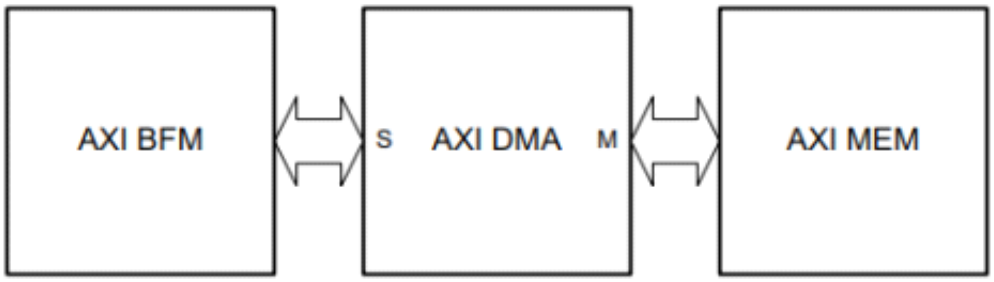
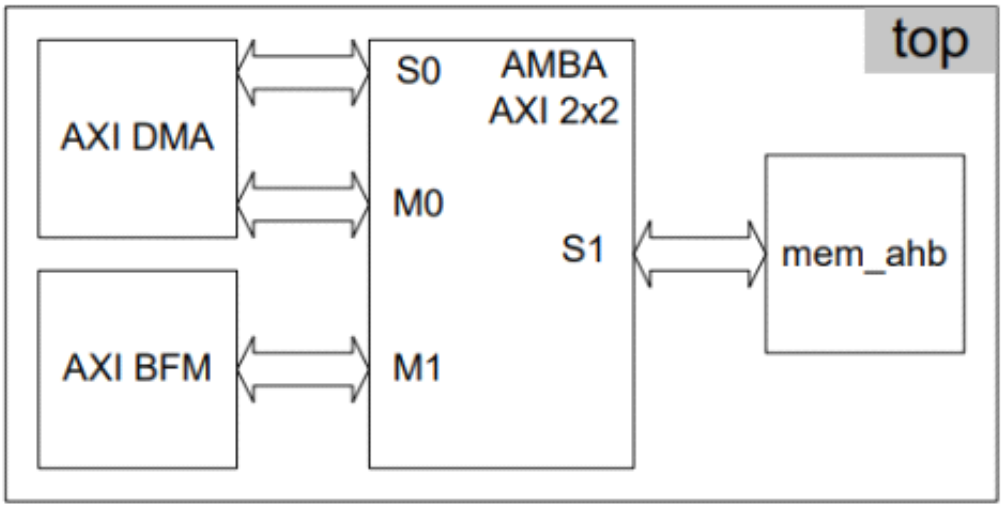
10_axi dma -sent

