility/>

[CMS-23183]

TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans

Spring configuration class `com.coremedia.cap.transform.TransformImageServiceConfiguration` of module `com.coremedia.cms:cap-transform` no longer imports `com.coremedia.cap.transform.BlobTransformerConfiguration`. This makes it possible to create application contexts that provide access to the `transformImageService` bean without actually activating all the beans necessary for blob transformation. Such application contexts are the ones of feeder applications, for example. Class `com.coremedia.cap.transform.BlobTransformerAutoConfiguration` has been deleted along with this change. The Spring XML configuration resources `framework/spring/mediatransform.xml` of Blueprint `shared/middle` module `image-transformation` and `com/coremedia/cap/transform/trans`

`form-services.xml` of module `com.coremedia.cms:cap-transform` have also been removed. Use `TransformImageServiceConfiguration` instead.

[CMS-24130]

Default of `publisher.autoextend.latest-approved-version` has been changed to `true`

Automatic extension of publication sets will now by default use the latest approved version of referenced content items instead of their earliest approved version.

Follow [Section “Default of `publisher.autoextend.latest-approved-version` has been changed to `true`” \[114\]](#) for upgrade information.

[CMS-24098]

CoreMedia Content Application Engine

Remove `RequestRejectedExceptionHandler`

The `com.coremedia.blueprint.cae.filter.RequestRejectedExceptionHandler` has been removed. It was a workaround for the issue [RequestRejectedExceptionHandler should be 400 by default #7568](#) that has been fixed with Spring 6.

[CMS-24219]

Remove Commerce Context Interceptors

Class `com.coremedia.blueprint.livecontext.ecommerce.filter.CommerceConnectionFilter` now incorporates the concerns that were previously scattered amongst the commerce context interceptors. It resolves the requested site, performs a commerce connection lookup and then initializes the commerce contexts. The filter uses site lookup functions with signature `Function<ServletRequest, Optional<Site>>` to resolve the requested site and provides the interface `com.coremedia.blueprint.livecontext.ecommerce.filter.CommerceContextsInitializer` for initialization or post processing of commerce contexts. The former commerce context interceptor code concerned with initialization of store context and user context has been moved to `com.coremedia.livecontext.handler.FragmentCommerceContextsInitializer`. The following classes have been removed:

- `com.coremedia.blueprint.ecommerce.cae.config.ECommerceCaeConfiguration`
- `com.coremedia.blueprint.ecommerce.cae.AbstractCommerceContextInterceptor`
- `com.coremedia.blueprint.ecommerce.cae.WebCommerceContextInterceptor`

- `com.coremedia.livecontext.config.LcCaeInterceptorsConfiguration`
- `com.coremedia.livecontext.handler.FragmentCommerceContextInterceptor`
- `com.coremedia.livecontext.handler.RestCommerceContextInterceptor`
- `com.coremedia.livecontext.p13n.handler.FragmentCommerceP13nContextInterceptor`
- `com.coremedia.livecontext.preview.config.LcPreviewCaeInterceptorsConfiguration`
- `com.coremedia.livecontext.preview.PreferredSitePreviewCommerceContextInterceptor`
- `com.coremedia.livecontext.preview.PreviewCommerceContextInterceptor`
The module `ec-cae-lib` was removed from the blueprint workspace.

[CMS-24213]

Configured Content Security Policy for Live CAE

CAE HTTP security now supports configuration of the `Content-Security-Policy` response header via `cae.http-headers.csp.directives`. It has been set to a same-origin-only policy as recommended by the [OWASP CSP cheat sheet](#). The Spring `dev` profile configures report-only mode for Live CAE and disables CSP for the Preview CAE.

Follow [Section "Configured Content Security Policy for Live CAE" \[115\]](#) for upgrade information.

[CMS-23644]

Reworked CAE security configuration API

Reworked CAE security configuration API. Turned `com.coremedia.cae.security.CaeHttpSecurityConfigurer` into an abstract class and removed the former `caeHttpSecurityConfigurer` bean of type `com.coremedia.cae.security.CaeHttpSecurityConfigurer`. The aspects formerly configured by that bean are now configured along with the `securityFilterChain` bean.

[CMS-24585]

Transformed Blob Cache Requires Writeable Base Directory

The bean `transformedBlobCache` of type `com.coremedia.transform.impl.TransformedBlobCache` now validates the configured base path [configuration option `com.coremedia.transform.blobCache.basePath`]

and throws an exception if it finds that the base path is not a writeable directory in which it can cache and rotate temporary files holding the transformed blob data.

[CMS-24132]

Changed Site Resolution of Requests

SiteFilter now matches request paths against configurable patterns to derive the requested site. This is much more efficient than the previous strategy which simply checked every path segment if it matched one of the segments of the known site root navigations. The new strategy is to take a list of patterns to check if the current request URI paths contains a site segment, then check the first path segment after the dispatcher servlet segment if it is site segment but exclude a list of known prefixes. The list of path patterns that have a site segment in it is configured via `cae.site.patterns` and the list of known non-site path prefixes is configured via `cae.site.ignore-prefix-patterns`. The former SiteFilter behavior can be restored by setting both properties to empty values. Configure `cae.site.collect-non-matching-paths=true` to collect non matching paths to support debugging your SiteFilter config. This setting is enabled in the `dev` profile for your convenience.

[CMS-23583]

CoreMedia Studio Client

Changed Linter Rules

Please check the section "Changed Linter Rules" in the "Studio Client Changes" Chapter of the Upgrade Guide for CMCC12.

[CMS-24139]

CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated

CKEditor 5 has been updated to version 41.1.0 [CKEditor 5 Development Tooling to 39.6.0]. CoreMedia's CKEditor 5 Plugins and the CKEditor 5 CoreMedia OEM License have been updated accordingly:

- **CoreMedia CKEditor 5 Plugins:** 17.0.0
- **CKEditor 5 CoreMedia OEM License:** 2.1.0

Along with that, we fixed some meanwhile broken references to the CKEditor 5 documentation within the Studio Developer Manual.

Upgrade Highlights – CoreMedia CKEditor 5 Plugins

- **Hardening Default Link Target Configuration:** Prior to this release, a configured function based default link target filter (to apply a default target based on a given URL) may have been called with `null` in contrast to the method signature. This has been fixed, so that the function is only called for non-empty URLs.

Notable Upgrade Highlights – CKEditor 5

This section is just about remarkable changes we observed during the upgrade. For detailed information and possibly required upgrade steps in context of custom plugins, take a look at the [CKEditor 5 changelog](#), please.

- **Links:** For external links, you may now just paste the URL having a text selected, and the text will get the link applied. Side Note: This feature also automatically triggers the possible default target selection provided by CoreMedia CKEditor 5 Plugins based on your configuration.
- **Paste from Office:** When General HTML Support is activated (transitively through CoreMedia Rich Text Support), class attribute values like `MsONormal` were kept during paste. CKEditor 5 now actively removes such artificial artifacts.
- **AI Assistant Capability:** While not enabled in CoreMedia Blueprint, you may be interested to know, that with supporting CKEditor 5 41.0.0 within CoreMedia Studio, it is the first supported release, that comes with AI features.
- **Integration Changes:** CKEditor 5 now ships as ECMAScript modules, which requires additional upgrade steps, where the most important one is upgrading to TypeScript 5. Find more details below.
- **API Changes:**
 - **CKEditor 5 UI:** While there was no need to apply adaptations in CoreMedia Blueprint, we observed typing adjustments in context of the CKEditor 5 UI. This is due to some progress towards providing a so-called dialog system.
 - **Document Lists:** They are now the "standard list API". As a result the prefix `Document*`, like `DocumentList` is deprecated and got replaced by `List`, while the old feature got prefixed with `Legacy*`.

Follow [Section "CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated" \[117\]](#) for upgrade information.

[CMS-24095]

Third-Party Update: Upgraded Node.js to 20 LTS

Since October 2023 the new LTS of Node.js is v20. All workspaces were adjusted accordingly. Also pnpm has been updated to 8.15.3.

[CMS-23769]

Moved Classes

The following classes/modules have been moved:

- `RegisterNotificationsStudioPlugin.ts` has been moved from module `notification-studio-client` to `bpbase-notification-studio-plugin` module.
- All job related components have been moved from `editor-components` to the new module `@coremedia/studio-client.ext.job-components`.
- The module `@coremedia/studio-client.main.notification-studio-client` has been moved to the new module `@coremedia/studio-client.ext.notification-components`.

[CMS-23579]

Upgraded TypeScript to 5.3.3

The TypeScript used in studio-client was upgraded to 5.3.3.

Follow [Section "Upgraded TypeScript to 5.3.3" \[119\]](#) for upgrade information.

[CMS-23319]

Removed deprecated richTextPropertyFieldRegistry

Removed deprecated `richTextPropertyFieldRegistry`

- The registry was used to switch between different CKEditor versions in the Studio. Since CKEditor 4 is not supported anymore, this registry is now removed.

Follow [Section "Removed deprecated richTextPropertyFieldRegistry" \[120\]](#) for upgrade information.

[CMS-22181]

CoreMedia Frontend Workspace

Removed deprecated CSS/JS property "ieExpression"

The doctype property `ieExpression` of `CMAbstractCode` has been deprecated in release 2110.1. All usages in Studio, CAE and Frontend are removed now. To avoid migration issues, the doctype property still exists in the CoreMedia content type model.

[CMS-20144]

Thirdparty Upgrade: Upgraded Webpack to 5.90.3

Webpack was upgraded to 5.90.3. This also includes upgrades to all associated loader and plugin packages in theme-utils as well as node-sass. This change was necessary to be able to upgrade to NodeJS 20 LTS.

Follow [Section "Thirdparty Upgrade: Upgraded Webpack to 5.90.3" \[120\]](#) for upgrade information.

[CMS-17725]

CoreMedia Headless Server

Headless-Server major update to Spring-GraphQL

Headless-Server now uses Spring-GraphQL as its main Spring integration. Because of that the following libraries were removed and their APIs cannot be used anymore. They

were removed because the corresponding projects are not updated or supported anymore.

Follow [Section "Headless-Server major update to Spring-GraphQL" \[121\]](#) for upgrade information.

[CMS-19714]

Headless-Server Missing CORS configuration now disabled CORS protection

A missing CORS configuration set allowed-origins to *. Now a missing configuration effectively disabled CORS protection, resulting in a "same origin policy only".

Follow [Section "Headless-Server Missing CORS configuration now disabled CORS protection" \[122\]](#) for upgrade information.

[CMS-24249]

Miscellaneous

Removed Package `com.coremedia.transform.impl` from Public API

Package `com.coremedia.transform.impl` contains implementation classes only and was removed from public API. Use the interfaces of package `com.coremedia.transform` instead.

[CMS-24338]

Rename service "mysql" to "db" in `global/deployment/docker`

To prepare the workspace for usage with different databases, the service "mysql" has been renamed to "db" in `global/deployment/docker`. The container name is still "mysql".

[CMS-24111]

Removed Sencha CMD

Sencha CMD is no longer needed to build the studio-client. This means Java 11 and Sencha CMD no longer need to be installed. Because this is one less step during the studio-client build the build is now also faster.

Follow [Section "Removed Sencha CMD" \[123\]](#) for upgrade information.

[CMS-23501]

Using `DataSize` in `ConfigurationProperties` for Human-readable Capacity Specifications

To be able to use human-readable capacity configurations such as `1GB` in favor of `1_073_741_824` given as bytes, a bunch of properties got transformed to hold `DataSize` instead of `long` or `int` values denoting bytes, for example.

The following is a list of affected properties that benefit from this change:

- `com.coremedia.transform`
 - `com.coremedia.transform.blob-cache.size`
- `management.health`
 - `management.health.blobCacheDiskSpace.threshold`
 - `management.health.transformedBlobCacheDiskSpace.threshold`
- `repository`
 - `repository.blob-streaming-size-threshold`
 - `repository.blob-cache-size`
 - `repository.heap-cache-size`
 - `repository.max-cached-blob-size`
- `studio`
 - `studio.differencing.max-markup-size`
- `sql`
 - `sql.store.sgml-cache-size` (renamed from: `sql.store.sgml-cache-size-bytes`; old name still applicable)
- `workflow`
 - `workflow.blob-streaming-size-threshold`
 - `workflow.blob-cache-size`
 - `workflow.heap-cache-size`
 - `workflow.max-cached-blob-size`

Follow Section “Using DataSize in ConfigurationProperties for Human-readable Capacity Specifications” [124] for upgrade information.

[CMS-22469]

4.4.2 Changes and Improvements

CoreMedia Core

Third-Party Update: Bouncy Castle

Bouncy Castle has been updated to version 1.78 to fix security issues like CVE-2024-29857 and CVE-2024-30172.

[CMS-24725]

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [CoreMedia Client API and Mock Adapter for Commerce Hub](#) → 3.0.3
- [CoreMedia Adapter for SAP Commerce Cloud](#) → 3.0.2
- [CoreMedia Adapter for Salesforce Commerce Cloud B2C](#) → 3.0.3
- [CoreMedia Adapter for HCL Commerce](#) → 3.0.2
- [AspectJ](#) → 1.9.22
- [Byte Buddy](#) → 1.14.12
- [Commons Codec](#) → 1.16.1
- [Error Prone](#) → 2.26.1
- [Enterprise Security API](#) → 2.5.3.1
- [gRPC-Java](#) → 1.62.2
- [Google Analytics Data Client for Java](#) → 0.47.0
- [Google Auth Library for Java](#) → 1.23.0
- [Google API Extensions for Java](#) → 2.43.0
- [Google HTTP Client Library for Java](#) → 1.44.1
- [Guava](#) → 33.1.0-jre
- [Hibernate](#) → 6.4.4.Final
- [Jackson](#) → 2.17.0
- [Jakarta Activation API](#) → 2.1.3
- [Jakarta Mail API](#) → 2.1.3
- [Jakarta XML Binding API](#) → 4.0.2
- [Janino](#) → 3.1.12
- [JUnit Jupiter](#) → 5.10.2
- [JAXB Reference Implementation](#) → 4.0.5
- [Micrometer](#) → 1.12.4
- [Netty](#) → 4.1.108.Final
- [PF4J](#) → 3.11.0
- [Protocol Buffers for Java](#) → 3.25.3
- [SLF4J](#) → 2.0.12
- [Spring Boot](#) → 3.2.4
- [Spring Data BOM](#) → 2023.1.4
- [Spring Framework](#) → 6.1.6
- [Spring for GraphQL](#) → 1.2.6
- [Spring Security](#) → 6.2.4
- [Tomcat](#) → 10.1.20

[CMS-24115]

CoreMedia Studio Client

Added Taxonomy Access Configuration

The "Taxonomy Settings" have been extended so that the visibility of root nodes in the Taxonomy Manager can be configured for different user groups.

[CMS-23846]

New Default Start Workflow Form With Two Column Layout

By default, all start workflow forms (publication as well as localization) now have a new responsive layout. If wide enough (> 800px) it is a two column layout, otherwise it switches back to the classical one column layout.

The public API for workflow customizations that was introduced with CM11 is not affected by this. In that case you define start / running workflow form extensions in a declarative way and do not need to care about the changes.

However, as this CM11 public API still does not cover all customization use cases that were possible with the previous custom workflow API, especially concerning custom fields in the start forms, there are still quite some customizations in the old style in use.

The old start workflow forms still exist (DefaultStartPublicationWorkflowForm, DefaultStartTranslationWorkflowForm, DefaultStartSynchronizationForm). So if you use them in your AddPublicationWorkflowPlugin or AddTranslationWorkflowPlugin, you can keep this up but of course you will not enjoy the benefit of the new responsive layout.

You can simply replace these usages of the old start forms with the new ones. For each of the old forms there exists a new counterpart (DefaultTwoColumnStartPublicationWorkflowForm, DefaultTwoColumnStartTranslationWorkflowForm, DefaultTwoColumnStartSynchronizationForm).

This switch should cause very few problems. All properties of the old forms are also supported by the new forms. If you are just utilizing the "additionalFields" property of the old start forms, you can simply continue to do so. Only if you are using plugins like the AddItemsPlugin or RemoveItemsPlugin to alter the old forms in very specific ways, you will probably have to adapt the plugin usages to the structure of the new forms.

Our built-in workflows now all come with the new start forms. If for some reason, this causes any problems that you cannot fix, you can switch back to the old forms. For example, for the two-step publication workflow, you can add this plugin configuration somewhere in the blueprint:


```
new AddPublicationWorkflowPlugin({
  processDefinitionName:
PublicationWorkflowConstants.TWO_STEP_PUBLICATION_WORKFLOW_DEFINITION_NAME,
  nextSelectedTaskProcessVariableName:
PublicationWorkflowConstants.NEXT_SELECTED_TASK_PROCESS_VARIABLE_NAME,
  assignmentTasks: ["Approve"],
  startForm: Config(DefaultStartPublicationWorkflowForm),
}),
```

[CMS-23573]

Fixed Pre-Loading of SiteAwareFeatureUtil

Fixed issue of the *SiteAwareFeatureUtil* that the pre-loading did only affect the preferred site.

[CMS-21202]

CoreMedia Workspace

SingleLinkField is Public API now

The component *SingleLinkField* has been marked as public API.

[CMS-16960]

CoreMedia Frontend Workspace

Deprecation of overloading frontend ImageFunctions#getImageLinkForAspectRatio

The overloaded frontend `ImageFunctions#getImageLinkForAspectRatio` methods have been deprecated. Use `ImageFunctions#getImageLinkForAspectRatio(Blob, String, Map, boolean, String, HttpServletRequest, HttpServletResponse, boolean)`, which was introduced with this release instead.

[CMS-24087]

Third-Party Update: Upgraded Node.js to 20 LTS

Since October 2023 the new LTS of Node.js is v20 and this version is now the default in the frontend workspace. Also `pnpm` has been updated to 8.15.3 and the dependency `node-sass` to version 9 accordingly. No further changes are needed.

[CMS-23768]

CoreMedia Headless Server

Deprecated `com.coremedia.caas.web.persistedqueries.Hash#md5`

The method `com.coremedia.caas.web.persistedqueries.Hash#md5` has been deprecated, just like the method `com.google.common.hash.Hashing#md5` it is using internally. MD5 is neither fast nor secure. Use `com.coremedia.caas.web.persistedqueries.Hash#sha256` instead.

[CMS-23707]

Miscellaneous

Third-Party Update: Apache Commons DBCP

Apache Commons DBCP has been updated to version 2.12.0.

[CMS-24053]

Developing Studio Apps Public API and Documentation

Developing Studio Apps now comes with a public API and a developer documentation. Consult the Studio Developer Manual for details.

[CMS-24025]

Studio Apps Public API Available

Public API for developing custom Studio Apps was introduced. The public API types and functions of each of the following packages are exported by their `index.d.ts` and consequently can be imported from the top-level of these packages. All imports from these packages that require sub-path imports are not public API.

Developer documentation on developing custom apps will follow shortly.

- `service-agent ^2.1.0`
- `@coremedia/studio-client.app-context-models`
- `@coremedia/studio-client.interaction-services-api`
- `@coremedia/studio-client.interaction-services-impl`
- `@coremedia/studio-client.content-services-api`
- `@coremedia/studio-client.workflow-services-api`
- `@coremedia/studio-client.project-services-api`

[CMS-24023]

4.4.3 Fixed Issues

CoreMedia Core

Third-Party Update: Apache James Mime4J

Apache James Mime4J has been updated to version 0.8.10.

[CMS-24288]

Fixed a Bug Where A Publication Workflow With Content Errors Could Be Started

We fixed a timing issue where the start-workflow window would not show content errors and consequently, a publication workflow could be started.

[CMS-24229]

Postgresql driver has been updated

The postgresql driver `org.postgresql:postgresql` has been updated to `42.6.1`.

[CMS-24216]

Third-Party Update: Apache Commons Compress

Third-party library Apache Commons Compress has been updated to 1.26.0 to fix known security vulnerabilities.

[CMS-24210]

Content Server DB Transaction Retry

The Content Server can now be configured to perform retries on database transactions in case of connection loss or read-only databases (MySQL only). These situations may arise in the context of database failovers in setups like, e.g., Amazon Aurora.

To configure the Content Server for retries, use these properties:

- `sql.pool.retry-on-connection-loss`: enable retries on database connection loss when set to value `true` (default: `false`).
- `sql.pool.retry-on-read-only-db`: enable retries on read-only database when set to value `true` (default: `false`).
- `sql.pool.retry-delay`: wait given time before retrying [*Duration*; default: 15 seconds].
- `sql.pool.max-retries`: maximum number of retries (default: 15).

Make sure to set DNS caching on your system to a very short time (probably shorter than `sql.pool.retry-delay`) to allow for refreshed hostname resolution before the next attempt on a previously failing database is started. This can be necessary to successfully contact the current primary database instance in a database failover setup.

The number of retries on a single database transaction and the delay are configurable. Set the maximum retries and delay values (see above) large enough to cover prolonged database unavailability during failover.

[CMS-24076]

Improved Performance Of Deriving Sites

Performance of Deriving Sites via Studio or API (`com.coremedia.cap.multisite.SitesService#deriveSite(...)`) has been improved.

[CMS-24075]

Improved Logging for Workflow Errors

The Workflow Server logs more details for errors from certain workflow actions. Previously, some important details were only visible with enabled DEBUG logging.

[CMS-24058]

Method Content#copyTo[...] fixed

Method Content#copyTo[...] showed an error with documents whose blob properties had data. This has now been fixed.

[CMS-24051]

Fixed CAE Feeder Partial Re-Indexing by Actuator or JMX

Fixed a bug in the CAE Feeder that not all content items were re-indexed after a request for partial re-indexing via Spring Boot actuator or JMX.

[CMS-23587]

Extended Workflow Server DB Transaction Retry

The Workflow Server can now be configured to perform retries on database transactions in case of connection loss or read-only databases (MySQL only). These situations may arise in the context of database failovers in setups like, e.g., Amazon Aurora.

To configure the Workflow Server for retries on connection loss, use these properties:

- *workflow.server.tx.retry-on-connection-loss*: enable retries on database connection loss when set to value *true* (default: *false*).
- *workflow.server.tx.retry-on-connection-loss-delay*: wait given time before retrying on database connection loss (*Duration*; default: 15 seconds).

To configure the Workflow Server for retries on a read-only database, use these properties. This is currently only supported on MySQL:

- *workflow.server.tx.retry-on-read-only-db*: enable retries on read-only database when set to value *true* (default: *false*).
- *workflow.server.tx.retry-on-read-only-db-delay*: wait given time before retrying on read-only database (*Duration*; default: 5 seconds).

