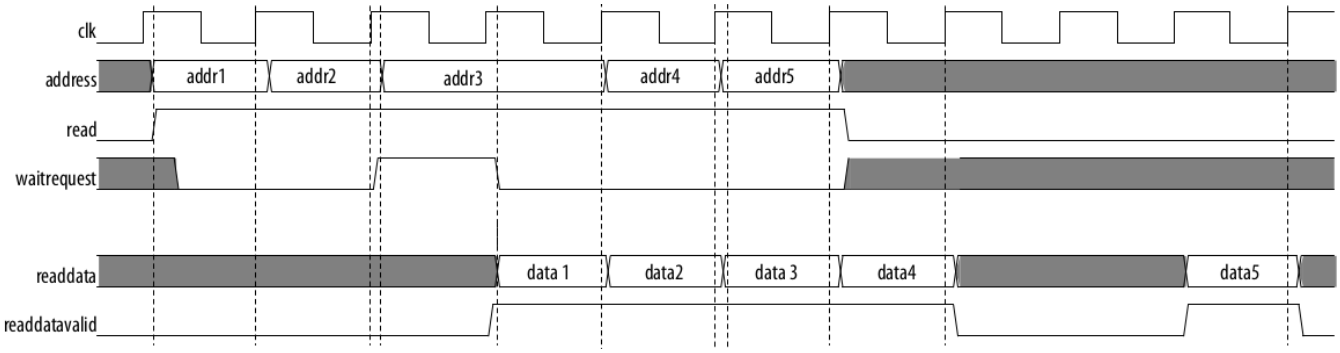
AVALON MEMORY-MAPPED INTERFACE

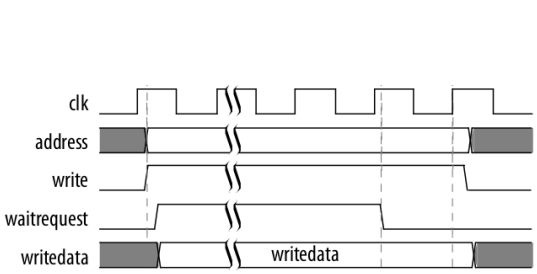
Signal roles define the signals that host/agent ports allow while interfacing with the Avalon bus. Many signal roles are optional, meaning that you can select only the ones necessary to implement the required functionality.

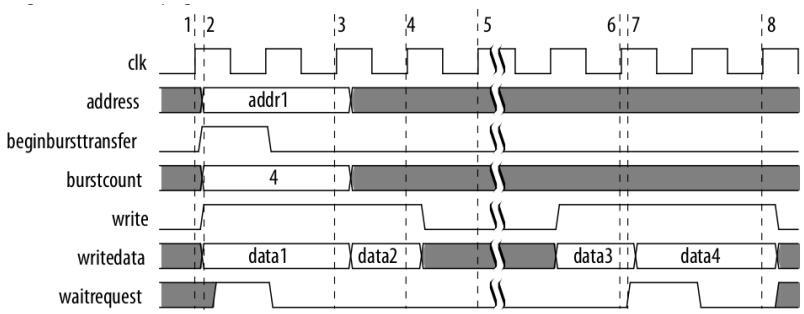
Considering a quite basic Avalon-MM interface, the following signal roles are required:

- ***waitrequest***
- ***address***
- ***write*** and ***writedata***
- ***read*** and ***readdata***
- ***readdatavalid*** (in case of variable latency)
- ***beginbursttransfer*** and ***burstcount*** (burst operation only)

The *waitrequest* signal allows the agent to communicate if it is available to acquire a new operation. By setting *waitrequest* the agent notifies that it is not able to sample a new operation, thus a valid input signal must be kept constant (otherwise it would be lost). Agent acquires a new operation and sets *waitrequest* until its completion.







When it comes to a write burst operation, the host can stall the burst transmission deasserting *write* and re-asserting it later on. Of course, tha same cannot be done while reading a burst, since the host is not in control of the burst transmission (it receives it). In any case, the agent can stall the operation sampling setting *waitrequest*.