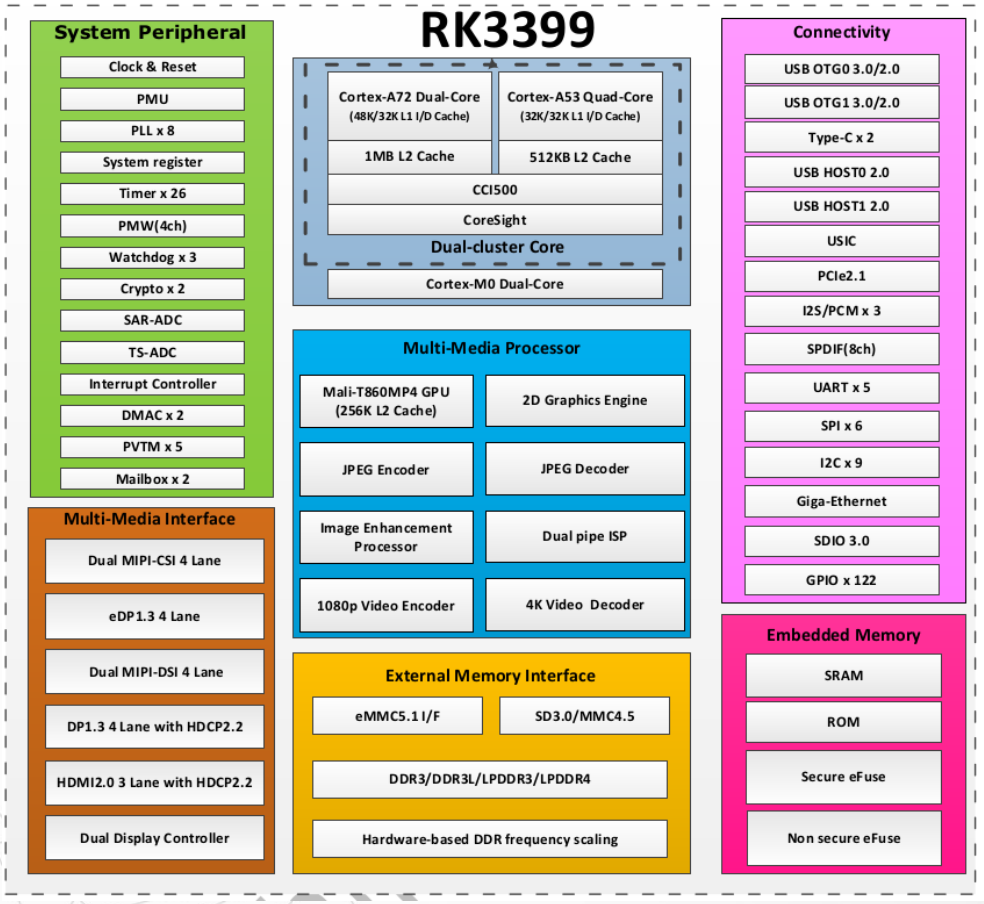
Embedded Linux Arch

SOC RK3399



http://wiki.friendlyarm.com/wiki/index.php/NanoPi_M4#Diagram.2C_Layout_and_Dimension

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Embedded Linux System Booting