Make sure to set DNS caching on your system to a very short time (probably shorter than *workflow.server.tx.retry-on-read-only-db-delay*) to allow for refreshed hostname resolution before the next attempt on a previously read-only database is started. This can be necessary to successfully contact the current primary database instance in a database failover setup.

Retries on a single database transaction are limited to 15 times - regardless of which concrete issue arises on each retry. Set the delay values (see above) large enough to cover prolonged database unavailability during failover.

[CMS-23428]

CoreMedia Content Application Engine

When copy and pasting only valid content types are now accepted to the placement linklists.

Placement linklists in the pagegrid are usually configured to accept only `CMTeasible` content type. Nevertheless, when copying and pasting the type check was ignored. This is now fixed.

[CMS-24194]

Richtext Transformation no Longer Swallows Links with Trailing Spaces

Transformation of CoreMedia richtext used to swallow links with trailing space characters because the trailing space characters were interpreted as illegal URL characters. The richtext transformation now trims the link text before parsing it.

[CMS-24086]

Dynamic fragments fixed in live side

Dynamic fragments that require parameters were not displayed correctly via a live CAE because the parameters were not appended to a dynamic fragment URL, at least not if the standard CAE configuration was used. However, you could have previously set the property `"cae.link-transformer.include-params-appender.uri-paths"` to `"/dynamic/"` to solve the problem. We have set the default value to `"/dynamic"`, so it will work in most cases.

[CMS-24083]

Elastic Social user: number of logins

Before, the number of logins was not increased for Elastic Social users on login. The cause was a missing `authenticationEventPublisher`. The `DefaultAuthenticationEventManager` is configured for the `authenticationManager` now.

[CMS-23370]

Decoding fragment parameters error fixed

An error occurred if the fragment parameters contained "%" characters with the meaning of percents (like "50 percent off"). But these were not "escape characters" to encode special chars in URLs. This led to an error during decoding which has now been fixed.

[CMS-23290]

Freemarker function `bp.getBiggestImageLink` gets flag for absolute link

New Feature: The Freemarker function `bp.getBiggestImageLink` now has a boolean flag as third parameter to make it return an absolute link in every case.

[CMS-23207]

CoreMedia Studio Client

Fixed a Bug Where (In Chrome) A New Content Was Created When Dragging A Thumbnail

We fixed a bug where an additional content item (with name "convert.png") was created and added to the linklist when drag + dropping a picture thumbnail to a linklist.

[CMS-24301]

Fixed A Bug Where All Versions Of A Content Item Are Loaded On Withdraw

We fixed a bug where all versions of a content item were loaded on content withdraw although no particular listeners were attached to the version items. This was particularly problematic for content items with a large amount of versions up to a point where the Studio froze.

[CMS-24093]

Altered alignment of CKEditor 5 main toolbar dropdowns

The alignment of the `Insert Table` and `Insert Code Block` dropdown menus in the CKEditor 5 main toolbar was changed from right to left to avoid an overflow issue with ExtJS layouts.

[CMS-24041]

Fixed Duplicates in InputChecksField

Fixed issue that duplicate values have been accepted by chip input fields when these have been entered with whitespaces.

[CMS-23925]

Fixed Document Form Layout Issues

Fixed layout issues of document forms with the re-design of the Studio.

[CMS-23755]

Fixed Hidden Pop Up Dialogs

Fixed issue where parts of the date dialogs were cut off.

[CMS-23647]

Outdated Items in Apps Menu

Due to a caching problem, some items in the apps menu were sometimes not properly updated when updating to a new version of the studio-client. This problem should be fixed now.

[CMS-22465]

Fixed Studio App README.adoc

Fixed the path information where to start the pnpm watch task.

[CMS-21580]

CoreMedia Studio Server

Fixed Scrolling of Create-From-Template Dialog

Added missing scrollbars for the CreateFromTemplate dialog.

[CMS-24172]

Fixed a Bug with Disappearing Paddings

We fixed a bug where paddings disappeared in the configuration dialog for hidden form fields

[CMS-23816]

Fixed Translation Search Filter

Fixed issue with the translation search filter that did not show translated sites for some site hierarchies.

[CMS-18488]

CoreMedia Headless Server

Documentation for Custom Filter Queries

Updated documentation: To add a custom filter query, the filter query identifier must be added to the graphql input type CustomFilterQueryArg.

[CMS-23928]

Miscellaneous

Headless Configuration Issue behind a proxy solved

When Headless-Server is running behind a reverse proxy, it is necessary to set a Spring configuration property to make Swagger work correctly. The configuration property `server.forward-headers-strategy` should be set to the value `framework`. This can be done either by application properties or preferably by environment variable, like `SERVER_FORWARD_HEADERS_STRATEGY: "framework"`.

[CMS-24719]

The management-tools script to download a remote content-archive was broken

The script `use-remote-content-archive` tries to write the archive to the wrong folder, since the tmp directory path has changed from `/var/tmp` to `/tmp`.

[CMS-24163]

Revert Update Of MySQL In Blueprint Docker-Compose Setup

The mysql container was updated to 8.2.0 in default.yml by mistake. The version has now been changed to 8.0 which is the current LTS version and our officially supported version.

[CMS-24156]

Fixed reset of DatePropertyField

Unlike the *DateTimePropertyField*, the *DatePropertyField* has no reset button. The value can now be resetted by clearing the text field.

[CMS-23940]

Marked FavoritesUserItem as public API

Marked FavoritesUserItem as public API.

[CMS-22695]

4.5 Release 2401.5

The release contains:

- Breaking changes: 3
- Changes and improvements: 10
- Bugfixes: 15

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-07-08

Breaking Changes

- CMS-24165: [Third-Party Update: Apache Solr 9.6.1](#)
- CMS-24909: [Removed dependency management for Google APIs Client Library for Java](#)
- CMS-24683: [HeadlessServer: Missing support for blobs in structs fixed](#)

Changes and Improvements

- CMS-25049: [Updated Maven dependencies and plugins](#)
- CMS-24944: [Changed management of reactor dependencies to BOM imports](#)

Bugfixes

- CMS-15270: [Theme Importer Logging](#)
- CMS-24946: [Fixed Bug Where Content Items Could Not Be Opened From Library When DefaultTabStateManager is Disabled](#)
- CMS-24881: [Control Room: Fixed non localized label 'Withdraw All'](#)
- CMS-24709: [Removed "SiteAwareFeatureUtil.preLoadConfiguration\[\]" from Startup](#)
- CMS-24551: [Added Taxonomy Context Documentation](#)
- CMS-24935: [Handled StackOverflowError While Resolving Default Picture](#)
- CMS-24682: [Bugfix: Maximum search limit was ignored](#)
- CMS-25076: [Downgraded Micrometer to 1.12.6](#)

4.5.1 Breaking Changes

CoreMedia Core

Third-Party Update: Apache Solr 9.6.1

Apache Solr has been updated to version 9.6.1. Alongside, a new coremedia/solr-base Docker image with tag 2.3-cm-9.6.1 was released. As part of this change, Solr's transitive dependency to Jetty has been updated to version 10.0.20, which fixes security vulnerability CVE-2024-222-01.

Follow [Section "Third-Party Update: Apache Solr 9.6.1" \[126\]](#) for upgrade information.

[CMS-24165]

CoreMedia Studio Server

Removed dependency management for Google APIs Client Library for Java

The dependency management for `com.google.api-client:google-api-client` has been removed, because there're no more usages of that dependency.

[CMS-24909]

CoreMedia Headless Server

HeadlessServer: Missing support for blobs in structs fixed

HeadlessServer had a problem delivering blobs stored in structs of a linked settings document, e.g. in a page. This bug was fixed.

Follow [Section "HeadlessServer: Missing support for blobs in structs fixed" \[127\]](#) for upgrade information.

[CMS-24683]

4.5.2 Changes and Improvements

CoreMedia Core

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [Apache HttpComponents Client](#) → 5.3.1
- [AssertJ](#) → 3.26.0
- [Byte Buddy](#) → 1.14.17
- [Commons CLI](#) → 1.6.0
- [Commons DBCP](#) → 2.12.0
- [Commons Compress](#) → 1.26.2
- [Commons Exec](#) → 1.4.0
- [Commons IO](#) → 2.16.1
- [Commons Text](#) → 1.12.0
- [Enterprise Security API](#) → 2.5.4.0
- [Error Prone](#) → 2.28.0
- [Freemarker](#) → 2.3.33
- [Google Analytics Data Client for Java](#) → 0.56.0
- [Google API Common for Java](#) → 2.32.0
- [Google API Extensions for Java](#) → 2.49.0
- [Google HTTP Client Library for Java](#) → 1.44.2
- [gRPC-Java](#) → 1.64.0
- [Gson](#) → 2.11.0
- [Hibernate](#) → 6.4.8.Final
- [Jackson](#) → 2.17.1
- [Jakarta Validation API](#) → 3.1.0
- [Jib Maven Plugin](#) → 3.4.3
- [Micrometer](#) → 1.12.7
- [Netty](#) → 4.1.111.Final
- [PF4J](#) → 3.11.1
- [Spring Boot](#) → 3.2.6
- [Spring Data BOM](#) → 2023.1.7
- [Spring Framework](#) → 6.1.9

[CMS-25049]

CoreMedia Content Application Engine

Changed management of reactor dependencies to BOM imports

The dependency management for the `io.projectreactor:reactor-core` and the `io.projectreactor.netty:reactor-netty-http` dependencies have been replaced with imports of the `io.projectreactor:reactor-bom`.

Using the latest [Reactor Project BOM](#) version 2023.0.7, the dependencies have effectively been updated to:

- [Reactor Core](#) → 3.6.7
- [Reactor Netty](#) → 1.1.20

[CMS-24944]

4.5.3 Fixed Issues

CoreMedia Core

Theme Importer Logging

The output of the theme importer has been cleaned up to distinguish user interaction (unformatted on stdout, like the usage message) from logging (more detailed, formatted with timestamp and severity in the logfile).

[CMS-15270]

CoreMedia Studio Client

Fixed Bug Where Content Items Could Not Be Opened From Library When DefaultTabStateManager is Disabled

The editorContext allows to disable the DefaultTabStateManager. We fixed a bug where content items could not be opened from the library in that case.

[CMS-24946]

Control Room: Fixed non localized label 'Withdraw All'

Fixed non localized button 'Withdraw All' in the Control Room.

[CMS-24881]

Removed "SiteAwareFeatureUtil.preLoadConfiguration[]" from Startup

The pre-caching call `SiteAwareFeatureUtil.preLoadConfiguration()` has been removed from the Studio startup since it is too expensive when used with many sites and is only used in combination with the `SiteAwareFeaturePlugin`.

[CMS-24709]

Added Taxonomy Context Documentation

Added documentation of how to fix context problems with new taxonomy trees.

[CMS-24551]

CoreMedia Studio Server

Handled StackOverflowError While Resolving Default Picture

We fixed a bug where a `StackOverflowError` was thrown while resolving default pictures for cyclicly linked content items.

[CMS-24935]

CoreMedia Headless Server

Bugfix: Maximum search limit was ignored

The bug, that the configuration property `caas.search-max-search-limit` was ignored, was fixed.

[CMS-24682]

Miscellaneous

Downgraded Micrometer to 1.12.6

Micrometer has been downgraded to version 1.12.6.

In the previous AMP, Micrometer was upgraded to a new version [1.13.x] that is not fully supported by the current Spring Boot version [≤ 3.2]. As a result, the Prometheus actuator did not work anymore. To fix that, the Micrometer version had to be downgraded.

[CMS-25076]

4.6 Release 2401.4

The release contains:

- Breaking changes: 2
- Changes and improvements: 9
- Bugfixes: 45

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-05-28

Breaking Changes

- CMS-24704: Updated NodeJS Version to 18.20.1
- CMS-24249: Headless-Server Missing CORS configuration now disabled CORS protection

Changes and Improvements

- CMS-24725: Third-Party Update: Bouncy Castle
- CMS-24544: Updated Maven dependencies and plugins
- CMS-24348: cm query Provides Format Option

Bugfixes

- CMS-24789: Fixed CAE Feeder Configuration of Content Repository
- CMS-24773: Fixed Loading of Multiple Document Type Model Files in XML Repository
- CMS-24765: Fixed Content ID Comparison on Client-Side Query
- CMS-24310: Improved Performance for Large Structs
- CMS-24109: Improved Publication Performance
- CMS-24076: Content Server DB Transaction Retry
- CMS-22943: Configuration of Custom MIME Types
- CMS-24830: Old SiteFilter is configured to avoid unwanted site resolvings
- CMS-24711: Updated and optimized @coremedia/brick-mediaelement
- CMS-24086: Richtext Transformation no Longer Swallows Links with Trailing Spaces

- [CMS-24336](#): Exclude internal documents of type EditorProfile from "My Edited Content"
- [CMS-24041](#): Altered alignment of CKEditor 5 main toolbar dropdowns
- [CMS-23104](#): Content Hub: Improved Logging
- [CMS-18687](#): Fixed Translation Status Widget
- [CMS-24768](#): Lookup of Augmented Pages improved
- [CMS-23928](#): Documentation for Custom Filter Queries
- [CMS-23916](#): Bugfix: Headless-Server MediaController does not consider validity date
- [CMS-24719](#): Headless Configuration Issue behind a proxy solved

4.6.1 Breaking Changes

CoreMedia Studio Client

Updated NodeJS Version to 18.20.1

The images provided in studio-client and frontend workspace have been updated to utilize NodeJS 18.20.1 which fixes CVE-2024-27983. However the security issue does not affect any of the workspaces.

Follow [Section "Updated NodeJS Version to 18.20.1" \[128\]](#) for upgrade information.

[CMS-24704]

CoreMedia Headless Server

Headless-Server Missing CORS configuration now disabled CORS protection

A missing CORS configuration set allowed-origins to *. Now a missing configuration effectively disabled CORS protection, resulting in a "same origin policy only".

Follow [Section "Headless-Server Missing CORS configuration now disabled CORS protection" \[128\]](#) for upgrade information.

[CMS-24249]

4.6.2 Changes and Improvements

CoreMedia Core

Third-Party Update: Bouncy Castle

Bouncy Castle has been updated to version 1.78 to fix security issues like CVE-2024-29857 and CVE-2024-30172.

[CMS-24725]

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [CoreMedia Client API and Mock Adapter for Commerce Hub](#) → 3.0.4
- [CoreMedia Adapter for SAP Commerce Cloud](#) → 3.0.3
- [CoreMedia Adapter for Salesforce Commerce Cloud B2C](#) → 3.0.4
- [CoreMedia Adapter for HCL Commerce](#) → 3.0.3
- [Angus Activation](#) → 2.0.2
- [Angus Mail](#) → 2.0.3
- [AspectJ](#) → 1.9.22.1
- [Byte Buddy](#) → 1.14.12
- [Commons Codec](#) → 1.17.0
- [Enterprise Security API](#) → 2.5.3.1
- [Error Prone](#) → 2.27.1
- [Google Analytics Data Client for Java](#) → 0.54.0
- [Google API Common for Java](#) → 2.31.0
- [Google API Extensions for Java](#) → 2.48.0
- [Google APIs Client Library for Java](#) → 2.5.0
- [Google OAuth Client Library for Java](#) → 1.36.0
- [gRPC-Java](#) → 1.63.0
- [Guava](#) → 33.1.0-jre
- [Hibernate](#) → 6.4.4.Final
- [Jackson](#) → 2.17.0
- [Jakarta Activation API](#) → 2.1.3
- [Jakarta Mail API](#) → 2.1.3
- [Jakarta XML Binding API](#) → 4.0.2
- [Janino](#) → 3.1.12

- [JAXB Reference Implementation](#) → 4.0.5
- [Jib Maven Plugin](#) → 3.4.2
- [JUnit Jupiter](#) → 5.10.2
- [Micrometer](#) → 1.13.0
- [Netty](#) → 4.1.109.Final
- [PF4J](#) → 3.11.0
- [SLF4J](#) → 2.0.13
- [Spring Boot](#) → 3.2.5
- [Spring Data BOM](#) → 2023.1.5
- [Spring Framework](#) → 6.1.5
- [Spring Security](#) → 6.2.3
- [Tomcat](#) → 10.1.24

[CMS-24544]

cm query Provides Format Option

The `cm query` command has been enhanced to support a `--format` option.

It allows to control to output either using the default multi-column output or new single-column outputs suitable, for example, for forwarding results to subsequent processing via shell pipes.

Supported formats despite the default:

- `id`: Prints the CoreMedia Content or Version ID
- `uuid`: Prints the UUID
- `path`: Prints the path of the content related to the `CapObject` found.

The Content Server Manual has been updated accordingly.

[CMS-24348]

4.6.3 Fixed Issues

CoreMedia Core

Fixed CAE Feeder Configuration of Content Repository

CAE Feeder failed to connect to content repository as 'feeder' user under certain circumstances. This bug was fixed by tweaking the auto configuration order of the feeder auto configurations.

[CMS-24789]

Fixed Loading of Multiple Document Type Model Files in XML Repository

Loading of multiple Document Type Model (DTM) files for the XML Repository was broken and has been fixed now. Multiple DTM files may again be stated as a comma-separated list with property `repository.params.contentxml` of test class annotation `@TestPropertySource` (see Blueprint workspace for examples).

[CMS-24773]

Fixed Content ID Comparison on Client-Side Query

`QueryService#getContentsFulfilling(...)` did not work for numerical Content ID comparisons, e.g., `TYPE Document_ : id > 10000`, and threw an exception. This is fixed now.

[CMS-24765]

Improved Performance for Large Structs

The code for loading struct properties was optimized, especially for large structs. This speeds up various operations for content that contains a larger struct value.

[CMS-24310]

Improved Publication Performance

The code for destroying intermediate versions after publication was optimized, especially for very large version histories, and/or if many derived multi-site contents exist with possibly large version histories. This reduces the time needed for publication for some cases.

[CMS-24109]

Content Server DB Transaction Retry

The Content Server can now be configured to perform retries on database transactions in case of connection loss or read-only databases (MySQL only). These situations may arise in the context of database failovers in setups like, e.g., Amazon Aurora.

To configure the Content Server for retries, use these properties:

- `sql.pool.retry-on-connection-loss`: enable retries on database connection loss when set to value `true` (default: `false`).

- `sql.pool.retry-on-read-only-db`: enable retries on read-only database when set to value `true` (default: `false`).
- `sql.pool.retry-delay`: wait given time before retrying [*Duration*; default: 15 seconds].
- `sql.pool.max-retries`: maximum number of retries (default: 15).

Make sure to set DNS caching on your system to a very short time (probably shorter than `sql.pool.retry-delay`) to allow for refreshed hostname resolution before the next attempt on a previously failing database is started. This can be necessary to successfully contact the current primary database instance in a database failover setup.

The number of retries on a single database transaction and the delay are configurable. Set the maximum retries and delay values (see above) large enough to cover prolonged database unavailability during failover.

[CMS-24076]

Configuration of Custom MIME Types

A central configuration for custom MIME Type definitions was added to the Blueprint workspace with file `shared/common/modules/shared/custom-mime-types/src/main/resources/org/apache/tika/mime/custom-mimetypes.xml`. All relevant CMS components depend on this configuration file so that MIME Type definitions added here are active everywhere.

[CMS-22943]

CoreMedia Content Application Engine

Old SiteFilter is configured to avoid unwanted site resolvings

In very rare cases it could happen that the CAE SiteFilter resolves a wrong site for certain requests. The SiteFilter was not actually responsible for these requests (e.g. fragment calls). In addition, this could only occur if legacy mode was used, i.e. if no site patterns had been configured. To avoid these unwanted hits even in legacy mode, we have now at least activated the ignore patterns in the default configuration (`cae.application.properties`).

[CMS-24830]

Updated and optimized @coremedia/brick-mediaelement

The external library `mediaelement` has been updated to latest version 7. In the past the library has been loaded asynchronously only if a video or audio is used. But this caused a ~250ms delay for initializing `mediaelement`, which results in a short video flickering

for videos with `autoplay=true`. To avoid the flickering the library (~150kb) is now loaded directly in the brick.

[CMS-24711]

Richtext Transformation no Longer Swallows Links with Trailing Spaces

Transformation of CoreMedia richtext used to swallow links with trailing space characters because the trailing space characters were interpreted as illegal URL characters. The richtext transformation now trims the link text before parsing it.

[CMS-24086]

CoreMedia Studio Client

Exclude internal documents of type EditorProfile from "My Edited Content"

To exclude internal documents of type "EditorProfile" from being displayed in "My Edited Content", the folder `/Home/*/EditorProfile` has been added to the application property `userchanges.excluded-paths` of the User-Changes App.

[CMS-24336]

Altered alignment of CKEditor 5 main toolbar dropdowns

The alignment of the `Insert Table` and `Insert Code Block` dropdown menus in the CKEditor 5 main toolbar was changed from right to left to avoid an overflow issue with ExtJS layouts.

[CMS-24041]

CoreMedia Studio Server

Content Hub: Improved Logging

If `com.coremedia.contenthub.api.ContentHubBlob#build` fails, it now logs a warning with the relevant information to analyze the problem. Moreover, it logs a DEBUG message about successful creation of ContentHubBlob instances.

[CMS-23104]

Fixed Translation Status Widget

Fixed issue with the translation status widget that did not show translated sites for some site hierarchies.

[CMS-18687]

CoreMedia Commerce Hub

Lookup of Augmented Pages improved

The lookup of commerce pages that are augmented in in the CMS was changed to using the AugmentationService with the help of observed properties instead of content queries.

[CMS-24768]

CoreMedia Headless Server

Documentation for Custom Filter Queries

Updated documentation: To add a custom filter query, the filter query identifier must be added to the graphql input type CustomFilterQueryArg.

[CMS-23928]

Bugfix: Headless-Server MediaController does not consider validity date

Headless-Server did not consider the validity dates 'from' and 'to' on the media delivery endpoint. The validation was fixed and now includes the validity dates.

Since this is the wanted behavior, this bugfix is not considered breaking. Be aware, that this might lead to 404 responses on media content, where the validity date is set and validation does not pass anymore!

[CMS-23916]

Miscellaneous

Headless Configuration Issue behind a proxy solved

When Headless-Server is running behind a reverse proxy, it is necessary to set a Spring configuration property to make Swagger work correctly. The configuration property `server.forward-headers-strategy` should be set to the value `framework`. This can be done either by application properties or preferably by environment variable, like `SERVER_FORWARD_HEADERS_STRATEGY: "framework"`.