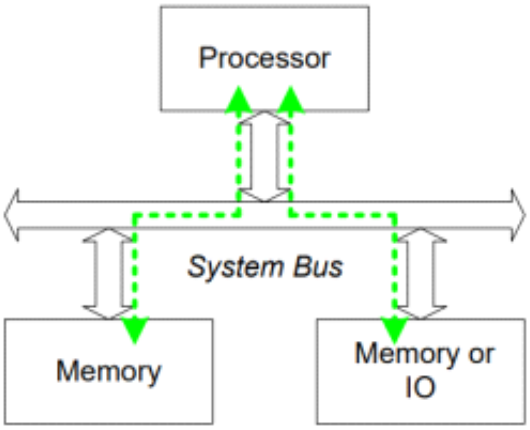
2022년 8월 25일 목요일 오후 3:14



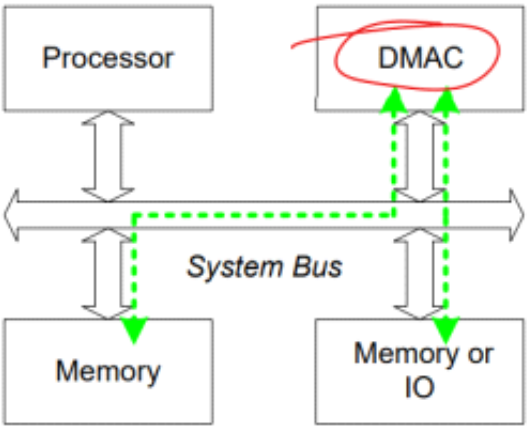


- Test-bench includes
  - DMA
  - BFM: Controlling DMA
  - Memory

Data transfer



Programmed transfer

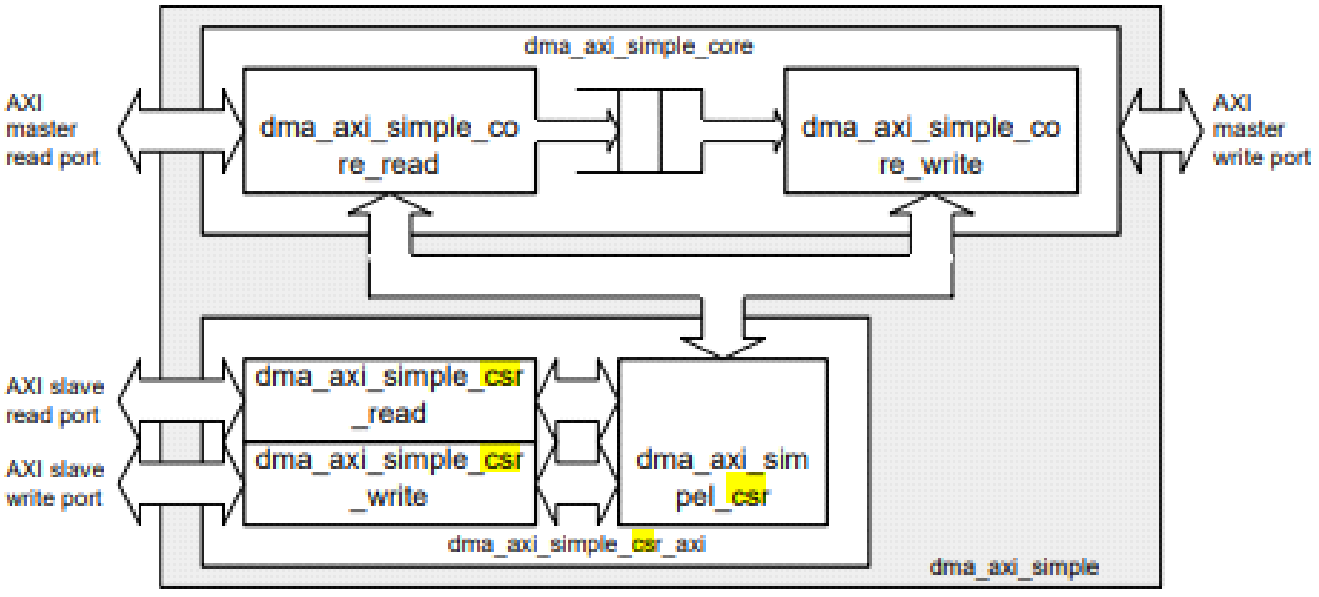


Direct Memory Access transfer

```
//-------------------------------------------------------
// +---------+                                +-----------------+
// |  BFM    |                                | DMA             |
// |         |                                |                 |
// | MID[WIDTH_CID] --BFM_MID[WIDTH_CID]--|  |                 |
// | AxID[WIDTH_ID] --BFM_AxID[WIDTH_ID]--+->|S_AxID[WIDTH_SID]|
// |         |                                |                 |
//-------------------------------------------------------
// +---------+                                +----------------+
// |  DMA    |                                | MEM            |
// |         |                                |                |
// | MID[WIDTH_CID] --MEM_MID[WIDTH_CID]--|  |                |
// | AxID[WIDTH_ID] --MEM_AxID[WIDTH_CID]--+->|AxID[WIDTH_SID] |
// |         |                                |                |
//-------------------------------------------------------
```

DMA CSR (1/3)

Name	Address offset		Bit#	description
NAME0	+000h		RO	DMA
NAME1	+004h		RO	AXI
NAME2	+008h		RO	
NAME3	+00Ch		RO	
COMP0	+010h		RO	DYNA
COMP1	+014h		RO	LITH
COMP2	+018h		RO	
COMP3	+01Ch		RO	
VERSION	+020h		RO	Version (0x2015_0712)
RESERVED	+024h			Reserved
	+028h			Reserved
	+02Ch			Reserved



```
//------------------------------------------------------------
localparam CSRA_NAME0   = 32'hA000_0000 + 8'h00,
           CSRA_NAME1   = 32'hA000_0000 + 8'h04,
           CSRA_NAME2   = 32'hA000_0000 + 8'h08,
           CSRA_NAME3   = 32'hA000_0000 + 8'h0C,
           CSRA_COMP0   = 32'hA000_0000 + 8'h10,
           CSRA_COMP1   = 32'hA000_0000 + 8'h14,
           CSRA_COMP2   = 32'hA000_0000 + 8'h18,
           CSRA_COMP3   = 32'hA000_0000 + 8'h1C,
           CSRA_VERSION = 32'hA000_0000 + 8'h20,
           CSRA_CONTROL = 32'hA000_0000 + 8'h30,
           CSRA_NUM     = 32'hA000_0000 + 8'h40,
           CSRA_SOURCE  = 32'hA000_0000 + 8'h44,
           CSRA_DEST    = 32'hA000_0000 + 8'h48;
//------------------------------------------------------------
```