

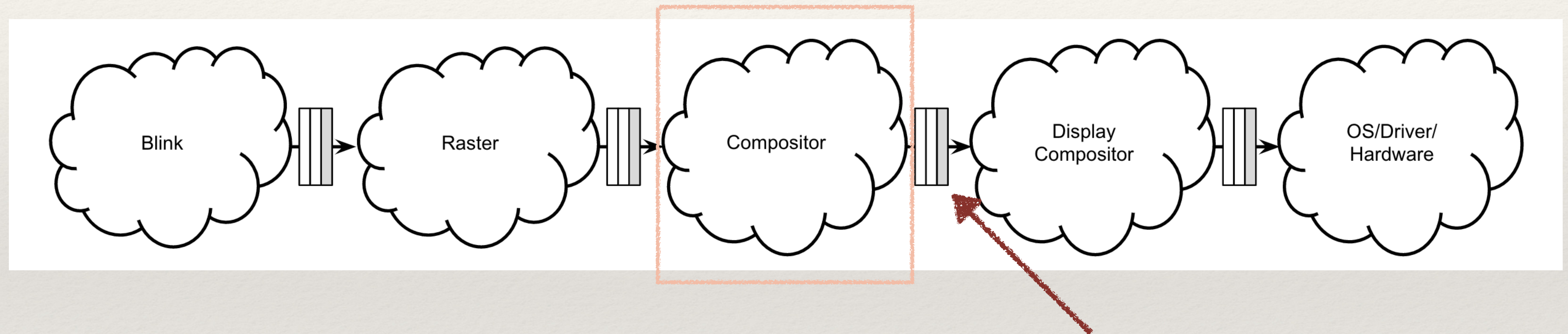


Android Webview:

