Descriptor allocation Flowchart

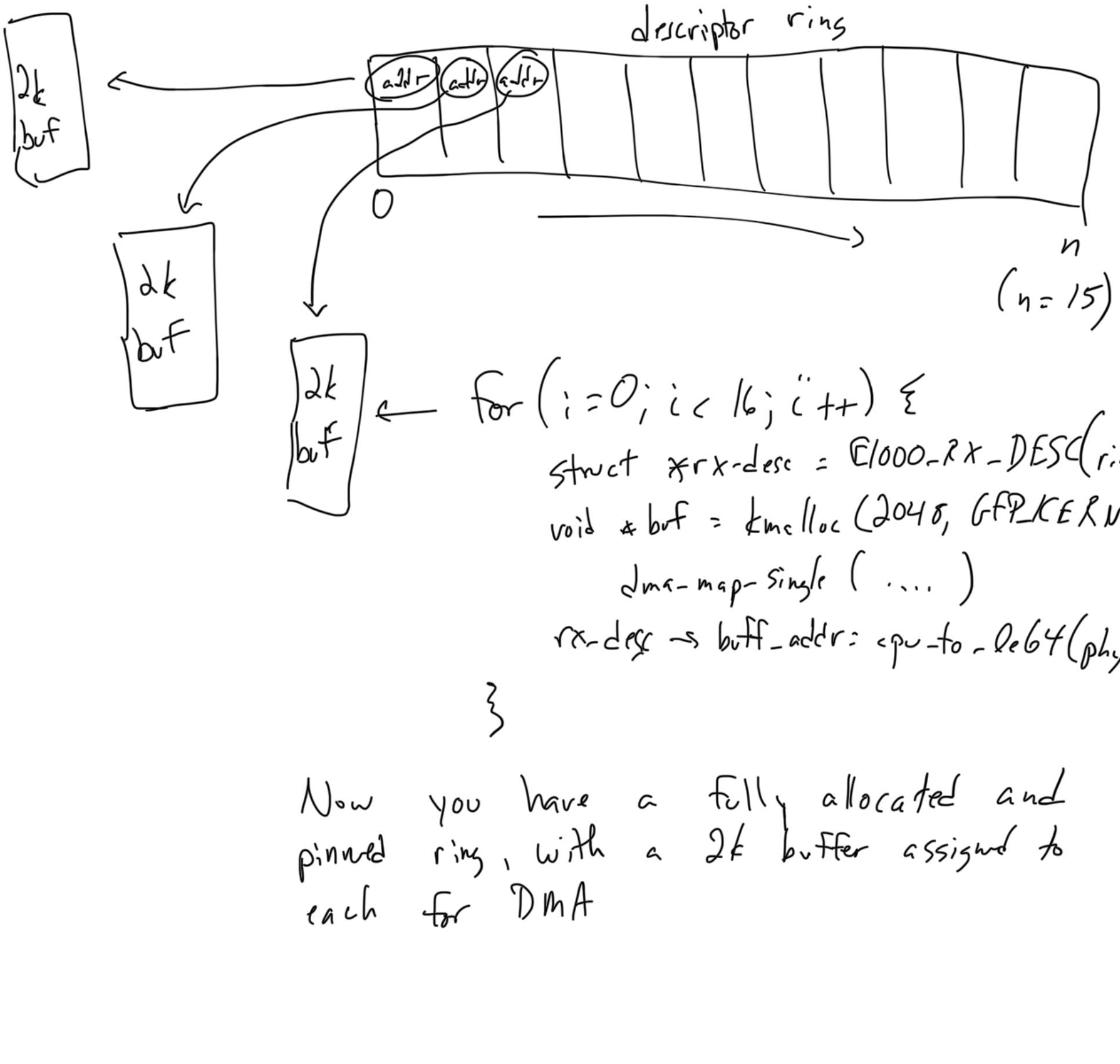
Allocate descriptors → Build ring of contiguous memory:

dma_alloc_coherent()

Size = sizeof(struct rx_drsc)* 16;

Now we have a block of memory that is contiguous & pinned for bidirectional DMA

Allocate buffers per descriptor ← each descriptor needs a 2k buffer




```
for (i=0; i< 16; i++) {
    struct *rx-desc = E1000_RX_DESC(rins, i);
    void * buf = kmalloc (2048, GFP_KERNEL);
        dma-map-single ( .... )
    rx-desc -> buff_addr: cpu_to_le64(phy_buf);
}
```

Now you have a fully allocated and pinned ring, with a 2k buffer assigned to each for DMA