

Text Illustrations

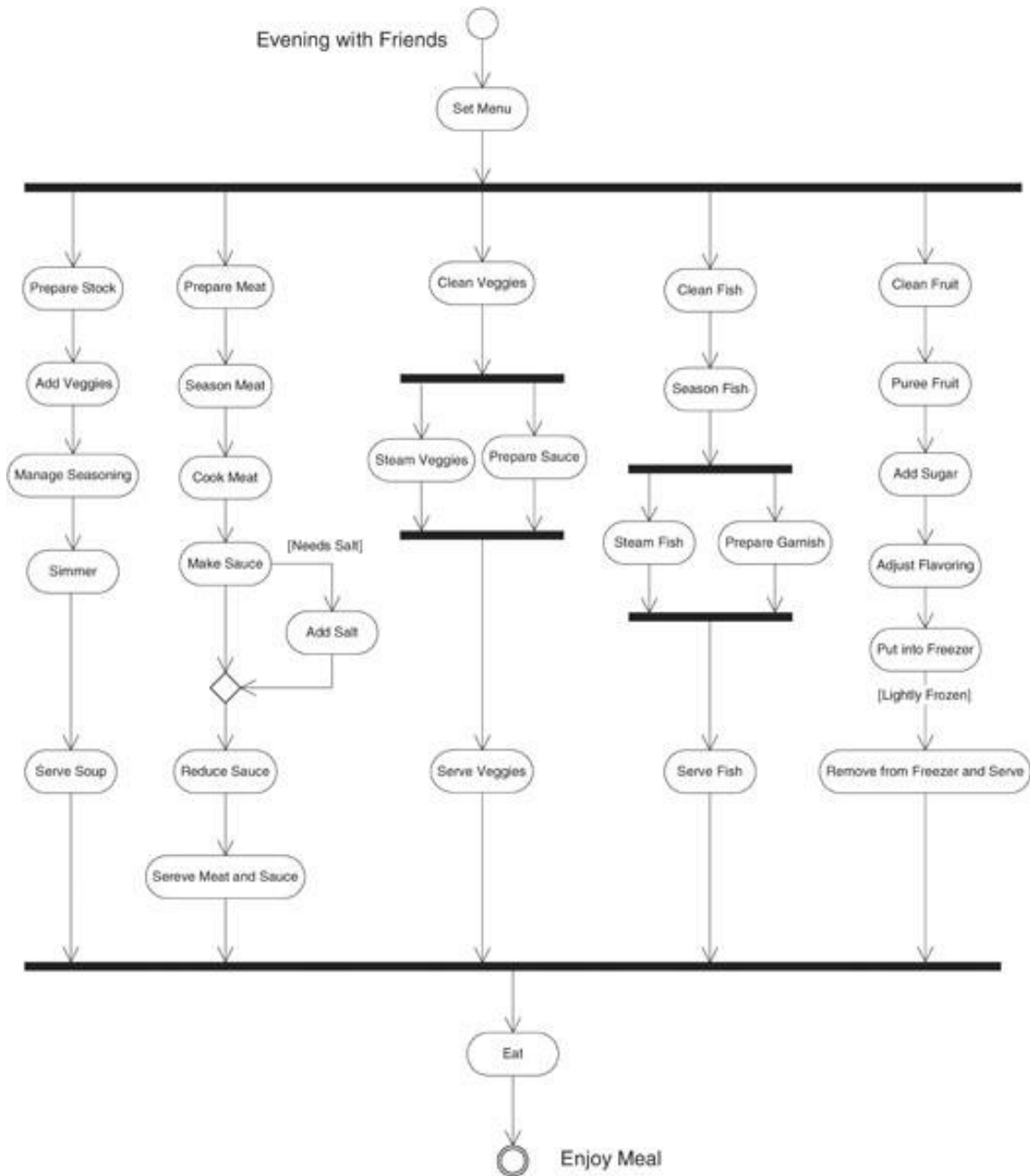
To Accompany

Embedded Systems: A Contemporary Design Tool

James K. Peckol, Univ. of Washington

