Darwin Library Release Notes

> *Version 6.0.0 of the Comscore libraries introduces public API changes.* Upgrading existing implementations of older library versions will require a small amount of code changes, which are explained in an appendix of the implementation guides.

Library Version 6.4.0.200628

Release Date: June 29, 2020

Data Collection Model Version: 6.3

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

1. (TAG-6353) Update label order.

   Description: An issue related to the panel meter on PC and Windows desktop collecting specific dictionary values caused the label order to be updated.

   Resolution: This does not affect Darwin, but as label order is shared amongst all solutions, Darwin was updated accordingly.

2. (TAG-6360) Add child-directed application configuration setting.

   Description: Child-directed applications have different data collection requirements. Until now, publishers received specific instructions for this purpose which involved multiple code statements to align library data collection behavior with the different requirements. These instructions can be simplified by making this a feature of the library.

   Resolution: Add a configuration setting to simplify appropriate tagging of child-directed applications.

Bug fixes:

1. (TAG-6188) Ensure calls to `StreamingAnalytics` notification methods prior to starting the library do not cause crashes.

   Description: Calling `StreamingAnalytics` notification methods prior to calling `Analytics' Start` method causes a crash.

   Resolution: Prevent the crash from occurring.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.3.2.200511

Release Date: May 14, 2020

Data Collection Model Version: 6.2

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

- There were no feature changes in this release.

Bug fixes:

1. (TAG-6240) Ensure `autoResumeStateOnAssetChange` setting is exposed on the `StreamingAnalytics` configuration builder.

   Description: The `autoResumeStateOnAssetChange` setting cannot be used due to not being exposed.
   Resolution: Expose the setting on the configuration builder.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.3.1.200320

Release Date: March 20, 2020

Data Collection Model Version: 6.2

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

- There were no feature changes in this release.

Bug fixes:

1. (TAG-6171) Correct Streaming Analytics Content Media Format enum symbol names.
   Description: Version 6.3.0.200309 introduced new enum values. Their names accidentally followed a format that differs from the existing enum values.
   Resolution: Correct the enum names.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.3.0.200309

Release Date: March 16, 2020

Data Collection Model Version: 6.2

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

1. (TAG-6115) Add event-independent re-buffer count for consistency with other metrics.
   Description: Streaming Analytics metrics typically are collected as a three-part values. For re-buffering only two parts are present.
   Resolution: Include the missing re-buffer count.
2. (TAG-6122) Add content media format metadata values for podcasts.
   Description: Streaming Analytics content metadata does not have values for full and partial podcast content.
   Resolution: Add an enum value for full podcast content and an enum value for partial podcast content.

Bug fixes:

1. (TAG-6060) Ensure configuration settings are collected with the correct format.
   Description: With the data collection model 6.1 changes the format of collected configuration settings was unintentionally modified by removing the Swizzling configuration value.
   Resolution: Reintroduce the Swizzling configuration value.
2. (TAG-6062, TAG-6065) Ensure customized System Clock Jump Detection Interval and Precision configuration setting values are collected with the appropriate format.
   Description: Values for System Clock Jump Detection Interval and Precision configuration values are not converted to multiples of 100. This causes the provided values to be incorrectly populated in the collected data.
   Resolution: Ensure the System Clock Jump Detection Interval and Precision configuration values are sanitized before they are applied.

Known issues and limitations:

▪ There were no known issues for this release.

Library Version 6.2.0.200128

Release Date: January 30, 2020

Data Collection Model Version: 6.1

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

1. (TAG-5994) Remove functionality from vCE component.

   Description: Some of the reported issues with Comscore library behavior originate from the requirement for vCE component to support a wide variety of advertisement viewability tagging use cases. Given the adoption of the Open Measurement SDK there no longer is a requirement for viewability measurement in the Comscore library.

   Resolution: Disable the vCE component by default and remove its business logic. This has the following effects on the library API:

   - The `vce` configuration setting is deprecated and no longer has any effect.
   - All vCE-related methods are deprecated and no longer execute any business logic.
   - All vCE-related getters that return a `String` value — such as `[SCORVCE sdkVersion]` and `[SCORAnalytics vceVersion]` — now return an empty string.
   - All vCE-related getters that return a `Boolean` value now return `false`.
   - The `[SCORVCE sharedInstance]` and `[SCORAnalytics sharedVCEInstance]` methods return `null`, which aligns with vCE being disabled.