Synchronous Compositor

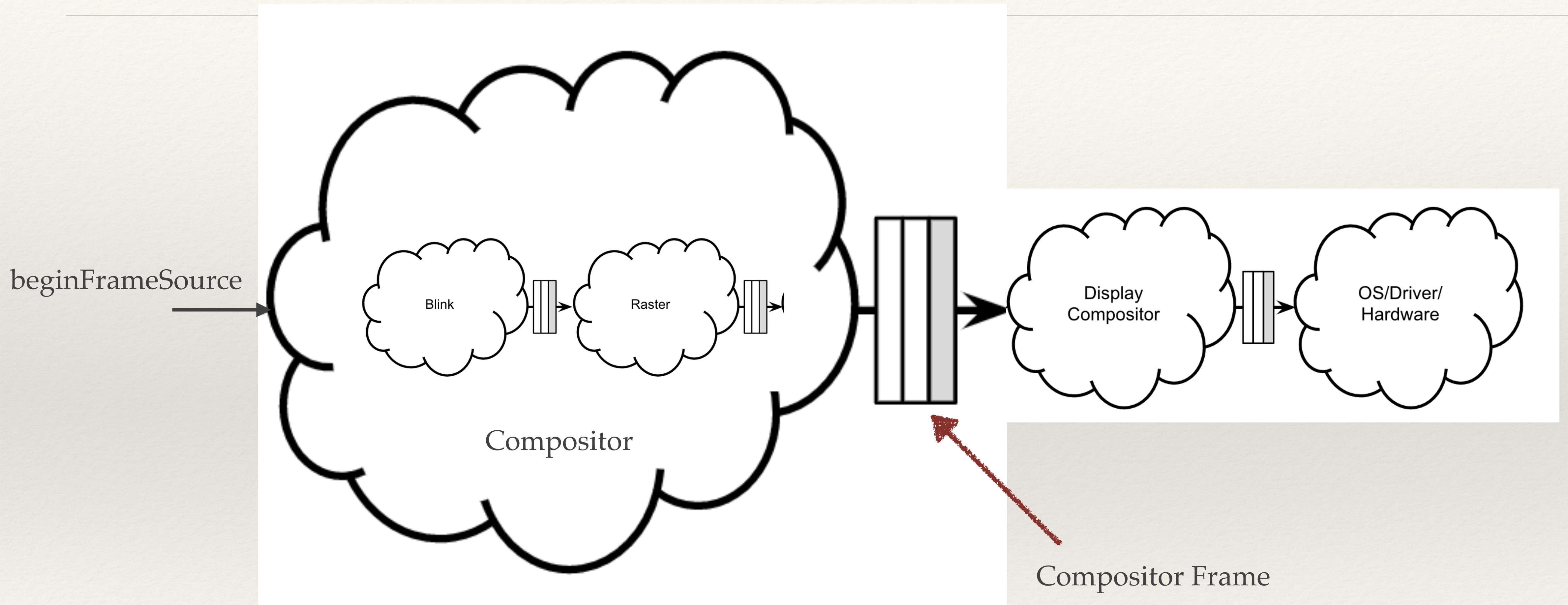
By Xietong LU

Pipeline



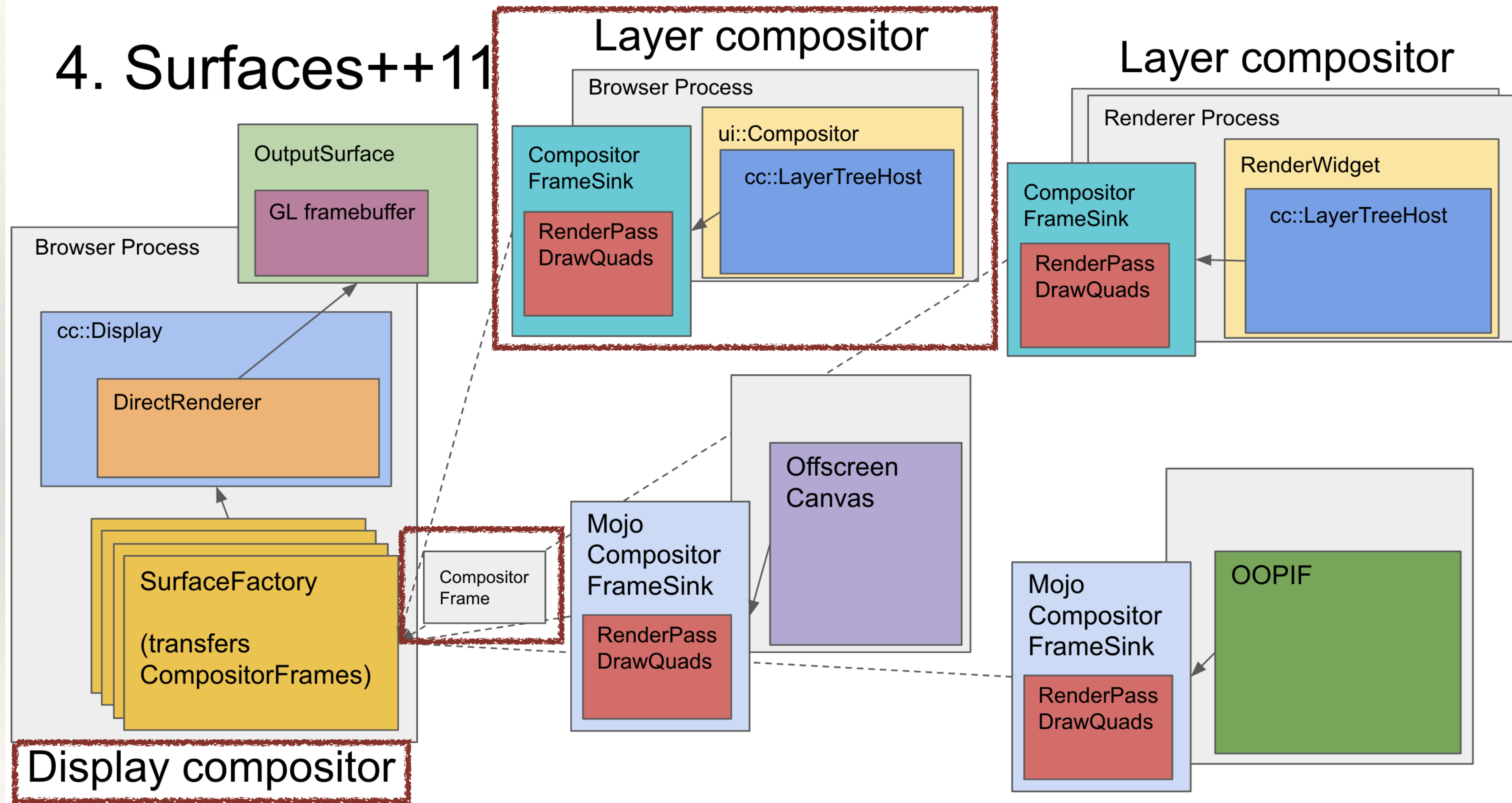
Compositor Frame

Compositor

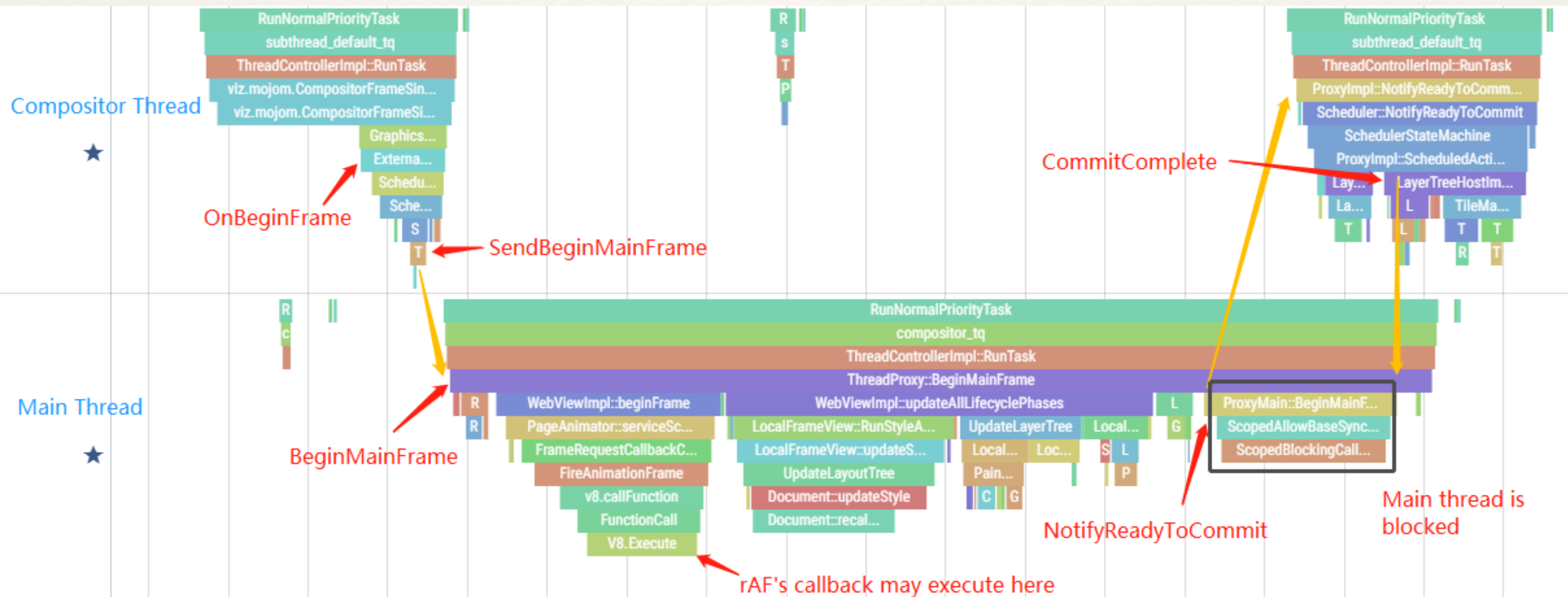