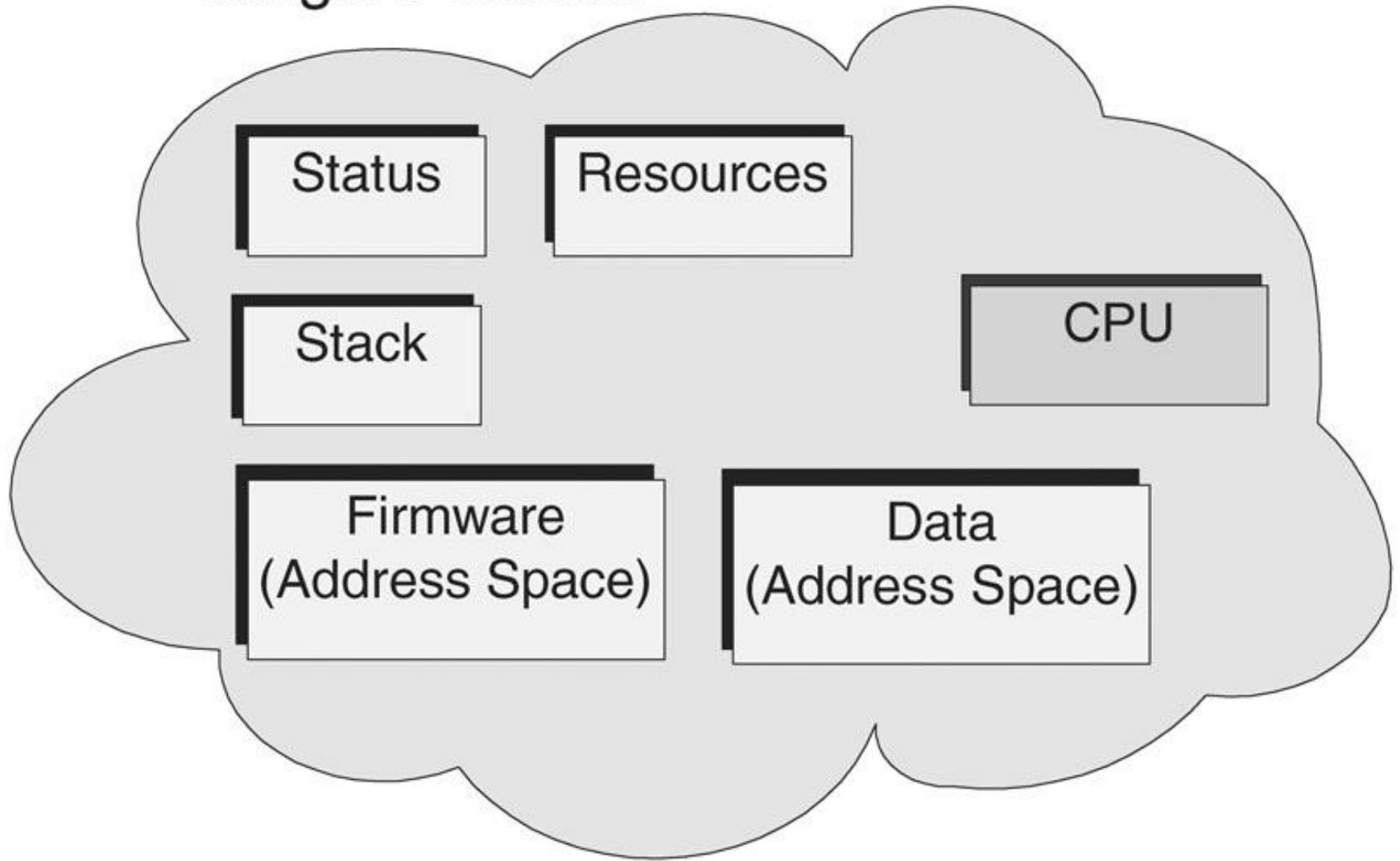
ISBN: 978-0-471-72180-2

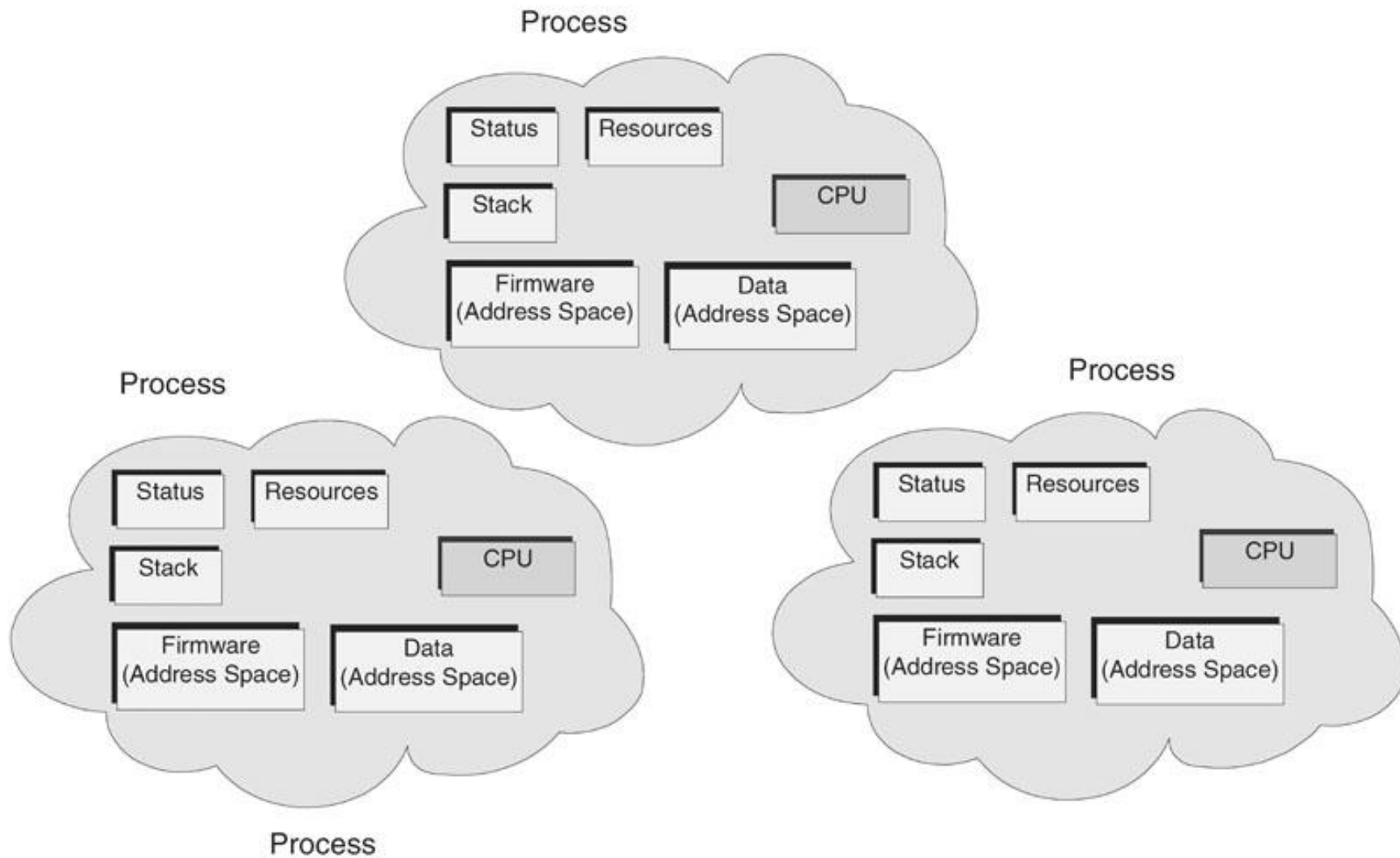
Chapter 11 – Real-Time Kernels and Operating Systems



