

# Algorithm Developer Guidelines for Release 10 AAF SDK

This application note contains guidelines for algorithm developers on changes they need to make to their algorithms for compatibility with Aperio Release 10.

The Aperio Algorithm Framework (AAF) SDK has changed significantly in Release 10. One important design goal for this release was to maintain AAF backward compatibility with algorithms starting with release 10. This means that all future releases of AAF will be backward compatible with algorithms built with the Release 10 SDK. To provide this feature, the AAF-algorithm interface had to be redesigned. The good news is that most developers will have to make very minimal code changes to their existing algorithms to be compatible with Release 10 AAF. This document is intended to be a quick guide to take the developer through this process, using the sample algorithm as an example.

## Upgrading AAF SDK

To upgrade the SDK, run the installer. You'll notice that all the old files are replaced by new files and also that some libraries that are not required anymore are removed. This process does not affect your own algorithm folders. Note if you have modified the sample project included with the old version, make sure you have a backup copy since the installer will replace the sample algorithm files. You could choose to keep a copy of the folder with the older version for reference.

## Code Changes Required to Get an Algorithm Working with Release 10 AAF

This section walks you through the minimal code changes required to compile your algorithm with Release 10 AAF SDK. You can see these changes (and more) have also been made to the sample algorithm. The sample algorithm should give you a good idea of what you will need to get your algorithms to compile and work under Release 10.

- **Replace AlgorithmDLL.cpp** – As part of the backward compatibility goal, the algorithm-AAF interface was changed from C++ to an XML-based interface. This required changes to AlgorithmDLL.cpp (code that handled this interface). All you need to do is replace the existing file with this new one. If you have made any changes to this file, make sure you merge them.
- **Add includes to CAlgorithm.cpp** – A set of new headers are required before the parent class (cAAFAAlgorithm2) is included. Specifically, you need to add cString.h and cXML.h (in that order).
- **Check for NULL buffer pointer in ProcessViewport** – In previous versions of AAF, it was an error condition if the view buffer passed to the algorithm was NULL. With Release 10, the view buffer is necessarily NULL when AAF requests the algorithm to report summary results. So, a check needs to be made without reporting an error.

- **Change setSummaryMetric:** – Accessing algorithm and AAF parameters has changed from index based to name based. Hence, when reporting input parameters used, the way to access this has changed.
- **Remove unnecessary libraries** – Some libraries are now not used in the algorithm. They are also not included in the SDK and hence should be removed from the algorithm project. Only base.lib and asl.lib are required.

There are a lot of other changes to the sample algorithm that show new AAF features. Please check the sample and documentation for help with these changes.

### Verifying Your Changes

1. Install the Release 10 ImageScope.
2. Install the Release 10 AAF SDK.
3. Make the changes discussed earlier to your algorithm.
4. Compile, register, load and run the algorithm in ImageScope.
5. For more help, please check the sample and full AAF SDK documentation.



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