Potential for Zero Copy

Performance and power are key constraints. Unnecessary data movement and/or processing should be avoided where possible. Therefore, although the figure shows distinct data buffers on the GPP and DSP side, in practice the data may reside in a common shared memory. No data is actually copied, when processing control is transferred from the GPP to the DSP (and back again).

However, in many cases, the architecture does not feature a shared memory capability, in which case the data must be moved. Ideally, the communication infrastructure should mask these platform-dependant constraints, and allow zero copy where supportable by the architecture. This permits portable application code.

7.4.1.2 More Complex Scenarios

Figure 3 is a conceptual representation of a more complex scenario. This is motivated by applications such as H.264 encoding/decoding.

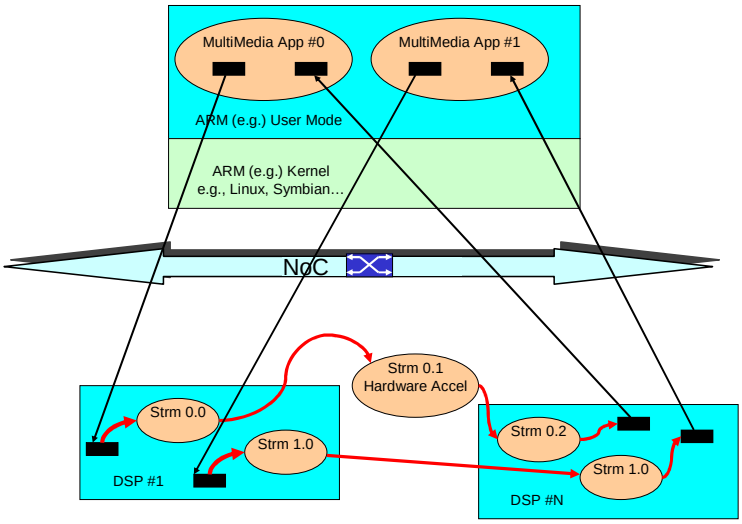

Figure 5 - More Complex Scenarios

High Processing Rates

The system computation requirements may exceed 100 GOPS/sec. The following characteristic may be viewed as a corollary:

Multi-Stage Processing

Due to extreme compute requirements, no one core can perform all of the processing – processing must be split into several stages. Currently, multimedia devices with order 10 cores are common.