Compositor

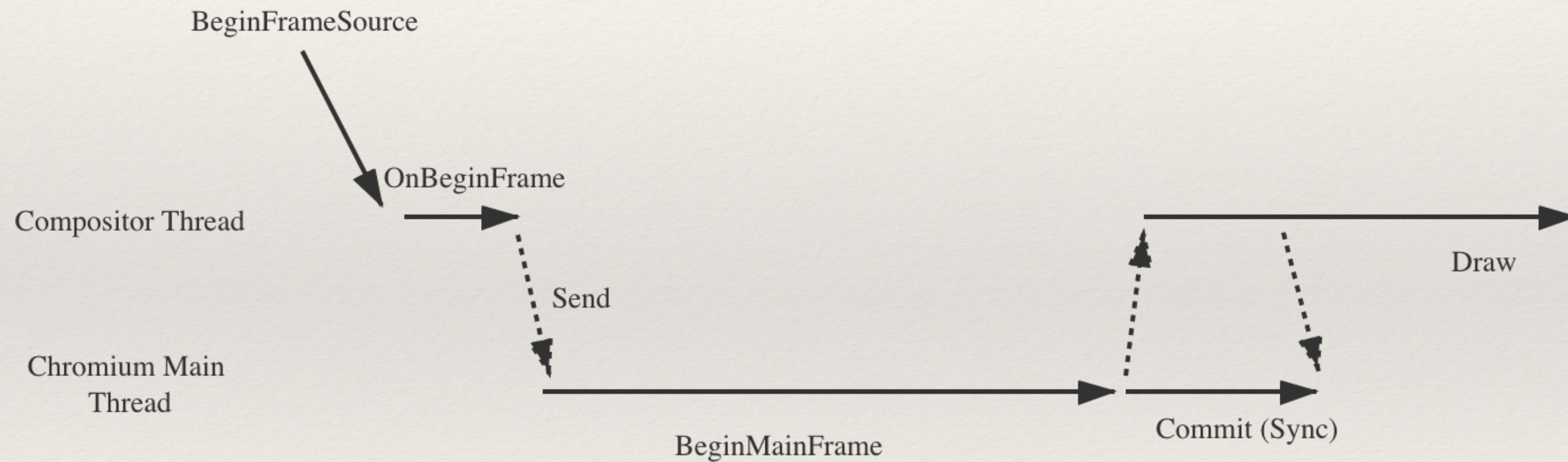
4. Surfaces++11



How Other Platforms Work



How Other Platforms Work



How Other Platforms Work

OnBeginFrame

Scheduler::BeginFrame

