Darwin Library Release Notes

> *As of version 6.8.0 the Comscore library binaries are delivered as XCFramework.* The libraries are no longer available as a fat binary.

Library Version 6.14.0+2409180444

Release Date: September 20, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 12 - 18

Supported iPadOS Versions: 12 - 18

Supported tvOS Versions: 12 - 18

Binaries compiled with: Xcode 16

Feature changes:

1. (TAG-9056) Adhere to deployment target restrictions imposed by compiling the library with Xcode 16.
   Description: As of Xcode 16 - coinciding with the public release of iOS / iPadOS / tvOS 18 - building for deployment to OS releases older than iOS / iPadOS / tvOS 12 is no longer supported.
   Resolution: Apply minimum target versions iOS / iPadOS / tvOS 12.

Bug fixes:

1. (TAG-8951) Ensure offline cache flushes triggered early during the application life cycle are transmitted once the library is started.
   Description: It is possible for an implementation to trigger offline cache flushes before execution of the `start()` method is completed. These attempts to flush the cache have been observed to have no effect. While this is not typically problematic - as subsequent cache flushes will cause transmission - it is unexpected.
   Resolution: Ensure early offline cache flushes are queued for transmission once the library is started.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.13.0+2407110334

Release Date: July 11, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 15.3

Feature changes:

1. (TAG-8827) Stop delivery of a library for static linking.

    Description: With the introduction of XCFrameworks Apple has started promoting the use of dynamic linking of libraries. The differences between the use of dynamic versus static linking of the Comscore library are negligible. Dynamic linking the Comscore library has been the default for many years, leading to the decision to apply this change and simply our delivery process.

    Resolution: Moving forward only a library for dynamic linking will be available. This implies implementations using the *ComScore/Static* entry in CocoaPods need to modify their implementation to use the dynamic library instead.

Bug fixes:

1. (TAG-8893) Ensure running tasks are working thread safe.

    Description: We have observed occurrences of tasks being started on separate threads in a way where they could cause crashed due to race conditions with activity on other threads.

    Resolution: Ensure the tasks involved in these use cases are marked as running in a way that prevents the race conditions from occurring.

Known issues and limitations:

▪ There were no known issues for this release.

Library Version 6.12.3+2404081037

Release Date: April 9, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 15.2

Feature changes:

▪ There were no feature changes in this release.

Bug fixes:

1. (TAG-8869) Correct the default live collection URL.

    Description: Version 6.12.0 contained changes to internal APIs which caused the default live collection URLs to be updated. In doing so the path was omitted.

    Resolution: Add the path back into the default live collection URLs.

Known issues and limitations:

▪ There were no known issues for this release.

Library Version 6.12.2+2403111247

Release Date: March 11, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 15.2

Feature changes:

- There were no feature changes in this release.

Bug fixes:

1. (TAG-8824) Ensure the signature of deliverables for SPM is determined after all file manipulations are completed.
   Description: The deliverables on Swift Package Manager are dynamic libraries. Version 6.12.1 resolves a problem related to the presence of `strip-framework.sh` in the deliverables. This resolution triggers *"The signature of 'ComScore.xcframework' cannot be verified."* errors.
   Resolution: Ensure any deliverable manipulations — such as removing `strip-framework.sh` — are applied before generating the SDK signature.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.12.1+2403110741

Release Date: March 11, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 15.2

Feature changes:

- There were no feature changes in this release.

Bug fixes:

1. (TAG-8821) Ensure Swift Package Manager deliverables do not include `strip-framework.sh`.
   Description: The deliverables on Swift Package Manager are dynamic libraries. With the release of version 6.12.0 these inadvertently contained `strip-framework.sh` which is used in cases where the dynamic library binaries are manually included in the application project. This does not apply to inclusion through Swift Package Manager and can cause submissions to the App Store to fail with *"Asset validation failed (90035) Invalid Signature."* errors.
   Resolution: Ensure `strip-framework.sh` is removed from Swift Package Manager deliverables.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.12.0+2403080805

Release Date: March 8, 2024

Data Collection Model Version: 6.7

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 15.2

Feature changes:

1. (TAG-8581) Include a Privacy Manifest.