[CMS-24719]

4.7 Release 2401.3

The release contains:

- Breaking changes: 4
- Changes and improvements: 7
- Bugfixes: 38

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-03-15

Breaking Changes

- CMS-23184: [Update of MongoDB driver to 4.11.1](#)
- CMS-23183: [MongoDB update to version 7.0.5](#)
- CMS-24183: [Third Party Upgrades for Studio-Client](#)
- CMS-24095: [CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated](#)

Changes and Improvements

- CMS-24114: [Updated Maven dependencies and plugins](#)
- CMS-21202: [Fixed Pre-Loading of SiteAwareFeatureUtil](#)

Bugfixes

- CMS-24288: [Third-Party Update: Apache James Mime4J](#)
- CMS-24229: [Fixed a Bug Where A Publication Workflow With Content Errors Could Be Started](#)
- CMS-24216: [Postgresql driver has been updated](#)
- CMS-24210: [Third-Party Update: Apache Commons Compress](#)
- CMS-24075: [Improved Performance Of Deriving Sites](#)
- CMS-24058: [Improved Logging for Workflow Errors](#)
- CMS-24051: [Method Content#copyTo\[...\] fixed](#)
- CMS-23587: [Fixed CAE Feeder Partial Re-Indexing by Actuator or JMX](#)
- CMS-23428: [Extended Workflow Server DB Transaction Retry](#)

- CMS-24256: Changed Site Resolution of Requests
- CMS-24194: When copy and pasting only valid content types are now accepted to the placement linklists.
- CMS-24083: Dynamic fragments fixed in live side
- CMS-24301: Fixed a Bug Where (In Chrome) A New Content Was Created When Dragging A Thumbnail
- CMS-24093: Fixed A Bug Where All Versions Of A Content Item Are Loaded On Withdraw
- CMS-23925: Fixed Duplicates in InputChecksField
- CMS-24172: Fixed Scrolling of Create-From-Template Dialog
- CMS-24163: The management-tools script to download a remote content-archive was broken
- CMS-24156: Revert Update Of MySQL In Blueprint Docker-Compose Setup
- CMS-23940: Fixed reset of DatePropertyField

4.7.1 Breaking Changes

CoreMedia Core

Update of MongoDB driver to 4.11.1

The thirdparty dependencies `org.mongodb:mongodb-driver-legacy`, `org.mongodb:mongodb-driver-core` and `org.mongodb:bson` have been updated from version 4.8.2 to 4.11.1. This is marked as a breaking change, because custom implementations can potentially use changed API of the MongoDB driver.

[CMS-23184]

MongoDB update to version 7.0.5

MongoDB has been updated to version 7.0.5 for the Docker Deployment. Note that an upgrade is only possible from a 6.0.x version. An upgrade from an earlier version needs to be done successively. Please refer to the official MongoDB documentation on how to upgrade: <https://www.mongodb.com/docs/manual/release-notes/7.0-upgrade-standalone/> The compatibility changes are described here: <https://www.mongodb.com/docs/manual/release-notes/7.0-compatibility/>

[CMS-23183]

CoreMedia Studio Client

Third Party Upgrades for Studio-Client

Jangaroo, TypeScript and ESLint were upgraded to a new major version to support pure ESM packages within the studio-client. This upgrade was necessary in an AMP version to support the latest CKEditor 5 version which now comes as pure ESM package.

Follow [Section "Third Party Upgrades for Studio-Client" \[129\]](#) for upgrade information.

[CMS-24183]

CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated

CKEditor 5 has been updated to version 41.1.0 [CKEditor 5 Development Tooling to 39.6.0]. CoreMedia's CKEditor 5 Plugins and the CKEditor 5 CoreMedia OEM License have been updated accordingly:

- **CoreMedia CKEditor 5 Plugins:** 17.0.0
- **CKEditor 5 CoreMedia OEM License:** 2.1.0

Along with that, we fixed some meanwhile broken references to the CKEditor 5 documentation within the Studio Developer Manual.

Upgrade Highlights – CoreMedia CKEditor 5 Plugins

- **Hardening Default Link Target Configuration:** Prior to this release, a configured function based default link target filter (to apply a default target based on a given URL) may have been called with `null` in contrast to the method signature. This has been fixed, so that the function is only called for non-empty URLs.

Notable Upgrade Highlights – CKEditor 5

This section is just about remarkable changes we observed during the upgrade. For detailed information and possibly required upgrade steps in context of custom plugins, take a look at the [CKEditor 5 changelog](#), please.

- **Links:** For external links, you may now just paste the URL having a text selected, and the text will get the link applied. Side Note: This feature also automatically triggers the possible default target selection provided by CoreMedia CKEditor 5 Plugins based on your configuration.
- **Paste from Office:** When General HTML Support is activated (transitively through CoreMedia Rich Text Support), class attribute values like `MsoNormal` were kept during paste. CKEditor 5 now actively removes such artificial artifacts.
- **AI Assistant Capability:** While not enabled in CoreMedia Blueprint, you may be interested to know, that with supporting CKEditor 5 41.0.0 within CoreMedia Studio, it is the first supported release, that comes with AI features.

- **Integration Changes:** CKEditor 5 now ships as ECMAScript modules, which requires additional upgrade steps, where the most important one is upgrading to TypeScript 5. Find more details below.
- **API Changes:**
 - **CKEditor 5 UI:** While there was no need to apply adaptations in CoreMedia Blueprint, we observed typing adjustments in context of the CKEditor 5 UI. This is due to some progress towards providing a so-called dialog system.
 - **Document Lists:** They are now the "standard list API". As a result the prefix `Document*`, like `DocumentList` is deprecated and got replaced by `List`, while the old feature got prefixed with `Legacy*`.

Follow [Section "CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated" \[130\]](#) for upgrade information.

[CMS-24095]

4.7.2 Changes and Improvements

CoreMedia Core

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [CoreMedia Client API and Mock Adapter for Commerce Hub](#) from 3.0.1 to 3.0.2
- [CoreMedia Adapter for SAP Commerce Cloud](#) from 3.0.0 to 3.0.1
- [CoreMedia Adapter for Salesforce Commerce Cloud B2C](#) 3.0.0 to 3.0.1
- [CoreMedia Adapter for HCL Commerce](#) from 3.0.0 to 3.0.1
- [Google Analytics Data Client for Java](#) from 0.20.0 to 0.47.0
- [Google Auth Library for Java](#) from 1.14.0 to 1.23.0
- [Google API Extensions for Java](#) from 2.22.0 to 2.43.0
- [Google HTTP Client Library for Java](#) from 1.42.3 to 1.44.1
- [gRPC-Java](#) from 1.61.0 to 1.62.2
- [Netty](#) from 4.1.106.Final to 4.1.107.Final
- [Protocol Buffers for Java](#) from 3.25.2 to 3.25.3
- [Spring Boot](#) from 3.2.2 to 3.2.3
- [Spring Framework](#) from 6.1.3 to 6.1.4
- [Spring Security](#) from 6.2.1 to 6.2.2
- [Tomcat](#) from 10.1.18 to 10.1.19

[CMS-24114]

CoreMedia Studio Client

Fixed Pre-Loading of SiteAwareFeatureUtil

Fixed issue of the *SiteAwareFeatureUtil* that the pre-loading did only affect the preferred site.

[CMS-21202]

4.7.3 Fixed Issues

CoreMedia Core

Third-Party Update: Apache James Mime4J

Apache James Mime4J has been updated to version 0.8.10.

[CMS-24288]

Fixed a Bug Where A Publication Workflow With Content Errors Could Be Started

We fixed a timing issue where the start-workflow window would not show content errors and consequently, a publication workflow could be started.

[CMS-24229]

Postgresql driver has been updated

The postgresql driver `org.postgresql:postgresql` has been updated to `42.6.1`.

[CMS-24216]

Third-Party Update: Apache Commons Compress

Third-party library Apache Commons Compress has been updated to 1.26.0 to fix known security vulnerabilities.

[CMS-24210]

Improved Performance Of Deriving Sites

Performance of Deriving Sites via Studio or API [`com.coremedia.cap.multisite.SitesService#deriveSite(...)`] has been improved.

[CMS-24075]

Improved Logging for Workflow Errors

The Workflow Server logs more details for errors from certain workflow actions. Previously, some important details were only visible with enabled DEBUG logging.

[CMS-24058]

Method Content#copyTo[...] fixed

Method Content#copyTo[...] showed an error with documents whose blob properties had data. This has now been fixed.

[CMS-24051]

Fixed CAE Feeder Partial Re-Indexing by Actuator or JMX

Fixed a bug in the CAE Feeder that not all content items were re-indexed after a request for partial re-indexing via Spring Boot actuator or JMX.

[CMS-23587]

Extended Workflow Server DB Transaction Retry

The Workflow Server can now be configured to perform retries on database transactions in case of connection loss or read-only databases (MySQL only). These situations may arise in the context of database failovers in setups like, e.g., Amazon Aurora.

To configure the Workflow Server for retries on connection loss, use these properties:

- `workflow.server.tx.retry-on-connection-loss`: enable retries on database connection loss when set to value `true` (default: `false`).

- `workflow.server.tx.retry-on-connection-loss-delay`: wait given time before retrying on database connection loss (*Duration*; default: 15 seconds).

To configure the Workflow Server for retries on a read-only database, use these properties. This is currently only supported on MySQL:

- `workflow.server.tx.retry-on-read-only-db`: enable retries on read-only database when set to value `true` (default: `false`).
- `workflow.server.tx.retry-on-read-only-db-delay`: wait given time before retrying on read-only database (*Duration*; default: 5 seconds).

Make sure to set DNS caching on your system to a very short time (probably shorter than `workflow.server.tx.retry-on-read-only-db-delay`) to allow for refreshed hostname resolution before the next attempt on a previously read-only database is started. This can be necessary to successfully contact the current primary database instance in a database failover setup.

Retries on a single database transaction are limited to 15 times - regardless of which concrete issue arises on each retry. Set the delay values (see above) large enough to cover prolonged database unavailability during failover.

[CMS-23428]

CoreMedia Content Application Engine

Changed Site Resolution of Requests

SiteFilter can now match request paths against configurable patterns to derive the requested site. This is much more efficient than the previous strategy which simply checked every path segment if it matched one of the segments of the known site root navigations. The new strategy is to take a list of patterns to check if the current request URI paths contains a site segment, then check the first path segment after the dispatcher servlet segment if it is site segment but exclude a list of known prefixes. The list of path patterns that have a site segment in it is configured via `cae.site.patterns` and the list of known non-site path prefixes is configured via `cae.site.ignore-prefix-patterns`. The former SiteFilter behavior is active when both properties have empty values. Configure `cae.site.collect-non-matching-paths=true` to collect non matching paths to support debugging your SiteFilter config. This setting is enabled in the `dev` profile for your convenience.

[CMS-24256]

When copy and pasting only valid content types are now accepted to the placement linklists.

Placement linklists in the pagegrid are usually configured to accept only `CMTearable` content type. Nevertheless, when copying and pasting the type check was ignored. This is now fixed.

[CMS-24194]

Dynamic fragments fixed in live side

Dynamic fragments that require parameters were not displayed correctly via a live CAE because the parameters were not appended to a dynamic fragment URL, at least not if the standard CAE configuration was used. However, you could have previously set the property "cae.link-transformer.include-params-appender.uri-paths" to "/dynamic/" to solve the problem. We have set the default value to "/dynamic", so it will work in most cases.

[CMS-24083]

CoreMedia Studio Client

Fixed a Bug Where (In Chrome) A New Content Was Created When Dragging A Thumbnail

We fixed a bug where an additional content item (with name "convert.png") was created and added to the linklist when drag + dropping a picture thumbnail to a linklist.

[CMS-24301]

Fixed A Bug Where All Versions Of A Content Item Are Loaded On Withdraw

We fixed a bug where all versions of a content item were loaded on content withdraw although no particular listeners were attached to the version items. This was particularly problematic for content items with a large amount of versions up to a point where the Studio froze.

[CMS-24093]

Fixed Duplicates in InputChecksField

Fixed issue that duplicate values have been accepted by chip input fields when these have been entered with whitespaces.

[CMS-23925]

CoreMedia Studio Server

Fixed Scrolling of Create-From-Template Dialog

Added missing scrollbars for the CreateFromTemplate dialog.

[CMS-24172]

Miscellaneous

The management-tools script to download a remote content-archive was broken

The script `use-remote-content-archive` tries to write the archive to the wrong folder, since the tmp directory path has changed from `/var/tmp` to `/tmp`.

[CMS-24163]

Revert Update Of MySQL In Blueprint Docker-Compose Setup

The mysql container was updated to 8.2.0 in default.yml by mistake. The version has now been changed to 8.0 which is the current LTS version and our officially supported version.

[CMS-24156]

Fixed reset of DatePropertyField

Unlike the *DateTimePropertyField*, the *DatePropertyField* has no reset button. The value can now be resetted by clearing the text field.

[CMS-23940]

4.8 Release 2401.2

The release contains:

- Breaking changes: 2
- Changes and improvements: 2
- Bugfixes: 3

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-02-12

Breaking Changes

- CMS-24130: [TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans](#)
- CMS-24132: [Transformed Blob Cache Requires Writeable Base Directory](#)

Changes and Improvements

Bugfixes

4.8.1 Breaking Changes

CoreMedia Core

TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans

Spring configuration class `com.coremedia.cap.transform.TransformImageServiceConfiguration` of module `com.coremedia.cms:cap-transform` no longer imports `com.coremedia.cap.transform.BlobTransformerConfiguration`. This makes it possible to create application contexts that provide access to the `transformImageService` bean without actually activating all the beans necessary for blob transformation. Such application contexts are the ones of feeder applications, for example. Class `com.coremedia.cap.transform.BlobTransformerAutoConfiguration` has

been deleted along with this change. The Spring XML configuration resources `framework/spring/mediatransform.xml` of Blueprint `shared/middle` module `image-transformation` and `com/coremedia/cap/transform/transform-services.xml` of module `com.coremedia.cms:cap-transform` have also been removed. Use `TransformImageServiceConfiguration` instead.

[CMS-24130]

CoreMedia Content Application Engine

Transformed Blob Cache Requires Writeable Base Directory

The bean `transformedBlobCache` of type `com.coremedia.transform.impl.TransformingBlobCache` now validates the configured base path (configuration option `com.coremedia.transform.blobCache.basePath`) and throws an exception if it finds that the base path is not a writeable directory in which it can cache and rotate temporary files holding the transformed blob data.

[CMS-24132]

4.8.2 Changes and Improvements

This release contains no changes and improvements with release notes

4.8.3 Fixed Issues

4.9 Release 2401.1

The release contains:

- Breaking changes: 46
- Changes and improvements: 63
- Bugfixes: 112

Only issues which contain release notes are shown in this document. So, the numbers in the list above can be higher than the number of issues presented in the subsections.

Release date: 2024-02-05

Breaking Changes

- CMS-23947: [Removed Deprecated Workflow Java API](#)
- CMS-23909: [Replacement of Deprecated Workflow Server Log Facility](#)
- CMS-23899: [Deprecated ArchiveProcess Workflow Action: Functionality Removed](#)
- CMS-23869: [Site Manager Removal](#)
- CMS-23586: [Upgrade to Java 17](#)
- CMS-23118: [Workflow Server Database Tables](#)
- CMS-22810: [Removed Conversion Service Bean from CapRepositoriesConfiguration](#)
- CMS-21716: [Upgraded Spring dependencies to latest major versions](#)
- CMS-23786: [Changed Properties for Process Archiving in the in-memory Setup](#)
- CMS-20028: [Property 'usecaplist' no longer interpreted by Workflow Server](#)
- CMS-23884: [Removed Webtrends Analytics Connector](#)
- CMS-23860: [Removed class MappedInterceptor](#)
- CMS-23847: [com.coremedia.blueprint.base.links.impl.RuleUrlPrefixResolver has new constructor](#)
- CMS-23843: [com.coremedia.blueprint.base.links.Optional removed](#)
- CMS-22845: [Third-Party Update: Spring Webflow](#)
- CMS-23580: [Added Configurable Document Types for Search](#)
- CMS-23171: [Running Sencha Cmd after Java 17 Upgrade](#)
- CMS-22221: [Stricter CSP Rules](#)
- CMS-23562: [StatefulDateTimeField's Configuration has Changed](#)

- CMS-23540: Date and Time Formats Configuration Changed
- CMS-23917: Removed property for Spring Boot Maven plugin
- CMS-22678: Elastic Social Moderation With CKEditor 5
- CMS-24084: Removed usages of Apache HTTP Components 4.x
- CMS-23686: Replacement/Removal of Deprecated Code
- CMS-23557: Third-Party Update: Caffeine
- CMS-20144: Removed deprecated CSS/JS property "ieExpression"
- CMS-24015: APPLICATION_OPTS Removed from Base Image
- CMS-23629: Volume definitions Moved to Application Module or Deployment
- CMS-23628: The coremedia/java-application-base image is now Corretto JRE by default
- CMS-23622: Switch from /var/tmp to /tmp as the default java.io.tmpdir path
- CMS-23621: Prometheus jmx-exporter Agent Disabled by default
- CMS-23618: SPRING_BOOT_EXPLODED_APP Removed from Base Image
- CMS-23613: The environment variable SPRING_PROFILES has been removed from the base image and the compose setup
- CMS-23330: coremedia/java-application-base is now based on amazonlinux:2023
- CMS-22787: Port 8199 Removed from the Exposed Ports by Default
- CMS-23832: Headless Server Uses Auto Configured Task Scheduler Bean
- CMS-23487: Replace Springfox with Springdoc
- CMS-23635: Media hash calculation Changed
- CMS-24021: Migration of Spring XML configuration files to Java Configuration
- CMS-23995: CKEditor 4 Support Removed
- CMS-23624: Removal of Pre-created Directories in coremedia/java-application-base Image
- CMS-23556: Cleaned Up Spring Configuration Files and Classes
- CMS-23224: Migration of Spring XML configuration files to Java Configuration
- CMS-20586: Removed OpenCalais Integration
- CMS-23742: Salesforce Marketing Cloud: Migrated to Java 17

Changes and Improvements

- CMS-24001: Upgrade to Solr 9.4.1
- CMS-23952: Third-Party Update: Apache Tika and Transitive Dependencies

- CMS-23830: Updated Maven dependencies and plugins
- CMS-17071: --bloburl option for serverexport and serverimport
- CMS-23591: Changed icons in Studio to SVG format
- CMS-23571: Workflow App Split View Footer Bar
- CMS-22970: Fixed Browser Console Warnings
- CMS-23554: Adjusted Postgres Sequence Increment Size
- CMS-23512: "Clear my edited content" is in the context menu
- CMS-23551: Make blueprint groupId configurable in ModularOneRepoEnforcerRule
- CMS-10271: Sort-POM-Plugin for Maven updated
- CMS-23970: Third-Party Update: Upgraded jQuery to version 3.7.1
- CMS-23949: Modernized eslint and prettier in frontend workspace
- CMS-23630: Build OCI conform images and provide property to select base image architecture
- CMS-23626: File log directory for Spring Boot dev profile changed
- CMS-23714: Fixed headless-server-base Dependencies
- CMS-24004: Removed logging-common.xml of base-component artifact
- CMS-23780: Updated ESAPI

Bugfixes

- CMS-23910: Fixed Content Feeder Bug that Causes Reindexing after Restart
- CMS-23678: Fixed Bug in Workflow Converter
- CMS-23648: Updated JSON-Java
- CMS-23614: Third-Party Update: Jetty
- CMS-23597: Ambiguous published navigation tree will be detected
- CMS-23080: Removed Property db.schema.name-uppercase
- CMS-22486: Set replicator.tmp-dir to /tmp in container setup
- CMS-21028: Fixed Feeder Shutdown on Error
- CMS-12532: Studio Search and Special Characters in Prefix Queries
- CMS-24006: Removed blueprint-handlers.xml
- CMS-23598: Change Link Building/Handling for Transformed Blobs
- CMS-23874: Fixed Draggable Menu Items Error
- CMS-23793: Typo in Withdrawal Success message is fixed

- CMS-23758: (Partly) Fixed Bug Where Studio Client Creation of Content Objects Took Too Long
- CMS-23731: Fixed Bug Where Withdrawing A Version Could Freeze Studio
- CMS-23730: Fixed Bug Where UUID Listeners on Studio Client Remote Beans Lead to Unnecessary Invalidations
- CMS-23600: Fixed Library Column Header Localization
- CMS-23441: CompoundPlugin Works with Plugin Configs again
- CMS-21820: Sometimes the pagegrid loses all content
- CMS-23953: Lower severity for new PublishedNavigationTreeValidator issue
- CMS-23933: Fixed a Bug Where CKEditor 5 Did Not Notice Changes
- CMS-23883: Fixed Taxonomy Suggestions
- CMS-23821: The logging of the class org.apache.coyote.http11.Http11InputBuffer is muted
- CMS-23807: Bookmarks reordering fixed
- CMS-23659: Fixed Taxonomy Renaming
- CMS-23611: Fixed Taxonomy Renaming with Double Quotes
- CMS-12017: Added Site Id Validator
- CMS-23495: Fixed invalid comment in pom.xml
- CMS-23076: Moved tooling dependencies to devDependencies
- CMS-22661: Replaced deprecated dependency "request" with "axios"
- CMS-24020: Handle CVEs for graphql-spring-boot-autoconfigure-15.0.0.jar: subscriptions-transport-ws-browser-client.js
- CMS-23900: Prevent exceptions when logging resource paths
- CMS-23595: HeadlessServer: More tolerant request handling for invalid hashes on MediaController
- CMS-23956: Update to Jakarta Activation 2.1 (Jakarta EE 10) to avoid dependency conflicts
- CMS-23908: CVE-2023-46589 - tomcat-embed-core-10.1.15.jar
- CMS-23907: CVE-2023-6481 - ch.qos.logback:logback-core:1.4.12
- CMS-23882: Updated bouncycastle dependencies
- CMS-23875: Refactoring of Internal MBeanRegistry class
- CMS-23863: Performance Improvement for LdapUserProvider
- CMS-23787: Restored Missing Solr JMX MBeans
- CMS-19635: Fixed "Add Link Entry" Button in Struct Editor

4.9.1 Breaking Changes

CoreMedia Core

Removed Deprecated Workflow Java API

The following deprecated classes and methods have been removed from the Workflow Server API and cannot be used in custom code or workflow definitions anymore:

- Class `com.coremedia.workflow.common.util.AbstractExternalManager`
- Class `com.coremedia.workflow.common.util.LongActionRegistry`
- Class `com.coremedia.workflow.common.util.RegisteringLongAction`
- Class `com.coremedia.workflow.common.util.SpringCollectiveLongAction`
- Class `com.coremedia.workflow.common.util.SpringDelegateAction`
- Class `com.coremedia.workflow.common.util.SpringDelegateLongAction`
- Method `com.coremedia.workflow.WfServer#hasManager`
- Method `com.coremedia.workflow.WfServer#getManager`
- Method `com.coremedia.workflow.common.actions.Log#setFatal`
- Method `com.coremedia.workflow.common.util.WithSpringContext#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareAction#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareExpression#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareLongAction#getBean`

Follow [Section "Removed Deprecated Workflow Java API" \[134\]](#) for upgrade information.