Scheduler::BeginImplFrame

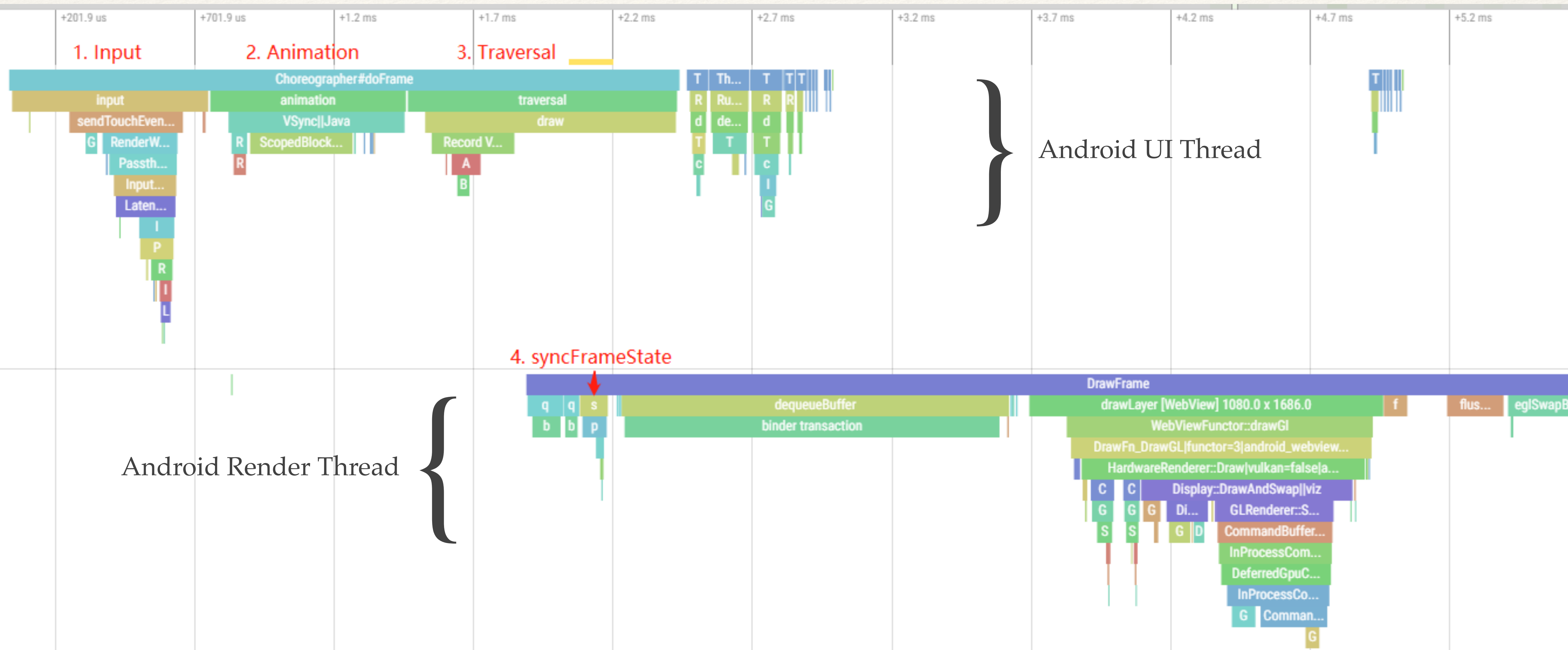
SendBeginMainFrame

BeginImplFrameDeadline

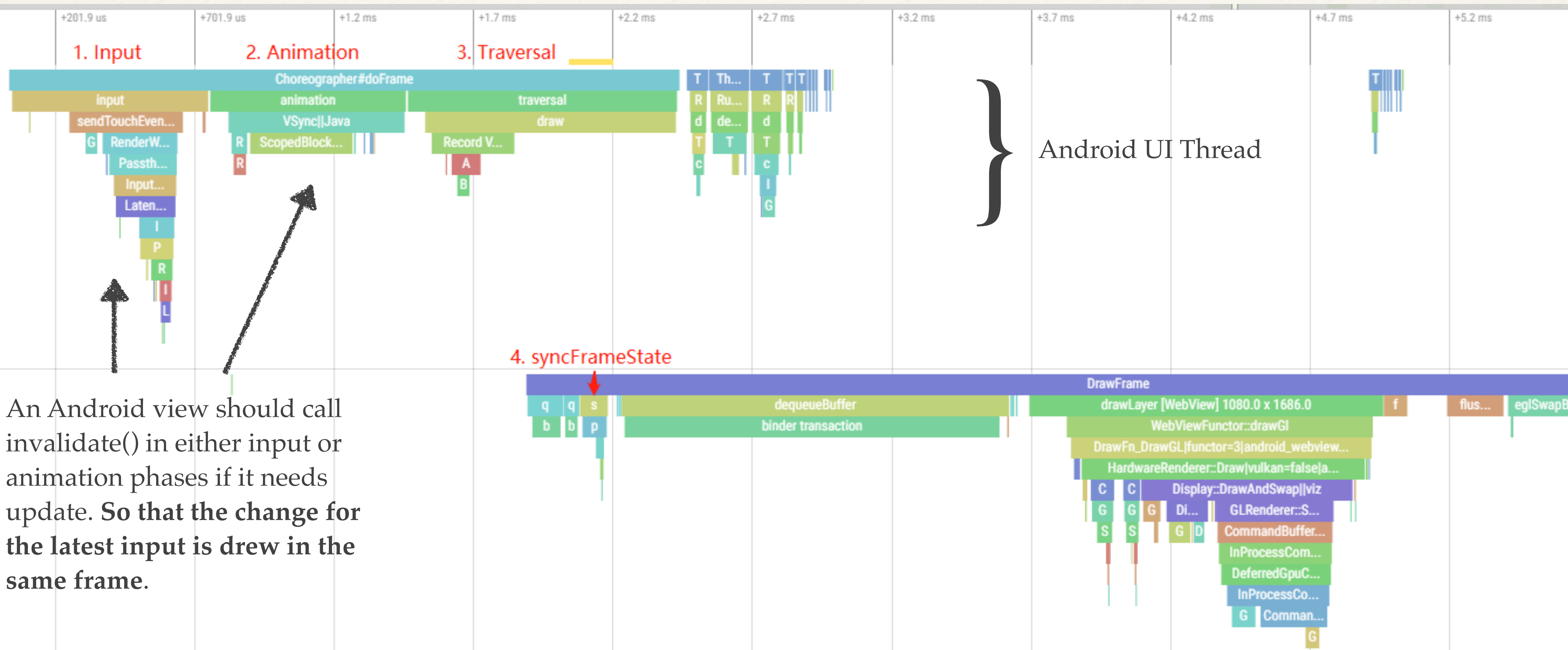
Webview vs Others

- ❖ Webview does not have browser thread - it uses Android UI thread
- ❖ BeginFrameSource is triggered from UI thread.
- ❖ Triggering BeginFrameSource is synchronous
 - ❖ UI thread is blocked by the compositor thread.
- ❖ No deadline.