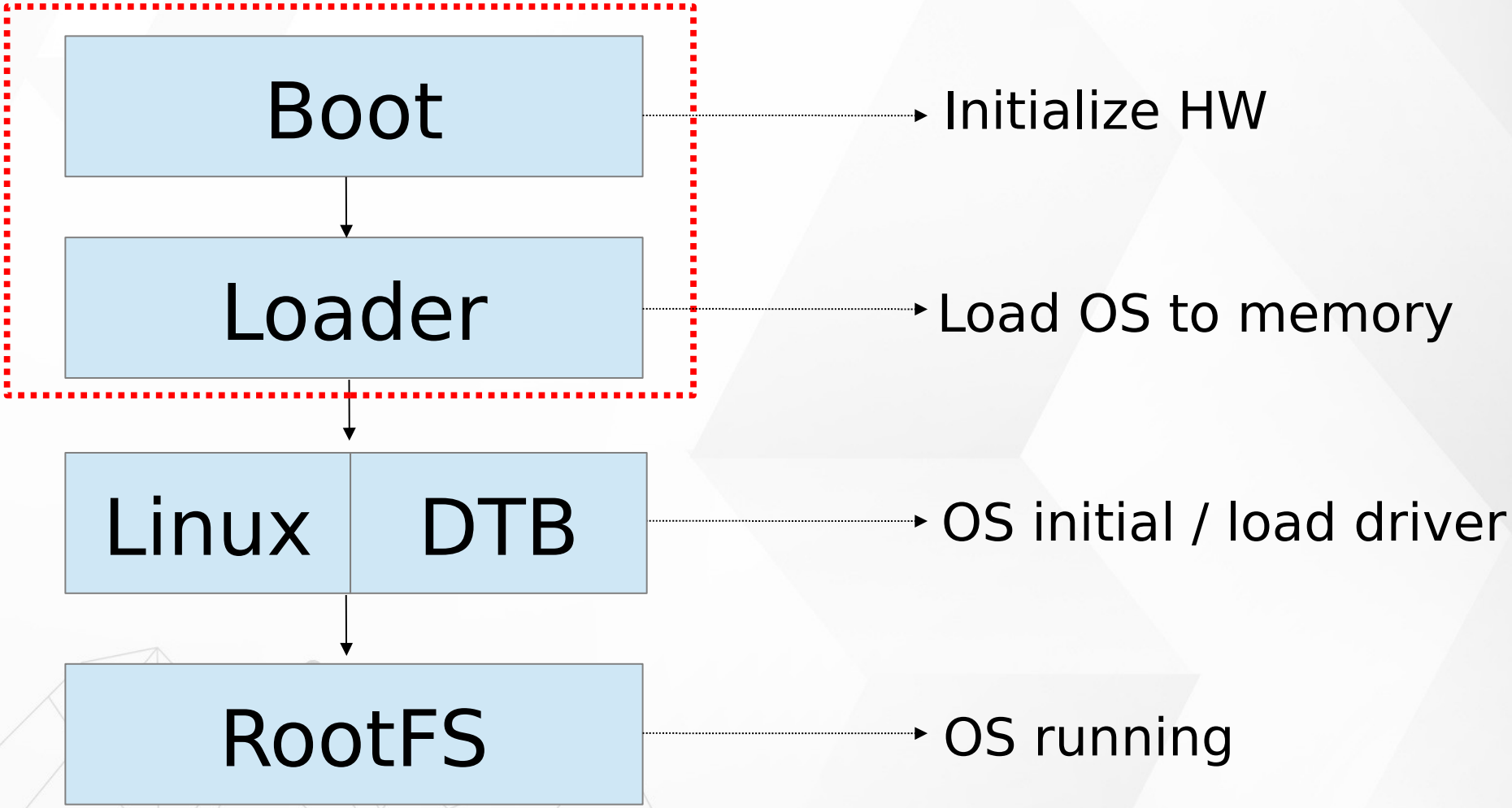


Image Partition

partmap.txt – Image layout in SD card

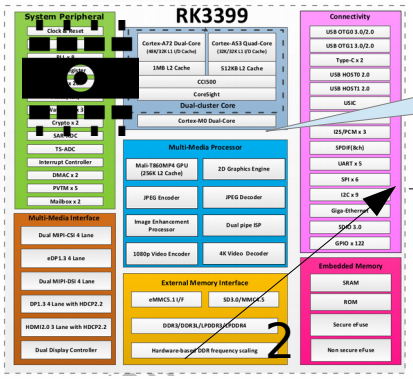
Loader	idbloader.img	0x8000,0x280000
Environment		0x3F8000,0x8000
Parameter	param4sd.txt	0x400000,0x0400000
u-boot	**Uboot.img**	**0x800000,0x0400000**
Trust	Trust.img	0xC00000,0x0400000
Misc		0x1000000,0x0400000
Resource	Resource.img	0x1400000,0x0C00000
Linux kernel	Linux kernel	0x2000000,0x2000000
Boot	Boot.img	0x4000000,0x2000000
RootFS	rootfs.img	0x6000000,RootFS Size
User data		