[CMS-23947]

Replacement of Deprecated Workflow Server Log Facility

The location of loggers for certain classes changed. The following classes are now using a logger in their own class instead of the logger of the `com.coremedia.workflow.impl.server.Server` class:

- `com.coremedia.cotopaxi.wfserver.ServerRightsPolicyMarshallerResolver`
- classes extending `com.coremedia.workflow.impl.server.AbstractProcessSignalHandler`
- classes extending `com.coremedia.workflow.impl.server.AbstractTaskSignalHandler`
- `com.coremedia.workflow.impl.server.Condition`
- `com.coremedia.workflow.impl.server.ContentManager`
- `com.coremedia.workflow.impl.server.ErrorLog`
- `com.coremedia.workflow.impl.server.InternalSession`
- `com.coremedia.workflow.impl.server.LightweightSession`
- `com.coremedia.workflow.impl.server.MasterSession`
- `com.coremedia.workflow.impl.server.ObjectRepositoryImpl`
- `com.coremedia.workflow.impl.server.ParameterAssignment`
- `com.coremedia.workflow.impl.server.ProcessValidator`
- `com.coremedia.workflow.impl.server.SessionManager`
- `com.coremedia.workflow.impl.server.TaskImpl`
- `com.coremedia.workflow.impl.server.TimerManager`
- `com.coremedia.workflow.impl.server.TimerMap`
- `com.coremedia.workflow.impl.server.TransactionManager`
- `com.coremedia.workflow.impl.server.Transformer`
- `com.coremedia.workflow.adapters.persistence.GenericRDBMSAdapter`
- `com.coremedia.workflow.beanparser.ProcessDefinitionFactory`
- `com.coremedia.workflow.handlers.RunActionTimerHandler`
- `com.coremedia.workflow.handlers.SkipUserTaskTimerHandler`
- `com.coremedia.workflow.servlets.CommandServlet`
- `com.coremedia.workflow.servlets.IORServlet`
- `com.coremedia.workflow.servlets.StatsServlet`
- `com.coremedia.workflow.tasks.ForkSubprocessRunTaskHandler`
- `com.coremedia.workflow.validation.OfflineProcessDefinitionFactory`

[CMS-23909]

Deprecated ArchiveProcess Workflow Action: Functionality Removed

The functionality of the deprecated workflow action `com.coremedia.workflow.common.actions.ArchiveProcess` has been removed. The class still exists for backwards-compatibility of old serialized workflow definitions, but the action does not do anything anymore.

Follow [Section "Deprecated ArchiveProcess Workflow Action: Functionality Removed" \[136\]](#) for upgrade information.

[CMS-23899]

Site Manager Removal

The Site Manager has been removed from the product.

Follow [Section "Site Manager Removal" \[136\]](#) for upgrade information.

[CMS-23869]

Upgrade to Java 17

Java 17 is the next Long Term Support version of the Java platform. All components have been updated to work with Java 17. Java 17 is now also required for building the workspace and running the applications, Java 11 will not work anymore. The exception is the studio-client workspace which uses Sencha Cmd to build, which still requires Java 11. Please refer to the release note "Running Sencha Cmd after Java 17 Upgrade" for further details.

Follow [Section "Upgrade to Java 17" \[137\]](#) for upgrade information.

[CMS-23586]

Workflow Server Database Tables

The *Workflow Server* will automatically create new tables in the 'cm_management' database: `WfArchivedProcessInstances`, `WfArchivedTaskInstances`, and `WfArchivedVariables`. These names are reserved and cannot be used as document type names.

[CMS-23118]

Removed Conversion Service Bean from CapRepositoriesConfiguration

The Unified API spring boot integration configured a bean `conversionService` of type `org.springframework.core.convert.support.DefaultConversionService` so that it was capable of converting Strings to `ContentType` instances. This feature was previously used for the Blueprint Spring configuration classes `InterceptorsStudioAutoConfiguration`, `LcStudioLibComponentAutoConfiguration`, and `InferencersStudioConfiguration`. The default conversion service bean has been removed and the configuration classes have been adjusted to use explicit content type retrieval. Instead of

```
@Value("CMLinkable") ContentType contentType
```

Follow [Section "Removed Conversion Service Bean from CapRepositoriesConfiguration" \[138\]](#) for upgrade information.

[CMS-22810]

Upgraded Spring dependencies to latest major versions

Spring Boot was upgraded to version 3 and Spring to version 6. With these upgrades, many further dependencies had to be upgraded as well.

Follow [Section "Upgraded Spring dependencies to latest major versions" \[138\]](#) for upgrade information.

[CMS-21716]

Changed Properties for Process Archiving in the in-memory Setup

The `processes-memory-defaults.properties` were turned into ConfigurationProperties. Configure the process archiving in the in-memory setup with the following properties also documented in the Deployment Dependencies section:

- `workflow.archive.endpoint-url` instead of `studio.url`
- `workflow.archive.username` instead of `studio.user`
- `workflow.archive.password` instead of `studio.password`

[CMS-23786]

Property 'usecaplist' no longer interpreted by Workflow Server

In the Workflow-Server previously, the `usecaplist` property was used to decide whether to connect to CapListRepository. Now, the `repository.caplist.connect` is used for this.

[CMS-20028]

CoreMedia Content Application Engine

Removed Webtrends Analytics Connector

The Webtrends Analytics Connector was removed from the Blueprint workspace without replacement.

[CMS-23884]

Removed class MappedInterceptor

Removed class `com.coremedia.objectserver.web.MappedInterceptor`. Use `org.springframework.web.servlet.handler.MappedInterceptor` instead.

[CMS-23860]

com.coremedia.blueprint.base.links.impl.RuleUrlPrefixResolver has new constructor

The `com.coremedia.blueprint.base.links.impl.RuleUrlPrefixResolver` has a new `RuleUrlPrefixResolver(java.util.List)` constructor. The `PostConstruct` method was removed.

[CMS-23847]

com.coremedia.blueprint.base.links.Optional removed

The custom `com.coremedia.blueprint.base.links.Optional` implementation was removed and replaced by `java.util.Optional` wrapping a String. The `UNDEFINED(""/null)` value is now represented by an `Optional#empty`, `ANY` by an `Optional` of `"*"`.

[CMS-23843]

Third-Party Update: Spring Webflow

Updated [Spring Webflow](#) from 2.5.1.RELEASE to 3.0.0 from 2.5.1.RELEASE to 3.0.0.

[CMS-22845]

CoreMedia Studio Client

Added Configurable Document Types for Search

In the preferences, the user can select preferred content types that should be used for the library search now. The selected content types are shown at the top of the content type combobox (next to the search text slot). The preferred entries remain in the global list of types that can be filtered for.

Follow [Section "Added Configurable Document Types for Search" \[142\]](#) for upgrade information.

[CMS-23580]

Running Sencha Cmd after Java 17 Upgrade

As of version CMCC 2404.1 Sencha Cmd will not be required anymore. However in release 2401, the studio-client workspace still needs Sencha Cmd to build applications and JooUnit tests.

As there is no official support for Java 17 from Sencha and it only works with workarounds, we suggest running it with Java 11.

While this does not affect the Docker based studio-client build as it downloads a suitable JRE 11 anyway, you might need to adjust the installation of Sencha Cmd when building the studio-client locally.

Follow [Section "Running Sencha Cmd after Java 17 Upgrade" \[143\]](#) for upgrade information.

[CMS-23171]

Stricter CSP Rules

The Content Security Rules for Studio Client have been hardened to prevent attackers from uploading JavaScript code into CMS Content and exploit possible XSS vulnerabilities to execute that code in the context of another Studio user. If you have added any custom scripts to Studio Client which are *not* deployed under the paths `/packages/` or `/resources/`, they will now be blocked by the stricter CSP rules, which is reported in the browser console.

Follow [Section "Stricter CSP Rules" \[143\]](#) for upgrade information.

[CMS-22221]

StatefulDateTimeField's Configuration has Changed

The date and time formats of the component `StatefulDateTimeField` are now configured in `BaseModels_properties`. The properties `Date_format` and `Time_format` in `UI_properties` are now removed.

[CMS-23562]

Date and Time Formats Configuration Changed

The date and time format of all Studio components are now localised centrally in `BaseModels_properties`. The date and time format properties in other resource bundles are obsolete and removed.

[CMS-23540]

CoreMedia Studio Server

Removed property for Spring Boot Maven plugin

The `additionalProfiles` property that could have been used to set profiles to activate when starting the Studio Server Spring Boot app locally via the Spring Boot Maven plugin was removed. When additional profiles need to be set, use the `spring-boot.run.profiles` property of the plugin. This will override the plugin configuration. Therefore, make sure to also activate the `dev` and `local` profiles if needed.

[CMS-23917]

CoreMedia Elastic Social

Elastic Social Moderation With CKEditor 5

Elastic Social moderation in CoreMedia Studio has been updated to use CKEditor 5 instead of CKEditor 4.

This change especially includes new CKEditor 5 editor types, that support data backed by BBCode as well as support to managing blocked words to provide hints to editors where comments/review posts contain problematic words or character sequences.

Follow [Section "Elastic Social Moderation With CKEditor 5" \[144\]](#) for upgrade information.

[CMS-22678]

CoreMedia Workspace

Removed usages of Apache HTTP Components 4.x

All usages of Apache HTTP Components 4.x (`org.apache.httpcomponents:httplibclient` and `org.apache.httpcomponents:httpcore`) have been removed from core and blueprint sources.

Follow [Section "Removed usages of Apache HTTP Components 4.x" \[145\]](#) for upgrade information.

[CMS-24084]

Replacement/Removal of Deprecated Code

Content-Server: Removal of deprecated `query` command line tool options:

- The deprecated `paths` and `versions` (short option: `e`) option of the `query` command line tool were removed. Use the `path` and `versionquery` parameter instead.

The location of loggers for certain classes changed. The following classes are now using a logger in their own class instead of the logger of the `hox.corem.server.Server` class:

- `hox.corem.server.ResourceImpl`
- `hox.corem.server.DocumentTypeImpl`
- `hox.corem.server.FolderImpl`
- `hox.corem.server.RepositoryImpl`
- `hox.corem.server.ListenerManager`
- `hox.corem.server.CapUserManager`
- `hox.corem.server.ResourceCache`
- `hox.corem.server.SessionManager`
- `hox.corem.server.SortingServiceFactory`

Common:

- `com.coremedia.publisher.importer.XmlPropertyTransformer#getFilter` now also throws `NoSuchMethodException` and `InvocationTargetException`

Middle:

- `com.coremedia.cap.util.ContentCacheKey` now extends `com.coremedia.cache.util.ObjectCacheKey` instead of `com.coremedia.cap.util.ObjectCacheKey`

[CMS-23686]

Third-Party Update: Caffeine

Updated Caffeine from 2.9 to 3.1.

[CMS-23557]

CoreMedia Frontend Workspace

Removed deprecated CSS/JS property "ieExpression"

The doctype property `ieExpression` of `CMAbstractCode` has been deprecated in release 2110.1. All usages in Studio, CAE and Frontend are removed now. To avoid migration issues, the doctype property still exists in the CoreMedia content type model.

[CMS-20144]

CoreMedia Deployment

APPLICATION_OPTS Removed from Base Image

Starting with `coremedia/java-application-base:2.1-cm-17.*` the environment variable toggle `APPLICATION_OPTS` has been removed from the base image, please use `_JAVA_OPTIONS` instead as intended by the JVM.

[CMS-24015]

Volume definitions Moved to Application Module or Deployment

Starting with `coremedia/java-application-base:2.1-cm-17.*` the base image only defines the new default for `java.io.tmpdir`, `/tmp` as a volume. Volumes should be defined in the deployment code matching the configured paths for ephemeral and persistent state paths.

This change is one of many to consolidate the image creation to make the containers immutable with a readonly rootfs.

[CMS-23629]

The coremedia/java-application-base image is now Corretto JRE by default

The `coremedia/java-application-base` image now also provides a JRE based Corretto image. The image tag suffix is `corretto-jre`. If there are Java modules missing for your use case, there is still the JDK based image with the suffix `corretto-jdk` or the Eclipse Temurin based images with the prefixes `temurin-jre` or `temurin-jdk`.

[CMS-23628]

Switch from `/var/tmp` to `/tmp` as the default `java.io.tmpdir` path

The `coremedia/java-application-base` images starting with `2.1-cm-17.*` will no longer set `java.io.tmpdir` to `/var/tmp` by default but instead to `/tmp` to match the default used in most JVM frameworks like Apache Tomcat uses it for its root dir when embedded in Spring Boot applications. This is a consolidation to make CoreMedia container based applications easier to configure when securing it to have a readonly rootfs.

[CMS-23622]

Prometheus `jmx-exporter` Agent Disabled by default

Please use the Spring Boot Prometheus actuator endpoint to scrape metrics instead. You can still enable the exporter using `PROMETHEUS=true` but you also need to expose the `8199` port for the prometheus service discovery.

Follow [Section "Prometheus jmx-exporter Agent Disabled by default" \[148\]](#) for upgrade information.

[CMS-23621]

`SPRING_BOOT_EXPLODED_APP` Removed from Base Image

Starting with `coremedia/java-application-base:2.1-cm-17.*` the environment variable toggle `SPRING_BOOT_EXPLODED_APP` has been removed from the base image. Images build using Google Jib Maven plugin are always exploded, making this toggle obsolete.

[CMS-23618]

The environment variable `SPRING_PROFILES` has been removed from the base image and the `compose` setup

Starting with `coremedia/java-application-base:2.1-cm-17.*`, using the environment variable `SPRING_PROFILES` is deprecated. It will still work but you should migrate and use the `SPRING_PROFILES_ACTIVE` environment variable.

[CMS-23613]

`coremedia/java-application-base` is now based on `amazonlinux:2023`

Starting with `coremedia/java-application-base:2.1-cm-17*` the image is based on `public.ecr.aws/amazonlinux/amazonlinux:2023-minimal`.

[CMS-23330]

Port `8199` Removed from the Exposed Ports by Default

Only in case the container exposes the `jmx-exporter` metrics endpoint by setting `PROMETHEUS=true`, the container should expose the port. Because the `jmx-exporter` is now disabled by default, this port has been removed from the expose list, so it does not get accidentally scraped by prometheus.

Follow [Section "Port 8199 Removed from the Exposed Ports by Default" \[149\]](#) for upgrade information.

[CMS-22787]

CoreMedia Headless Server

Headless Server Uses Auto Configured Task Scheduler Bean

Headless Server created its own executor service which was configurable via `caas.rest.num-threads`. It now uses the [auto configured task execution service](#). The property `caas.rest.num-threads` was removed. Use `spring.task.execution.pool.max-size` instead.

[CMS-23832]

Replace Springfox with Springdoc

[Springfox](#) was replaced by [Springdoc](#). This change is considered breaking only for customers using custom Spring controllers. If that's the case, the replacement of annotations might be required as described in the Springdoc migration guide: <https://springdoc.org/v2/#migrating-from-springfox>. The swagger documentation is still accessed the same way as before.

[CMS-23487]

Media hash calculation Changed

Previously the media hash calculation for the media endpoint included all properties from site or global image transformation settings. This led to an unexpected change of the media hash, when changing non-relevant transformation properties, e.g. `minWidth`. This change introduces the application property `caas.media.hash-property-names`, which defaults to the list of these values: `"width", "height", "widthRatio", "heightRatio"`.

Follow [Section "Media hash calculation Changed" \[150\]](#) for upgrade information.

[CMS-23635]

Miscellaneous

Migration of Spring XML configuration files to Java Configuration

In the course of migrating from Spring XML to Java configurations, some XML files were removed in favor of their replacement Java Spring configuration classes. The details can be found below:

- removed `bpbases-links-postprocessor.xml` (import `BlueprintLinksPostprocessorsConfiguration` instead)
- removed `bpbases-context-finder-services.xml` (import `NavigationContextFinderConfiguration` instead)
- removed `handler-services.xml` (import `CaeHandlerServicesConfiguration` instead)
- removed `link-services.xml` (import `CaeLinkServicesConfiguration` instead)
- removed `user-services.xml` (import `UserServicesConfiguration` instead)
- removed `cap-xliff-service.xml` (import `CapXliffConfiguration` instead)
- removed `mimetype-service.xml` (import `MimeTypeServiceConfiguration` instead)
- removed `com.coremedia.cap.test.xmlrepo.XmlRepoResources` (import Java configuration classes instead)

[CMS-24021]

CKEditor 4 Support Removed

Starting with CMCC 12.2401.1 CKEditor 4 is not supported anymore.

Corresponding references in Studio Developer Manual have been removed.

Note, that in upcoming releases, left-over traces in CoreMedia Blueprint will be removed.

Follow [Section “CKEditor 4 Support Removed” \[151\]](#) for upgrade information.

[CMS-23995]

Removal of Pre-created Directories in `coremedia/java-application-base` Image

Starting with `coremedia/java-application-base:2.1-cm-17.*`, the base image no longer precreates the following directories:

- `/coremedia/tools/var/logs`
- `/coremedia/corem-home/var/tmp`
- `/coremedia/log`

[CMS-23624]

Cleaned Up Spring Configuration Files and Classes

In the course of updating from spring boot 2.7 to 3.1 a number of configuration XML files and configuration classes had to be adjusted:

- Bean `translate.xliff.translatableExpressions` provided by class `com.coremedia.translate.item.TranslatablePredicateConfiguration` was renamed to `translateXliffTranslatableExpressions`
- `com.coremedia.blueprint.studio.topicpages.rest.CustomTopicPagesConfiguration` was renamed to `CustomTopicPagesAutoConfiguration`

- `com.coremedia.blueprint.analytics.elastic.rest.ESALXStudioConfiguration` was renamed to `ESALXStudioAutoConfiguration`
- `com.coremedia.blueprint.taxonomies.TaxonomyConfiguration` was renamed to `TaxonomyAutoConfiguration`
- `com.coremedia.blueprint.studio.rest.taxonomies.TaxonomyStudioConfiguration` was renamed to `TaxonomyStudioAutoConfiguration`
- `com.coremedia.blueprint.studio.rest.intercept.InterceptorsStudioConfiguration` was renamed to `InterceptorsStudioAutoConfiguration`
- XML configuration file `com/coremedia/blueprint/common/multisite/translation-config.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/studio-in-memory-caplist.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-common.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-contentbeans.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-retrieval.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/caefeeder-blueprint.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/caefeeder-services.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/livecontext-contentfeeder.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/elastic-worker.xml` was removed without replacement

[CMS-23556]

Migration of Spring XML configuration files to Java Configuration

The CoreMedia Component Loader is deprecated in favor of Spring Boot auto configurations. Many Spring component XML files have been converted to Spring Boot auto configuration classes. Several non-component Spring XML files have been converted to Spring configuration classes in that course. Also, existing configuration classes have been renamed and component properties files have been renamed to ordinary properties files. The detailed changes are listed below.

Follow [Section "Migration of Spring XML configuration files to Java Configuration" \[153\]](#) for upgrade information.

[CMS-23224]

Removed OpenCalais Integration

The integration for the service "OpenCalais" has been removed.

[CMS-20586]

Salesforce Marketing Cloud: Migrated to Java 17

The integration for Salesforce Marketing Cloud has been migrated to Java 17.

[CMS-23742]

4.9.2 Changes and Improvements

CoreMedia Core

Upgrade to Solr 9.4.1

Solr has been upgraded to release 9.4.1. See https://solr.apache.org/docs/9_4_1/changes/Changes.html for a list of changes. Alongside, a new coremedia/solr-base Docker image with tag 2.2-cm-9.4.1 was released.

As part of this change, the following transitive dependencies of Apache Solr have been updated to match versions used by Solr:

- Apache Zookeeper 3.9.1
- Eclipse Jetty 10.0.19
- FasterXML Jackson 2.16.1
- SLF4J 2.0.10 (CMCC 12 2401 only)

Since Solr 9.4.0, configuration of a proxy in communication of clients with Solr via HTTP/2 is possible. To enable a proxy, use these new properties:

- *solr.proxy-host*: Proxy host for Solr communication.
- *solr.proxy-port*: Proxy port for Solr communication.
- *solr.proxy-is-socks4*: SOCKS 4 flag for Solr proxy. Default is *false*.
- *solr.proxy-is-secure*: Secure flag for Solr proxy. Default is *false*.

Leaving *solr.proxy-host* or *solr.proxy-port* unset, disables proxy configuration and lets the clients communicate with Solr directly. Environment variables *HTTP_PROXY* and *HTTPS_PROXY* are not evaluated and thus have no effect.

[CMS-24001]

Third-Party Update: Apache Tika and Transitive Dependencies

Apache Tika has been updated to version 3.0.0-BETA. As part of this change, the following transitive dependencies of Apache Tika have been updated to match versions used by Tika.

Updated dependencies:

- Apache Commons Codec 1.16.0
- Apache Commons Compress 1.25.0
- Apache Commons Lang3 3.14.0
- Apache Commons IO 2.13.0
- Apache Log4J API 2.21.1
- Apache PDFBox 3.0.1
- Apache POI 5.2.5
- Apache Tika 3.0.0-BETA
- Apache XMLBeans 5.2.0
- ASM 9.6
- Drew Noakes Metadata Extractor 2.19.0
- FasterXML Jackson 2.16.1
- Glassfish JAXB 4.0.4
- Jakarta Bind API 4.0.1
- Rome 2.1.0

If you use these libraries in project code, please check their respective release notes for changes and upgrade information.

[CMS-23952]

Updated Maven dependencies and plugins

Updated several dependency and plugin versions.