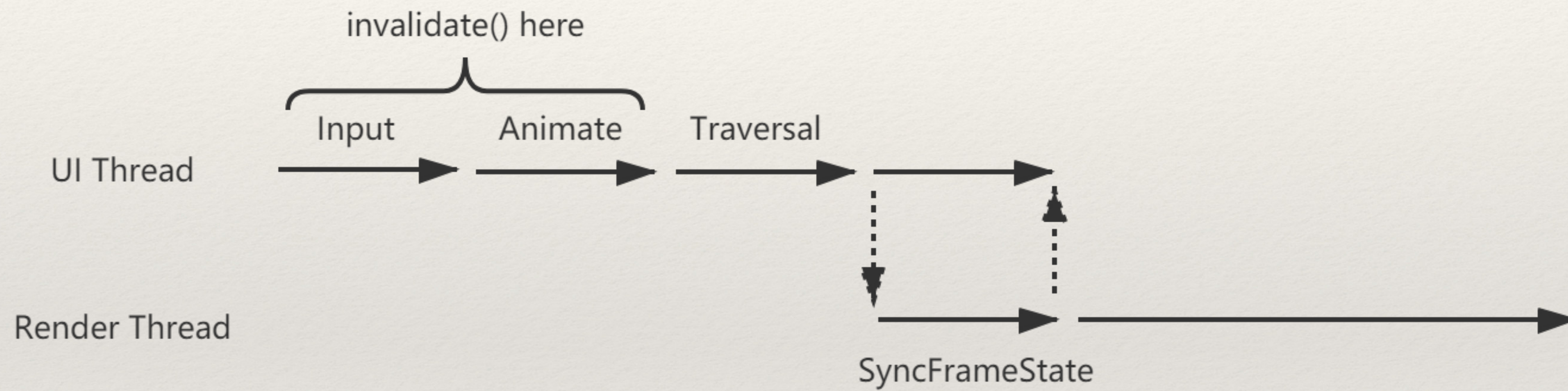
Android Webview



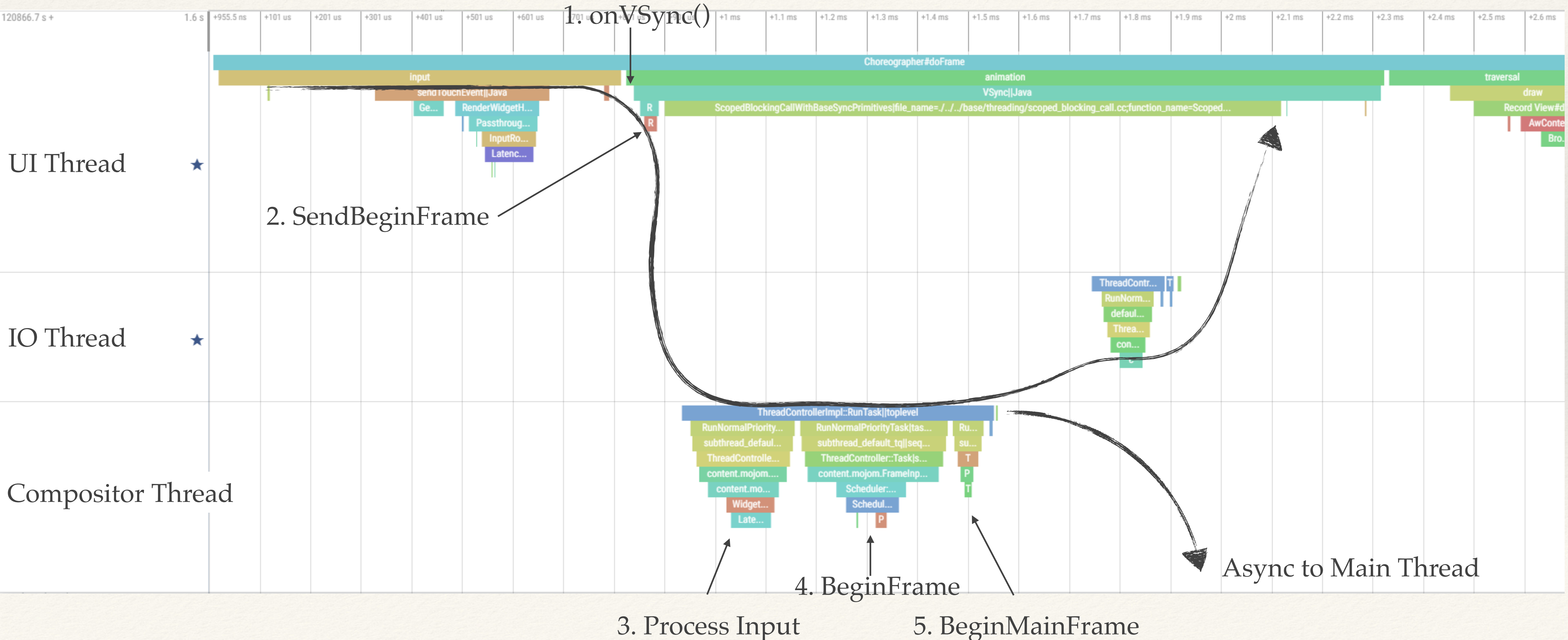
Android Webview



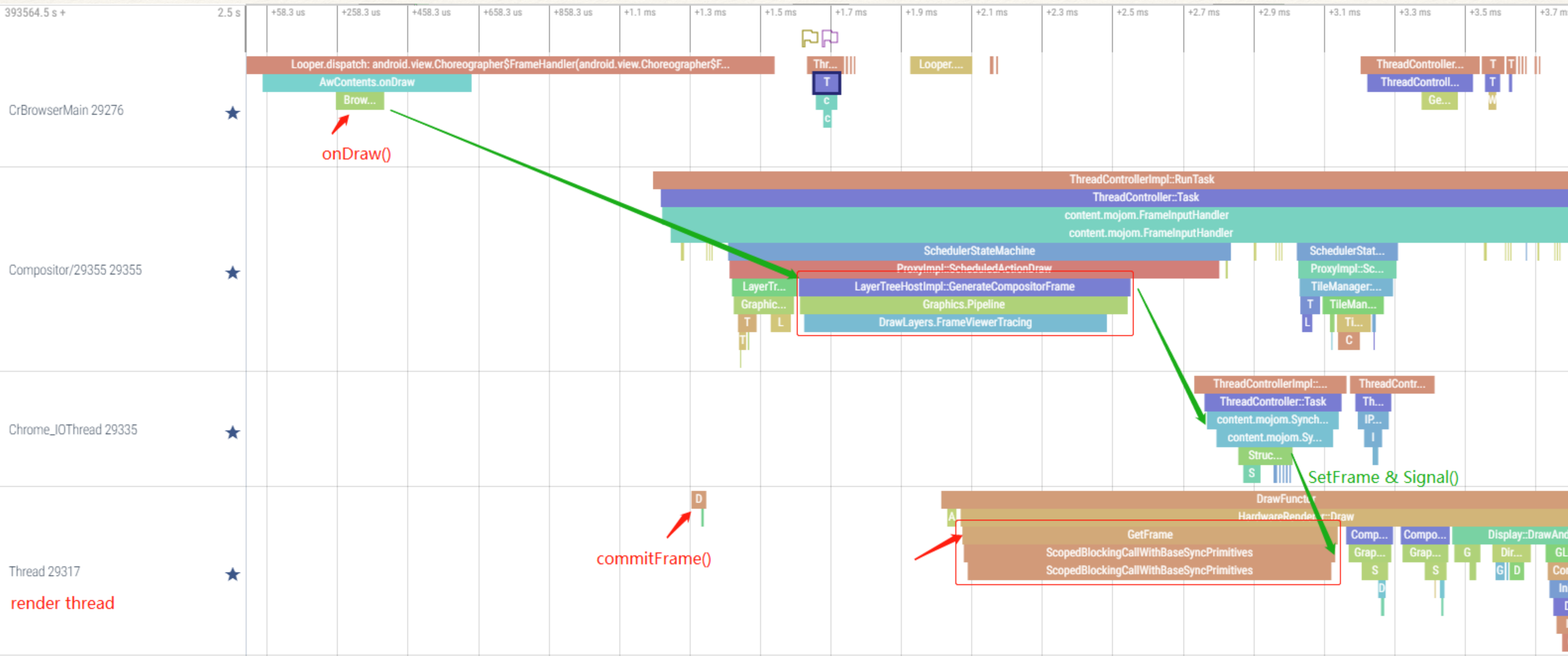
Android Webview



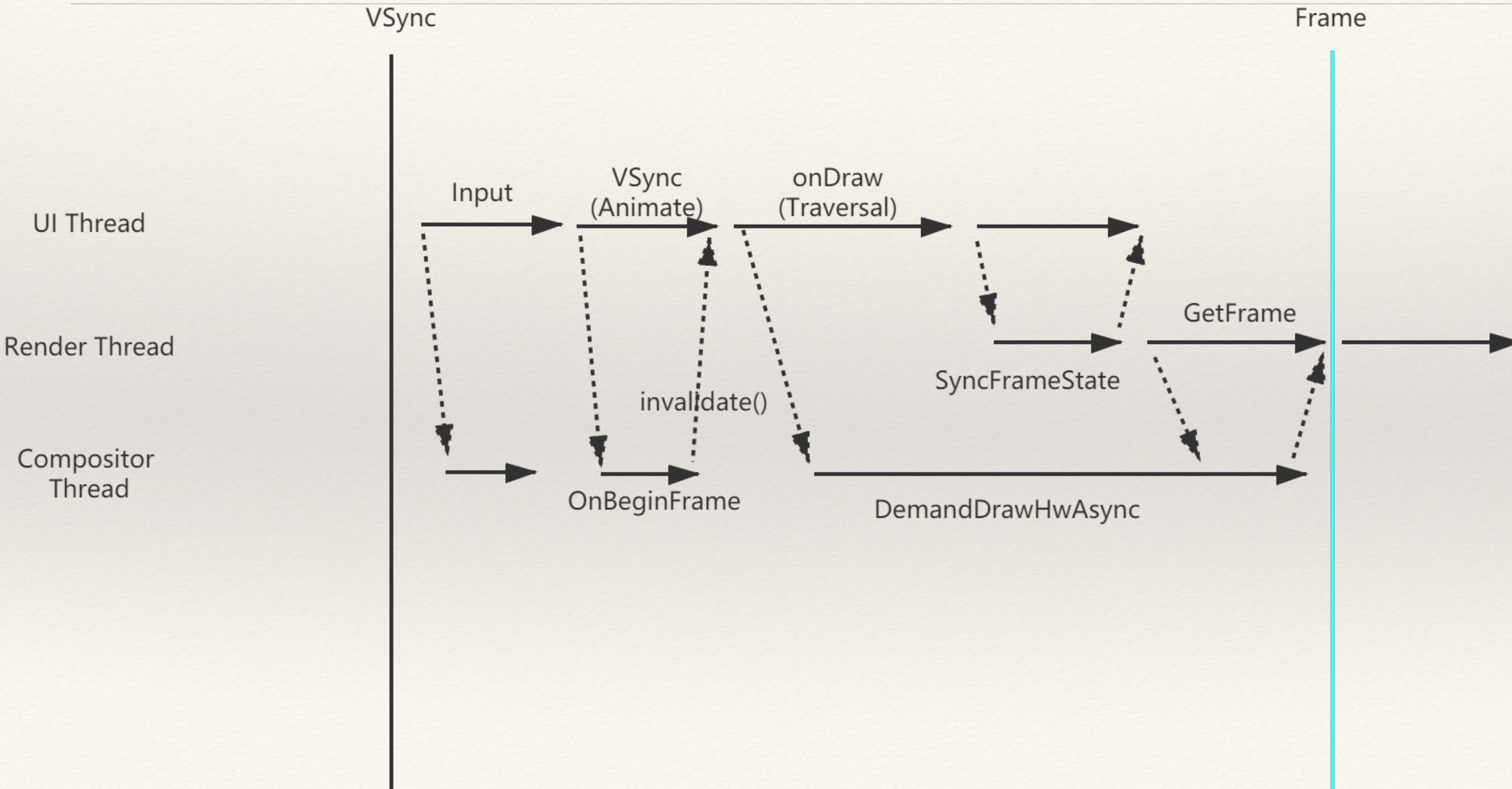
Android Webview