Bug fixes:

1. (TAG-5804) Resolve a deprecation warning related to code that uses *UIWebView*.

   Description: App submission causes warning `ITMS-90809: Deprecated API Usage - Apple will stop accepting submissions of apps that use UIWebView APIs` to be reported.

   Although this is not blocking submissions, some publishers might want to submit their app(s) without any warning. That will require a different library deliverable.

   Expected Resolution: This has been resolved indirectly by the changes for feature change TAG-5994. The alternative library deliverable which was provided as a short-term resolution is no longer needed.

2. (TAG-6019) Ensure configuration label is included with a complete value in all measurement requests.

   Description: The configuration value of the first block, fifth position is missing on the configuration label.

   Resolution: This has been resolved indirectly by the changes for feature change TAG-5994.

Known issues and limitations:

   - There were no known issues for this release.

Library Version 6.1.0.191217

Release Date: December 19, 2019

Data Collection Model Version: 6.1

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

1. (TAG-5676, TAG-5706) Add Network Affiliate as `StreamingAnalytics` content asset metadata.

   Description: Network Affiliate was identified as standard content metadata

   Resolution: Add an API method for Publishers to specify the Network Affiliate value.

2. (TAG-5731, TAG-5732, TAG-5740) Remove code of previously deprecated public API elements (which have already been

removed or hidden or otherwise should not longer be available).

Description: Some of the configuration settings were deprecated and/or removed from the public API with the introduction of data model 6.0, while source code for the involved functionality was retained.

Resolution: Ensure the configuration settings are no longer present and any source code that is no longer needed is removed.

3. (TAG-5729) Collect marker for Live+DVR stream.

    Description: For validation and troubleshooting purposes it needs to be clear from the collected data when an asset is identified to be a Live+DVR stream.

    Resolution: Add a marker label which indicates whether or not an asset is a Live+DVR stream.

4. (TAG-5893) Include additional metadata labels when distinguishing different assets.

    Description: Taking from data collection model 5.0 some asset metadata labels are used to detect asset changes. Over time other labels have been added which can be used in stead to identify different assets. These labels are not inspected during asset change detection.

    Resolution: Update asset change detection to include key asset metadata labels which were added after data collection model 5.0.

Bug fixes:

1. (TAG-5774) Ensure Project ID setter method is available on `StreamingAnalytics` objects.

    Description: The method to specify Project ID values was not exposed on the `StreamingAnalytics` public API.

    Resolution: Add the method to specify Project ID values to the `StreamingAnalytics` public API.

2. (TAG-5878) Prevent a race condition which could cause crashes when application life cycle notification methods are called from different threads.

    Description: Calling application life cycle notification methods from different threads sporadically leads to a race condition which causes a crash.

    Resolution: Prevent the race condition from occurring when application life cycle notification methods are called from different threads.

3. (TAG-5902) Ensure break number is incremented when multiple consecutive mid-roll advertisement breaks occur for the same content asset.

    Description: The break number is kept at value `1` when multiple consecutive mid-roll advertisement breaks occur for the same content asset, rather than being incremented with each mid-roll advertisement break.

    Resolution: Ensure break number is automatically incremented when when multiple consecutive mid-roll advertisement breaks occur for the same content asset.

4. (TAG-5936) Ensure last known content position is collected with the correct value.

    Description: The last known content position was stored in way that it reflected the position of the content of the previous occurrence of halted playback.

    Resolution: Ensure the last known content position is updated correctly for the following advertisement to collect the appropriate value.

Known issues and limitations:

1. (TAG-5804) Resolve a deprecation warning related to code that uses *UIWebView*.

    Description: App submission causes warning `ITMS-90809: Deprecated API Usage - Apple will stop accepting submissions of apps that use UIWebView APIs` to be reported.

    Although this is not blocking submissions, some publishers might want to submit their app(s) without any warning. That will require a different library deliverable.

