SYCL Profiling DLL

General Description

The sycl profiling dll is created by the project SYCLTraceAgent

The main records are:

- SYCLProfiledPartialEvent
- SYCLProfiledEventNode
- SYCLEventStackManager

SYCLProfiledPartialEvent

This struct is a temporary container for the data that we gather at either the starting or ending callback for a given sycl event.

SYCLProfiledEventNode

This class gathers the starting and ending partial events and manages the creation of nested events, as well as the completion of the event itself

It is a node in a tree-like structure and can be queried for the specific data contained about the event.

SYCLEventStackManager

This class is responsible for managing the "event stack", that is, how nested a profile callback is.

For example, a SYCL_COMMAND_GROUP event will have nested KERNEL_EXECUTE events.

How it works

The dll is injected into the sycl application to be profiled. When the process is attached, the dll invokes the sycl runtime ***SYCLSetupProfilerCallback*** function,
passing the pointer to to the profiling dll's ***sycl_performance_callback*** function.

This sets the runtime function pointer, which in turns triggers its call at specific locations (see here).

sycl_performance_callback creates *SYCLProfiledPartialEvent*s which are then passed to the right SYCLEventStackManager, depending on the execution thread.

When the sycl application is terminated, the profiling dll automatically dumps the information into a tmp file in the temporary folder. This file will be picked up in
the GPUProfiler executable during the atp file creation phase.