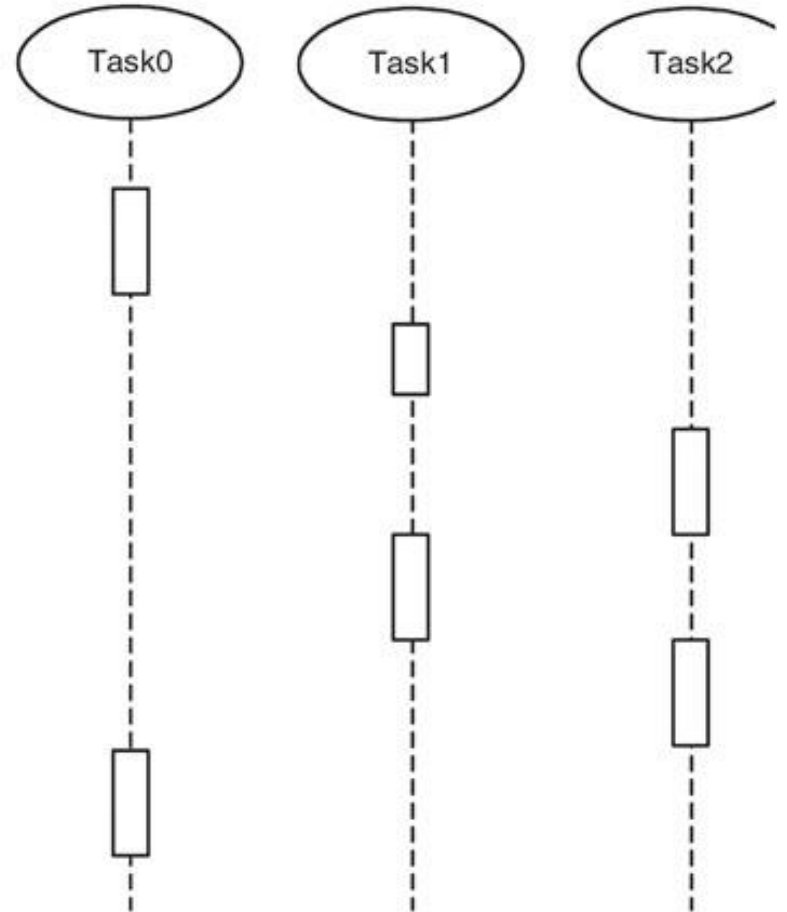
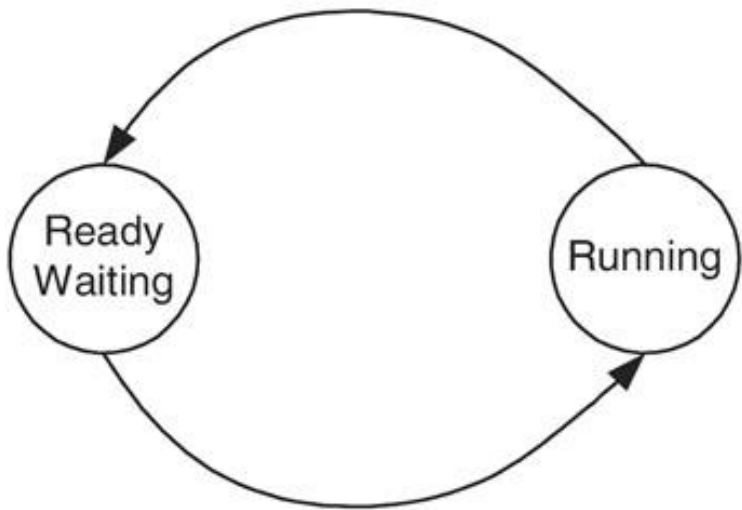
fig_11_00