   Description: As of OS version 17 SDKs can include a Privacy Manifest. Any information present in Privacy Manifests of SDKs will be rolled up into the Privacy Manifest of the application. This makes the task of maintaining things like collected data types easier for developers as they do not have to manually populate what is used by SDKs included in their application.

   Resolution: Include a Privacy Manifest in the SDK and include which data types are collected by the SDK.

2. (TAG-8792) Add Streaming Analytics DVR Content Delivery Mode.

   Description: DVR content is considered different from traditional linear and on-demand video. The streaming tag should allow this to be specified as content delivery mode.

   Resolution: Add the DVR content delivery mode value.

Bug fixes:

1. (TAG-8727, TAG-8773) Prevent JUCE leak detection assertions from impacting unit test execution of tvOS applications.

   Description: The tvOS framework of version 6.11.0 of the library was built using the DEBUG flag. This causes symbols that do not belong in a production build to be included. Additionally there are memory leaks due to how some static test variables are used.

   Resolution: Remove the DEBUG flag from the tvOS framework compilation target and ensure memory allocated to test variables is released at the end of each test.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.11.0+2309120921

Release Date: September 19, 2023

Data Collection Model Version: 6.6

Supported iOS Versions: 11 - 17

Supported iPadOS Versions: 11 - 17

Supported tvOS Versions: 11 - 17

Binaries compiled with: Xcode 14

Feature changes:

1. (TAG-3761) Ensure transmissions which are triggered while the application is being closed are added to offline cache.

   Description: Transmissions which are triggered while the application is being closed can potentially unnecessarily slow down the application shutdown process.

   Resolution: Add these transmissions to the offline cache so they will be transmitted when the application is restarted.

2. (TAG-3647, TAG-8308, TAG-8316, TAG-8386) Update Shared C++ code from C++ 11 to C++ 17.

Description: The thread sanitizer reported problems with the integrated JUCE code. Updating to C++ 17 change will help resolve those problems.
Resolution: Update to C++ 17.

Bug fixes:

1. (TAG-8442) Prevent application crashes when the Comscore library is started and then disabled before startup is completed.
   Description: When the Comscore library is started in the implementation and subsequently disabled before startup is completed the application could crash because of background tasks that continue to run.
   Resolution: Ensure all background tasks are terminated when Comscore library is disabled.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.10.1+2305240730

Release Date: May 31, 2023
Data Collection Model Version: 6.5
Supported iOS Versions: 11 - 16
Supported iPadOS Versions: 11 – 16
Supported tvOS Versions: 11 - 16
Binaries compiled with: Xcode 14

Feature changes:

1. (TAG-8348) Adhere to deployment target restrictions.
   Description: As of Xcode 14 building for deployment to OS releases older than iOS 11, iPadOS 11 and tvOS 11 is no longer supported.
   Resolution: Apply minimum target versions iOS 11, iPadOS 11, tvOS 11.

Bug fixes:

- There were no known bugs prior to this release.

Known issues and limitations:

- There were no known issues for this release.

Library Version 6.10.0+220128

Release Date: February 14, 2022
Data Collection Model Version: 6.5
Supported iOS Versions: 9 - 14
Supported iPadOS Versions: 13, 14
Supported tvOS Versions: 9 - 14
Binaries compiled with: Xcode 13

Feature changes:

1. (TAG-7629, TAG-7654) Improve bandwidth consumption of transmission for offline cache flushes.

    Description: Transmission of offline cache flushes are currently not compressed. Applying compression will cause less bandwidth to be used.

    Resolution: Apply compression to transmission of offline cache flushes.

Bug fixes:

1. (TAG-7514) Prevent deadlock during application termination.

    Description: Some of the environment details can only be retrieved from the application's main thread. When the library tries to retrieve a value when the application is being terminated - and therefore the library's processes are being terminated - this can lead to a deadlock.

    Resolution: Cache last-retrieved values and reuse these values when the application is being terminated.

2. (TAG-7560) Prevent potential EXC_BAD_ACCESS crashes in Content Activation tagging implementations.

    Description: If Content Activation tagging implementations call the associated API methods before configuring and starting the library there is a risk of causing EXC_BAD_ACCESS crashes.

    Resolution: Ensure processing of any API method calls related to Content Activation tagging is postponed until the library is configured and started.

Known issues and limitations:

▪ There were no known issues for this release.