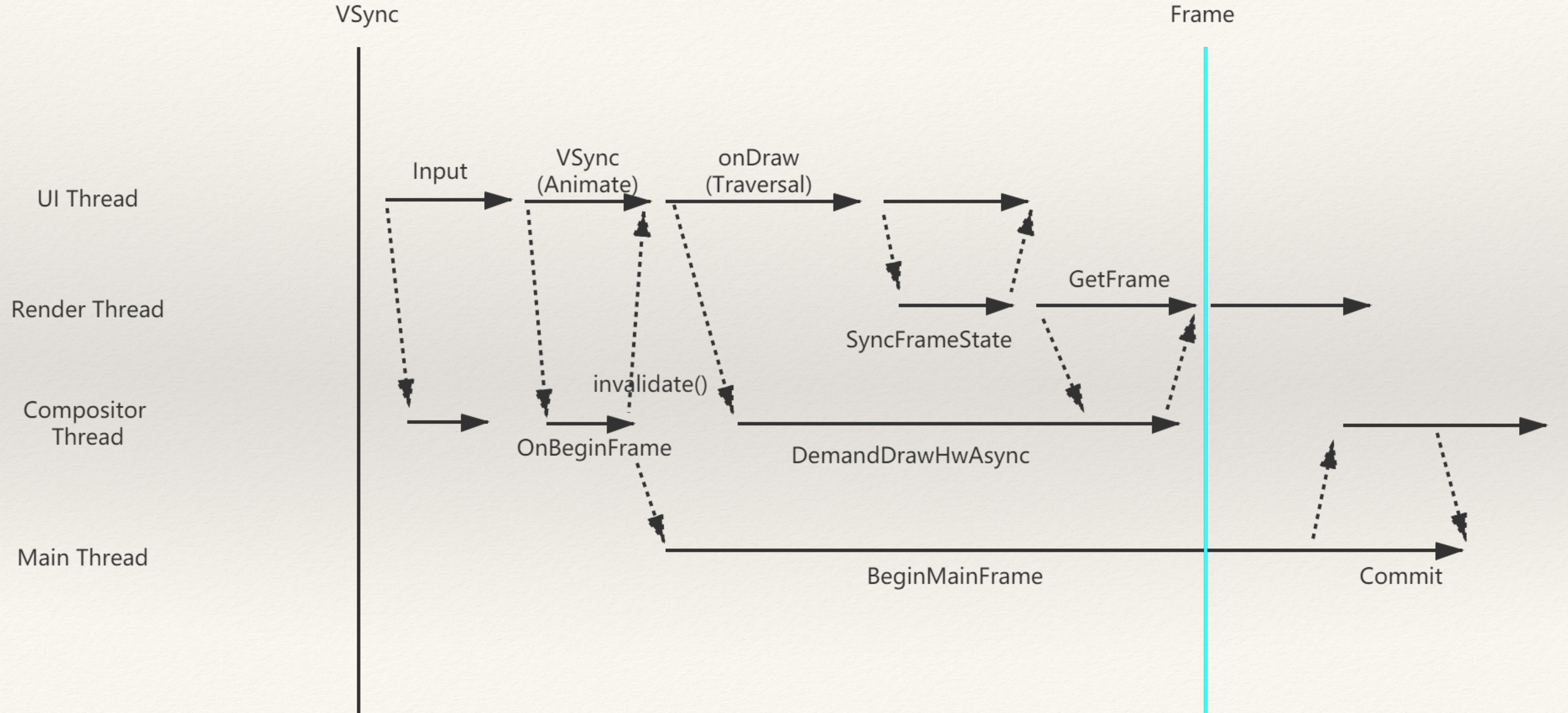
Android Webview



Android Webview



Android Webview



References

- ❖ https://chromium.googlesource.com/chromium/src/+master/docs/how_cc_works.md
- ❖ https://docs.google.com/presentation/d/1FpTy5DpIGKt8r2t785y6yrHETkg8v7JfJ26zUxaNDUg/edit#slide=id.ge255121b6_0_74
- ❖ https://docs.google.com/presentation/d/1ou3qdnFhKdjR6gKZgDwx3YHDwVUF7y8eoqM3rhErMMQ/edit#slide=id.g17a920a23a_0_743
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