The following plugins and dependencies have been updated:

- [Commerce Client API and Mock Adapter for Commerce Hub](#) from 2.2.3 to 3.0.1
- [Adapter for SAP Commerce Cloud](#) from 2.2.0 to 3.0.0
- [Adapter for Salesforce Commerce Cloud B2C](#) from 2.2.2 to 3.0.0
- [Adapter for HCL Commerce](#) from 2.2.0 to 3.0.0
- [AspectJ](#) from 1.9.19 to 1.9.21
- [AssertJ](#) from 3.24.2 to 3.25.1
- [Byte Buddy](#) from 1.12.23 to 1.14.11
- [Classmate](#) from 1.5.1 to 1.7.0
- [Commons DBCP](#) from 2.9.0 to 2.10.0
- [Error Prone](#) from 2.17.0 to 2.24.1
- [Jackson](#) from 2.15.2 to 2.16.1

- [JAXB Runtime](#) from 2.3.8 to 4.0.4
- [GraphQL Spring Boot Starter](#) from 11.0.0 to 15.0.0
- [gRPC-Java](#) from 1.58.0 to 1.61.0
- [gRPC Spring Boot Starter](#) from 2.14.0.RELEASE to 2.15.0.RELEASE
- [Guava](#) from 32.1.2-jre to 33.0.0-jre
- [Hibernate](#) from 5.6.15.FINAL to 6.4.1.Final
- [Hibernate Validator](#) from 6.2.5.FINAL to 8.0.1.FINAL
- [Janino](#) from 3.1.10 to 3.1.11
- [JBoss Logging](#) from 3.4.3.Final to 3.5.3.Final
- [JUnit 5](#) from 5.9.3 to 5.10.1
- [Liquibase](#) from 4.19.1 to 4.25.1
- [Log4j](#) from 2.19.0 to 2.21.1
- [Logback](#) from 1.2.12 to 1.4.11
- [MariaDB Connector/J](#) from 3.1.3 to 3.1.4
- [Maven Source Plugin](#) from 3.2.1 to 3.3.0
- [Maven Compiler Plugin](#) from 3.8.0 to 3.9.0
- [Micrometer](#) from 1.10.11 to 1.12.2
- [Mockito](#) from 5.3.0 to 5.3.1
- [Netty](#) from 4.1.100.FINAL to 4.1.105.Final
- [Protocol Buffers for Java](#) from 3.24.3 to 3.25.2
- [REST Assured](#) from 5.3.1 to 5.3.2
- [SLF4J](#) from 1.7.36 → 2.0.10
- [Thymeleaf](#) 3.0.15.RELEASE → 3.1.2.RELEASE
- [Tomcat](#) from 9.0.82 to 10.1.18

[CMS-23830]

--bloburl option for serverexport and serverimport

`serverimport` and `serverexport` support the `- bloburl` option now, which allows to store blobs under an HTTP URL. This keeps the blobs out of the exported set of files, so that it becomes smaller and easier to handle. See the `contentserver` manual and the usage output for details. The `-bloburl` option has been a hidden feature for a while, and on popular demand we support it publicly now.

[CMS-17071]

CoreMedia Studio Client

Changed icons in Studio to SVG format

All usages of the *CoreIcon_properties* have been removed from the workspace. The utility method *SvgIconUtil#getIconStyleClassForSvgIcon* is used instead. This method can either be used directly inside a component or inside a resource bundle class.

Additionally, the following resource bundle changes have been made:

- The deprecated resource bundle *StandardDocumentTypes_properties* has been removed. The resource bundle *ContentTypes_properties* must be used instead.
- The module *core-icons* which included the *CoreIcons_properties.ts* has been removed.
- The module *collaboration-icons* which included the *CollaborationIcons_properties.ts* has been removed.
- Job icons are now read from the new properties class *Job_properties*. If you are using custom icons for jobs, use the *CopyResourceBundleProperties* to apply your icon definitions to this resource bundle.
- Content Hub icons are now read from the new properties class *ContentHub_properties*. If you are using custom icons for a Content Hub adapter, use the *CopyResourceBundleProperties* to apply your icon definitions to this resource bundle.

[CMS-23591]

Workflow App Split View Footer Bar

When the Workflow App is shown in the Content App split view a footer bar was shown across the whole Content App. This has been changed, so that the footer is now confined to the embedded Workflow App itself.

[CMS-23571]

Fixed Browser Console Warnings

Fixed miscellaneous browser console warnings.

[CMS-22970]

CoreMedia Studio Server

Adjusted Postgres Sequence Increment Size

The Postgres sequence increment size used for editorial comments is set to 50 now. This matches the default Hibernate sequence generator behavior.

[CMS-23554]

"Clear my edited content" is in the context menu

In the control room the context menu for "My Edited Content" has now the menu item "Clear my edited content".

[CMS-23512]

CoreMedia Workspace

Make blueprint groupId configurable in ModularOneRepoEnforcerRule

To keep the ModularOneRepoEnforcerRule functional after changing the blueprints groupId, you can now configure new groupId in the rule like this:

```
<myCustomRule
implementation="com.coremedia.maven.enforcer.ModularOneRepoEnforcerRule">
  <blueprintGroupId>YOUR_BLUEPRINT_GROUP_ID</blueprintGroupId>
</myCustomRule>
```

To use this option `blueprintGroupId` make sure to use version 1.2.2 of the `coremedia-enforcer-rules`:

```
<dependency>
  <groupId>com.coremedia.maven</groupId>
  <artifactId>coremedia-enforcer-rules</artifactId>
  <version>1.2.2</version>
</dependency>
```

[CMS-23551]

Sort-POM-Plugin for Maven updated

The Maven plugin to sort pom files was updated to the most recent version. The old plugin was outdated and had different maven coords. The old maven coords was actually

a wrong name for the plugin. The new coords are the same but latest version of the same plugin with new coords. In case, the plugin was used in blueprint extension, be aware, that there may be slightly changed flags, new options and behaviour.

[CMS-10271]

CoreMedia Frontend Workspace

Third-Party Update: Upgraded jQuery to version 3.7.1

Updated jQuery to 3.7.1 in the blueprint and in the frontend workspace. If you are using jQuery in your themes, please update the dependency in the package.json of the theme too to avoid importing both jquery versions.

Upgrade steps:

Run `pnpm -r up jquery@3.7.1` in your frontend workspace.

[CMS-23970]

Modernized eslint and prettier in frontend workspace

We updated and integrated eslint and prettier (via eslint-plugin) to the whole frontend workspace. It is enabled and configured for all themes and bricks via a shared configuration. It is integrated in the frontend tooling too. You can check and lint all files via `pnpm lint`. All blueprint source files have been linted.

Upgrade steps:

If you don't want to use eslint and prettier, everything should work as before. Otherwise run the following command in your custom themes and bricks: `pnpm add -D eslint @coremedia/eslint-config-frontend` Also add the following entry to the scripts block in the package.json: `"lint": "eslint --fix \"src/**/*.js\""`

[CMS-23949]

CoreMedia Deployment

Build OCI conform images and provide property to select base image architecture

All maven modules that build container images using the Google Jib Maven plugin, now provide a property `application.image-arch` to configure the base image architecture.

If not set specifically to a different architecture, Jib will always select `linux/amd64`.

[CMS-23630]

File log directory for Spring Boot dev profile changed

The directory to log application logs when the Spring Boot profile `dev` is activated has changed to `/tmp` to match the change of the common tmp directory of all containers and not to write to the application root directory `coremedia`.

[CMS-23626]

CoreMedia Headless Server

Fixed headless-server-base Dependencies

Removed `headless-server-p13n` test dependency from `headless-server-base`.

[CMS-23714]

Miscellaneous

Removed logging-common.xml of base-component artifact

The `logging-common.xml` resource provided by artifact `com.coremedia.cms:base-component` was deleted. Use Spring Boot logging config or a whole custom logging config instead.

[CMS-24004]

[CMS-23992]

Updated ESAPI

Updated [ESAPI](#) from 2.4.0.0 to 2.5.2.0.

[CMS-23780]

4.9.3 Fixed Issues

CoreMedia Core

Fixed Content Feeder Bug that Causes Reindexing after Restart

Fixed a bug in the Content Feeder, that after restart, old content events are handled once again and cause up-to-date content to be re-indexed, which may take some time. Furthermore, the bug caused the PendingEvents metric to stay at a high value until restart. The reason of this bug was that the Content Feeder has not always correctly stored the last processed timestamp in Solr.

[CMS-23910]

Fixed Bug in Workflow Converter

Fixed a bug in the Workflow Converter's check to detect incompatible code changes for existing workflow definitions. The bug caused workflow definitions to be treated as incompatible, even if nothing had changed. This could lead to unnecessary conversion of workflow definitions, and also delay Workflow Server startup if it's configured with `workflow.server.enable-workflow-converter=true`.

[CMS-23678]

Updated JSON-Java

Updated [JSON-Java](#) from 20230227 to 20231013

[CMS-23648]

Third-Party Update: Jetty

Jetty has been updated to version 10.0.17 (9.4.53.v20231009 for Site Manager) to avoid reported security vulnerabilities of previous versions.

[CMS-23614]

Ambiguous published navigation tree will be detected

If an already published navigation node (a page) has been moved under another node, then it was a common error that the old parent node was not also updated/published. If only the new parent node was published then suddenly there were 2 parent nodes on the live side, both of which linking to the moved child page. No validator has drawn attention to this yet.

A new Studio validator "PublishedNavigationTreeValidator" is introduced to address this issue. A warning is displayed both on the moved page and on the new parent page. It says that there is still a published parent page that should also be updated/published.

[CMS-23597]

Removed Property `db.schema.name-uppercase`

The property `db.schema.name-uppercase` has become obsolete and has been removed.

[CMS-23080]

Set replicator.tmp-dir to /tmp in container setup

In order to make the replicator have a readonly rootfs, the replicator.tmp-dir should be set to an ephemeral tmp dir volume:

- In a Docker environment set this to an anonymous volume.
- In a Kubernetes environment set this to an emptyDir volume.

[CMS-22486]

Fixed Feeder Shutdown on Error

Fixed a bug in CAE Feeder and Content Feeder that they did not correctly stop in case of errors that happened during its start. Some threads were not correctly stopped and kept the Java process alive. This has been fixed now.

[CMS-21028]

Studio Search and Special Characters in Prefix Queries

Fixed a bug in the Studio search functionality, that some content items were not returned for a prefix query, if the query contained special characters like dashes or slashes. This fix also affects the suggested content items for link list fields, and the suggested folders in the folder chooser.

A prefix query is a query that ends with an asterisk like "2023-04*". Such queries can be used in the library's search view to find content items containing words that start with a given string. Suggestions for link list fields and the folder chooser use such prefix queries internally.

Previously, these queries did not return all expected results, if the query prefix contained certain special characters. This has been fixed by replacing special characters internally before sending queries to the Solr Server.

In case of unexpected problems, the old behavior can be restored by configuring the Studio Server with `studio.rest.search-service.replace-special-characters-in-prefix-or-wildcard-query=false`.

[CMS-12532]

CoreMedia Content Application Engine

Removed blueprint-handlers.xml

Removed blueprint-handlers.xml from cae-base-lib without replacement. The file provided the abstract beans `pageHandlerBase`, `defaultPageHandler`, and `defaultPageActionHandler`. The dependencies assigned to these abstract beans have to be assigned explicitly in handler beans as Spring java config does not support abstract beans.

[CMS-24006]

Change Link Building/Handling for Transformed Blobs

Methods `buildLink` and `handleRequest` of `com.coremedia.blueprint.cae.handlers.TransformedBlobHandler` have been changed to generate/validate the digest url segment based on the ETag of the actual transformed blob which respects the width/height parameters and the effective Responsive Image Settings.

This means that new links are generated not only when the local transformation string of a blob changes but also when the effective Responsive Image Settings change.

[CMS-23598]

CoreMedia Studio Client

Fixed Draggable Menu Items Error

Fixed JavaScript error that happened sometimes when opening the "Favorites" menu which was caused by a duplicate drag zone registration.

[CMS-23874]

Typo in Withdrawal Success message is fixed

It showed `withdrawel` instead of `withdrawal`.

[CMS-23793]

[Partly] Fixed Bug Where Studio Client Creation of Content Objects Took Too Long

We fixed a bug where the creation of content (ContentImpl) objects on the Studio Client took unnecessarily long.

[CMS-23758]

Fixed Bug Where Withdrawing A Version Could Freeze Studio

We fixed a bug where withdrawing a version from a content with many versions (> 10000) leads to a complete remote bean cache invalidation on the Studio Client side.

[CMS-23731]

Fixed Bug Where UUID Listeners on Studio Client Remote Beans Lead to Unnecessary Invalidations

We fixed a bug where unloaded remote beans on the Studio Client were accidentally loaded on invalidation because of a "uuid" property listener.

[CMS-23730]

Fixed Library Column Header Localization

Added missing translations for the column sorting dropdown menu.

[CMS-23600]

CompoundPlugin Works with Plugin Configs again

The CompoundPlugin works again when using Plugin Configs. Before, it assumed that the given `plugins` were already instantiated.

[CMS-23441]

Sometimes the pagegrid loses all content

It has been already fixed.

[CMS-21820]

CoreMedia Studio Server

Lower severity for new PublishedNavigationTreeValidator issue

The new PublishedNavigationTreeValidator checks if a navigation node that will be moved from one parent to another might be still linked from the old parent (a common issue). The warn issue that was added was also displayed in the Publication Workflow window, even if the editor has done everything right (adding the old and the new parent node to the publication set according to the issue text). That could be confusing. That is why we have lowered the level to INFO.

[CMS-23953]

Fixed a Bug Where CKEditor 5 Did Not Notice Changes

We fixed a bug where the CKEditor 5 did not notice changes made to the rich text. Consequently, the "checked out" state of the underlying content item was not entered and nothing got written back to the server. What's worse, this problem would sometimes go unnoticed by editors who just published the content item alongside others and were not aware of the fact that all their changes for the content item got lost.

This problem only happened in combination with Studio tab reuse.

[CMS-23933]

Fixed Taxonomy Suggestions

Taxonomy contents located in unreadable folders are not tried to be evaluated for suggestions anymore.

[CMS-23883]

The logging of the class `org.apache.coyote.http11.Http11InputBuffer` is muted

The class `org.apache.coyote.http11.Http11InputBuffer` logs - on the debug level - all requests to the Studio Server. To prevent the logging of sensitive information the logging of the class is per default muted. You have to set the log level of the class explicitly to `debug` to reverse the default.

[CMS-23821]

Bookmarks reordering fixed

Now the drag & dropping of bookmarks works properly even when the list is long and the scroll bar is present.

[CMS-23807]

Fixed Taxonomy Renaming

Fixed issue that a taxonomy document was automatically renamed when users with different Studio languages accessing it via Taxonomy Manager.

[CMS-23659]

Fixed Taxonomy Renaming with Double Quotes

Added missing HTML escaping for taxonomy nodes.

[CMS-23611]

Added Site Id Validator

Added site id validator which ensures that when a new site is created or an copied, the id is unique.

[CMS-12017]

CoreMedia Workspace

Fixed invalid comment in pom.xml

Invalid comment in pom.xml has been fixed, so maven-release-plugin update-version command works.

[CMS-23495]

CoreMedia Frontend Workspace

Moved tooling dependencies to devDependencies

Some dependencies ("`@coremedia/cm-cli`", "`@coremedia/theme-utils`", "`cross-env`", "`webpack`") used for tooling and building themes have been moved to `devDependencies` for better clarity. This has no impact to the themes, it's just good practise.

[CMS-23076]

Replaced deprecated dependency "request" with "axios"

The frontend tooling for uploading themes has been modernized. The old and deprecated dependency `request` has been replaced with `axios`. The usage of the theme-importer hasn't changed.

[CMS-22661]

CoreMedia Headless Server

Handle CVEs for graphql-spring-boot-autoconfigure-15.0.0.jar: subscriptions-transport-ws-browser-client.js

Lodash is directly included in the affected file `subscriptions-transport-ws-browser-client.js`, which in turn is part of the included graphql version. Unfortunately the project has been archived and there will be no updates anymore. Since graphql is a pure developer tool and only enabled in preview mode, the reported security risk is considered only moderate to low, thus CVE-2019-10744, CVE-2020-8203, CVE-2021-23337, CVE-2018-3721, CVE-2019-1010266, CVE-2018-16487, CVE-2020-28500 were suppressed.

The whole library will be replaced with CM12 version 2404 by the latest version of Spring-GraphQL, which is much better supported as a part of the Spring project and also includes a maintained and updated version of graphql.

[CMS-24020]

Prevent exceptions when logging resource paths

Logging resource paths with `org.springframework.core.io.Resource#getURI` can fail on Windows development environments in some cases. To prevent such exceptions, log statements have been changed to just use the implicit `toString()`.

[CMS-23900]

HeadlessServer: More tolerant request handling for invalid hashes on MediaController

Previously the validation on the MediaController denied requests with wrong or outdated hashes. HeadlessServer now accepts requests with wrong or outdated hashes as long as the rest of the url parameters are conclusive (id, crop name, filename, width). If this is the case HeadlessServer now responds with a HTTP 301 / Moved Permanently to the correct URL of the corresponding media, instead of a HTTP 401 / Not Found.

[CMS-23595]

Miscellaneous

Update to Jakarta Activation 2.1 (Jakarta EE 10) to avoid dependency conflicts

[CMS-23956]

CVE-2023-46589 - tomcat-embed-core-10.1.15.jar

[CMS-23908]

CVE-2023-6481 - ch.qos.logback:logback-core:1.4.12

[CMS-23907]

Updated bouncycastle dependencies

`org.bouncycastle:bcprov-jdk18on` and `org.bouncycastle:bcmail-jdk18on` have been updated to version 1.77. Also, dependency management for `org.bouncycastle:bcjmail-jdk18on` has been added. All of these dependencies are now managed in `com.coremedia.cms:common-third-party-bom` (`org.bouncycastle:bcmail-jdk18on` was previously managed in `com.coremedia.cms:middle-thirdparty-bom`).

[CMS-23882]

Refactoring of Internal MBeanRegistry class

The internal class `com.coremedia.jmx.DefaultMBeanRegistry` was refactored. As a consequence, the properties `generateUniqueName` and `unregister` of bean `mbeanRegistry` can no longer be customized. The internal properties `management.mbeans.generate-unique-name` and `management.mbeans.unregister` can be used instead. Note that this is only relevant for projects using a custom WAR deployment and pre-installed servlet containers.

[CMS-23875]

Performance Improvement for LdapUserProvider

A recent bugfix caused a performance degradation of the `LdapUserProvider`. This has been fixed now.

[CMS-23863]

Restored Missing Solr JMX MBeans

Fixed a bug that Solr metrics starting with "solr.jetty", "solr.jvm", and "solr.node" were missing as JMX Mbeans with Solr 9. These metrics have been re-enabled now in the solr.xml configuration file.

[CMS-23787]

Fixed "Add Link Entry" Button in Struct Editor

The "Add Link" button in the struct editor was enabled for link list properties. Since no empty link values are allowed, clicking the button has no effect. Therefore, it is disabled now for link list item properties.

[CMS-19635]

5. Upgrade Information

This chapter contains all information relevant for an upgrade to the specific release.

5.1 Upgrade to 2404.4

Release 2404.4 requires no upgrade steps.

5.2 Upgrade to 2404.3

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.2.1 CoreMedia Core

Third-Party Update: Apache Solr 9.6.1

Apache Solr has been updated to version 9.6.1. Alongside, a new coremedia/solr-base Docker image with tag 2.3-cm-9.6.1 was released. As part of this change, Solr's transitive dependency to Jetty has been updated to version 10.0.20, which fixes security vulnerability CVE-2024-222-01.

Solr 9.6.1 includes an update of Lucene, and indices written by the new version may become unreadable for previous Solr versions. You should make a backup of Solr indices before the update to be able to revert the update in case of unexpected problems. To avoid errors with Solr replication, followers should be updated at the same time or before leaders, or Solr replication should be stopped during upgrade, for example by disconnecting Solr followers from the Solr leader.

See https://solr.apache.org/docs/9_6_1/changes/Changes.html for a list of changes in Solr.

[CMS-24165]

5.2.2 CoreMedia Studio Server

Removed dependency management for Google APIs Client Library for Java

The dependency management for `com.google.api-client:google-api-client` has been removed, because there're no more usages of that dependency.

[CMS-24909]

5.2.3 CoreMedia Elastic Social

Changed return types in ElasticSocialSettings to allow encryption and decryption of secrets

To allow that the secret settings in the [Elastic Social Credentials](#) document can be stored as encrypted secrets instead of only plaintext strings, the return types of the respective getters in the `com.coremedia.blueprint.base.elastic.social.configuration.ElasticSocialSettings` had to be changed to `java.lang.Object`.

The type of the value returned by these getters can now either be a `java.lang.String` or a `com.coremedia.cap.common.Blob`:

- In case of a string, the value is assumed to be a plaintext value and the respective getters of the `com.coremedia.blueprint.base.elastic.social.configuration.ElasticSocialConfiguration` will simply return the string.
- In case of a blob, the value is expected to be an encrypted secret, and the `com.coremedia.blueprint.base.elastic.social.configuration.ElasticSocialConfiguration` will decrypt it and then return the decrypted plaintext string when calling the same getter.
- Other types are not supported.

Please note: To allow encryption and decryption of secrets in the [Elastic Social Credentials](#) document, the [AWS KMS Encryption Plugin for CoreMedia CMS](#) must be installed and properly configured.

[CMS-25260]

5.2.4 CoreMedia Headless Server

HeadlessServer: Missing support for blobs in structs fixed

HeadlessServer had a problem delivering blobs stored in structs of a linked settings document, e.g. in a page. This bug was fixed.

Since encrypted string in structs are also stored as blobs in structs, headless now also delivery encrypted values. For security reasons, the delivery of encrypted values is dis-

abled by default. If you want to use encrypted values, one can enable the delivery by setting the new config property `caas.graphql.exposeSecrets=true`.

Please be aware, the one still has to decrypt those values on the client side, which also requires the correct decryption key on the client!

Due to the fix, the constructor of class `com.coremedia.caas.model.converter.MapToNestedMapsConverter` had to be changed. `com.coremedia.caas.model.converter.MapToNestedMapsConverter` is instantiated as a spring bean in `CaasConfig`. If one has not changed `CaasConfig`, this change may be considered **non-breaking**. Otherwise please check your version of `CaasConfig` and eventually update the instantiation of `com.coremedia.caas.model.converter.MapToNestedMapsConverter`.

[CMS-24683]

5.3 Upgrade to 2404.2

Release 2404.2 requires no upgrade steps.

5.4 Upgrade to 2404.1

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.4.1 CoreMedia Core

Support for Blobs Larger Than 2GB

The CMS now supports blobs larger than 2GB (henceforth called “*huge blobs*”) on external media stores. Huge blobs can be up- and downloaded via UAPI clients, `serverimport/serverexport`, and Studio. They can also be delivered via CAE and Headless Server.

Huge blobs are only supported if external media stores are used (e.g., *FileStore*, *S3Store*, *Blob Service*). See section [3.3 Configuring Blob Storage](#) in *Content Server Manual*. For *Blob Service*, refer to <https://documentation.coremedia.com/discover/services/image-transformation/>. Huge blobs cannot be stored in the database.