Image Partition

Open source version

Loader	idbloader.img	0x8000,0x280000
Environment		
Parameter		
u-boot	**Uboot.img**	**0x800000,0x0400000**
Trust	Trust.img	0xC00000,0x0400000
Misc		
DTB	Nanopim4-rev21.dtb	Boot folder of SD CARD
Linux kernel	Image	Boot folder of SD CARD
Boot		
RootFS	rootfs.tar.bz2	Root of SD CARD
User data		

System Start Up



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RAM

3

Linux

4-1

4-2

4-3

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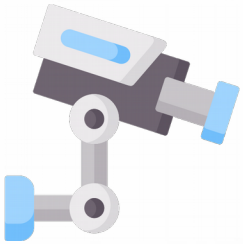
Boot

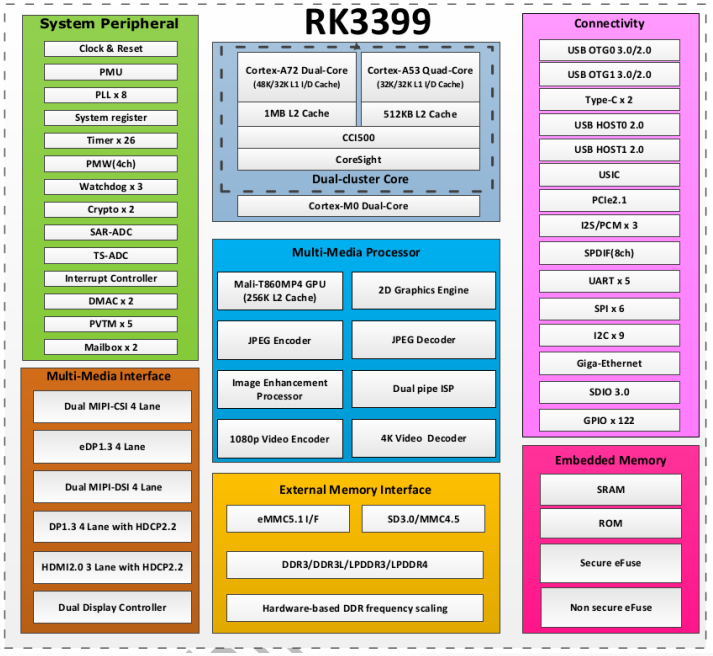
- Power On BootROM code (work in cache)
  - Load BL1
- BL1 (work in cache - IDB_Loader)
  - Initial simple exception vectors, PLL (clock)
  - Initial Multi-CPU
  - Load BL2
- BL2 (work in cache)
  - Initial DDR memory
  - Initial C environment (stack, heap,)
  - Load BL31

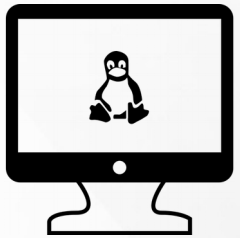
Boot

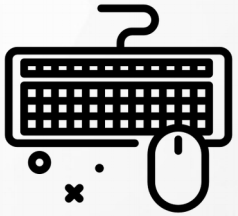
- BL31 (work in DDR)
  - Initial exception vectors
  - Load BL32 (u-boot)
- BL32 U-boot
  - Initial storage device
  - Load Linux Kernel
- Kernel
  - kernel/Documentation/arm64/booting.txt
  - Load RootFS