    Expected Resolution: The short-term resolution is to provide an alternative library deliverable which does not contain code that uses *UIWebView*. Please contact your client service representative if you want to receive this deliverable. A future minor version update will remove use of *UIWebView* in all library deliverables.

Library Version 6.0.0.191011

Release Date: October 14, 2019

Data Collection Model Version: 6.0

Supported iOS Versions: 6.x, 7.x, 8.x, 9.x, 10.x, 11.x, 12.x, 13.x

Supported iPadOS Versions: 13.x

Supported tvOS Versions: 9.x, 10.x, 11.x, 12.x, 13.x

Supported watchOS Versions: 1.x, 2.x, 3.x

Supported iOS Extensions: *today-extension*, *share*, *action*, *photo-editing*, *document-provider*, *custom-keyboard*, *watchapp*, *audio-unit*

Binaries compiled with: Xcode 11.1

Feature changes:

1. (TAG-3629) Simplify and future-proof Streaming Tag implementation design and improve consistency of API naming and design of all library elements.

    Description: Aside from applying internal redesign to remove the root causes of some difficult to reproduce bugs, the overall design of the solution is a few years old and can use an overhaul to apply new insights. Feature changes include:

    - Integrate the `SCORReducedRequirementsStreamingAnalytics` solution into the 'standard' `SCORStreamingAnalytics` solution to have a single Streaming Tag implementation.
    - Provide Streaming Tag metadata objects with setters to allow developers to provide metadata without knowledge of label names. *Support for the use of dictionaries with labels from existing implementations is available (see appendix with update instructions in the implementation instructions).*
    - Remove API elements which are no longer needed.

    Resolution: Apply the changes and increment the major version number accordingly.

2. (TAG-5091) Add Distributed Content Tagging functionality.

    Description: Provide a simple solution for tagging distributed content in applications.

    Resolution: Add the `notifyDistributedContentViewEvent` API method.

3. (TAG-5129) Make all transmission secure (HTTPS) by default on all iOS versions.

    Description: Transmission already is secure by default on iOS 9 and higher as well as on all versions of iPadOS, tvOS and watchOS.

    Resolution: Let transmission also be secure by default on iOS 6, 7 and 8.

Bug fixes:

1. (TAGLCPPS-110) Related to (TAGLDARW-125) — mentioned in library version 5.8.0.180306 release notes — if the implementation destructs a `StreamingAnalytics` instance this can occasionally lead to crashes from a race condition when the instance is still processing notifications.

    Problem: When the application is terminated while processing streaming notifications on a background thread this could lead to warnings. While (TAGLDARW-125) addresses the warnings, if the application destructs a `StreamingAnalytics` instance this can occasionally still result in a crash from a race condition when the instance is still processing notifications.

    Resolution: Apply internal design changes to resolve this.

2. (TAG-5738) Correct per asset playback counter unique and largest-consecutive playback metrics collection.

    Problem: The data for unique and largest-consecutive playback of the current asset playback counter is reset when an asset transitions into IDLE state. This means merging of intervals upon resuming playback — i.e., the playback counter is not incremented — occurs against an empty history.

    Resolution: Ensure the data for unique playback and largest-consecutive playback per asset playback counter is reset only when the asset playback counter is incremented.

3. (TAG-5739) Improve elapsed time metrics collection.

    Problem: There are use cases where elapsed time does not include time-spent outside of playback.

Resolution: Ensure the data for elapsed time is collected as soon as state changes from *idle*.

Known issues and limitations:

1. (TAG-5804) Resolve a deprecation warning related to code that uses *UIWebView*.

   Description: App submission causes warning `ITMS-90809: Deprecated API Usage - Apple will stop accepting submissions of apps that use UIWebView APIs` to be reported.

   Although this is not blocking submissions, some publishers might want to submit their app(s) without any warning. That will require a different library deliverable.

   Expected Resolution: The short-term resolution is to provide an alternative library deliverable which does not contain code that uses *UIWebView*. Please contact your client service representative if you want to receive this deliverable. A future minor version update will remove use of *UIWebView* in all library deliverables.