Internal tests with a blob of 5GB have been performed to validate functionality. Depending on network performance and general system stability, larger blobs may be possible. Please keep in mind that AWS S3 and file systems have upper file size limits which must be adhered to. For *S3Store* and *Blob Service*, 5GB currently is the upper limit. Also have an eye on your service quotas when using S3 or a file system.

“Ranged requests” for large blobs are supported, e.g., to stream video data. Image transformation on huge blobs is not supported as this may easily exceed any reasonably available Java process memory.

API Changes

Unfortunately, supporting huge blobs implies that we cannot represent blobs' sizes as `int` values any longer, but had to switch to `long`. This required some changes which affect the public API. You must at least recompile your project Blueprint workspace against the new CMCC version. Depending on your customizations, you may have to adjust some source code too.

To access a blob's size, a new UAPI method `com.coremedia.cap.com.mon.Blob#getSizeLong()` has been introduced which returns the blob size as a `long` value. The still existing method `Blob#getSize():int` has been deprecated and will be removed in a future release. Please be aware that this deprecated

method will fail with an exception when called for a blob of size 2GB and beyond since an `int` value cannot represent huge numbers (it's limited to `java.lang.Integer#MAX_VALUE`). To be safe, only the new method `Blob#getSizeLong()` should be used in UAPI clients and Freemarker templates. All usages of `Blob#getSize()` have been replaced by `Blob#getSizeLong()` in the Blueprint workspace. For backward compatibility, `Blob#getSizeLong()` is a default method that delegates to `Blob#getSize()`. Thus, existing custom implementations of the `Blob` interface will still work until we finally delete `Blob#getSize()`.

The Headless Server API class `com.coremedia.caas.model.adapter.ContentBlobAdapter` also has a method `getSize()`, which has been deprecated in favor of a new method `getSizeLong()`, just like the UAPI `Blob` interface. This change has also been done in the GraphQL schema where a new field `sizeLong` was added to the `Blob` interface. The old field `size` is now deprecated.

Furthermore, avoid the use of method `Blob#asBytes():bytes[]` if huge blobs are to be processed, as a Java array can only hold up to `java.lang.Integer#MAX_VALUE` bytes and thus cannot be used for huge blobs. Calling this method on a huge blob will result in an exception being thrown. Ideally, all blobs should be transferred via streams.

The interface `com.coremedia.cap.common.BlobService` features various blob creation methods which expect a `size` argument. The type of the `size` argument has been changed from `int` to `long` for all those methods.

In the interface `com.coremedia.cap.common.CapConnectionManager` the methods `setMaxCachedBlobSize` and `getMaxCachedBlobSize` have been changed from `int` to `long`.

Database Changes

To represent huge blob sizes, the database schemas have been adjusted. Upon first startup, database schemas will be migrated automatically. It is recommended to record migration times during a test run on a copy of productive data to estimate downtimes during production roll-out.

Studio Configuration

The `UploadSettings` have been extended with a new property `maxFileSizeMB` to allow for the configuration of upload limits beyond 2GB. When present, this settings overrides the old value `maxFileSize`. The default value of 64MB is unchanged.

[CMS-24179]

Update of MongoDB driver to 4.11.1

The thirdparty dependencies `org.mongodb:mongodb-driver-legacy`, `org.mongodb:mongodb-driver-core` and `org.mongodb:bson` have been updated from version 4.8.2 to 4.11.1. This is marked as a breaking change, because custom implementations can potentially use changed API of the MongoDB driver.

[CMS-23184]

MongoDB update to version 7.0.5

MongoDB has been updated to version 7.0.5 for the Docker Deployment. Note that an upgrade is only possible from a 6.0.x version. An upgrade from an earlier version needs to be done successively. Please refer to the official MongoDB documentation on how to upgrade: <https://www.mongodb.com/docs/manual/release-notes/7.0-upgrade-standalone/> The compatibility changes are described here: <https://www.mongodb.com/docs/manual/release-notes/7.0-compatibility/>

[CMS-23183]

TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans

Spring configuration class `com.coremedia.cap.transform.TransformImageServiceConfiguration` of module `com.coremedia.cms:cap-transform` no longer imports `com.coremedia.cap.transform.BlobTransformerConfiguration`. This makes it possible to create application contexts that provide access to the `transformImageService` bean without actually activating all the beans necessary for blob transformation. Such application contexts are the ones of feeder applications, for example. Class `com.coremedia.cap.transform.BlobTransformerAutoConfiguration` has been deleted along with this change. The Spring XML configuration resources `framework/spring/mediatransform.xml` of Blueprint shared/middle module `image-transformation` and `com/coremedia/cap/transform/transform-services.xml` of module `com.coremedia.cms:cap-transform` have also been removed. Use `TransformImageServiceConfiguration` instead.

[CMS-24130]

Default of `publisher.autoextend.latest-approved-version` has been changed to true

Automatic extension of publication sets will now by default use the latest approved version of referenced content items instead of their earliest approved version.

Note that by default still only directly referenced unpublished content items are considered.

For further details see documentation of `publisher.autoextend.latest-approved-version` and `publisher.autoextend.update-linked-documents`.

[CMS-24098]

5.4.2 CoreMedia Content Application Engine

Remove RequestRejectedExceptionFilter

The `com.coremedia.blueprint.cae.filter.RequestRejectedExceptionFilter` has been removed. It was a workaround for the issue [RequestRejectedException should be 400 by default #7568](#) that has been fixed with Spring 6.

[CMS-24219]

Remove Commerce Context Interceptors

Class `com.coremedia.blueprint.livecontext.ecommerce.filter.CommerceConnectionFilter` now incorporates the concerns that were previously scattered amongst the commerce context interceptors. It resolves the requested site, performs a commerce connection lookup and then initializes the commerce contexts. The filter uses site lookup functions with signature `Function<ServletRequest, Optional<Site>>` to resolve the requested site and provides the interface `com.coremedia.blueprint.livecontext.ecommerce.filter.CommerceContextsInitializer` for initialization or post processing of commerce contexts. The former commerce context interceptor code concerned with initialization of store context and user context has been moved to `com.core`

`media.livecontext.handler.FragmentCommerceContextsInitializer`. The following classes have been removed:

- `com.coremedia.blueprint.ecommerce.cae.config.ECommerceCaeConfiguration`
 - `com.coremedia.blueprint.ecommerce.cae.AbstractCommerceContextInterceptor`
 - `com.coremedia.blueprint.ecommerce.cae.WebCommerceContextInterceptor`
 - `com.coremedia.livecontext.config.LcCaeInterceptorsConfiguration`
 - `com.coremedia.livecontext.handler.FragmentCommerceContextInterceptor`
 - `com.coremedia.livecontext.handler.RestCommerceContextInterceptor`
 - `com.coremedia.livecontext.p13n.handler.FragmentCommerceP13nContextInterceptor`
 - `com.coremedia.livecontext.preview.config.LcPreviewCaeInterceptorsConfiguration`
 - `com.coremedia.livecontext.preview.PreferredSitePreviewCommerceContextInterceptor`
 - `com.coremedia.livecontext.preview.PreviewCommerceContextInterceptor`
- The module `ec-cae-lib` was removed from the blueprint workspace.

(CMS-24213)

Configured Content Security Policy for Live CAE

CAE HTTP security now supports configuration of the `Content-Security-Policy` response header via `cae.http-headers.csp.directives`. It has been set to a same-origin-only policy as recommended by the [OWASP CSP cheat sheet](#). The Spring `dev` profile configures report-only mode for Live CAE and disables CSP for the Preview CAE.

Additionally, for HTTP requests to the Live CAE, the `X-XSS-Protection` response header has been disabled. Even though setting the `X-XSS-Protection` response header can protect users of older web browsers that don't yet support CSP, in some cases, XSS protection can create XSS vulnerabilities in otherwise safe websites. Therefore, it is recommended to use the `Content-Security-Policy` without allowing `unsafe-inline` scripts instead. For further information, see [X-XSS-Protection in Mozilla Developer Resources](#) and [OWASP Content Security Policy Cheat Sheet](#).

[CMS-23644]

Reworked CAE security configuration API

Reworked CAE security configuration API. Turned `com.coremedia.cae.security.CaeHttpSecurityConfigurer` into an abstract class and removed the former `caeHttpSecurityConfigurer` bean of type `com.coremedia.cae.security.CaeHttpSecurityConfigurer`. The aspects formerly configured by that bean are now configured along with the `securityFilterChain` bean.

[CMS-24585]

Transformed Blob Cache Requires Writeable Base Directory

The bean `transformedBlobCache` of type `com.coremedia.transform.impl.TransformingBlobCache` now validates the configured base path [configuration option `com.coremedia.transform.blobCache.basePath`] and throws an exception if it finds that the base path is not a writeable directory in which it can cache and rotate temporary files holding the transformed blob data.

[CMS-24132]

Changed Site Resolution of Requests

`SiteFilter` now matches request paths against configurable patterns to derive the requested site. This is much more efficient than the previous strategy which simply checked every path segment if it matched one of the segments of the known site root navigations. The new strategy is to take a list of patterns to check if the current request URI paths contains a site segment, then check the first path segment after the dispatcher servlet segment if it is site segment but exclude a list of known prefixes. The list of path patterns that have a site segment in it is configured via `cae.site.patterns` and the list of known non-site path prefixes is configured via `cae.site.ignore-prefix-patterns`. The former `SiteFilter` behavior can be restored by setting both properties to empty values. Configure `cae.site.collect-non-matching-paths=true` to collect non matching paths to support debugging your `SiteFilter` config. This setting is enabled in the `dev` profile for your convenience.

[CMS-23583]

5.4.3 CoreMedia Studio Client

Changed Linter Rules

Please check the section “Changed Linter Rules” in the “Studio Client Changes” Chapter of the Upgrade Guide for CMCC12.

(CMS-24139)

CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated

CKEditor 5 has been updated to version 41.1.0 (CKEditor 5 Development Tooling to 39.6.0). CoreMedia's CKEditor 5 Plugins and the CKEditor 5 CoreMedia OEM License have been updated accordingly:

- **CoreMedia CKEditor 5 Plugins:** 17.0.0
- **CKEditor 5 CoreMedia OEM License:** 2.1.0

Along with that, we fixed some meanwhile broken references to the CKEditor 5 documentation within the Studio Developer Manual.

Upgrade Highlights – CoreMedia CKEditor 5 Plugins

- **Hardening Default Link Target Configuration:** Prior to this release, a configured function based default link target filter (to apply a default target based on a given URL) may have been called with `null` in contrast to the method signature. This has been fixed, so that the function is only called for non-empty URLs.

Notable Upgrade Highlights – CKEditor 5

This section is just about remarkable changes we observed during the upgrade. For detailed information and possibly required upgrade steps in context of custom plugins, take a look at the [CKEditor 5 changelog](#), please.

- **Links:** For external links, you may now just paste the URL having a text selected, and the text will get the link applied. Side Note: This feature also automatically triggers the possible default target selection provided by CoreMedia CKEditor 5 Plugins based on your configuration.

- **Paste from Office:** When General HTML Support is activated (transitively through CoreMedia Rich Text Support), class attribute values like `MsoNormal` were kept during paste. CKEditor 5 now actively removes such artificial artifacts.
- **AI Assistant Capability:** While not enabled in CoreMedia Blueprint, you may be interested to know, that with supporting CKEditor 5 41.0.0 within CoreMedia Studio, it is the first supported release, that comes with AI features.
- **Integration Changes:** CKEditor 5 now ships as ECMAScript modules, which requires additional upgrade steps, where the most important one is upgrading to TypeScript 5. Find more details below.
- **API Changes:**
 - **CKEditor 5 UI:** While there was no need to apply adaptations in CoreMedia Blueprint, we observed typing adjustments in context of the CKEditor 5 UI. This is due to some progress towards providing a so-called dialog system.
 - **Document Lists:** They are now the "standard list API". As a result the prefix `Document*`, like `DocumentList` is deprecated and got replaced by `List`, while the old feature got prefixed with `Legacy*`.

Upgrade Information

The following changes ship with `ckeditorDefault.ts` that may require to adapt your customizations to incoming changes, as well as you may need to adapt your custom CKEditor 5 flavors:

- **Recommended (due to deprecation):** Rename import from `@ckeditor/ckeditor5-list`:
 - Was: `DocumentList`
 - Is: `List`
- **CSS Adaptation:** Rename `-ck-z-modal` to `-ck-z-panel` in `custom.css` (CKEditor 5 Theme).
- **Required – Opt-In to previous Find & Replace UI:** Add a new configuration: `config.findAndReplace.uiType` and set it to `dropdown`. While the new behavior (based on a so-called "dialog-system") has many benefits, we experienced severe issues within the Studio integration regarding context management (dialog stays open, even if switching tabs). Thus, for now, our recommendation is to ensure to opt in to the old behavior.

Note, that this update requires TypeScript 5 and Jangaroo Tooling in version 2. If you see conflicts between "CommonJS" and "EcmaScript Modules" while building, you may have missed the required update.

[CMS-24095]

Third-Party Update: Upgraded Node.js to 20 LTS

Since October 2023 the new LTS of Node.js is v20. All workspaces were adjusted accordingly. Also pnpm has been updated to 8.15.3.

[CMS-23769]

Moved Classes

The following classes/modules have been moved:

- *RegisterNotificationsStudioPlugin.ts* has been moved from module *notification-studio-client* to *bpbase-notification-studio-plugin* module.
- All job related components have been moved from *editor-components* to the new module *@coremedia/studio-client.ext.job-components*.
- The module *@coremedia/studio-client.main.notification-studio-client* has been moved to the new module *@coremedia/studio-client.ext.notification-components*.

[CMS-23579]

Upgraded TypeScript to 5.3.3

The TypeScript used in *studio-client* was upgraded to 5.3.3.

Please check the corresponding release notes for potential changes: <https://devblogs.microsoft.com/typescript/announcing-typescript-5-0/>

All packages now utilize the newly introduced moduleResolution "Bundler" basically because of the reasons described in this link: <https://www.typescriptlang.org/docs/handbook/release-notes/typescript-5-0.html#--moduleresolution-bundler>

This enables utilizing pure ES6 module packages inside the *studio-client* as well without the TypeScript compiler complaining about invalid usages.

Please be aware that all packages utilizing *jangaroo* (which was updated as well - see corresponding section) will automatically switch to the new moduleResolution which is reflected in the automatically generated *tsconfig.json*.

[CMS-23319]

Removed deprecated richTextPropertyFieldRegistry

Removed deprecated `richTextPropertyFieldRegistry`

- The registry was used to switch between different CKEditor versions in the Studio. Since CKEditor 4 is not supported anymore, this registry is now removed.

Removed `ckeditor4-components` package

- CKEditor 4 is not supported anymore in CoreMedia Studio. Therefore, all corresponding CKEditor 4 components are removed. Please use the provided components for CKEditor 5 instead, such as `RichTextPropertyField` or `CKEditor5RichTextArea`.

[CMS-22181]

5.4.4 CoreMedia Frontend Workspace

Removed deprecated CSS/JS property "ieExpression"

The doctype property `ieExpression` of `CMAbstractCode` has been deprecated in release 2110.1. All usages in Studio, CAE and Frontend are removed now. To avoid migration issues, the doctype property still exists in the CoreMedia content type model.

[CMS-20144]

Thirdparty Upgrade: Upgraded Webpack to 5.90.3

Webpack was upgraded to 5.90.3. This also includes upgrades to all associated loader and plugin packages in theme-utils as well as node-sass. This change was necessary to be able to upgrade to NodeJS 20 LTS.

Update steps:

Please run `pnpm remove -r cross-env` and adjust the following entry of your themes' `package.json` files from:

```
"scripts": {  
  ...  
  "build": "cross-env NODE_OPTIONS=--openssl-legacy-provider webpack",  
  ...  
}
```

back to

```
"scripts": {  
  ...  
  "build": "webpack",  
  ...  
}
```

Please also make sure that the "webpack" entry is adjusted to "^5.90.3".

If you have made any customizations to the `webpack.config.js` of your themes, you might need to make further adjustments like adjusting configuration or upgrading your used webpack loaders and plugins for compatibility. The official upgrade guide can be found here: <https://webpack.js.org/migrate/5/>

[CMS-17725]

5.4.5 CoreMedia Headless Server

Headless-Server major update to Spring-GraphQL

Headless-Server now uses Spring-GraphQL as its main Spring integration. Because of that the following libraries were removed and their APIs cannot be used anymore. They were removed because the corresponding projects are not updated or supported anymore.

```
com.graphql-java:graphql-java-spring-webmvc com.graphql-  
java-kickstart:graphql-spring-boot-starter
```

If you have used some of the classes provided by these libraries in your custom code, this code will not compile anymore. Depending on what your code was doing, it might be necessary to reimplement it, using the API and principles of the newly introduced Spring-GraphQL library.

As a replacement for the removed libraries Headless-Server now uses the new Spring-GraphQL library.

```
org.springframework.graphql:spring-graphql:1.2.5
```

For further reference please see the official documentation of Spring-GraphQL at <https://docs.spring.io/spring-graphql/reference/index.html>

With the introduction of Spring-GraphQL, the following transitively dependent libraries were updated:

```
com.graphql-java:graphql-java:20.7          com.graphql-  
java:java-dataloader:3.2.2
```

If you have based custom code on some of the classes provided by these or the removed libraries, they might not compile anymore as there were some breaking changes introduced. For details please see the original release note at [https://github.com/graphql-java/releases](https://github.com/graphql-java/graphql-java/releases) and <https://github.com/graphql-java/java-dataloader/releases>.

Furthermore, several configuration properties have changed. Even if a deployment does not rely on potentially breaking code extension, at least all configuration properties should be checked and updated accordingly.

With the introduction of Spring-GraphQL, the developer tool GraphiQL is now not a static part of the library anymore. Instead it is delivered via the means <http://unpkg.com> CDN. This way, the formerly statically built-in resources are now served instead dynamically, always with the latest version.

For details about all changes, it is highly recommended to study our CM12 migration guide in depth.

[CMS-19714]

Headless-Server Missing CORS configuration now disabled CORS protection

A missing CORS configuration set allowed-origins to *. Now a missing configuration effectively disabled CORS protection, resulting in a "same origin policy only".

For customer with an existing CORS configuration, this change is considered as *non-breaking*.

All customers without a CORS configuration will encounter potential CORS restrictions eventually leading to a non working client. Please review the necessary CORS settings and add them to Headless-Server configuration properties.

[CMS-24249]

5.4.6 Miscellaneous

Removed Package

`com.coremedia.transform.impl` from Public API

Package `com.coremedia.transform.impl` contains implementation classes only and was removed from public API. Use the interfaces of package `com.coremedia.transform` instead.

[CMS-24338]

Rename service "mysql" to "db" in `global/deployment/docker`

To prepare the workspace for usage with different databases, the service "mysql" has been renamed to "db" in `global/deployment/docker`. The container name is still "mysql".

[CMS-24111]

Removed Sencha CMD

Sencha CMD is no longer needed to build the studio-client. This means Java 11 and Sencha CMD no longer need to be installed. Because this is one less step during the studio-client build the build is now also faster.

For this some (third-party) packages have been updated to new (major) versions. Make sure to do the same as well for every additional package in the studio-client workspace:

- `@coremedia/sencha-*` to `^1.1.0`
- `@jangaroo/ext-ts` to `^2.0.0`
- remaining `@jangaroo/*` to `^3.0.0`
- `typescript` to `^5.3.3`
- `eslint` to `^8.56.0`
- `rimraf` to `^5.0.5`

The Dockerfile in `apps/studio-client/Dockerfile.tooling` no longer has a “sencha-layer” and the corresponding installation for Java11 and Sencha CMD have been removed. Please also mind the dependency adjustments in the “npm-tooling-base” layer.

(CMS-23501)

Using DataSize in ConfigurationProperties for Human-readable Capacity Specifications

To be able to use human-readable capacity configurations such as `1GB` in favor of `1_073_741_824` given as bytes, a bunch of properties got transformed to hold `DataSize` instead of `long` or `int` values denoting bytes, for example.

The following is a list of affected properties that benefit from this change:

- `com.coremedia.transform`
 - `com.coremedia.transform.blob-cache.size`
- `management.health`
 - `management.health.blobCacheDiskSpace.threshold`
 - `management.health.transformedBlobCacheDiskSpace.threshold`
- `repository`
 - `repository.blob-streaming-size-threshold`
 - `repository.blob-cache-size`
 - `repository.heap-cache-size`
 - `repository.max-cached-blob-size`
- `studio`
 - `studio.differencing.max-markup-size`
- `sql`
 - `sql.store.sgml-cache-size` (renamed from: `sql.store.sgml-cache-size-bytes`; old name still applicable)
- `workflow`
 - `workflow.blob-streaming-size-threshold`
 - `workflow.blob-cache-size`
 - `workflow.heap-cache-size`
 - `workflow.max-cached-blob-size`

Upgrade Information

In general no additional upgrade steps should be required. Nevertheless you may experience incoming changes especially to our default `application.properties` we ship with CoreMedia Blueprint, where we changed respective properties to the human-readable form.

Properties using the old unitless format are still supported and use the same default unit as they did before.

In addition to that, some `ConfigurationProperties` that ship with CoreMedia Blueprint have been adjusted. This applies to the following classes:

- `com.coremedia.blueprint.transform.boot.autoconfigure.CoremediaTransformHealthIndicatorAutoConfiguration`
- `com.coremedia.blueprint.boot.autoconfigure.HealthIndicatorAutoConfiguration`

[CMS-22469]

5.5 Upgrade to 2401.5

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.5.1 CoreMedia Core

Third-Party Update: Apache Solr 9.6.1

Apache Solr has been updated to version 9.6.1. Alongside, a new coremedia/solr-base Docker image with tag 2.3-cm-9.6.1 was released. As part of this change, Solr's transitive dependency to Jetty has been updated to version 10.0.20, which fixes security vulnerability CVE-2024-222-01.

Solr 9.6.1 includes an update of Lucene, and indices written by the new version may become unreadable for previous Solr versions. You should make a backup of Solr indices before the update to be able to revert the update in case of unexpected problems. To avoid errors with Solr replication, followers should be updated at the same time or before leaders, or Solr replication should be stopped during upgrade, for example by disconnecting Solr followers from the Solr leader.

See https://solr.apache.org/docs/9_6_1/changes/Changes.html for a list of changes in Solr.

[CMS-24165]

5.5.2 CoreMedia Studio Server

Removed dependency management for Google APIs Client Library for Java

The dependency management for `com.google.api-client:google-api-client` has been removed, because there're no more usages of that dependency.

