Linux Device Drivers Development by John Madieu

kmap

The Linux kernel permanently maps 896 MB of its address space to the lower 896 MB of the physical memory (low memory). On a 4 GB system, there is only 128 MB left to the kernel to map the remaining 3.2 GB of physical memory (high memory). Low memory is directly addressable by the kernel because of the permanent and one-to-one mapping. When it comes to high memory (memory above 896 MB), the kernel has to map the requested region of high memory into its address space, and the 128 MB mentioned before is especially reserved for this. The function used to perform this trick, `kmap()`. `kmap()` , is used to map a given page into the kernel address space:

```
void *kmap(struct page *page);
```

`page` is a pointer to the `struct page` structure to map. When ...