Single Process

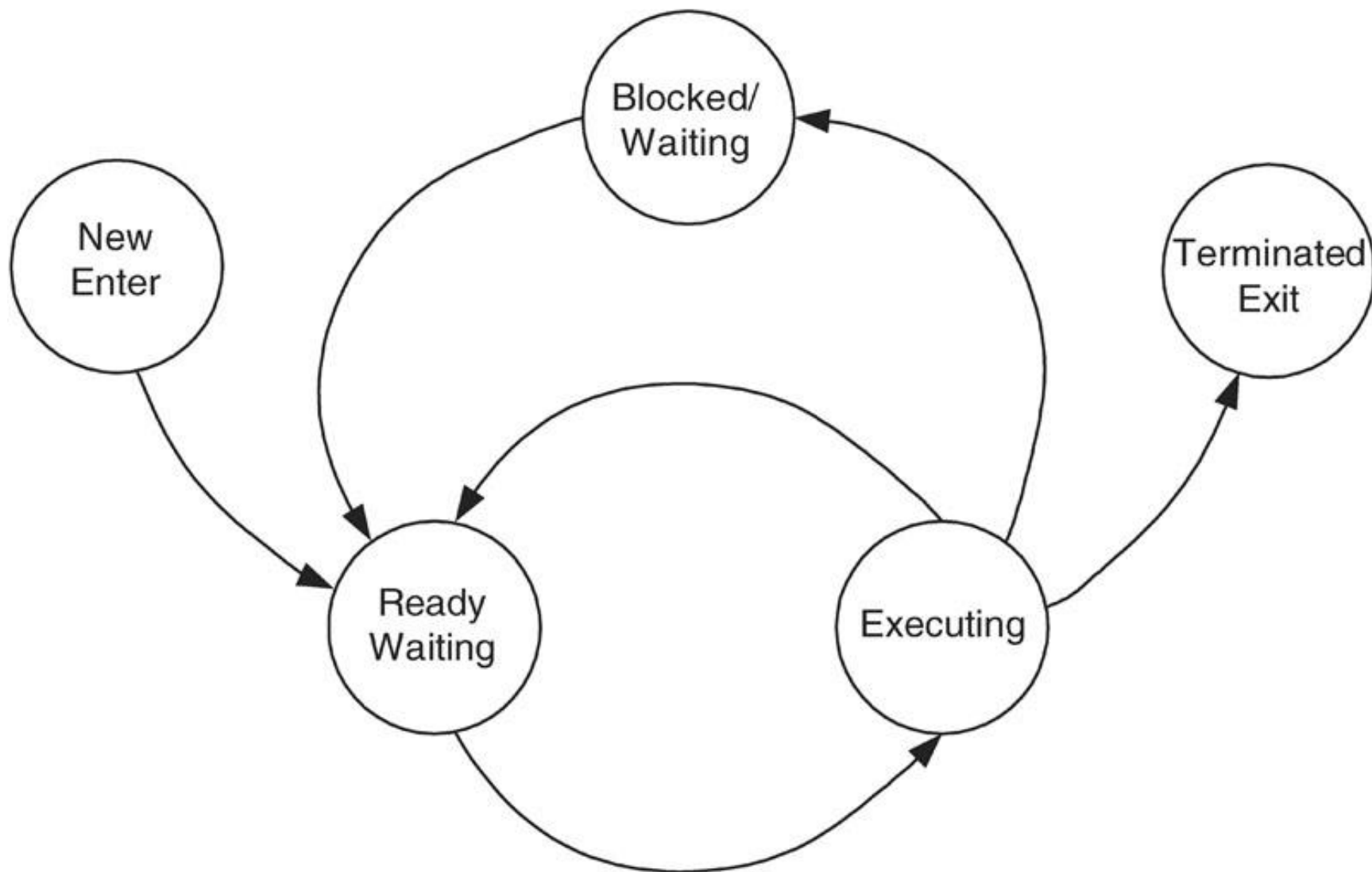




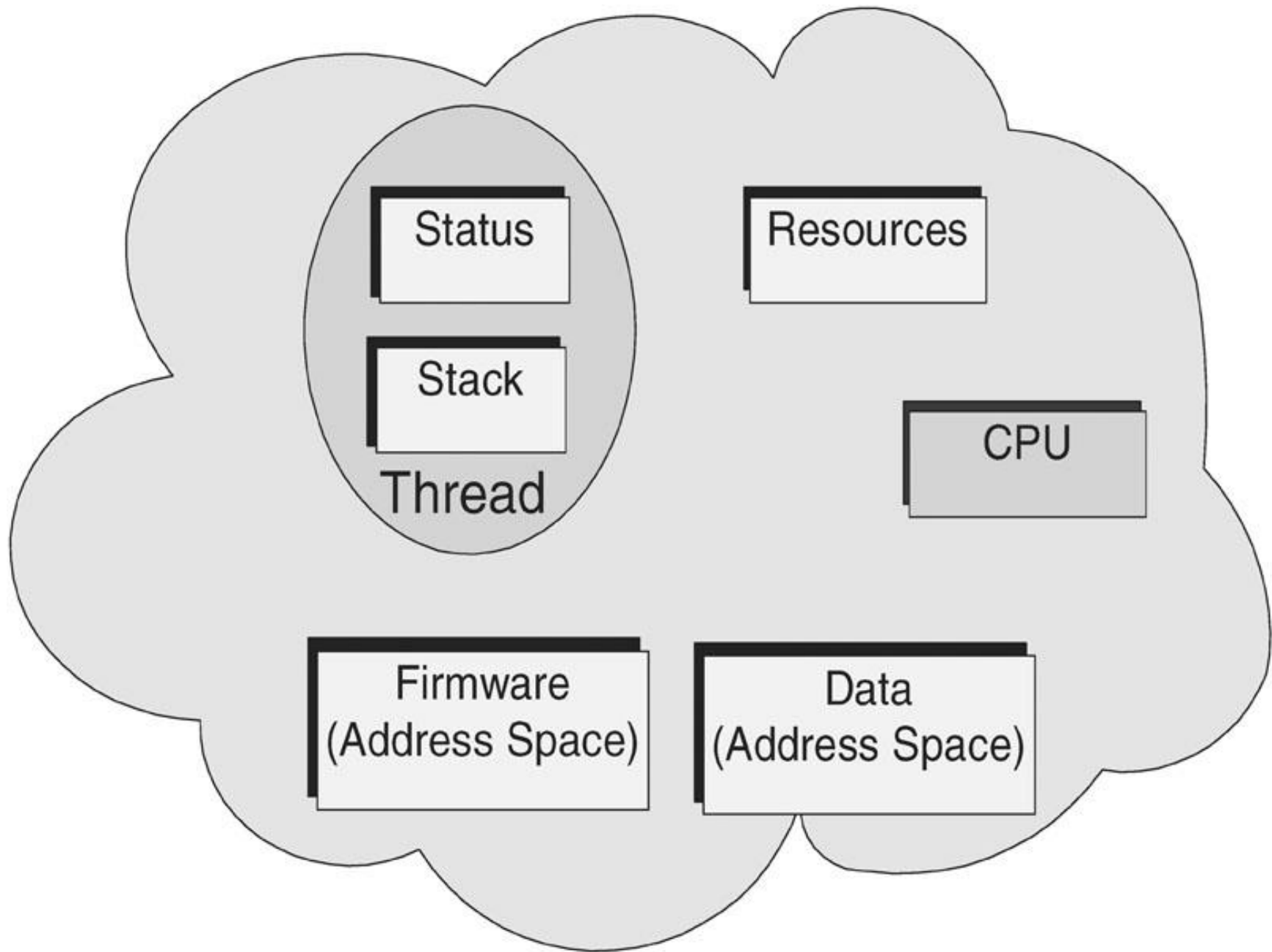