[CMS-24909]

5.5.3 CoreMedia Headless Server

HeadlessServer: Missing support for blobs in structs fixed

HeadlessServer had a problem delivering blobs stored in structs of a linked settings document, e.g. in a page. This bug was fixed.

Since encrypted string in structs are also stored as blobs in structs, headless now also deliver encrypted values. For security reasons, the delivery of encrypted values is disabled by default. If you want to use encrypted values, one can enable the delivery by setting the new config property `caas.graphql.exposeSecrets=true`.

Please be aware, the one still has to decrypt those values on the client side, which also requires the correct decryption key on the client!

Due to the fix, the constructor of class `com.coremedia.caas.model.converter.MapToNestedMapsConverter` had to be changed. `com.coremedia.caas.model.converter.MapToNestedMapsConverter` is instantiated as a spring bean in `CaasConfig`. If one has not changed `CaasConfig`, this change may be considered **non-breaking**. Otherwise please check your version of `CaasConfig` and eventually update the instantiation of `com.coremedia.caas.model.converter.MapToNestedMapsConverter`.

[CMS-24683]

5.6 Upgrade to 2401.4

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.6.1 CoreMedia Studio Client

Updated NodeJS Version to 18.20.1

The images provided in studio-client and frontend workspace have been updated to utilize NodeJS 18.20.1 which fixes CVE-2024-27983. However the security issue does not affect any of the workspaces.

Both Docker images are no longer using the rolling tag "18". Instead the version is pinned to "18.20.1" to guarantee reproducible builds regardless of time.

[CMS-24704]

5.6.2 CoreMedia Headless Server

Headless-Server Missing CORS configuration now disabled CORS protection

A missing CORS configuration set allowed-origins to *. Now a missing configuration effectively disabled CORS protection, resulting in a "same origin policy only".

For customer with an existing CORS configuration, this change is considered as *non-breaking*.

All customers without a CORS configuration will encounter potential CORS restrictions eventually leading to a non working client. Please review the necessary CORS settings and add them to Headless-Server configuration properties.

[CMS-24249]

5.7 Upgrade to 2401.3

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.7.1 CoreMedia Core

Update of MongoDB driver to 4.11.1

The thirdparty dependencies `org.mongodb:mongodb-driver-legacy`, `org.mongodb:mongodb-driver-core` and `org.mongodb:bson` have been updated from version 4.8.2 to 4.11.1. This is marked as a breaking change, because custom implementations can potentially use changed API of the MongoDB driver.

[CMS-23184]

MongoDB update to version 7.0.5

MongoDB has been updated to version 7.0.5 for the Docker Deployment. Note that an upgrade is only possible from a 6.0.x version. An upgrade from an earlier version needs to be done successively. Please refer to the official MongoDB documentation on how to upgrade: <https://www.mongodb.com/docs/manual/release-notes/7.0-upgrade-standalone/> The compatibility changes are described here: <https://www.mongodb.com/docs/manual/release-notes/7.0-compatibility/>

[CMS-23183]

5.7.2 CoreMedia Studio Client

Third Party Upgrades for Studio-Client

Jangaroo, TypeScript and ESLint were upgraded to a new major version to support pure ESM packages within the studio-client. This upgrade was necessary in an AMP version to support the latest CKEditor 5 version which now comes as pure ESM package.

For this all package dependencies in the studio-client have been updated. Make sure to do the same as well for every additional package in the studio-client workspace:

- @jangaroo/ext-ts to "^1.1.0"
- remaining @jangaroo/* to "^2.0.0"
- typescript to "^5.3.3"
- eslint to "^8.56.0"

[CMS-24183]

CKEditor 5 and CoreMedia CKEditor 5 Plugins Updated

CKEditor 5 has been updated to version 41.1.0 [CKEditor 5 Development Tooling to 39.6.0]. CoreMedia's CKEditor 5 Plugins and the CKEditor 5 CoreMedia OEM License have been updated accordingly:

- **CoreMedia CKEditor 5 Plugins:** 17.0.0
- **CKEditor 5 CoreMedia OEM License:** 2.1.0

Along with that, we fixed some meanwhile broken references to the CKEditor 5 documentation within the Studio Developer Manual.

Upgrade Highlights – CoreMedia CKEditor 5 Plugins

- **Hardening Default Link Target Configuration:** Prior to this release, a configured function based default link target filter (to apply a default target based on a given URL) may have been called with `null` in contrast to the method signature. This has been fixed, so that the function is only called for non-empty URLs.

Notable Upgrade Highlights – CKEditor 5

This section is just about remarkable changes we observed during the upgrade. For detailed information and possibly required upgrade steps in context of custom plugins, take a look at the [CKEditor 5 changelog](#), please.

- **Links:** For external links, you may now just paste the URL having a text selected, and the text will get the link applied. Side Note: This feature also automatically triggers the possible default target selection provided by CoreMedia CKEditor 5 Plugins based on your configuration.
- **Paste from Office:** When General HTML Support is activated (transitively through CoreMedia Rich Text Support), class attribute values like `MsoNormal` were kept during paste. CKEditor 5 now actively removes such artificial artifacts.

- **AI Assistant Capability:** While not enabled in CoreMedia Blueprint, you may be interested to know, that with supporting CKEditor 5 41.0.0 within CoreMedia Studio, it is the first supported release, that comes with AI features.
- **Integration Changes:** CKEditor 5 now ships as ECMAScript modules, which requires additional upgrade steps, where the most important one is upgrading to TypeScript 5. Find more details below.
- **API Changes:**
 - **CKEditor 5 UI:** While there was no need to apply adaptations in CoreMedia Blueprint, we observed typing adjustments in context of the CKEditor 5 UI. This is due to some progress towards providing a so-called dialog system.
 - **Document Lists:** They are now the "standard list API". As a result the prefix `Document*`, like `DocumentList` is deprecated and got replaced by `List`, while the old feature got prefixed with `Legacy*`.

Upgrade Information

The following changes ship with `ckeditorDefault.ts` that may require to adapt your customizations to incoming changes, as well as you may need to adapt your custom CKEditor 5 flavors:

- **Recommended (due to deprecation):** Rename import from `@ckeditor/ckeditor5-list`:
 - Was: `DocumentList`
 - Is: `List`
- **CSS Adaptation:** Rename `-ck-z-modal` to `-ck-z-panel` in `custom.css` (CKEditor 5 Theme).
- **Required - Opt-In to previous Find & Replace UI:** Add a new configuration: `config.findAndReplace.uiType` and set it to `dropdown`. While the new behavior (based on a so-called "dialog-system") has many benefits, we experienced severe issues within the Studio integration regarding context management (dialog stays open, even if switching tabs). Thus, for now, our recommendation is to ensure to opt in to the old behavior.

Note, that this update requires TypeScript 5 and Jangaroo Tooling in version 2. If you see conflicts between "CommonJS" and "EcmaScript Modules" while building, you may have missed the required update.

[CMS-24095]

5.8 Upgrade to 2401.2

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.8.1 CoreMedia Core

TransformImageServiceConfiguration no Longer Activates Blob Transformation Beans

Spring configuration class `com.coremedia.cap.transform.TransformImageServiceConfiguration` of module `com.coremedia.cms:cap-transform` no longer imports `com.coremedia.cap.transform.BlobTransformerConfiguration`. This makes it possible to create application contexts that provide access to the `transformImageService` bean without actually activating all the beans necessary for blob transformation. Such application contexts are the ones of feeder applications, for example. Class `com.coremedia.cap.transform.BlobTransformerAutoConfiguration` has been deleted along with this change. The Spring XML configuration resources `framework/spring/mediatransform.xml` of Blueprint shared/middle module `image-transformation` and `com/coremedia/cap/transform/transform-services.xml` of module `com.coremedia.cms:cap-transform` have also been removed. Use `TransformImageServiceConfiguration` instead.

[CMS-24130]

5.8.2 CoreMedia Content Application Engine

Transformed Blob Cache Requires Writeable Base Directory

The bean `transformedBlobCache` of type `com.coremedia.transform.impl.TransformingBlobCache` now validates the configured base path

[configuration option `com.coremedia.transform.blobCache.basePath`] and throws an exception if it finds that the base path is not a writeable directory in which it can cache and rotate temporary files holding the transformed blob data.

[CMS-24132]

5.9 Upgrade to 2401.1

This section describes the necessary upgrade steps for an upgrade from the previous release. Also read [Chapter 4, Release Information \[8\]](#) to get an overview of the new features that require no immediate action on your site.

5.9.1 CoreMedia Core

Removed Deprecated Workflow Java API

The following deprecated classes and methods have been removed from the Workflow Server API and cannot be used in custom code or workflow definitions anymore:

- Class `com.coremedia.workflow.common.util.AbstractExternalManager`
- Class `com.coremedia.workflow.common.util.LongActionRegistry`
- Class `com.coremedia.workflow.common.util.RegisteringLongAction`
- Class `com.coremedia.workflow.common.util.SpringCollectiveLongAction`
- Class `com.coremedia.workflow.common.util.SpringDelegateAction`
- Class `com.coremedia.workflow.common.util.SpringDelegateLongAction`
- Method `com.coremedia.workflow.WfServer#hasManager`
- Method `com.coremedia.workflow.WfServer#getManager`
- Method `com.coremedia.workflow.common.actions.Log#setFatal`
- Method `com.coremedia.workflow.common.util.WithSpringContext#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareAction#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareExpression#getBean`
- Method `com.coremedia.workflow.common.util.SpringAwareLongAction#getBean`

Hints on how to replace these classes and methods are documented as deprecation note in the Javadoc of CMCC 11. In general, it's recommended to use Unified API interfaces

to implement custom managers, and to use `SpringAware*Action` classes to implement actions that interact with the Spring context.

If you have used some of these classes in custom workflow definitions, then you should make sure to finish all running workflow instances that were started from these definitions before upgrading. Old workflow definitions that were using these classes will not be usable anymore, and may have to be destroyed using `cm workflowconverter -X`.

(CMS-23947)

Replacement of Deprecated Workflow Server Log Facility

The location of loggers for certain classes changed. The following classes are now using a logger in their own class instead of the logger of the `com.coremedia.workflow.impl.server.Server` class:

- `com.coremedia.cotopaxi.wfserver.ServerRightsPolicyMarshallerResolver`
- classes extending `com.coremedia.workflow.impl.server.AbstractProcessSignalHandler`
- classes extending `com.coremedia.workflow.impl.server.AbstractTaskSignalHandler`
- `com.coremedia.workflow.impl.server.Condition`
- `com.coremedia.workflow.impl.server.ContentManager`
- `com.coremedia.workflow.impl.server.ErrorLog`
- `com.coremedia.workflow.impl.server.InternalSession`
- `com.coremedia.workflow.impl.server.LightweightSession`
- `com.coremedia.workflow.impl.server.MasterSession`
- `com.coremedia.workflow.impl.server.ObjectRepositoryImpl`
- `com.coremedia.workflow.impl.server.ParameterAssignment`
- `com.coremedia.workflow.impl.server.ProcessValidator`
- `com.coremedia.workflow.impl.server.SessionManager`
- `com.coremedia.workflow.impl.server.TaskImpl`
- `com.coremedia.workflow.impl.server.TimerManager`
- `com.coremedia.workflow.impl.server.TimerMap`
- `com.coremedia.workflow.impl.server.TransactionManager`
- `com.coremedia.workflow.impl.server.Transformer`
- `com.coremedia.workflow.adapters.persistence.GenericRDBMSAdapter`
- `com.coremedia.workflow.beanparser.ProcessDefinitionFactory`
- `com.coremedia.workflow.handlers.RunActionTimerHandler`
- `com.coremedia.workflow.handlers.SkipUserTaskTimerHandler`
- `com.coremedia.workflow.servlets.CommandServlet`
- `com.coremedia.workflow.servlets.IORServlet`
- `com.coremedia.workflow.servlets.StatsServlet`
- `com.coremedia.workflow.tasks.ForkSubprocessRunTaskHandler`

- `com.coremedia.workflow.validation.OfflineProcessDefinitionFactory`

[CMS-23909]

Deprecated ArchiveProcess Workflow Action: Functionality Removed

The functionality of the deprecated workflow action `com.coremedia.workflow.common.actions.ArchiveProcess` has been removed. The class still exists for backwards-compatibility of old serialized workflow definitions, but the action does not do anything anymore.

You should remove the deprecated `ArchiveProcess` action from custom workflow definitions, and replace it with the `ArchiveProcessFinalAction` as `<FinalAction>`. Only workflows with configured `ArchiveProcessFinalAction` will appear in the workflow archive. The `ArchiveProcessFinalAction` was introduced as replacement in CMCC 11, because it can also archive data from aborted workflows, while the `ArchiveProcess` action was only capable to archive data from workflows that completed successfully.

[CMS-23899]

Site Manager Removal

The Site Manager has been removed from the product.

If you have project specific usecases which are not covered by other CMCC clients (esp. Studio), please contact the CoreMedia support.

With the removal of the Site Manager, the following content types and related grammars have been deprecated and should not be used any longer:

- Dictionary and `coremedia-dictionary.dtd`
- Preferences and `coremedia-preferences.dtd` (Not to be confused with Studio's `Edit-OrPreferences`)
- Query and `coremedia-query.dtd`

Client-side actions of the old Workflow API are no longer supported.

[CMS-23869]

Upgrade to Java 17

Java 17 is the next Long Term Support version of the Java platform. All components have been updated to work with Java 17. Java 17 is now also required for building the workspace and running the applications, Java 11 will not work anymore. The exception is the studio-client workspace which uses Sencha Cmd to build, which still requires Java 11. Please refer to the release note "Running Sencha Cmd after Java 17 Upgrade" for further details.

Upgrade Information

Update your development and production environments to use Java 17 according to the *Supported Platforms* information.

Also note that a new *Java 17 Base Image* is provided that must be used for building Docker images. Refer to <https://github.com/coremedia-contributions/docker.java-application-base/releases/> for the corresponding 2.1 release and changes associated with it.

The following Maven plugins have been updated:

- `org.apache.maven.plugins:maven-javadoc-plugin` to version 3.5.0
- `org.codehaus.gmaven:groovy-maven-plugin` to version 2.1.1

If you are using artifact `cglib:cglib` in your own project code, you may want to consider switching to Spring's shadowed version of `cglib` provided by `org.springframework:spring-core`. `cglib` is not maintained actively any longer and presumably not compatible with Java 17, see <https://github.com/cglib/cglib>. The CoreMedia Blueprint workspace has been migrated to Spring's shadowed version of `cglib` and, consequently, does not define a `cglib` artifact version any longer. Should you want to migrate use of `cglib` in your own code, you need to replace package `net.sf.cglib` with `org.springframework.cglib`.

For handling of GIFs in the built-in image transformation we make use of the package `java.desktop/com.sun.imageio.plugins.gif` which is not exported and thus not usable with Java 17 by default. To allow access the following JVM argument has to be added: `--add-exports java.desktop/com.sun.imageio.plugins.gif=ALL-UNNAMED`. This argument is already added to the docker images, spring-boot-maven-plugin configuration and the provided Idea run configuration files of the apps that perform image transformation (studio-server, cae, headless-server). If you have a custom deployment process or use GIF transformation in other applications, be aware to add this export.

The Java 17 Base Image is prepared to add other `add-exports` or `add-opens` arguments if you need to via env vars `JAVA_ADD_EXPORTS` and `JAVA_ADD_OPENS`.

[CMS-23586]

Workflow Server Database Tables

The *Workflow Server* will automatically create new tables in the 'cm_management' database: `WfArchivedProcessInstances`, `WfArchivedTaskInstances`, and `WfArchivedVariables`. These names are reserved and cannot be used as document type names.

[CMS-23118]

Removed Conversion Service Bean from CapRepositoriesConfiguration

The Unified API spring boot integration configured a bean `conversionService` of type `org.springframework.core.convert.support.DefaultConversionService` so that it was capable of converting Strings to `ContentType` instances. This feature was previously used for the Blueprint Spring configuration classes `InterceptorsStudioAutoConfiguration`, `LcStudioLibComponentAutoConfiguration`, and `InferencersStudioAutoConfiguration`. The default conversion service bean has been removed and the configuration classes have been adjusted to use explicit content type retrieval. Instead of

```
@Value("CMLinkable") ContentType contentType
```

the following code can be used to achieve the content type lookup

```
@Value("#{@contentRepository.getContentType('CMLinkable')}") ContentType  
contentType
```

See <https://docs.spring.io/spring-framework/reference/core/validation/convert.html#core-convert-Spring-config> for further information on spring type conversion.

[CMS-22810]

Upgraded Spring dependencies to latest major versions

Spring Boot was upgraded to version 3 and Spring to version 6. With these upgrades, many further dependencies had to be upgraded as well.

Upgrade Information

The following dependencies were upgraded:

- [Spring Boot](#) from 2.7.16 to 3.2.2 - see also
 - [Spring Boot 3.0 Release Notes](#)
 - [Spring Boot 3.1 Release Notes](#)
 - [Spring Boot 3.2 Release Notes](#)
- [Spring Framework](#) from 5.3.30 to 6.1.3 - see also
 - [What's New in Spring Framework 6.x](#)
 - [Upgrading to Spring Framework 6.x](#)
- [Spring Security](#) from 5.8.7 to 6.2.1 - see also
 - [What's New in Spring Security 6.0](#)
 - [What's New in Spring Security 6.1](#)
 - [What's New in Spring Security 6.2](#)
 - [Migrating to Spring Security 6.0](#)
 - [Migrating to Spring Security 6.2](#)
- [Spring Data BOM](#) from 2021.2.12 to 2023.1.2
- [Jakarta Activation API](#) from 1.2.2 to 2.1.2
 - the dependency coordinates changed from `com.sun.activation:jakarta.activation` to `jakarta.activation:jakarta.activation-api`
 - the packages of the Java classes changed from `javax.activation` to `jakarta.activation`
- [Jakarta Annotations API](#) from 1.3.5 to 2.1.1
 - the packages of the Java classes changed from `javax.annotation` to `jakarta.annotation`
- [Jakarta Dependency Injection API](#) from 1 to 2.0.1
 - the dependency coordinates changed from `javax.inject:javax.inject` to `jakarta.inject:jakarta.inject-api`
 - the packages of the Java classes changed from `javax.inject` to `jakarta.inject`
- [Jakarta Mail API](#) from 1.6.7 to 2.1.2
 - the dependency coordinates changed from `com.sun.mail:jakarta.mail` to `jakarta.mail:jakarta.mail-api`
 - the packages of the Java classes changed from `javax.mail` to `jakarta.mail`
- [Jakarta Servlet API](#) from 4.0.4 to 6.0.0
 - the packages of the Java classes changed from `javax.servlet` to `jakarta.servlet`
- [Jakarta Server Pages API](#) from 2.3.5 to 3.1.1
 - the packages of the Java classes changed from `javax.servlet.jsp` to `jakarta.servlet.jsp`
- [Jakarta Transactions API](#) from 1.3.3 to 2.0.1

- the packages of the Java classes changed from `javax.transaction` to `jakarta.transaction`
- **Jakarta Validation API** from 2.0.2 to 3.0.2
 - the packages of the Java classes changed from `javax.validation` to `jakarta.validation`
- **Jakarta XML Binding API** from 2.3.3 to 4.0.1
 - the packages of the Java classes changed from `javax.xml.bind` to `jakarta.xml.bind`

Other changes:

- The `RequestMapping` annotation was exchanged for `Controller` annotation on type-level, see [Spring Framework Issue #22154](#).
- Class `com.coremedia.blueprint.cae.web.FreemarkerEnvironment` was turned into `com.coremedia.blueprint.cae.web.WebEnvironment`
- The spring-boot maven plugin no longer supports disabling of forking, so `spring-boot:run` now always forks
- Spring no longer attempts to deduce parameter names by parsing bytecode. As dependency injection, property binding, SpEL expressions etc. are heavily used by the CoreMedia CMS, all sources must now be compiled with the common Java 8+ `-parameters` flag for parameter name retention. For more information see [Upgrading to Spring Framework 6.x - Parameter Name Retention](#).
- Spring Boot no longer loads auto configuration classes from `spring.factories`, use the `org.springframework.boot.autoconfigure.AutoConfiguration.imports` resource instead to list auto configuration classes
- The public API bean `translate.xliff.translatableExpressions` was renamed to `translateXliffTranslatableExpressions`.

[CMS-21716]

Changed Properties for Process Archiving in the in-memory Setup

The `processes-memory-defaults.properties` were turned into `ConfigurationProperties`. Configure the process archiving in the in-memory setup with the following properties also documented in the [Deployment Dependencies](#) section:

- `workflow.archive.endpoint-url` instead of `studio.url`
- `workflow.archive.username` instead of `studio.user`
- `workflow.archive.password` instead of `studio.password`

[CMS-23786]

Property 'usecaplist' no longer interpreted by Workflow Server

In the Workflow-Server previously, the `usecaplist` property was used to decide whether to connect to CapListRepository. Now, the `repository.caplist.connect` is used for this.

[CMS-20028]

5.9.2 CoreMedia Content Application Engine

Removed Webtrends Analytics Connector

The Webtrends Analytics Connector was removed from the Blueprint workspace without replacement.

[CMS-23884]

Removed class MappedInterceptor

Removed class `com.coremedia.objectserver.web.MappedInterceptor`. Use `org.springframework.web.servlet.handler.MappedInterceptor` instead.

[CMS-23860]

`com.coremedia.blueprint.base.links.impl.RuleUrlPrefixResolver` has new constructor

The `com.coremedia.blueprint.base.links.impl.RuleUrlPrefixResolver` has a new `RuleUrlPrefixResolver(java.util.List)` constructor. The `PostConstruct` method was removed.

[CMS-23847]

com.coremedia.blueprint.base.links.Optional removed

The custom `com.coremedia.blueprint.base.links.Optional` implementation was removed and replaced by `java.util.Optional` wrapping a `String`. The `UNDEFINED ("?"/null)` value is now represented by an `Optional#empty`, `ANY` by an `Optional` of `"*"`.

[CMS-23843]

Third-Party Update: Spring Webflow

Updated [Spring Webflow](#) from 2.5.1.RELEASE to 3.0.0 from 2.5.1.RELEASE to 3.0.0.

[CMS-22845]

5.9.3 CoreMedia Studio Client

Added Configurable Document Types for Search

In the preferences, the user can select preferred content types that should be used for the library search now. The selected content types are shown at the top of the content type combobox (next to the search text slot). The preferred entries remain in the global list of types that can be filtered for.

The change is considered breaking since the preference name for the preferred search and creation types has been changed in the user settings. Therefore, the user has to re-assign the preferred content types settings.

