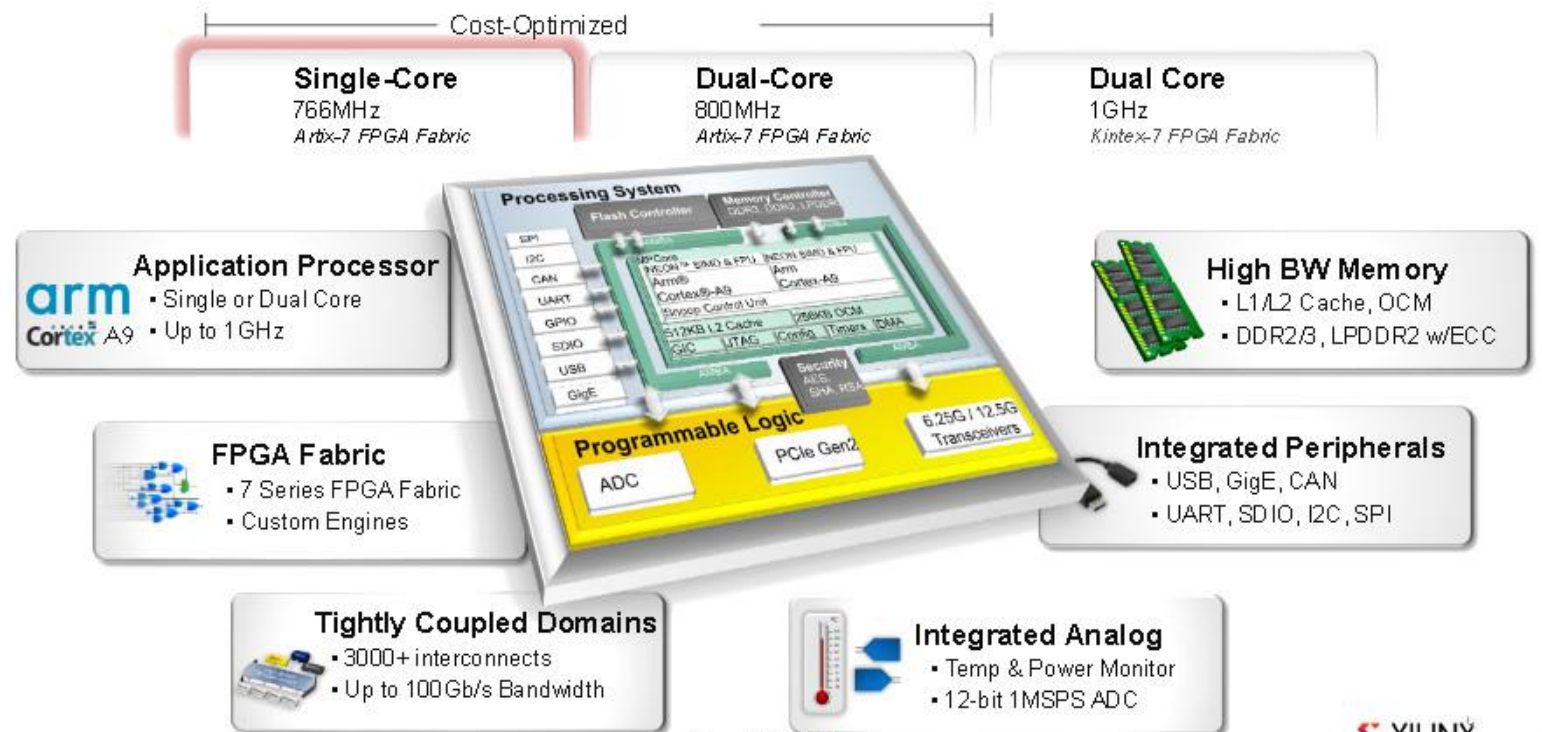# Zynq 7000: Lightweight IP, FSBL

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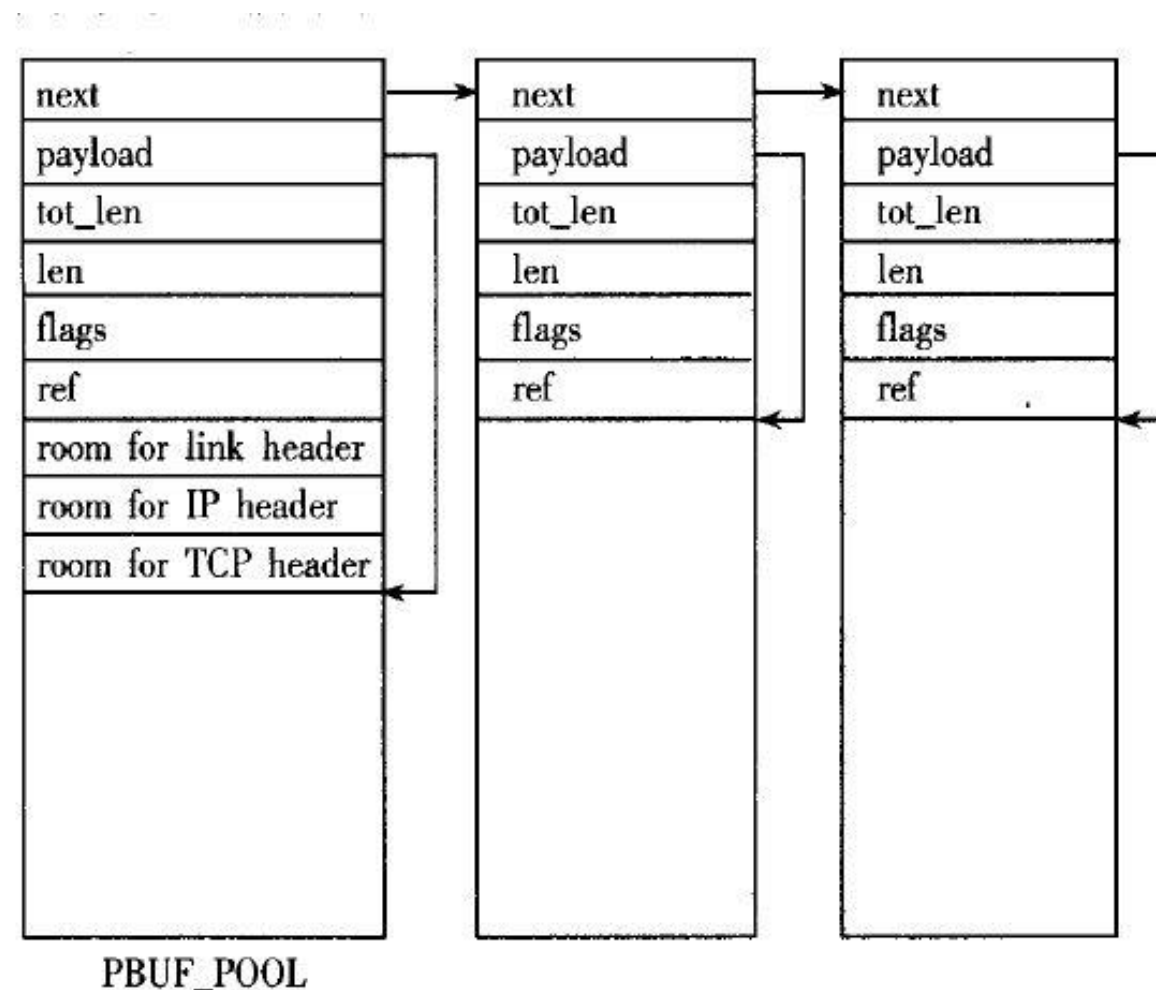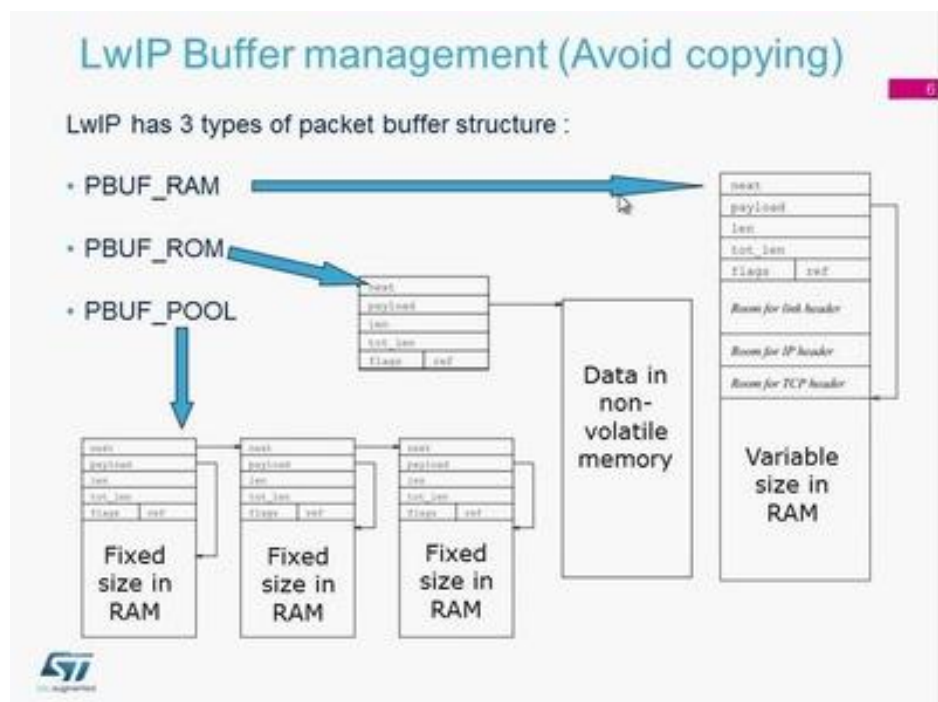
dhcp.c , dns.c ... — Прикладной уровень

udp.c **tcp.c** — Транспортный уровень

ip.c — Интернет уровень

netif.c — Уровень сетевого интерфейса

LwIP Buffer management (Avoid copying)