Embedded Linux System

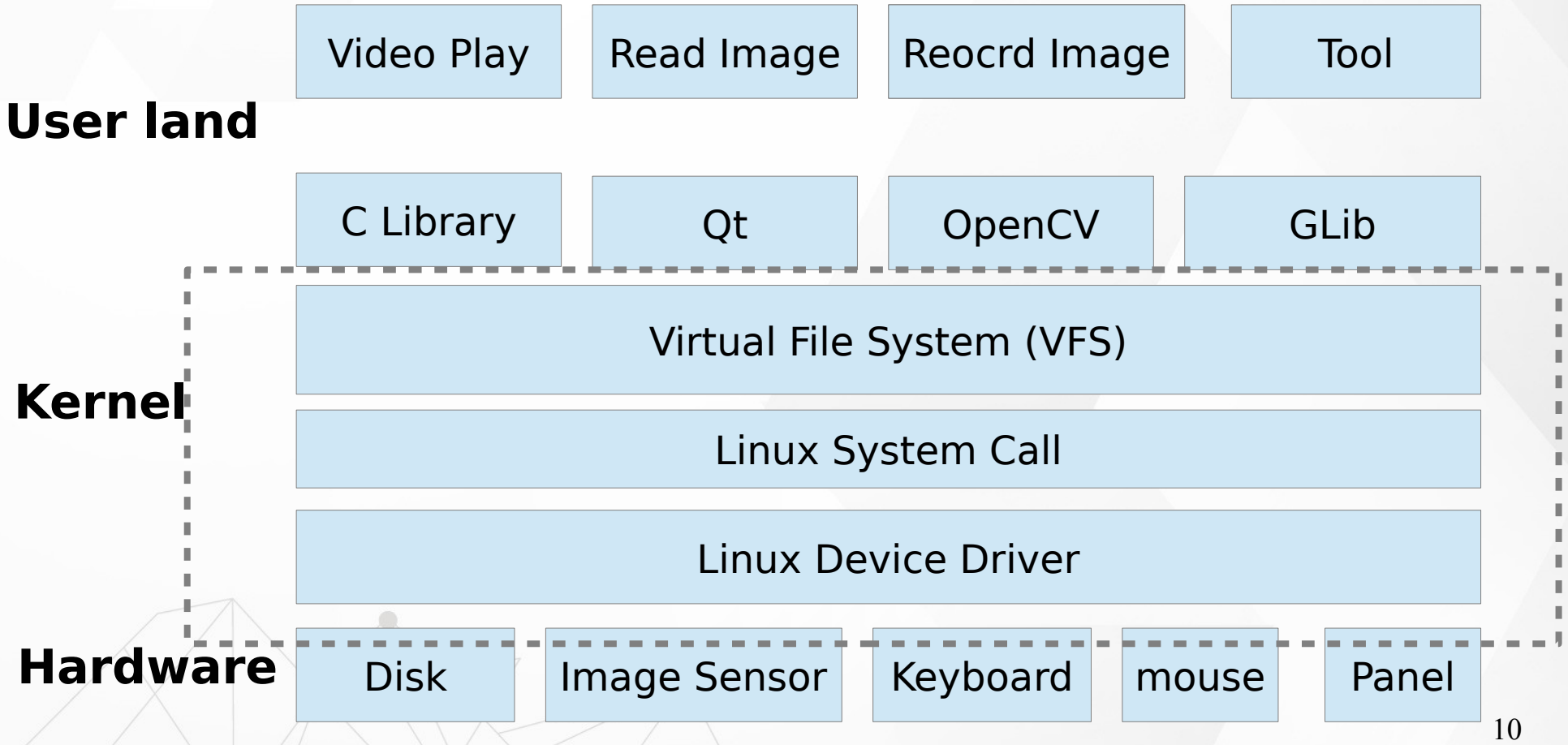








Embedded Linux System



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