fig_11_02



fig_11_03

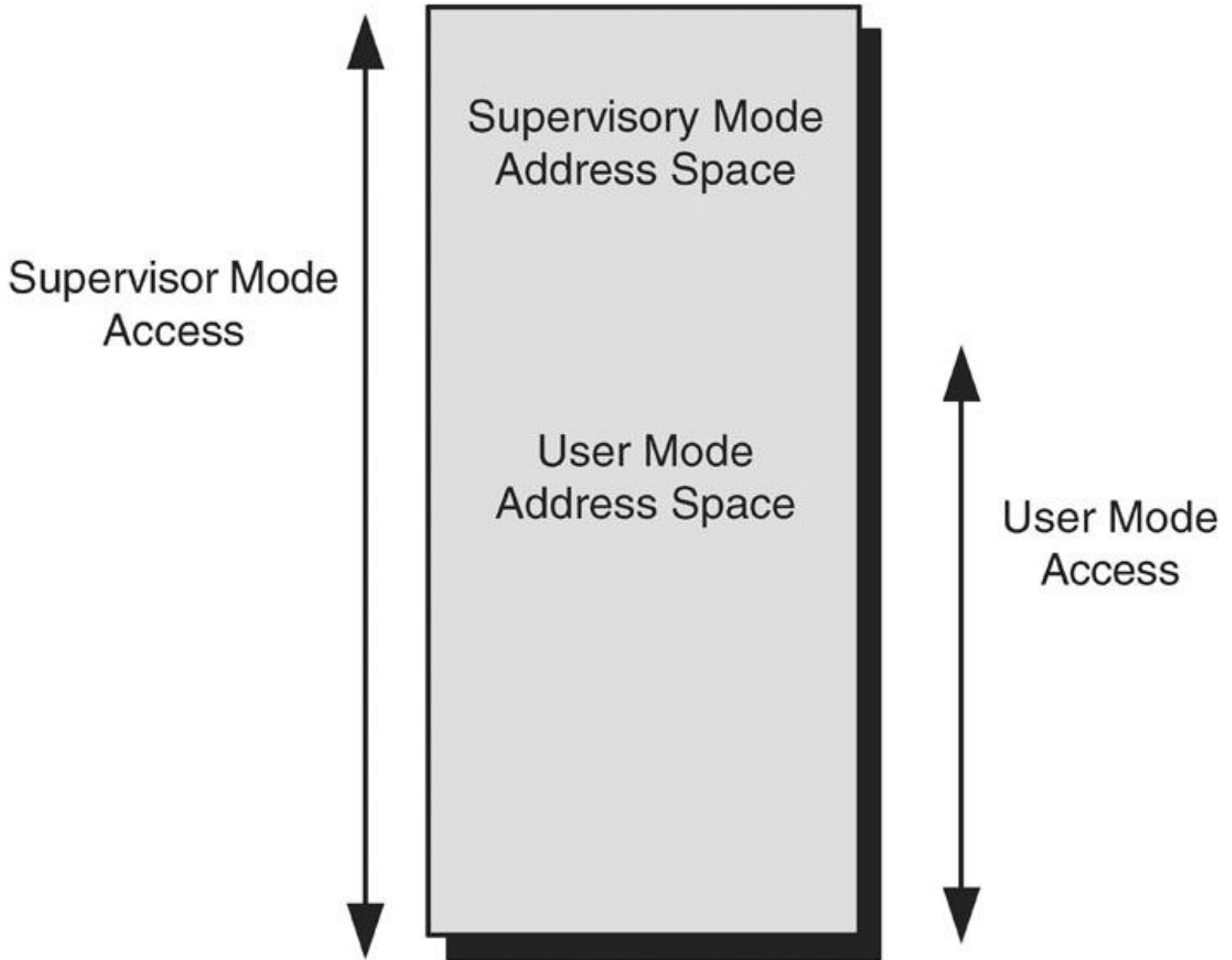


