**Design Document for eDMA**

 

# Outline

This document describes the eDMA driver in Linux kernel of MVF TOWER BOARD (XTWR-VF600) with MVF SoC.

# Existing code to be changed

## Source

* eDMA driver

Modelo BSP

drivers/dma/mcf\_edma.c edma\_test.c

arch/m68k/include/asm/mcf\_edma.h

## Modification

* eDMA driver

arch/arm/include/asm/mvf\_edma.h

1. Based on arch/m68k/include/asm/mcf\_edma.h, change register address to the one with offset definition that can be used after ioremap.

drivers/dma/mvf\_edma.c()

1. Based on drivers/dma/mcf\_edma.c, port eDMA driver.
2. The mcf\_edma.c driver is treated as somewhat like independent local library in Modelo BSP. However for this porting, it is considered to be a DMA driver connecting to linux DMA subsystem (DMAengine.c).

Reimplement code of each DMA function that export\_symbol is done in mcf\_edma.c to fit struct dma\_device (include/linux/dmaengine.h).

# API of new functions

No additional new API since it is ported to adapt DMA subsystem.

# Expected register settings

According to the manual, develop the driver as below.

eDMA base address: 0x4001 8000(DMA0) 0x4009 8000(DMA1)

# Expected functionality and usage

DMA driver, as it is incorporated in DMA subsystem, becomes usable by the method defined in kernel/documentation/DMA-API.txt.

# Any other pertinent information

None