Additionally, the method `ContentCreationUtil#getPreferredTypesForCreation()` has been moved to `PreferredContentUtil#getPreferredTypes()`.

[CMS-23580]

Running Sencha Cmd after Java 17 Upgrade

As of version CMCC 2404.1 Sencha Cmd will not be required anymore. However in release 2401, the studio-client workspace still needs Sencha Cmd to build applications and JooUnit tests.

As there is no official support for Java 17 from Sencha and it only works with workarounds, we suggest running it with Java 11.

While this does not affect the Docker based studio-client build as it downloads a suitable JRE 11 anyway, you might need to adjust the installation of Sencha Cmd when building the studio-client locally.

Upgrade Information

Please either use a Sencha Cmd installation with an included JRE (currently only offered for Windows and macOS) or make sure to set the environment variable `INSTALL4J_JAVA_HOME_OVERRIDE` to the root folder path of a JRE 11 installation.

This information has also been included in CoreMedia Blueprint Developer Manual and Studio Developer Manual.

[CMS-23171]

Stricter CSP Rules

The Content Security Rules for Studio Client have been hardened to prevent attackers from uploading JavaScript code into CMS Content and exploit possible XSS vulnerabilities to execute that code in the context of another Studio user. If you have added any custom scripts to Studio Client which are *not* deployed under the paths `/packages/` or `/resources/`, they will now be blocked by the stricter CSP rules, which is reported in the browser console.

To fix this, you need to allow-list those scripts in `apps/studio-client/apps/main/base-app/sencha/resources/config-init.js` by adding their paths to the allow-list `[..., "resources/", "packages/"]`.

[CMS-22221]

StatefulDateTimeField's Configuration has Changed

The date and time formats of the component `StatefulDateTimeField` are now configured in `BaseModels_properties`. The properties `Date_format` and `Time_format` in `UI_properties` are now removed.

[CMS-23562]

Date and Time Formats Configuration Changed

The date and time format of all Studio components are now localised centrally in `BaseModels_properties`. The date and time format properties in other resource bundles are obsolete and removed.

[CMS-23540]

5.9.4 CoreMedia Studio Server

Removed property for Spring Boot Maven plugin

The `additionalProfiles` property that could have been used to set profiles to activate when starting the Studio Server Spring Boot app locally via the Spring Boot Maven plugin was removed. When additional profiles need to be set, use the `spring-boot.run.profiles` property of the plugin. This will override the plugin configuration. Therefore, make sure to also activate the `dev` and `local` profiles if needed.

[CMS-23917]

5.9.5 CoreMedia Elastic Social

Elastic Social Moderation With CKEditor 5

Elastic Social moderation in CoreMedia Studio has been updated to use CKEditor 5 instead of CKEditor 4.

This change especially includes new CKEditor 5 editor types, that support data backed by BBCode as well as support to managing blocked words to provide hints to editors where comments/review posts contain problematic words or character sequences.

Upgrade Information

Unless you adapted BBCode handling within the various layers (see next section below), no upgrade steps are required. If you adapted any of the layers listed below, please consult our Support Team. They will provide detailed information on the various aspects.

BBCode Support Layers

For alignment of BBCode processing within CoreMedia Content Cloud, the following relevant layers have been adapted:

- Elastic Social Moderation backed by CKEditor (now CKEditor 5)
- CAE Delivery backed by KefirBB (with mapping configuration options backed by `kefirbb.xml`)
- Contribution to Article backed by `BbCodeToCoreMediaRichtextTransformer`, that ships with CoreMedia Blueprint.

The BBCode language features officially supported are described in the Elastic Social manual (search for BBCode). The corresponding section has been updated to reflect enhancements like quoted arguments support for the `[url]` BBCode tag.

[CMS-22678]

5.9.6 CoreMedia Workspace

Removed usages of Apache HTTP Components 4.x

All usages of Apache HTTP Components 4.x (`org.apache.httpcomponents:httplibclient` and `org.apache.httpcomponents:httpcore`) have been removed from core and blueprint sources.

Upgrade Information

The `restClientSchemeRegistry` bean has been removed from the Livecontext CAE extension. It wasn't actually used anymore.

The Apache HTTP client implementation has been replaced with Spring's `RestTemplate`:

- for the sitemap generation in the CAE

- for the JSON review client in the Headless Server

Please note that the HTTP client implementation of Spring's [RestTemplate](#) depends on the presence of HTTP client implementations in the application's class path. For further information see the API documentation of [ClientHttpRequestFactories#get\(ClientHttpRequestFactorySettings\)](#).

Although the HTTP Components 4.x are not directly used anymore, their dependency versions still need to be managed in the project, because they are still required by a number of frameworks that are used by the CoreMedia CMS implementations.

[CMS-24084]

Replacement/Removal of Deprecated Code

Content-Server: Removal of deprecated `query` command line tool options:

- The deprecated `paths` and `versions` (short option: `e`) option of the `query` command line tool were removed. Use the `path` and `versionquery` parameter instead.

The location of loggers for certain classes changed. The following classes are now using a logger in their own class instead of the logger of the `hox.corem.server.Server` class:

- `hox.corem.server.ResourceImpl`
- `hox.corem.server.DocumentTypeImpl`
- `hox.corem.server.FolderImpl`
- `hox.corem.server.RepositoryImpl`
- `hox.corem.server.ListenerManager`
- `hox.corem.server.CapUserManager`
- `hox.corem.server.ResourceCache`
- `hox.corem.server.SessionManager`
- `hox.corem.server.SortingServiceFactory`

Common:

- `com.coremedia.publisher.importer.XmlPropertyTransformer#getFilter` now also throws `NoSuchMethodException` and `InvocationTargetException`

Middle:

- `com.coremedia.cap.util.ContentCacheKey` now extends `com.coremedia.cache.util.ObjectCacheKey` instead of `com.coremedia.cap.util.ObjectCacheKey`

[CMS-23686]

Third-Party Update: Caffeine

Updated Caffeine from 2.9 to 3.1.

[CMS-23557]

5.9.7 CoreMedia Frontend Workspace

Removed deprecated CSS/JS property "ieExpression"

The doctype property `ieExpression` of `CMAbstractCode` has been deprecated in release 2110.1. All usages in Studio, CAE and Frontend are removed now. To avoid migration issues, the doctype property still exists in the CoreMedia content type model.

[CMS-20144]

5.9.8 CoreMedia Deployment

APPLICATION_OPTS Removed from Base Image

Starting with `coremedia/java-application-base:2.1-cm-17.*` the environment variable toggle `APPLICATION_OPTS` has been removed from the base image, please use `_JAVA_OPTIONS` instead as intended by the JVM.

[CMS-24015]

Volume definitions Moved to Application Module or Deployment

Starting with `coremedia/java-application-base:2.1-cm-17.*` the base image only defines the new default for `java.io.tmpdir`, `/tmp` as a volume.

Volumes should be defined in the deployment code matching the configured paths for ephemeral and persistent state paths.

This change is one of many to consolidate the image creation to make the containers immutable with a readonly rootfs.

[CMS-23629]

The coremedia/java-application-base image is now Corretto JRE by default

The `coremedia/java-application-base` image now also provides a JRE based Corretto image. The image tag suffix is `corretto-jre`. If there are Java modules missing for your use case, there is still the JDK based image with the suffix `corretto-jdk` or the Eclipse Temurin based images with the prefixes `temurin-jre` or `temurin-jdk`.

[CMS-23628]

Switch from `/var/tmp` to `/tmp` as the default `java.io.tmpdir` path

The `coremedia/java-application-base` images starting with `2.1-cm-17.*` will no longer set `java.io.tmpdir` to `/var/tmp` by default but instead to `/tmp` to match the default used in most JVM frameworks like Apache Tomcat uses it for its root dir when embedded in Spring Boot applications. This is a consolidation to make CoreMedia container based applications easier to configure when securing it to have a readonly rootfs.

[CMS-23622]

Prometheus jmx-exporter Agent Disabled by default

Please use the Spring Boot Prometheus actuator endpoint to scrape metrics instead. You can still enable the exporter using `PROMETHEUS=true` but you also need to expose the `8199` port for the prometheus service discovery.

To enable the Spring Boot Prometheus actuator endpoint, make sure that it is included in the list of exposed endpoints, configured by `management.endpoints.web.exposure.include`.

[CMS-23621]

SPRING_BOOT_EXPLODED_APP Removed from Base Image

Starting with `coremedia/java-application-base:2.1-cm-17.*` the environment variable toggle `SPRING_BOOT_EXPLODED_APP` has been removed from the base image. Images build using Google Jib Maven plugin are always exploded, making this toggle obsolete.

[CMS-23618]

The environment variable `SPRING_PROFILES` has been removed from the base image and the compose setup

Starting with `coremedia/java-application-base:2.1-cm-17.*`, using the environment variable `SPRING_PROFILES` is deprecated. It will still work but you should migrate and use the `SPRING_PROFILES_ACTIVE` environment variable.

[CMS-23613]

`coremedia/java-application-base` is now based on `amazonlinux:2023`

Starting with `coremedia/java-application-base:2.1-cm-17*` the image is based on `public.ecr.aws/amazonlinux/amazonlinux:2023-minimal`.

[CMS-23330]

Port 8199 Removed from the Exposed Ports by Default

Only in case the container exposes the `jmx-exporter` metrics endpoint by setting `PROMETHEUS=true`, the container should expose the port. Because the `jmx-exporter` is now disabled by default, this port has been removed from the expose list, so it does not get accidentally scraped by `prometheus`.

If you want to continue to use the `jmx-exporter`, you should expose the port in your deployment configuration.

[CMS-22787]

5.9.9 CoreMedia Headless Server

Headless Server Uses Auto Configured Task Scheduler Bean

Headless Server created its own executor service which was configurable via `caas.rest.num-threads`. It now uses the `auto configured task execution service`. The property `caas.rest.num-threads` was removed. Use `spring.task.execution.pool.max-size` instead.

[CMS-23832]

Replace Springfox with Springdoc

`Springfox` was replaced by `Springdoc`. This change is considered breaking only for customers using custom Spring controllers. If that's the case, the replacement of annotations might be required as described in the Springdoc migration guide: <https://springdoc.org/v2/#migrating-from-springfox>. The swagger documentation is still accessed the same way as before.

[CMS-23487]

Media hash calculation Changed

Previously the media hash calculation for the media endpoint included all properties from site or global image transformation settings. This led to an unexpected change of the media hash, when changing non-relevant transformation properties, e.g. `minWidth`. This change introduces the application property `caas.media.hash-property-names`, which defaults to the list of these values: `"width", "height", "widthRatio", "heightRatio"`.

This change is considered breaking, because all media urls will change regarding the media hash. The expected impact is not high because wrong hashes issue a HTTP redirect (301) to the correct URL.

[CMS-23635]

5.9.10 Miscellaneous

Migration of Spring XML configuration files to Java Configuration

In the course of migrating from Spring XML to Java configurations, some XML files were removed in favor of their replacement Java Spring configuration classes. The details can be found below:

- removed `bpbase-links-postprocessor.xml` (import `BlueprintLinksPostprocessorsConfiguration` instead)
- removed `bpbase-context-finder-services.xml` (import `NavigationContextFinderConfiguration` instead)
- removed `handler-services.xml` (import `CaeHandlerServicesConfiguration` instead)
- removed `link-services.xml` (import `CaeLinkServicesConfiguration` instead)
- removed `user-services.xml` (import `UserServicesConfiguration` instead)
- removed `cap-xliff-service.xml` (import `CapXliffConfiguration` instead)
- removed `mimetype-service.xml` (import `MimeTypeServiceConfiguration` instead)
- removed `com.coremedia.cap.test.xmlrepo.XmlRepoResources` (import Java configuration classes instead)

[CMS-24021]

CKEditor 4 Support Removed

Starting with CMCC 12.2401.1 CKEditor 4 is not supported anymore.

Corresponding references in Studio Developer Manual have been removed.

Note, that in upcoming releases, left-over traces in CoreMedia Blueprint will be removed.

Upgrade Information

For anyone upgrading from CKEditor 4, a corresponding note has been added to the Studio Developer Manual Section about "Rich Text Editing", quoted here:

Starting with CMCC 12 [2401] the previous CKEditor 4 integration is not supported anymore. If you are updating from an adapted CKEditor 4 integration, please consult CMCC 11 documentation for upgrade hints, which can be summarized as: For any custom plugin

you wrote, take its specification and rewrite it based on the CKEditor 5 architecture. You will benefit from a better architecture and more flexibility when it comes to integrating native CKEditor 5 plugins for use in CoreMedia Studio.

[CMS-23995]

Removal of Pre-created Directories in coremedia/java-application-base Image

Starting with `coremedia/java-application-base:2.1-cm-17.*`, the base image no longer precreates the following directories:

- `/coremedia/tools/var/logs`
- `/coremedia/corem-home/var/tmp`
- `/coremedia/log`

[CMS-23624]

Cleaned Up Spring Configuration Files and Classes

In the course of updating from spring boot 2.7 to 3.1 a number of configuration XML files and configuration classes had to be adjusted:

- Bean `translate.xliff.translatableExpressions` provided by class `com.coremedia.translate.item.TranslatablePredicateConfiguration` was renamed to `translateXliffTranslatableExpressions`
- `com.coremedia.blueprint.studio.topicpages.rest.CustomTopicPagesConfiguration` was renamed to `CustomTopicPagesAutoConfiguration`
- `com.coremedia.blueprint.analytics.elastic.rest.ESALXStudioConfiguration` was renamed to `ESALXStudioAutoConfiguration`
- `com.coremedia.blueprint.taxonomies.TaxonomyConfiguration` was renamed to `TaxonomyAutoConfiguration`
- `com.coremedia.blueprint.studio.rest.taxonomies.TaxonomyStudioConfiguration` was renamed to `TaxonomyStudioAutoConfiguration`

- `com.coremedia.blueprint.studio.rest.intercept.InterceptorsStudioConfiguration` was renamed to `InterceptorsStudioAutoConfiguration`
- XML configuration file `com/coremedia/blueprint/common/multisite/translation-config.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/studio-in-memory-cap-list.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-common.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-contentbeans.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/es-alx-retrieval.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/caefeeder-blueprint.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/caefeeder-services.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/livecontext-contentfeeder.xml` was removed without replacement
- XML configuration file `META-INF/coremedia/elastic-worker.xml` was removed without replacement

[CMS-23556]

Migration of Spring XML configuration files to Java Configuration

The CoreMedia Component Loader is deprecated in favor of Spring Boot auto configurations. Many Spring component XML files have been converted to Spring Boot auto configuration classes. Several non-component Spring XML files have been converted to Spring configuration classes in that course. Also, existing configuration classes have been renamed and component properties files have been renamed to ordinary properties files. The detailed changes are listed below.

Migration from CoreMedia Component Loader to Spring Boot auto configurations:

- `component-lc-asset.xml` → `LcCaeAssetAutoConfiguration`
- `component-elastic-social.xml` → `ElasticSocialCaeAutoConfiguration`
- `component-alx-cae.xml` → `AlxCaeAutoConfiguration`
- `component-am-cae.xml` → `AMCaeAutoConfiguration`
- `component-blueprint-cae.xml` → `CaeBaseComponentAutoConfiguration`
- `component-corporate-cae.xml` → `CorporateCaeAutoConfiguration`
- `component-alx-google-cae.xml` → `AlxGoogleCaeAutoConfiguration`
- `component-personalization.xml` → `P13NCaeAutoConfiguration`

- component-p13n-preview-cae.xml → P13NPreviewCaeAutoConfiguration
- component-alx-p13n-cae.xml → P13NAlxCaeAutoConfiguration
- component-cae.xml → CaeComponentAutoConfiguration
- component-cap-client.xml → CapClientComponentAutoConfiguration
- component-base.xml → CustomizerAutoConfiguration

Migration of Spring XML to Spring Java configuration:

- livecontext-handler-interceptors.xml → LcCaeInterceptorsConfiguration
- component-lc-elastic-social.xml → LcElasticSocialCaeAutoConfiguration
- component-lc-p13n-cae.xml → LcP13NCaeAutoConfiguration
- component-lc-preview-cae.xml → LcPreviewCaeAutoConfiguration
- component-lc-p13n-preview-cae.xml → LcP13NPreviewCaeAutoConfiguration
- livecontext-preview-links.xml → LcPreviewCaeLinkConfiguration
- livecontext-preview-handler-interceptors.xml → LcPreviewCaeInterceptorsConfiguration
- personalization-context.xml → P13NCaeContextConfiguration
- p13n-preview-cae-context.xml → P13NPreviewCaeContextConfiguration
- personalization-collection.xml → ContextCollectionConfiguration

Removal of Spring XML configuration files:

- removed lc-asset-handlers.xml (import LcCaeAssetHandlersConfiguration instead)
- removed blueprint-i18n.xml (import com.coremedia.blueprint.cae.config.BlueprintI18nCaeBaseLibConfiguration instead)
- removed blueprint-l10n.xml (import com.coremedia.blueprint.cae.config.BlueprintL10nCaeBaseLibConfiguration instead)
- removed blueprint-search.xml (import com.coremedia.blueprint.cae.config.BlueprintSearchCaeBaseLibConfiguration instead)
- removed blueprint-richtextfilters.xml (import com.coremedia.blueprint.cae.config.BlueprintRichtextFiltersConfiguration instead)
- removed livecontext-validation.xml (import LcCaeValidationConfiguration instead)
- removed livecontext-links.xml (import CommerceLinkConfiguration instead)
- removed livecontext-fragment.xml (import LcCaeFragmentConfiguration instead)
- ec-cae-lib.xml was resolved. Its imports were transferred to CorporateCaeAutoConfiguration and LcCaeAutoConfiguration.
- removed livecontext-preview-hybrid.xml. It only contained a customizer, which was migrated to LcPreviewCaeAutoConfiguration.
- removed blueprint-links.xml (import com.coremedia.blueprint.cae.config.BlueprintLinksCaeBaseLibConfiguration instead)
- removed personalization-interceptors.xml (import com.coremedia.blueprint.personalization.config.P13NInterceptorsConfiguration instead)

- removed p13n-preview-cae-context-.xml [import com.coremedia.blueprint.personalization.preview.config.P13NPreviewCaeContextConfiguration instead]
- removed bpbase-sitemodel.xml [import com.coremedia.blueprint.base.multisite.BlueprintMultisiteModelConfiguration instead]
- removed view-development-services.xml [import com.coremedia.objectserver.view.config.CaeViewDevelopmentServicesConfiguration instead]
- removed view-error-services.xml [import com.coremedia.objectserver.view.config.CaeViewErrorServicesConfiguration instead]
- removed customizer-services.xml [import com.coremedia.springframework.customizer.CustomizerConfiguration instead]

Renamed Spring Java configurations:

- LcCaeAssetConfiguration → LcCaeAssetHandlersConfiguration
- CaeBaseComponentConfiguration → CaeBaseComponentAutoConfiguration
- LiveContextPreviewCaeConfiguration → LcPreviewCaeAutoConfiguration
- CapClientComponentConfiguration → CapClientComponentAutoConfiguration

Miscellaneous:

- removed component-blueprint-cae.properties as it only contained properties set to the default values or commented out properties.
- removed abstract bean 'storeContextInterceptor' as there is no such thing as abstract beans in Java config.
- removed component-livecontext.properties → livecontext.properties (imported in LcCaeAutoConfiguration)
- migrated bean definitions from CaeComponentConfiguration to CaeComponentAutoConfiguration and removed it
- removed com.coremedia.personalization.context.collector.LicenseHelper from public API
- removed com.coremedia.cms:cae-util module. Consequently, uapi-services.xml and CaeUtilConfiguration were removed as well. The beans were migrated to ContentBeanServicesConfiguration.

[CMS-23224]

Removed OpenCalais Integration

The integration for the service "OpenCalais" has been removed.

[CMS-20586]

Salesforce Marketing Cloud: Migrated to Java 17

The integration for Salesforce Marketing Cloud has been migrated to Java 17.

[CMS-23742]

6. Support

Support, Newsgroups

Online Support

Use our Online Support to submit a support ticket, track your submitted tickets or receive access to our forums. You can access our Online Support at:

<http://support.coremedia.com>

Access to online services

Partners and Support customers will need to register an account with CoreMedia in order to access the Online Support. Just send us an email and we will send you your login details:

support@coremedia.com

If you have any other questions or comments, please contact:

CoreMedia GmbH

Altes Klöpperhaus, 5. OG

Rödingsmarkt 9

20459 Hamburg

Phone: +49 .40 .32 55 87 .777 Fax: .999

www.coremedia.com

Our Support employees are available to take your support call weekdays between 9 a.m. and 6 p.m.

Our manuals are continuously reviewed and revised in order to reflect new developments and insights gained from the day-to-day use of CoreMedia systems.

Documentation

If you have comments or questions about our manuals,

- please email your inquiry to documentation@coremedia.com
- or fax it to 040-325587 999.

Please provide all necessary information in your support request to ensure that our Support team can efficiently help you with your issue.

CoreMedia systems are distributed systems that have a rather complex structure. This includes databases, hardware, operating systems, drivers, virtual machines, class libraries, customized code etc. in many different combinations. That's why CoreMedia needs detailed information about the environment for a support case. In order to track down your problem, provide the following information:

Support request

- Which CoreMedia component(s) did the problem occur with (incl. release number)?
- Which database is in use (version, drivers)?
- Which operating system(s) is/are in use?
- Which Java environment is in use?
- Which customizations have been implemented?
- a full description of the problem (as detailed as possible)
- Can the error be reproduced? If yes, give a description please.
- How are the security settings (firewall)?

In addition, log files are the most valuable source of information.

To put it in a nutshell, CoreMedia needs:

Support checklist

1. a person in charge (ideally, the CoreMedia system administrator)
2. extensive and sufficient system specifications
3. detailed error description
4. log files for the affected component(s)
5. if required, system files

An essential feature for the CoreMedia system administration is the output log of Java processes and CoreMedia components. They're often the only source of information for error tracking and solving. All protocolling services should run at the highest log level that is possible in the system context. For a fast breakdown, you should be logging at debug level. The location where component log output is written is specified in its `<appName>-logback.xml` file.

Log files

Which Log File?

Mostly at least two CoreMedia components are involved in errors. In most cases, the *Content Server* log files together with the log file from the client. If you are able locate the problem exactly, solving the problem becomes much easier.

Where do I Find the Log Files?

By default, log files can be found in the CoreMedia component's installation directory in `/var/logs` or for web applications in the `logs/` directory of the servlet container. See the CoreMedia Deployment Manual, "Service and Logfiles Names" chapter for the default names of the logfiles and the Operations Basics Manual, "Logging" chapter for more details.