Reserved memory

Contents

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1 Article purpose

The **Reserved-memory** mechanism[1] allows reserving memory regions in the kernel. This mechanism is used by drivers to allocate buffers in specific memory regions (such as MCU SRAM) or to get a dedicated memory pool that will not be managed by Linux® conventionnal memory allocator (in DDR).

2 Use cases

In STM32 MPU Linux OS, the **reserved-memory** is used by:

- the dmaengine driver to reserve the region where DMA buffers are allocated, typically MCU SRAM.
- the remoteproc driver to reserve the regions in RETRAM and MCU SRAM where the coprocessor firmware will be loaded.
- the RPMsg driver to reserve the region where RPMsg buffers used for interprocess communication with the coprocessor, are allocated, typically MCU SRAM.
- the Vivante Gcnano driver to reserve the region where the GPU working memory is allocated, typically the DDR.

3 References

- https://www.kernel.org/doc/Documentation/devicetree/bindings/reserved-memory/reserved-memory.txt

Microprocessor Unit

Operating System

Graphics Processing Units