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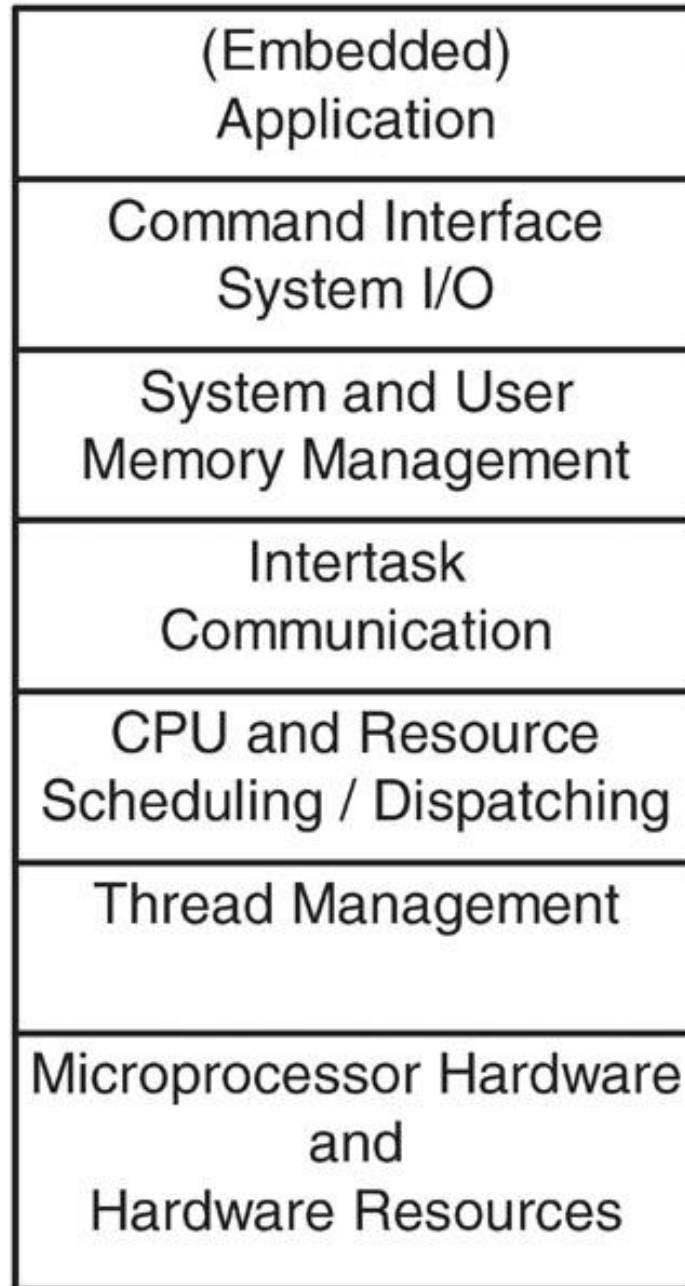