LwIP has 3 types of packet buffer structure :

- PBUF_RAM
- PBUF_ROM
- PBUF_POOL

Data in non-volatile memory

Variable size in RAM

Fixed size in RAM

Fixed size in RAM

Fixed size in RAM

| next |
| payload |
| tot_len |
| len |
| flags |
| ref |
| room for link header |
| room for IP header |
| room for TCP header |

| next |
| payload |
| tot_len |
| len |
| flags |
| ref |

| next |
| payload |
| tot_len |
| len |
| flags |
| ref |

PBUF_POOL

图 1 PBUF_POOL 链表

Boot Sequence

device tree
linux kernel image
root file system image

1 Power On

2 FSBL (ps init) ← ps7_init

3 FSBL (program PL) ← bit stream

4 U-boot

5 Linux Kernel

6 Linux Root File System

7 Our Linux kernel driver

8 Our user level application

BOOT.ini
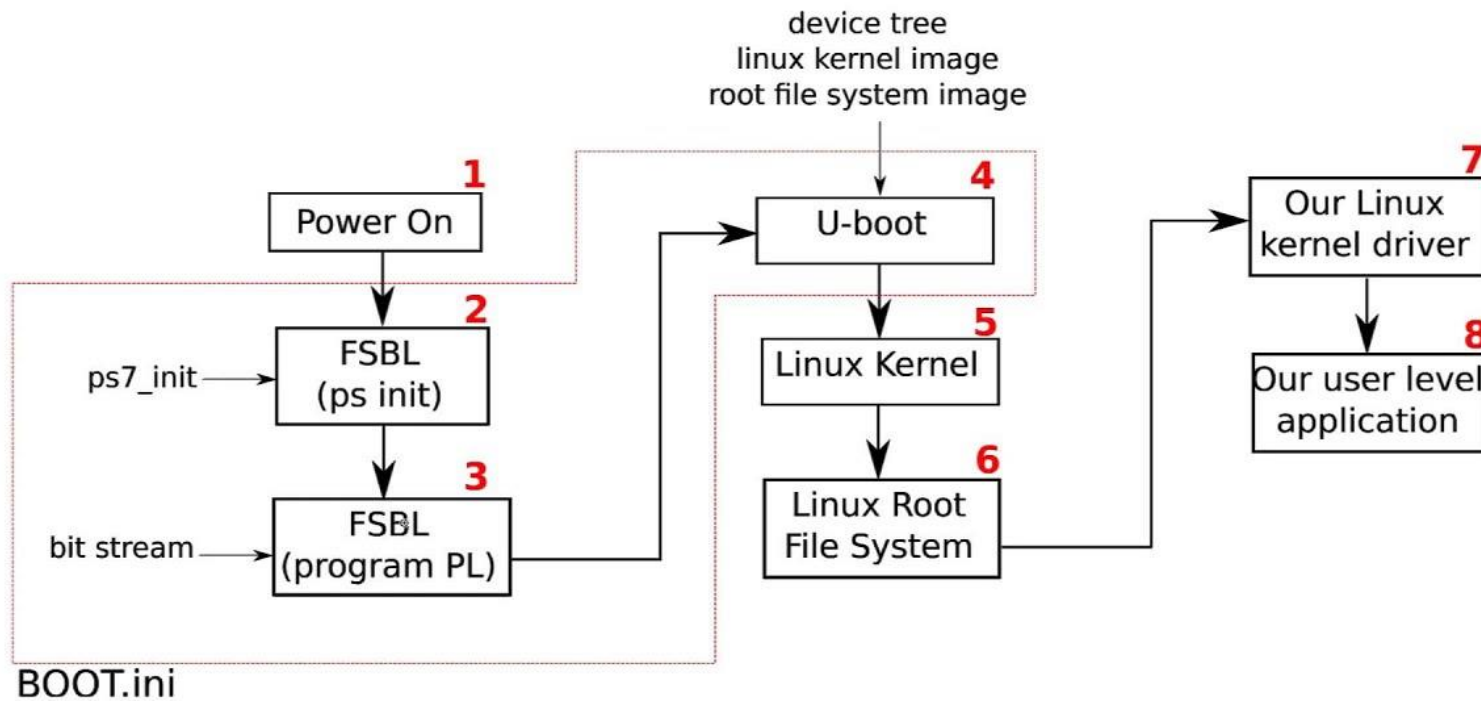
Boot Header			
Register Initialization Table			
Image Header Table			
Image Header 1	Image Header 2	...	Image Header n
Partition Header 1	Partition Header 2	...	Partition Header n
Header Authentication Certificate (Optional)			
Partition 1 (FSBL)			AC (Optional)
Partition 2			AC (Optional)
.			
Partition n			AC (Optional)

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