fig_11_05

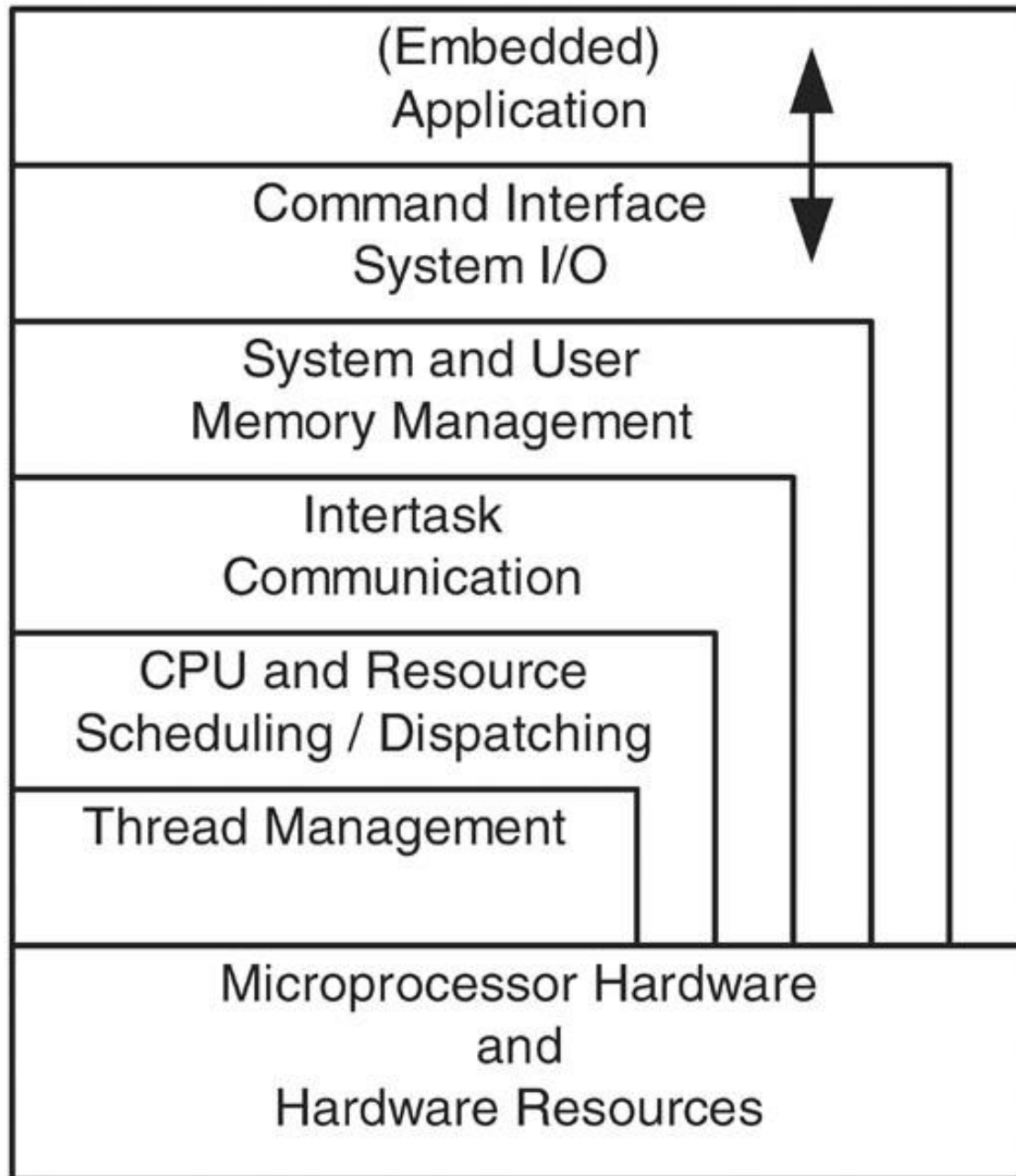
Firmware



fig_11_07



fig_11_08



fig_11_09

Pointer	State
Process ID	
Program Counter	
Register Contents	
Memory Limits	
Open Files	
Etc.	

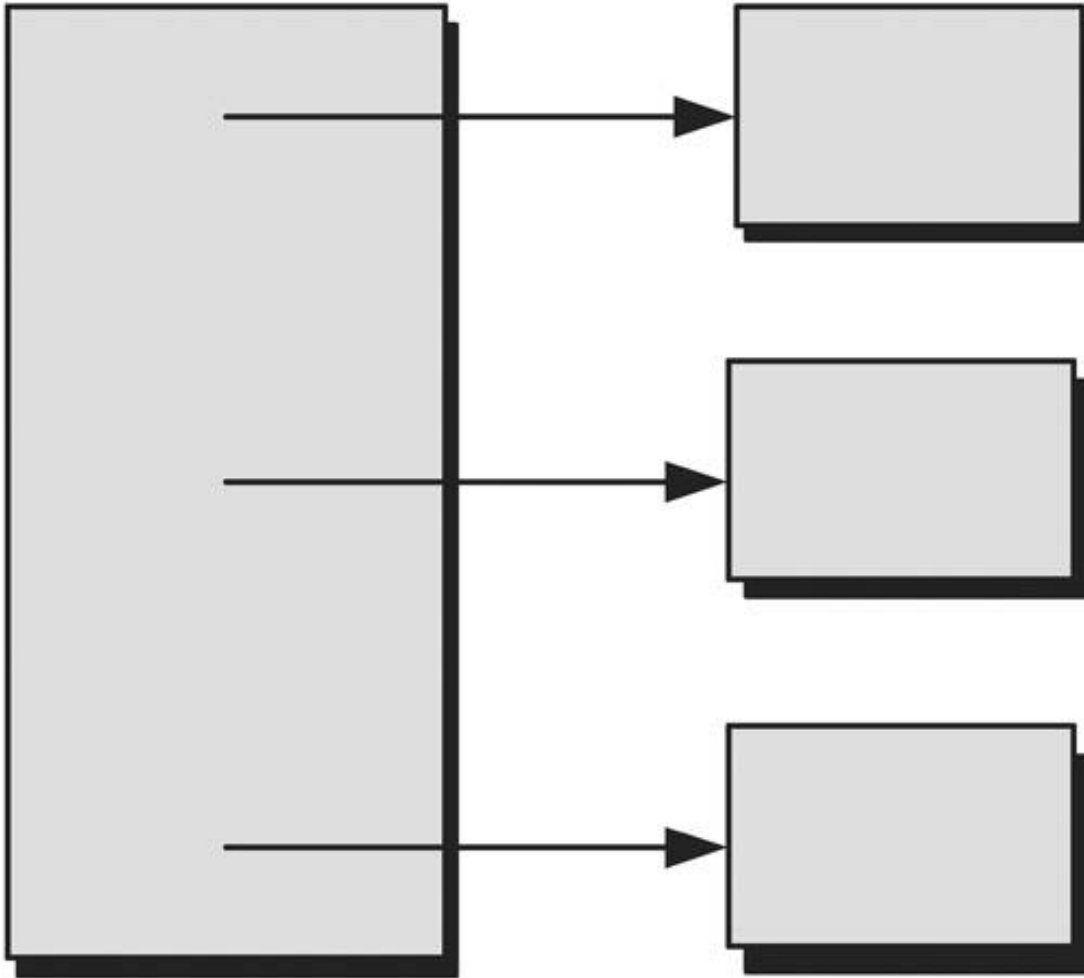
fig_11_10

```
// The task control block
struct TCB
{
    void (*taskPtr)(void* taskDataPtr);
    void* taskDataPtr;
    void* stackPtr;
    unsigned short priority;
    struct TCB* nextPtr;
    struct TCB* prevPtr
};
```

```
// The task
void aTask(void* taskDataPtr)
{
    function body;
}
```

```
// The data passed into the task
struct taskData
{
    int taskData0;
    int taskData1;
    char taskData2
};
```

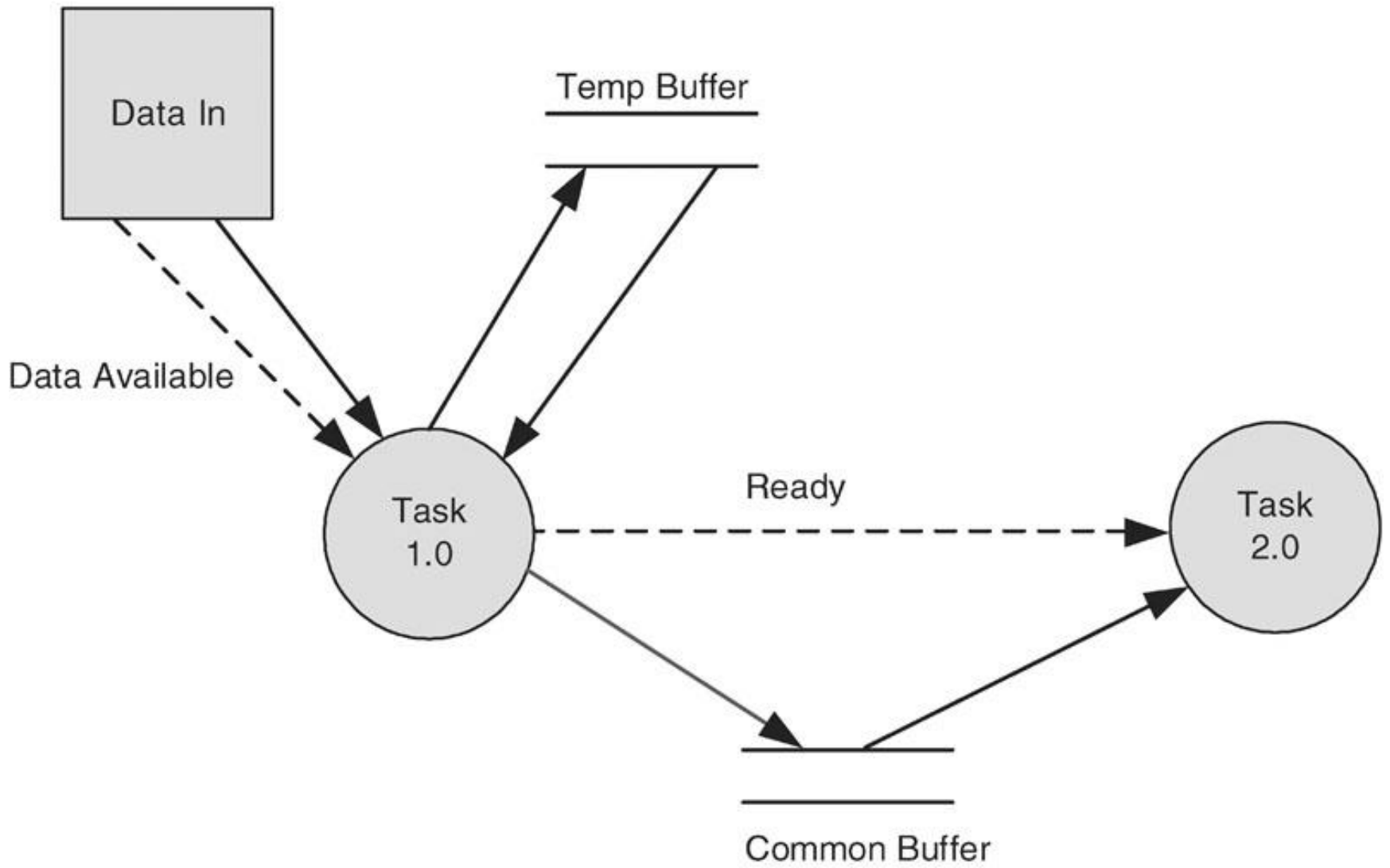
Runtime Stack



Application Stack0

Application Stack1

Application Stack2



fig_11_p22